SPAM ATTACK! GET READY FOR THE BULK E-MAIL DELUGE, PLUS HOW TO FIGHT IT

TEST DRIVE FIRST 300-MHZ PENTIUM II PC

PC WORLD

WWW.PCWORLD.COM

AUGUST 1997

First Look! New Cyrix CPUs
6x86MX PCs Offer Pentium II Power for $2100

Top 10 Personal Printers
Price Cuts Mean Great Deals

Top 20 Budget PCs
Fast, Loaded Pentium PCs for $1300 and Up

SPECIAL ISSUE

ONE-STOP GUIDE TO TODAY'S INTERNET

NEW Browser Secrets, Tips, & Tricks

NEW Ways to Speed the Net

BEST Internet E-Mail

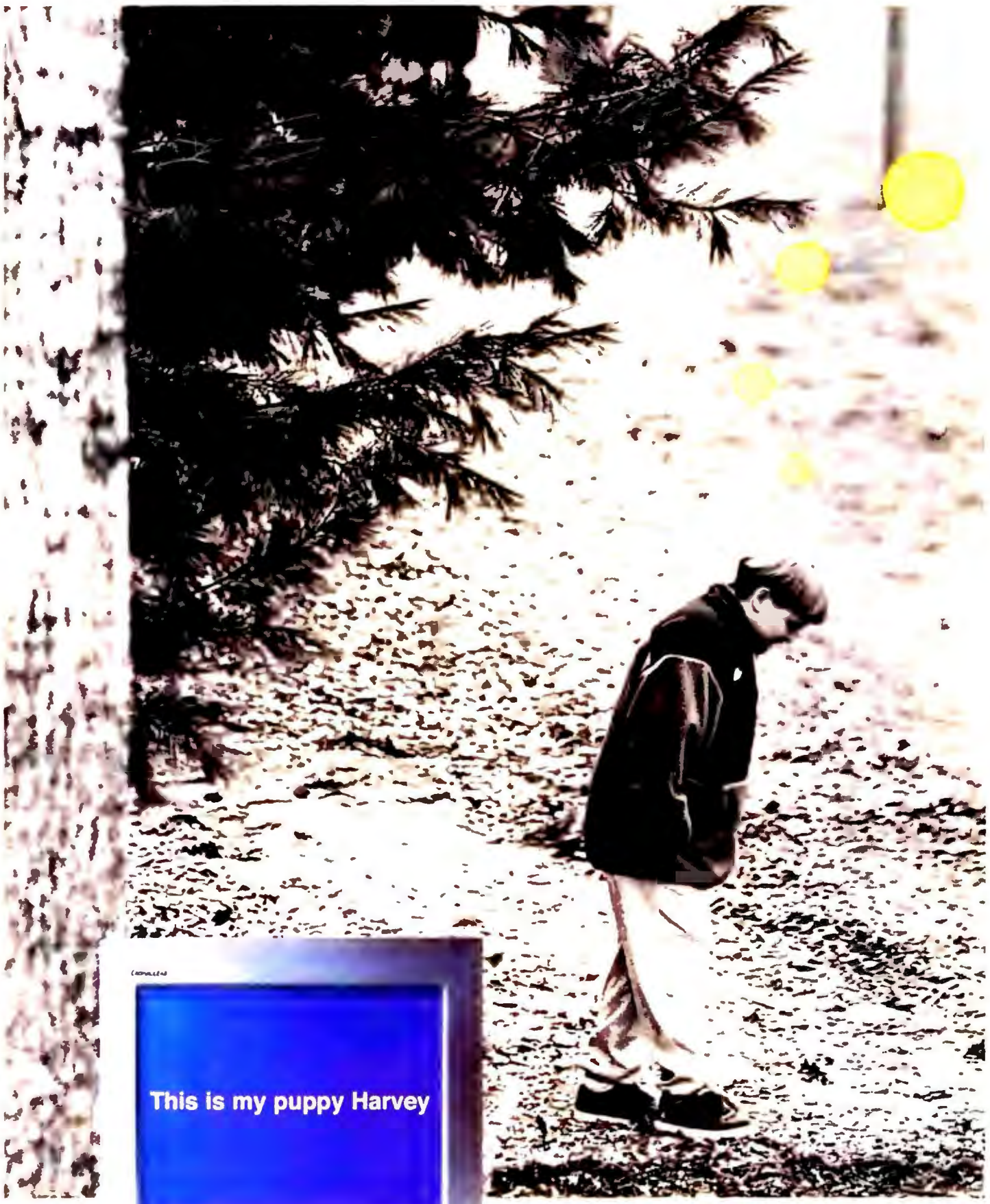
BEST Sites, Newsgroups, and Chat Rooms

$5.95 ◆ PRINTED IN USA

08>

0 70992 37771 8

Christian Murphy was non-verbal.
He lived with a wall between himself and the world.



1 THIS IS CHRISTIAN.

He can see, hear, feel, touch, but he cannot speak. He was born with autistic tendencies that cut him off from the world around him.

Until he found this window.

2 A TEACHER DISCOVERED *that Christian would respond to images from his life. She put visual cues to the story of his new puppy on a special keyboard.*

3 THE MONITOR BECAME HIS VOICE. *With it he makes class reports and conversation. With it, Christian, 11, has been in the regular Osterville, MA public school since first grade.*

4 WITH THE PICTURES, HE MADE SENTENCES. *With the sentences, he made friends. Christian's monitor is the window between his non-verbal world and the speaking world of his friends. Through it, he teaches them many things.*

NEC MultiSync Monitors
E and A Series

THE MONITORS THAT ARE BEST FOR CHRISTIAN'S NEEDS *can also speak to yours. Introducing the NEC MultiSync® Enterprise and Advanced Series, the monitors for people looking for superior, lifelike images. And the monitors for people who want the kind of flexibility that super high resolutions and refresh rates ensure.*

OSM™ (On Screen Manager) controls make image adjustments easy. Plus select Enterprise monitors feature CROMACLEAR® CRT, for unparalleled focus, contrast and intense color saturation. And, of course, the industry-leading NEC warranty includes 3 years parts, labor and CRT.

For more information on the new performance-driven MultiSync Enterprise and value-oriented Advanced Series, call 1-800-NEC-INFO or visit www.nec.com.

MULTISYNC® MONITORS

	Max Res	Bandwidth	CRT Type	Pitch
V900	1280 x 1024 @ 60Hz	135MHz	Dot Trio	0.28mm dot
V700	1280 x 1024 @ 85Hz	119MHz	Dot Trio	0.28mm dot
E500	1280 x 1024 @ 85Hz	119MHz	CROMACLEAR	0.25mm mask
E500	1600 x 1200 @ 65Hz	175MHz	CROMACLEAR	0.25mm mask
E1100	1600 x 1200 @ 85Hz	175MHz	Dot Trio	0.28mm dot

Expect more. Experience more.

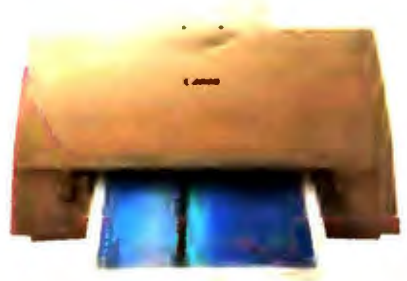
NEC

my
puppy
am, is, are
A
Golden
Retriever

Circle 205 on reader service card

PICTURE PERFECT PRINTING MADE PERFECTLY SIMPLE.

It's no brain-teaser. To get unequaled printing, with colorful, life-like images and crisp, black text, you go to the experts. Canon, of course. Our Color Bubble Jet™ printers deliver true PhotoRealism™, the new gold standard for image, color and text output. It's your guarantee of making the best possible impression, whatever you're printing. To help you get even more amazing results, all our Color Bubble Jet printers come with our exclusive Canon Creative* software. So you can create personalized greeting cards, brochures, T-shirts and a lot more. Plus, the BJC-4200 Photo includes our Photo Ink right in the box, as well as the Creative Web Solutions CD-ROM featuring WebRecord Internet printing software to put the power of the Web in print. So now it's simple to get printing that comes dangerously close to absolute perfection.



Canon

800-848-4123

http://www.ccsi.canon.com

Canon Creative 2 is designed for use with Windows 3.1 and Windows 95 only. Software available on CD-ROM only. © 1997 Canon Computer Systems, Inc. Canon and BJC are registered trademarks and Bubble Jet and PhotoRealism are trademarks of Canon Inc. CCSI, 2995 Redhill Ave., Costa Mesa, CA 92626 In Canada, call 800-263-1121

Introducing:

Corel® WordPerfect® Suite 8

COREL WordPerfect 8

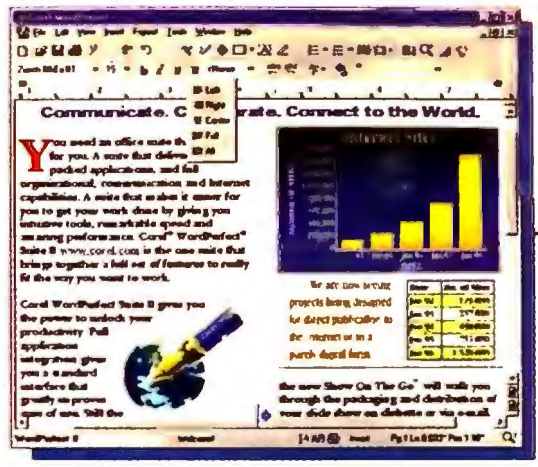
New **Improved Shadow Cursor** – point and click, and begin typing anywhere on the page

New **Drawing Layer** – draw objects directly on top of text and grouped graphics, and add color gradient fills or patterns

New **Corel® Versions®** – keeps track of document revisions for workgroup collaboration

New **Internet Publishing Capabilities** – edit or create your document in Corel® WordPerfect® and publish it to HTML with support for embedded Java™ applets

Compatibility – file format is consistent with previous versions, ensuring compatibility with existing documents



COREL Quattro® Pro 8

New **Easier-to-Use Tools** – create charts and formulas faster than ever before

New **Cell Reference Checker™** – ensures accuracy by checking and fixing formulas that refer to other cells

New **QuickCell™** – drag a cell to the Application Bar to see its updated value as you change other cells in the spreadsheet

New **Cell Enhancements** – control the look of your spreadsheets with new layout capabilities

New **WYSIWYG Page View** – work with your pages as they will appear when they are printed

COREL Presentations™ 8

New **Show It!™** – publishes your presentations to the Web with full support of animation, sound, graphics and video

New **Support for MMX™ Technology** – accelerates slide transitions and drawing on computers with Intel Pentium® processors

New **Custom Audiences™** – tailor your slide show to different audiences without saving multiple versions; there is no limit to the number of Custom Audiences you can create

New **Show On The Go™** – bundle your slide show to distribute to users who may not have Corel® Presentations™

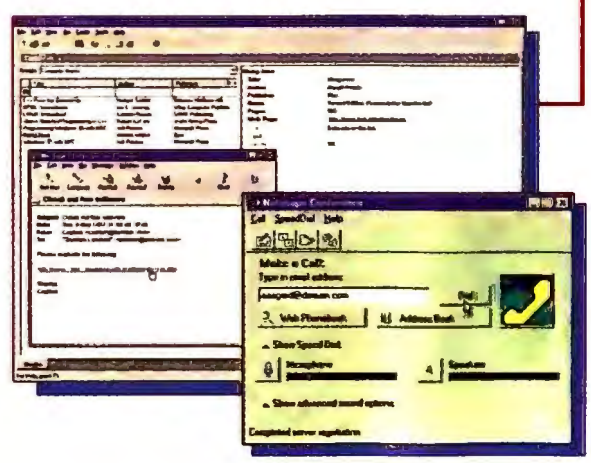
COREL CENTRAL™ 8

New **Conferencing** – share information and have real-time voice conversations using your Internet connection

New **Mailbox** – send and receive e-mail messages using open Internet standards

New **Calendaring and Scheduling** – organize and keep track of your schedule and tasks, and create and track personal and assigned workgroup tasks

New **Address Book** – store all your contact numbers and addresses in one place and access these files throughout the suite



The *New* Leader in Office Suites

Get it done. Quickly. Effectively. With style. Corel® WordPerfect® Suite 8 speeds you through your workday with results that close deals, impress bosses and get *you* noticed. Let advanced help and organizational tools, seamless integration and the foremost Web features in the office suite market sharpen your edge. Let your software work for you. Corel WordPerfect Suite 8—innovation you can count on.

For Windows® 95 and Windows NT® 4.0

$129.99* Upgrade CD-ROM version After $20 mail-in rebate

COREL WordPerfect Suite 8

Communicate. Collaborate. Connect to the World.

Overall Suite Enhancements:

Ease of Use – The new PerfectExpert™ provides help when you need it. Uniform menus across core applications give you consistent access to features and tools.

Productivity – A streamlined interface with the new context-sensitive Property Bar and the Application Bar allows for increased productivity.

Speed – Rapid start-up, file open and screen redraw boast a new level of responsiveness.

Integration – Superior integration among the suite's core applications ensures optimum efficiency.

Internet Publishing – Each core application writes HTML documents and can link to the Web. Plus, with innovative Java technology, you can create layout-rich Web pages.

Whether you're **communicating** over the Internet or with a simple letter, with words, numbers or graphics, Corel WordPerfect 8 supports the medium that will drive your message home.

Collaborate easily with coworkers across the hall or associates on the other side of the world with the effective **collaboration** features in Corel WordPerfect Suite 8.

Experience technology that lets you go beyond traditional HTML layout limitations with the power of Java. Thrive in a competitive environment with the dynamic Web features of Corel WordPerfect Suite 8—and **connect to the world.**

BEST BUY · COMPUTER CITY 1-800-THE-CITY 1-800-843-2489 · COMPUSA THE COMPUTER SUPERSTORE 1-800-COMPUSA · EGGHEAD Computer Software & Hardware 1-800-EGGHEAD · MICRO CENTER · Office DEPOT 1-800-557-3376 · OfficeMax Taking Your Savings To The Max! 1-800-788-8080 · STAPLES

*For upgrade version only. US$ plus applicable taxes and shipping and handling. Dealer may sell for less. Prices may vary from store to store.

Copyright © 1997 Corel Corporation. All rights reserved. Corel, WordPerfect, Quattro, Presentations, Show On The Go, Show It!, CorelCENTRAL, QuickCell, Cell Reference Checker, Custom Audiences, PerfectExpert and the Corel balloon logo are trademarks or registered trademarks of Corel Corporation or Corel Corporation Limited. Microsoft and Windows are registered trademarks of Microsoft Corporation. MMX, the MMX logo and Pentium are trademarks or registered trademarks of Intel Corporation. Netscape Navigator and Netscape Communicator are trademarks or registered trademarks of Netscape Communications Corporation. Java is a trademark of Sun Microsystems, Inc. All other product, font and company names and logos are trademarks or registered trademarks of their respective companies.

COREL $3,000,000 WORLD CONTEST

To find out how to enter visit our Web site at: www.corel.com/contests

COREL www.corel.com

Call now for faxed literature! 1-613-728-0826 ext. 3080 Document # 1383

KUR-0405-US

Circle 78 on reader service card

PC WORLD

AUGUST

VOLUME 15 ◆ NUMBER 8

SPECIAL ISSUE

118 **ONE-STOP GUIDE TO TODAY'S INTERNET**

Face it. The Internet is changing how we work and live. But the novelty's gone, and frustration has set in: Browsers change every six months or so, access sometimes slows to a crawl, e-mail files get garbled or lost, and Web sites multiply faster than the Pentium II. In this special issue, *PC World* offers solutions to the problems that beset today's Internet. We hope it helps.

120 **BROWSER SECRETS**

HOW-TO They're not just browsers anymore. As new versions of Navigator and Internet Explorer evolve into do-it-all Net suites, these tips will help you do it all better—getting to Web sites and newsgroups easily, downloading files faster, sending e-mail that's readable by everyone, and much more.

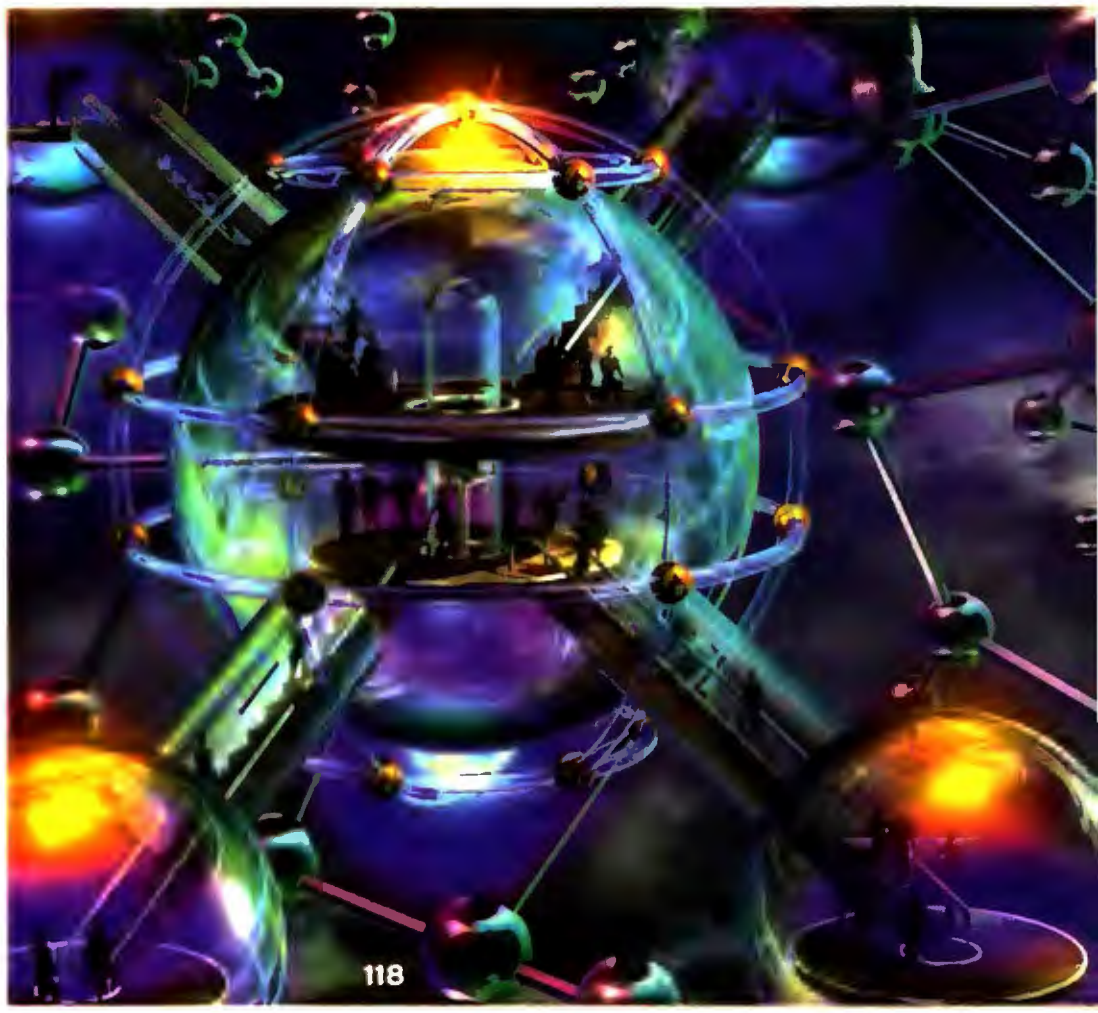
145 **WEB OF DECEIT**

CONSUMER ISSUES

online It's turned into the wild, wild Web. As online businesses stake claims on the electronic frontier, consumers are being hoodwinked by marketing sites that pose as sources of unbiased information while collecting all sorts of personal data on the sly. Here's how to spot the phonies and dodge the hype.

158 **BANDWIDTH ON DEMAND**

REVIEW online Frustrated by ever-slower access to the Web but confused by all the new ways of speeding it up? We examined five technologies—56-kbps modems, ISDN, ADSL, cable modems, and satellite hookups—to find the best high-bandwidth option for your small-business needs and budget.



118

158

120

online Additional material available on PC World Online: www.pcworld.com

169 **FIRST-CLASS E-MAIL**

REVIEW online We're all being flooded by e-mail that runs the gamut from business correspondence and unsolicited advertising to notes from mom. The right software can help—and could be as close as your new browser suite. We tested six low-cost and no-cost Internet mail clients and recommend two that deliver the goods.

190 **BEST OF THE NET**

REVIEW online What's the best place to find tech support at 2 a.m.? Get the lowdown on business competitors? Find hot stock tips? Troll for real estate bargains? *PC World* picks the best Web sites, newsgroups, and chat rooms, with pointers on finding everything from autos to zip codes.

COVER *Illustration by Jim Ludtke*

ICONS: JEFFREY PELO

TOP OF THE NEWS

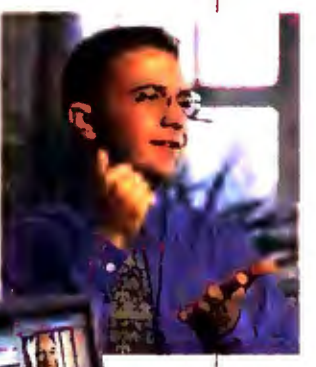
50 CYRIX POWERS $2100 PENTIUM II-CLASS PCS
New PCs sporting Cyrix's fast 6x86MX chip will offer premium performance for hundreds of dollars less than comparable Pentium MMX-233, Pentium II, or AMD K6–based systems. Plus, we test a Pentium II-300 that breaks all WorldBench records.

54 SPAM ATTACK: GET READY
Online services, ISPs, consumers, and politicians are waging war against bulk e-mailers. Here's how to fight spammers yourself.

56 BIG-SCREEN NOTEBOOKS: ULTIMATE TRAVELING COMPANIONS?
Notebooks with sharp 13.3-inch displays are perfect for working with presentations and spreadsheets. The downside? They're slower, more expensive, and heavy.

62 NT MOVES TO CAPTURE PUBLISHING
More major applications help Windows NT 4.0 gain ground in publishing and multimedia. But a lack of utilities and hardware support keeps it lagging behind the Mac OS.

50


145

56

207

NEW PRODUCTS

80 Dragon NaturallySpeaking 1.0
81 Xerox DocuPrint C55 and C55mp, Minolta Color PageWorks laser printers
84 Panasonic PanaFlat PF70 monitor
84 NEC SuperScript 1260 printer
90 HP LaserJet Companion
90 Matrox Rainbow Runner Studio
97 Backpack Bantam CD-ROM drive
97 Compaq-RCA PC Theatre
98 Psion Series 5 PDA
98 Mitsubishi MobileAccess 110
100 Hitachi MPEG1A videocam
100 Kodak DVC 300 Digital Video Camera
102 Compro, Panasonic, Plextor, Toshiba CD-ROM drives
108 Painter 5
108 Before & After, PhotoMate photo-editing software
111 Simply Accounting 5.0
112 ZipMagic 1.0, WinZip 6.3
112 ApproveIt 3.0
115 Time & Profit 2.0

TOP 100

207 CHIP WARS, CHEAPER PCS
online It's not just Intel inside anymore. Five PCs using chips from AMD and Cyrix place in this month's Top 20 charts, as well as the first system featuring a 233-MHz Pentium II. The result: power PCs for peanuts, as vendors try to move older inventory.

210 POWER DESKTOPS
TOP 20 Systems sporting brand-new Pentium II and AMD K6 processors go head-to-head on our Power chart. Gateway 2000's G6-233 earns a Best Buy.

222 BUDGET DESKTOPS
TOP 20 Our Budget chart features some of the last non-MMX Pentiums. As vendors slash prices on older Pentium PCs, look for bargains like IBM's PC 350 P-166, a $1715 Best Buy this month.

230 NOTEBOOKS
TOP 20 Seven newcomers shake up the Top 20 Notebooks chart, including Toshiba's deluxe Tecra 740CDT.

RELIABILITY & SERVICE MONITOR

238 WIN A GATEWAY 2000 PC
How satisfied are you with your computer? Fax in this survey for a chance to win a Gateway 2000 G5-166 M, a Top 20 PC.

241 PERSONAL PRINTERS
TOP 10 Summer-sale cuts of up to $100 and the debut of two new HP printers heat up this month's chart.

245 17-INCH MONITORS
TOP 10 Dell and Nokia repeat as chart-toppers, but look for discounts from Panasonic, CLR, and Mitsubishi.

249 GRAPHICS BOARDS
TOP 10 The new Matrox Mystique 220 comes with business and home software bundles. The Business version ranks number three on this month's chart.

251 EXTERNAL AND PC CARD MODEMS
TOP 10 Practical Peripherals' Pro Class 336V.34 Data/Fax Modem has a dirt-cheap $159 price and good performance.

HERE'S HOW

266 **ANSWER LINE**
Troubleshoot Windows 95's fatal errors, move the swap file to create more room, convert Word 97 files to earlier versions.

270 **WINDOWS TIPS**
Move files to floppies faster, pare down win.ini in Windows 3.*x*, use sound effects in Win 95.

276 **SPREADSHEETS**
Copy formulas correctly, flip your spreadsheet in 1-2-3.

278 **WORD PROCESSING**
Create a page border in Word 97, make custom SmartFill lists in Word Pro.

285 **DATABASE TIPS**
Fax reports to multiple recipients with Access 97.

288 **INTERNET TIPS**
Learn Internet safety, salvage interrupted downloads.

292 **HARDWARE TIPS**
Give your memory's performance a tune-up.

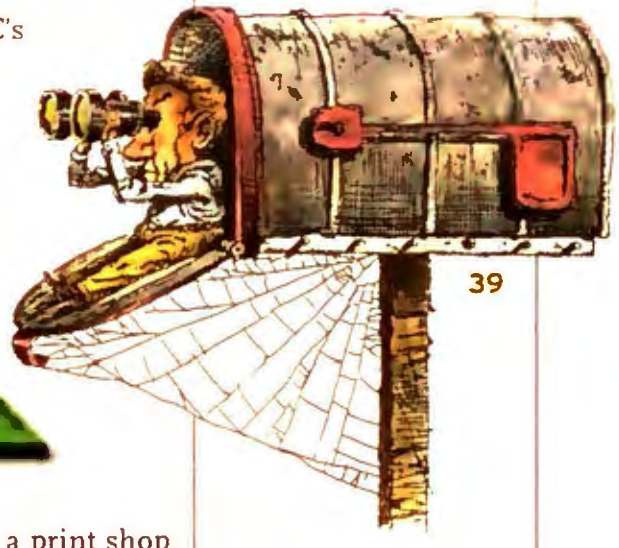
294 **MULTIMEDIA TIPS**
Choose the right PC speakers for great audio.

296 **UPGRADE GUIDE**
Replace your desktop PC's battery, step by step.

33

43

253


39

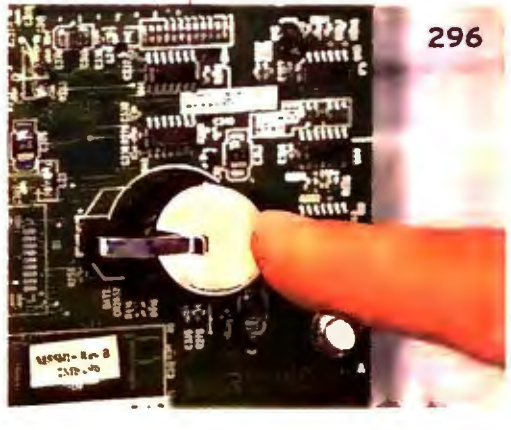
@HOME

253 **@HOME PRODUCTS**
Virtual doctors and lawyers, a print shop online, and the ultimate game gizmo.

254 **KEEPING UP**
Web sites and services for consumers.

258 **TOP 5 HOME PCS**
Micron's new $2269 Home MPC comes with MMX power at a price that won't bankrupt your household.

260 **HOME OFFICE**
Steve Bass turbocharges his mother's Web tools.


296

DEPARTMENTS

17 **UP FRONT** How dumb are the digerati?

23 **LETTERS** Readers on Intel versus AMD.

28 **COMING UP**

33 **CONSUMER WATCH** CD-ROM bargains.

39 **PCW ADVOCATE** U.S. Computer Direct scam? The Fine Print on product rebates.

43 **REAL SOLUTIONS** Webmastering without HTML.

47 **BUGS AND FIXES** Latest fake AOL freebie a real threat, new NT service pack coming.

342 **FULL DISCLOSURE** Don't Push it.

RESOURCES

14 **HOW TO CONTACT PC WORLD**

308 **MAIL-ORDER SHOPPING GUIDE**

322 **PC WORLD CATALOG**

333 **READER SERVICE CARD**

335 **ADVERTISER INDEX**

338 **EDITORIAL PRODUCT INDEX**

PCW ONLINE

IS YOUR PC A PAIN IN THE NECK?
HOW-TO Do your wrists ache? Is your back stiff? Watch and follow exercise videos for pain-free work.
www.pcworld.com/aug97/ergonomics

WINDOWS 95 TUNE-UP TIPS
HOW-TO If your old workhorse is feeling sluggish, follow our tips to enjoy a speedier system.
www.pcworld.com/aug97/tuneup

WHERE WILL GATES GO TODAY?
Check out our Daily News site for news and analysis of hot products and trends.
www.pcworld.com/news

FIND AN ISP
Before you sign up with an Internet service provider, consult our vast ISP database.
www.pcworld.com/isp

TIPS! TIPS! TIPS!
Receive a daily supply of free tips directly to your in-box. Topics include Windows 95, Microsoft Publisher, and many more.
www.pcworld.com/tips

PC WORLD ONLINE
www.pcworld.com

ONE Ate HUNDRED SEVEN SEVEN SIX FOUR FIVE ZERO SIX IF YOU ARE HUNGRY FOR POWER!

Finally, PCs with the kind of power you can really sink your teeth into. Order now through our Computers Now! program for same-day shipment*. We've cooked up some real power in our Millennia™ MME P200, built with an Intel Pentium® processor, and our Millennia XRU, backed by an Intel Pentium II processor. And both pack a wallop with MMX™ technology. Call today and we'll fire off our best computers at prices that will have you licking your chops, and everyone else eating their hearts out.

Available now:

MICRON™ MILLENNIA MME P200

Intel 200MHz Pentium® processor with MMX™ technology
512KB pipeline burst cache, flash BIOS
32MB EDO RAM
3.1GB EIDE hard drive
16X EIDE variable speed CD-ROM drive
3.5" floppy drive
100MB Iomega Zip drive
32 voice wavetable stereo sound with speakers
PCI 64-bit 3D video, MPEG, 4MB EDO DRAM
17" Micron 17FGx, .26dp(15.8" display)
Tool-free minitower
Microsoft® Intellimouse™, 104-key keyboard
Microsoft Windows® 95 and MS® Plus! CD
Microsoft Office 97 SBE CDs
Multimedia Xcitement Pak:
(Comprised of MMX technology-based software)
5-year/3-year Micron Power℠ limited warranty

$2,349

MICRON MILLENNIA XRU

Intel 266MHz Pentium II processor (features MMX technology)
512KB internal L2 cache, 2MB BIOS
32MB EDO RAM
3.1GB EIDE hard drive
16X EIDE variable speed CD-ROM drive
3.5" floppy drive
100MB Iomega Zip drive
32 voice wavetable stereo sound
33Kbps technology modem
PCI 64-bit 3D video, MPEG, 4MB EDO RAM
17" Micron 17FGx, .26dp(16.0" display
Tool-free minitower or desktop
Microsoft Itellimouse, 104-key keyboard
Microsoft Windows 95 and MS Plus! CD
Microsoft Office 97 SBE CDs
Multimedia Xcitement Pak:
(Comprised of MMX technology-based software)
Universal Serial Bus connections
5-year/3-year Micron Power limited warranty

$2,799

With 33.6 internal data fax/modem $2,399

MICRON POWER℠ WARRANTY

- 5-year limited warranty on microprocessor and main memory
- 3-year limited parts-only system warranty (1-year for TransPort VLx)
- 1-, 2- or 3-year optional on-site service agreement for Micron desktop and server systems
- 30 days of free Micron-supplied software support for Micron desktop systems; 3 optional network operating system incident resolutions included for Micron server systems
- 30-day money back policy
- 24 hour technical support

The foregoing is subject to and qualified by Micron's standard limited warranties and terms and conditions of sale. Terms and conditions of sale may vary for specific configurations. Copies of the limited warranties may be obtained on our Web site or by calling Micron.

call to order
1·800·776·4506

SAME DAY SHIPPING*

*Same-day shipment is available for telephone or Internet credit card orders successfully booked by a Micron representative by 3:00pm MST, Monday through Friday. This service is available to customers who have received approved credit and have their Computers Now! system shipped to the "bill to" address on their credit card.

Micron Sales Hours: Mon-Fri 6am-10pm, Sat 7am-5pm (MT). Technical Support Available 24 Hours A Day-7 Days A Week. Toll-free from Mexico: 95-800-708-1755 • Toll-free from Canada: 800-708-1758 Toll-free from Puerto Rico: 800-708-1756 • International Sales: 208-893-8970 • International Fax: 208-893-7393

©1997 Micron Electronics, Inc. All rights reserved. Micron Electronics is not responsible for omissions or errors in typography or photography. All purchases are subject to availability. Prices and specifications may be changed without notice; prices do not include shipping and handling and any applicable taxes. 30-day money-back policy does not include return freight and original shipping/handling charges; applies only to Micron brand products and begins from date of shipment. All sales are subject to Micron Electronics' current terms and conditions of sale. Lease prices based on 36-month lease. The Intel Inside Logo and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. Microsoft, MS and Windows are registered trademarks of Microsoft Corporation. Other names used in this publication are for identification purposes only and may be trademarks of their respective companies.

MMX™ intel inside pentium® PROCESSOR

MICRON ELECTRONICS

www.micronpc.com

Circle 145 on reader service card

Announcing the first desktop computer that's not a desktop computer.

©1997 Hitachi PC Corporation (USA) All rights reserved VisionBook™ and Mobilized Computing™ are trademarks of Hitachi PC Corporation (USA) which may be registered in some jurisdictions The Intel Inside Logo & Pentium are registered trademarks and MMX is a trademark of Intel Corporation. All other marks are owned by their respective companies. **All x2 products are capable of 56Kbps downloads; however, due to FCC regulations which restrict power output, current down speeds are limited to 53Kbps. *Concurrent use of floppy and CD ROM drives use external AC adapter. Model shown is 7560 and specs quoted apply to that model. Specifications and availability subject to change without notice

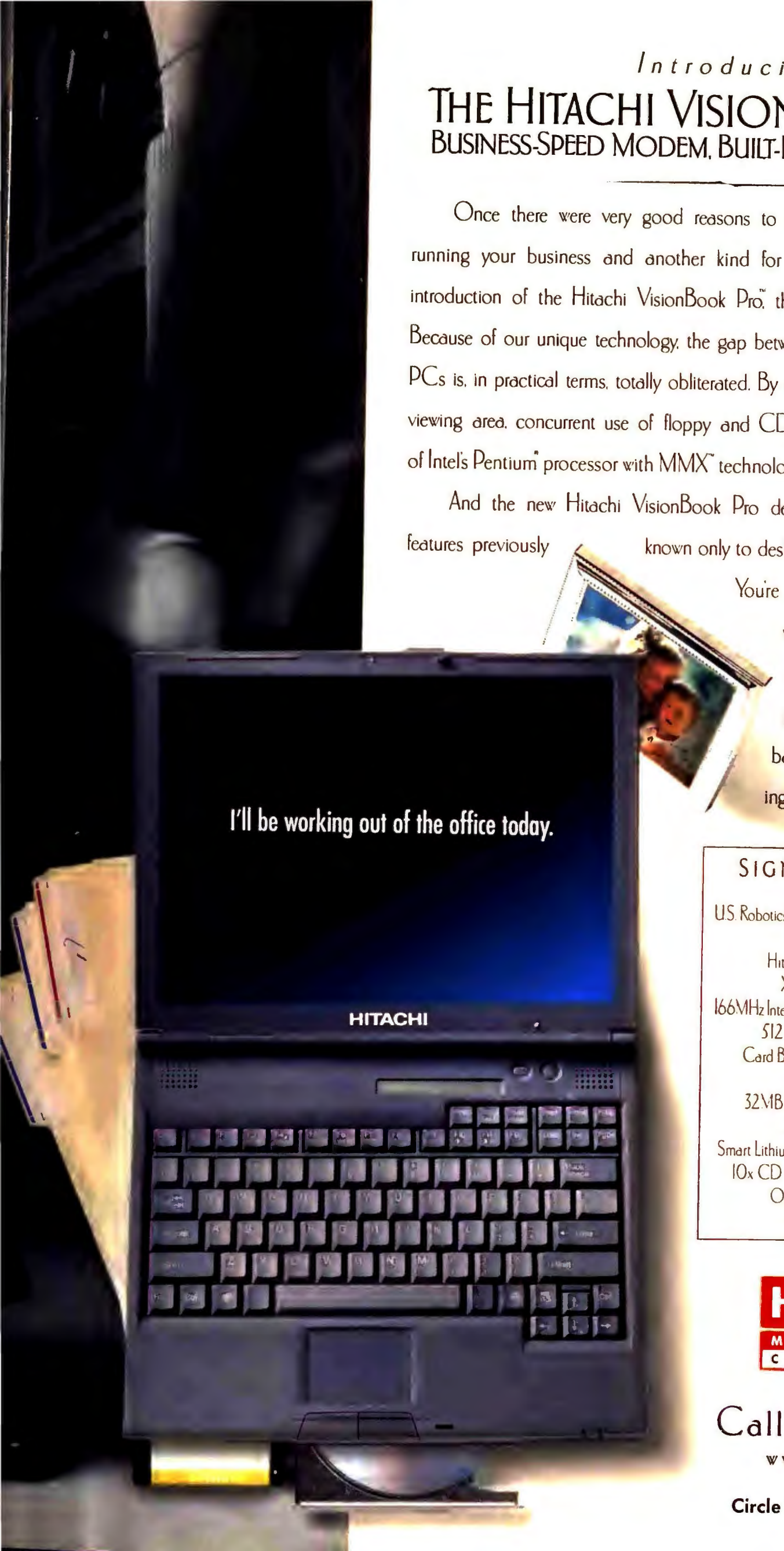
Introducing

THE HITACHI VISIONBOOK PRO.

BUSINESS-SPEED MODEM. BUILT-IN LAN. HUGE SCREEN.

Once there were very good reasons to have one kind of computer for running your business and another kind for running around. But, with the introduction of the Hitachi VisionBook Pro™, those reasons abruptly disappear. Because of our unique technology, the gap between desktop PCs and notebook PCs is, in practical terms, totally obliterated. By every measure–screen clarity and viewing area, concurrent use of floppy and CD ROM drives*, the performance of Intel's Pentium® processor with MMX™ technology–you compromise nothing.

And the new Hitachi VisionBook Pro delivers integrated communication features previously known only to desktops with Fax/Modem and LAN. You're ready to influence events from wherever you do business. The Hitachi VisionBook Pro. It will give you your desk back. While eliminating your need for one.



SIGNIFICANT FEATURES

U.S. Robotics® 56.6K** x2™ modem-fastest in a notebook
Integrated 10BaseT LAN port
Hitachi super large 13.3" TFT display
XGA (1024 x 768) resolution
166MHz Intel Pentium® processor with MMX™ technology
512K L2 cache-twice standard size
Card Bus-compliant Type II/III PC card slots supporting Zoom Video
32MB EDO RAM upgradeable to 144MB
3.0GB removable hard drive
Smart Lithium-Ion battery, swaps with 3.5" floppy drive
10x CD ROM drive, swaps with second battery
Optional advanced port replicator
Full-size keyboard, USB port

HITACHI
MOBILIZED COMPUTING

Call 1-800-Hitachi
www.HitachiPC.com

Circle 109 on reader service card PCW 0801

Microsoft Office 97/

Experts also use it to write rave

©1997 Microsoft Corporation. All rights reserved. Microsoft and Where do you want to go today? are registered trademarks of Microsoft Corporation.
Reprinted from PC/Computing, 6/97; Computer Reseller News, 9/30/96; InfoWorld, 9/30/96; Computerworld, 9/30/96; Windows Sources, 11/96.

reviews.

"Microsoft Office is the undisputed king of the office suite hill."
CNET.COM

"An irresistible upgrade to the world's best selling application suite. It's chock full of Internet smarts, too."
PC/Computing

"...easily the most Web-centric business productivity software ever seen in the lab."
Computer Reseller News

"...a sweeping remake of its flagship suite...designed to make time at the keyboard more productive and, yes, even more enjoyable."
InfoWorld

"The great leap forward...Office 97 is structured as a set of applications wrapped around a logical hub."
Computerworld

"Besides being an incredible productivity tool, the shimmering CD ROMs create a captivating baby mobile...while the box itself makes a handy recipe holder."
Martha Stewart Living

"Simply put, it's the easiest and most powerful set of office applications we've seen."
Windows Sources

PC Magazine Editor's Choice
PC World "World Class Award"
PC Week Analyst's Choice
Comdex Best of Show
BYTE Editor's Choice
Windows Sources Stellar Award

Where do you want to go today? www.microsoft.com/office/ **Microsoft**

PC WORLD

EDITORIAL

EDITORIAL DIRECTOR Philip Lemmons

EDITOR IN CHIEF Cathryn Baskin

MANAGING EDITOR Luis Camus

ART DIRECTOR Robert Kanes

EXECUTIVE EDITORS Eric Bender, Tracey Capen, Charles Piller, Daniel Tynan

SENIOR NEWS EDITOR Bill Snyder
SENIOR REVIEWS EDITOR Carla Thornton
SENIOR TECHNICAL EDITOR Karl Koessel
SENIOR @HOME EDITOR Christina Wood
EAST COAST EDITOR Randy Ross

ASSISTANT MANAGING EDITOR Anne Kandra

SENIOR ASSOCIATE EDITORS Yardena Arar, Michael Desmond, Rex Farrance, Brad Grimes, Bryan Hastings, Ann Kremers, Michael S. Lasky, Harry McCracken, Laurianne McLaughlin, Lincoln Spector

ASSOCIATE EDITORS Melissa Riofrio, JoAnne Robb
TECHNICAL EDITOR Shane Rau
STAFF EDITORS Eric Hellweg, Aoife M. McEvoy
ASSISTANT EDITORS Grace Aquino, Angela Freeman
EDITORIAL RESEARCHER Julie Campagna
EDITORIAL ASSISTANT Mick Lockey

SENIOR COPY EDITORS Barbara Lewis, Marla Miyashiro
COPY EDITORS Stephen Compton, Kim Saccio-Kent
EDITORIAL PRODUCTION ASSOCIATE Henry Pham

ASSISTANT TO EDITORIAL DIRECTOR Linda L. Grubbs
ADMINISTRATIVE ASSISTANTS Yvette Joplin, Kalaivani Murugesan

BUSINESS MANAGER Heidi Anderson

ART AND DESIGN

ASSOCIATE ART DIRECTORS Barbara Adamson, Tim J Luddy
SENIOR DESIGNERS Kate Godfrey, Carolyn Perot
SENIOR DESIGNER, INFOGRAPHICS Sandra Kelch
DESIGNER Beth Kamoroff
ASSISTANT DESIGNER, INFOGRAPHICS Robin Briskin
PRODUCTION ARTIST Marlene Tobias

CONTRIBUTING EDITORS

Steve Bass, George Campbell, Scott Dunn, Roberta Furger, Judy Heim, Richard Jantz, Stephen Manes, James A. Martin, Brian McWilliams, Stan Miastkowski, Celeste Robinson, Richard Scoville, Scott Spanbauer, Kirk Steers

PC WORLD TEST CENTER

TEST CENTER DIRECTOR Julian Milenbach
MANAGER, PERFORMANCE TESTING Ulrike Diehlmann
MANAGER, USABILITY TESTING Susan Silvius
MANAGER, BENCHMARK DEVELOPMENT William L. Rinko-Gay
PERFORMANCE ANALYSTS Robert P. James, Elliott S. Kirschling, Jeffrey Kuta, Mike Salayko
TEST CENTER COORDINATORS Andrew Hawn, Julian Weatherby

PCW ONLINE

EDITOR IN CHIEF Russell Glitman
MANAGING EDITOR Kimberly Stein
EXECUTIVE EDITOR, TIPWORLD Jim Welp
SENIOR EDITOR Yael Li-Ron
INTERACTIVE SERVICES EDITOR Dennis Sheridan
NEW MEDIA EDITOR Tracy Swedlow
STAFF EDITORS Paul Heltzel, Glenn McDonald, Amy Ng, Valerie Ryan

DIRECTOR, PRODUCTION & TECHNOLOGY Nancy H. Miller
DIRECTOR, PRODUCT DEVELOPMENT Adam Block
SENIOR PRODUCER Licia Slimon
PRODUCER Jill Corral
CONTENT ENGINEER Nick Van Cleve
PRODUCT DEVELOPMENT PRODUCER Greg Weinger
MULTIMEDIA DEVELOPMENT MANAGER Martyne Pagé
FLUEGELMAN INTERN Lisa Moskowitz

USER GROUP BOARD

Steve Bass, Pasadena IBM Users Group; Roger Bender, Microcomputer Managers Association; Jack Bolton, Atlanta PC User's Group (APCUG); Brian Camenker, Boston Computer Society; Rollie Cole, APCUG; Mary Dolce, Chicago Computer Society; Sandy Frunzi, Las Vegas PC User Group (LVPCUG); Al Harrison, Houston Area League PC Users; David Hoffman, NYPC; Joseph Rigo, NYPC; Robert Rodrigue, MicroLink PC User Group; Kenny Wynn, LVPCUG

PCW COMMUNICATIONS

PRESIDENT AND CHIEF EXECUTIVE OFFICER Richard J. Marino
PUBLISHER J. Samuel Huey
PUBLISHER, PC WORLD ONLINE Thomas Gewecke
VP AND ASSOCIATE PUBLISHER Jeff Edman
VP AND CHIEF FINANCIAL OFFICER Vicki Peilen
VP, CIRCULATION Shawne Burke Pecar
VP, HUMAN RESOURCES Richard Willoughby
VP, MANUFACTURING Linda Manes Goodwin
VP, RESEARCH Cheryl Brink

FOUNDER David Bunnell
FOUNDING EDITOR Andrew Fluegelman

HOW TO CONTACT PC WORLD

SUBSCRIPTION SERVICES

PC World Subscriber Services, P.O. Box 55029, Boulder, CO 80322-5029
INTERNET: www.pcworld.com/resources/subscribe/customer_service/
E-MAIL: pcwhelp@neodata.com
PHONE: In U.S. other than CO 800/234-3498
In CO and outside U.S. 303/604-1465
New orders 800/825-7595

MAIL AND ONLINE

PC World Editorial, 501 Second St. #600, San Francisco, CA 94107
PHONE: 415/243-0500 FAX: 415/442-1891
AMERICA ONLINE: keyword pc world
COMPUSERVE: go pcworld
WORLD WIDE WEB: www.pcworld.com
E-MAIL: letters@pcworld.com

QUESTIONS AND SUBMISSIONS

Send material electronically to the appropriate online address listed at right or mail it to *PC World*. Include your name, city, and state in all correspondence. We reserve the right to edit letters.

PC World pays $50 for published *Here's How* tips and questions; accepted submissions acknowledged by payment. Please note that editors cannot guarantee personal responses to questions that are not posted to PC World Online.

ANSWER LINE: answer@pcworld.com
BUGS AND FIXES: bugs@pcworld.com
CONSUMER WATCH: consumerwatch@pcworld.com
DATABASE TIPS: celeste_robinson@pcworld.com
FULL DISCLOSURE: smanes@ix.netcom.com
HARDWARE TIPS: kirk_steers@pcworld.com
HOME OFFICE: steve_bass@pcworld.com
INTERNET TIPS: judy_heim@pcworld.com
LETTERS: letters@pcworld.com
MULTIMEDIA TIPS: richard_jantz@pcworld.com
PCW ADVOCATE: advocate@pcworld.com
REAL SOLUTIONS: real_solutions@pcworld.com; 415/978-3212; 415/442-1891 (fax, Attn: Real Solutions)
PC World pays $300 per published column.
SPREADSHEETS: richard_scoville@pcworld.com
UPGRADE GUIDE: stan_miastkowski@pcworld.com
WINDOWS TIPS: pcwsdunn@aol.com
WORD PROCESSING: george_campbell@pcworld.com

NEW PRODUCT ANNOUNCEMENTS

Please address press releases to *New Products* at *PC World*, or call 415/978-3212.

REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from *PC World*. Write to *PC World*, Reprints and Permissions, 501 Second St. #600, San Francisco, CA 94107; include a phone number. To order reprints of your company's editorial coverage in *PC World*, call 612/582-3810.

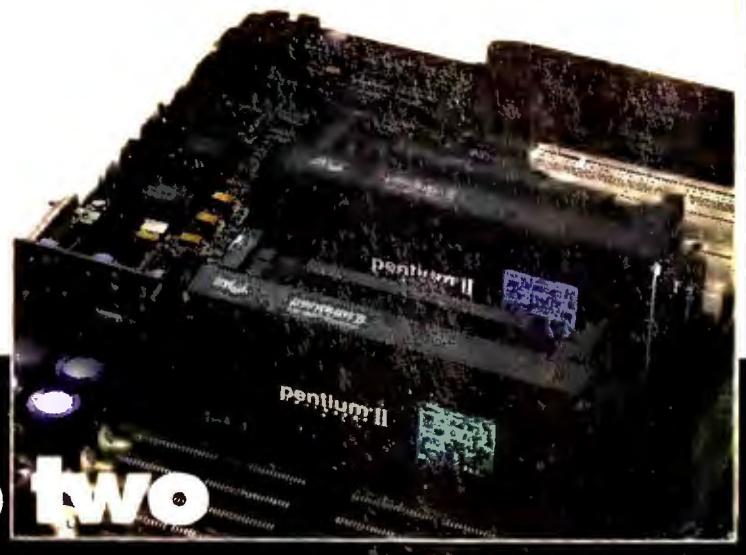
BACK ISSUES

PC World issues and article copies are available on microfilm and microfiche from UMI, 300 N. Zeeb Rd., Ann Arbor, MI 48106-1346; 800/521-0600.

MAILING LISTS

Occasionally we make our subscribers' names available to other companies whose products may interest you. If you wish to have your name excluded from these mailings, send a request with your mailing label to Subscriber Services, P.O. Box 55029, Boulder, CO 80322-5029.

It's a mini-tower, it's a rack drawer, it's...



..The ALR Revolution 2X

Up to **two**
Pentium Pro or Pentium II Processors

The Revolution 2X's convertible chassis makes migrating to future rack-mount configurations easy and affordable.

It's said that flexibility is the key to success in today's corporate world. By that criteria, the Revolution 2X is definitely the system of choice for success-minded businesses. With this one computer you can choose between Pentium® Pro or Pentium® II processor technology, single or dual processing, workstation or server configurations, and mini tower or rack-mount form factors. Mix and match those features you need without having to pay extra.

And this flexibility lasts for years. You can start with a single Pentium Pro processor-based mini-tower, upgrade to dual processing then upgrade to single or dual Pentium II processor technology after that. And when your business develops a centralized enterprise network, the Revolution 2X can evolve into an easy-access rack-mountable system.

To learn more about the remarkable Revolution 2X please call ALRs toll-free number today.

Twice the Memory
With room for 512-MB of RAM, the Revolution 2X offers twice the memory capacity of competitive Pentium II chip-based systems

More Expandable
4 available PCI expansion slots, three EISA slots (one position is shared), a built-in 2-MB video subsystem saves expansion slots, configuration time, and money. A cost-effective option includes integrated Fast/Wide ultra SCSI.

RAID Reliability
Hot-pluggable drive bays and array subsystems are available for network applications requiring on-line drive replacement.

InforManager with ActiveCPR

Because down-time is just not an option

Server models include ALR InforManager, an advanced hardware management subsystem that helps users head off potential problems before they lead to costly downtime. These models also include ALR **ActiveCPR** processor fail-over/protection and ALR Server Watchdog server auto-recovery. These technologies make the Revolution 2X ideal for unattended web-server applications and other environments requiring 24-hour access with limited maintenance.

1-800-444-4ALR
http://www.alr.com

5 YEAR 3/36 warranty

ALR®
Advanced Logic Research, Inc.

ALR is on the Internet *CompuServe* - **GO ALRINC.** *& America Online* - **Keyword ALR** Advanced Logic Research, Inc. 9401 Jeronimo, Irvine, CA 92718 (714)581-6770 FAX: (714) 581-9240. Prices, configurations and specifications subject to change without notice. Systems shown with optional equipment. Pricing based on U.S. dollars. ALR is a registered trademark of Advanced Logic Research, Inc. Pentium logo and Intel Inside logos are trademarks of Intel Corporation. All other brand and product names are trademarks or registered trademarks of their respective owners. © 1997 by ALR

Circle 9 on reader service card

SCSI for your desktop.

BONE rattling throughput.

Do more. Faster.

Connect to a

SCSI hard drive.

To get the most out of your PC, you've got to get the most through it. Which is why you need to connect to a SCSI (pronounced scuzzy) hard drive with the world's most popular SCSI card from Adaptec. Together, they give you pipe-opening 40MB/sec maximum throughput. Considerably more than the 16.7MB/sec in standard-issue PCs. So applications launch faster. Documents save faster. And you get the full benefits of true multi-tasking. Ask for SCSI on your next PC. And watch it kick up some dirt.

To see the proof, visit www.adaptec.com/dt/pcw.*

We move the information that moves your world.

adaptec®

*For information by fax dial 1-408-957-7150. Request document no. 11460. †SCSI drive: Western Digital WDE2170 with Adaptec AHA-2940UW SCSI card. EIDE drive: Seagate ST52520A. Dell Pentium Pro 200 PCI, 32MB RAM, Intel chip set, 82371SB PCI bus master IDE controller, Windows NT® Workstation 4.0, ATI graphics accelerator Mach 64, Adaptec Threadmark™ benchmark 2.0.

©1997 Adaptec, Inc. All rights reserved. Adaptec, Threadmark, AHA, the Adaptec logo and tagline are trademarks of Adaptec, Inc. and may be registered in some jurisdictions. Windows NT is a trademark of Microsoft Corporation, used under license. All other trademarks belong to their respective owners. Always drive responsibly.

How Dumb Are the Digerati?

OUR CURRENCY SAYS, "In God We Trust." Apart from that, we Americans trust little. We distrust our politicians for many reasons: faithless promises inspired by polls; campaign contribution quids for which we know there must be quos; political action committees whose only action is laundering money; and tax-free think tanks that think impeccable party-line thoughts.

We distrust businesses for many reasons, too. They beg for deregulation to promote competition, then use deregulation as a green light for mergers that eliminate competition. They say nothing is more important than their "human capital" while turning this capital into temps.

But there is one thing we Americans seem to trust even less than politicians or business executives: that bogeyman called the media. Although we value advertisements as a source of information, their puffery makes us wary of their claims. When we subscribe to a new publication and suddenly find our mailboxes stuffed with new junk mail, 98 percent of us gripe about being exploited (even as 2 percent place orders for new products). When favorable product coverage appears next to an ad for the product, we grow suspicious, whether reading a magazine or watching TV. These practices earn the media more blame than trust.

Some Internet businesses see the digerati as upscale patsies and bozos with browsers.

THE INTERNET'S CREDIBILITY CHALLENGE

BORN INTO AN INNOCENT noncommercial world, the Internet has now become a public medium and entered the prevalent atmosphere of mistrust. Given the circumstances, you'd think Internet proponents would attach some importance to establishing its credibility. Yet pressure works mostly in the opposite direction. Practices that were considered deceptive in print, such as obscuring or eliminating the distinction between advertising and editorial content, are touted as "added value" online.

Some companies that wouldn't dare sell editorial coverage in their print publications want to do exactly that in the online world by selling placement in product listings that look like editorial content. You may think a Web site is giving you comprehensive product listings or a selection based on merit. If no one tells you otherwise, you'll never be the wiser. Your ignorance is someone's added value.

While most magazines seek to preserve credibility by eliminating placement of ads next to related articles, the Internet maximizes such adjacency. Matching information to your interests really does add value. Synchronizing ads too closely to customized information, however, is as likely to inspire distrust online as in print.

As it happens, Web technology could manage advertising and editorial adjacencies better than print—by letting *you* decide what you want. But Web publishing and marketing currently seem more inclined to eliminate choice and compel you to march to Web sites' commands.

New Internet advertising formats from Netscape and Microsoft show the power of the movement to dictate your Internet experience. You will soon find ads exploding from the text you're trying to read, or popping up in one part of the screen and dancing across the content. You'll even find ads crawling across the text you're reading and refusing to get out of the way until you click on them. You may pride yourself on being one of the *digerati*—the digital elite. But some Internet businesses see the digerati as bozos with browsers, upscale patsies who will tolerate anything as long as it's digital—and in many cases, that assessment may be accurate.

VEXING ISSUES, ENCOURAGING SIGNS

IN "WEB OF DECEIT," Fern Schumer Chapman examines some of the thorny issues that digital media present. There are reassuring signs that some of these issues may be addressed with your protection in mind. For one thing, the Federal Trade Commission—responsible for preventing deceptive advertising—regards deception as deception, regardless of the medium.

In one private initiative announced in June, the American Society of Magazine Editors promulgated a new set of guidelines for Web sites. The opening sentence declares: "The same ASME principles that mandate distinct treatment of editorial content, advertisements, and special advertising sections ('advertorials') in print publications also apply to electronic editorial products bearing the names of print magazines or offering themselves as electronic magazines." We have posted the full text on PC World Online for your examination and comment (www.pcworld.com/aug97/guidelines). We'll pass your observations on to ASME.

Like other media, Web sites are selling advertisers their access to you. If they won't play straight, take your business elsewhere. There is no more effective enforcement mechanism.

Phil Lemmons is editorial director of PC World. ■

PHOTOGRAPH: ERIK BUTLER

MMX™ TECHNOLOGY 12.1" TFT, 40MB RAM, 2GB HDD, 33.6 MODEM.

$2999

OTHER CONFIGURATIONS AND MODELS STARTING AT $999

From WinBook, winner of over 100 major awards – the *WinBook LM* gives you the features you want in the highest quality, best value notebook. At $2999, you get an amazing list of standard features including : 12.1" SVGA Active Matrix Screen, 40MB EDO DRAM, 2GB removable Hard Drive, 33.6 PCMCIA Fax/Data Modem, 128-Bit Graphics Accelerator, Intel® Pentium® Processor with MMX™ Technology, 150MHz, Running at 2.5V, and even more features.
WinBook Special Value Package! Call Now! Limited Time Offer.

The price of blazing fast multimedia has just hit a new low. Call us now for huge savings on WinBook FX's and Winbook LM's using Intel® Pentium® Processors with MMX™ Technology.

***New* WinBook FX with MMX™ Technology Running at 2.5V (Not Shown)**

- Intel® Pentium® Processor with MMX™ Technology, 166MHz, Running at 2.5V
- 12.1" SVGA Active Matrix Screen
- 32MB EDO DRAM
- 2GB removable Hard Drive
- 33.6 Internal Fax/Data Modem
- 59-Watt Lithium Ion Smart Battery

©1997 WinBook Computer Corporation. All rights reserved WinBook is a registered trademark of Micro Electronics, Inc The Intel Inside logo and Pentium are registered trademarks and MMX is a trademark of the Intel Corporation

WinBook keeps winning...and winning...and winning...and winning...and winning...and winning...and

Designed for Microsoft Windows 95

PC WORLD TOP 20 — June 1997 PC World Top 20 WinBook FX

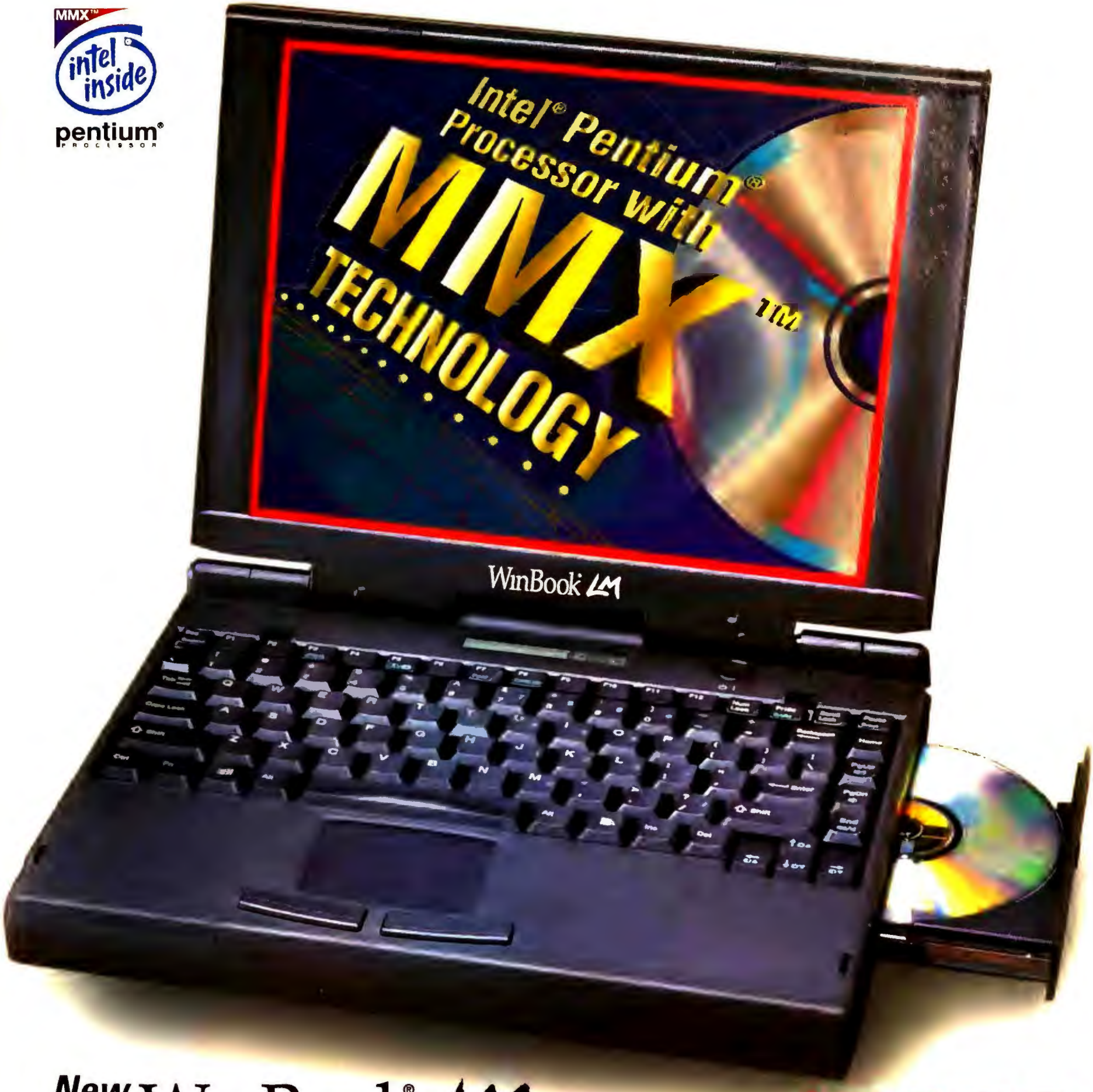
EDITORS' CHOICE AWARD — January 1996 PC Laptop Editor's Choice – WinBook XP5

March 1996 Windows 5 of 5 Rating WinBook XP5

June 1997 Windows WinList WinBook FX

LAPTOP BEST BUY — Laptop Buyer's Guide April 1997, WinBook LM P133 TFT

NSTL PC Digest 4-Star Rating August 1996 WinBook FX



New WinBook® LM

$2999

1-800-468-0420

Mon-Fri 8am-9pm EST Sat 9am-4pm EST

U.S. sales only. 30-day unconditional money-back guarantee from date of purchase

***New* WinBook LM with MMX™ Technology Running at 2.5V**

- 12.1" SVGA Active Matrix Screen
- 40MB EDO DRAM
- 2GB removable Hard Drive
- 33.6 PCMCIA Fax/Data Modem
- Options Bay accepts CD-ROM, 3.5" Floppy Drive (both included) or Optional 2nd Lithium Ion Battery
- **128-Bit Graphics Accelerator**
- Intel® Pentium® Processor with MMX™ Technology, 150MHz, Running at 2.5V
- 16-Bit Soundblaster Pro-compatible Stereo Audio
- 45-Watt Lithium Ion Smart Battery
- Parallel, Serial, VGA, and PS/2 Port
- Integrated dual-button touchpad
- Full one-year extendible warranty
- Microsoft Windows® 95 installed

WinBook COMPUTER CORPORATION

marks and registered trademarks are property of their respective corporations. All prices and specifications are subject to change without notice or obligation. Prices do not include shipping

...and winning...and winning...and winning...and winning...and winning...and winning...and winning...and winning...and winni

PC WORLD — June 1997 PC World Top 20 WinBook LM

BYTE — October 1996 BYTE Best Best Value Notebook WinBook FX

PC WORLD BEST BUY — June 1997 PC World Best Buy WinBook XP5 Pro

LAPTOP BEST BUY — Laptop Buyer's Guide July 1997, WinBook FX P166 MMX

Windows Magazine — June 1997 Windows WinList WinBook XP5 Pro

PC Magazine Editors' Choice — August 1996 PC Magazine Editors' Choice WinBook XP5 P100

Circle 254 on reader service card

THE NEW DELL 266MHz
THE COMPETITION WILL BE

SYSTEM IS SO FAST, DEMANDING A DRUG TEST.

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR FEATURING MMX™ TECHNOLOGY

- Mini Tower Model
- ★ **64MB EDO Memory with ECC**
- 512KB Integrated L2 Cache
- ★ ***NEW* 7GB Hard Drive (10ms)**
- 1000TX Trinitron® Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- ★ ***NEW* 24X Variable EIDE CD-ROM Drive**
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- ★ **MS Office 97 Small Business Edition plus Bookshelf**
- MS Windows® 95/MS IntelliMouse
- 3 Year Limited Warranty[1] with 1 Year On-site Service[3]
- ★ *Upgrade to 128MB EDO Memory with ECC, add $599.*

$3399

Business Lease[2]: $126/Mo.
Order Code #500709

NEW DELL DIMENSION XPS H233
233MHz PENTIUM II PROCESSOR FEATURING MMX TECHNOLOGY

- Mini Tower Model
- ★ **32MB EDO Memory**
- 512KB Integrated L2 Cache
- 4.3GB Hard Drive (10ms)
- ★ ***NEW* 1000LS Monitor (15.9" v.i.s.)**
- 4MB EDO ViRGE 3D Video Card
- ★ ***NEW* 24X Variable EIDE CD-ROM Drive**
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- ★ **MS Office 97 Small Business Edition plus Bookshelf**
- MS Windows 95/MS IntelliMouse
- 3 Year Limited Warranty with 1 Year On-site Service

PICTURED SYSTEM

$2599

Business Lease: $96/Mo.
Order Code #500708

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

- Mini Tower Model
- ★ **32MB SDRAM Memory**
- 512KB Single Bank Pipeline Burst Cache
- 4.3GB Hard Drive (10ms)
- ★ ***NEW* 1000LS Monitor (15.9" v.i.s.)**
- 4MB EDO ViRGE 3D Video Card
- ★ ***NEW* 24X Variable EIDE CD-ROM Drive**
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers
- ★ **MS Office 97 Small Business Edition plus Bookshelf**
- MS Windows 95/MS IntelliMouse
- 3 Year Limited Warranty with 1 Year On-site Service

$2399

Business Lease: $89/Mo.
Order Code #500707

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

- Mini Tower Model
- ★ **16MB SDRAM Memory**
- 512KB Single Bank Pipeline Burst Cache
- 4.3GB Hard Drive (10ms)
- *NEW* 800LS Monitor (13.7" v.i.s.)
- 2MB EDO ViRGE 3D Video
- ★ ***NEW* 24X Variable EIDE CD-ROM Drive**
- ★ **MS Office 97 Small Business Edition plus Bookshelf**
- MS Windows 95/MS Mouse
- 3 Year Limited Warranty with 1 Year On-site Service
- ★ *Upgrade to 32MB SDRAM, add $119.*
- ★ *Upgrade to an 800HS Trinitron Monitor (13.7" v.i.s., 26dp), add $49.*

$1799

Business Lease: $67/Mo.
Order Code #500705

PC MAGAZINE DESIGNATES DELL DIMENSION XPS H266 AS AN EDITORS' CHOICE.

With the newest Dell Dimension XPS H266, the only performance enhancing you'll find is smart engineering. Sure, the XPS H266 with the Pentium® II processor boasts an up to 21% performance boost over the 200MHz Pentium® Pro processor, and combines the benefits of the Pentium Pro processor and Intel's® MMX™ technology. But that's where the similarities to other 266MHz systems end. According to *PC Magazine* (6/10/97), the Dell Dimension XPS H266 system's "outstanding performance and features" just earned it an Editors' Choice award. So give us a call and we'll build you the computer they summed up by saying "...an incredibly powerful, cutting-edge PC, the Dell Dimension XPS H266 is a great choice." Then prepare to run the only test that really counts: the one you put it through every day.

DELL®

TO ORDER TOLL-FREE

800-545-7131

TO ORDER ONLINE

www.dell.com/buydell

Mon-Fri 7am-9pm CT • Sat 10am-6pm CT
Sun 12pm-5pm CT In Canada, call 800-232-6978
GSA Contract #GS-35F-4076D

Keycode #03275

MMX™ intel inside pentium® II processor

[1]For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L.P., attn: Warranty, One Dell Way, Round Rock, TX 78682 [2]Leasing arranged by third-party leasing companies to qualified customers. [3]On-site service provided by an independent third-party provider. May not be available in certain remote areas. *x2 products are capable of 56Kbps downloads. Due to FCC rules that restrict power output, however, current download speeds are limited to 53Kbps. Upload speeds are limited to 33.6 Kbps. Actual speeds may vary depending on line conditions. *Prices and specifications valid in the U.S. only and subject to change without notice. Intel, the Intel Inside logo and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. MS, Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation. ©1997 Dell Computer Corporation. All rights reserved.

"This free CD will increase your productivity _____ (number) % in _____ (number) days, making you _____ (adjective), so you can spend more time _____ (verb)."

Just imagine what the real stuff can do.

Everyone who runs a small business has different goals. You just need some time to accomplish them. That's why our software was designed to save time. So you can do more business.

Let's say you came out with a new product. And you want to let the world know. Well, at least potential customers. Just plug in the information and ACT!™ provides you with your contacts' names, their addresses, phone numbers, the last orders placed, the name of your prospect's spose and dog.

You could then fax the details to your sales leads simultaneously from your computer with WinFax PRO.™ No more hours waiting to print, standing at the fax machine or battling those pesky paper jams.

As for the Internet, the million dollar question still remains: time saver or black hole? But thanks to Internet FastFind,™ you can now harness several search engines at once without any duplication. Translation: you can find stuff on the Internet really fast.

Of course, you won't be harnessing anything if you have a computer virus. If someone brings in an infected floppy, then zap. Meltdown. Fortunately, Norton AntiVirus™ detects and destroys viruses and repairs infected files.

All of these small business solutions include

LiveUpdate,™ which automatically gives you the latest software updates. And in the case of Norton AntiVirus, the very latest virus definitions, completely free of charge.

You see, although you may have filled in some of the blanks differently, Symantec's small business solutions will help everyone have time to do more business. Check out our CD that allows you to test them out in your own working environment.

There's no _____ (noun) to waste.

Order your free trial CD.

Get ACT!, WinFax PRO, Internet FastFind and Norton AntiVirus, free for 30 days. Call now for your trial CD.

1-800-835-6222
ext. 9258

SYMANTEC.®

For additional product information or employment opportunities visit us at www.symantec.com. CD available in PC format only. In Canada, call 1-800-365-8641. In Australia, call 02-9850-1000. In Europe, call 31-71-535-3111 Symantec, the Symantec logo, ACT!, WinFax PRO, Norton AntiVirus, and Norton Utilities are U.S. registered trademarks and Internet FastFind and LiveUpdate are trademarks of Symantec Corporati
All other brand names or trademarks are the property of their respective owners. ©1997 Symantec Corporation. All rights reserved.

YOUR TAKE ON: Intel versus AMD ◆ Modem slowdowns ◆ Losing memory

PC RELIABILITY, SERVICE, AND THE ALMIGHTY DOLLAR

IN RESPONSE TO "When Bad PCs Happen to Good People" [June] and specifically to Brij Kathuria of Compaq, I take severe exception to Mr. Kathuria's inappropriate statement "Assemblers always have problems...." After 20-plus years in electronics manufacturing, I can assure Mr. Kathuria that assemblers do *not* always have problems.

If "retraining our manufacturing personnel while still getting new products out the door" is Mr. Kathuria's idea of effective quality management, then I suggest he reevaluate his objectives and responsibilities because he obviously can't get a quality job done that way.

I suspect that Compaq made a corporate decision to rush those new products out the door with regard only to revenue, without consideration for the customer or the company's reputation. Seems that the almighty dollar rules at Compaq, and to hell with the customer.

William Barrett, Internet

WHAT ABOUT THE ALPHA PROCESSOR?

WHY DO ALL OF THESE articles on the Pentium II chip (233-MHz, 266-MHz) ignore an even faster processor—Digital's Alpha chip, which offers blazing speeds up to 500 MHz? Why hasn't *PC World* written anything about Digital's Alpha? I would love to see an article about this superfast processor.

Jeremy Klauburg, Internet

Editor's response: *PC World* covers PC products, rather than workstation-class products that use the Alpha chip. –Charles Piller

PHONE LINES AND SLOW CONNECTIONS

IN THE JUNE ISSUE [*Answer Line*], Scott Spanbauer missed the most obvious reason for modem slowdowns. When I worked as a senior technical support representative for an ISP, I received many calls describing these exact symptoms. While it's true that some phone lines may be bad enough to limit a 28.8-kbps modem to 14.4 kbps, odds are the caller would see slight fluctuations in baud rate for different calls if the phone lines were the problem. The article states, "If every connection you make tops out at 14.4 kbps..." With these numbers the much more likely explanation is that the user upgraded from a 14.4 modem to a 28.8 or faster and didn't change the serial port baud rate setting on their PC. With a 28.8 or faster modem, this baud rate ▶

HOT BUTTON

Pentium II-266 Versus K6-233: Apples and Oranges?

IN YOUR RECENT ARTICLE comparing Intel and AMD CPUs ["The New Power Players," *Top of the News*, June], you make AMD's K6 appear like a second-class CPU and treat it unfairly. Intel makes a 233-MHz Pentium II chip. So why did you compare the 233-MHz K6 with a 266-MHz Pentium II?

Meanwhile, the K6 processor has 8.8 million transistors with MMX extensions while Intel's Pentium II chip has only 7.5 million transistors with MMX extensions. Something has got to be said for making a better product at a lower price as AMD has done, as opposed to Intel's strong-arm marketing tactics.

Paul Nixon, Internet

I JUST RECEIVED the June issue and gleefully saw that you covered the AMD K6 versus Intel Pentium II question. However, I do have a couple of concerns about your comparison. Why did you compare AMD's 233-MHz K6 to the 266-MHz Pentium II? Why not compare it to the 233-MHz Pentium II? Also, further into the story, you mentioned that AMD's K6-PR266 processor was forthcoming, but failed to mention that it would be much more competitive with the 266-MHz Pentium II—at a comparable frequency—than the K6-PR233 is.

You also concluded that the Pentium II is the best bet for fending off obsolescence. This seems to me to be entirely dependent on the acceptance of the new SEC architecture (and Accelerated Graphics Port). Furthermore, you failed to mention that AMD will be coming out with new chip sets this year that take advantage of OpenPIC multiprocessing architecture and may improve K6 performance over current chip sets.

The computer industry's history is rife with lessons to be learned from proprietary architectures, and I think it's unfair to assume that it will be different with Intel.

Johnnie Naylor
Scotts Valley, California

Editor's response: As we noted in our coverage, K6-based systems offer excellent price/performance, though they lag behind the Pentium II-266 machines slightly in raw speed. No Pentium II-233 machines were available for review when the June story was prepared, though they were reviewed in the July issue (see *Top of the News*). The number of transistors on a chip may or may not determine its ultimate performance, as our coverage shows. In general, *PC World* hesitates to predict the performance of products we have not evaluated, such as systems based on the yet-to-be-released 266-MHz AMD K6 or alternate chip sets for AMD products. Nearly all major PC vendors have adopted the SEC architecture, and it seems clear that it will thrive in the future, regardless of what happens to the Socket 7 architecture used by AMD and Cyrix. –Charles Piller

ILLUSTRATION: ROBERT NEUBECKER

No guts. No glory!

When we say

Shown above
Model PT775

ViewSonic PT775
- 17" CRT Size
  16.0" Viewable
- Aperture Grille Pitch 0.25mm
- 96kHz Horizontal Scan Rate
- 1600 x 1200 @ 77Hz
  Maximum Resolution
- TCO Compliance
- *Plug & Play+*

ViewSonic PT813
- 21" CRT Size
  20.0" Viewable
- Aperture Grille Pitch 0.28mm
- 197kHz Horizontal Scan Rate
- 1600 x 1200 @ 85Hz
  Maximum Resolution
- TCO Compliance
- *Plug & Play+*

(909) 869 7976 Fax (909) 869 7958 • Internet www.viewsonic.com • Specifications subject to change without notice • Copyright © 1997 ViewSonic C
All rights reserved • Corporate names and trademarks stated herein are the property of their respective companies.

ViewSonic® will exceed your expectations, we've got the guts to back it up.

Aperture grille technology that rewrites the spec charts.

It's one thing to say our new PT775 17" (16.0" viewable) monitor sets a new performance standard. It's quite another to back up that claim. But we've got the technology and the specs to prove it. Featuring an 0.25mm aperture grille pitch, this monitor outperforms all competition. Period. The PT775 achieves breakthrough quality in brightness, color saturation and screen clarity with a maximum resolution of 1600 x 1200 at a remarkable 77Hz refresh rate.

It works hard. It plays hard.

The PT775 SonicTron™ draws on ViewSonic technology to exceed all high-performance demands—no matter what the application. From graphic design to business presentations to CAD and the internet, it delivers the highest resolutions and clearest images yet seen in its size range.

And, the PT775 comes with the full support of ViewSonic, one of the fastest-growing, most respected companies in the industry. It's backed by a limited 3 year warranty on CRT, parts and labor (the best in the business), as well as an optional Express Exchange™ Service program that insures 48 hour replacements.

ViewSonic®

The PT813 and PT775 are winners.

ViewSonic monitors have again been enthusiastically received by distinguished industry reviewers. Our PT813 was honored as *PC Magazine's* Editors' Choice (June 24, 1997). They said, "...ViewSonic—not NEC or Sony—is the largest purveyor of 20- and 21-inch monitors in the U.S." They called the PT813's image quality and features "excellent" and its price "attractive."

The PT775 has also been praised. *PC World* calls it "... tops for graphics pros," and makes it a coveted Best Buy (July, 1997). They rave about its "super brilliant images" and "rich, vivid colors." Of course, we knew all along these two monitors would exceed your expectations.

For the dealer nearest you, call ViewSonic at (800) 888-8583, ask for agent 7567, or visit our website at: www.viewsonic.com.

PC MAGAZINE EDITORS' CHOICE

ViewSonic PT813
PC Magazine's Editors' Choice
June 1997

PC WORLD BEST BUY

ViewSonic PT775
PC World's Best Buy
July 1997

Circle 224 on reader service card

AnthroCarts®!

AnthroCarts are *so* flexible. You have **dozens of shapes and sizes** to choose, plus over **50 accessories** to configure your cart exactly the way *you* want.

And they have a **Lifetime Warranty**! Made of steel and high density particle board, these AnthroCarts are as tough as nails.

See them all in our catalog, then call us direct to order. We'll ship to you the very next business day!

Call for your free catalog:

800-325-3841

6:00 AM to 6:00 PM PST, M-F

Anthro Corporation®
Technology Furniture®
10450 SW Manhasset Dr.
Tualatin, OR 97062
Fax: 800-325-0045
In Japan call: 03 (Tokyo)-3947-2735
www.anthro.com

ANTHRO®

Since 1984. Prices from $299. For a lower cost line for the home, ask for our Compacta catalog. GSA contract. Available for OEM applications. Anthro, AnthroCart and Technology Furniture are registered trademarks of Anthro.

should be set to at least 57,600 or 115,200. A COM port setting of 14,400 will force your brand-new 28.8, 33.6, or 56 modem to connect at nothing higher than 14,400.

Peter Davies, Vienna, Virginia

Author's response: Look as hard as you like, but you'll never find a 14,400 speed setting for your computer's serial port—the nearest values are 9600 and 19,200, neither of which is likely to yield connect rates of exactly 14,400. You're correct in stating that for 28.8-kbps modems the serial port should be set to 57,600 or higher. Under Windows 95, however, modem installation .inf files generally set the appropriate port speed for you automatically, as do updated modem setup files for Windows 3.*x* and other communications programs. If you install your new modem using the latest drivers provided by the manufacturer, port speed shouldn't be a problem. **–Scott Spanbauer**

PRACTICAL MODEM CHOICE

I FAIL TO SEE why May's Top 10 Modems chooses the Practical Peripherals modem as Best Buy rather than the U.S. Robotics Courier. The Courier all has the same features as the Practical Peripherals except the lifetime warranty. And the Courier has FlashROM, a big advantage where protocols and ITU standards are changing.

Matt Johnson, Reeds, Missouri

Editor's response: The Practical Peripherals PC288LCD V.34 tied with the Motorola ISG Premier 33.6 for fastest modem. Plus it has a helpful LCD that shows users how fast the modem is connecting and transferring data, in easy-to-read text rather than with a blinking light. We found the PC288LCD's performance and LCD to be more valuable than the Courier's features. (Note: At press time 3Com bought U.S. Robotics.) **–Eric Hellweg**

WASTING MY TIME

STEPHEN MANES'S ARTICLE "Your PC Is Wasting Your Time!" [*Full Disclosure*, June] was a waste of my time. Is it possible that Raj Reddy of Carnegie Mellon University has the time to figure out how many hours are wasted waiting for the computer to boot up? Who cares? Manes goes further, referring to the World Wide Wait: "Once online, the wheel-spinning continues." Sure—at least half the ▶

A LAN COULD CARE LESS IF YOU'RE UNDERSTAFFED, OVERWORKED, OR EVEN EMPLOYED.

We can help. *A server isn't here to hold your hand. It's here to perform millions of operations per second. That's why at AST,® we're here to help you every step of the way. With management software that notifies you if there's a problem. And with a dedicated server support staff that's ready to solve those problems 24 hours a day, 7 days a week. We even have an option that includes on-site technician response within 4 hours. Because, sometimes, a helping hand is exactly what you need. For more information about AST Manhattan™ servers with Intel® Pentium® Pro processor, call 1-800-945-2278.*

AST® COMPUTER
Working for your business.™

intel inside
PENTIUM®PRO PROCESSOR

©1997 AST Computer. All rights reserved. The AST logo, Manhattan and Working For Your Business are either trademarks or registered trademarks of AST Computer. The Intel logo and Pentium are registered trademarks of the Intel Corporation.

Circle 6 on reader service card

Which One?

Try the simple software that takes the ? out of finding files and disks.

We call it Smart DiskLabeler.™ But it does so much more. It searches for files. Tells you where they're located. Prints a file list on a reference sheet. Or prints that list on a label, quickly and easily. You save tons of time and trouble. And you'll never lose track of a file again.

It automatically catalogs CDs, Syquests, Zips and other removable media.

Just $29.95!

Call to order your copy, or visit us on the web at **www.seikosmart.com/sdl** Also available at OfficeMax, and other fine retailers.

1-800-643-0145 ext. 414

SII
Seiko Instruments

© 1997 Seiko Instruments USA Inc. All rights reserved

COMING UP IN SEPTEMBER

TIPS FOR MICROSOFT OFFICE 97

We've got the keys to the most widely used office suite in the world: Microsoft Office 97. Check out our tips for turbocharging Word, Excel, and Access, and discover the best ways to use Office's new Web features.

A NEW PC: THE FIRST SIX MONTHS

Just how well does your new PC work? We completed a yearlong project to learn from 25 consumers during their first six months of PC ownership. We chronicle the joys and frustrations of system setup, hardware failures, tech support calls, and much more.

THE BEST 17-INCH MONITORS

We stare at them all day, but finding the right 17-inch monitor is tough when look-alike specs often gloss over big differences in displays. We test 23 popular monitors priced from $599 to $1049 and pick two can't-miss Best Buys.

PUSHING INFORMATION

Internet push applications, or Webcasters, all aim to organize the steady stream of info you need from a variety of sources. But not all deliver the goods. We download 12 leading Webcasters and sort it all out for you.

ALSO NEXT MONTH

▶**PC World Top 100:** Check out the Top 20 power desktops, budget desktops, and notebooks, plus the *PC World* Top 10 workgroup printers, 17-inch monitors, graphics boards, and internal modems.

▶**Top Servers:** Hot-swappable storage and power help a new challenger top a competitive class of inexpensive servers. Plus the latest Web collaboration tools, including Netopia Virtual Office and NetMeeting.

▶**Here's How:** *Upgrade Guide* on installing a video camera on your PC, *Answer Line* on reinstalling Windows 95, *Internet Tips* on buying from Web auction sites.

PC WORLD

LETTERS

time spent on the Net is wasted. But do we really need to know these figures?

Give your opinion on something we care about, like when will cable companies connect us to the Internet with fiber optics? Or when will videoconferencing work at 30 frames per second? At the end of reading my favorite computer magazine, I like a good kicker, not a column that wastes my time.

Duane Krautman, New York

WHERE DID MY MEMORY GO?

THANK YOU, Stephen Manes, for your May column "It's Party Time on Your Hard Disk." I was down to 12MB on my measly 500MB hard disk and couldn't figure out where my memory was going. After reading your column, I immediately looked in my cache—and there it was. I deleted all those needless .htm and .gif files (there were so many!), and thanks to you, recovered almost 10 percent of my hard disk—about 60MB.

The information found in your column is well worth my three-year subscription. Keep up the good work.

C. K. Crease, Wichita, Kansas

STRAIGHT TALK ABOUT PC COSTS

THANKS TO Phil Lemmons for standing up and saying the emperor has no clothes [*Up Front*, June]. My boss has now been persuaded not to trash our network of PCs (in favor of an abacus). Whew! Now, as for the coffeepot: A coworker has offered to provide coffee service for only $25,000 a year. Interested? She'll throw in free cinnamon buns on Fridays.

Tom Farmer, Internet

STEVE BASS ON GERALDO

I BACK UP MY COMPUTER regularly, but I'd still watch the show "On the Next Geraldo: Bass Gets Backup Religion" [*Home Office*, June]. "Clutching pocket protectors and waving backup tapes," I'd love to see Bass take on Geraldo.

Keith Ullman, Internet

PC World *welcomes your responses, ideas, and other letters to the editor.* *See page 14 for contact information.* ■

Versatile notebooks for versatile people.℠

Are you often called on to do the job of five people? If so, we've got the perfect notebook for you: the NEC Versa® 6200. In addition to having the largest display of any notebook (13.3"), its unique, modular design allows you to customize the exact computer you need, when you need it. And thanks to its 166MHz Pentium® processor with MMX™ technology, the Versa 6200 is the most powerful multimedia notebook you can buy.

So if you have to wear many hats at work, look at the bright side. The Versa 6200 is the perfect notebook for each and every one of you.

For more information, just call 1-800-NEC-VERSA, or visit our web site at http://www.nec-computers.com.

The NEC Versa 6200 with 13.3" XGA display

- 166MHz Pentium Processor with MMX Technology
- 32MB EDO DRAM, upgradeable to 128MB
- 2.1GB removable hard disk drive
- 10X CD-ROM
- Full-screen MPEG video support
- 16-bit 3D stereo sound and speakers
- VersaBay™ II slot for swapping
- McAfee® WebScan™ and VirusScan,™ LapLink® and other software included

©1997 NEC Computer Systems Division, Packard Bell NEC, Inc. NEC is a registered trademark and Versa is a US registered trademark of NEC Corporation, and VersaBay is a trademark of NEC Technologies, Inc., all used under license "Versatile notebooks for versatile people" is a service mark of Packard Bell NEC, Inc. The Intel Inside logo and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. All other trademarks and registered trademarks are property of their respective owners.

NEC

Circle 223 on reader service card

It's the most powerful desktop PC we've ever offered.

Actually, it's the most powerful desktop PC anyone's ever offered.

MMX™ intel inside

pentium® II processor

©1997 NEC Computer Systems Division, Packard Bell NEC, Inc. NEC and PowerMate are registered trademarks of NEC Corporation, both used under license. The Intel Inside logo, LAN their respective owners. *Intel's 266MHz Pentium II delivered the best performance based upon *PC Week* 4-7-97 article on desktop PCs.

NEC PowerMate Professional

- Intel Pentium II Processor 233 or 266MHz
- 32MB or 64MB EDO RAM standard/expandable to 256MB
- 3.2GB Enhanced IDE Drive or 4.35GB Ultra Wide SCSI hard drive
- 64-bit PCI accelerated 2D and 3D graphics
- Microsoft Windows NT or Microsoft Windows 95
- Intel LANDesk Client Manager
- NEC MagicEye technology
- 3-year limited warranty

We could compare the NEC PowerMate® Professional to ordinary desktops, but that wouldn't be fair. Enhanced by Intel's Pentium® II processor,* the PowerMate desktop is in a class all its own. Of course, we're not simply saying that our new system is extraordinarily powerful. It's extraordinarily manageable as well. With Intel LANDesk® Client Manager and NEC MagicEye™ technology, you'll not only be able to access every desktop throughout your network, you'll also be able to monitor problems before they happen. All without leaving your desk. For greater flexibility, there are Microsoft Windows NT® 4.0 or Windows® 95 models. Given all this, you'll be glad to know that the highest performing PC is available now. Just call 1-888-306-4636 for more information or to find your nearest reseller. After all, how can businesses demand speed and efficiency from their people if they can't get it from their computers?

and Pentium II are registered trademarks and MMX is a trademark of Intel Corporation. All other trademarks or registered trademarks are property of

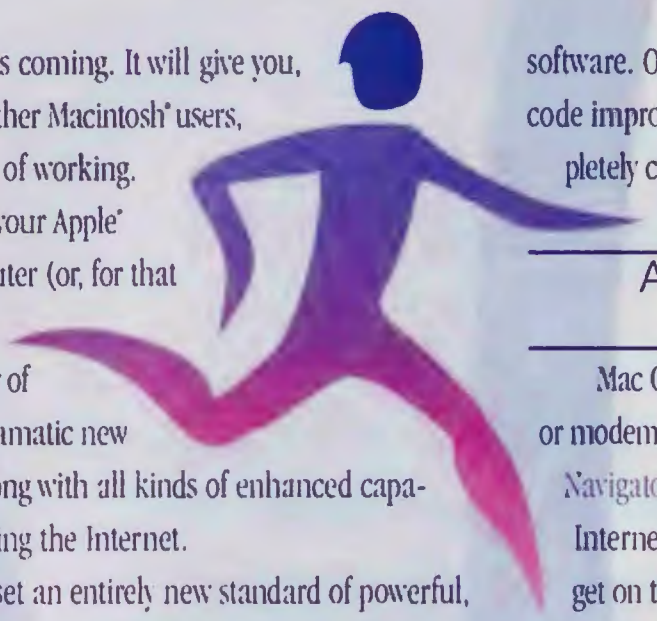
Visit our web site at www.nec-computers.com

NEC

Circle 180 on reader service card

The Mac OS Report

Number two in a series—the facts about Mac OS 8



Mac® OS 8 is coming. It will give you, and millions of other Macintosh® users, a whole new way of working.

It will give your Apple® Macintosh computer (or, for that matter, any other Mac OS computer of your choice) a dramatic new look and feel, along with all kinds of enhanced capabilities for accessing the Internet.

It will also set an entirely new standard of powerful, intuitive computing—a standard the competition can try to catch up to. (Again.)

A new way of working

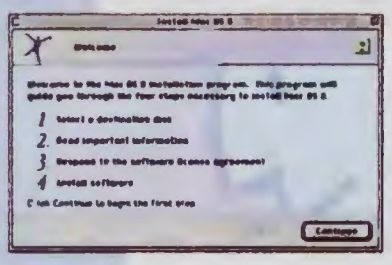
The moment you start using Mac OS 8, you'll feel the difference: you'll find yourself accomplishing more in less time. A multi-threaded Finder™ lets you execute multiple tasks simultaneously, such as launching applications and copying files. Mac OS 8 includes new information-management tools, such as contextual pop-up menus and spring-loaded folders, that give you quicker and easier access to all your information. A scalable environment lets you either limit your menu and window options, or expand them—whichever works better for you. A new, dimensional look makes the interface more dynamic and engaging than ever. And Mac OS 8 also includes the latest versions of QuickTime® with its MPEG support, QuickTime VR and QuickDraw™ 3D.

How easy is it to get going with all these new technologies and features? Very. Because our new installer and setup assistants take you through each step of configuring your new system software. Once you're up and running, PowerPC™-native code improves your performance. Mac OS 8 is also completely compatible with all PowerPC and 68040-based hardware and software.

A new way of accessing the Internet

Mac OS 8 includes TCP/IP and PPP for easy network or modem access direct from the Finder. You get Netscape Navigator™ and the PointCast Network.™ And a new Internet Setup Assistant makes it easier than ever to get on the Net, whether you're doing it from home with a modem or from work with a high-speed connection.

Personal web sharing is standard, so you can turn any Macintosh into an Internet web server. And Java™ support is built in, so you can run Java applications just as though they were any other desktop applications. (If you were wondering, Windows 95 can't do this.)



And more advancements are on the way

Mac OS 8 is one of the most significant advances in OS technology ever. And it's just the beginning—additional upgrades are planned. And our support for the Mac OS will continue for years.

At the same time, we're also working on an industrial-strength OS, code-named Rhapsody, that will offer features such as protected memory, preemptive multitasking and symmetric multiprocessing. Rhapsody will also provide backwards compatibility, so you can be sure that the vast majority of your Mac OS apps will run on Rhapsody, too.

In other words: Apple is still developing the most innovative, user-friendly and consistently superior products on the market. That's one part of our system that won't change. To learn more, visit www.macos.apple.com.

If you want to use Netscape Navigator to browse the Net, you'll like this: it's an integrated part of Mac OS 8.

PointCast

It's the PointCast Network. It comes with Mac OS 8. And it grabs the news you want directly off the Net to create customized desktop news pages. Daily. Hourly. As often as you want.

When you get Mac OS 8, you also get built-in Java support, so you can run both local and network-based Java software just like other desktop applications.

Mac® OS

Mac OS has always been the easiest and most intuitive of all operating systems. Now, Mac OS 8 brings this kind of computing to a whole new level.

© 1997 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Mac, Macintosh, the Mac OS logo, QuickDraw and QuickTime are registered trademarks of Apple Computer, Inc. Finder is a trademark of Apple Computer, Inc. PowerPC is a trademark of International Business Machines Corporation, used under license therefrom. Java and the Java logo are trademarks of Sun Microsystems, Inc. Microsoft® and Windows are registered trademarks of Microsoft Corporation. Netscape Navigator and the Netscape Navigator logo are trademarks of Netscape Communications Corporation. The PointCast Network and the PointCast Network logo are trademarks of PointCast, Inc.

The Mystery of the $9.99 CD-ROM

Cheap discs?
How good can they be?
You'd be surprised.

PHOTO ILLUSTRATION JOHN KUCZALA

I KEEP WAITING for the price of new CD-ROMs to drop. I'm longing for the day when I can pick up any new game or reference title as nonchalantly as I purchase the latest home video or music CD. But that day isn't likely to come anytime soon. According to market researcher PC Data, the best-selling CD-ROM titles last spring averaged $43. That's not exactly an impulse buy for most of us—certainly not for me.

But you don't have to spend a small fortune to get a good CD-ROM title. In fact, with a little hunting you can find great values on both fairly new releases and not-so-new favorites. The trick is knowing where—and how—to shop for the bargains.

I used to walk right past the bins of bargain software and the racks of $9.99 jewel cases at the local CompUSA or Office Max store. Most of it was junk, I figured—DOS products well past their prime, and utilities from companies I'd never heard of before.

But lately I've noticed that scattered amidst the cases of no-name titles are some well-known and well-respected products.

On one recent shopping expedition, for example, I found several games and reference titles that, while slightly past their prime, still offer tremendous value. One of my favorites is WillMaker 5.0, a do-it-yourself will creation product from Nolo Press. Nolo is currently shipping version 6.0 of this popular program (I found the latest version at CompUSA for $35), but has licensed the earlier version to The Learning Company, which repackages it under the SoftKey label and then sells it at a deep discount. How deep? I found WillMaker 5.0 for just $9 at Price Costco. And the wills you create in version 5.0 are just as valid as the ones created in the current product.

What do you get for the additional $26 in the later version? Some ease-of-use enhancements and a few new features, like the ability to name coexecutors of your will or to choose different guardians for each of your minor children. While I'm sure some people will need these added capabilities, those of us with simpler needs can do just fine with the earlier version—and save a tidy sum in the bargain.

So what's in it for Nolo? Doesn't the low-price product cannibalize sales of the current WillMaker? Not necessarily, says Ann Heron, the company's director of software marketing. "By licensing the earlier version, we hope to get into markets that we wouldn't reach otherwise," she explains. Heron says that version 5.0 is sold *only* in stores like Target, K-Mart, and Price Costco, where consumers won't find the premium product. That's the theory, at least, but it may have some holes: I found a copy of 5.0 on the bargain rack at CompUSA, which also had the higher-price, later version for sale.

Nolo isn't alone in offering older products at reduced prices. Electronic Arts, Maxis, and Sierra all have low-price lines of their classic games, which they've moved from floppy disk to CD-ROM. They've tossed the bulky boxes ▶

PKZIP®
for Windows
Version 2.50
Compatible with
♦Windows 95
♦Windows NT
♦Windows 3.1x

Why use PKZIP for Windows?

- Save on-line time charges and save disk space.
- Compress files an average of 50-70%. Many large files compress well over 90%.
- Open .ZIP archives downloaded from the Internet.
- Simple point-and-click interface.
- Combines the best and fastest patented compression technology found in PKZIP 2.04g.

Other PKWARE Products:
PKLITE® & PKLITE Professional™ for Windows
Put your executables on a diet!

PKWARE Data Compression Library
Put compression in your application.
Separate versions available for DOS, DOS32, Windows, Win32, OS/2, UNIX & Macintosh.

To order call
414-354-8699 or
visit our web site
http://www.pkware.com

GENUINE PKZIP ™
The Data Compression Experts®
PKWARE, Inc. Since 1986

1992-1996 PC World World Class Award
1996 Government Computer News Best New Product Award at FOSE Finalist
1995 Computer Currents Readers Choice Award
1993 Shareware Industry Award
1992 Premiere Computing Magazine Award
1992 Dvorak/Zoom Award

PKWARE, Inc.
9025 N. Deerwood Drive
Brown Deer WI, 53223 USA
FAX: 414-354-8559
Email: info@pkware.com

Copyright 1996 PKWARE, Inc. All Rights Reserved. All trademarks or registered trademarks are the property of their respective owners. PCW-897

Circle 212 on reader service card

to save space and packaging costs and dramatically reduced the prices. Maxis, for example, now sells four of its popular Sim titles for $15 each and is considering adding more to its low-price Collector's line. Electronic Arts has roughly 30 products in its CD-ROM Classics line; these also sell for around $15 each. While some of the games are for DOS (they will run in Windows 95), most are Windows products that were best-sellers just a few years ago.

The Learning Company, which now consists of Compton's New Media, MECC, and SoftKey, has also aggressively marketed earlier releases of a few of its products in a Classics line. Older versions of its Reader Rabbit and Math Rabbit, Oregon Trail, Compton's Interactive Encyclopedia, and BodyWorks are selling for $14.95 on the street—up to 60 percent off original retail prices. Technical support is still available on the products, and in some cases you can upgrade to the latest version.

Let's say you buy the 1995 edition of Compton's Interactive Encyclopedia for $15 and later decide you want to upgrade to this year's (not a bad idea if you hope to stay abreast of current affairs). For an additional $29.95 you can get the 1997 edition. You wind up spending about $45—or roughly the same as paying for the new version at retail. Most people probably won't want to go through the hassle of buying an older product, filling out the upgrade coupon, and mailing in the receipt. But it certainly takes the risk out of buying a discounted older version.

Technical support is still available for most bargain discs, and you can often upgrade to the latest versions.

CD-ROM BUYING TIPS

THERE ARE SOME important caveats, however, that apply to these older releases. Though all the companies mentioned here offer technical support on their low-price lines, that may not be the case for *all* bargain packages. You also won't get all the latest multimedia technology in these older products. (For that reason, though, they'll probably run better if you've got an older 486 PC.) And finally, a dog at any price is still a dog: Despite the great titles I found, there's still a lot of junk on those bargain racks, and some products have incompatibilities that could wreak havoc on your system. Think twice before buying titles you've never heard of.

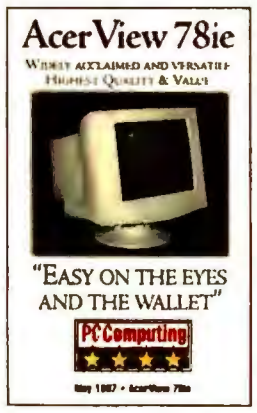
Buying oldies but goodies isn't the only way to save money on CD-ROM titles. Here are tips for getting the best prices on all types of CD-ROMs.

All stores aren't created equal. More so than with books, records, or music CDs, pricing for CD-ROMs varies dramatically from one store to the next—and the bargains aren't always where you'd expect them to be. For example, stores like Target and K-Mart that offer competitive pricing on many noncomputer products aren't so competitive when it comes to CD-ROM titles. Myst, for instance, was selling for $29.99 at my local Target, while Price Costco had it for just $17.99. Warehouse stores like Price Costco and Sam's Club continue to have the lowest prices of any retailers on both new and older releases. And the selection is surprisingly better than at all-purpose retailers like Target, though even warehouse clubs are not as well supplied as computer superstores or software-only retailers.

Scope out the bundles. Just about all the stores that sell CD-ROMs are selling low-cost CD-ROM bundles—both compilations from several developers as well as single-company products. Be careful, though. Some of these bundles *look* great but aren't worth the money—you may find only one or two quality titles out of a mix of four or five in the package.

The bundles offered by software companies themselves are often the best deals, particularly since you stand a better chance of getting technical support. The two Price Costco stores I visited had several $33.99 Davidson software bundles, each featuring two children's educational CD-ROM titles. One set, a KidWorks Deluxe/Science Blaster Jr. combo, included a $10 rebate—not a bad deal for two fairly well respected titles that used to ▶

Windows of Opportunity



Opening new windows of opportunity from your desktop has never been more affordable. Acer's contemporary line of AcerView™ monitors let you maximize your viewing experience with vibrant displays, flicker-free images and high-contrast screen surfaces.

Let the brilliant sharpness of AcerView monitors reveal the exciting environment of the World Wide Web, display your creative designs like never before with stunning clarity and provide you with a dynamic new way of looking at your business enterprise.

Every AcerView monitor offers you the highest quality, reliability and value because they're built by Acer, one of the world's top five monitor manufacturers. Their dependability is further assured by rigorous performance tests, and each model comes with a 3-year limited warranty. Choose from a comprehensive line of IBM-compatible and Macintosh* models to maximize your computing experience.

So, seize the opportunity now, and let AcerView change the way you look at your world.

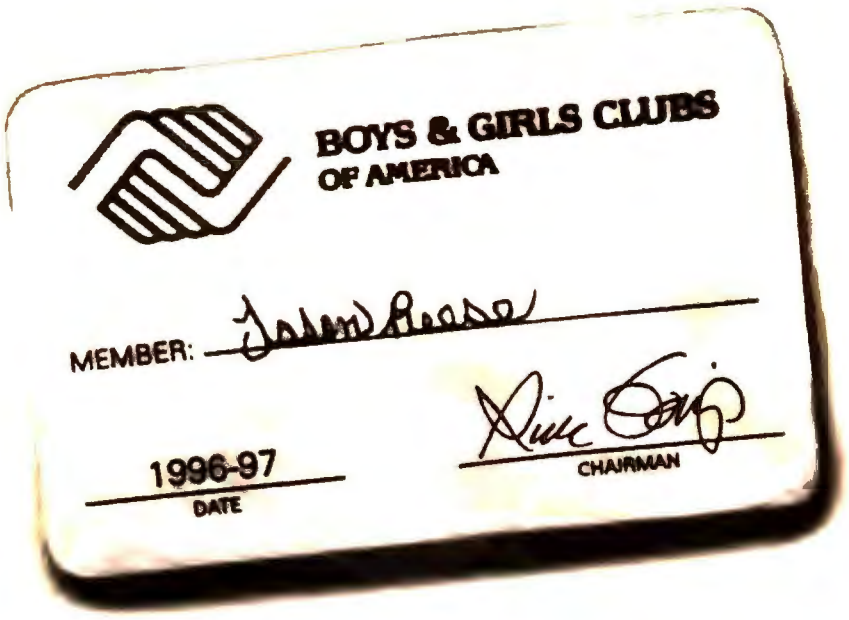
AcerView™ Quality Monitors

MODEL	CRT SIZE	MAX. RESOLUTION	ADJUSTMENT	DOT PITCH
AcerView 98i	21" (19.9" Viewable Image Size)	1600x1200 @65Hz	iScreen® On-Screen	.28mm
AcerView 78ie	17" (15.7" Viewable Image Size)	1600x1200 @68Hz	iScreen® On-Screen	26mm
AcerView 76ie	17" (15.7" Viewable Image Size)	1280x1024 @65Hz	iScreen® On-Screen	27mm
AcerView 56e	15" (13.7" Viewable Image Size)	1280x1024 @62Hz	Digital Control	28mm
AcerView 54e	15" (13.7" Viewable Image Size)	1024x768 @66Hz	Digital Control	28mm
AcerView 34T	14" (13.1" Viewable Image Size)	1024x768 @60Hz	Analog Control	.28mm

Acer®
Acer Components

For the Dealer Nearest You Call
800-379-2237
Extension 124

©Copyright 1997 Acer Components, a division of Acer America Corporation. All rights reserved. iScreen is a registered trademark and the Acer Components logo and AcerView are trademarks of Acer America Corporation and Acer Inc. All other trademarks are the property of their respective owners. • *Available for Macintosh in selected models only. AVOpp.PCW.5/97-124



Every year, thousands of kids turn this card into a diploma.

These days, too many serious things can interfere with a child's education. Drugs. Gangs. Violence. At the Boys & Girls Clubs, more and more kids are finding the support they need to stay out of trouble and stay in school. And the longer they stay in, the better their chances of walking out with a diploma. To learn how you can help the Boys & Girls Clubs, call:
1-800-854-Club.

The Positive Place For Kids

WHERE TO BUY

- Davidson and Associates; 800/545-7677; www.davd.com
- Electronic Arts; 800/545-7677; www.ea.com
- The Learning Company; 800/227-5609; www.learningco.com
- Maxis; 800/336-2947; www.maxis.com
- Nolo Press; 800/728-3555; www.nolo.com
- Sierra; 800/757-7707; www.sierra.com
- Sirius Publishing; 800/247-0307; www.siriuspub.com

cost a lot more when bought separately.

Sirius Publishing's 5 Foot 10 Pack has topped best-seller lists for months. And why not? For $22.95 you get ten older CD-ROMs. The package includes a wide array of multimedia, games, and applications from such major companies as Microsoft and Warner Interactive. Even if you find only two of the included titles worthwhile, you still are ahead. The company has released a number of follow-up ten-packs, mostly with older CD-ROMs licensed from their original publishers.

Go to the source. Many CD-ROM developers are selling their own titles directly via toll-free sales lines and their Web sites. With the distributor and the retailer out of the picture, you can shave several dollars off the retail cost. Many companies frequently offer special promotional pricing through their Web sites that isn't available via retail stores.

Shop and save. Sooner or later, the price of new CD-ROM titles will drop to a reasonable level. Until then, it pays to shop around. You'll find some great deals on older products and discounts on the newer releases, too. Then maybe it won't hurt quite as much when you feel the need to buy a hot new title that you and your family just can't live without.

Have you found any great CD-ROM deals? E-mail your comments about this or any consumer issue to consumerwatch@pcworld.com. Roberta Furger is a PC World *contributing editor. Her book* Does Jane Compute? *will be published by Warner Books next February.* ■

You were expecting a new version.
But you weren't expecting this.
www.microsoft.com/ie4/preview/

Where do you want to go today?®

www.microsoft.com/ie/

©1997 Microsoft Corporation. All rights reserved. Microsoft and Where do you want to go today? are registered trademarks and the Microsoft Internet Explorer logo is a trademark of Microsoft Corporation.

Why Wait?

Introducing 24X Speed From GoldStar

ADVANCED
SLOT LOADING
DESIGN

Got miles of data to get through? Take a new GoldStar 24X max CD-ROM for a spin and watch the megabytes tick off. With it's blistering 3.6 MB/second transfer rate and 90 ms access time, these drives retrieve data at maximum mph. And for those of you in a real hurry, there's even a GoldStar 24X with an innvovative slot loading design. No trays and no caddies. Just slip in a disc and you're driving.

Available in tray loading or slot loading design.

Call your GoldStar distributor and get a good look at these speedsters. GoldStar 24X CD-ROM drives. If you've been waiting for the next generation X, your wait is over. Call 800-243-0000 or visit our web site at www.lgeus.com.

GoldStar
LG Electronics

LG Electronics U.S.A., Inc.
1000 Sylvan Avenue, Englewood Cliffs, NJ 07632

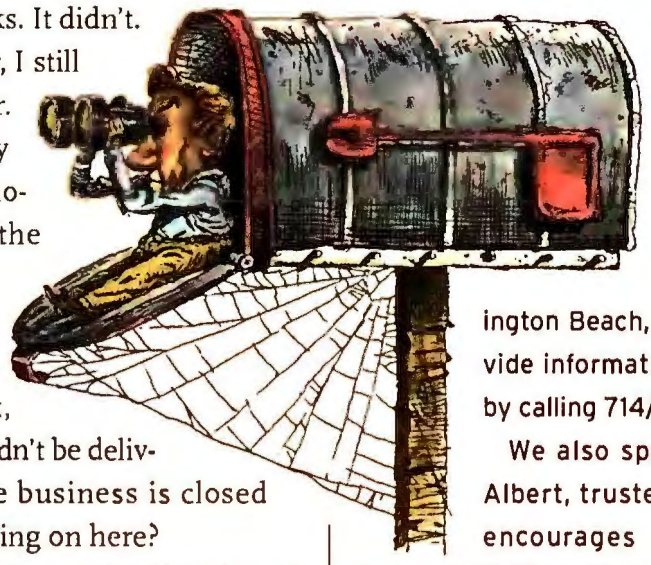
AMcom 800-355-0110 • ComputerMax 407-834-7000
D&H 800-340-1001 • DSS 888-DSS-1DSS (377-1377)
Gates/Arrow 800-332-2222
Ingram Micro 800-456-8000 • Liuski 800-454-8754
Pantex 713-988-1688 • Seneca Data 800-227-3432
Tech Data 800-237-8931

Circle 96 on reader service card

U.S. Computer Direct scam? ◆ Dell disaster ◆ Kudos to TuneUp.com

I'VE BEEN ROBBED

I ORDERED A Patriot Powerstation 3D LX system from U.S. Computer Direct in late February, after seeing an ad in *PC World*. I paid $1500 using my credit card. The salesman told me the system would arrive within three weeks. It didn't. Two months later, I still had no computer. Time to cancel my order. But now nobody answers the phone when I call. I sent a letter to the company via FedEx, but my letter couldn't be delivered because the business is closed down. What is going on here?



Samantha Nowakowski
Conshohocken, Pennsylvania

Editor's response: Nowakowski was not the only reader left high and dry by U.S. Computer Direct, based in Huntington Beach, California. Nine other USCD customers contacted *PC World* with similar stories; only two ever received a computer from the company. Both units broke down recently, and when the readers returned them for repair–you guessed it–they never heard from USCD again.

Shortly after the readers contacted us, the company filed for bankruptcy under Chapter 7. At press time no assets were available to pay back what is owed to customers.

The Huntington Beach Police Department is investigating this company. "Our office has been paralyzed with complaints from up to 150 customers around the country," reports Detective David Goss. "We want to hear from everybody who purchased from USCD." If you haven't filed a complaint yet, send one to Detective Goss, Huntington Beach Police Department, P.O. Box 70, Huntington Beach, CA 92648; or provide information over the phone by calling 714/536-5951.

We also spoke with Theodor Albert, trustee for the case. He encourages people who lost money to USCD to file a claim directly with the bankruptcy court. Complete a proof of claim form (available in any stationery store) and submit proof of purchase, such as the invoice or packing slip. Send these items to U.S. Bankruptcy Court, 34 Civic Center Plaza, Room 506, Santa Ana, CA 92701. Make sure you include the bankruptcy case number, SA 97-16191 JW, and the full company name, USCD Corporation.

Fortunately, not all readers sent a check or money order to the company. At press time Nowakowski told us that her credit card company is currently investigating USCD and has temporarily removed the charge. She hopes the refund will be finalized soon.

NO CABLES, NO PC?

LAST MARCH I bought a Dell Dimension XPS Pro200n for my home office. It was advertised with an Ultra Wide SCSI hard drive, which would supposedly let me add up to 15 peripherals to my system using Adaptec's 2940US controller card. But when I opened the box, I couldn't find the cables I needed to hook up my existing peripherals. When I called Dell I was told, to my horror, that the company doesn't have the cables because "the technology is so new." I want my money back.

Susan Hagmann, Pompano Beach, Florida

Editor's response: We forwarded Hagmann's complaint to Dell. A spokesperson apologized to Hagmann for her frustration and explained that she could have gotten the cables she needed from Adaptec. Because of the wide variety of SCSI external devices and the multiple versions of cables needed to match them, Dell currently does not ship these cables with its Dimension PCs. "In Hagmann's case, Adaptec would have been able to identify and provide the necessary cables," the spokesperson said. But this procedure was not made clear to Hagmann. Dell gave Hagmann a refund, but she was still dissatisfied with the entire experience.

THUMBS UP, TUNEUP!

I DECIDED TO try TuneUp.com's free 60-day trial of its virus protection software. Near the end of the trial period, I started having problems with Windows 95's Registry on my PC. This gave me a chance to try out TuneUp.com's tech support. I was very impressed with the superb online tech staff: Through e-mail and phone conversations, they got me back up to speed in no time. They communicate in a language I can understand—and they also have a great sense of humor!

John McCallum
West Vancouver, British Columbia

Think you've gotten a raw deal—or a great one? PCW Advocate *wants to hear the details at advocate@pcworld.com. We'll investigate complaints and publish items of the broadest interest. Aoife McEvoy is a staff editor for* PC World. ■

ILLUSTRATION JOHN S. CUNEO

THE FINE PRINT

MAIL-IN REBATES: GET YOURS

ADVERTISERS TRY TO entice you with rebates of all shapes and sizes. But we get lots of letters from people who never got the rebates they were expecting. Rebate procedures vary, so make sure you read the fine print and get your money.

This redemption card from American Power Conversion, for instance, offers a $30 rebate if you buy its Back-UPS Office unit between two specified dates.

1. Your rebate request must arrive before the expiration date *and* include all specified items–in this case, the original UPC symbol from the box, store receipt, and completed redemption card.

2. Turnaround time is six to eight weeks for this offer. However, according to complaints we've received, some companies can take a few months to issue a rebate.

3. Some rebate programs insist that you buy the product from an authorized reseller. Make sure your dealer qualifies as one.

Superior perfo for *business*

Introducing *Matrox Mystique*™ *220 Business* graphics accelerator

The new *Matrox Mystique 220 Business* graphics accelerator provides a high performance, all-in-one solution for demanding business applications. Featuring a new, high-speed 220 MHz RAMDAC and fast SGRAM memory, *Mystique 220 Business* delivers benchmark-winning speed and refresh rates with exceptional display quality. Its state-of-the-art design integrates acceleration for 2D, 3D, and video, so you'll be ready for today's and tomorrow's Windows® NT and 95 applications. What's more, Matrox protects your investment by building an affordable memory and video upgrade path into every product. Add up to 8 MB of SGRAM power or the Matrox Rainbow Runner Studio for video editing, video conferencing, MPEG computer based training, and much more.

With over 20 years of experience and 200 international awards of excellence, Matrox is the company you can rely on. Choose the leader in acceleration. Choose Matrox.

matrox

1-800-362-9352 http://www.matrox.com/mga

OVER 200 AWARD matrox

* Estimated street price. All performance tests conducted by Matrox Graphics Inc. on a Gateway 200 MHz MMX with 32 MB of RAM and 512K cache. Matrox Mystique 220 Business, Diamond Stealth 3D 2000XL, STB Nitro 3D, and ATI 3D ProTurbo + PC2TV were configured with maximum memory configurations using driver releases 3.41, 4.03.00.3105, 1.50K and 3.03 respectively. WinBench 97 business tests conducted at 1024 x 768 @16-bit at 75 Hz using small fonts under Windows 95, 3D WinBench 97 tests conducted at default resolution of 640x480 @16-bit at 75 Hz with DirectX™ 3a using small fonts under Windows 95. 3DWinBench settings were dictated by Quality Suite responses for the respective products.

rmance computing

Mystique 220 Business

- Fast 2D Windows 3D business graphics and video presentations
- Includes 6 free software titles. $500 value

Business Five Pack

- Includes five boards, one manual, five sets of drivers, and five sets of software bundles

Matrox Rainbow Runner Studio

- Ideal for video editing, video conferencing, PC to TV output, 'PC-VCR' video capture, and hardware MPEG video.
- Includes 4 free software titles. $500 value

Matrox outperforms the competition (16-bit)

Includes six free software titles

Picture Publisher 7 · Simply 3D · Serif PagePlus 4.0 · VREAM WIRL

Circle 143 on reader service card

CTX

EXPECT THE EXTRAS

Starting at just

$2,199*

(Model 750MS)

Pentium® processor with MMX™ technology (150 or 166MHz).

16MB EDO RAM. 1GB HDD.

12.1" DSTN or TFT Display.

128-bit Graphics Processor with PCI Bus.

6x CD-ROM Removable Drive.

IrDA, Stereo Sound, MIDI Port.

ANNOUNCING A FEATURE THAT'S HARD TO FIND IN NOTEBOOKS WITH MMX™ TECHNOLOGY. FAST DELIVERY.

While others tout the wonders that Intel's MMX technology will one day deliver, CTX can actually deliver. Immediately.

With not one, but four notebooks featuring Pentium® processors with MMX technology.

All are available for much less than other notebooks that promise MMX technology.

They're called the CTX EzBook 700M Series. And they give you immediate access to Intel's advanced MMX technology. For truly superior multimedia performance at dramatically faster speeds.

Which makes the EzBook 700M Series ideal for business and media-intensive applications. Like audio- and video-conferencing. Multimedia presentations. Internet exploring. Even interactive and 3D games.

And since they're from CTX, their long list of features is as amazing as their price. Just like our Pentium-processor-based notebooks, which start at only $1,699.*

To bring yourself up to speed fast, call 1-800-888-9052, dept. 100 for your nearest dealer. And visit us at **www.ctxintl.com**

CTX Model	Processor Speed	HDD	Screen Type	Price*
Pentium Notebooks w/MMX Technology				
750MS	150 MHz	1.0GB	12.1" DSTN	$2,199
750MT	150 MHz	1.0GB	12.1" TFT	$2,599
760MS	166 MHz	1.3GB	12.1" DSTN	$2,499
760MT	166 MHz	1.3GB	12.1" TFT	$2,899
Pentium-Processor Notebooks				
730CS	133MHz	1.0GB	12.1" DSTN	$1,899
730CDT	133MHz	1.0GB	12.1" TFT	$2,099
750CS	150MHz	1.0GB	12.1" DSTN	$1,799
750CDT	150MHz	1.0GB	12.1" TFT	$2,199

All models are Microsoft® APM 1.2 compliant

*Manufacturer's suggested retail price. ©1997 CTX International. All trademarks are the property of their respective owners.

Circle 64 on reader service card

From Waiter to Web Site Designer

Using point-and-click authoring software, Bruce Lindsey was able to create an award-winning Web site in less than 40 hours—without any HTML experience.

PHOTOGRAPH: KEN FRICK

THE PROBLEM This story begins with a wine list and ends with a Web site—both of which have won awards. In between the two accomplishments was a challenge that many businesses face: How do you create a Web site without learning HTML or spending thousands of dollars hiring an expert? This month, Bruce Lindsey of Jay's Seafood in Dayton explains how he made the leap from waiter (albeit a technologically savvy one) to Webmaster—without even looking at a manual. —*Editor*

For four years in a row, the extensive wine list at Jay's Seafood has won a *Wine Spectator* award of excellence. It's an important honor because this highly regarded magazine has an international readership. Not long after Jay's received the first award, we started hearing from people who wanted a copy of our wine list. It's expensive and time-consuming to copy and mail out the lists. So I decided the best way to distribute the wine list was to put it on a Web site.

I've been using PCs since the early 1980s, so I'm fairly computer literate. Still, I knew absolutely nothing about building Web pages; I didn't have time to take a class, and hiring someone else to do it was too expensive (the lowest bid we got was $2000).

THE SOLUTION: DO-IT-YOURSELF WEB SOFTWARE

IN LATE SPRING 1996, I read about a new Microsoft program called FrontPage 1.1. Its selling point was that if you knew how to use a word processor, you could design a Web site with FrontPage. You don't need to know HTML—the software does all the dirty work. It was exactly what I was looking for. At the time, however, FrontPage was under development. There was no manual, and the help files hadn't been completed. I decided to download a beta version off the Internet and give it a try anyway.

As Microsoft promised, FrontPage has an interface similar to Word's: You start with a blank page, and there are toolbars with icons and a drop-down menu. The main difference, in terms of interface, is that FrontPage offers two ways to look at a document. The Explorer view uses a graphical interface that lets you see the folder structure of your Web page, including the hyperlinks and the contents. The FrontPage Editor view allows you to see your Web page just as it will look in a browser. You use the Editor to add and view forms, frames, tables, graphics, text, links, and other elements.

Once I became familiar with FrontPage, I downloaded Web pages that interested me and imported them into the Editor so I could study them. To get ideas, I looked at how page elements were positioned. Then I went to work.

Starting a Web page was as easy as opening a new document in Word: I just selected *New* from the File menu in the Editor. I already had the restaurant's menu and wine list stored as Word files on my PC. Originally, I had used Word's table features to create the wine ▶

lists—I had put each type of wine into its own table with columns for wine name, description, and price. For the Web site, I cut and pasted each wine category table into a new Word file, saved each file in HTML format, and imported the tables into FrontPage. I put each table on its own page within the site, linked to a table-of-contents frame. This makes it easy for visitors to go to the wines that interest them.

I also added a MIDI file to the contents frame and set it to play as a continuous loop, so visitors hear soft background music when the table of contents is on screen. Adding music was easy: I just imported the file and added it to the frame.

Years ago I had hand-drawn some maps of wine-country regions for the wine list, and I scanned and imported them in. I created some additional graphics using Corel Xara, a program for creating Web page images, and used some clip art.

Because it shields you from the HTML code, a program like FrontPage limits your design more than advanced applications. But for me, it's just right. I don't think I'll need to add any sophisticated touches like Java or Shockwave animations to the site, at least not anytime soon.

Within about 40 hours, I had finished the restaurant's Web site. I took the files to EriNet Online Communications (www.erinet.com), our Internet service provider. Before I even left the ISP's office, Jay's Seafood was on the Web.

EVEN MICROSOFT LIKED THE SITE

NOT LONG AFTER the restaurant went online, I heard Microsoft was sponsoring a contest for the best Web sites created with FrontPage. I submitted our site, and we were one of five winners. A day or so after Microsoft announced the winners, we got about 600 hits in one day. Since then, we've had a total of roughly 26,000 hits—and a number of new restaurant patrons who say they've seen our site.

The site (www.jays.com) has certainly served its purpose. Jay's doesn't do much marketing or advertising. When you consider that a newspaper charges $300 per column inch for a local ad, it doesn't make sense for us to advertise. Instead, we pay $860 a year to EriNet for 10MB of space on its server plus an Internet access account. We get to publish as much information as we want. The information is available to anyone anywhere in the world who has a computer, modem, and Web browser—and it's in color.

Edited by James A. Martin

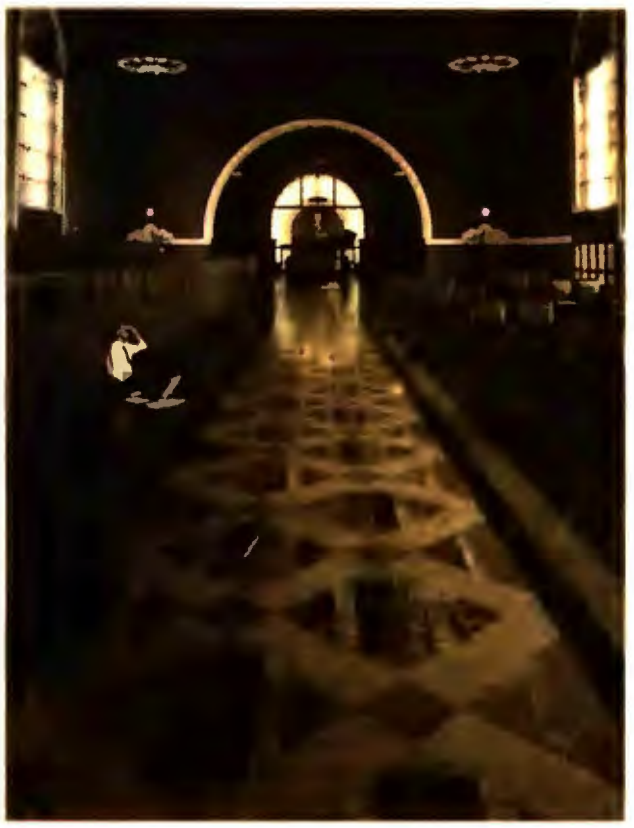
• Microsoft FrontPage 97 With Bonus Pack $149 list; Microsoft; 800/426-9400; www.microsoft.com/frontpage

READER SERVICE NO. 606

James A. Martin is a PC World *contributing editor. If you've solved a problem in your business using a PC application or hardware device, we'd like to hear about it. We pay $300 for published columns. See page 14 for contact information.* ■

Circle 72 on reader service card

A BATTERY DOESN'T CARE WHERE YOU ARE, WHAT YOU'RE DOING, OR IF YOU EVEN GET THERE.



Someone does. *A notebook computer is no guardian angel. It is microchips, buttons, and batteries that don't know the meaning of the word "DELAYED." So if you want to make sure your notebook keeps up with your itinerary, talk to AST.® We'll look after you with a dedicated support staff that's available around the clock. As well as an optional 24-hour replacement service that delivers anywhere in the United States.* For more information about AST Ascentia™ notebooks featuring Intel® Pentium® processors with MMX™ technology, call 1-800-945-2278.*

Ascentia P

Expansive 12.1" TFT display on all systems

Up to 166 MHz Intel Pentium processor with MMX technology

32 MB of RAM expandable to 80 MB

Up to 3 GB removable hard disk drive

Optional motorized full dock with three levels of docking

Extra-long life Lilon battery

Up to 64-bit PCI graphics and 2 MB video memory

Includes choice of Microsoft® Windows® 95 and Windows NT® 4.0

MMX™ intel inside pentium® PROCESSOR

AST® COMPUTER

Working for your business™

©1997 AST Research, Inc. All rights reserved. AST and the AST logo are registered trademarks and Working For Your Business and Ascentia are trademarks of AST Research, Inc. The Intel Inside Logo and Pentium are registered trademarks and MMX is a trademark of the Intel Corporation. Microsoft, Windows and Windows NT are registered trademarks of the Microsoft Corporation. *Not available in Alaska or Hawaii.

Clarity you can count on

42 MONTH WARRANTY
PARTS • CRT • LABOR

THE NEW
MicroScan 4P/5P

4P - 15" (13.8" viewable image)
5P - 17" (16" viewable image)
Invar shadow mask
0.28mm dot pitch
Recommended Resolution.
1024 x 768 @ 85Hz
PC & Mac Compatible
On Screen Display
Optional detachable speakers
Built-in microphone
Optional USB hub
Horizontal Frequency 30-69KHz
Vertical Frequency 48-125Hz

Presenting the ADI MicroScan 4P and 5P Multimedia Monitors. They're the perfect all-purpose monitors for **general computing, multimedia applications, and desktop publishing.** Or just about any Windows application you use. Plus, both the 4P and the 5P include a dazzling array of features and options. Like a built-in microphone for teleconferencing. Optional **detachable speakers** for high-quality, full-range sound. And an optional **USB hub** to prepare you for the future. And like all the monitors in the ADI line, the 4P and 5P are so **reliable**, we back them with our industry-leading **42-month warranty.** Which is just one of the **innovations** that have helped establish us as the **fifth largest monitor manufacturer in the world. Call 1-800-977-3336** now, or go to our website, **www.adiusa.com.** You'll discover that the 4P and 5P truly are a couple of gems.

1997 ADI Systems, Inc. 2115 Ringwood Avenue, San Jose, CA 95131.
MicroScan is a trademark of ADI Systems, Inc. All other trademarks are properties of their respective owners. Specifications subject to change without notice.

Seeing clearly into the futu

ADI

Circle 3 on reader service card

AOL4Free Is Trouble ◆ PowerPoint Vulnerable ◆ Windows NT Service Pack 3

Are We Secure Yet on the Internet?

HAVE YOU NOTICED that this column increasingly covers Internet security problems? Well, that's where the most dangerous bugs have been turning up lately, and it's a trend that's not going to go away. Just as using antivirus utilities has become a necessary inconvenience, fixing security flaws in your browser and other Internet-aware programs is now a requirement for safe computing.

FAKE AOL FREEBIE DELETES FILES

THOUGH IT STARTED as just another Internet virus hoax, the AOL4Free Trojan horse is now a real threat. The hoax started when Nicholas Ryan of Yale University distributed an illegal program that actually could get you onto America Online free of charge (Ryan pleaded guilty early this year). Soon a rumor started going around that a program called aol4free.com would delete files from your hard drive. Informed Netizens correctly determined the rumor to be false and got the word out. Unfortunately, somebody decided to capitalize on this sense of relief and created a program with the same name that really does delete files.

Unlike a virus, which infects files or boot sectors and reproduces itself, a Trojan horse is a destructive program masquerading as a useful one. You don't need a special program to protect yourself: Just search your hard disk for aol4free.com; if you find it, delete it. And don't launch e-mail attachments with that name.

IE'S PRESENTATION SECURITY HOLE

INCREDIBLE AS IT may sound, users of Microsoft's Internet Explorer browser need to install yet another security patch. This time, the hole lies in IE's ability to run PowerPoint presentations, which can themselves launch other applications. In other words, a cruel joker could create a Web page with a PowerPoint presentation, which in turn could launch a program that formats your hard drive, bypassing IE's own security safeguards. You don't need to have PowerPoint installed to be affected by the flaw—you just have to browse to a Web page containing PowerPoint data.

As we went to press, no Web sites that exploit the flaw were known to exist—but now that the word is out, it's more likely that one will turn up. You can protect yourself by downloading a quick-and-dirty (153K) Internet Explorer patch from www.microsoft.com/ie/security/powerpoint.htm. Once you've installed the patch, IE will display a warning before opening PowerPoint files, giving you a chance to abort the process. A similar fix for PowerPoint itself is in the works.

WINDOWS NT SERVICE PACK 3 ON THE WAY

WINDOWS NT 4.0 hasn't even turned one year old yet, but its third collection of bug fixes is already here. Service Pack 3 contains nearly 200 fixes and enhancements, including plugs for two serious Internet security gaps that cropped up just before its release. If your Windows NT Workstation or Server machine is directly connected to the Internet or another network, hackers can gain access to sensitive Registry data and other files without providing a user name or password. Security software developer Midwestern Commerce discovered the flaw, named it the Red-Button Bug, and posted both an explanation and a demonstration program (www.ntsecurity.com/RedButton).

The second hole permits crafty hackers to crash Windows NT servers, a situation that doesn't threaten data on the machine but denies access to regular users. The problem also extends to Windows 95 and 3.1 PCs connected to the Internet; Microsoft had no fix for those operating systems as we went to press.

For NT fixes, go to www.microsoft.com/NTServerSupport/Content/ServicePacks/Default.htm to download the (hold on to your hard disk) 18MB Service Pack 3, U.S. Intel version. For $20, you can also order it on a CD-ROM by calling 800/370-8758.

Files mentioned in this article are available on PC World Online (www.pcworld.com/files). Scott Spanbauer is a contributing editor for PC World. ■

ICON: JEFFREY PELO

BUGGED?

FOUND A HARDWARE OR SOFTWARE BUG? Tell us about it via e-mail at bugs@pcworld.com.

IN BRIEF

Free Agent 1.11 and Agent 1.01

FORTE HAS POSTED a minor upgrade to its freeware Usenet newsreader Free Agent (www.forteinc.com/getfa/getfa.htm). Version 1.11 fixes buglets involving the number of newsgroups in the 16-bit version and repeating message headers. Agent 1.01 (www.forteinc.com/store/getagent.htm) likewise stamps out numerous nonfatal but irritating problems in version 1.0.

Jaz Drive/FAT32 Fix Changes URL

I REPORTED IN May that Iomega Tools for Windows 95 had incompatibilities with Jaz drive FAT32 partitions, and I recommended an upgrade to version 5.2 ("FAT32 Health Hazards"). The upgrade has moved to a new spot on Iomega's Web site, www.iomega.com/support/software/ftp.html.

LIFEBOOK

S E R I E S

600

MMX™

intel inside

pentium®

PROCESSOR

THE LIFEBOOK™

600

The first-day-of-spring, not-a-care-in-the-world,

HIT-THE-ROAD, *CONVERTIBLE* OF NOTEBOOKS.

Blow past everybody. With a 4.4lb. notebook that's open to anything. Revel in the options. The ability to travel light. The freedom to have a 16x CD-ROM, stereo speakers, floppy drive, and docking ports with the snap-in Enhancement Unit. Experience the power of a 150MHz or 133MHz Intel Pentium® processor with MMX™ technology. The control of a "no learning" keyboard. The clarity of a 12.1" active-matrix windshield. There are no worries here–hot-swappable, Lithium ion batteries and a built-in 33.6 modem see to that. Only the pleasure that comes from seeing startled faces look up as you zip by. Their eyes full of envy, their lips unconsciously forming one word: *cool.* Drive on.

FUJITSU

FUJITSU PC CORPORATION

Built *for* Humans

FOR MORE INFO, CALL 1-888-4-ON-THE-GO, ext. FA12, visit www.fujitsu-pc.com or get a QuikFacts fax @ 1-800-936-5209.

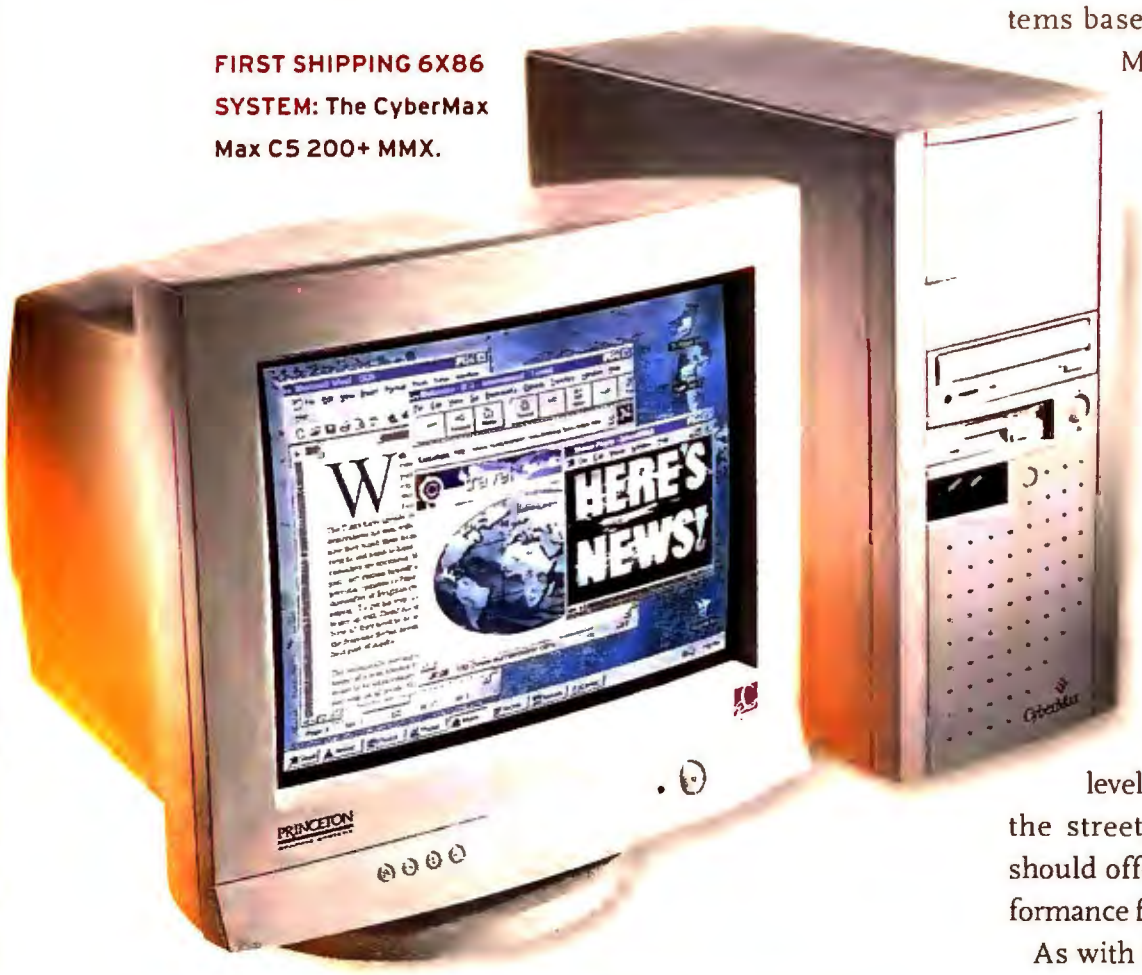
LifeBook, Fujitsu and the Fujitsu logo are trademarks of Fujitsu Ltd. Intel and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. Microsoft and Windows are registered trademarks of Microsoft Corporation. All other trademarks are property of their respective companies. © 1997 Fujitsu PC Corporation. All rights reserved.

Designed for Microsoft® Windows® 95

Circle 103 on reader service card

Cyrix Powers $2100 Pentium II–Class PCs

Cyrix's fast "M2" CPU poses a new challenge to Intel's dominance and could push PC prices downward.



FIRST SHIPPING 6X86 SYSTEM: The CyberMax Max C5 200+ MMX.

FIRST LOOK

THERE'S A NEW entry in the CPU sweepstakes that's making a big impression. The Cyrix 6x86MX (formerly code-named M2) sets a new standard for microprocessor price/performance and could shake up this volatile market. The chips offer top performance in PCs that cost hundreds of dollars less than equivalent systems based on the Pentium MMX-233, Pentium II, or AMD K6.

Loaded CyberMax PCs based on the 6x86MX should be available by the time you read this. These systems are expected to sell for $1900 to $2250. Value-conscious shoppers will find even more value in August when complete entry-level PCs from CTX hit the street; these machines should offer PMMX-166 performance for as little as $1300.

As with Cyrix's prior 6x86 line of Pentium-class CPUs, the company has given its 6x86MX chips model numbers reflecting where the chips will compete in the overall CPU market, rather than indicating actual clock speeds. The 6x86MX-PR233 runs at 188 MHz but will compete with the K6-PR233, the PMMX-233, and the PII-233. The 6x86MX-PR200 runs at 166 MHz and will compete against the K6-PR200 and PMMX-200. The entry-level 6x86MX-PR166 (not available for testing at press time) runs at 133 MHz and should compete against the PMMX-166.

CYRIX IS SPEEDY

DON'T CONFUSE slower clock speeds with slow performance. In testing with the PC WorldBench suite of business apps, a Cyrix 6x86-PR233 prototype PC scored an impressive 252, edging out the PII-233 systems, which had an average score of 247, as well as the AMD K6-PR233 PCs, with average scores of 249. (The Cyrix

EDITED BY
Charles Piller, Randy Ross, and Bill Snyder

PHOTOGRAPHS: BEVERLY HARPER; ICONS: JEFFREY PELO

EXTRA CACHE POWER: Cyrix gave the 6x86MX a 64K primary cache, twice the Pentium II's 32K. **FASTER BUS SPEED:** The 6x86MX-PR233 uses a 75-MHz system bus—faster than the 66-MHz standard used by Intel and AMD. **PENTIUM AND PENTIUM MMX COMPATIBLE:** Like AMD, Cyrix used the Socket 7 design, the standard for existing Pentium- and Pentium MMX-class systems.

had 32MB of RAM and 512K of secondary cache, a 4.5GB Ultra Wide SCSI hard disk, and an STB Nitro 3D video adapter with 4MB of VRAM.) The Cyrix PR233 scored less than 4 percent below the 261 average of PII-266 systems we've tested. These are all impressive machines; most users will not notice a few points' difference. Cyrix PR233–based systems costing about $2100 to $2250 should deliver performance equal to or better than comparable AMD K6-PR200 and -PR233, PMMX-200 and -233, and even PII-233 systems that cost between $2188 and $3100.

The PC World Test Center also evaluated a CyberMax production unit, the $2099 Max C5 200+ MMX, using Cyrix's 6x86MX-PR200 chip. The CyberMax (which, like the Cyrix prototype, came with 32MB of RAM and a 512K secondary cache) had a 241 PC WorldBench score. This beats the 231 average for PMMX-200 PCs and equals the performance of the AMD K6-PR200–based Polywell Poly K6200Mx, which sells for $2188.

MMX SURPRISE

IN ORDER to test the 6x86MX's performance on multimedia applications tuned for MMX, we ran ▶

Microsoft's Big Cable Investment

MICROSOFT PLANS to invest $1 billion in Comcast, the fourth-largest U.S. cable television operator. This may not accelerate the widespread availability of PC products or services such as high-speed Net access. Despite numerous cable-modem trials in progress, consumers won't see widespread cable-based Net access until the year 2000, says Aberdeen Research analyst Virginia Brooks.

The 67-kbps Modem

TRANSEND IS shipping a $595 modem that sends and receives data at up to 67 kbps over telephone lines, the Rockledge, Florida–based vendor says. The Transend 67 uses a technique that treats two phone lines like one, says company president Tom Bradford. The external unit works as a 33.6-kbps unit but has a jack for the second line needed for higher speeds. Transend will sell the modem directly (800/357-2671). ISPs will need Transend modems to use the connections; at present only a couple of Florida-based ISPs support the Transend 67.

User-Friendly Camera

DIGITAL CAMERAS are fun, but downloading images can be a hassle. Sony has a solution ▶

INTERNET

online

GET UP-TO-THE-MINUTE NEWS, including RealAudio daily news summaries, hot game demos, the latest reviews, and productivity shareware, at PC World Online. Just point your browser to www.pcworld.com/news.

Cyrix 6x86MX: Amazing Performance for the Price

TERRIFIC PRICE/PERFORMANCE

SYSTEMS	CPU	RAM (MB)	PC WorldBench score
NEC PowerMate Professional	Pentium II-300	32	271
Average of 6 systems	Pentium II-266	32	261
Cyrix prototype system	6x86MX-PR233	32	252
Average of 2 systems	K6-PR233	32	249
Average of 3 systems	Pentium II-233	32	247
Polywell Poly K6200MX	K6-PR200	32	241
CyberMax Max C5 200+ MMX	6x86MX-PR200	32	241
Average of 3 systems	Pentium MMX-233	32	240
Average of 28 systems	Pentium MMX-200	32	231

All systems but one had 512K secondary cache; one K6-PR233 system had 1024K cache.

Word 7.0 for Windows 95 · Picture Publisher 6.0 for Windows 95 · WordPerfect 6.1 for Windows
Excel 7.0 for Windows 95 · Paradox 5.0 for Windows · 1-2-3 release 5 for Windows

CREDIBLE MMX POWER

SYSTEMS	CPU	Macromedia Director 5.0 with MMX plug-in: Frames per second[1]
NEC PowerMate Professional	Pentium II-300	98
Average of 6 systems	Pentium II-266	93
Cyrix prototype system	6x86MX-PR233	78
Average of 2 systems	K6-PR233	84
Average of 3 systems	Pentium II-233	91
Polywell Poly K6200MX	K6-PR200	76
CyberMax Max C5 200+ MMX	6x86MX-PR200	76
Average of 3 systems	Pentium MMX-233	84
Average of 9 systems	Pentium MMX-200	81

Adobe Photoshop 4.0 · Fractal Design Ray Dream Studio 4.1 · [1]Higher is better

How We Test

Business applications: We tested all systems with PC WorldBench, PC World's Windows 95 application-based benchmark. Higher scores are better. For a description of PC WorldBench 1.0 tests, see PC World Online (www.pcworld.com).

Multimedia applications: We tested each system using a series of MMX-enabled applications. In Adobe Photoshop 4.0, we time several image editing operations. In Fractal Ray Dream Studio 4.1, we time how long it takes to redraw rendered 3-D scenes at two levels of complexity. In Macromedia Director 5.0, we play a graphics-intensive Director executable file.

Data based on testing conducted by the PC World Test Center. All rights reserved.

the *PC World* MMX test suite. With Macromedia Director, the Cyrix prototype offered performance nearly identical to the PMMX-200 and K6-PR200 systems'. But it was about 7 percent slower than the average for PCs using the PMMX-233 and AMD K6-PR233. The Cyrix prototype performed similarly in rendering tests that used Fractal Design's Ray Dream Studio. However, in the Adobe Photoshop tests, the Cyrix prototype blew away its competition. It was about 39 percent faster than the PMMX-200 unit, some 31 percent faster than the average for PMMX-233 and K6-PR233 systems, and 21 percent faster than PII-233 systems. The Cyrix PR233 even bested the PII-266, coming out with a 2 percent edge.

The CyberMax Max C5 200+ MMX competed credibly in multimedia testing. In Photoshop tests, it edged out the AMD K6-PR200–based Polywell PC and the average for PMMX-200 units. In Director testing, it tied with the Polywell and fell slightly behind the PMMX-200 average. In Ray Dream Studio rendering tests, it fell a bit further back, to about the average speed of a PMMX-166–based unit.

CYRIX DESIGN TRICKS

CYRIX DESIGNERS use a variety of tweaks to wring extra performance out of slower clock speeds, including a 64K primary cache, twice the Pentium II's 32K. In the 6x86MX-PR233, Cyrix uses a 75-MHz system bus—faster than the 66-MHz standard used by Intel and AMD.

Like AMD, Cyrix has made it easy for PC manufacturers to incorporate the 6x86MX into existing motherboards by using a Socket 7–compatible design, the standard for existing Pentium- and PMMX-class systems. This differs from the PII's slot-mounted cartridge, which requires a new generation of motherboards. Socket 7 compatibility also holds out the tantalizing possibility that people who have slower PCs will be able to upgrade their systems to 6x86MX power. According to a Cyrix spokesperson, the company expects third-party chip vendors to supply plug-in 6x86MX upgrades in the future.

If you use multimedia heavily and price is no object, a

Pentium II-300 Breaks WorldBench Records

LIKE ATHLETES in a silicon Olympics, the newest PCs benchmarked by the PC World Test Center keep breaking records. And not surprisingly, the first system we tested based on Intel's Pentium II-300—the NEC PowerMate Professional—set a new standard, though not by much. The prototype system, with 32MB of RAM and 512K of secondary cache, came in with an overall PC WorldBench score of 271, 4 percent faster than an average of six Pentium II-266 systems previously tested.

In MMX testing, the NEC unit set a new record in Macromedia Director performance, with 98 frames per second. Likewise, it topped Pentium II-266 speeds for Fractal Design Ray Dream Studio rendering tests. In Photoshop, however, the Pentium II-300 system slipped about 13 percent below the Pentium II-266 average and 14 percent below the Cyrix PR233-based prototype system—possibly due to superior hard drive controllers in those units and the use of a preproduction video card in the NEC machine.

A NEC spokesperson says the Pentium II-300-based systems should be available in September or October, with prices in the $4000 to $4100 range. But before you shell out such big bucks, find out which chip set is in the box. The prototype system we tested uses Intel's FX chip set, which does not support the Accelerated Graphics Port protocol; by fall, the new LX chip set should support AGP.

—Stan Miastkowski and Bill Snyder

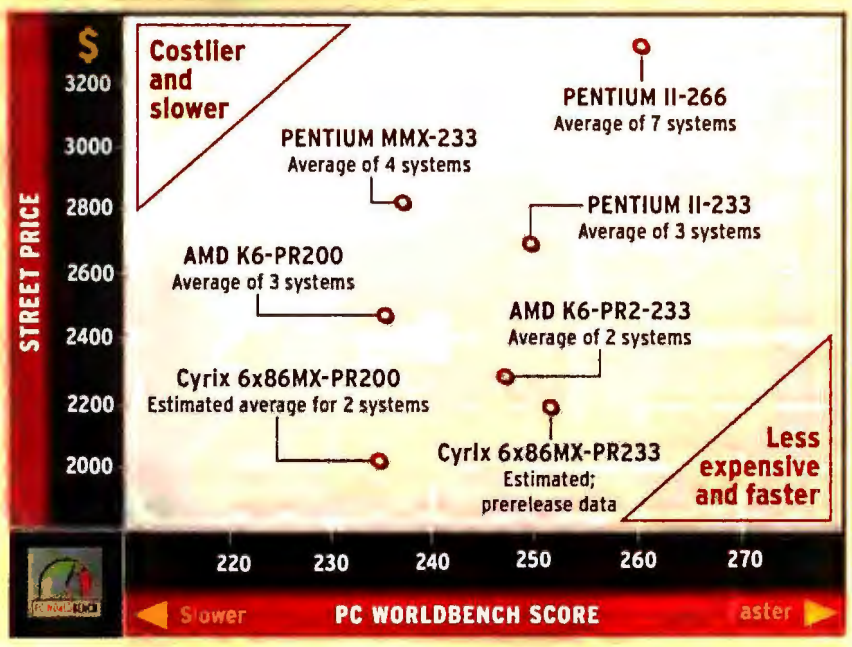
Pentium II-266 unit is still your best bet. But it appears that at least for the immediate future Cyrix 6x86MX–based systems will offer the best price/performance on the market. The CyberMax Max C5 200+ MMX shows how attractive Cyrix-based pricing is. The $2099 6x86MX-200 system includes a Matrox Millennium graphics card with 4MB of video RAM, a 6GB Seagate EIDE hard disk, a Toshiba 16X CD-ROM drive, a 32-bit Ensoniq sound card, a 56-kilobits-per-second (K56flex protocol) modem, a 17-inch Princeton monitor, Altec-Lansing speakers, and an extensive selection of software. This configuration represents slightly better pricing than that of a similarly equipped, but slower, Pentium MMX-200 PC.

A Cyrix PR233 version of the CyberMax unit should cost about $100 to $150 more—making it even more compelling than the PR200-based system. At press time, comparably equipped PMMX-233, PII-233, and PII-266 PCs—which offer performance similar to the Cyrix PR233-based systems'—were selling for several hundred to more than a thousand dollars above that. Polywell's Poly K6233Mx—a comparable K6-PR233–based system—sells for $2369.

CTX plans to release three 6x86MX-based systems for shipment on August 1 with attractive pricing for a range of users. The low-end LCM166, based on the 6x86MX-PR166, is expected to sell for $999 and will include 16MB of RAM, a 2.1GB hard disk, a ▶

Let Price/Performance Be Your Guide

CHOICES, CHOICES: Sure, there are more x86 chips on the market than ever before. But that's no reason to be confused. We have analyzed the price/performance ratio of dozens of systems powered by seven key CPUs. One conclusion: Systems based on AMD and Cyrix processors offer a lot of value and warrant a serious look.



with the Digital Mavica, the first digital camera that saves photos to a 3.5-inch floppy. Each disk holds up to 40 images at 640 by 480 VGA resolution and 24-bit color depth. The unit will be available in two versions. The $599 MVC-FD5 should be out in late July. The $799 MVC-FD7, with a 10X optical zoom lens and five preprogrammed exposure settings, will be available in late August.

Dictation Software Heats Up

IBM HAS announced ViaVoice, its first mainstream speech recognition product to let you dictate to a PC without pausing between words—for only $199. ViaVoice will compete with Dragon Systems' $695 NaturallySpeaking, the first mainstream product of its kind. Meanwhile, Kurzweil Applied Intelligence, the other key player, expects to offer a similar product by mid-November.

TidBytes

TORNADO DEVELOPMENT'S low-cost universal in-box service combines e-mail, fax, voice mail, and pager functions. Tornado's Electronic Messaging System costs $10 per month plus a one-time setup fee of $15. WHEN SIZE MATTERS: Quantum and IBM both announced 3.5-inch drives that can hold up to 8.4GB, the highest capacity available in this width. Quantum's Fireball SE will be out in November; it will list for $569 to $659, depending on the interface. IBM will offer a retail version of its $675 8.4GB Deskstar 8 in early 1988.

12X CD-ROM drive, a 2MB generic video card, a 33.6-kbps modem, a sound card, and speakers. (CTX prices do not include monitors. CyberMax plans to offer a similar model, with monitor, for about $1300.) CTX will also offer the PR200-based LCM200 for $1299, which includes 32MB of RAM, a 2.5GB Maxtor hard disk, Matrox Mystique 2MB graphics card, and other features included in the PR166 version. The high-end PR233-based CTX LCM233 will go for $1499 with 32MB of RAM, a 4GB Maxtor hard disk, a 16X CD-ROM drive, and other peripherals included with the LCM200. By early fall, versions with a DVD-ROM drive should be available for about $400 more.

WILL VENDORS JUMP?

SPEED AND VALUE are fine, but will the Cyrix processor catch on with the big PC vendors who can make 6x86MX-based systems widely available? So far only CyberMax and CTX have committed to selling 6x86MX-based systems in this country. Cyrix's biggest hopes lie in first-tier system vendors, such as Acer, Compaq, and IBM, that have used other Cyrix chips.

Can aggressive pricing by AMD, Centaur, and Cyrix affect Intel's hegemony?

Meanwhile, at press time, Centaur Technology was beta-testing its IDT-C6 line of MMX-compatible processors, which are expected to become available this fall in 150-, 180-, and 200-MHz versions. The IDT-C6 chips would power complete systems in the $1000-and-below range, and they use a simpler design that consumes less power than their competitors. Centaur president Glenn Henry expects that IDT-C6 chips could sell for $100 or less—half the price of comparable Cyrix chips.

Can aggressive pricing affect Intel's CPU hegemony? Publicly, Intel has largely ignored its competitors, allowing AMD and Cyrix to slug it out at the low end while it concentrates on its cutting-edge CPUs. But the AMD K6 and the Cyrix 6x86MX are high-performance chips that hit Intel where it lives. And both Cyrix and AMD plan to roll out faster versions of their processors by late this year.

Although Intel has had a policy of quarterly price cuts on commodity chips as new technologies are introduced, its premium CPUs have remained expensive. Can Cyrix's and AMD's pricing policies put pressure on Intel's Pentium II prices in the near term? Linley Gwennap, editor in chief of *Microprocessor Report*, doesn't think that either company will dent Intel's overwhelming share of the CPU market, and expects Intel to hold steady on its Pentium II pricing.

Still, Intel is clearly not immune to competition. When AMD announced its K6 CPU in the spring, Intel followed with larger-than-usual price cuts on its Pentium-class processors. At press time, Intel announced new deep cuts in Pentium MMX chips, slated for August 1. So if you're a PC buyer, any competition in the chip business is good news. Given today's red-hot price/performance derby, get ready to work down your wish list for affordable power systems.

—*Stan Miastkowski*

PHOTOGRAPHS: (TOP LEFT) BEVERLY HARPER; (BOTTOM LEFT AND RIGHT) DONNA TEREK

Spam Attack: Get Ready for the Bulk E-Mail Deluge

CONSUMER ALERT

JIM YOULL WAS sick and tired of receiving unsolicited bulk e-mail, or *spam*. The Web site developer asked to be removed from the senders' mailing lists, to no avail. So to fight back he created an antispam Web page (www.agentzero.com/junkmail).

Then the nightmare began. An anonymous spammer sent out thousands of bogus junk e-mail messages, using Youll's return address. Youll's mailbox was deluged with complaints and undeliverable mail. His Internet service provider threatened to cancel his account. The phony spam included Youll's phone number; angry calls and even death threats came in.

This is just one skirmish in the growing war between frustrated e-mail users and aggressive spammers. One bulk e-mailer, Philadelphia-based Cyber Promotions, sends 4 million messages per day, says its president, Sanford Wallace. Wallace presides over a network of bulk e-mailers called ISPam, which he says "is the conduit for between 15 and 20 million e-mails per day." Factor in independent operators, and you've got a torrent that wastes e-mail users' time and contributes mightily to Internet congestion.

Online services and Internet service providers have responded by terminating accounts of subscribers who are sending spam and by taking spammers to court. Politicians have proposed antispam bills. But bulk e-mailings continue to proliferate, and for now the best antispam measures are ones that you can take personally (see "Spam-Fighting Tips").

Jim Youll, spam victim

Spam-Fighting Tips

YOU CAN'T stamp out spam, but you can take measures to reduce the amount of it in your diet.

- **Delete** your America Online member directory profile.
- **Forward** spam to your provider so it can take action.
- **Post** on Usenet carefully. Configure your newsreader so that your e-mail address doesn't appear in the posting's From field. If you want people to reply, place your e-mail address at the end of the posting and disguise it; for example, you could type username-at-domain.com.
- If you **supply** your e-mail address to a Web site, look for and uncheck any box that refers to sending information on products of interest to you.
- **Set up** an e-mail filter that automatically deletes e-mail coming from addresses from which you've received spam.
- **Download** a utility called Spam Hater from PC World Online (www.pcworld.com/files). It attempts to trace spam headers and enables you to reply.

E-MAIL IS CHEAP

HOW DID SPAM get out of control? Unlike bulk postal mail, spam costs little to send. Numerous companies sell lists of e-mail addresses, often advertising them through bulk e-mail. Spammers also create lists using software robots that glean addresses from Usenet newsgroups and Web pages.

America Online, CompuServe, and Prodigy users are all prone to spam. It's easy to cull addresses from chat room logs and from AOL's membership directory, where users list their birth dates, hobbies, marital status, and computer configuration—details that Wallace calls "a direct marketer's dream." After getting addresses, a spammer need only set up an e-mail account with a service provider and send off a pitch.

Phil Lawlor, direct marketing promoter

Replying to a spam and demanding to be removed from a mailing list is usually futile: The spam's address and headers are often false; many bulk e-mail programs insert them automatically. And it's easy for a spammer to hide behind *your* address, as Youll discovered. The Internet itself makes it easy for spammers to hide. Most e-mail servers can relay messages through other servers, and spammers exploit this by sending their e-mail through third-party ISPs. The service provider's resources are taxed, and e-mail users see *it* as the source.

ISPS FIGHT BACK

SEVERAL service providers have won injunctions prohibiting Cyber Promotions from routing the unsolicited bulk e-mail through their systems. Most providers have antispam policies: If you use your account to send spam, you're cancelled. Of course, spammers can spew millions of messages before being cut off—and then they can move to another ISP. Some providers have reconfigured their mail servers to prevent them from being used to relay third-party mail. Unfortunately, this can also keep legitimate customers from checking their e-mail through third-party ISPs.

While most providers see spam as a scourge, some see it as an opportunity. Dearborn, Michigan–based Apex Global Internet Service is one of the world's largest Internet backbone providers. In April, AGIS enraged the antispam community by announcing that it would work with bulk e-mailers. AGIS supplies Net access to some of the largest spammers, including Cyber Promotions. It also helped organize the Internet E-Mail Marketing Council, a trade organization founded to "legitimize bulk e-mail as a marketing tool," says Phil Lawlor, AGIS's president and CEO.

The IEMMC is compiling a list of users who do not wish to receive spam, but many antispam activists suspect their motives. "We laugh about that," says John Lebkowsky, vice president of Electronic Frontier Foundation–Austin, a Texas-based Internet civil liberties group.

THE LAW STEPS IN

LAWMAKERS HAVE proposed antispam measures, but state bills would ban only spam that originates and ends within that state. Two federal bills promise sharper teeth: One would outlaw spam; the other would require the spam's subject field to begin with the word *advertisement*, to enable users and ISPs to set up spam filters. A ban would reduce Internet traffic and not require e-mail filters, but it introduces thorny free-speech issues. Tagging doesn't ease congestion and requires ISPs to install software whose costs could be passed on to consumers.

The Federal Trade Commission is also considering antispam regulations. But federal action can't stem the rising tide of offshore bulk e-mail. "It's going to be very difficult to legislate the use of junk e-mail...because it goes beyond the jurisdiction of the United States," says AGIS's Phil Lawlor.

Where will it all end? Not with the demise of spam. Today's spammers are determined to stay in business, and many companies anticipate the day when laws and Internet culture make it feasible to sell the thousands of e-mail addresses that they've collected through registration forms on their Web sites. As Cyber Promotions' Wallace says, "This is just the beginning."

—Jim Heid ▶

Big-Screen Notebooks: Ultimate Traveling Companions?

LOOKING FOR the big picture in portable PCs? Then you have probably had your eye on one of the new notebooks with 13.3-inch screens, the largest yet. With a viewable area comparable to many 15-inch desktop monitors, plus Pentium MMX processors and multimedia hardware, big-screen notebooks have definite advantages for anyone who frequently gives presentations to small groups. The large screens also make working with spreadsheets easier, and in general help you perform visually demanding tasks that can overwork your eyes and patience.

But these heavy-hitting new portables are also just plain heavy. They weigh in at over 9 pounds. Moreover, as desktop replacements, the units have limitations. The products we examined are considerably more expensive and slower than today's newest Pentium MMX-200 and Pentium II desktop PCs—and the price/performance gap widens when you look at desktops that are based on AMD's K6 and Cyrix's 6x86MX chips. With mobile Pentium 200- and 233-MMX chips still a couple of months off, the performance gap remains a concern.

As desktop replacements, notebooks with 13.3-inch screens have limitations.

NEC 6200MX (top right), IBM ThinkPad 760XD with 12.1-inch screen.

We tested five notebooks with 13.3-inch screens: the 5D Technology ChemBook 9750, ARM Computer's ARMNote TS9750, EPS Technologies' Apex M-200, NEC's Versa 6200MX, and Toshiba's Tecra 740CDT. (For more on the Toshiba, see this month's Top 20 Notebooks.)

All five notes sport bright, 13.3-inch active-matrix screens that support 65,536 colors and a maximum resolution of 1024 by 768. The tested units all include removable 10X CD-ROM drives. All offer built-in 16-bit sound systems and software support for MPEG motion video. Prices range from $3880 to $5899. Three of the systems use mobile versions of the Pentium MMX-166; the ARM and EPS notebooks use desktop PMMX-200 processors that performed comparably to the mobile PMMX-166–based systems.

LOOKING GOOD

THE VIEWABLE AREA of a 13.3-inch screen is about 20 percent larger than that of a 12.1-inch screen. Although some 12.1-inch displays support the same maximum resolution of 1024 by 768, this level of detail is more practical on larger screens.

When high resolution combines with adequate screen real estate, you can pack more information into presenta- ▶

13.3-INCH SCREENS TAKE YOUR SHOW ON THE ROAD

NOTEBOOKS	Street price	CPU	Traveling weight (pounds)	RAM (MB)	Hard drive (GB)	Maximum colors (1024 x 768)	CD-ROM drive speed	Modem	Reader service number
5D Technology ChemBook 9750 800/787-5335 www.5Dtech.com	$3880	Pentium MMX-166	9.4	32	1.4	65,536	10X	33.6-kbps PC Card	741
ARM Computer ARMNote TS9750 800/765-1767 www.armcomputer.com	$4199	Pentium MMX-200	9.6	32	2.1	65,536	10X	33.6-kbps PC Card	742
EPS Technologies Apex M-200 800/447-0921 www.epstech.com	$3895	Pentium MMX-200	11.8	48	2.1	65,536	10X	33.6-kbps PC Card	743
NEC Versa 6200MX 800/632-4636 www.nec-computers.com	$5699	Pentium MMX-166	9.4	32	2.1	65,536	10X	none	744
Toshiba Tecra 740CDT 800/457-7777 www.computers.toshiba.com	$5899	Pentium MMX-166	11.2 [2]	16	2.1	65,536	10X	28.8-kbps internal	745

[1] Includes computer, AC adapter, power cord, floppy drive, and CD-ROM drive.

[2] Also includes clip-on video camera, headphone adapters, and earphones.

All products: 912

PHOTOGRAPH: BEVERLY HARPER

A SERIOUSLY FAST CHIP. AN INCREDIBLY FAST CD-ROM. FRIGHTENINGLY FAST VIDEO. DO YOU SENSE A TREND HERE?

***NEW* DELL LATITUDE LM M166ST**
166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

- ★ **12.1" SVGA Active Matrix Display**
- ★ **16MB RAM (72MB Max.)**
- 256KB L2 Pipeline Burst Cache
- ★ ***NEW* 1.6GB Hard Drive**
- Options Bay accepts 12X Variable CD-ROM, 3.5" Floppy Drive (both included) or Optional 2nd Lithium Ion Battery
- ★ **PCI Bus with 128-bit Graphics Accelerator with 64K Colors**
- Integrated 16-bit Stereo Sound
- Smart Lithium Ion Battery
- ★ **MS® Office 97 Small Business Edition**
- Microsoft® Windows® 95
- IrDA 1.0 Standard Compliant
- Touchpad/Under 7 Pounds*
- Extendable 1 Year Warranty†
- ★ *Upgrade to 40MB RAM, add $299.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *Motorola 33.6 Fax Modem, add $169.*

$2999

Business Lease◊: $111/Mo.
Order Code #800140

NOW WITH MMX TECHNOLOGY. According to the trendspotters, things are speeding up in the notebook business. For proof, look at the new Dell Latitude LM M166ST. Its heart beats at an astounding 166MHz, thanks to its new Mobile Pentium® processor with MMX™ technology for gut-wrenching multimedia. It also has a new 12X Variable CD-ROM drive—again, among the fastest you can get in a portable. Then there's the new 128-bit graphics accelerator for faster and better color resolution and 64,000 colors. To order, call today. But do it fast. You don't want to lag behind the trend, do you?

MMX intel inside pentium

DELL®

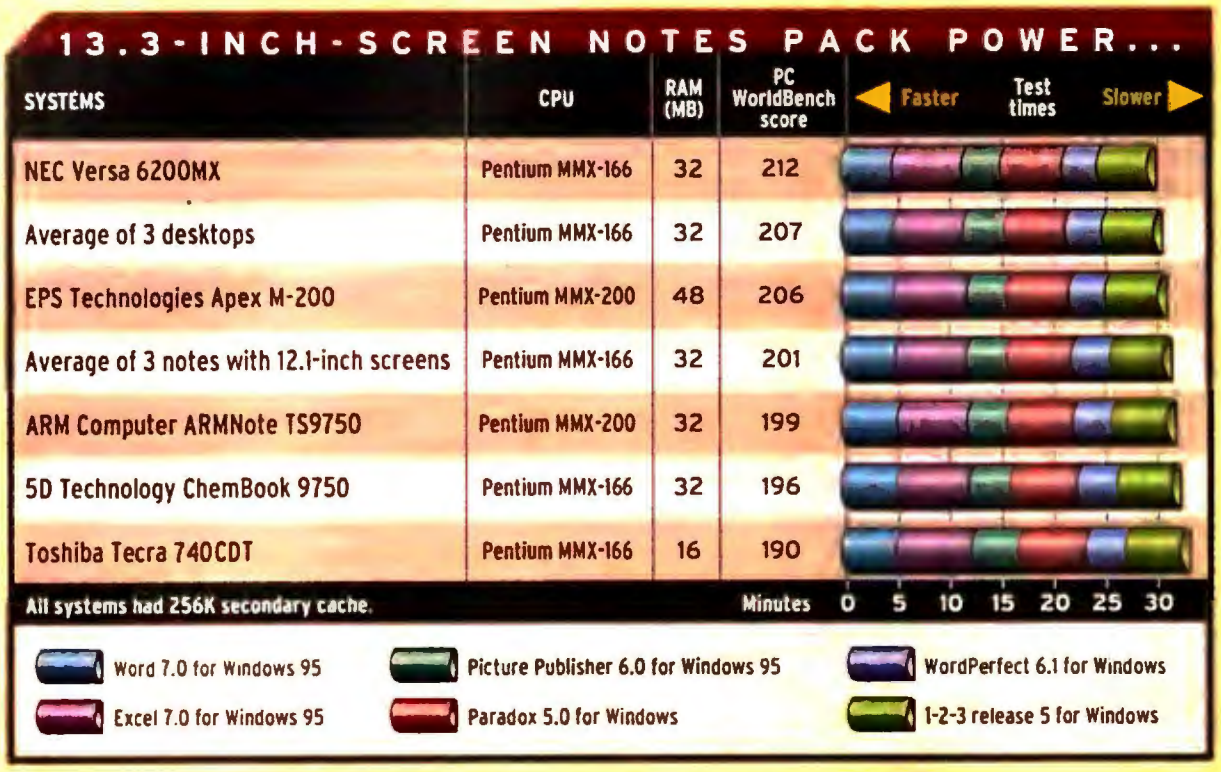
TO ORDER TOLL-FREE
800-627-1420
TO ORDER ONLINE
www.dell.com/buydell

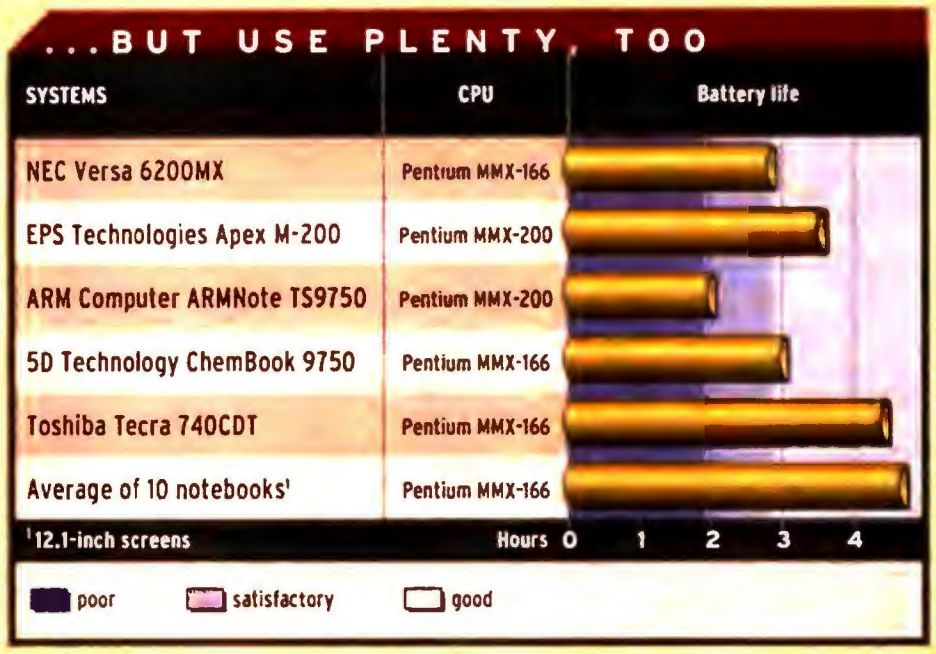
Mon-Fri 7am-9pm CT • Sat 10am-6pm CT
Sun 12pm-5pm CT In Canada*, call 800-232-6978
GSA Contract #GS-35F-4076D

Keycode #03274

Pricing is not discountable. †For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L.P., Attn: Warranty, One Dell Way, Round Rock, TX 78682 ◊Business leasing arranged by third-party leasing companies to qualified customers. *System weight with floppy drive or CD-ROM in options bay. ★Prices and specifications valid in the U.S. only and subject to change without notice. The Intel Inside logo and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. MS is a registered trademark of Microsoft Corporation. ©1997 Dell Computer Corporation. All rights reserved.

PC World Tests Yield Mixed Results





How We Test

Performance: We tested all systems with PC WorldBench, PC World's application-based benchmark. Higher PC WorldBench scores are better. For a description of PC WorldBench 1.0, see PC World Online (www.pcworld.com/testing).

Battery life: We drain and fully recharge the battery twice and set power-saving options to match a consistent profile where possible. Office workers use Windows 95 applications, periodically saving and allowing regular idle time. Notebooks are rotated among workers. We report the time elapsed when the notebook shuts itself off.

Data based on tests designed and conducted by the PC World Test Center. All rights reserved.

tions without sacrificing legibility. If you work with spreadsheets, you'll appreciate the extra rows and columns you can view without scrolling. Even graphics professionals may find the 13.3-inch screen adequate when traveling.

In performance, the notebooks ranged from adequate to exceptional. On PC WorldBench tests, the NEC—the swiftest 13.3-inch-screen unit—equaled the performance of the fastest comparable desktop systems. The NEC also outran the fastest comparable 12.1-inch notebooks we've tested, by a slim margin.

LUGGABLE PCS?

BUT IF YOU plan to travel extensively with a notebook sporting a 13.3-inch screen, beware. They're slightly bulkier and significantly heavier than their 12.1-inch counterparts. Side by side, the raised lid of the NEC 6200MX stands about half an inch higher than the lid on its 12.1-inch sibling. Here's why this is a problem:

I was able to use the NEC 6200MX in a coach seat on a recent flight, but only by sliding it so close to me that nearly half the machine hung off the tray table. This neat trick worked only when the seat in front of me was upright. The minute its occupant tried to lean back, the notebook lid wedged into the back of her seat and prevented it from reclining. When I lowered the lid, her seat pushed it down so far, I couldn't see the screen. While this type of difficulty has also been reported with some 12.1-inch screens, the extra height aggravates the problem.

Lugging the NEC around the airport wasn't much fun either—it tips the scales at 9.4 pounds with AC adapter plus CD-ROM and floppy drives. But none of the big-screen notebooks we examined were lightweights.

These units also compromise on battery life. While the Toshiba ran for a respectable 4 hours and 28 minutes, the other notebooks failed to reach the 4-hour mark.

BIG SCREEN, BIG TICKET

AT THESE PRICES, a big-screen notebook is not for everyone. If you work primarily at two locations, you may want to consider buying two desktops and ferrying the data between them on removable media or transmitting them via a network or e-mail.

If you make multimedia presentations on the road or simply want the largest notebook screen available, you've plenty of options in the 13.3-inch class. You might want to check out the 13.3-inch screens on upcoming notebooks from Gateway 2000, Hitachi, IBM, and Micron, which should be shipping by the time you read this. These products are expected to offer additional features, such as a combination floppy/CD-ROM drive.

Then again, you could wait for the next generation of big-screen notebooks. By midsummer the first 14.2-inch models should also be shipping.

—Yardena Arar ▶

Put the Power of our Partnership to Work for You.

We at ProGen Systems have built our success on what we call the partnership of performance and price. It's a way of doing business that works for us. And it works for you, too. ■ That's because we build-in the latest industry advances, including genuine Intel® Pentium® II Processors, 3D MPEG video graphic acceleration and the new 24X CD-ROM drives, and offer them to you at highly competitive prices. ■ So call a ProGen consultant today, or visit our on-line order web site at www.progen.com, and put ProGen to work for you.

Discover 3D
Pentium® Processor with MMX™ technology-based PCs

- Intel® PCIset Based Systemboard
- 512K Pipeline Burst Cache
- Intel® Pentium® Processor with MMX™ technology
- 32MB EDO RAM
- 3.1GB EIDE Hard Drive
- ProGen GOLD 3D (S3 Virge) 4 MB EDO DRAM MPEG
- 3D Stereo Wavetable Audio Subsystem
- Amplified Stereo Speakers (Add $39.00 for Subwoofer Sound System)
- 33.6kbps FAX/Modem w/Voicemail & Speakerphone
- 16X EIDE CD-ROM Drive
- 1.44 MB FDD/Win 95 KB/Microsoft Mouse
- MS Windows 95 CD & Manual
- Super CD Bonus Pak w/ Extra Games and Microphone
- Panasonic 15" (14.0" v.i.s.) .27 dp Digital monitor
- ProGen ProCare Warranty

166MHz	$1399
200MHz	$1569
233MHz	$1729

Polaris
Multimedia Platform for the Future

- Intel® PCIset Based Systemboard
- 512K Pipeline Burst Cache
- Intel® Pentium II Processor
- 32 MB EDO RAM
- 4GB EIDE Hard Drive
- ProGen GOLD 3D (S3 Virge) 4MB EDO DRAM, MPEG
- 3D Stereo Wavetable Audio Subsystem
- 56kbps FAX/Modem w/Voicemail & Speakerphone
- 24X EIDE CD-ROM Drive
- 1.44 FDD/Microsoft Mouse/Win95 Keyboard
- Windows® NT Workstation v.4.0
- Amplified Stereo Speakers (Add $39.00 for Subwoofer Sound System)
- Super CD Bonus Pak w/Extra Games & Microphone
- PC Magazine Editor's Choice! Panasonic .27dp 17" Digital PnP Monitor
- ProGen ProCare Warranty

233MHz	$2389
266MHz	$2519

Discover MPEG II
PC World Top 20

- Intel® PCIset Based Systemboard
- 512K Pipeline Burst Cache
- Intel® Pentium® Processor
- 16 MB EDO RAM
- 2.5GB EIDE Hard Drive
- ProGen GOLD VGA 2 MB EDO MPEG, Cinepak
- WavePlayer 32PnP 3D sound card
- 33.6kbps FAX/Modem w/Voicemail & Speakerphone
- 12X EIDE CD-ROM Drive
- 1.44 MB FDD/Win 95 KB/Hi-Res Mouse
- MS Windows® 95 CD & Manual
- Amplified Stereo Speakers
- CD Software Bonus Pak & Microphone
- ProGen 15" .28 dp Digital PnP monitor w/OSD
- ProGen ProCare Warranty

133MHz	$1059
166MHz	$1129
200MHz	$1179

ProGen™ SYSTEMS
A division of ProGen™ Technology Inc.

Works for You.
www.progen.com

1-888-776-9595

Technical Support: 1-888-777-5501 Customer Service: 1-800-848-8767

Sales Hours: M-F, 6:30 A.M. - 7:00 P.M. PST, Sat., 9:00 A.M. - 3:00 P.M. PST
Customer Service/Technical Support Hours: M-F, 8:00 A.M. - 5:00 P.M. PST

MMX intel inside pentium® PROCESSOR

Circle 184 on reader service card

ProGen™ Technology, Inc. 15501 Redhill Avenue, Tustin, CA 92780 Ph: 714/566-9200 Fax: 714/566-9267 BBS: 714/566-9255 E-Mail: webmaster@progen.com

©1997 ProGen™Technology, Inc. Intel Inside logo and Pentium are registered trademarks and Pentium Pro, Pentium II and MMX are trademarks of Intel Corporation. All other trademarks are the property of their respective owners. Prices are subject to change without notice. * On site service is based on the discretion of ProGen technical support. 30-day money-back Guarantee (shipping cost not included) Actual products may be different from products in photo.

DELL DIMENSION DESKTOPS FOR BUSINESS

Common features: • Mini Tower Model • 512KB L2 Cache • *NEW* 24X Variable EIDE CD-ROM Drive • Microsoft® Office 97 Small Business Edition plus Bookshelf • MS® Windows® 95 • MS Mouse (MS IntelliMouse on XPS System) • 2 Universal Serial Bus (USB) Ports • 3 Year Limited Warranty[1] with 1 Year On-site[4] Service
Upgrades: • 3Com® 3C905 Fast EtherLink® XL 10/100 PCI Card, add $109. • 4/8GB EIDE TR4 TBU, add $199. • HP LaserJet 6Pse Printer, add $799. • 3-Pak of Zip 100MB Cartridges, add $39.

NEW DELL DIMENSION® XPS H266
266MHz PENTIUM® II PROCESSOR FEATURING MMX™ TECHNOLOGY

Common features listed above plus:
- 64MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- *NEW* 1000TX Trinitron® Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

$3399

Business Lease[3]: $126/Mo.
Order Code #500709

NEW DELL DIMENSION XPS H233
233MHz PENTIUM II PROCESSOR FEATURING MMX TECHNOLOGY

Common features listed above plus:
- 32MB EDO Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2599

Business Lease: $96/Mo.
Order Code #500708

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM® PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to a 6.4GB Hard Drive with 512KB cache (9.5ms), add $85.*
★ *Upgrade to a Matrox Millennium II 4MB WRAM Video Card, add $99.*

$2399

Business Lease: $89/Mo.
Order Code #500707

DELL DIMENSION XPS M200s
200MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to 64MB SDRAM, add $239.*
★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$2199

Business Lease: $81/Mo.
Order Code #500706

THE TOP OF THE LINE CLOSER TO YOUR

DELL DIMENSION DESKTOPS FOR HOME

Common features: • Mini Tower Model • 512KB L2 Cache • *NEW* 24X Variable EIDE CD-ROM Drive • *NEW* 56K Capable** U.S. Robotics x2 Telephony Modem • MS Windows 95 • MS Mouse (MS IntelliMouse on XPS Systems) • 2 Universal Serial Bus (USB) Ports • 3 Year Limited Warranty with 1 Year On-site Service
Upgrades: • Iomega Zip 100MB IDE Internal Drive w/One Cartridge, add $99. • HP DeskJet 820Cse Color Printer, add $299. • 3 yrs. On-site Service, add $99.

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- 1000TX Trinitron Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 8MB WRAM Video Card
- Yamaha 32 Wave Table Sound
- Altec ACS-490 Full Dolby* Surround Sound Speakers with Subwoofer
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- MS Office 97 Small Business Edition plus Encarta

$3499

Order Code #500704

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory
- 6.4GB Hard Drive with 512KB Cache (9.5ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2999

Order Code #500703

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 32MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to a 4.3GB Hard Drive (10ms), add $65.*

$2499

Order Code #500702

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 16MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- 2MB EDO ViRGE 3D Video
- Sound Blaster 16 PnP Sound Card
- Altec Lansing ACS-90 Speakers
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 32MB SDRAM, add $119.*
★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$1899

Order Code #500701

Thousands of other custom configuration

MMX intel inside pentium PROCESSOR

*Pricing is not discountable †For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L.P. attn: Warranty, One Dell Way, Round Rock, TX 78682 [3]Leasing arranged by third-party leasing companies to qualified customers. **System weight with floppy drive or CD-ROM in options bay. [4]On-site service provided by an independent third-party provider. May not be available in certain remote areas. **x2 products are capable of 56Kbps downloads. Due to FCC rules that restrict power output, however, current download speeds are limited to 53Kbps. Upload speeds are limited to 33.6 Kbps. Actual speeds may vary depending on line conditions. *Prices and specifications valid in the U.S. only and subject to change without notice. Intel, the Intel Inside logo, LANDesk and Pentium are registered trademarks and MMX and EtherExpress are trademarks of Intel Corporation. MS, Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation. 3Com and EtherLink are registered trademarks of 3Com Corporation. Trinitron is a registered trademark of Sony Corporation. DirectLine is a service mark of Dell Computer Corporation. ©1997 Dell Computer Corporation. All rights reserved.

GET FREE DELL NEWS, RIGHT AT YOUR DESKTOP!
With DirectNews, Dell's free priority email bulletin, you can get pricing, product announcements, and limited time offers emailed direct to your computer, as soon as they become available. This money and time saving bulletin is available exclusively by subscription. And it's easy to subscribe. Just email us at listserver@dell.com with the message "join ddn" And then watch your mailbox for the inside scoop on Dell's latest offers.

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 16MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 800LS Monitor (13.7" v.i.s.)
- 2MB EDO ViRGE 3D Video

★ *Upgrade to 32MB SDRAM, add $119.*
★ *Upgrade to an 800HS Trinitron Monitor (13.7" v.i.s., .26dp), add $49.*
★ *Sound Blaster 16 PnP and Altec ACS-90 Speakers, add $89.*
★ *Iomega Zip 100MB IDE Internal Drive with One Cartridge, add $99.*

$1799

Business Lease: $67/Mo.
Order Code #500705

DESKTOP SOFTWARE DESCRIPTIONS

MS Office 97 Small Business Edition (SBE) includes:
- Word 97
- Excel 97
- Publisher 97
- Outlook 97
- Automap Streets Plus
- Small Business Financial Mgr 97
- Internet Explorer 3.0

MS Home Essentials plus Best of Entertainment Pack includes:
- Word 97
- Works 4.0
- Encarta 97
- Greetings Workshop
- Arcade
- Internet Explorer 3.0
- TETRIS, Taipei, SkiFree, Dr. BlackJack and more.

NEW DELL POWEREDGE SERVERS

Common features: ◆ 512KB L2 Cache ◆ Integrated Ultra-Wide SCSI-3 Controller ◆ Intel® EtherExpress™ Pro/100 NIC ◆ Intel LANDesk® Server Manager v2.5x ◆ Dell Server Assistant CD ◆ 3 Year Limited Warranty†

DELL® POWEREDGE® 2200 SERVER
266MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 96MB ECC EDO Memory
- 4GB Ultra-Wide SCSI-3 Hard Drive [7200 RPM, 8ms] (27GB Max.)
- 8X SCSI CD-ROM Drive
- MS Windows NT® Server 4.0

★ *Upgrade to 128MB ECC EDO Memory, add $220.*
★ *Upgrade to a 9GB Ultra-Wide SCSI-3 Hard Drive, add $450.*
★ *Upgrade to 3 Years On-site Service, add $99.*

$4999

Business Lease: $179/Mo.
Order Code #250072

DELL POWEREDGE 2200 SERVER
233MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 32MB ECC EDO Memory
- 2GB Ultra-Wide SCSI-3 Hard Drive [7200 RPM, 8ms] (27GB Max.)
- 8X SCSI CD-ROM Drive
- 3Com OfficeConnect Hub 8/TPC

★ *Upgrade to 64MB ECC EDO Memory, add $239.*
★ *Upgrade to a 4GB Ultra-Wide SCSI-3 Hard Drive, add $320.*
★ *4/8GB SCSI DAT Tape Backup, add $749.*

$3249

Business Lease: $119/Mo.
Order Code #250070

HAS NEVER BEEN BOTTOM LINE.

DELL LATITUDE™ NOTEBOOKS

Common features: ◆ 256KB L2 Pipeline Burst Cache ◆ Options Bay accepts 12X Variable CD-ROM, 3.5" Floppy Drive (both included), or Optional 2nd Li-Ion Battery ◆ PCI Bus with 128-bit Graphics Accelerator with 64K Colors ◆ Integrated 16-bit Stereo Sound ◆ Smart Lithium Ion Battery ◆ Microsoft Windows 95 ◆ IrDA 1.0 Standard Compliant ◆ Touchpad ◆ Under 7 Pounds* ◆ Extendable 1 Year Warranty†

NEW DELL LATITUDE® LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 72MB RAM
- 2.1GB Hard Drive
- 2nd Lithium Ion Battery
- MS Office 97 Small Business Edition

★ *Motorola 33.6 Fax Modem, add $169.*
★ *3Com LAN+ 33.6 Modem PC Card, add $349.*
★ *Dell Latitude LM Port Replicator, add $159.*
★ *Leather Carrying Case, add $129.*

$3949‡

Business Lease: $142/Mo.
Order Code #800143

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 40MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem
- MS Office 97 Small Business Edition

★ *Upgrade to 72MB RAM, add $299.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *3Com 10Base-T Network Card, add $139.*

$3499‡

Business Lease: $129/Mo.
Order Code #800144

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- MS Office 97 Small Business Edition

★ *Upgrade to 40MB RAM, add $299.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *Motorola 33.6 Fax Modem, add $169.*
★ *Dell Latitude LM Port Replicator, add $159.*
★ *Leather Carrying Case, add $129.*

$2999‡

Business Lease: $111/Mo.
Order Code #800140

DELL LATITUDE LM P133ST
133MHz PENTIUM® PROCESSOR

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem

★ *Upgrade to 24MB RAM, add $99.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *Nylon Carrying Case, add $69.*
★ *Dell Latitude LM Port Replicator, add $159.*

$2699‡

Business Lease: $100/Mo.
Order Code #800138

available. What can we build yours to do?

TO ORDER TOLL-FREE
888-325-4272
TO ORDER ONLINE
www.dell.com/buydell

Mon-Fri 7am-9pm CT
Sat 10am-6pm CT
Sun 12pm-5pm CT
In Canada,* call 800-232-6978
GSA Contract #GS-35F-4076D
Keycode #03282

DELL®

NT Moves to Capture Publishing—but Falls Short in Key Areas

ANALYSIS

WHEN IT COMES to desktop publishing and media authoring—audio, video, and multimedia production—Apple's Macintosh blazed the trail. But judging by recent developments, Windows NT is clearly in hot pursuit.

Clearly, no one needs NT's industrial-strength features just for word processing and spreadsheet work, but have the recent market changes made NT a credible competitor in desktop publishing and media authoring? And if so, does that shift reflect a gradual transition to NT as a mainstream computing platform? We compared NT with the Macintosh operating system and Windows 95 to answer these questions.

NT GAINS MOMENTUM

PUBLISHERS AND multimedia developers demand speed and expandability. Historically, the Mac's PowerPC chips have been faster than Pentium chips at tasks such as image filtering and video compression. But new chips such as the Pentium II, AMD's K6, and Cyrix's 6x86MX have narrowed the gap. Publishing and multimedia applications also require lots of peripherals, including scanners, video digitizing cards, and assorted storage devices. Windows NT supports a much smaller range of hardware than do the Mac OS and Windows 95. NT also lacks Plug and Play features, making hardware configuration potentially cumbersome.

Intergraph Computer Systems' newest additions to its TD family of PCs, the 320, 325, and 425, address these issues. The PCs offer the performance of Pentium II- and Pentium Pro-based machines and come factory equipped with publishing essentials such as accelerated video circuitry, Ultra-Wide SCSI interfaces, and ethernet networking. By providing these goodies on the motherboard, such boxes may eliminate some equipment-configuration headaches. The products start at $3895 without monitor. Intergraph also offers a variety of NT machines designed for high-end video production and 3-D graphics rendering.

Another key factor is also contributing to NT's growing momentum: The major publishing and media-authoring applications are finally available for it. Within the past several months Adobe has shipped NT-compatible versions of its Illustrator drawing program, its After Effects video-effects package, and its Adobe Type Manager Deluxe utility, which enables NT to display smooth-edged fonts at any size. These programs join a list of shipping applications that includes Adobe PageMaker and Photoshop, Quark's QuarkXPress, and Macromedia's FreeHand.

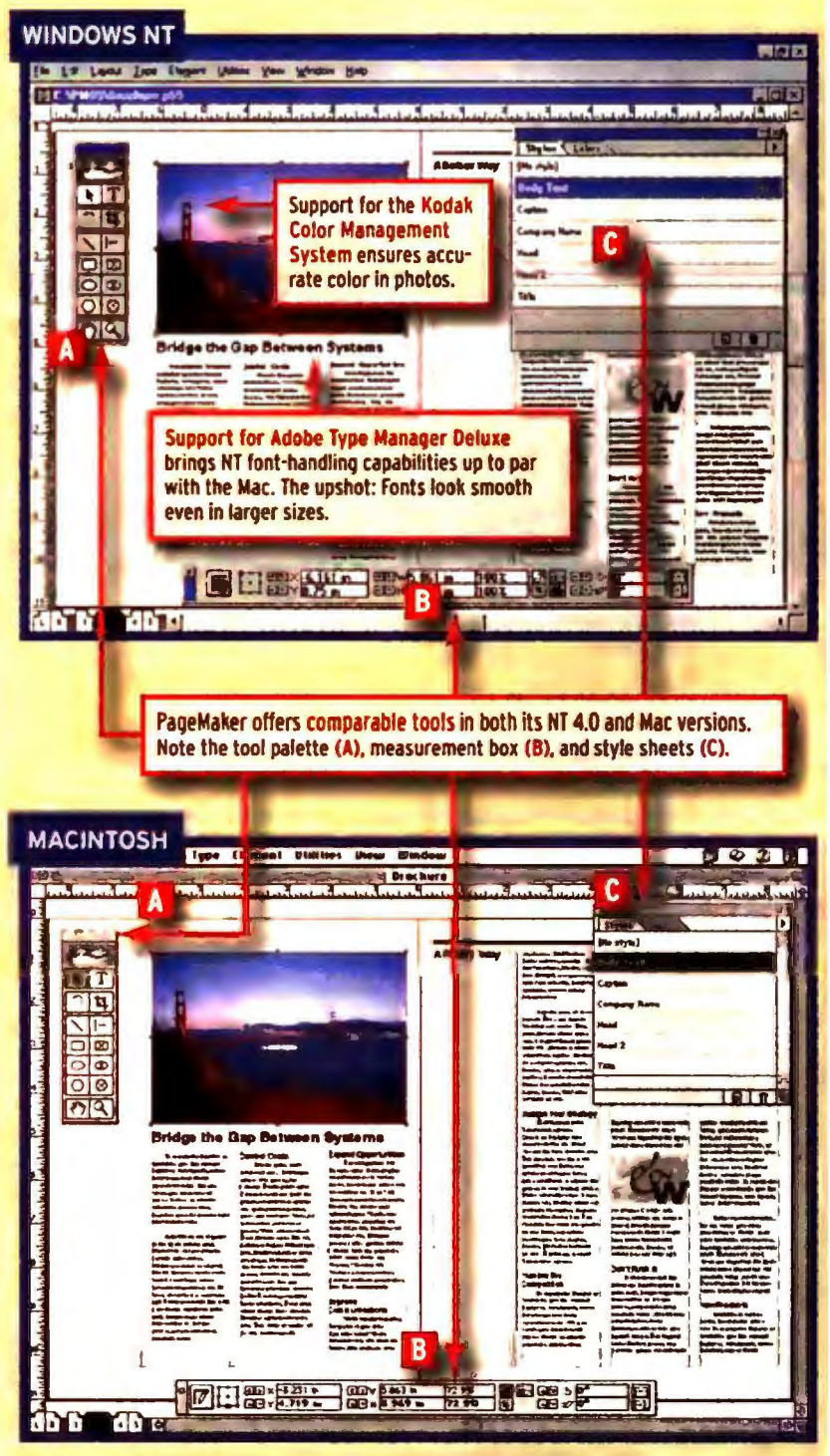
As video-production platforms, Windows 95 and NT are currently hamstrung by Microsoft's ActiveMovie and Video for Windows architectures, which lack the robustness that broadcast and corporate video producers demand. But that will change, too. This fall, Apple will ship QuickTime 3.0 for Windows, which is expected to provide the missing power.

IT STILL LAGS

THE BIG-TICKET applications may now be available, but publishers and media authors also rely on innumerable smaller utilities and plug-in modules. Similarly, audio and video producers rely on special-effects plug-ins and ▶

NT for Publishing: More, Better Apps

NT NOW ENJOYS wider software support. PageMaker 6.5 is the first version of Adobe's popular product designed to run on NT. Like many NT 4.0 apps, PageMaker supports the same file formats as its Mac counterpart and has similar features.



IT'S LIKE COFFEE FOR YOUR COMPUTER!

16 MEG MODULES AS LOW AS $83.00

Call us or visit our on-line module selector to find the right upgrade for your system!

30-pin SIMM

72-pin SIMM

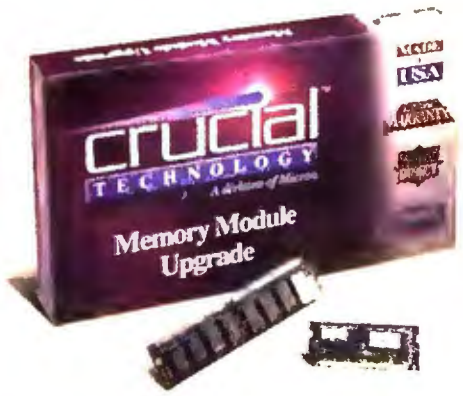
72-pin SODIMM

144-pin SODIMM

168-pin DIMM

Power-packed memory from Micron, one of the world's premier OEM suppliers, can shake the cobwebs off your beleaguered PC, giving you the speed and power to raise productivity and run multiple applications simultaneously. With Crucial memory your PC can more efficiently handle large graphics files and more quickly download video and software from the Net. Because it's direct from the factory, you're getting the same fully-tested, high-quality memory that went *into* your PC. And by eliminating the middleman, you gain direct access to the designers as well as technical engineers. Installation is a snap, too, so easy that you can do it during your next coffee break. Call our toll-free number or order on-line. Relief is just moments away.

- ✔ **COMPATIBLE with all major PCs and printers** - HP, Dell, Compaq, IBM, AST, Micron Electronics, Gateway 2000, Packard Bell, NEC, Digital, Acer and more!
- ✔ **30-day, money-back GUARANTEE**
- ✔ **FREE FedEx shipping†**
- ✔ **Made in the USA**
- ✔ **LIFETIME warranty****
- ✔ **"IT'S A SNAP" installation guide**
- ✔ **FREE technical support**



TO ORDER CALL

1-888-363-2570

Monday - Friday 7 a.m. to 7 p.m., MST
Saturday 8 a.m. to 3 p.m., MST

Information available 24 hours a day:

www.micron.com/crucial

crucial™
TECHNOLOGY
A division of Micron

Circle 56 on reader service card

Crucial Technology, 8000 S. Federal Way, P.O. Box 6, Boise, Idaho 83707-0006
Phone: 208-368-5092 Fax: 208-368-3342 International Sales: 208-368-5081, e-mail: crucial.sales@micron.com

Prices subject to change without notice. Prices indicated are for specific configurations. Call for current pricing. Corporate names and trademarks stated herein are the property of their respective companies. **Refer to the warranty for specific terms and limitations. †In the continental U.S. ©1997, Micron Technology, Inc.

compression utilities. By these yardsticks, Windows NT (and for that matter, 95) are trailing well behind the Mac OS. Such utilities are gradually migrating to the Windows world, but the selection remains sparse.

In publishing, of course, you need to print. That probably means printing to devices that use Adobe's PostScript page-description language, and here Windows is weak. A PostScript driver is available for NT and 95, but it isn't as mature as its Mac OS counterpart, and it doesn't support as broad a range of printers.

A related issue deals with obtaining high-resolution output from service bureaus, most of which were built around Macs. Many bureaus now accept Windows jobs, but these firms tend to be less experienced at troubleshooting Windows-related printing problems. Stepping in to take up the slack are large commercial printers, which historically have been Windows based and less biased toward Macs.

NT Advantages
- Fewer system crashes
- Smoother, more reliable multitasking
- Ability to hand off support headaches to IS

Mac Advantages
- Wealth of utilities and software add-ons
- Fewer configuration headaches
- Preferred by most service bureaus

NT: NOT THERE (YET)

DOES NT'S building momentum in publishing and media authoring suggest that it's becoming a mainstream operating system? Not quite. For average PC users who spend their time with office-productivity suites, NT's multiprocessing support and greater stability don't offset its technical complexity and lack of broad hardware support.

Windows NT is gaining ground in desktop publishing and media authoring, areas that the Macintosh has long dominated. Macs remain the best choice for high-end applications, such as glossy four-color magazines and catalogs. In the end, Windows 95 and NT are making their strongest inroads in corporate publishing departments. Windows 95 now dominates in that arena, but look for Windows NT to come on strong over the next year as both hardware compatibility and software availability improve.

Further down the road, NT 5.0 and the successor to Windows 95, code-named Memphis, hold additional appeal. NT 5.0 and Memphis will share a common device driver architecture, which over time should increase the amount of NT-compatible hardware. Both new Windows versions will also support multiple monitors, a feature the Mac OS has long provided.

There's one more crucial issue to consider: Mac loyalty. The Macintosh dominates professional publishing as well as audio and video production. Any company hiring designers and producers to staff its media operation should be prepared for a crowd that strongly prefers the taste of Apples.

—Jim Heid

TD 320, 325, and 425

List price: from $3895 without monitor; Intergraph; 800/763-0242, www.intergraph.com/ics/

READER SERVICE NO. 746

WEB BROWSER

Beating the Small Business Blues

STAYING ABREAST OF the information you need to keep a small business running used to require lots of research—and costly consulting time. But not anymore. Now there are a host of free Web sites loaded with the kind of content today's entrepreneur can use.

Idea Cafe (www.ideacafe.com) may look as if your kid cut loose with a fluorescent marker. But check it out anyway. It has lots of information on borrowing money and luring investors. If you're not sure what kind of financing you need or whether your collection process will keep the money rolling in, take one of the site's handy self-help exams. In Rhonda's Table, syndicated business columnist and author Rhonda Abrams gives advice on everything from how to motivate your employees to managing your supply chain.

Did you know you can write off dry-cleaning expenses incurred during a business trip? You would if you visited The Small Business Advisor site (www.isquare.com), which has 14 pages of tax tips. This nifty compendium of ways to (legally) outsmart the IRS includes articles like "55 Commonly Omitted Tax Deductions" and "Tax Law Changes for 1997." The Advisor section of the site has more than 40 articles and is regularly updated with essays like "Steps You Can Take to Increase the Bottom Line." The site's extensive section on doing business with the U.S. government breaks the initial process down into 12 manageable steps.

SMALL BUSINESS OWNERS: Need a competitive edge? The Idea Cafe and Web sites like it are there to help.

The Small & Home Based Business Links (www.ro.com/small_business/homebased.html) directs you to more than 200 Web sites. You'll see tips on marketing, buying franchises, or finding anything from software to the services of a private detective. There's a library with more than 100 articles on topics like how to name your company and how to choose the right insurance plan. You'll find links to sites like BlackBusiness (www.blackbusiness.com) and WebTrade Directory (www.webtrade.com.hk), which gives information on doing business in Hong Kong and the rest of China. The site's organization is a bit confusing. But hey, you can get all this information from home, and a suit is not required.

—Mindy Charski ■

You've Got Our Number...

GATEWAY2000

You've got a friend in the business.®

GATEWAY2000

"You've got a friend in the business."®

...And we've got yours

We're number 1

No one comes close, not even the guys with the fruit logo.

An IDC/ACNielsen survey of computer owners showed Gateway 2000 had the highest brand loyalty of any computer maker in the American home market.*

Thank you. Whether you need PCs for the home, road, small business or family room, Gateway has the answer.

And in the corporate market, we're crashing the business party like a bull smashing through a barn door.

Our pinstriped competitors may not want you to know this, but Gateway's value and service have already attracted business from 8 out of 10 *Fortune* 1000 companies in the last three years. When we surveyed our corporate, government and education customers last year, the vast majority said they would be very likely to repurchase GATEWAY™ PCs.

So try our number. We've got value and service that will win your loyalty.

Based on percentage of computer owners planning to buy another computer of the same brand as they currently own between 11/1/96 and 7/31/97.

Gateway Solo 9100 Portable PC

Gateway Destination™ D5-166 Big Screen PC/TV with Boston Acoustics® MicroMedia™ Speakers

We're Getting Fresh & Talking Your Language

What's the secret to developing great relationships with customers? Staying fresh and sharing the remote.

There's nothing more tragic than millions of computers built six months too early with today's dust outside the case and yesterday's technology inside.

That's why Gateway has no inventory of finished PCs and keeps component supplies among the freshest in the industry. We only build PCs after customers decide what goes inside and then we ship them to their doors. And when it comes to the components that go into your PC, you've got remote control. You make all the decisions over the phone or Internet from the comfort of your home or office.

To give you a place to start, Gateway has created broad lines of PCs within our build-to-order approach.

Gateway G-Series:

The latest technology for the home and office delivering the most technological kick for the cash. This is the land of traditional Gateway values with **Pentium® II** processors, monster monitors and that new digital bad boy, DVD.

Gateway E-Series:

Corporate customers know Gateway means business with a line that mixes manageability, stability and great value.

Gateway G5-200M Multimedia PC shown with optional Altec™ Lansing ACS-410 Speaker System

Gateway G5-166 Professional PC

We build PCs and relationships

How can a computer company in South Dakota make a run at the suits? By always putting personal in front of computer.

We care as much about relationships as we do about technology. One way Gateway builds relationships is to recognize and embrace our customers' diversity.

That's why we developed multiple product lines to focus on each group of customers. Each product line offers features aimed at our diverse customers' needs. When the lines come together, Gateway becomes the one choice for all your PC needs — home, small office, major corporation and power-user muscle machines.

MMX™ intel inside pentium® II PROCESSOR

It all makes for industry-leading loyalty. Grab the phone. You've already got our number: 1. Now call the number at the bottom of this page. Let's start a relationship.

Gateway Solo Portable PCs:

Mobile computing with power, flexibility and modularity. A portable PC for most every kind of road warrior.

Gateway Destination Big Screen PC/TVs:

It takes a world leader to think big enough to pioneer a whole new computer category. In April 1996, the Destination system became the first PC/TV designed for group computing in the family room, conference room and classroom.

GATEWAY2000

"You've got a friend in the business."®

800-216-3340

www.gateway.com

Hurdling high tech for customers

This isn't rocket science: Give customers fresh technology at great prices. It's the philosophy that made Gateway 2000 what it is today.

The GATEWAY™ G-Series delivers on that philosophy for home and business. Doing that means building relationships with our component suppliers, anticipating trends and securing supplies in advance of release dates.

So when our friends at Intel Corporation planned the release of the **Pentium® II** processor, Gateway put itself in the place of the customer. MMX™ technology plus 32-bit power. What's not to love? This processor isn't just for hard-core tech heads or power-crazed number crunchers, it's for everyone. So we developed a **Pentium II** processor supply line with Intel and boom, our customers got one processor that does it all.

Same deal with DVD, (Digital Versatile Disc), a technology destined to change the face of computing. A standard 4.7GB DVD holds seven times more data than a CD, room for up to 133 minutes of video that makes its analog ancestors seem pale. On top of all that, DVD-ROM drives play most of your existing CD-ROMs.

We also worked with component allies to develop the EV900, a 19-inch monitor (18-inch viewable) that takes up the same amount of room on your desktop as our 17-inch monitor (15.9-inch viewable).

It's all about making moves for customers, like working with stereo speaker giant Boston Acoustics to bring their great sound to our customers.

DVD harnessed to the **Pentium II** processor, turbo boosted by high-powered graphics systems and splashing around on our new EV900 monitor. That's fresh technology at an amazing value.

Check out all the options and let us custom build a PC for you. Give us a call or go to our Web site, www.gateway.com.

Gateway G5-166SE Multimedia PC with color printer

Gateway G-Series PCs

Gateway G-Series **Multimedia** *PCs for the Home*

G5-166SE

- Intel® 166MHz Pentium® Processor
- 16MB Synchronous DRAM
- 256K Pipelined Burst Cache
- CrystalScan®500 .28 Screen Pitch Monitor (13.9" viewable area)
- 2MB 3-D 64-Bit PCI Graphics
- 1.2GB 11ms EIDE Hard Drive
- 12X CD-ROM & 3.5" Diskette Drives
- 16-Bit GATEWAY™ Audio
- Altec™ Lansing ACS-41 Speakers
- TelePath® Modem *for Windows* with x2™ Technology**
- Desktop Case
- 104+ Keyboard & Microsoft® Mouse
- MS® Windows® 95 & Home Software Bundle
- **Color Ink Jet Printer**
- Gateway Gold™ Service & Support for Desktop PCs

$1499 As low as× $52/mo.

Special Package Offer!

Design Your PC

- Intel Pentium® Processor with MMX™ Technology: ❑ 166MHz ❑ 200MHz
  Intel Pentium® II Processor: ❑ 233MHz ❑ 266MHz
- Memory: ❑ 16MB ❑ 32MB ❑ 64MB ❑ 128MB
- Monitor (viewable areas): ❑ 13.9" ❑ 15.9" ❑ 19.7"
- Video Card: ❑ 2MB ❑ 4MB
- Hard Drive: ❑ 1.6GB ❑ 3.2GB ❑ 6.4GB
- SCSI Hard Drive: ❑ 4GB ❑ 9GB
- Other Drives: ❑ CD-ROM ❑ DVD ❑ ZIP™ ❑ 3.5" Floppy ❑ TBU ❑ JAZ™
- Sound Card: ❑ Ensoniq® ❑ Other
- Speakers: ❑ 2 Speakers ❑ with Subwoofer
- Modem: ❑ TelePath Modem with x2 Technology**
- Case: ❑ Desktop ❑ Mid-Tower
- Keyboard: ❑ 104+ ❑ MS Natural
- O/S: ❑ Windows 95
- Printer: ❑ Laser ❑ Color Ink Jet
- Standard Software: ❑ MS Office 97 SBE Plus Encarta® 97 OR ❑ Generations III
- Optional Software: ❑ Kid's BackPack™ IV ❑ Games & Entertainment Pack II ❑ Other

Call For Your Price!

All systems standard with Gateway Gold Service & Support for Desktop PCs. *(All options are not available with all systems. Ask your sales rep for more information.)*

G6-266XL

- Intel 266MHz Pentium II Processor with 512K Cache
- 64MB EDO DRAM
- **EV900 .26 Screen Pitch Monitor** (18" viewable area)
- STB® ViRGE™/GX 4MB, 3-D 64-Bit PCI Graphics
- 9GB 8.2ms Ultra Wide SCSI-3 Hard Drive
- **DVD-ROM Drive**
- 3.5" Diskette Drive
- Ensoniq Wavetable Audio
- **Boston Acoustics® High-Fidelity 3-Piece Speaker System**
- TelePath Modem *for Windows*, with x2 Technology**
- Tower Case
- 104+ Keyboard & MS IntelliMouse™
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- MMX Technology-Enhanced Software
- Gateway Gold Premium Service & Support for Desktop PCs

$4699 As low as× $163/mo.

The G6-266XL with DVD-ROM has not been approved by the Federal Communications Commission. This configuration is not, and may not be offered for sale or lease, or sold or leased until the approval of the FCC has been obtained.

Gateway G-Series **Professional** *PCs for the Office*

G5-166

- Intel 166MHz Pentium Processor
- 16MB Synchronous DRAM
- 256K Pipelined Burst Cache
- CrystalScan500 .26 Screen Pitch Monitor (13.9" viewable area)
- 2MB 3-D 64-Bit PCI Graphics
- 1.6GB 12ms EIDE Hard Drive
- 12X min/16X max CD-ROM & 3.5" Diskette Drives
- Desktop Case
- 104+ Keyboard & MS IntelliMouse
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service & Support for Desktop PCs

$1599 Business Lease+ $59/mo.

GATEWAY2000 EASYPAY LOW MONTHLY PAYMENTS

MMX™ intel inside pentium® II PROCESSOR

Design Your PC

- Intel Pentium Processor with MMX Technology: ❑ 166MHz ❑ 200MHz
  Intel Pentium II Processor: ❑ 233MHz ❑ 266MHz
- Memory: ❑ 16MB ❑ 32MB ❑ 64MB ❑ 128MB
- Monitor (viewable areas): ❑ 13.9" ❑ 15.9" ❑ 19.7"
- Video Card: ❑ 2MB ❑ 4MB
- Hard Drive: ❑ 1.6GB ❑ 3.2GB ❑ 6.4GB
- SCSI Hard Drive: ❑ 4GB ❑ 9GB
- Other Drives: ❑ CD-ROM ❑ DVD ❑ ZIP ❑ 3.5" Floppy ❑ TBU ❑ JAZ
- Modem: ❑ TelePath Modem with x2 Technology**
- Network Cards: ❑ 10Base-T ❑ Combo
- Case: ❑ Desktop ❑ Mid-Tower
- Keyboard: ❑ 104+ ❑ MS Natural
- O/S: ❑ Windows 95 ❑ Windows NT® 4.0
- Printer: ❑ Laser ❑ Color Ink Jet
- Standard Software: ❑ MS Office 97 SBE Plus Encarta 97
- Optional Software: ❑ MS Office 97 Professional Edition ❑ Finance Pack II ❑ Other

Call For Your Price!

All systems standard with Gateway Gold Service & Support for Desktop PCs. *(All options are not available with all systems. Ask your sales rep for more information.)*

G6-200²

- Intel 200MHz Pentium® Pro (Dual-Processor Ready)
- 64MB EDO ECC DRAM
- 256K Internal Cache
- CrystalScan700 .28 Screen Pitch Monitor (15.9" viewable area)
- 4MB 3-D 64-Bit PCI Graphics
- 4GB 8ms Ultra Wide SCSI-2 Hard Drive
- 12X SCSI CD-ROM & 3.5" Diskette Drives
- **APC® Back-UPS Pro 650®**
- Tower Case
- 104+ Keyboard & MS IntelliMouse
- MS Windows NT 4.0 & MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service & Support for Desktop PCs

$3849 Business Lease+ $141/mo.

Please see back page for other configurations.

GATEWAY2000

"You've got a friend in the business."®

800-216-3340

www.gateway.com

Designing Outside the Lines

Gateway E-Series E-3100 PC

Gateway E-Series PCs

You may think Gateway is just cute ads and home systems. Well, reports of our home confinement have been greatly exaggerated.

Our E-Series is built for corporate business.

Manageability. DMI-compliant PCs let IS see inside your system without opening it.

Product Stability. Standardize on a configuration and manage technology upgrades.

Serviceability. Thumbscrews make our cases a snap to open.

Flexiblility. You select the options that work best for your entire enterprise.

All that plus people in sales, development, support and accounting dedicated just to serving our *Fortune* 1000, education and government customers. Gateway means business.

Gateway E-Series PCs

- Intel Pentium, Pentium Pro or Pentium® II Processors
- High-Performance SCSI, EIDE or Ultra ATA Hard Drives
- 2-D or 3-D Video Adapters and Monitor Options
- Pre-installed High-Bandwidth Network Options
- Low Profile, Desktop or Mid-Tower Case
- Pre-loaded with MS® Windows® or Windows NT® Workstation 4.0
- Hardware Management Features
- Desktop Management Interface (DMI) 1.1 Compliant
- Gateway Gold™ Service and Support for Desktop PCs

Prices starting at **$1329**

Gateway Solo Portables

What does a computer company whose mascot weighs 1,400 pounds know about small packages? Enough to realize that what people want in portable PCs is as varied as what they want in desktops.

We talked to our customers, worked with our vendor allies, huddled with our manufacturing crew and came up with this:

Modularity. Pump up flexibility with components you can swap between notebooks.

Common docking stations. Any Gateway Solo™ portable will fit into any dock we sell.

Service that Hits the Spot

Service & Support

Outstanding service and support propelled Gateway to the top in customer loyalty. While anyone can *say* they have great service and support, a company proves it by following through on its advertising.

Our tech support trouble sharpshooters gun down problems with such technical prowess that ***PC World* readers gave Gateway a "best" rating in service and support in the June 1997 issue.** Back in January of '97 it was *Computer Shopper's* Best Buy Award for Best Service and Support, and for three years running we've snagged *BYTE* Readers' Choice Award for the Company with the Best Service.

Are you seeing the pattern here? We know service after the sale is when real customer satisfaction and loyalty happen. Once you join the Gateway customer family, the relationship is only beginning. You'll have a technical support friend just a toll-free telephone call away, 24 hours a day, to help patch things up when you and your PC don't see eye to eye.

We help take care of problems by selling quality products and including a three-year limited warranty on desktops and one-year limited warranty on portables. Call or write for a free copy of our limited warranty. You can even upgrade to Gateway Gold™ premium service and support and add two years onto the standard one-year on-site service agreement included with desktops and get access for three years to priority, technical support phone lines.

And for business, we've got a whole menu of service options that can do everything from building in special, third-party components and software, to helping you set up your network.

Give us a call. Try us out. Gauge our sales representative's service. Check our prices. Talk to some of our customers. It won't take long until you've got our number.

MMX™ intel inside pentium® II PROCESSOR

GATEWAY2000

"You've got a friend in the business."®

800-216-3340

www.gateway.com

Gateway Solo 9100 Portable PC

Gateway Solo™ Portable PCs

Fresh Technology. Intel Pentium processors with MMX technology. Choice of display types.

Choices. The Gateway Solo 9100 delivers the muscle of a desktop on the road. The 2100 is a lot of PC for a little cash. The 2300 offers portable power priced for the fleet.

Custom configuration. You select components for your portable from a huge list of options.

Our portables may be small, but the choices are as big as our mascot. Call us and see for yourself.

2100SE

- 11.3" SVGA DSTN Color Display
- Intel® 120MHz Pentium Processor
- 16MB EDO DRAM
- 256K Pipelined Burst Cache
- 1MB EDO Video RAM
- Modular 6X min/11X max CD-ROM Drive
- Modular 3.5" Diskette Drive
- USB & Zoomed Video Ports
- 1GB Hard Drive
- 16-Bit Sound & Stereo Speakers
- NiMH Battery & AC Pack
- 85-Key MS Windows 95 Keyboard
- EZ Pad® Pointing Device
- Casual Carrying Case
- Microsoft® Windows 95
- MS Works 95
- Gateway Gold Service & Support for Portable PCs

$1899 As low as* $66/mo.

2300LS

- 12.1" SVGA TFT Color Display
- Intel 150MHz Pentium® Processor with MMX™ Technology
- 32MB SDRAM
- 256K Pipelined Burst Cache
- 1MB EDO Video RAM
- Modular 6X min/11X max CD-ROM Drive
- Modular 3.5" Diskette Drives
- USB & Zoomed Video Ports
- NTSC/PAL Video Output
- 2GB Hard Drive
- 16-Bit Wavetable Sound & Stereo Speakers
- 33.6 PCMCIA Data**/14.4 Fax Modem
- 12-Cell Li-Ion Battery & AC Pack
- 85-Key MS Windows 95 Keyboard
- EZ Pad Pointing Device
- Casual Carrying Case
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta® 97
- Gateway Gold Service & Support for Portable PCs

$3899 As low as* $135/mo.

9100XL

- 13.3" XGA TFT Color Display
- Intel 166MHz Pentium Processor with MMX Technology
- 64MB SDRAM
- 256K Pipelined Burst Cache
- 4MB Video RAM
- Modular Combo 6X min/11X max CD-ROM & 3.5" Diskette Drive
- USB & Zoomed Video Ports
- NTSC/PAL Video Input & Output
- 3GB Hard Drive
- 16-Bit Wavetable Sound & Stereo Speakers
- 33.6 PCMCIA Modem with x2 Technology**
- Two 12-Cell Lithium Ion Batteries & AC Pack
- 88-Key MS Windows 95 Keyboard
- EZ Pad Pointing Device
- Deluxe Carrying Case
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service & Support for Portable PCs

$5999 As low as* $208/mo.

Gateway Destination™ Big Screen PC/TVs with Intel® MMX™ Technology

D5-166

- Intel 166MHz Pentium Processor with MMX Technology
- 32MB EDO DRAM
- 256K Pipelined Burst Cache
- Destination 31" VGA Monitor
- STB® 2MB Graphics Accelerator w/ Cable-Ready TV Tuner
- 3.2GB 12ms EIDE Hard Drive
- 12X min/24X max CD-ROM & 3.5" Diskette Drives
- Ensoniq® Wavetable Audio
- **Boston Acoustics® MicroMedia™ 3-Piece Speaker System**
- TelePath® Modem *for Windows* with x2 Technology**
- 7-Bay Charcoal-Colored PC Case
- Wireless Keyboard w/ Integrated EZ Pad Pointing Device
- Wireless Field Mouse™ Remote
- MS Windows 95
- Destination Software Collection
- MMX Technology-Enhanced Software
- Gateway Gold Service & Support◆ for Big Screen PC/TVs

$2899 As low as× $101/mo.

D5-200

- Intel 200MHz Pentium Processor with MMX Technology
- 32MB EDO DRAM
- 256K Pipelined Burst Cache
- Destination 31" VGA Monitor
- STB 2MB Graphics Accelerator w/ Cable-Ready TV Tuner
- 3.2GB 12ms EIDE Hard Drive
- 12X min/24X max CD-ROM & 3.5" Diskette Drives
- Ensoniq Wavetable Audio
- **harman/kardon® High-Fidelity Sound System**
- TelePath Modem *for Windows* with x2 Technology**
- 7-Bay Charcoal-Colored PC Case
- Wireless Keyboard w/ Integrated EZ Pad Pointing Device
- Wireless Field Mouse Remote
- MS Windows 95
- Destination Software Collection
- MMX Technology-Enhanced Software
- Gateway Gold Service & Support◆ for Big Screen PC/TVs

$3599 As low as× $125/mo.

D6-233

- Intel 233MHz Pentium II Processor with 512K Cache
- 32MB EDO DRAM
- Destination 31" VGA Monitor
- STB 2MB Graphics Accelerator w/ Cable-Ready TV Tuner
- 6.4GB 10ms EIDE Hard Drive
- 12X min/24X max CD-ROM & 3.5" Diskette Drives
- Ensoniq Wavetable Audio
- **harman/kardon High-Fidelity Sound System**
- TelePath Modem *for Windows* with x2 Technology**
- 7-Bay Charcoal-Colored PC Case
- Wireless Keyboard w/ Integrated EZ Pad Pointing Device
- Wireless Field Mouse Remote
- MS Windows 95
- Destination Software Collection
- MMX Technology-Enhanced Software
- Gateway Gold Premium Service & Support◆ for Big Screen PC/TVs

$3999 As low as× $139/mo.

◆*The Destination 31-inch monitor is covered by a one-year limited warranty. Call or write for a free copy.*

Destination Big Screen PC/TVs

It takes guts to go first. But then any high-tech company that operates from a metal, cow-spotted building in South Dakota has guts.

So we started a whole new computer category with the Destination Big Screen PC/TV 15 months ago. After a year, 61% of Destination system owners we surveyed said they spend more time with their families because of the big screen PC/TV.

The 31-inch monitor, wireless keyboard and Field Mouse remote control make this a group machine.

Television, Internet, multimedia, PC applications. The Destination system does it all.

Your Destination system's combination of monster monitor, pristine digital video from DVD, muscular **Pentium II** processor and fidelity of surround sound come close to sensory nirvana.

Starting at $2,899 with literally thousands of other options, we've got a Destination system to fit every home, business, and school.

Call today and embrace the future.

Gateway Destination D5-166 Big Screen PC/TV with Boston Acoustics MicroMedia Speakers

MMX™ intel inside pentium® II PROCESSOR

GATEWAY2000

"You've got a friend in the business."®

800-216-3340

www.gateway.com

Number-One Values

Get more for your money with Gateway PCs!

Gateway G-Series **Multimedia** *PCs with Intel® MMX™ Technology*

G5-166M

- Intel® 166MHz Pentium® Processor with MMX™ Technology
- 16MB Synchronous DRAM
- 256K Pipelined Burst Cache
- CrystalScan®500 .28 Screen Pitch Monitor (13.9" viewable area)
- 2MB 3-D 64-Bit PCI Graphics
- 1.6GB 12ms EIDE Hard Drive
- 12X min/16X max CD-ROM & 3.5" Diskette Drives
- 16-Bit GATEWAY™ Audio
- Altec™ Lansing ACS-41 Speakers
- TelePath® Modem *for Windows* with x2™ Technology**
- Desktop Case
- 104* Keyboard & Microsoft® IntelliMouse™
- MS® Windows® 95 & MS Office 97, Small Business Edition plus Encarta® 97
- MMX Technology-Enhanced Software
- Gateway Gold™ Service & Support for Desktop PCs

$1749 As low as✗ $63/mo.

G5-200M

- Intel 200MHz Pentium Processor with MMX Technology
- 32MB Synchronous DRAM
- 512K Pipelined Burst Cache
- CrystalScan700 .28 Screen Pitch Monitor (15.9" viewable area)
- 2MB 3-D 64-Bit PCI Graphics
- 3.2GB 12ms EIDE Hard Drive
- 12X min/16X max CD-ROM & 3.5" Diskette Drives
- 16-Bit Gateway Audio
- Altec Lansing ACS-41 Speakers
- TelePath Modem *for Windows* with x2 Technology**
- Mid-Tower Case
- 104* Keyboard & MS IntelliMouse
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- MMX Technology-Enhanced Software
- Gateway Gold Service & Support for Desktop PCs

$2349 As low as✗ $82/mo.

G6-266M

- Intel 266MHz Pentium® II Processor with 512K Cache
- 64MB EDO DRAM
- CrystalScan700 .28 Screen Pitch Monitor (15.9" viewable area)
- STB® ViRGE™/GX 4MB, 3-D 64-Bit PCI Graphics
- 6.4GB 10ms Ultra ATA Hard Drive
- 12X min/24X max CD-ROM & 3.5" Diskette Driv
- **Iomega® Internal ZIP™ Drive**
- Ensoniq® Wavetable Audio
- **Boston Acoustics® High-Fidelity 3-Piece Speaker System**
- TelePath Modem *for Windows* with x2 Technology**
- Mid-Tower Case
- 104* Keyboard & MS IntelliMouse
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- MMX Technology-Enhanced Software
- Gateway Gold Service & Support for Desktop PCs

$3299 As low as✗ $115/mo.

Gateway G-Series **Professional** *PCs*

G5-200

- Intel 200MHz Pentium Processor
- 32MB Synchronous DRAM
- 256K Pipelined Burst Cache
- CrystalScan700 .28 Screen Pitch Monitor (15.9" viewable area)
- 2MB 3-D 64-Bit PCI Graphics
- 3.2GB 12ms EIDE Hard Drive
- 12X min/16X max CD-ROM & 3.5" Diskette Drives
- Desktop Case
- 104* Keyboard & MS IntelliMouse
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service & Support for Desktop PCs

$1899 Business Lease† $70/mo.

G6-233

- Intel 233MHz Pentium II Processor with 512K Cache
- 32MB EDO DRAM
- CrystalScan700 .28 Screen Pitch Monitor (15.9" viewable area)
- 2MB 3-D 64-Bit PCI Graphics
- 3.2GB 12ms Ultra ATA Hard Drive
- 12X min/24X max CD-ROM & 3.5" Diskette Drives
- Mid-Tower Case
- 104* Keyboard & MS IntelliMouse
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service & Support for Desktop PCs

$2499 Business Lease† $92/mo.

G6-266

- Intel 266MHz Pentium II Processor with 512K Ca
- 64MB EDO DRAM
- CrystalScan700 .28 Sceen Pitch Monitor (15.9" viewable area)
- STB ViRGE/GX 4MB, 3-D 64-Bit PCI Graphics
- 6.4GB 10ms Ultra ATA Hard Drive
- 12X min/24X max CD-ROM & 3.5" Diskette Driv
- Mid-Tower Case
- 104* Keyboard & MS IntelliMouse
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service & Support for Desktop PCs

$2999 Business Lease† $110/mo.

Gateway Destination™ **Big Screen** *PC/TV*

D6-266

- Intel 266MHz Pentium II Processor with 512K Cache
- 64MB EDO DRAM
- Destination 31" VGA Monitor
- STB 2MB Graphics Accelerator w/ Cable-Ready TV Tuner
- 6.4GB 10ms EIDE Hard Drive
- **DVD-ROM** & 3.5" Diskette Drives
- **EasyPhoto Drive™ Photo Scanner**
- Ensoniq Wavetable Audio
- **harman/kardon® High-Fidelity Sound System**
- TelePath Modem *for Windows* with x2 Technology**
- 7-Bay Charcoal-Colored PC Case
- Wireless Keyboard w/ Integrated EZ Pad® Pointing Device
- Wireless Field Mouse® Remote
- MS Windows 95
- Destination Software Collection
- MMX Technology-Enhanced Software
- Gateway Gold Premium Service & Support◆ for Big Screen PC/TVs

$4799 As low as✗ $167/mo.

Gateway Solo™ **Portable** *PC*

2200LS

- 12.1" SVGA TFT Color Display
- Intel 166MHz Pentium Processor with MMX Technology
- 32MB EDO RAM
- 256K Pipelined Burst Cache
- 1MB EDO Video RAM
- Modular 6X min/11X max CD-ROM Drive
- Modular 3.5" Diskette Drive
- USB & Zoomed Video Ports
- NTSC/PAL Video Output
- 2GB Hard Drive
- 16-Bit Wavetable Sound & Stereo Speakers
- Lithium Ion Battery & AC Pack
- 85-Key MS Windows 95 Keyboard
- EZ Pad Pointing Device
- Casual Carrying Case
- MS Windows 95 & MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service & Support for Portable PCs

$3649 As low as✗ $126/mo.

GATEWAY2000

You've got a friend in the business.®

800-216-3340

www.gateway.com

Upgrades *(Sold only with the purchase of a system.)*

Desktop Upgrades

- Altec™ Lansing ACS-251 Subwoofer $75
- Altec Lansing ACS-410 Dolby® Surround Sound Speaker System w/ ACS-251 Subwoofer $120
  (upgrade from PCs that include Altec ACS-41 speakers)
- Iomega® Internal ZIP™ 100MB Drive $139
  (includes three 100MB cartridges)
- Iomega External ZIP 100MB Drive $159
- Iomega Jaz® 1GB Drive $429
  (includes SCSI controller and 1GB cartridge)
- MS® Windows NT® 4.0 Upgrade $99
  (upgrade from PCs that include MS Windows® 95)

Portable PC Upgrades

- Gateway Solo™ Mini Docking Station $199
- Gateway Solo Docking Station $599
- 33.6 Data**/14.4 Fax Modem $200
- Extra 2100/2200 Lithium Ion Battery $190
- Extra 2300/9100 12- Cell Lithium Ion Battery $250

***Maximum data transfer rate dependent an certain variables including particular modems with which you are communicating, telephone lines, cammunicatians saftware and communicatians pratocals*

Destination™ Big Screen PC/TV Upgrades

- harman/kardon® High-Fidelity Sound System
  Seven-piece Dolby Pro Logic® Surround Sound system including AVR-10 audio/video receiver with remote, subwoofer, center channel, and four satellites. *(Upgrade from Boston Acoustics® MicroMedia™ 3-Piece Speaker System)* $400
- EasyPhoto Drive™ Photo Scanner Upgrade $149
- Additonal Destination 31-Inch VGA Color Monitor $999
  (Call for details.)

Service & Support for Desktop Systems

GATEWAY GOLD™ PREMIUM

Extended Three-Year On-Site Agreement†† including priority 800 number for access to technical experts.

- At time of system purchase $99
- Within current on-site service agreement $129

For our complete line of software and peripherals call GATEWAY™ component add-on sales at 800-846-2080.
Sales Hours: 7am-10pm Weekdays (CT).

††On-site service is available ta mast locatians in the continental United States. Alaska, Hawaii, Puerta Rica and Canada after you and yaur Gateway technician determine an on-site visit is necessary. On-site service is provided by PC Technology Services, Inc. On-site is nat available far any monitar, mouse, keyboard, or portable system. Write or call far a free copy of the on-site service agreement.

MMX™ intel inside pentium® PROCESSOR

Extras *(Available to existing customers and new Gateway customers with system purchase.)*

GATEWAY SELECT

Our Gateway Select program lets you know you're getting software that meets or exceeds our standards for quality, value and ease of use.

Software

- **Games & Entertainment Pack II** Includes Bug!™; DeadLock™; MechWarrior® 2: Mercenaries™; 9™; PitFall: The Mayan Adventure®; SPQR: The Empire's Darkest Hour™; and PC ProPad gaming device. $99
- **Finance Pack II** *(U.S. Shipment Only)* Includes Quicken® Deluxe 6; Quicken Financial Planner™ 2; Quicken Family Lawyer™ 7; and Quicken Parents' Guide to Money.™ $69
- **Kid's BackPack™ IV** Includes Math Blaster®: In Search Of Spot; Freddi Fish™ And The Case Of The Missing Kelp Seeds;™ Pajama Sam™ In "No Need To Hide When It's Dark Outside,"™ Just Me And My Mom;™ and Muppet Treasure Island.™ $59
- **Education Bundle Grades K-3** Includes Ultimate Children's Encyclopedia;™ Reader Rabbit;® Math Rabbit;® Interactive Math Journey;™ Interactive Reading Journey;™ Paint, Write & Play;™ Let's Start Learning.™ $99
- **Education Bundle Grades 4-8** Includes Super Solvers® Gismos & Gadgets!;® Super Solvers Outnumbered!;® Student Writing Center;™ Logic Quest;™ The Oregon Trail;® Ultimate Writing and Creativity Center.™ $99

Extras

- MS SideWinder™ 3D Pro Joystick $59
- APC® Back-UPS® Office $199
- APC 650 Pro UPS $329
- Epson® PhotoPlus™ Color Photo Scanner $199
- Epson PhotoPC™ 500 Digital Camera $499
- Visioneer™ PaperPort Vx™ Scanner $249
  ($199 after $50 manufacturer's rebate)

Printers *(Each printer includes cable and ink cartridge.)*

- Epson Stylus® Color 400 Ink Jet Printer $229
- Epson Stylus Color 600 Ink Jet Printer $299
- Epson Stylus Color 800 Ink Jet Printer $449
- Hewlett®-Packard DeskJet 694C Color Printer $299
- Hewlett-Packard DeskJet 820Cse Color Printer $299
- Hewlett-Packard LaserJet 6Pse Laser Printer $799
- Hewlett-Packard LaserJet 5se Laser Printer $1049

GATEWAY2000
"You've got a friend in the business."®

800-216-3340

www.gateway.com

Toll free from Canada 800-846-3609

Toll free from Puerto Rico 800-846-3613

610 Gateway Drive • P.O. Box 2000 • N. Sioux City, SD 57049-2000 • Phone 605-232-2000
TDD 800-846-1778 • Fax 605-232-2023 • FaxBack 800-846-4526 • International FaxBack Access 605-232-2561
Component Add-On Sales 800-846-2080 • Sales Hours: 7am-10pm Weekdays, 8am-8pm Saturdays & Sundays (CT)

© 1997 Gateway 2000, Inc. GATEWAY 2000, CrystalScan, black-and-white spot design, EZ Pad, Field Mouse, "G" logo, TelePath, Vivitron and "You've got a friend in the business" slogan are registered trademarks, and Destination, GATEWAY, Gateway Gold, Kid's BackPack and Gateway Solo are trademarks of Gateway 2000, Inc. The Intel Inside Logo, Intel and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. ViRGE is a trademark of S3. All other brands and product names are trademarks or registered trademarks of their respective companies. All prices and configurations are subject to change without notice or obligation. Prices do not include shipping or applicable sales tax. Many Gateway 2000 products are custom engineered to Gateway 2000 specifications, which may vary from the retail versions of the software and/or hardware in functionality, performance or compatibility. *Financing available on approved credit issued and administered by MBNA America® Bank, N.A. Payments based on 36-month term at an Annual Percentage Rate as low as 14.9%. †Leasing arranged by independent leasing companies to qualified commercial customers. Lease payments based on 36-month term. Lease terms subject to change without notice or obligation.

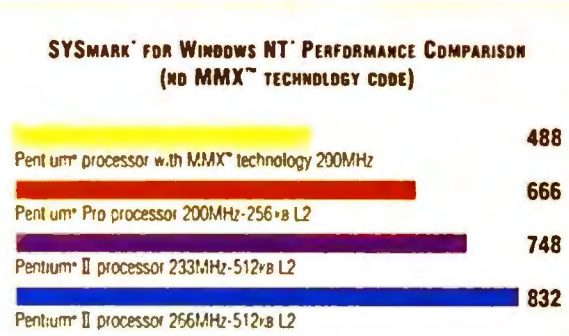
Welcome to chapter two.

The new Pentium® II processor. Read on.

When it comes to microprocessors. Intel wrote the book. That's why our new Pentium® II processor offers even more power than the Pentium® Pro processor and all the benefits of Intel MMX™ media enhancement technology.

Its sleek new package incorporates Intel's Dual Independent Bus architecture, an advanced design that uses two separate buses—one linked to the L2 cache and the other dedicated to the main memory. This allows the processor to access data from either of its buses simultaneously and in parallel rather than in a singular sequential manner. The result is faster information transfer and a boost in overall performance.†

The new Intel Pentium II processor. It's everything you need for your next chapter in desktop computing. To find out more, visit our Web site.



► www.intel.com/PentiumII

intel®
The Computer Inside.™

© 1997 Intel Corporation. *All other trademarks are the property of their respective owners. †As compared to Pentium® processor-based systems without Dual Independent Bus architecture as measured by the SYSmark® for Windows NT® Performance Comparison (no MMX™ technology code).

pentium® II
PROCESSOR
intel.

A MOTHER BOARD DOESN'T CARE WHO YOU ARE, WHAT YOU NEED, OR IF YOU EVEN KNOW WHERE IT IS.

MMX™ intel inside pentium® PROCESSOR

We'll show you. *A mother board is made of metal, plastic, and solder—materials which have yet to show signs of human compassion. It doesn't care if you need to upgrade it, or get at anything around it. To help out, AST® introduces the FlexChassis design—a feature that allows easy access to the system's major components in seconds. No tools required. Since even the best technology will one day need upgrading, AST is here to help you do it right. For more information about AST Bravo PCs featuring Intel® Pentium® processors, call 1-800-945-2278.*

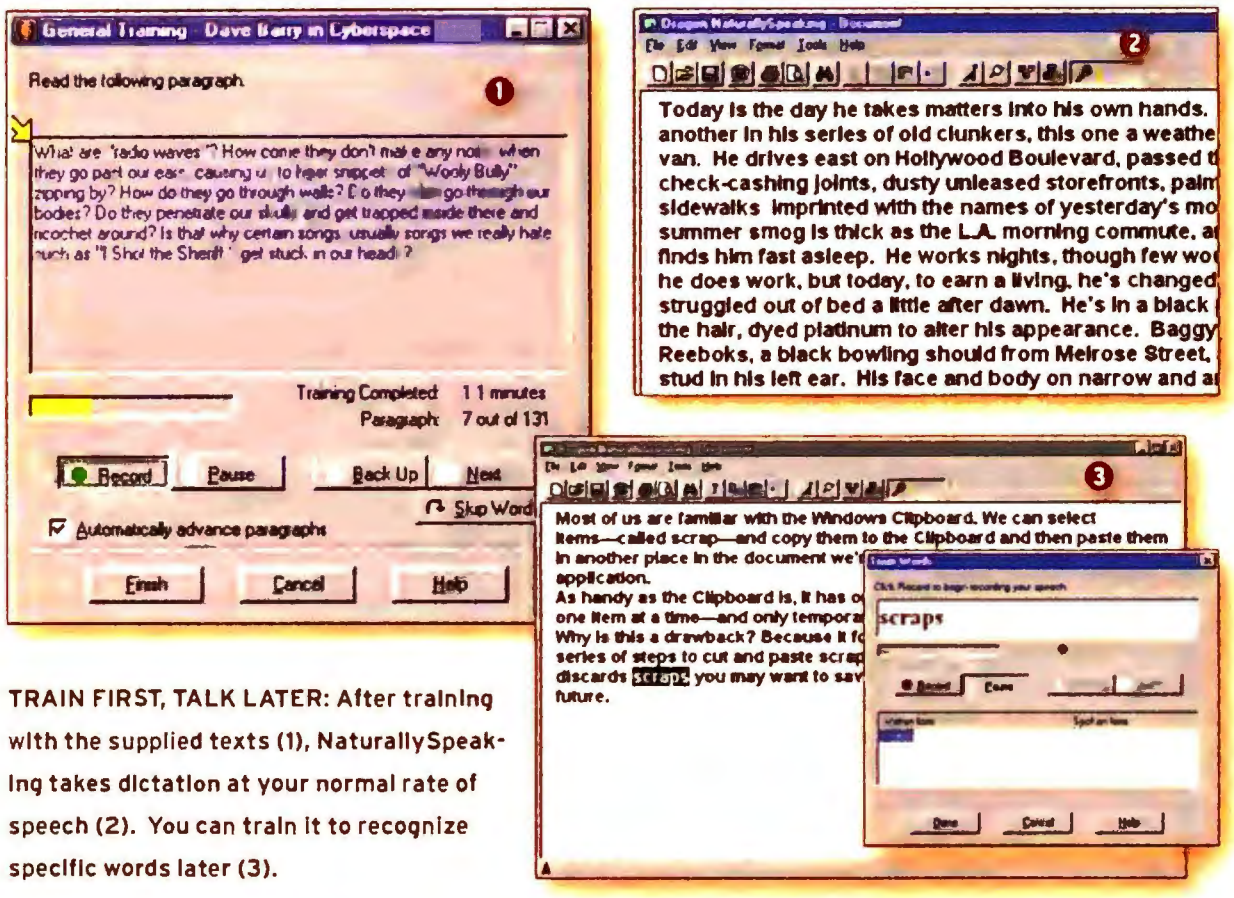
Bravo MS (Desktop and Mini-Tower)	Up to 3 GB UltraDMA-33 hard drive	512 KB L2 cache	Includes choice of Microsoft® Windows® 95 or Windows NT® 4.0
Up to 200 MHz Intel Pentium processor with MMX™ technology	Up to 32 MB of SDRAM expandable to 256 MB	10/100 Ethernet for high performance network communications	Easy manageability with brand name software support utilities • Intel LANDesk™ 3.0 • McAfee® VirusScan™ and WebScan™
	2 MB graphics memory expandable to 6 MB	16X maximum speed CD-ROM	

AST® COMPUTER
Working for your business.™

©1997 AST Research, Inc. All rights reserved. AST and the AST logo are registered trademarks and Working For Your Business is a trademark of AST Research, Inc. The Intel Inside Logo and Pentium are registered trademarks and LANDesk and MMX are trademarks of the Intel Corporation. Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation. McAfee is a registered trademark and VirusScan and WebScan are trademarks of McAfee Associates, Inc.

NEW PRODUCTS

NaturallySpeaking: Voice Recognition Breakthrough



TRAIN FIRST, TALK LATER: After training with the supplied texts (1), NaturallySpeaking takes dictation at your normal rate of speech (2). You can train it to recognize specific words later (3).

DICTATION THE ABILITY TO comprehend language as it's normally spoken has long been the Holy Grail of speech-recognition software, not to mention one of technology's more elusive goals. Up until now, such products could capture only discrete speech—you had to pause between words—which in turn meant slow, tedious dictation.

Not any more. Dragon Systems' breakthrough product, NaturallySpeaking, lets you talk to your computer in so-called continuous speech, as you would converse with a fellow human being.

I was amazed when I tried the beta version of NaturallySpeaking. It recognized words as I spoke, at my pace—about 100 words per minute or better—whereas most discrete-speech products are limited to a recognition rate of 25 to 30 wpm. And the accuracy of the program was almost scary. It missed maybe two words per hundred.

NaturallySpeaking has some drawbacks. Setting it up takes more time than setting up a discrete-speech program because you have to train this product to recognize your voice patterns. This process takes about 20 minutes and consists of reading excerpts from Arthur C. Clarke's *3001: The Final Odyssey* or Dave Barry's *Barry in Cyberspace* (texts are included with the program). Although discrete-speech programs may work right out of the box, training may still be required if the software doesn't understand your accent.

Dragon says that NaturallySpeaking has been used successfully by people with different accents, but I found that it could do only so much with heavy regional speech patterns like my pronounced Boston accent. For example, the software kept interpreting the word *part* as *pot*, and even when I did train it to recognize *part*, it interpreted *pot* as *part*—perhaps because the words sound identical when I speak them.

NaturallySpeaking also requires a lot of horsepower: Your Windows 95 PC will need 32MB of RAM—48MB is recommended with Windows NT—plus 60MB of hard disk space and a Pentium-133 processor (although the program worked adequately on a Pentium-90 machine).

Unlike Dragon's discrete-speech products, which can be used with popular applications such as Microsoft Word, NaturallySpeaking runs in its own word processor that has more in common with Windows

NaturallySpeaking 1.0

PRO: Only dictation program that recognizes true continuous speech.
CON: Requires training, works only in its own word processor.
VALUE: Expensive, but priceless for dictation-oriented professionals or those who can't type.
Dragon Systems
800/825-5897
www.naturalspeech.com
Street price: $695
READER SERVICE NO. 747

Wordpad than Word. Two features that I sorely missed were the ability to create outlines and the word- and character-counting utility.

NaturallySpeaking's word processor does accept voice commands for all its functions; however, any documents you create have to be pasted in or exported to other Windows 95 applications.

Finally, there's the price. At $695, NaturallySpeaking isn't for technodabblers. But for dictation-oriented professionals such as doctors or lawyers, and those with repetitive strain injuries or other disabilities that make typing difficult or impossible, this application is a quantum leap forward over previous options.

—John P. Mello Jr.

Xerox, Minolta Color Lasers: The Cheapest Yet

PRINTER

HAVING PROVED that color lasers can produce high-quality graphics on plain paper while printing fast enough for ordinary office use, printer vendors are now tackling the units' prices.

Xerox's new DocuPrint C55 should sell for about $3500; its upscale sibling, the DocuPrint C55mp with Adobe PostScript and ethernet, is expected to sell for $4500. Minolta's Color PageWorks, meanwhile, should check in at around $3000. All three printers are rated by the vendors at the same 600-dpi output and the same 3-ppm color and 12-ppm monochrome speeds as Lexmark's Optra C and Apple's Color LaserWriter, each of which at this writing goes for about $6000.

COLOR IT CHEAP: Xerox's DocuPrint C55 undercuts some competitors by $2500.

Both DocuPrint units include 30MB of memory and a 250-sheet paper tray. You also get a manual-feed tray, which is uncommon for a network printer: The driver lets you delay a manual-feed job while you stroll over, slip in your odd-format paper, and activate the job by giving a command on the control panel menu.

Xerox loaded the DocuPrint driver with other great features, too. It can convert color graphics to a monochrome format designed to fax well and can create proofs in black and blue to cut printing time. In informal tests of a shipping unit, the DocuPrint C55mp printed color at about the same speed as the Lexmark and Apple color lasers, but I was pleasantly surprised to see significantly faster text speed. I pulled great color and clean text from the C55mp and found its control panel very straightforward.

Graphics professionals will appreciate the DocuPrint's color-calibration schemes and halftone and overprinting controls. For network administrators, there's a built-in Web browser for remote configuration, including automatic downloading of new drivers from Xerox's Web site.

Both DocuPrint models have a relatively small footprint—18 inches wide, 16 inches deep, and 16 inches high—but weigh nearly 90 pounds. With their full complement of graphics and network features, either printer could satisfy all users in a typical workgroup or small office requiring lots of fast, high-quality color printing.

Minolta's printer didn't arrive in time for testing. However, its mere 4MB of memory may be a cause for concern. Minolta says that its imaging model reduces memory requirements but that adding memory improves image quality.

A 250-sheet paper tray and 150-sheet multipurpose tray come as standard equipment on the Color PageWorks; Adobe PostScript lists as an option for a very steep $749.

—Dan Littman ▶

Xerox DocuPrint C55, C55mp

PRO: Great quality, useful controls.

CON: None.

VALUE: Attractive for business users and graphics pros.

Xerox

800/349-3769

www.xerox.networkprinters.com

Street price: $3500 (C55), $4500 (C55mp)

READER SERVICE NO. 748

Minolta Color PageWorks

PRO: Excellent price, good paper-handling features.

CON: Short on memory, few special features.

VALUE: Too soon to say.

Minolta

888/264-6658

www.minoltaprinters.com

Street price: $2995, Adobe PostScript $749

READER SERVICE NO. 749

EDITED BY

Yardena Arar and Laurianne McLaughlin

INTERNET

online

FOR MORE PRODUCT news and the latest announcements, check out the PC World Daily News Service at www.pcworld.com/news.

CONTENTS

80 Dragon NaturallySpeaking
81 Xerox DocuPrint C55, C55mp and Minolta Color PageWorks
84 Panasonic PanaFlat PF70
84 NEC SuperScript 1260
84 Epson Stylus Color 1520
90 HP LaserJet Companion
90 Matrox Rainbow Runner Studio
97 Backpack Bantam
97 Compaq-RCA PC Theatre
97 Quantum Fireball ST hard drive
98 Psion Series 5 PDA
98 Mitsubishi MobileAccess 110
98 Puma IntelliSync PDA synchronizer
100 Hitachi MP EG1A camera
100 Kodak DVC 300 USB camera
100 Cirque Power Cat
102 Compro, Panasonic, Plextor, Toshiba CD-ROM drives
108 MetaCreations Painter 5
108 Before & After, PhotoMate
108 AutoCAD 14
111 Simply Accounting 5.0
112 ZipMagic 1.0, WinZip 6.3
112 AproveIt 3.0
115 Time & Profit 2.0

Introducing the TravelMate® 7000

- Single 7-hour battery
- 166MHz Intel® Pentium® processor with MMX™ technology
- 32MB RAM
- 2.0GB/3.0GB hard drive
- 12.1" active matrix screen
- 10X CD-ROM
- 33.6 Kbs internal fax modem
- DockMate III (optional)
- 7.5 lbs.
- Windows® 95 or Windows® NT
- Wireless LAN ready

THE 7-HOUR

TravelMate 7000 is at home at the office or on the road. And, it has the brains to know the difference.

With a single battery that keeps you fully-functional for 7-hours*, the Texas Instruments® TravelMate® 7000** outperforms any mobile solution in its class. Snap it into the automatically configuring DockMate™ III and you have a desktop that easily connects to all your peripherals. With cutting-edge technology, it's no wonder Acer® is the fourth largest notebook manufacturer in the world. Just look at the TravelMate 7000. You won't find anything more intelligent.

VeriTest Battery Life Results in Hours***	
TravelMate 7000 (166MHz MMX)	7:26
IBM ThinkPad 760ED (133MHz)	2:38
Toshiba Tecra 720 CDT (133MHz)	2:38
Dell Latitude XPi (150MHz)	4:15
HP Omnibook 5500 CS (120MHz)	2:35

MMX™ intel inside pentium® PROCESSOR

TEXAS INSTRUMENTS®

ACER®

1-800-558-ACER *www.acer.com/aac/*

**TravelMate 7000 and DockMate III are products of Acer America Corporation, developed with Texas Instruments.

©1997 Acer America Corporation. Acer and the Acer logo are registered trademarks of Acer America Corporation and Acer Inc. TravelMate and DockMate are registered trademarks of Acer Inc. Texas Instruments and the Texas Instruments logo are registered trademarks of Texas Instruments Incorporated. Intel, The Intel Inside Logo, and Pentium are registered trademarks, and MMX is a trademark, of Intel Corporation. Windows, Windows 95, and Windows NT are registered trademarks of Microsoft Corporation.
*7-hour battery life based on VeriTest Cross Country test March 1997 running Windows 95. ***Full results available at www.veritest.com/tm7000xc.htm

ViewSonic®
makes your bright ideas brilliant.

The PJ800 projects a sharp, crisp image even in well-lit rooms.

The new Macintosh and PC compatible PJ800 is a 3-panel (1.3" each) LCD Projector that provides rich screen colors and eliminates the "wash out" typical on most 1-panel LCD projectors. Its eye-opening 800 x 600 true resolution brightens any presentation. And with Advanced Video Compression, you can get 1,024 x 768 resolution while the images stay as sharp as if they were not compressed. With a 200:1 contrast ratio, you can project anywhere from 30" to 300" diagonal with confidence. It comes complete with a remote control and a 260 watt B.C. metal halide lamp that lasts up to five years with normal use. What a brilliant solution to your A/V needs.

PJ800
550 ANSI Lumens
3-panel 1.3" Active LCD
3,000 hour, 260W DC Metal Halide Lamp
800 x 600 (SVGA) or 1,024 x 768 w/Advanced Video Compression
Macintosh® & PC Compatible

Brilliant. But then, that's why ViewSonic is "The Display Technology® Company."

ViewSonic backs the new PJ800 with the brilliance and value that have helped us explore and conquer new fields of visual excitement. In addition, the PJ800 is backed by our limited 3-year warranty on parts & labor.*

For more information call ViewSonic at (800) 888-8583 and ask for agent 7577, or visit our website at: www.viewsonic.com.

Remote control included

(909) 869-7976 Fax. (909) 869-7958 • Internet www.viewsonic.com • Specifications subject to change without notice
© Copyright 1997, ViewSonic Corporation • All rights reserved • *90 Day Warranty on Lamp

ViewSonic®

Circle 246 on reader service card

Panasonic Flattens the CRT Curve

MONITOR

THE CRT UNIVERSE is no longer completely round. Built with Matsushita's new Pure Flat color display tube, Panasonic's 17-inch PanaFlat PF70 monitor is so flat that it initially looks almost concave.

What's so great about a flat-screen monitor? Most PC users aren't overly troubled by the bowing effect resulting from the convex shape of most display tubes. But anybody who works with graphics or precise design knows that even the best conventional monitors suffer from some distortion at the corners and edges, where the image contracts because of the tube's shape.

Flat-panel LCDs virtually eliminate the problem, but they're expensive—typically $2500 and up for a display comparable in size to the PanaFlat's 15.7-inch viewable area. At $829, the PanaFlat PF70 is one of the more expensive 17-inch CRT displays on the market; for example, it costs $131 more than the Iiyama Vision Master Pro 17, the reigning Best Buy on our 17-inch Monitors chart (see July Top 100). But the chart also has pricier models than the PanaFlat, and the monitor doesn't seem overpriced considering its almost distortion-free high-resolution (1600 by 1280, .24mm slot pitch) display.

PANASONIC'S FLAT-SCREEN monitor delivers crisp, nearly distortion-free images.

In informal tests, the PanaFlat PF70 displayed crisp, bright spreadsheets, text, and images; once you use it for a while, you won't even notice that slight concave effect. If you're in the market for a high-quality 17-inch monitor, you'll definitely want to consider this pioneering model.

—Yardena Arar

PanaFlat PF70

PRO: Flat CRT screen is nearly distortion free, excellent overall image quality.

CON: Expensive.

VALUE: Well worth a few extra bucks if you're a graphics pro.

Panasonic

800/342-8086

www.panasonic.com/alive

Street price: $829

READER SERVICE NO. 750

NEC Sets New Low Price for 12-ppm Lasers

PRINTER

NEC HAS SET a new price/performance standard with the SuperScript 1260. This 600-dots-per-inch laser outputs at up to 12 pages per minute and will sell for $799—or about $500 less than its main competitor, the 12-ppm, 600-dpi Hewlett-Packard LaserJet 5. (For $799, HP would sell you its 8-ppm LaserJet 6P.) NEC is giving you more printer for the money as it tries to move in on the market leader's turf.

Preliminary tests indicated that the SuperScript 1260's speed is on a par with other 12-ppm printers we've tested. The 1260 also comes with Adobe's PrintGear 1.1 technology, which radically reduces wait times when several documents are sent to a network printer. The included PrintGear software lets you print booklets, posters, and other complex jobs.

As for paper handling, the SuperScript 1260 comes with a 250-sheet paper tray and an 80-sheet multipurpose tray; another 500-sheet tray and a 50-envelope tray are optional. You can use the printer's manual-feed slot for envelopes, transparencies, and other kinds of special stock.

An optional $299 network interface card provides connection to TCP/IP, Novell NetWare 3.1*x* and 4.*x*, Windows NT, Windows 95, and EtherTalk networks.

Like many other printer makers, NEC now equips its networkable models with software that lets you use your Web browser to check on problems and otherwise administer the printer from remote locations. For a fast network laser printer, this is one of the best deals around.

—Laurianne McLaughlin ▶

NEC SuperScript 1260

PRO: Groundbreaking price, comes with Adobe PrintGear 1.1.

CON: None.

VALUE: Quite a deal.

NEC Technologies

800/632-4636

www.nec.com

Street price: $799

READER SERVICE NO. 752

Epson's Big Printer

Want to print large displays for presentations, for employee training sessions, or even to show off your work in the office lobby? Graphics professionals have used wide-format ink jets, which hold a broad range of paper sizes, for years. But with an estimated street price of $799, the Epson Stylus Color 1520 is the first one that's affordable enough for business use. This 1440-dpi printer handles precise jobs such as line drawings, maps, and design layouts, as well as general text and presentation materials. The input tray holds paper sized from 4 by 4 inches up to 17 by 22 inches. An optional attachment allows continuous printing of long banners. The 1520 isn't speedy: It's rated at up to 6 ppm for monochrome and 5 ppm for color, but expect considerably slower speeds for oversize prints with lots of color. Still, you'll value the 1520's paper-handling flexibility. Epson; 800/463-7766; www.epson.com.

—Laurianne McLaughlin

6 ppm

True 600 dpi

Laser Printing

Print like the Fortune 500 for under $300.

Why choose between advanced technology and affordability? Not just "laser quality," the new Mita DP-560 offers true 600 DPI B/W laser printing. It prints from any Windows® 3.1 or Windows® 95 application at up to 6 PPM and has a full 1 MB of memory. Best of all, the compact DP-560 is priced below $300.* so now even the smallest of small businesses can afford to look like the big guys.

mita can help

www.mita.com

* Expected selling price. ©1997 Mita Copystar America, Inc. Windows is a registered trademark of Microsoft Corporation. As an ENERGY STAR Partner, Mita Copystar America, Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

6 ppm

True 600 dpi

Laser Printing

After leading

the industry

in portables

for years, we've

set our sights

on something

bigger.

©1997 Toshiba America Information Systems, Inc. Equium and Secure Sleep are trademarks of Toshiba America Information Systems, Inc. All specifications and availability are subject to change. All products indicated by trademark symbols are trademarked and/or registered by their respective companies. The Intel Inside Logo, Pentium and are registered trademarks and the Pentium Processor Logo and the Pentium Pro Processor Logo are trademarks of Intel Corporation. *Secure Sleep is not available with dual processor support.

Introducing the Toshiba Equium.™

We know you have high expectations. So when you asked for a new line of business systems, we put the same ingenuity, quality and design you've come to expect from our portables into our new Equium line. With our history of technical excellence, you can be sure they are powerful and reliable computers. Offering you proven quality and delivering the right tools to help you maintain a competitive edge.

The Equium line incorporates features that increase productivity and manageability. Like the latest Intel processors, system monitoring software and robust security. And with Toshiba's sleep button, with Secure Sleep™ and Instant On features, you'll save time and money.

There's even room for growth, provided by enough system memory and hard disk capacity to handle your future application needs. But there's more to building a better computer than just great features. Relationships are a key component to our success. Working with strategic partners and most importantly, keeping an open dialogue with you to create solutions together. To bring you the best products possible like our new Equium line of computers.

Find out more about it. Call 1-800-457-7777 or look us up on the Web at http://equium.toshiba.com

In Touch with Tomorrow
TOSHIBA

Circle 234 on reader service card

PRODUCTIVITY ADVANTAGES
Designed to enhance productivity with Intel Pentium® Pro processor, Windows NT®, Instant On and Secure Sleep features. Saving you time, energy and money.

BUILT-IN MANAGEABILITY
DMI 2.0 support and Intel LANDesk® client manager software allow easy system management to lower your total cost of owning a computer.

PROTECTING YOUR INVESTMENT
A rich feature set offers performance and value today and in the future with 10/100 Ethernet, USB ports and enough system memory and hard disk capacity to handle future application needs.

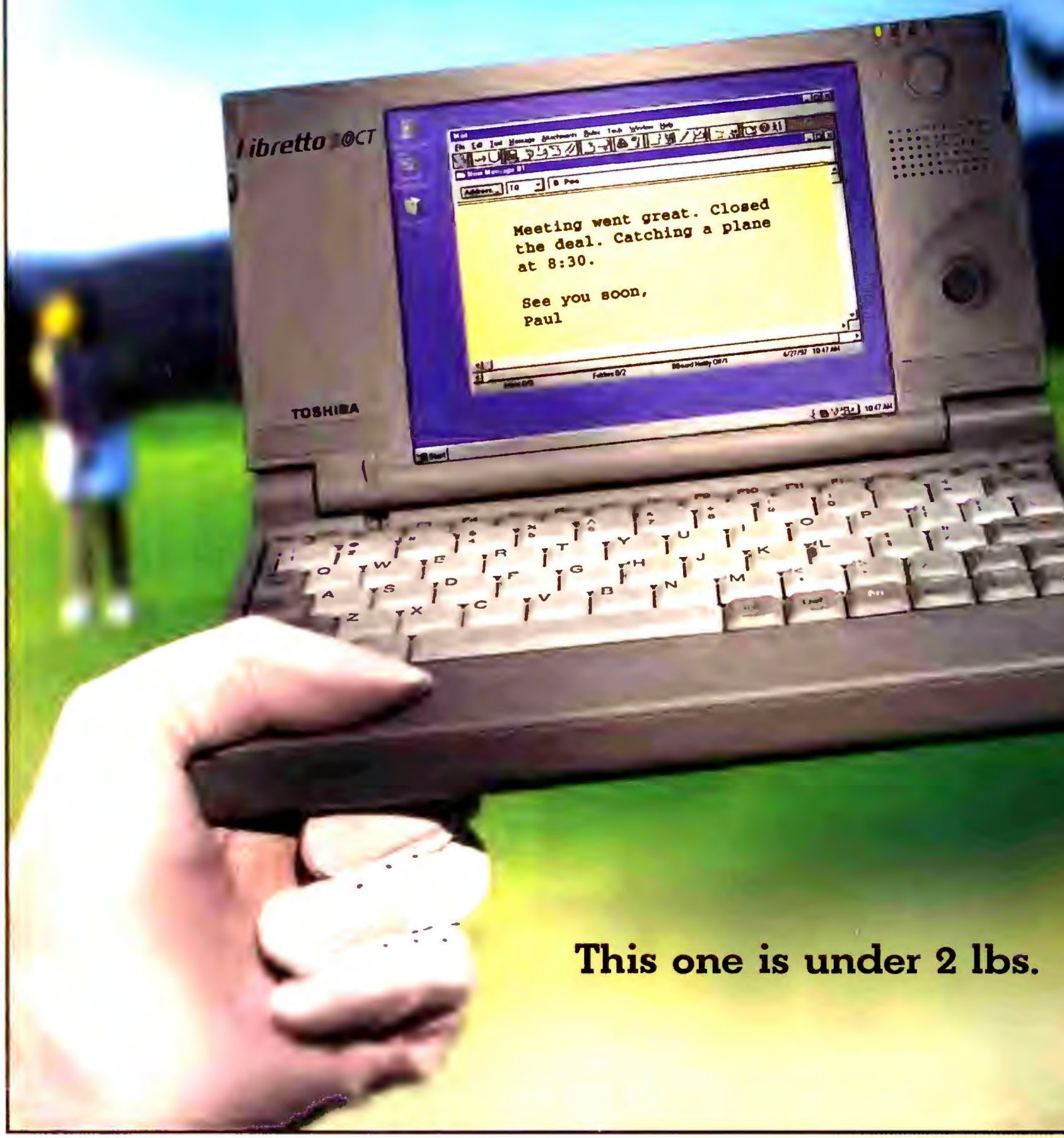
QUALITY AND RELIABILITY
You can rely on Toshiba, the world leader in portable technology, to bring you the same quality and ingenuity in our new Equium line.

Equium 6200M

- 200MHz Pentium Pro Processor
- Dual processor support
- 32MB EDO DRAM, expandable to 512MB
- 4.5 billion byte (4.24GB) ultra wide SCSI hard drive
- 12X IDE CD-ROM
- PCI ATI 3D RAGE™ II+ video controller
- 2MB SGRAM video memory expandable to 4MB
- Sound Blaster® Pro compatible
- 3 PCI, 1 PCI/ISA (shared) expansion slots
- 4 external, 2 internal drive bays
- 2 USB, 1 serial, 1 parallel ports
- Integrated Intel EtherExpress™ Pro 100B 10/100Mbps Ethernet®
- 200-watt power supply
- Sleep button with Instant On and Secure Sleep*
- Microsoft® Windows NT Workstation
- Intel LANDesk Client Manager
- DMI 2.0
- Security features: chassis intrusion alert and key lock port
- 3 year limited warranty with one year on site

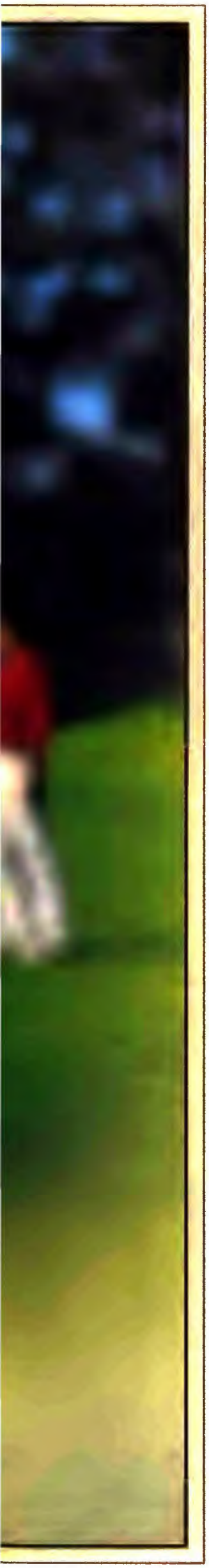
Desktop, mobile and tower configurations are available

As the industry leader, we're used to making big announcements.



This one is under 2 lbs.

1997 Toshiba America Information Systems, Inc. All specifications and availability are subject to change. All products indicated by trademark symbols are trademarked and/or registered by their respective companies. Intel Inside and Pentium Processor Logos are registered trademarks of Intel Corporation.



Introducing the new Libretto. The 1.85 lb. phenomenon.

Don't let the size fool you. What you're looking at is the innovation that will set the highest of industry standards in the tiniest of places. Capable of running Windows® 95, yet compact and light enough to fit in the palm of your hand. There is no other computer like it. Introducing the Libretto® 50CT. The first portable of its kind. A mini-notebook that allows you to access e-mail, work on spreadsheets or even update your handicap from just about any fairway. So light and small it's the perfect communication and information manager. With the Libretto you'll definitely improve your game. And everything we do is designed to provide you with the tools to do just that. After all, we share a simple philosophy. **Always Lead.™**

SIZE AND WEIGHT

At 8.3" x 4.5" x 1.3" and only 1.85 lbs., the Libretto is so small and light it's the perfect companion.

intel inside
pentium processor

PENTIUM® PROCESSOR

A powerful Pentium® processor delivers all the performance you need.

CONNECTIVITY

With the PC card slot you can stay connected with a modem and hook up to a floppy disk drive or CD-ROM. Experience wireless connectivity with built-in infrared capabilities.

Designed for Microsoft® Windows®95

WINDOWS 95 PERFORMANCE

The only mini-notebook to run Windows 95.

LIBRETTO 50CT

- 6.1" dia. active-matrix TFT color display, 640 x 480 resolution
- 75MHz (2.9v) Pentium® processor, 16KB internal cache
- 810 million byte (=772MB) HDD
- 16MB EDO DRAM (expandable to 32MB)
- Built-in 16-bit audio with internal speaker
- External floppy disk drive
- One Type II PC Card slot supports modem, floppy disk drive or optional CD-ROM drive
- Serial Infrared IrDA compliant port
- Lithium Ion battery
- Libretto Accupoint™ pointing device
- 1.85 lbs
- 8.3" x 4.5" x 1.3"
- Optional Enhanced Port Replicator or optional Port Expander
- Windows 95 standard
- 1-year limited warranty
- Toll free technical support - 7 days a week, 24 hours a day

For more information, visit http://computers.toshiba.com, or call 1-800-457-7777.

In Touch with Tomorrow
TOSHIBA

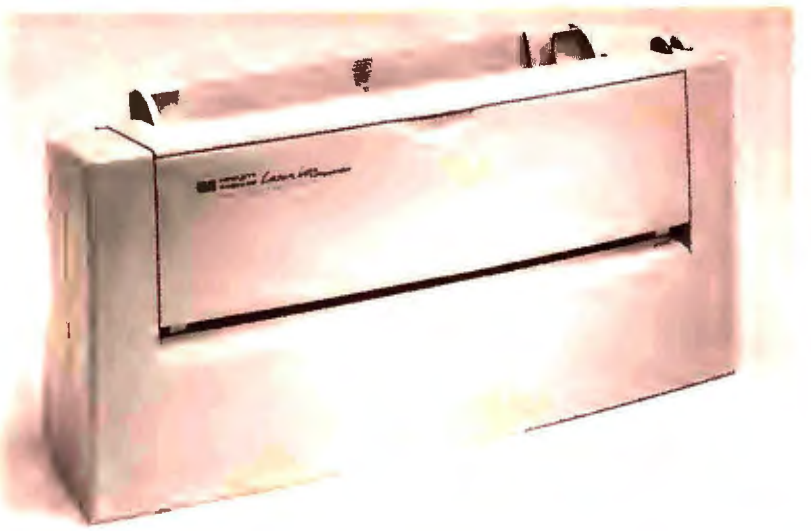
Circle 233 on reader service card

Instant All-in-One: HP LaserJet Companion

SCANNER

MULTIFUNCTION devices—machines that can print, scan, copy, and fax—are hot: Just about every major printer vendor now makes one. And no wonder. These so-called all-in-ones save money, cut down on desk clutter, and integrate office functions that would normally remain separate.

But if you already own a printer and fax-modem, you're probably not eager to drop another $500 to $1000 for a device that duplicates their functions. Now you don't have to: Hewlett-Packard's $249 LaserJet Companion connects to your PC and to a LaserJet 4 or 5 series, 6P, or the new 6L printer (see Top 10 Printers) and turns it into a combination fax machine and copier.



TWO BUTTONS are all the HP LaserJet Companion needs—one to scan in documents, the other to send them to your printer for copies.

Drop a document in the Companion's 300-dpi, 8-bit gray-scale scanner, push a button, and—voilà!—make a copy. Push another button, and the Companion scans the document, converts it to fax format, saves it on your hard drive, and instructs your fax-modem program to send it. You can put a stack of paper into the automatic document feeder, and you can scan anything up to 30 inches long. The Companion comes with Caere's OmniPage Lite OCR package and Visioneer's PaperPort software, which lets you label, annotate, and group scanned documents into archives like stacks of on-screen index cards.

Because of its circuitous approach to faxing (documents are scanned, saved to disk, converted to a fax format, and then sent by your fax software), I found the Companion less convenient for faxing than a self-contained multifunction device, which performs all of these tasks in one step.

Also, all-in-ones typically can do things that most fax-modem software can't, such as polling remote fax machines or password-protecting outgoing faxes. But at half the size and weight of a notebook PC, the Companion can travel with you, and it scans and faxes with no printer attached.

—Dan Littman

HP LaserJet Companion

PRO: Inexpensive, integrates well with printers.

CON: Inconvenient for faxing.

VALUE: Worth considering if you already have an HP LaserJet.

Hewlett-Packard

800/752-0900

www.hp.com

Street price: $249

READER SERVICE NO. 753

Matrox's Two-Card Video Studio

VIDEO CARD

ALTHOUGH ATI AND MIRO both boast of offering complete video editing packages, Matrox's $279 Rainbow Runner Studio is the only true all-in-one solution for your video needs. Whether you need videoconferencing or video editing, this device—along with a camera—can do it all.

I tried a preproduction model of the Rainbow Runner Studio with several peripherals (including a VCR, camcorder, and TV set) and used the bundled Ulead iPhoto Express software to grab and edit screens without a hitch. Setting it up was the most difficult part, especially considering that it is a daughtercard to the separately sold $159 Matrox Mystique graphics card, which must be installed first. But step-by-step instructions and diagrams made things a bit easier.

Video from the VCR and camcorder can be edited using a straightforward cut-and-paste interface, making it easy to create storyboards and compile video, sound, titles, and special effects. Hook the Rainbow Runner Studio up to the TV, and you can program your PC to scan for keywords in closed-captioned text. When a match is found, the TV video window pops open, letting you watch the results of your search while working in another application.

I then easily reversed the input to output so the TV would display what was on our computer, be it a video game or a presentation. The card also comes bundled with VDOnet's VDOPhone software for inexpensive, if mediocre, videoconferencing over the Internet.

The Rainbow Runner Studio is an excellent, inexpensive tool for training videos, presentations, and no-frills videoconferencing. No other card matches its versatility.

—Shane Mooney ▶

Matrox Rainbow Runner Studio

PRO: Caters to all video needs.

CON: Complicated setup, Matrox Mystique card required.

VALUE: Great for businesses and hobbyists alike.

Matrox

800/361-1408

www.matrox.com

Street price: $279 (plus $159 for Matrox Mystique card)

READER SERVICE NO. 754

It's a No Brainer.

A. It's as fast as they come, and then some.

B. It's technologically, the state-of-the-state-of-the-art.

C. Its components are made by the best of the best.

D. It's got 7-day, 24-hour technical support from live human beings

E. It's been commended and recommended by all the trade books.

F. It has a loyal following that swear by it - not at it.

G. And, here's the kicker. It actually costs less!

Now Why Would You Consider Anything Else?

MMX™ intel inside pentium® II processor

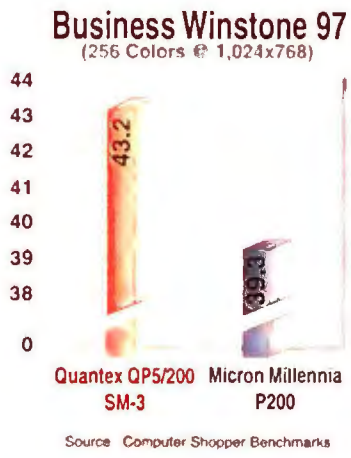
GOOD CHOICE.℠

Choosing the right PC is as easy

A.

Top-Rated Performance

Quantex systems aren't just built to perform, they're built to out-perform. We're always raising the bar on standards a notch or two. We engineer our systems to the Nth degree and put everything through the toughest quality control tests. Just some of the reasons why Quantex PCs always put on a great performance.



B.

Cutting-Edge Technology

If it's the newest, the fastest, or the most innovative development, you can bet Quantex will be one of the first to have it. We pride ourselves on being a leader, not a follower. Being among the first to incorporate the Pentium® II processor, K56flex modems and DVD into our systems are just a few examples of this forward thinking.

- ☑ **Pentium® II Processor**
- ☑ **K56 Flex Modem**
- ☑ **DVD**

C.

Brand-Name Components

Look inside any Quantex PC and you'll see lots of names you recognize. That's because we only use components made by the undisputed leaders in the PC industry. The best of the best! Why are we so fussy? Simple. At Quantex, we know a PC is only as good as the sum of its parts.

Windows Magazine, 6/97

"Peek inside the QP5/200 SM-2's mini-tower case and you will find (it) filled with wall-to-wall name-brand peripherals."

D.

Living, Breathing 24-hour support

We provide expert technical support 24 hours a day, 7-days a week. Talk to real-live people who will solv your problem - not a frustrating know-nothing recording. On top of that, over 95% of incoming calls are answered in less than three minutes

---

PC World, 5/97

"Quantex provides important bene fits like (all)-weekend support"

MMX™ intel inside pentium® II PROCESSOR

as A, B, C, D, E, F, G.

E.

Highly Acclaimed

Read any good PC trade magazines lately? Well, if you have, you can't

help but notice the way Quantex keeps getting great reviews on its systems and lots of "thumbs up" from the trade press. Quantex has received over 10 PC World Best Buy awards and has been on PC World's Top 20 list over 61 times in the past 12 months. But don't think we're sitting on our laurels. These awards only spur us on to earn even more!

F.

Loyal Following

If you really want to know how good a Quantex PC is, check out the number of buyers who come back to buy from us a second time. And a third time. No one has a more loyal following than Quantex. For the past decade, we've sold hundreds of thousands of PC's into homes and businesses and the vast majority of customers have expressed their total satisfaction in the best way possible. By coming back for more.

PC World, 6/97

In a recent PC Reliability and Service report, over 80% of respondents who own Quantex systems would buy from Quantex again.

G.

And Here's the Kicker. It Costs Less!

Quantex is, hands down, the undisputed leader in offering the most for the least. See for yourself.....

$2899

QP6/266 SM-4x

(featuring the Pentium® II Processor)

Business lease:$ 101/Mo.

- 266MHz Pentium® II Processor
- 2 Universal Serial Bus (USB) Ports
- 64MB EDO Memory /512KB Secondary Cache
- 6 4GB EIDE Mode 4 HD / 3 5" 1.44MB Floppy Drive
- Matrox Millennium 3D w/8MB WRAM
- 17" Digital Monitor (16.1" viewable)
- K56flex protocol Fax/Modem w/Voice Mail and Speakerphone
- 24X Max EIDE CD-ROM Drive
- Ensoniq 32-Bit Wavetable Sound Card
- ▲ Altec Lansing ACS-45 Speakers w/subwoofer
- ATX Case
- 104-Key Keyboard with MS IntelliMouse
- MS Windows '95 with MS Plus

NEW! ▶ MS Office 97 Small Business Edition

- 3 year limited warranty, 24-hr /7-day Technical Support

QP5/233 SM-4(with MMX Technology).....$2549
QP6/200 SM-4(with Pentium® Pro Processor).....$2649
QP6/233 SM-4x(featuring Pentium II Processor)...$2799

DVD Upgrade Package

- Toshiba DVD ROM (upgrade from 24X Max CD-ROM)
- DVD Decoder Board
- ▲ Altec Lansing ACS-500 Speakers w/ ACS-250 subwoofer (upgrade from ACS-400 Speakers)

Add $569

QUANTEX
GOOD CHOICE.℠

1.800.896.4898
www.quantex.com

The Best Choice for Multimedia Power

Shown with optianal ACS-400 speaker system

Best Value!

QP6/266 SM-4x

(featuring Pentium® II processor)

$2899 Business lease:$ 101/Mo.

- 266MHz Pentium® II Processor
- 2 Universal Serial Bus (USB) Ports
- 64MB EDO Memory / 512KB Secondary Cache
- 6.4GB EIDE Mode 4 HD / 3.5" 1.44MB Floppy Drive
- Matrox Millennium 3D w/8MB WRAM
- 17" Digital Monitor (16.1" viewable)
- K56flex™ protocol Fax/Modem w/Voice Mail and Speakerphone
- 24X Max EIDE CD-ROM Drive
- Ensoniq 32-Bit Wavetable Sound Card
- Altec Lansing ACS-45 Speakers w/subwoofer
- ATX Case
- 104-Key Keyboard With MS IntelliMouse
- MS Windows '95 With MS Plus

NEW!▶ MS Office 97 Small Business Edition

- 3-year limited warranty, 24-hr./7-day Technical Support

QP5/233 SM-4 (with MMX™ Technology).....$2549
QP6/200 SM-4 (with Pentium® Pro Processor*)....$2649
QP6/233 SM-4x (featuring Pentium® II Processor)...$2799

Being the first to market with the latest products and technologies may seem like no big deal. But it is. By purchasing a PC with the most up-to-date products, you will significantly extend the life of your PC and of your hard-earned investment. Check out what Quantex is first to market with this month:

The Pentium® II processor Delivers a Performance Punch

Quantex systems powered by the Pentium II processor deliver the horsepower you need for realistic graphics, full-screen, full-motion video, enhanced color and more. At clock speeds up to 266MHz, the Pentium II processor has the performance for today's and tomorrow's software. It's your best choice for both integer performance for productivity and floating point performance for compelling 3D graphics.

MMX™ intel inside pentium® II processor

Did You Know ?

Quantex PC's consistently offer top-notch performance and usability.

Along with many other awards, Quantex was recently awarded PC Computing's coveted "★★★★" 4-star rating in both May and June, 1997!

Power Multimedia Series

QP5/233 SM-1 (with MMX™ Technology) $1899

Business lease: $66/Mo.

- 233MHz Pentium® Processor with MMX™ Technology
- 2 Universal Serial Bus (USB) Ports
- 32MB EDO Memory / 512KB Pipelined Burst Cache
- 3.2GB EIDE Mode 4 HD / 3.5" 1.44MB Floppy Drive
- Matrox Millennium 3D w/4MB WRAM
- 15" Digital Monitor (14.0" viewable)
- K56flex™ protocol Fax/Modem w/Voice Mail and Speakerphone
- 24X Max EIDE CD-ROM Drive
- Ensoniq 32-Bit Wavetable Sound Card
- Altec Lansing ACS-90 Speakers
- Mid-Tower Case
- 104-Key Keyboard With MS IntelliMouse
- MS Windows® '95 With MS Plus

NEW! ▶ MS Office 97 Small Business Edition

- 3-year limited warranty, 24-hr./7-day Technical Support

QP6/200 SM-1 (with Pentium® Pro Processor*)... $2049
QP6/233 SM-1x (with Pentium® II Processor).... $2149
QP6/266 SM-1x (with Pentium® II Processor).... $2299

QP5/233 SM-2 (with MMX™ Technology) $2149

Business lease: $75/Mo.

- 233MHz Pentium® Processor with MMX™ Technology
- 2 Universal Serial Bus (USB) Ports
- 32MB EDO Memory /512KB Pipelined Burst Cache
- 4GB EIDE Mode 4 HD / 3.5" 1.44MB Floppy Drive
- Matrox Millennium 3D w/4MB WRAM
- 17" Digital Monitor (16.1" viewable)
- K56flex™ protocol Fax/Modem w/Voice Mail and Speakerphone
- 24X Max EIDE CD-ROM Drive
- Ensoniq 32-Bit Wavetable Sound Card
- Altec Lansing ACS-90 Speakers
- Mid-Tower Case
- 104-Key Keyboard With MS IntelliMouse
- MS Windows '95 With MS Plus

NEW! ▶ MS Office 97 Small Business Edition

- 3-year limited warranty, 24-hr./7-day Technical Support

QP6/200 SM-2 (with Pentium® Pro Processor*) $2299
QP6/233 SM-2x (featuring Pentium® II Processor).. $2399
QP6/266 SM-2x (featuring Pentium® II Processor).. $2549

Best Value!

QP6/233 SM-3x (featuring Pentium® II processor) $2499

Business lease: $87Mo.

- 233MHz Pentium II Processor
- 2 Universal Serial Bus (USB) Ports
- 32MB EDO Memory /512KB Secondary Cache
- 6.4GB EIDE Mode 4 HD / 3.5" 1.44MB Floppy Drive
- Matrox Millennium 3D w/4MB WRAM
- 17" Digital Monitor (16.1" viewable)
- K56flex protocol Fax/Modem w/Voice Mail and Speakerphone
- 24X Max EIDE CD-ROM Drive
- Ensoniq 32-Bit Wavetable Sound Card
- Altec Lansing ACS-45 Speakers w/subwoofer
- ATX Case
- 104-Key Keyboard With MS IntelliMouse
- MS Windows '95 With MS Plus

NEW! ▶ MS Office 97 Small Business Edition

- 3-year limited warranty, 24-hr./7-day Technical Support

QP5/233 SM-3 (with MMX™ Technology) $2299
QP6/200 SM-3 (with Pentium Pro Processor*) $2399
QP6/266 SM-3x (featuring Pentium II Processor) $2699

*Includes 256KB Internal L2 Cache

UPGRADES (available with system purchase)

- Special DVD Upgrade ..... See Below
- Panasonic PD/CD-Rom Drive w/ one 650MB PD cartridge.. $279
- Three(3) Panasonic PD cartridges $99
- APC Back UPS Office (price reflects $30 manuf. rebate)... $169
- 3Com 3c905 PCI NIC $89
- Motorola ISDN Terminal Adapter $189
- Microsoft Natural Keyboard (upgrade from 104-keyboard) .. $39
- Microsoft Sidewinder 3D Pro Joystick $59
- HP Deskjet 692C Printer (w/ photo color kit) $299
- HP Laserjet 5L-FS Printer $399

(all upgrades are covered by manufacturer's warranty)

Surf the Web at two times the speed

Utilizing the most widely-accepted standard, K56flex™ adopted by over 400 leading high-tech companies, your days of patiently waiting for files to download are over. K56flex technology was specifically created to allow you to download as much information as quickly as possible.

Hop on the Newest PC Bus

Say goodbye to IRQ and COM port conflicts when adding hardware. Most Quantex systems now come standard with two Universal Serial Bus ports so you can take advantage of the newest USB peripherals like digital cameras, joysticks and more.

DVD - A Whole New World

You've read all the hype, but now it's really here. Quantex is proud to be among the first to offer this revolution in CD technology. DVD (Digital Video Disk) technology offers unsurpassed video and outstanding audio. Add to that an enormous 4.7GB storage capacity. Experience movies and multimedia in a whole new way.

DVD Upgrade Package:

- Toshiba® DVD ROM (upgrade from 24X Max CD ROM)
- DVD Decoder Board
- Altec Lansing ACS-500 Speakers w/ACS-250 subwoofer (upgrade from speakers in system purchase)

Your system purchase:	SM-1 or SM-2	SM-3 or SM-4
DVD Upgrade Package Cost:	$599	$569

MS Office 97 Small Business Edition

- Word 97 ■ Excel 97 ■ Outlook 97 ■ Publisher 97
- AutoMap Streets ■ Small Business Financial Manager

QUANTEX

GOOD CHOICE.℠

1.800.896.4898

www.quantex.com

The Best Choice for Out-of-the-Box Networking

Out-of-the-box-and-onto-your-Network

We've partnered with 3Com® to bring you a combination of peak system performance and unquestionable reliability on your network. All Quantex WS systems are 3Com-certified because the network-cards are pre-installed, pre-tested and certified to work within your network environment. And Novell® and MS Windows NT® certification give you real peace of mind.

Featuring the Pentium® II Processor

Intel's latest Pentium II Processor was engineered specifically for high-performance desktops, workstations and servers. You'll get the best performance available for 32-bit apps running on advanced operating systems. Integrated 512MB cache makes it the right choice for power workstations.

QP5/166 WS-1

$1199 Business lease: $ 42/Mo.

- 166MHz Pentium® Processor
- 16MB EDO Memory/512KB Pipelined Burst Cache
- 1.2GB EIDE Mode 4 HD/3.5" 1.44MB Floppy Drive
- STB Nitro 3D w/2MB
- 15" Digital Monitor (14.0" viewable)
- 3Com 3c509 ISA Combo NIC
- Toshiba 16X Max 95ms EIDE CD-ROM Drive
- Mini-Tower Case
- 104-Key Keyboard With MS PS/2 Mouse
- MS Windows '95 With MS Plus
- 3-year limited warranty, 24-hr./7-day Technical Support

QP5/166 WS-1.....$1249
(with MMX Technology)

QP5/200 WS-1.....$1349
(with MMX Technology)

QP6/266 WS-4x

(featuring Pentium® II processor)

$3299 Business lease: $ 107/Mo.

- 266MHz Pentium® II Processor
- 64MB EDO Memory/512KB Secondary Cache
- 4GB Ultra Wide SCSI HD / 3.5" 1.44MB Floppy Drive
- Adaptec 2940UW PCI Ultra Wide SCSI Controller
- Matrox Millennium 3D w/4MB WRAM
- 17" Digital Monitor (16.1" viewable)
- 3Com 3C905 PCI 10/100 NIC
- Toshiba 12X 115ms SCSI CD-ROM Drive
- ATX Case
- 104-Key Keyboard With MS PS/2 Mouse
- MS Windows NT 4.0 Workstation
- 3-year limited warranty, 24-hr./7-day Technical Support

QP5/200 WS-4.....$2749
(with MMX Technology)

QP6/200 WS-4.....$3049
(with Pentium Pro Processor - includes 256 Internal L2 Cache)

QP6/233 WS-4x.....$3199
(featuring the Pentium II processor)

QUANTEX

GOOD CHOICE.℠

1.800.896.4898

www.quantex.com

MMX™ intel inside pentium® PROCESSOR

© 1997 Quantex Microsystems, Inc. All Rights Reserved. 4008 Pierce Street, Somerset NJ 08873 Sales Hours M-F, 9 am - 12 am (ET) - Sat., 9 am - 6 pm All sales are subject to Quantex's limited warranties and terms and conditions of sale. For details on our warranty or money-back guarantee call or write us. Three-year limited warranty includes first year limited parts and labor. Second and third years parts-only limited warranty. Other peripherals such as printers, joysticks, etc. are covered by manufacturer's warranty. *On-site service may not be available in certain remote areas and is available only if determined necessary in the sole discretion of our technicians. On-site service provided by an independent third-party provider. Software titles are subject to change and cannot be substituted. Lease payments based on 36-month term. All prices and configurations are subject to change without notice or obligation and do not include shipping or sales tax. All returned items must have a conspicuous RMA number issued by Quantex and be in original packaging. 30-day money-back policy does not include return freight or original shipping/handling charges. Quantex is not responsible for errors in typography or photography. Pentium, Pentium Pro, Pentium II, MMX, Intel and the Intel Inside logo are registered trademarks of Intel. Microsoft, and Windows are registered trademarks of Microsoft Corporation. K56flex is a trademark of Lucent Technologies and Rockwell Int'l. All other company trademarks are tradenames of each respective company.

Canada 1-800-793-4167

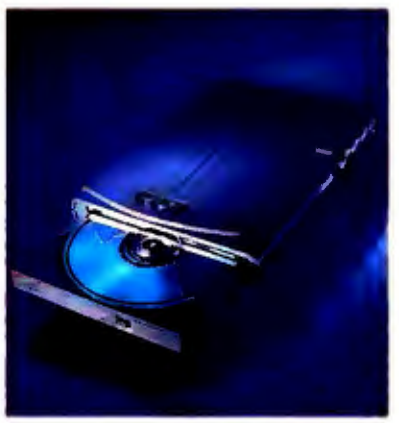
Puerto Rico 1-800-793-4185

Backpack Bantam: CD-ROM to Go

C D - R O M

PORTABLE CD-ROM drives are getting smaller, lighter, faster, and cheaper. Micro Solutions' Backpack Bantam sets a new standard in the smaller-and-lighter department, while matching bulkier competitors in cost and speed.

Weighing 1.5 pounds and measuring 1 by 8 by 6 inches, this $299 parallel port–based 8X drive is by far the skinniest portable CD-ROM drive on the market and among the lightest, with or without the built-in sound option, which costs an extra $50. (You can still hook up a printer by using a pass-through parallel port on the Backpack Bantam.) I installed a preproduction unit in minutes, and it worked perfectly for installing software and playing audio CDs. However, the half-dozen multimedia titles I tried running on my Pentium-90 notebook were marred by patchy audio, possibly because the notebook didn't have the recommended Enhanced Parallel Port.



SLIM CD-ROM DRIVE: New portable weighs only 1.5 pounds.

Other caveats: The parallel port connection effectively limits the drive's performance to 4X-to-6X. Also, there's no battery pack, and the built-in speakers provide so-so sound.

The Backpack Bantam won't turn your aging notebook into a high-performance multimedia machine. But if you don't have $2000 for a notebook with its own CD-ROM drive, the Bantam is worth a look.

—*Yardena Arar*

Backpack Bantam

PRO: Ultralightweight, slim, and portable; easy to install.

CON: Parallel port hookup limits speed, multimedia can be patchy.

VALUE: Good for routine CD-ROM tasks on the road.

Micro Solutions

800/890-7227

www.micro-solutions.com

Street price: $299, sound option $50

READER SERVICE NO. 755

QUICK TAKES

Quantum's Big Hard Drive

When shopping for a hard drive, some people look for the most storage at the best price. But if you also consider data transfer speeds and mean-time-between-failure rates, Quantum's 6.4GB Fireball ST emerges as a hot new commodity—even at its high-end $525 street price. Quantum's new Ultra DMA/33 protocol allows data transfers at up to 33MB per second with an IDE card that supports it. (The SCSI version supports rates of up to 40MBps with the Ultra SCSI-3 spec.) The Fireball is rated to run for 400,000 hours without a failure and is also available in smaller capacities: 4.3GB and 3.2GB (IDE and SCSI), 2.1GB (SCSI only), and 1.6GB (IDE only). Quantum; 800/826-8022; www.quantum.com.

READER SERVICE NO. 756

Compaq-RCA's Couch Potato Dream Machine

CONVERGENCE

YOU'D LIKE TO watch a movie and then play that PC game. Or you need a big screen for boardroom presentations. You'll want to take a look at the PC Theatre 9000 CPU, a PC and TV combo with a massive 36-inch screen.

This joint production of Compaq and RCA is big, black, and sleek. It follows in the footsteps of Gateway 2000's 31-inch Destination (see "The Internet Meets the Couch Potato," *@Home*, October 1996), but with some significant differences.

Unlike the Destination, which boots like a computer, the PC Theatre switches on in TV mode; an on-screen menu lets you switch to a Windows 95 desktop, a game, the Web, or a TV program guide. It has an infrared wireless keyboard, a universal remote control, and a game pad.

The PC Theatre's hardware is meaty: a Pentium MMX-200 processor, 40MB of EDO RAM, a 3.8-GB hard disk, a 16X CD-ROM drive, and a 33.6-kbps fax-modem. You also get two cable-ready 181-channel tuners, as well as picture-in-picture capability so you can view two channels at once. The sound is excellent, the video sharp and clear. But at the device's 720 by 480 resolution, the desktop icons look blurry.

CONVERGENCE COSTS: PC Theatre runs nearly $5000.

The similarly configured Destination has comparable audio-visual quality, but its desktop is a bit crisper. Surround Sound is built into the PC Theatre; the basic Destination comes with stereo speakers and subwoofer (a seven-piece Dolby Pro Logic upgrade costs $599).

The PC Theatre 9000 CPU is targeted to consumers who want high-end home entertainment—and at $4999, high-end is what you get. If a 31-inch screen will do, buy the $3199 Destination. But for the convenient interface and the biggest, baddest display available, the PC Theatre may well be worth the extra money.

—*Aoife McEvoy* ▶

PC Theatre 9000 CPU

PRO: 36-inch screen.

CON: Expensive; desktop icons are blurry at 720 by 480 resolution.

VALUE: You pay for the biggest PC-TV screen available.

Compaq and RCA

800/345-1518

www.compaq.com

List price: $4999

READER SERVICE NO. 757

Psion Series 5: Notebook Power, PDA Size

PALM-TOP

APPEARANCE *can* be deceiving. Psion's next-generation personal digital assistant, the 32-bit Series 5, is a light and debonair Fred Astaire on the outside, a muscular and multifaceted Arnold Schwarzenegger inside. This 6.75-by-3.56-inch, 12.5-ounce pocket PC is less than an inch thick, but its versatility and power all but burst out of the sleek case.

I examined a preproduction unit. Like all palmtops, the Series 5 has a clamshell design, but the 640-by-240-pixel VGA screen embedded in the lid is great for viewing full page widths. The keyboard tray slides forward when the lid is opened, creating space for keys wide enough for touch typing—a palmtop first.

WATCH OUT, WINDOWS CE: Psion's Series 5 boasts extrawide keys, a touch screen, and 13 applications.

Up to now, Psion devices accepted only keyboard input. The Series 5 adds a well-proportioned stylus for its highly legible touch-screen display. Applications and customization tools are activated by a light finger tap.

The device ships with 13 functions that mirror closely the look, feel, and use of popular Windows 95 apps. A digital sound recorder works even when the unit is closed.

File transfers are accomplished through serial cable or IrDA-compliant infrared. Even with frequent use of backlighting, the unit's two AA batteries will last 35 hours.

The Series 5's predecessor—the Series 3c—was a *PC World* Best Buy in May (see "Put a PC in Your Pocket"). With the Series 5, Psion has upped the ante for PDA power and convenience.

—Michael S. Lasky

Psion Series 5

PRO: Powerful multitasking PDA.

CON: Digital voice recorder eats up memory and power quickly.

VALUE: Gee-whiz power and style make this the PDA to beat.

Psion, Inc.
800/997-7466
www.psion.com
List price: $599 for 4MB, $699 for 8MB

READER SERVICE NO. 758

PDA Sync Solution

One problem with most palmtop computers is their inability to synchronize with the multitude of personal information management applications. Puma Technology's IntelliSync can scratch that itch. Available in separate versions for Windows CE handheld PCs, PalmPilots, and Psion Series 5 palmtops, IntelliSync transfers scheduling, to-do lists, and contact data from PC apps such as Outlook, Schedule+, Lotus Organizer, GoldMine, Sidekick, and many others—in either direction. If you use separate applications to track contacts and make appointments, IntelliSync's mix-and-match setup will enable you to pick the particular application for each function. IntelliSync is list-priced at $69.95; frequent upgrades are available to users who pay a one-time additional fee of $39 at the time of registration. Puma Technology; 800/774-7862; www.pumatech.com.

READER SERVICE NO. 759

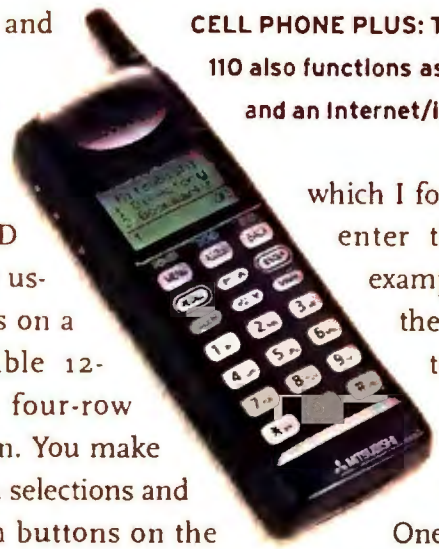
—Michael S. Lasky

Mitsubishi's Versatile Mobile Phone

MOBILE PHONE

MITSUBISHI'S $500 MobileAccess 110 looks like a cellular phone and acts like a cellular phone, but it's really a multifunction communicator on the go. That's because this robust 9.6-ounce device also packs a wireless cellular digital packet data modem and a 19.2-kbps fax-modem.

CDPD capability gives you Internet and intranet access, two-way messaging (good-bye, pager), wireless e-mail, and online services such as stock quotes, airline and movie schedules, and news.



CELL PHONE PLUS: The MobileAccess 110 also functions as a two-way pager and an Internet/intranet device.

You can access all the phone and CDPD services by using menus on a quite legible 12-character, four-row LCD screen. You make your menu selections and scroll with buttons on the keypad. But to enter text, you have to keep pressing the 12-key phone pad until the right letter appears on screen, which I found annoying. To enter the letter *S*, for example, I had to press the 7 key four times to get past *P-Q-R*.

In addition, CDPD can be expensive to use: One such service plan, AT&T PocketNet, costs $40 per month on top of regular cellular phone fees.

I wouldn't (and probably couldn't) use the MobileAccess 110 to read long messages. But for short communiqués that you can answer instantly by voice or e-mail, this is a wireless wonder.

—Michael S. Lasky ▶

MobileAccess 110

PRO: Cellular phone, e-mail, Internet, and fax in a compact package.

CON: Inconvenient text entry.

VALUE: Flawless performance and versatility are worth the price.

Mitsubishi Wireless Communications Inc.
408/730-5900
www.mobileaccessphone.com
List price: $499.95

READER SERVICE NO. 760

The new high-performance HP OmniBook 5700 features:

DMI standard solution

Multiple-operating-system support including Windows® NT

Security built into the BIOS

150 or 166 MHz Intel® Pentium® processor with MMX™ Technology

Nothing personal here, it's strictly business.

Get down to business at our quick link: www.hpresource.com/omnibook-4

The Intel Inside logo and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. Windows NT is a U.S. registered trademark of Microsoft Corporation. ©1997 Hewlett-Packard Company PPG445

HEWLETT® PACKARD

Hitachi's Capable but Costly MPEG Camera

DIGITAL CAMERA

UNTIL NOW IT took a video camera, a video capture board, and the right software to create digital video for presentations, multimedia, Web pages, and video catalogs. But Hitachi's breakthrough MPEG1A MPEG camera records full-motion video with sound and transfers the digitized data to your PC via a bundled ISA card interface kit—no additional equipment is required.

HITACHI'S MPEG camera records video, stills, and audio.

If you need fast digital videos, the MPEG1A is worth its hefty $2500 price tag.

The MPEG1A records up to 20 minutes of video—in real-time MPEG compression—at 352-by-240-pixel resolution; up to 3000 JPEG-format stills at 704 by 480; or as many as 1000 photos with 10 seconds of audio annotation apiece. Other features include a 1.8-inch LCD screen, an f2.4–3.5 6X zoom lens, a 260MB PC Card for data storage, two rechargeable batteries (each good for about 40 minutes), and a wireless remote control.

The MPEG1A requires a PC with at least a Pentium-100 processor, 16MB of RAM, and 80MB of hard disk space. You can connect the camera to a television set or a VCR for viewing or recording.

The prerelease unit I tested produced generally good-looking videos and stills nearly as nice as those created with the $599 Olympus D-200L and $399 Epson PhotoPC, the Best Buys in our March digital camera roundup. But in low-light conditions or when shooting rapid scene changes or fast-moving subjects, the results can be blurry or indistinct—a common problem when MPEG compression is performed on the fly.

If higher quality or resolution is more important to you than fast and easy video production, you're better off sticking with traditional film or videotape equipment.

—Richard Jantz

Hitachi MPEG1A

PRO: Records both video and audio, has LCD screen and 6X zoom lens.
CON: Expensive, video limited to 20 minutes, quality not outstanding.
VALUE: Usability and fast performance balance sticker shock.
Hitachi Home Electronics (America), Inc.
800/448-2244
www.mpegcam.net
Street price: $2500
READER SERVICE NO. 761

QUICK TAKES

Cirque's Cool Cat

You've tried a mouse, a trackball, and even that newfangled foot mouse—and you're *still* not comfortable with your pointing device? You might want to consider Cirque's Power Cat touchpad. Besides such useful features as horizontal and vertical scroll controls, Internet navigation buttons ("back" and "forward"), a zoom command, and enhanced sensitivity, the Power Cat comes with a pen and a signature-capture program, all for $79. Since it plugs into a spare serial or PS/2 port, mouse lovers can use the Power Cat in conjunction with a mouse. Cirque Corp.; 888/454-3373; www.glidepoint.com.

READER SERVICE NO. 762

—Amy Ng

Kodak's First USB Video Camera

DIGITAL CAMERA

KODAK'S NEW DVC 300 Digital Video Camera is one of the best videoconferencing cameras I've seen, but you'll need a PC with a Universal Serial Bus port to use it. The advantages of using a USB-based peripheral include plug-and-play installation, faster data transfer than that available with serial or parallel ports, and the ability to daisy-chain multiple devices to a single USB port. Best of all, the $199 DVC 300 is one of the cheapest video cameras on the market, making it a bargain for both office and home use.

A shipping version of the DVC 300 was a breeze to set up: Just install the software and plug the camera's tethered cable into an empty USB port—no boards, batteries, or power adapter. The camera comes with several easy-to-use applications for videoconferencing and editing.

The DVC 300's automatic controls for image brightness and color work well, as do several manual controls. There's no direct shutter-speed control—useful for low light and other conditions—but you can compensate by using other options for zooming and sharpness. The DVC 300 displays video images at up to 320 by 240 resolution and stills at up to 640 by 480.

In side-by-side comparisons with the comparably priced, parallel port–based Compro Digital Color Internet Camera (see *New Products*, November 1996), the DVC 300 provided better-looking video images.

Besides a Pentium PC with a USB port, you'll need Windows 95 version 4.00.950B or later and a microphone. The DVC 300 is a good choice for live video applications—and isn't bad for still shots.

—Richard Jantz ▶

Kodak DVC 300 Digital Video Camera

PRO: Low price, easy USB interface, good software bundle.
CON: No direct shutter-speed control.
VALUE: Great videoconferencing tool for USB-equipped PCs.
Eastman Kodak Co.
800/235-6325
www.kodak.com/go/dvc
Street price: $199
READER SERVICE NO. 763

The new Intel® Pentium® processor-based HP Vectra V and X Series PCs come with HP TopTOOLS:

Remotely upgrade the BIOS of multiple PCs* simultaneously

Remotely set DMI attributes on multiple PCs simultaneously

Remotely change administration BIOS passwords on multiple PCs simultaneously

Remotely collect asset data from any DMI-enabled** PC

FROM $992†

How would you upgrade the BIOS of 250 PCs?

Find out how at our quick link: www.hpresource.com/vectra-22

HEWLETT® PACKARD

*Select V and X Series PCs only. **Based on DMI 1.0. †Starting U.S. street price for HP Vectra VE Series 3. Monitor not included. Price includes HP DeskDirect J3238A LAN adapter card. The Intel Inside logo and Pentium are registered trademarks of Intel Corporation. ©1997 Hewlett-Packard Company. HPC4136

A Swarm of Speedy CD-ROM Drives

CD-ROM DRIVES

FROM THE "if it's faster, it must be better" school of PC peripheral marketing come the latest 20X and 24X CD-ROM drives. But hold your applause, because there's plenty of fine print.

First, "24X" does not mean a constant speed in the same way that 2X, 4X, and 8X did in their day. On average, 24X performance is more like 14X, for several reasons. Although the older drives transferred data at constant rates, the new ones perform within a range that depends on the data's location on the CD. Data on inner tracks is transferred more slowly than data on outer tracks: The 24X drives typically transfer at about 10X on the inside track and reach 24X only on the last, outermost track. Since few CDs are filled to the brim, and since recording starts on the inner track, not many discs exploit the higher speeds possible with such fast drives. On top of this, my tests indicate that the 24X drives have trouble reading outer tracks on some discs, slowing overall transfer rates to as low as 8X.

Another problem is that 24X drives outpace the BIOS on many PCs, including some older Pentium machines. If you want to upgrade to a 24X drive, you'll need to ask your system vendor whether the PC's BIOS supports Mode 4. Otherwise, your new 24X drive won't run any faster than a 10X to 13X unit.

I tested identical IDE 10X/24X drives from ACS Innovations and Panasonic (both made by Matsushita); a Plextor 12X/20X SCSI drive; and Toshiba's 12X/24X IDE drive. (I also tested a Hitachi IDE unit that won't be sold at retail but will be widely available in new systems and third-party upgrade kits.) All the IDE models have minimal front-panel features, and—with minor variations—all perform similarly. They have quick access times of about 90 milliseconds, and they load large files almost as quickly as a hard drive would. Among the IDE drives, the Toshiba unit delivers slightly superior multimedia, while the Hitachi was the least consistent performer in our tests.

But none of the IDE models handles full-screen video very well. The reason? IDE drives require considerable processing power, and this demand leaves fewer resources available for CPU-intensive multimedia applications.

In contrast, SCSI drives deal much better with multimedia, which is why I prefer the Plextor unit. Its minimum transfer rate is 12X and it tops out at 20X, but it reaches that 20X rate less than a third of the way through a disc and maintains it, for an average of about 16.5X. (The Toshiba, an IDE drive, offered similar speed.)

In addition, the Plextor had no problems reading outer tracks, and because it's a SCSI device, you'll avoid the BIOS hassles.

The Plextor's video performance is flawless, its front panel has some extra features, and it's reasonably priced. Plus, the "12/20" in the product name is a fine example of truth in advertising.

—Jeff Sengstack ▶

THE PLEXTOR 12/20PLEX CD-ROM DRIVE, a SCSI-based model, handles multimedia better than IDE competition such as the Compro or Panasonic units.

Compro LMD-585

PRO: Solid performer, widely available, comes in both external and internal models.

CON: IDE hampers multimedia performance.

VALUE: A bargain.

ACS Innovations Int'l
888/226-6776
www.acscompro.com
Street price: $149 internal, $219 external

READER SERVICE NO. 764

Panasonic LK-MC686BP IDE/ATAPI

PRO: Another good performer, widely available.

CON: More expensive than comparable unit from Compro, IDE hampers multimedia performance.

VALUE: Buy the Compro.

Panasonic Communications & Systems
800/742-8086
www.panasonic.com/alive
Street price: $199 (internal only)

READER SERVICE NO. 765

Plextor 12/20PleX

PRO: Excellent, consistent performance; extra front-panel goodies; nice documentation.

CON: Tops out at 20X, higher priced, SCSI card required.

VALUE: Worth a few extra dollars.

Plextor Corp.
800/886-3935
www.plextor.com
Street price: $245 internal, $339 external

READER SERVICE NO. 766

Toshiba XM-6102 24X Max

PRO: Best multimedia performance among IDE drives.

CON: Difficult to find in stores.

VALUE: Reasonably priced considering its performance.

Toshiba America Information Systems, Inc.
714/457-0777
www.toshiba.com
Street price: $175 (does not include cable or software)

READER SERVICE NO. 767

The HP 300 Series Palmtop PC

Featuring the widest screen so you can view information like you would on your desktop PC

VGA wide screen: 640 x 240 pixels

Direct print capabilities through an infrared connection

Wireless e-mail and Internet access via Type II PC Card Modem*

Fast and easy synchronization with your desktop PC

From $499†

The problem with most handheld PCs is that the screen isn't wide enou

To get the whole picture, see our quick link: www.hpresource.com/palmtop-3

*Optional accessory available at additional price †Projected U.S. street price. Microsoft and Windows CE are U.S registered trademarks of Microsoft Corporation ©1997 Hewlett-Packard Company PPG450

HEWLETT® PACKARD

Windows NT Workstation 4.0
on a PC. APC's Back-UPS Pro

"Deftly balancing reliability and value, the Back-UPS Pro models integrate a checklist of extras that put them among the surest power protection buys around."
Computer Shopper

"Back-UPS Pro stands as a silent sentinel against lost data and burnt-out hardware."
– ComputerLife Magazine

"Back-UPS Pro 420 is a fierce contender with software it was our usability tester's top pick..."
PC Computing

APC has won more awards for reliability than all other UPS vendors combined.

puts the power of a server will keep it there...

MICROSOFT WINDOWS NT COMPATIBLE

If you're about to invest, or have already invested in the power of a multi-tasking operating system like Windows NT Workstation 4.0, experts say it's also time to invest in APC protection. Why? Even though Windows NT Workstation 4.0 enhances ease of use and reliability, you still can't control bad power, which is still the largest single cause of data loss. Windows NT provides your organization with a lower cost of ownership relative to Windows 3.1 environments. With the affordable protection that APC offers, that lower cost of ownership is safeguarded. It doesn't make sense to leave your Windows NT Workstation machine unprotected.

Unmatched Protection

Like Windows NT Workstation, Back-UPS Pro provides high performance, and industrial-strength reliability. The inevitable power problems that threaten your computer are no match for the premium power protection provided by Back-UPS Pro.

- Automatic Voltage Regulation (AVR) provides complete protection against extended brownouts or overvoltages, without battery drain.
- CellGuard™ intelligent battery management extends battery life and provides deep discharge protection with fast recharge, so Back-UPS Pro is always ready for the worst outages.

Windows NT Workstation enables Internet access with the latest and most exciting browsers through all the standard TCP/IP components. Back-UPS Pro includes protection for that internet connection with built-in 10Base-T network cable or RJ11 phone line surge protection. This ensures power problems don't find your computer through the use of your modem or network interface card. Back-UPS Pro is also backed by a $25,000 guarantee that your connected equipment will not be damaged by a surge, even lightning (see policy for details).

PowerChute Pro: WorkSafe™

Windows NT Workstation provides stability and security through a number of features. Back-UPS Pro enhances that stability and security, even during a power failure. Back-UPS Pro includes PowerChute Pro power management and data saving software - FREE.

While Windows NT provides native automatic shutdown, it will not save any work in progress. PowerChute Pro's WorkSafe™ feature protects and saves open files, then safely closes Microsoft Office applications. When the power goes out, PowerChute Pro automatically activates WorkSafe, even if you're not there. In fact, PowerChute Pro can automatically power on and power off your computer, helping to conserve electricity.

If you compute with Windows NT Workstation 4.0, and want to ensure the highest levels of performance and reliability, protect your desktop PC with the UPS that protects more PCs than all others combined: APC.

Computer Shopper's readers know that their "...PC's best possible friend is an uninterruptible power supply (UPS)." They gave the Best Buy award to APC's Back-UPS Pro series. No wonder 8,000,000 users worldwide agree that APC provides the world's most reliable power protection.

Michael Mullicane, CIO for America II Group, the 17th fastest growing company in America according to Inc.'s 1994 list says, "It's a no-brainer to protect servers, but we learned that it was crazy to bog down our MIS staff with client-related downtime and data loss when an APC UPS is such a cost-effective solution. Now we properly protect every single workstation in our entire global network... At the bottom line, having a standardized desktop environment that includes a fully integrated APC UPS is key to providing reliable information access to our employees, and that's what we're all here for."

FREE 60-page Power Protection Handbook

☐ **YES!** I'd like more information about Back-UPS Pro.

☐ **NO,** I'm not interested at this time but please send my FREE 60-page power protection handbook.

Name: _____

Title: _____

Company: _____

Address: _____

_____

City/Town: _____

State: _____ Zip: _____ Country _____

Phone: _____

Brand of UPS used? _____ # _____

Brand of PCs used? _____ # _____

Brand of Server used? _____ # _____

dept. P3-PR

(800)347-FAXX PowerFax • E-mail: apctech@apcc.com
132 Fairgrounds Road, West Kingston, RI 02892 USA

©1997 APC. All Trademarks are the property of their owners. BP08ES

SurgeArrest™ & ProtectNet™
AC and dotoline surge suppressors

Starting at $19

Back-UPS®Office™ & Back-UPS® Pro
UPS for PC and advanced workstations

Starting at $189

Smart-UPS® & Smart-UPS® v/s
Monogable UPS for servers and networks

Starting at $289

Matrix-UPS® & Accessories
Modular UPS for client/server datacenters

Starting at $3599

APC®

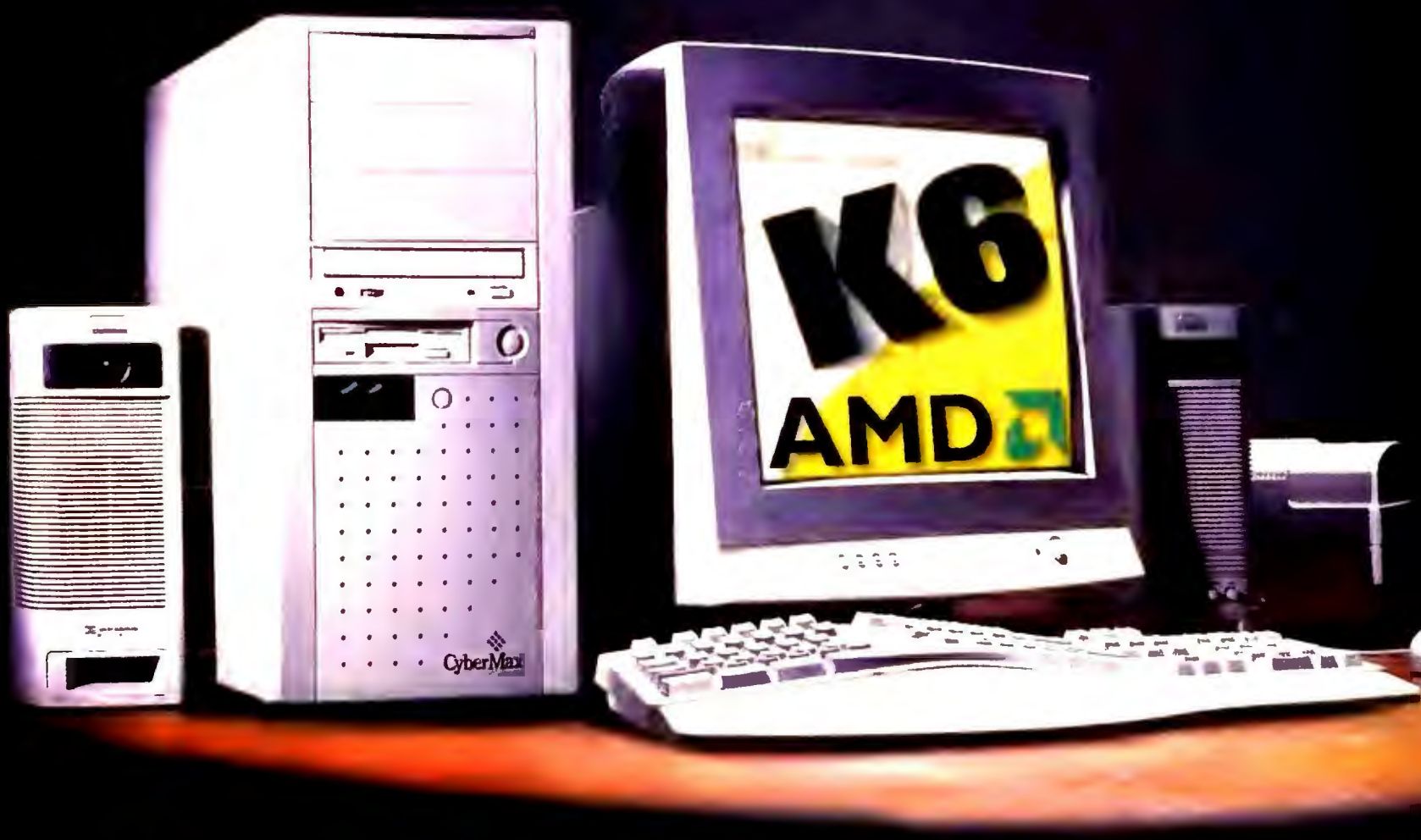
(888) 289-APCC x8191
Fax: (401) 788-2797
http://www.apcc.com

Circle 45 on reader service card

The performance

is about to

begin



CyberMax accepts Visa, MasterCard, Discover, American Express, prepaid checks and electronic wire transfers. Purchase orders from government agencies, universities, and Fortune 500 companies can also be accepted. All returned items must have an RMA number and must be in original packaging. The cost of returned freight is not included with any money back guarantee; shipping charges are not refundable. Prices and product descriptions are subject to change without notice. Microsoft, and Windows 95 are registered trademarks of Microsoft Corporation. MMX is a registered trademark of Intel corporation. AMD and K6 are registered trademarks of Advanced Micro Devices. All other trademarks are trade names of their respective companies. * Source: AMD Winstone 97 testing. **On-site service may not be available in certain remote areas, and is available only if determined to be necessary by our technicians; GE 4 year warranty is optional. Products may differ from image shown. Leasing terms: 36 month/10% FMV option, taxes and shipping additional. †Based on identically configured systems except CPU and motherboard (Pentium Pro systems only) using Winstone 97 tests.

Starring the AMD-K6™ Processor with MMX™ Technology

CyberMax's new PowerMax series is driven by the AMD-K6™ Processor, a CPU that's already staking a claim as the fastest Windows performer to date.*

DO816

PowerMax A4 233MMX $ **2499**

Basic Model Specs-see below — Business Lease.... $87

- AMD-K6™ 233MHz Processor w/ MMX™ Technology
- 64MB SDRAM Memory
- Motrox MGA Millennium Video Card w/4MB WRAM
- 6.0GB Hard Drive
- 16x Mox CD-ROM, Ensaniq Wavetable Sound Card
- K56flex™ Protacal Fx/Mdm w/Voice Mail & Spkrphone
- 17" (15.8"VA) 1280x1024 Calor Manitar
- Altec Lansing ACS90 Speakers & ACS250 Subwoofer
- Corel WordPerfect Suite 7 w/Max's Software Toalbox

K6-PR2-200.....$2399
Add 3.2GB Tape Backup..... $189

DO815

PowerMax A3 233MMX $ **2149**

Basic Model Specs-see below — Business Lease.... $75

- AMD-K6™ 233MHz Processor w/ MMX™ Technology
- 32MB EDO RAM Memory
- STB Velocity 3D Card w/4MB VRAM
- 4.0GB Hard Drive
- 16x Max CD-ROM, Ensaniq Wavetoble Sound Card
- K56flex™ Protacal Fx/Mdm w/Voice Mail & Spkrphone
- 17" (15.8"VA) 1280x1024 Calor Manitar
- Altec Lansing ACS90 Speakers & ACS250 Subwoofer
- Corel WordPerfect Suite 7 w/Max's Software Toalbox

K6-PR2-200.....$2049
Upgrade to 6GB Hard Drive.....$69

DO814

BusinessMax A2 200MMX $ **1849**

Basic Model Specs-see below — Business Lease.... $65

- AMD-K6™ 200MHz Processor w/ MMX™ Technology
- 32MB EDO RAM Memory
- Diamond Stealth 3D 2000 Video Card w/4MB
- 4.0GB Hard Drive
- 16x Max CD-ROM, Ensoniq Wavetable Sound Card
- K56flex™ Protocal Fx/Mdm w/Voice Mail & Spkrphone
- 15" (13.8"VA) 1024x768 Calor Manitar
- Altec Lansing ACS45 Speakers
- MS Office Small Bus. Edition w/Max's Software Toolbox

K6-PR2-233.....$1949
Add HP Calor Printer.....$299

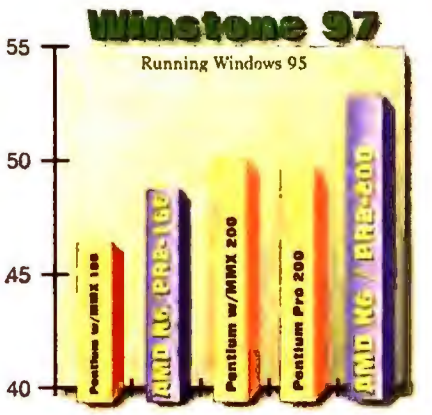
DO813

PowerMax A1 166MMX $ **1499**

Basic Model Specs-see below — Business Lease.... $52

- AMD-K6™ 166MHz Processor w/ MMX™ Technology
- 16MB EDO RAM Memory
- STB Nitro 3D Video Card w/4MB EDO DRAM
- 3.2GB Hard Drive
- 12x CD-ROM, Ensaniq Wavetable Sound Card
- 33.6Kbps Fax/Modem w/Voice Mail
- 15" (13.8"VA) 1024x768 Calor Manitar
- Altec Lansing ACS90 Speakers
- Corel WordPerfect Suite 7 w/Max's Software Toolbox

K6-PR2-200.....$1599
Upgrade to 17" Manitar.....$199



The AMD-K6™ Processor outperformed Pentium® and Pentium® Pro Processors in recent Winstone® 97 testing

Max's Software Toolbox

Organization
Microsoft Office Small Business Edition or Corel WordPerfect Suite 7 , Resume Designer

Finance
Quicken Financial Manager (Special Edition), Barron's Online

Entertainment
Blockbuster Guide, Billboard Music Guide, Electronic TV Host

Reference
Compton's Reference Collection, Idiot's Guide to the Internet w/ Windows 95 Primer, Internet Yellow Pages

Education
Compton's Interactive Encyclopedia, Me and My World MM Dictionary

Communication
CyberSpace Pack (trial memberships to AOL, Prodigy, CompuServe, Netcruiser, plus Epoch)

Basic Model Specs

24 Hour Tech Support

- Mini Tower Case w/2 Fans • 512K Pipeline Burst Cache • 1.44MB 3.5" FDD
- MS Windows® 95 w/MS Plus • 104-Key Keyboard • Microphone • Microsoft PS/2 Mouse
- Limited 3-Year Warranty • 30 Day Money Back Guarantee • Telephone Technical Support
- 1-yr. In-Home Service** • 10 Minute Quick Setup Guide

ALTEC LANSING ENSONIQ matrox TOSHIBA

CyberMax Computer, Inc.

1-800-437-4596

www.cybmax.com

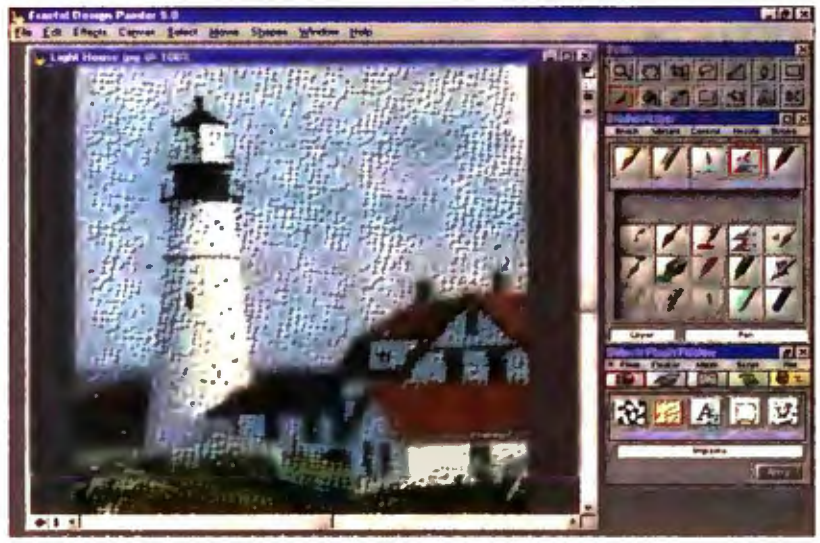
Circle 74 on reader service card

Brush Up Your Graphics with Painter 5

GRAPHICS

PAINTER, from MetaCreations/Fractal Design, has always been a graphics program of a different color—and not just because it's packaged in a one-gallon paint can. While many of its image-editing tools can be found in other programs, Painter's strength lies in its unique ability to mimic artists' materials: canvas, paper, chalk, watercolors, even crayons.

Painter 5, which I examined in prerelease form, also provides an enhanced plug-in architecture that makes possible a wide array of special effects—a camera's blur, 3-D beveled buttons, pop art à la Roy Lichtenstein, burnt and torn image edges, and more.



DIGITAL CANVAS: MetaCreations' Painter 5 offers hundreds of options for adding natural-media effects to your photographs.

Other new features in Painter make it easier to work with layers and masks, which are used to create collages, lock in areas, and more. An output preview mode uses the Kodak Color Management System to simulate how an image will look when printed by a specific color printer. Painter 5 can also create animated GIF files for use on Web sites.

The biggest drawback for budding Painters is the user interface, with six primary tool palettes and hundreds of options. A new custom palette feature reduces screen clutter, but it doesn't help novices.

If you want to explore the exotic intersection of natural and digital media, open up a can of Painter. And stir well before using.

—Jim Heid

Painter 5

PRO: Unmatched simulation of natural art media.

CON: Steep learning curve.

VALUE: Good tool for pros; casual artists need not apply.

MetaCreations

408/430-4000

www.fractal.com

List price: $449; upgrade for registered users $99

READER SERVICE NO. 768

QUICK TAKES

Improved AutoCAD

With each new version, AutoCAD becomes more usable by anyone who needs to create precise 2-D and 3-D drawings of products, buildings, or entire worlds. But Autodesk's powerful, $3760 product is intended for design professionals. AutoCAD 14 features extensive online help, a wizard for getting you started, support for texture mapping (to make 3-D models look more realistic), and the ability to save drawings in a compressed Web format so they can be shared with others. AutoCAD 14 is available only for Windows 95 and NT. Autodesk; 800/879-4233; www.autodesk.com.

READER SERVICE NO. 769

—Brad Grimes

A Pair of Photo Finishers

IMAGE EDITING

THE CURRENT VOGUE for adding pictures to Web sites, reports, and even personal correspondence has resulted in a bumper crop of easy-to-use software for enhancing digital images. Two such packages—Polaroid's Before & After and Connectix's PhotoMate—help hone your prowess as a digital photographer by sharpening images, improving color contrast, and correcting for improper lighting.

Before & After does its work largely behind the scenes. You select photo quality preferences from a dialog box, and the $30 program takes it from there. The $99 PhotoMate is a hands-on tool that lets you add objects or adjust colors.

Before & After shines when it comes to importing images from devices such as digital cameras and scanners. It directly supports five digital camera models, including Polaroid's own PDC-2000. While PhotoMate supports only Connectix's QuickCam digital camera, it also works with about half a dozen file formats. Before & After works only with .jpg, .bmp, and .tif files; if you have to convert the output of your digital device to another format before your software can read it, you risk losing image clarity.

Overall, PhotoMate is best suited for use with a QuickCam or with images you download from the Web and want to tinker with. Choose Before & After if you use one of the input devices it supports and want your digital images enhanced automatically.

—Joe Gomolski ▶

Before & After

PRO: Instant image enhancement.

CON: Limited manipulation options.

VALUE: Good for basic work.

Polaroid Corp.

800/533-9680

www.polaroid.com

Street price: $30

READER SERVICE NO. 770

PhotoMate

PRO: Hands-on manipulation.

CON: Doesn't support proprietary device formats except QuickCam.

VALUE: A good general photo-retouching package.

Connectix

800/950-5880

www.connectix.com

Street price: $99

READER SERVICE NO. 771

ATI XPERT@Work puts the future firmly in your grasp.

ATI XPERT@Work is the NEW standard for Windows NT and Windows 95 graphics performance.

Professional Productivity

- Fastest performance for greater productivity in Windows NT and Windows 95
- Eliminate eye-strain with flicker-free images at up to 200Hz refresh rates
- Up to 8MB of ultra fast SGRAM for high resolution and true color acceleration

Leading Edge Support Now...

- Optimized for the best performance on Pentium II / PRO systems
- Rock-solid stability and worry-free compatibility with ATI's Microsoft Certified drivers

And for the Future

- With workstation-class 3D hardware that's DVD-ready, ATI protects your reinvestment into the future

Starting at $179 [2]

Check out www.atitech.com or call (905) 882-2600

© Copyright 1997 ATI Technologies Inc. ATI, XPERT @ Work, 3D Rage Pro, ATI-TV and Now You See It are trademarks and/or registered trademarks of ATI Technologies Inc. All other product names are trademarks and/or registered trademarks of their respective owners. Features, performance and specifications may vary by operating environment and are subject to change without notice. Products may not be exactly as shown. [1] ATI driver used is a Microsoft Certification Candidate. 20 WinBench 97, Business Graphics Test at 1024x768x16bpp, 75Hz, run on an Intel Pentium II 266MHz, 512K cache, 32MB SDRAM, PCI bus, NT4.0 Hardware and software driver versions used: ATI XPERT@Work 4MB SGRAM driver release v4.10; Matrox Millenium 4MB WRAM v2.3 driver release v3.06; Diamond Multimedia Stealth 30 3000 4MB VRAM v1.01 driver release v2.03. [2] Suggested retail price for 2MB upgradeable version.

Circle 5 on reader service card

Now You See It.™

And they're turning to us by the thousands.

If it's true there's safety in numbers, then State Of The Art's new MAS 90® for Windows™ must be bulletproof.

After all, it's selling at six times the rate of its closest competition. And it's the leading choice of accounting departments, CPAs and finance professionals.

The reasons are simple.

Flexibility, for one. The built-in customization, integration and report-writing capabilities are designed to fit most any kind of company today, while adapting to tomorrow's changing needs.

It's also amazingly intuitive — a smooth, comfortable accounting software program that's designed to work the way users think.

Plus, migrating from the original MAS 90 is quick and easy. And the Windows and DOS versions can even be used simultaneously.

For more information, or a complimentary demo disk, just call State Of The Art at 1-800-390-3646.

Or you could just ask a few colleagues.

A few thousand, maybe.

#1 "High-End Accounting Package Juried Shootout" New Jersey Society of CPAs 1997

STATE OF THE ART™
ACCOUNTING SOFTWARE
Strength in numbers.

©1997 State Of The Art, Inc. MAS 90 and MAS 90 for Windows are trademarks of State Of The Art, Inc., and Windows is a registered trademark of the Microsoft Corporation.

Circle 208 on reader service card

Accounts Forgettable

ACCOUNTING

SIMPLY ACCOUNTING debuts as a 32-bit application with version 5.0. But despite many new features, this $129 program still has a gamelike feel and is suitable only for very small businesses.

New features include a purchase order module and the ability to "go negative" on inventory items. A spiffed-up audit trail should please CPAs.

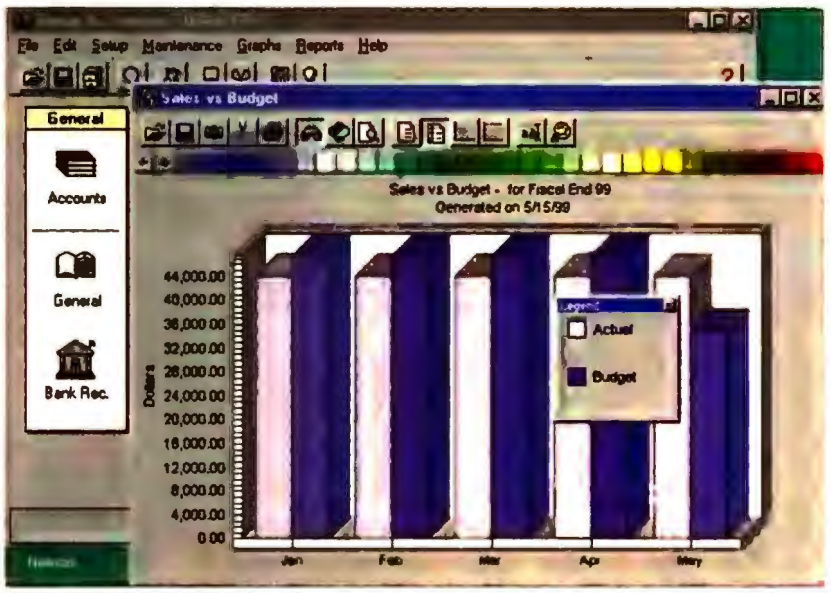
The program ships on six floppy disks—an anachronism in the age of the CD-ROM. On the opening screen, you can hide icons for modules you won't be using (for example, payroll) by clicking on the Setup icon and finding the appropriate tab. However, the Setup options on the drop-down menu are different from the Setup icon options, which is a bit confusing.

One unfortunate design choice retained from earlier versions is the use of a separate icon on the Inventory screen for each item. If your company carries more than a few items, you'll have to scroll through screen after screen to find a specific item.

Simply Accounting also holds on to a few bad DOS habits: You have to set a "Use Date" before transactions can be made; and although records from previous years can be archived, you can't access them once you start the file for a new year. I still don't like the clunky report-customization module, but the graphics are much improved.

Existing users of Simply Accounting should upgrade to take advantage of the additional features. But this doesn't look like a QuickBooks killer.

—Theresa W. Carey ▶



SIMPLY ACCOUNTING 5.0 boasts several design and feature improvements, but it remains suitable only for very small businesses.

Simply Accounting 5.0

PRO: Inexpensive, simple icon-based accounting.

CON: Gamelike feel, clumsy date handling.

VALUE: There are better choices available.

Accpac Int'l
800/773-5445
www.accpac.com/products/simply
Street price: $129 (upgrade $59)

READER SERVICE NO. 772

The bigger picture in monitors comes this Summer.

19

18" DISPLAY

PRINCETON®
GRAPHIC SYSTEMS
color your world bigger.

800-747-6249 ext.182
www.prgr.com

2801 S. Yale St., Santa Ana, CA 92704
Telephone 800-747-6249 or 714-751-8405
Fax 714-751-5736, Fax-On-Demand 714-751-0168

© 1997 Princeton Graphic Systems. All rights reserved.

Circle 178 on reader service card

Two New, Easy Ways to Zip and Unzip

UTILITY

DOWNLOAD A compressed 2MB game, double-click the program's executable file, and—*shazam!*—the game begins. Did you miss a step? No. With Mijenix's ZipMagic you can run any application or open and modify any compressed file, without having to unzip the file first.

With ZipMagic, .zip files appear and act like Windows folders, even in terms of performance. Notable features of this $40 utility include a disk-spanning option for zipping large files to floppy disks: Instead of getting a "disk full" notice that aborts the process when you run out of room on a floppy, you'll be prompted to put in a new disk to continue the operation. The utility's Archive Manager scans, repairs, and password-protects zipped files; converts other archive formats to .zip, and launches compression and decompression. You can also easily compress or decompress files by dragging and dropping them or simply renaming the folder (add a .zip extension to compress; remove it to decompress).

I also took a look at the latest beta version (6.3) of ZipMagic's most formidable competitor, Nico Mak's perennially popular WinZip. Like ZipMagic, the $29 WinZip is fully compatible with popular compression formats and e-mail attachments, and offers similar features, including disk spanning and password protection. But WinZip just isn't as convenient—you still need to launch it to access the contents of a .zip file.

ZipMagic does have its limitations: Mijenix wisely warns you not to use it as a space saver to compress previously installed applications, because that can mess up Windows Shortcuts and Registry entries.

For convenience alone, ZipMagic is an excellent tool. But if you're new to compression utilities, you may want to go with a more user-friendly program. WinZip includes clear, thorough online documentation as well as a tutorial and a wizard. ZipMagic lacks all of the above.

—Julie Campagna

ZipMagic 1.0

PRO: Convenient; makes .zip files look and act like Windows folders.

CON: Not recommended as a tool for compressing previously installed applications.

VALUE: Useful for quick access to compressed files.

Mijenix Corp.
800/645-3649
www.mijenix.com
Street price: $40

READER SERVICE NO. 773

WinZip 6.3

PRO: Easy to use, excellent online documentation.

CON: Must run the program to access .zip files.

VALUE: Instructive for compression novices.

Nico Mak Computing
800/242-4775
www.winzip.com
Street price: $29

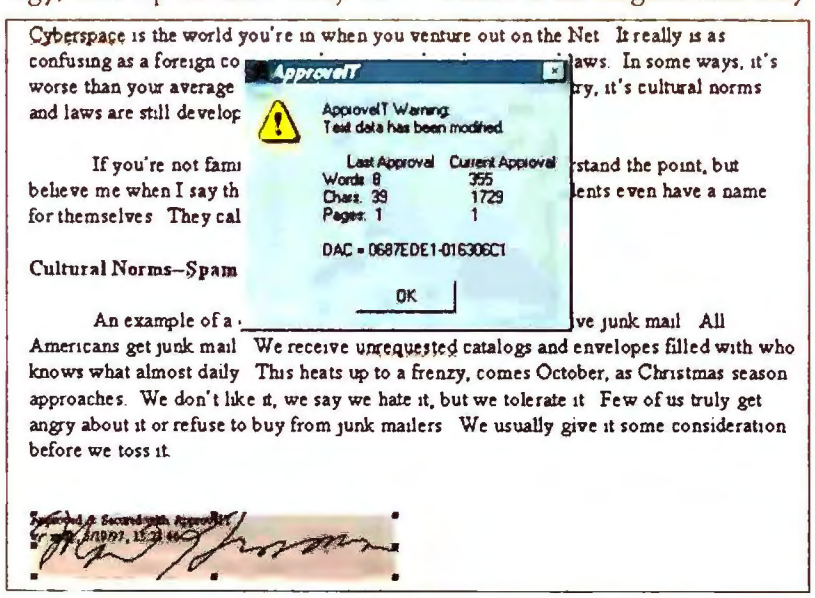
READER SERVICE NO. 774

E-Signatures for the Security Conscious

SECURITY

ELECTRONIC signatures—image files of your scanned John Hancock—are a neat blend of tradition and technology, but up to now they've been a security problem. Once you put your digitized signature on a document, anyone can alter it.

ApproveIt 3.0 for Microsoft Office is an elegant and easy-to-use alternative to Pretty Good Privacy and other dual-key encryption packages that solve this security problem. After installing ApproveIt (as a Word add-on), you create your electronic signature using a pen-based digitizer pad or a mouse. (Scanned signatures are not supported.)



SIGNED, SEALED, AND ALTERED: ApproveIt 3.0 notifies you if a document has been changed since the signature was affixed.

You attach your password-protected signature to a document by clicking on a Word menu option. ApproveIt detects subsequent alterations and then notifies anyone who opens the document (also using Word with ApproveIt) that it has been changed since it was signed. In my tests, a shipping version of the software package installed easily and did its job seamlessly.

While legally binding for most contracts, electronic signatures may not be accepted for wills and real estate documents, which are regulated in specific statutes.

ApproveIt is worth its $149 price tag if you need easy, secure electronic signatures.

—Mark Grossman ▶

ApproveIt 3.0

PRO: Easy and secure electronic signatures.

CON: Works only with Microsoft Word.

VALUE: Security features are worth the expense.

Silanis Technology Inc.
888/745-2647
www.silanis.com
Street price: $149 (volume discounts available)

READER SERVICE NO. 775

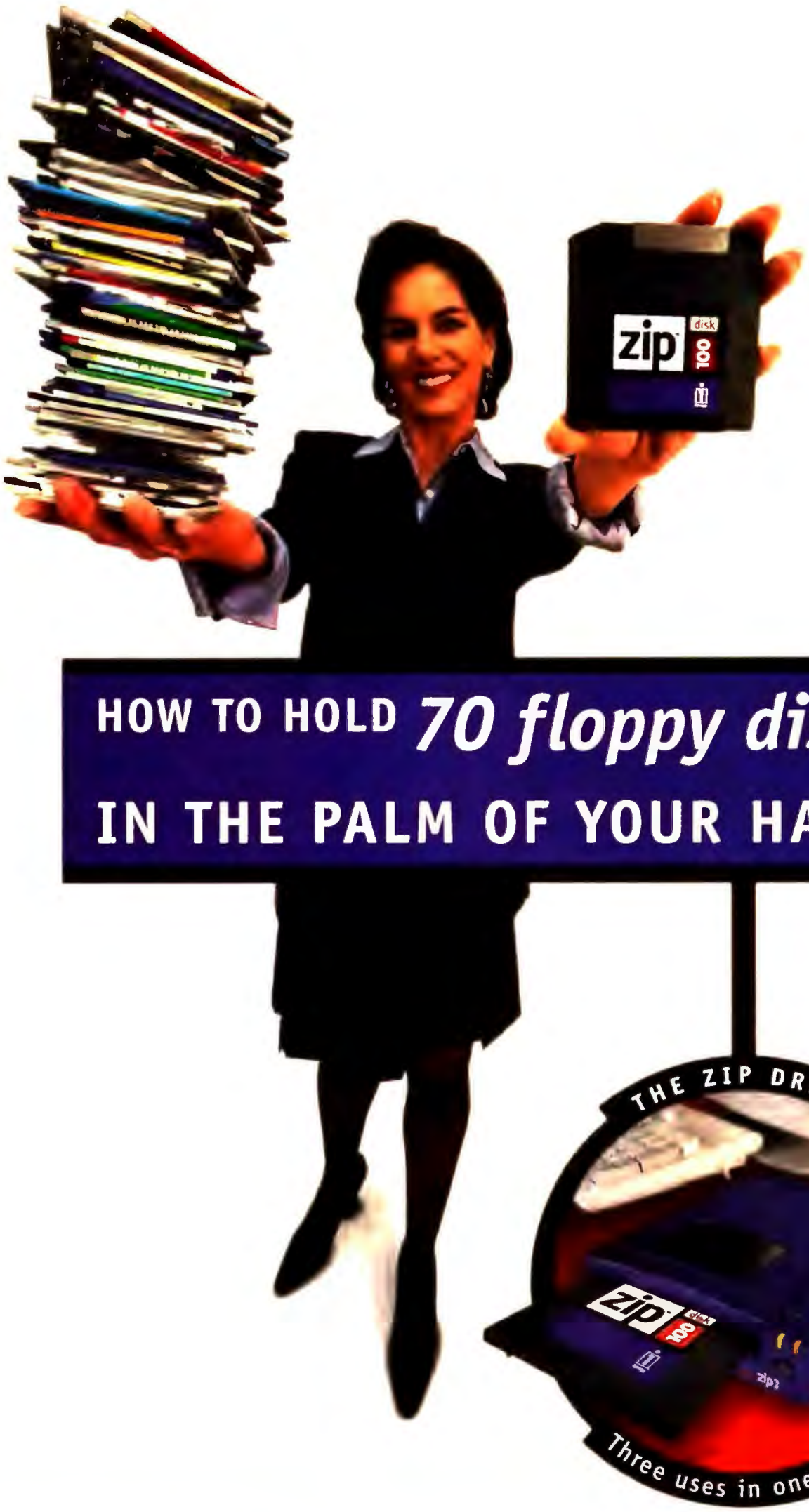
The big plus in monitors comes this Summer.

17+2=19

18" DISPLAY

PRINCETON®
GRAPHIC SYSTEMS
color your world bigger.
800-747-6249
www.prgr.com
Circle 152 on reader service card

2801 S. Yale St. • Santa Ana, CA 92704 • Telephone 800-747-6249 or 714-751-8405 • Fax 714-751-5736, Fax-on-Demand 714-751-0168
©1997 Princeton Graphic Systems. All rights reserved.



HOW TO HOLD *70 floppy disks* IN THE PALM OF YOUR HAND.

NEW, LOWER PRICE.
Visit your local retail store or corporate reseller, or you can even see us at: www.iomega.com

TONS OF STORAGE SPACE
Increase your storage space — 100MB at a time for as low as $12.95 per disk after rebate. Perfect for storing and running your whole office.

COMPLETE PORTABILITY
The Zip™ drive and Zip disks are small, lightweight, and rugged. Which means you can take work home, on the road, or anywhere else you need to go.

FAST, EASY BACKUP.
Hooks up fast to your PC or Mac. And, at up to 20 times faster than that old floppy drive, it's great for making copies of everything. So the next time your computer spazzes out, you won't.

OVER FIVE MILLION OUT THERE. Forget about that old floppy drive. Zip drives are everywhere; at home, in schools, and at the office. In fact, they're the perfect complement to the enhanced audio and visual capability of today's MMX™ technology-based systems. And with so many Zip drives out there, it's more than just compatible, it's universal.

BECAUSE IT'S YOUR STUFF.™

iomega.

©1997 Iomega Corporation. Iomega and the Iomega logo are registered trademarks, and Zip and "Because It's Your Stuff" are trademarks of Iomega Corporation. MMX is a trademark of Intel Corporation. All other trademarks are the property of their respective holders. Prices listed are estimated street prices. Actual prices may vary. Zip is compatible with Windows® 95, 3.1, NT, DOS, OS/2, and Mac OS. Up to 20 times faster using the SCSI or IDE models, up to 5 times faster using the parallel port model.

Track Those Billable Hours with Time & Profit

ACCOUNTING

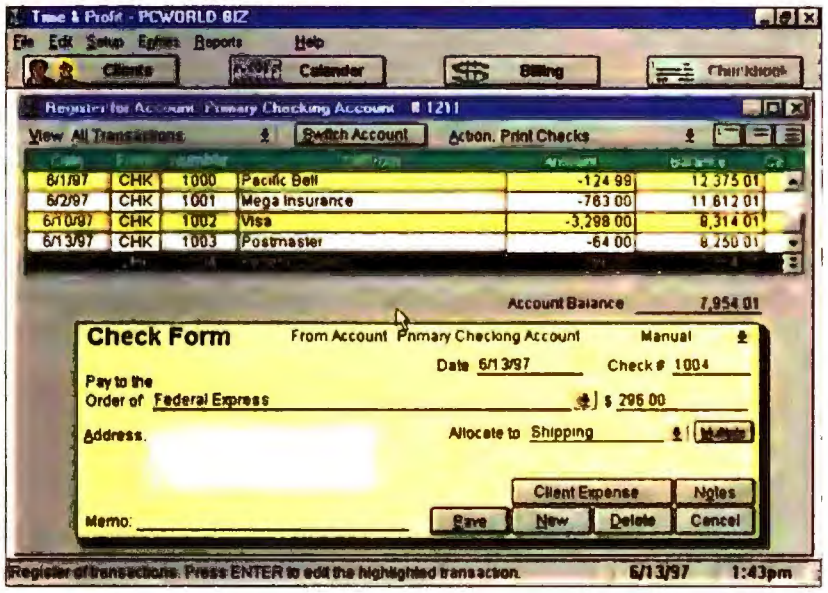
BYTEPRO HAS a winner with Time & Profit 2.0. Aimed at law firms (American Bar Association task codes are built in), consultants, and others who bill on a time basis, the program is flexible and much less complex than the popular TimeSlips. And while TimeSlips makes you export time and billing data to a full accounting package, Time & Profit has those features built in.

I reviewed the $179 single-user version, which can be upgraded to the $485 network version by obtaining a code from the publisher. Users can customize invoices for each client and easily edit pertinent time cards. One valuable report displays each employee's unbilled time, so managers can keep tabs on productivity.

During installation, you specify type of business and form of ownership; you can then jump right in and start entering time records. Employees, clients, jobs, and tasks can be entered on the fly. Timekeepers can maintain calendars in the program, then convert planned jobs to actual billable ones with a few keystrokes.

Unfortunately, the program doesn't use standard Windows conventions—it's not compatible with Microsoft Office, for example. And while you can bill for materials and other expenses, you can't track inventory. But otherwise, this remarkably flexible program should serve the timekeeping professional well.

—Theresa W. Carey ■



A CHECKBOOK AND OTHER ACCOUNTING TOOLS add to Time & Profit 2.0's value for people who bill by the hour.

Time & Profit 2.0

PRO: Easy to install, flexible, has built-in accounting features.

CON: Nonstandard interface, no inventory control.

VALUE: Good for small service-based businesses.

BytePro
888/298-3776
www.bytepro.com
Street price: $179 (network version $485 per five-user license)

READER SERVICE NO. 776

© 1997 Iomega Corporation.

(Digital Briefcase)

Iomega 100MB Zip™ disks give you the capacity to carry more. Learn more about Iomega Zip drives and disks at www.iomega.com/ZipIdeas.

(Digital Safe)

Iomega 100MB Zip™ disks give you the capacity to protect more. Learn more about Iomega Zip drives and disks at www.iomega.com/ZipIdeas.

After you've done your spreadsheet, take it for a spin.

166 MHz TD-22

- Intel 166 MHz Pentium Processor
- 16 MB Synchronous DRAM
- 512K Pipelined Burst Cache
- Intergraph Intense 3D™ 100 Graphics w/ 4 MB EDO RAM
- 1.7 GB 10ms EIDE Hard Drive
- 12X EIDE CD-ROM
- Microsoft® IntelliMouse
- 2 USB Ports, 2 Serial Ports, 1 Parallel Port
- 15sd67 Monitor (14.0"viewable)

$1,649 model #475

200 MHz TD-25

- Intel 200 MHz Pentium® Processor with MMX™ Technology
- 32 MB Synchronous DRAM
- 512K Pipelined Burst Cache
- Intergraph Intense 3D™ 100 Graphics w/ 4 MB EDO RAM
- 5.2 GB 10ms EIDE Hard Drive
- 12X EIDE CD-ROM
- Ensoniq™ 3D Wavetable Card plus Amp, Speakers & Mic
- Microsoft® IntelliMouse
- 2 USB Ports, 2 Serial Ports, 1 Parallel Port
- 17sd69 Monitor (16.0"viewable)

$2,649 model #473

233 MHz TD-25 NEW!

- Intel 233 MHz Pentium® Processor with MMX™ Technolag
- 32 MB Synchronous DRAM
- 512K Pipelined Burst Cache
- Intergraph Intense 3D™ 100 Graphics w/ 4 MB EDO RAM
- 5.2 GB 10ms EIDE Hard Drive
- 12X EIDE CD-ROM
- Ensoniq™ 3D Wavetable Card plus Amp, Speakers & Mic
- Microsoft® IntelliMouse®
- 2 USB Ports, 2 Serial Ports, 1 Parallel Port
- 17sd69 Monitor (16.0"viewable)
- 33.6 Baud Fax/Modem

$2,999 model #568

Systems include: 30-day money-back guarantee, 3 year limited warranty,* one year on site, Windows 95® w/30 Days Free Phone Support, Windows® 95 ready 104-key keyboard, tool-free mini tower case

Live the 3D experience

Intergraph, the leader in 3D workstation graphics, now brings the world of 3D computing to the business world.

3D computing at a PC price Even if you're not working with 3D applications yet, they're coming. And an Intergraph TD PC with 3D capabilities doesn't cost any more than a standard PC. Plus, you also get MPEG and AVI compatibility.

You'll run all your regular applications better than ever and have a path to all the great new 3D applications.

Do it all Now you can build a complex spreadsheet, create a stunning multimedia presentation with TV-quality video, check out the competition on the Web and play the latest 3D game in your spare time – all on the same computer.
Take it for a spin.

It's where you're going. We'll take you there.

Count on Intergraph
Our unmatched worldwide support programs deliver the service today's PC user demands to stay productive.

And with 25 years of experience, we're known as the leader in high-level graphics 3D workstations for animation, military simulations, game development, engineering, architecture and more.

We're the experts at building computers for disciplines that demand performance, quality and reliability.

Let us build a computer for you.

INTERGRAPH
COMPUTER SYSTEMS

266 MHz TD-225 **NEW!**

- Intel 266 MHz Pentium II Processor
- 64 MB EDO DRAM
- 512K Pipelined Burst Cache
- Intergraph Intense 3D™ 100 Graphics w/ 4 MB EDO RAM
- 5.2 GB 10ms EIDE Hard Drive
- 12X EIDE CD-ROM
- Ensoniq™ 3D Wavetable Card plus Multimedia Keyboard
- Microsoft IntelliMouse™
- 2 USB Ports, 2 Serial Ports, 1 Parallel Port
- 17sd69 Monitor (16.0"viewable)

$3,349 model #499

Order Direct Now!
1-800-394-0163
or order on-line
www.intergraph.com/express
Next-day shipment available.

*Services provided by Intergraph Corporation. On-site service may not be available [illegible]. 30 day money back, 15% restocking fee on returns. Freight, shipping and handling charges for shipment. For a complete copy of our terms and conditions, write to Intergraph, One Intergraph Way, Huntsville, AL 35894-0001, while supplies last. Prices and specifications are subject to change without notice. Intergraph and the Intergraph logo are registered trademarks and TD is a trademark of Intergraph Corporation. The names [illegible] are registered trademarks of Microsoft Corporation. ©1997 Intergraph Computer Systems 1-205-730-5441

Circle 116 on reader service card

contents

120 Browser Secrets **145** Web of Deceit **158** Bandwidth on Demand

ONE-STOP GUIDE *to today's* internet

ILLUSTRATIONS BY JIM LUDTKE

THERE'S NO ESCAPING IT. The Internet has changed how we work. It's the easiest way to stay in touch and the fastest way to get the jump on your competition. And who knows? Someday it may even help you make money.

But getting on the Net isn't always easy or fast. The tools are more powerful than ever—and more complicated. The content is richer, but it takes forever to download. And you'll have to wade through a sea of snake oil to get there.

How do you make the Net work for you? We start with your software. "Browser Secrets" serves up 50-plus tips for versions 3.*x* and 4.0 of Netscape Navigator and Microsoft Internet Explorer. Don't leave your home page without them.

Sure, that Web site looks genuine, but can you trust what you find there? "Web of Deceit" reveals how Net marketeers disguise ad copy as objective information—and how to tell the difference.

Meanwhile, "Bandwidth on Demand" examines the fastest routes to the Internet, from 56K modems to satellite hookups. We tell you what's available, what's coming, and what it will cost you.

Though the Web gets all the glory, it's e-mail that gets the real work done. In "First-Class E-Mail," we identify the best Internet mail packages for your needs.

We've saved the best for last. "Best of the Net" serves up the 101 top places to get help with your PC, grow your business, plan a trip, and much more.

So even if the Internet hasn't yet changed your life, don't worry—it will. Our one-stop guide will help you change it for the better. —*Daniel Tynan*

169 First-Class E-Mail **190** Best of the Net

browser secrets

50-plus tips for mastering Netscape and Explorer.

By Valerie Ryan

THE INTERNET GOES through more changes than Bill Clinton's cabinet. Unfortunately, the software you use to access it changes almost as quickly.

Browsers like Netscape Navigator and Microsoft Internet Explorer have evolved from simple Web-surfing tools into do-everything Internet suites. You can use them to manage e-mail, scan discussion groups, share your work with distant colleagues, and even talk to Mom on a "videophone." To complicate things even further, Netscape and Microsoft each offer two versions of their hugely popular products: a simpler version 3.*x* and the still-evolving "preview" version of their new, not-quite-finished suites.

How can you possibly keep up? That's where we come in—to serve up a heap of useful tips for Netscape Navigator 3.*x*, Internet Explorer 3.*x*, and the brand-new Netscape Communicator and Internet Explorer 4.0 suites. We'll help make it easier to find the Web sites you want, download files quickly, and send e-mail that everyone can read. We'll also help you collaborate with coworkers over the Internet and tell you how to get Web content sent directly to your screen.

One caveat: Because we used prerelease versions of Communicator and Internet Explorer 4.0 in our testing, some features and menu options may change between our writing this and your reading it. But with the Net, change is the one thing you can rely on. ▶

ILLUSTRATIONS, JIM LUDTKE

RIGHT-CLICK
URL ADDRESS
DELETE
PLUG-INS
NOT
EMAIL
DELETE

Navigating the Web

What's the best way to get to a new Web site? Or to get back to where you've already been? Here are some of the fastest and easiest ways to get around on the Web.

Less (Typing) Is More You don't have to type full Web addresses. If you're trying to get to http://www.something.com with either version of **Internet Explorer (IE)**, just type **something.com**. In **Navigator 3.*x*** **(N3)** or Communicator's **Navigator 4.0 (N4)**, a simple **something** will do. All four programs assume the 'http://www.', and both Netscape products assume the '.com'. If the URL varies from those settings—for instance, if it ends with .org, .net, or .gov—you'll have to type everything except the 'http://', as in **www.something.org**.

Home Is Where the URL Is The home page is the easiest page to get to, so make it a page you visit often. In **N3**, select *Options•General Preferences* and click the *Appearance* tab. Then select *Home Page Location*, enter the desired URL, and click *OK*. In **N4**, go to your choice for a new home page and select *Edit•Preferences*. Go to the *Navigator* category, and in the Home Page section click *Use Current Page*.

It's easy to assign a home page in **Internet Explorer 3.*x*** **(IE3)** or **4.0 (IE4)**. Go to your ideal home, select *View•Options*, and on the *Navigation* tab make sure that the Page option is set to *Start Page*. Click *Use Current*, then *OK*.

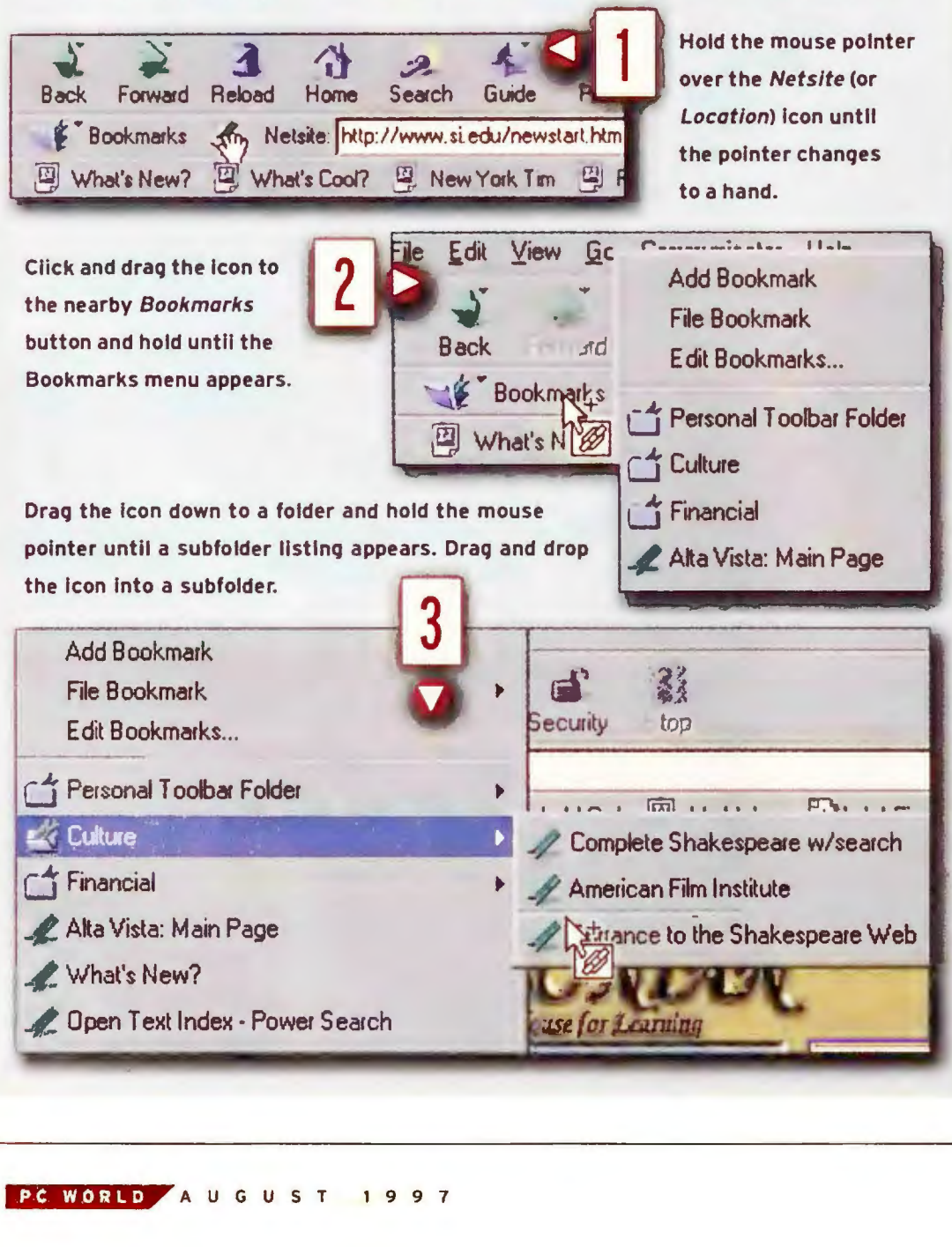
Links to Links You can add a Bookmark or Favorite without visiting the site first. Right-click the link and select *Add Bookmark* (in **N**) or *Add to Favorites* (in **IE**).

Up Close and Personal Links If you visit a Web site frequently, place links to it on your Personal Toolbar or Links bar. In **N4**, if you don't see the Personal Toolbar, select *View•Show Personal Toolbar*. Go to the desired page and drag the *Netsite* or *Location* icon onto your Personal Toolbar. You can edit the toolbar by clicking the *Bookmarks* button, selecting *Edit Bookmarks*, and opening *Personal Toolbar Folder*. This feature isn't available in **N3**.

Both **IE3** and **IE4** let you place links on a bar. Go to the page, select *View•Options*, and click the *Navigation* tab. Select an unused link in the Page list, then click *Use Current*. Click *Apply*.

DRAG AND DROP A NAVIGATOR BOOKMARK

In Netscape Communicator's Navigator 4.0, you can save a new Bookmark and put it into a particular subfolder at the same time.



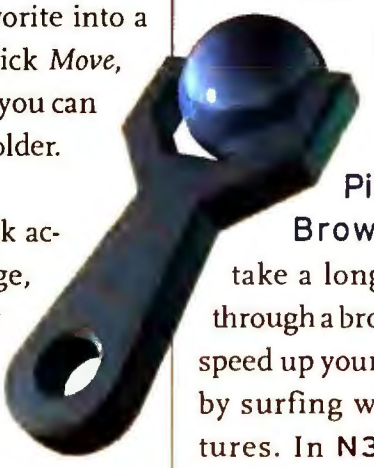
Rename Your Bookmarks/Favorites In **N3**, select *Bookmarks•Go to Bookmarks*; in **N4**, click the *Bookmarks* button and select *Edit Bookmarks*. In the resulting Bookmarks window, right-click a Bookmark, select *Properties* in **N3** or *Bookmark Properties* in **N4**, type any name you'd like in the Name field, and press **<Enter>**.

In **IE3** or **IE4**, select *Favorites•Organize Favorites*. In the resulting dialog box select a Favorite, click *Rename* or press **<F2>**, type a new name, and press **<Enter>**.

Put Your Bookmarks and Favorites in Their Place If your Bookmarks or Favorites menu is getting too long, add subfolders and move some of the entries into them. In **N3**, select *Bookmarks•Go to Bookmarks* and select the folder in which you'd like to place a new subfolder. Select *Item•Insert Folder*, type a name for the folder, and click *OK*. In **N4**, select *Bookmarks•Edit Bookmarks*, select the folder where the new subfolder will go, and select *File•New Folder*. Type a name for the new folder and press **<Enter>**. In either version, you can drag and drop Bookmarks into folders and move folders into other folders.

Making the Best Browser

Want to surf faster? See more on the screen? Or read text without having to squint? Tinkering with your browser's settings can make pages load more quickly and scroll more easily. Here's how to do it.



In IE3 or IE4, select *Favorites•Organize Favorites*. Click the *Create New Folder* icon, type a name for the new folder, and press **<Enter>**. To move a Favorite into a folder, select the Favorite, click *Move*, and select the folder. In IE4, you can also drag the file to the new folder.

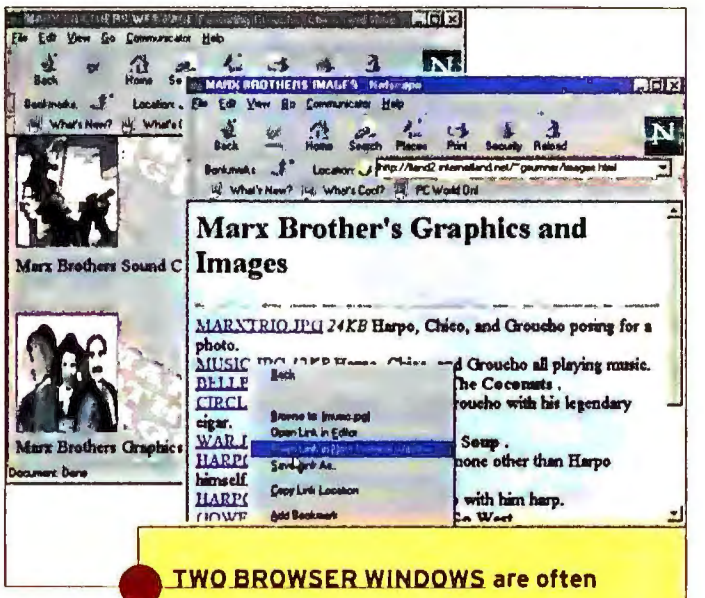
Desktop Access For quick access to a particular Web page, place a Shortcut to it on your Windows desktop; double-clicking the Shortcut will launch your browser directly to that page. In any of the programs, right-click a blank area of the page. In N3, select *Internet Shortcut*; in N4, IE3, or IE4, select *Create Shortcut*. In N4, you can also drag the icon (next to the address on the Location or Netsite bar) onto the desktop.

Search in Place In all the browsers except N3, you can search the Web without first going to a search engine. Simply type **go** and the word or phrase you're looking for anywhere you would otherwise type a URL.

Browsing in Two Places at Once To follow a link and stay at the current page, in N3 or either version of IE, right-click the link and select *Open in New Window*. In N4, select *Open Link in New Browser Window*.

Pictureless Browsing Images take a long time to come through a browser, so you can speed up your download time by surfing without the pictures. In N3, deselect *Options•Auto Load Images*. In N4, select *Edit•Preferences*, choose *Advanced*, deselect *Automatically load images*, and click *OK*.

In IE3 or IE4, select *View•Options*, and at the *General* tab deselect *Show Pictures*. (You can also deselect *Sounds* and *Videos* to avoid other big downloads.)



TWO BROWSER WINDOWS are often better than one—and easy to set up. See "Browsing in Two Places at Once."

Image, Come Back If you're working in no-picture mode, you'll occasionally want to view individual images, something all of the programs allow. In N3 or N4, right-click a graphic's placeholder icon and select *View Image* in N3 or *Show Image* in N4. In IE3 or IE4, right-click the placeholder icon and select *Show Picture*.

Pick Your Font Size If your browser's default font size is too large, you'll have to scroll a lot more. If it's too small, your eyes will get tired. Either way, you'll want to change the font size.

N3 offers no special way to do this, but it is possible. Select *Options•General Preferences* and click the *Fonts* tab. Then click *Choose Font* next to the font (Proportional or Fixed) you'd like to change, and select a different size. In N4, it's much easier: Select *View•Increase Font* or *View•Decrease Font* or press **<Ctrl>-]** or **<Ctrl>-[**. In IE3 or IE4, select *View•Fonts* and choose one of the five size options.

Outta-Sight Toolbars It's a simple equation: Fewer toolbars, link bars, address bars, and other types of bars equals more window space for browsing and less need for scrolling. So if you don't regularly use a toolbar, hide it. In N3, go to the *Options* menu to deselect the undesired toolbar. In N4, click once on a toolbar's left edge to collapse it.

In IE3 or IE4, select *View•Options*. On the *General* tab deselect any or all of the options in the Toolbar box and click *OK*. To hide all toolbars at once, go to the *View* menu and deselect *Toolbar*. ▶

THE BASIC KEYSTROKES IN ALL BROWSERS

Don't let your mouse slow you down. These keystrokes speed your browsing.

Action	Navigator	Internet Explorer
Go back	<Alt>-<Left>	<Alt>-<Left> or <Backspace>
Go forward	<Alt>-<Right>	<Alt>-<Right> or <Shift>-<Backspace>
Go to URL	<Ctrl>-l (in 3.*x*) or <Ctrl>-o (in 4.0)	<Ctrl>-o
Show history	<Ctrl>-h	<Ctrl>-h
Stop page loading	<Esc>	<Esc>
Edit Bookmarks/Favorites	<Ctrl>-b	<Ctrl>-b
Add Bookmarks/Favorites	<Ctrl>-d	<Ctrl>-d
Find on current page	<Ctrl>-f	<Ctrl>-f
Print current page	<Ctrl>-p	<Ctrl>-p
Reload current page	<Ctrl>-r	<Ctrl>-r or <F5>
Save current page as	<Ctrl>-s	<Alt>fa
New browser window	<Ctrl>-n or <Shift>+click link	<Ctrl>-n
Close current window	<Ctrl>-w	<Ctrl>-w
New message	<Ctrl>-m	<Alt>fm (in 3.*x*) or <Alt>fnm (in 4.0)
Increase font size	<Ctrl>-<Plus>	n/a
Decrease font size	<Ctrl>-<Minus>	n/a

Protect Yourself From Snoops

Who knows what sites you've been visiting? Anyone sitting down at your PC can find out, and so can people whose sites you visit—unless you take a few simple precautions.

Leave No History If you don't want people in your office or home to know which sites you've been visiting, the first thing you should do is clear out your browser's History list. In **N3**, simply close the program—the History folder will clear itself out (a rare case where a shortcoming can also be useful). In **N4**, select *Edit•Preferences*, choose *Navigator*, and click *Clear History*. In **IE3** or **IE4**, select *View•Options*, click the *Navigation* tab, and click *Clear History*.

An Empty Address and No Location People may snoop in the current URL displayed at the top of your browser window (labeled Address in Internet Explorer, and either Location or Netsite in Netscape, depending on site specifics). If you're using **IE3** or **IE4**, clearing your History folder (see "Leave No History" above) will wipe out the Address list. No such luck with the Netscape products.

You can clear the list by futzing with the Windows 95 Registry, but that's difficult and dangerous. A better solution is simply to not use the list. If you type in a URL at the Open Location dialog box (**<Ctrl>-l** in **N3** and **<Ctrl>-o** in **N4**), the address won't be recorded in the Location or Netsite list.

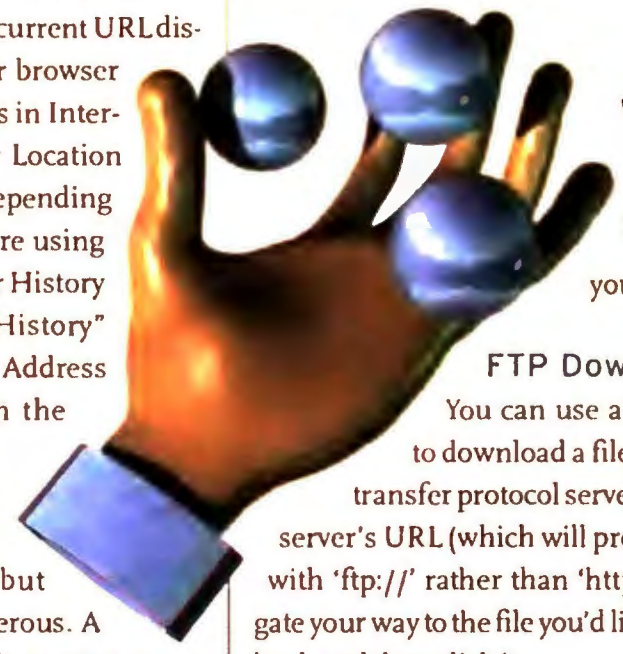
Where's the Cache? A third place people will look for your Web trail is the *cache folder*—a temporary storage area for recently visited pages and images. You can delete its contents after a browsing session, but there's a cost: You'll have slower surfing next time as your browser downloads files it might have found locally.

The exact location of the cache folder depends on decisions you made when you installed your browser. However, **N3**'s cache folder is probably C:\Program Files\Netscape\Navigator\Cache, **N4**'s is C:\Program Files\Netscape\Communicator\Users*username*\Cache, and **IE**'s is C:\Windows\Temporary Internet Files. Use Windows 95's Explorer to delete the folder's contents.

Beware the Cookie Monster Certain Web sites place special "cookie" files on your system that let them recognize you the next time you visit—and possibly track where you go in between. Cookies add some convenience to your life; for instance, if a site can recognize you by a cookie on your computer, you probably won't have to type in a password at every visit. But cookies can invade your privacy by tracking which sites you visit and giving marketers a profile of your interests, so you may want to turn them off.

In **N3**, select *Options•Network Preferences*, click the *Protocols* tab, and in the Show an Alert Before box check *Accepting a Cookie*. In **N4**, select *Edit•Preferences*, choose *Advanced*, and select *Warn me before accepting a cookie*. Or, if you'd like the browser to reject cookies without asking you, select *Disable cookies*.

In **IE3** or **IE4**, select *View•Options* and click the *Advanced* tab. In **IE3**, select *Warn before accepting cookies*. In **IE4**, just to make things confusing, you must deselect *Do not warn before accepting cookies*.



Juggling Files

How do you get a file off an FTP server? Or upload a file to one? And what about all those plug-ins littering your hard drive? We've got answers to all these problems.

FTP Downloading You can use any browser to download a file from a file transfer protocol server. Enter the server's URL (which will probably start with 'ftp://' rather than 'http://'), navigate your way to the file you'd like to download, and then click it.

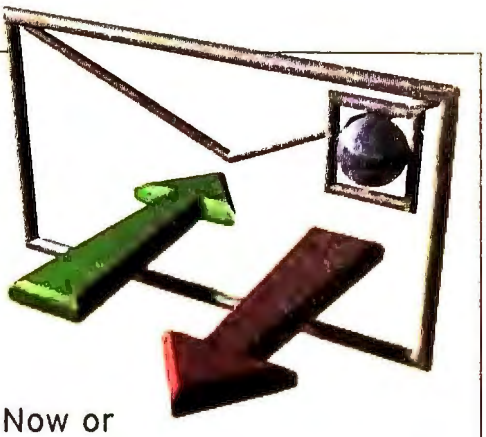
FTP, Windows 95-Style None of the browsers can upload and manage files on an FTP server. But Windows 95 can—if you don't mind dealing with a crude command-line interface. At the *Start* menu, select *Run* and enter the command **ftp**. At the resulting prompt, type **open**, followed by the name of your host—for example, **open ftp.microsoft.com**. For full instructions, go to the Windows 95 CD-ROM's admin\reskit\helpfile folder, launch the file win95rk.hlp, and search for **ftp**.

Finding a Better FTP If Windows 95's FTP utility doesn't please you (and it probably won't), you can download a third-party shareware tool. Two good ones are Ipswitch's WS_FTP (www.ipswitch.com/pd_wsftp.html) and GlobalScape's CuteFTP (www.cuteftp.com).

Get Yer Plug-Ins Here! If you decide that you have to have a particular plug-in or are looking for a certain type, point your browser to home.netscape.com/comprod/products/navigator/version_2.0/plugins/index.html. There you'll find Netscape's extensive list of plug-ins, with links to each. Many of them will work with Internet Explorer as well as with Navigator. Another good resource is BrowserWatch's Plug-In Plaza at browserwatch.iworld.com/plug-in.html.

Getting Rid of Plug-Ins Feel that a plug-in isn't doing anything but wasting space? Luckily, most of them have uninstall routines. From Windows' *Start* menu, select *Settings•Control Panel*. Double-click *Add/Remove Programs* and select the unwanted plug-in from the list.

Sending and Receiving E-Mail



Spending too much time using e-mail? Whether you're using Netscape Mail, Communicator's Messenger, or Internet Explorer's Internet Mail or Outlook Express, these tricks help make electronic correspondence easier and less time-consuming.

Make Your Messages Readable

Some e-mail programs can create HTML-formatted messages, but not all programs can read them. To make sure your messages are readable, shut off HTML. In Communicator's **Messenger 4.0**, select *Edit•Preferences* and click *Message* under Mail & Groups. Deselect *By default, send HTML messages*. While N3's **Netscape Mail** can display HTML-formatted messages, it can't send them.

In either Internet Explorer version, go to the Mail Options dialog box (in IE3's **Internet Mail** select *Mail•Options;* in IE4's **Outlook Express** select *Tools•Mail Options*), click the *Send* tab, and check *Plain Text* to deselect HTML.

Send Now or Later

All of the programs let you send messages immediately or save them in an out-box until you're ready to go online. Use the first option if you access the Internet through a local area network and the second if you use a modem.

The Netscape programs default to sending messages immediately. To ▶

sorting out e-mail file attachments

WHEN YOU SEND someone an e-mail message over the Net with a file attached—be it a word processing document, a picture, or a .zip archive—they might receive the message and the file. Or they might receive thousands of seemingly random characters, as if a demented stenographer had just done 8 hours of random typing after downing 19 double cappuccinos.

The problem is that the Internet's e-mail standard is intended for sending text, not files. Before a file can be mailed, it must be turned into something that looks like plain text to a PC. On the receiver's end, the text then has to be converted back into the original file. This requires that both sender and receiver have software that supports the same encoding standard. And there are three common standards: UUencode, Base64 (a subset of MIME), and BinHex.

It's good to know what standards your e-mail and your recipient's support (see "Sending Files Over the Internet"). If you receive your e-mail through a company LAN, ask the IS department. If all else fails, exchange some files and see what you get. Try Base64 first, as that's becoming the most popular standard.

Internet Explorer's e-mail programs can encode files using UUencode or Base64, letting you pick a format your recipient's software can handle. Go to the Mail Options dialog box (in Internet Mail select *Mail•Options;* in Outlook Express select *Tools•Mail Options*). Click the *Send* tab, select *Plain Text*, and click the *Settings* button. In the resulting dialog box, select *Uuencode* or *MIME (Base64)*. (The Netscape programs send only Base64 attachments.)

If you receive a mass of meaningless characters at the end of an otherwise short and comprehensible message, it's probably the remains of a file attachment your e-mail program couldn't decode. To determine what standard was used, look for a statement just before the gobbledygook—like 'Content-Transfer-Encoding: Base64', 'begin 600 picture.gif' (which signifies UUencoding), or 'Content-Type: application/mac-binhex40; name=" picture.gif"'.

If you and your recipients don't have compatible e-mail programs, use a third-party encoder/decoder. This solution isn't as convenient as using a compatible e-mail program, but it works. Among the downloadable shareware and freeware programs that will do the job are WinZip (www.winzip.com), Wincode (www.members.global2000.net/snappy/wincode.html), Decode Windows 95 Shell Extension (home.sprynet.com/sprynet/funduc), and XferPro (www.sabasoft.com).

SENDING FILES OVER THE INTERNET

Do you know what file attachment standards your e-mail package can send and receive?

E-MAIL PROGRAMS AND SERVICES	UUencode		Base64		BinHex	
E-mail front ends	Send	Receive	Send	Receive	Send	Receive
Eudora Pro 3.0	●	●	●	●	●	●
Microsoft Exchange/Windows Messaging	●	●	●	●	○	○
Microsoft Internet Mail 3.0	●	●	●	●	○	●
Microsoft Outlook Express 4.0	●	●	●	●	○	●
Netscape Mail 3.0	○	●	●	●	○	●
Netscape Messenger 4.0	○	●	●	●	○	●
Pegasus Mail	●	●	●	●	●	●
Online services [1]						
America Online 3.0	○	●	●	●	○	●
CompuServe 3.0	○	○	○	○	○	○
Microsoft Network [2]	●	●	●	●	○	○
Prodigy Internet	●	●	●	●	●	●

● Yes ○ No

[1] All online services have proprietary systems for sending attachments.
[2] Uses Microsoft Exchange/Windows Messaging.

change that setting, in **Netscape Mail**'s New Message window select *Options•Deferred Delivery* before clicking *Send*. In **Messenger**, you can delay a message by selecting *File•Send Later*. To send, select *File•Send Unsent Messages*.

Internet Explorer defaults to storing your files in an out-box for later delivery. To change that default in **Internet Mail** select *Mail•Options*; in **Outlook Express** select *Tools•Mail Options*. On the *Send* tab select *Send messages immediately*.

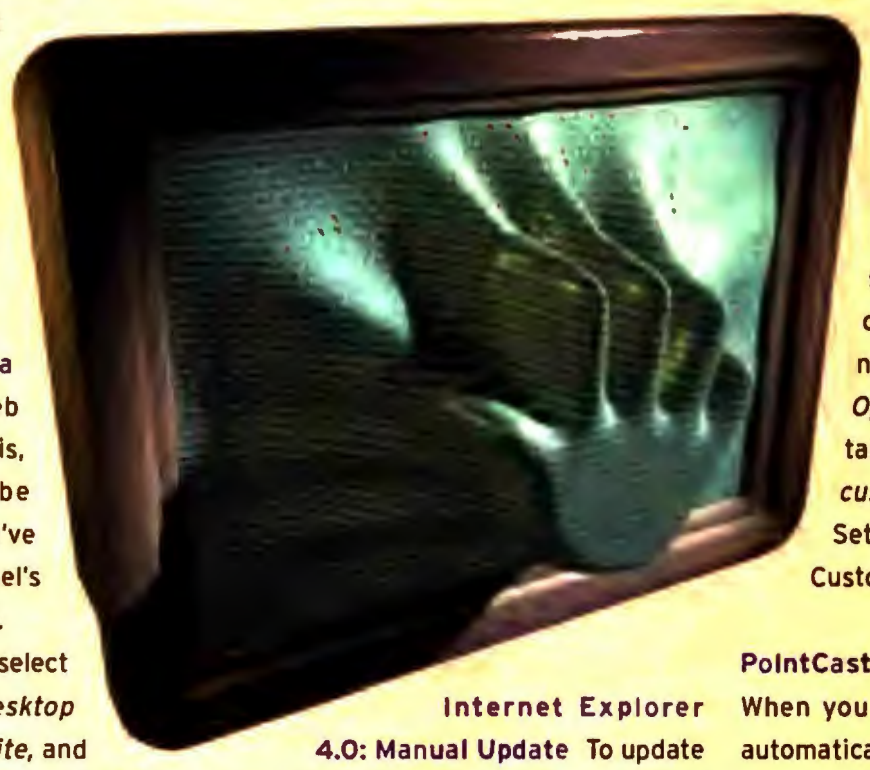
Signed and Sealed Let your mail program type your name and contact information at the end of each message. For the Netscape programs, first use Windows' Notepad to create a text file containing your desired "signature." Then select *Options•Mail and News Preferences* and click the *Identity* tab in **Netscape Mail**, or select *Edit•Preferences* and go to the *Identity* category in **Messenger**. Once there, click *Browse* to pick your file.

With either Internet Explorer mail program, you have a choice between saving the signature in a separate text file or as part of your program's configuration. Select *Mail•Options* (**Internet Mail**) or *Tools•Mail Options* (**Outlook Express**). Click the *Signature* tab. You can then select *Text* and type your signature in the available box, or click *File* to point to a text file.

Group Mailing If you frequently send e-mail to the same group of recipients, create a mailing list for one-step addressing. While creating a new message in **Netscape Mail**, select *Window•Address* ▶

bringing information to you

WHY WAIT FOR information to come through your modem when it can be waiting for you in the morning? With offline browsing and "push" technology, software can download the information you want from the Internet while you're away. Here are some tips for grabbing data with Internet Explorer 4.0 and PointCast Network, a popular third-party push program. Netscape Communicator's push component, Netcaster, wasn't ready in time for this article.



Internet Explorer 4.0: Data to Your Desktop Put a Web page on your desktop. To do this, Shell Integration must be enabled—and it is, unless you've turned it off with Control Panel's Add/Remove Programs utility.

Right-click the desktop and select *Properties*, then click the *Desktop* tab. Click *New*, select *Web Site*, and click *OK*. Type the full URL (the desktop won't assume the 'http://' part), press <Enter>, and answer the questions about when you want the Web page updated and so on. When you click *OK*, the page will be there. Drag its top left corner to move it and the bottom right corner to resize it. To update it, right-click the page and choose *Refresh*.

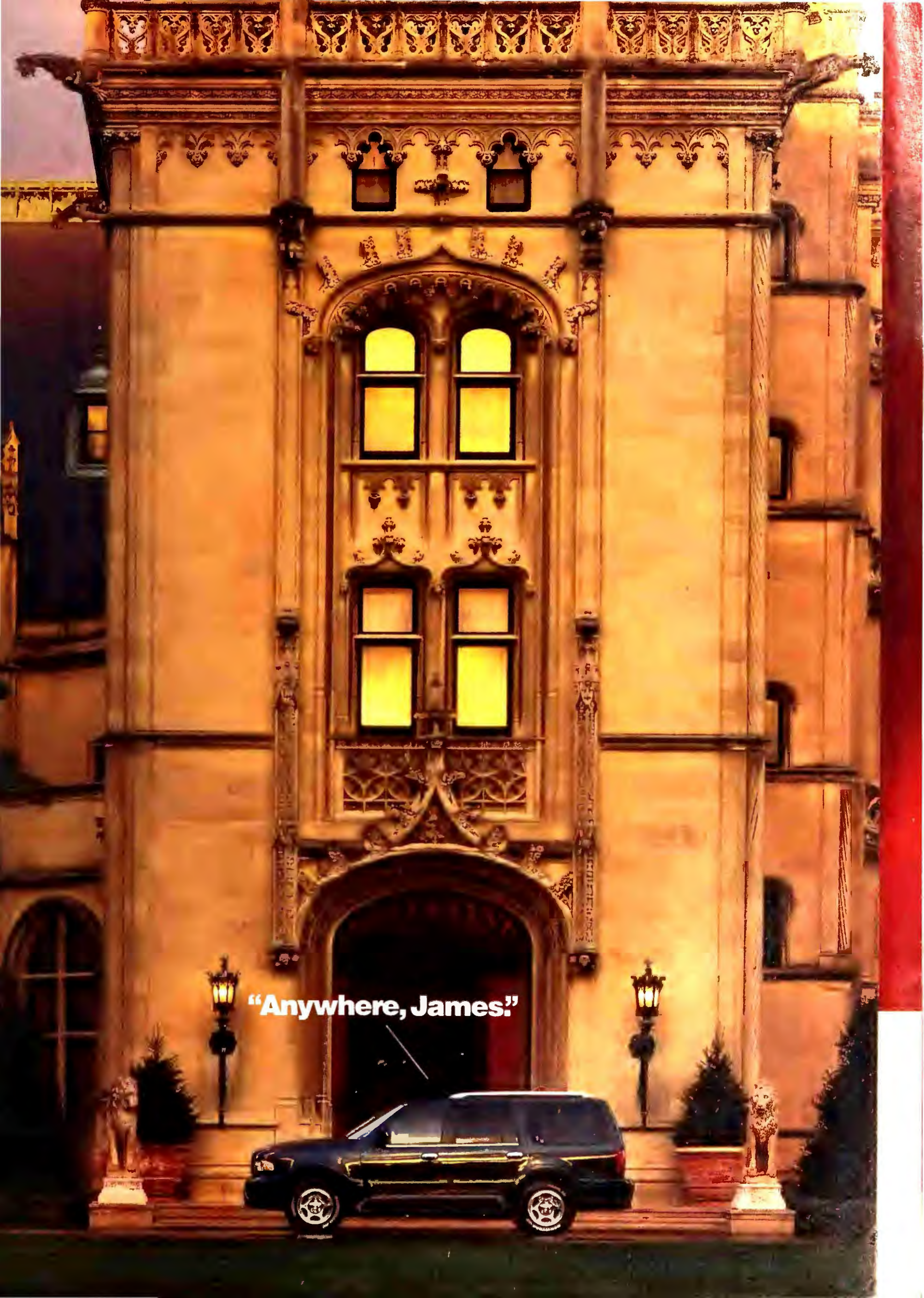
Internet Explorer 4.0: Active Components Where do you go to get "components"—that is, HTML-based information sources that you can put directly onto your IE4 Active Desktop? The obvious place to go is Microsoft's Component Gallery (www.microsoft.com/ie/ie40/gallery/), but who wants to explore only the obvious? You might want to check out two independent sites that also offer tips, news, and more components: www.activele.com and www.iegallery.com.

Internet Explorer 4.0: Manual Update To update all your desktop components, simply press <F5>. This renews your entire desktop, including active components.

Internet Explorer 4.0: Subscribe to a Favorite Don't waste time surfing familiar sites. Subscribe to them and IE4 will periodically visit the pages and download new information. To subscribe to a site that's already in your Favorites folder, select *Favorites•Organize Favorites*. Right-click a Favorite and select *Properties*. Click the *Subscription* tab, then click the *Subscribe* button. In the resulting tabbed dialog box, you can set how often Internet Explorer checks the site (daily, weekly, or at other intervals), what it downloads (images, linked pages), and how it notifies you.

PointCast: Setting the Schedule When PointCast Network downloads information, your system can slow down noticeably, so let PointCast do its online work when you're not around. You can set the service to update its information at set intervals—for instance, at midnight or some other time when you're bound not to be bothered by it. Click the *Options* button, click the *Update* tab, and choose *Update with my customized schedule (set below)*. Set the details in the dialog box's Custom Update Schedule box.

PointCast: Turn Off the Screen Saver When you install PointCast Network, it automatically becomes your screen saver, pushing information onto your computer when you're away. But this isn't always an ideal situation. If you use a modem, you may want to have the line free for phone calls or faxes. Or you may just prefer flying toasters. You can't turn this feature off in PointCast, but you can in Windows 95. Right-click the desktop, select *Properties*, click the *Screen Saver* tab, and at the *Screen Saver* pulldown menu select anything but PointCast Network. Yes, there is a '(None)' option—the first one.


"Anywhere, James."

Introducing Navigator from Lincoln.

The new Lincoln Navigator is the most luxurious way to travel...anywhere. A rugged and refined full-size luxury sport utility vehicle with a 5.4-liter V-8 engine, up to 8,000 pounds towing capacity, available Control-Trac four-wheel drive and a spacious

LINCOLN

leather-trimmed interior with burl walnut accents. For more information call 1 888 2ANYWHERE (1 888 226-9943), visit our web site at www.lincolnvehicles.com or see an authorized Lincoln Navigator dealer.

Navigator from Lincoln. What a luxury [ ] should be.

Circle 132 on reader service card

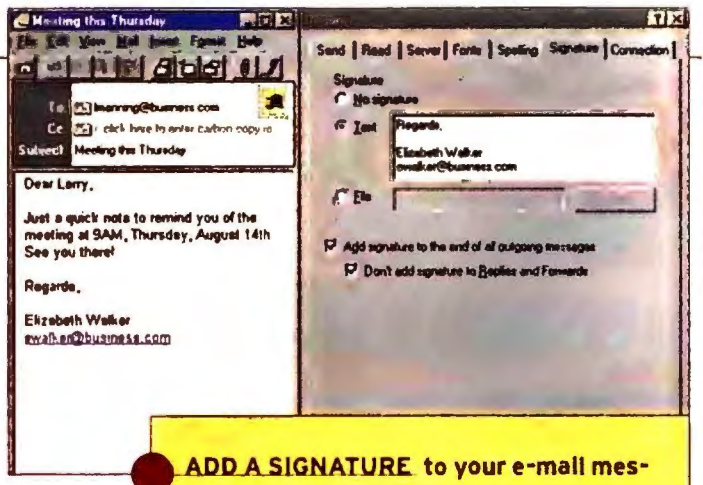
Book. Select *Item•Add List*, give the list a name, and press **<Enter>**. The list will appear in your address book, where you can drag existing recipients. In **Messenger's** Message Composition window, select *Communicator•Address Book* and click *New List*. Start typing names into the list—Messenger will complete them.

In **Internet Mail** select *File•Address Book* or in **Outlook Express** click the *Address Book* icon. Click the *New Group* icon. Type a name for the group and click *Select Members*. Hold down **<Ctrl>** as you select recipients for the group. Click *Select*, then click *OK* twice.

Neat and Tidy Messages If your in-box is getting full, move some messages to other folders. In **Netscape Mail**, select *File•New Folder*, type a name, and press **<Enter>**. Then drag messages into the new folder. Create a new folder the same way in **Messenger**, then right-click a message and select *File Message* to move it.

In **Internet Mail**, select *File•Folder•Create*. To relocate a message, right-click it and select *Move to* and the name of your folder. In **Outlook Express**, select *File•Folder•New Folder*. Drag and drop any message on the new folder.

Bozo Filter Three of the programs will let you send messages from an annoying person directly to the dead-letter office. In **Messenger**, select *Edit•Mail Filters* and click *New*. **Netscape Mail** doesn't offer a bozo filter. In **Internet Mail**, select *Mail•Inbox Assistant* and click *Add*. In **Outlook Express**, select *Tools•Inbox Assistant* and click *Add*.



ADD A SIGNATURE to your e-mail messages to cut down on repetitive typing. See "Signed and Sealed."

Footloose and Password-Free If you feel it's safe, disable your e-mail program's password feature and save a little time and effort loading the program. In **Netscape Mail**, select *Options•Mail and News Preferences*, click the *Organization* tab, and select *Remember Mail Password*. In **Messenger**, select *Edit•Preferences* and click the *Mail Server* category under Mail & Groups. Then click *More Options* and select *Remember my mail password*.

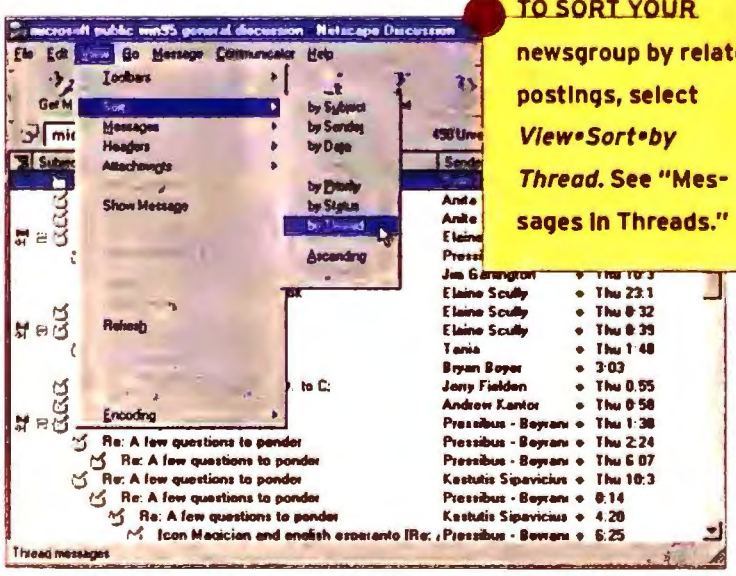
In **Internet Mail**, select *Mail•Options*, and on the *Server* tab enter your password. In **Outlook Express**, select *Tools•Accounts*, select your mail account, and click *Properties*. On the *Servers* tab, type your password.

Participating in Newsgroups

With newsgroups, you can post or read messages on thousands of topics. Here's how to track all those messages in Netscape News, Collabra, Internet News, and Outlook Express.

The Search Is On There are a lot of newsgroups out there, and unless you're using **N3**, your news program can help you find the right ones. In Communicator's **Collabra** newsreader, click the *Subscribe* button. In the resulting dialog box, click the *Search for a Group* tab. Type what you're looking for (such as **windows**) on the Search line and press **<Enter>**.

In either **IE** news program, click the *Newsgroups* button and type your search criteria in the 'Display newsgroups which contain' field. No need to press **<Enter>**—the program searches automatically.



TO SORT YOUR newsgroup by related postings, select *View•Sort•by Thread*. See "Messages in Threads."

Reading and Writing Offline With any of the newsreaders except **N3's**, you can cut online time by downloading messages for reading offline. Hold down **<Ctrl>** as you select interesting-looking messages. Then, in **Collabra**, select *File•Get Messages•Selected for Offline Reading*. In either **IE** news program, right-click one or more messages and then select *Mark Message for Download*. The next time that you connect, select *News•Post and Download* in **Internet News**, or *Tools•Synchronize•Get Marked Messages* in **Outlook Express**. Wait for the messages to download, and then disconnect to read them. Offline, the headers with messages attached to them have little pushpin icons.

When you reply to messages offline, they're saved to an out-box. In **Collabra**, compose replies offline and click *Send*. To actually send the replies, select *File•Go Online*, and with *Send Messages* selected, click *Go Online*. In **Internet News** or **Outlook Express**, compose your replies and click the *Post* button. To send them, select *Offline•Post and Download*.

Double Headers When you open a very large newsgroup, save time by limiting the number of messages that download at a time. In **N3's Netscape News**, select *Options•Mail and News Preferences*, and on the *Servers* tab set the *Get xx Messages at a Time* option, where *xx* is a number you enter. To retrieve more messages, select ▶

The World's Finest Digital Colors Have A New Name

Aficio Color™

The Future Of Digital Imaging

Welcome to the Aficio Color series. From Ricoh. Vibrant color that delivers eye-catching presentations. Connectable color copiers that turn the world's smallest toner particles into the world's finest colors. Digital brainpower that offers a whole new array of image-manipulation and document-handling options. Effortless. Reliable. Digital. And affordable. Come see the Aficio Color series from Ricoh. See what we can't show you here. A real Aficio color copy. Call 1 800 63 RICOH. Or online at http://www.ricoh.com

THE NAME TO KNOW
RICOH

© 1996 Ricoh Corporation

Circle 204 on reader service card

DELL DIMENSION DESKTOPS FOR BUSINESS

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ Microsoft® Office 97 Small Business Edition plus Bookshelf ◆ MS® Windows® 95 ◆ MS Mouse (MS IntelliMouse on XPS System) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty† with 1 Year On-site^ Service
Upgrades: ◆ 3Com® 3C905 Fast EtherLink® XL 10/100 PCI Card, add $109. ◆ 4/8GB EIDE TR4 TBU, add $199. ◆ HP LaserJet 6Pse Printer, add $799. ◆ 3-Pak of Zip 100MB Cartridges, add $3

NEW DELL DIMENSION* XPS H266
266MHz PENTIUM® II PROCESSOR FEATURING MMX™ TECHNOLOGY

Common features listed above plus:
- 64MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- *NEW* 1000TX Trinitron® Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

$3399

Business Lease°: $126/Mo.
Order Code #500709

NEW DELL DIMENSION XPS H233
233MHz PENTIUM II PROCESSOR FEATURING MMX TECHNOLOGY

Common features listed above plus:
- 32MB EDO Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2599

Business Lease°: $96/Mo.
Order Code #500708

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM® PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to a 6.4GB Hard Drive with 512KB cache (9.5ms), add $85.*

★ *Upgrade to a Matrox Millennium II 4MB WRAM Video Card, add $99.*

$2399

Business Lease: $89/Mo.
Order Code #500707

DELL DIMENSION XPS M200s
200MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to 64MB SDRAM, add $239.*

★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$2199

Business Lease: $81/Mo.
Order Code #500706

THEIR PERFORMANCE EVEN SQUEEZE MORE

DELL DIMENSION DESKTOPS FOR HOME

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ *NEW* 56K Capable** U.S. Robotics x2 Telephony Modem ◆ MS Windows 95 ◆ MS Mouse (MS IntelliMouse on XPS Systems) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty with 1 Year On-site Service
Upgrades: ◆ Iomega Zip 100MB IDE Internal Drive w/One Cartridge, add $99. ◆ HP DeskJet 820Cse Color Printer, add $299. ◆ 3 yrs. On-site Service, add $99.

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- 1000TX Trinitron Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 8MB WRAM Video Card
- Yamaha 32 Wave Table Sound
- Altec ACS-490 Full Dolby® Surround Sound Speakers with Subwoofer
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- MS Office 97 Small Business Edition plus Encarta

$3499

Order Code #500704

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory
- 6.4GB Hard Drive with 512KB Cache (9.5ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2999

Order Code #500703

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 32MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to a 4.3GB Hard Drive (10ms), add $65.*

$2499

Order Code #500702

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 16MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- 2MB EDO ViRGE 3D Video
- Sound Blaster 16 PnP Sound Card
- Altec Lansing ACS-90 Speakers
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 32MB SDRAM, add $119.*

★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$1899

Order Code #500701

Thousands of other custom configuration

MMX™ intel inside pentium PROCESSOR

‡Pricing is not discountable †For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L.P. attn: Warranty, One Dell Way, Round Rock, TX 78682 °Leasing arranged by third-party leasing companies to qualified customers *System weight with floppy drive or CD-ROM in options bay ^On-site service provided by an independent third-party provider. May not be available in certain remote areas **x2 products are capable of 56Kbps downloads. Due to FCC rules that restrict power output, however, current download speeds are limited to 53Kbps. Upload speeds are limited to 33.6 Kbps. Actual speeds may vary depending on line conditions. *Prices and specifications valid in the U.S. only and subject to change without notice. Intel, the Intel Inside logo, LANDesk and Pentium are registered trademarks and MMX and EtherExpress are trademarks of Intel Corporation. MS, Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation. 3Com and EtherLink are registered trademarks of 3Com Corporation. Trinitron is a registered trademark of Sony Corporation. DirectLine is a service mark of Dell Computer Corporation. ©1997 Dell Computer Corporation. All rights reserved.

GET FREE DELL NEWS, RIGHT AT YOUR DESKTOP!
With DirectNews, Dell's free priority email bulletin, you can get pricing, product announcements, and limited time offers emailed direct to your computer, as soon as they become available. This money and time saving bulletin is available exclusively by subscription. And it's easy to subscribe. Just email us at listserver@dell.com with the message "join ddn" And then watch your mailbox for the inside scoop on Dell's latest offers.

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 16MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 800LS Monitor (13.7" v.i.s.)
- 2MB EDO ViRGE 3D Video
- ★ *Upgrade to 32MB SDRAM, add $119.*
- ★ *Upgrade to an 800HS Trinitron Monitor (13.7" v.i.s., .26dp), add $49.*
- ★ *Sound Blaster 16 PnP and Altec ACS-90 Speakers, add $89.*
- ★ *Iomega Zip 100MB IDE Internal Drive with One Cartridge, add $99.*

$1799

Business Lease: $67/Mo.
Order Code #500705

DESKTOP SOFTWARE DESCRIPTIONS

MS Office 97 Small Business Edition (SBE) includes:
- Word 97
- Excel 97
- Publisher 97
- Outlook 97
- Automap Streets Plus
- Small Business Financial Mgr 97
- Internet Explorer 3.0

MS Home Essentials plus Best of Entertainment Pack includes:
- Word 97
- Works 4.0
- Encarta 97
- Greetings Workshop
- Arcade
- Internet Explorer 3.0
- TETRIS, Taipei, SkiFree, Dr. BlackJack and more.

NEW DELL POWEREDGE SERVERS

Common features: ◆ 512KB L2 Cache ◆ Integrated Ultra-Wide SCSI-3 Controller ◆ Intel® EtherExpress™ Pro/100 NIC ◆ Intel LANDesk® Server Manager v2.5x ◆ Dell Server Assistant CD ◆ 3 Year Limited Warranty†

DELL® POWEREDGE® 2200 SERVER
266MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 96MB ECC EDO Memory
- 4GB Ultra-Wide SCSI-3 Hard Drive (7200 RPM, 8ms) (27GB Max.)
- 8X SCSI CD-ROM Drive
- MS Windows NT® Server 4.0
- ★ *Upgrade to 128MB ECC EDO Memory, add $220.*
- ★ *Upgrade to a 9GB Ultra-Wide SCSI-3 Hard Drive, add $450.*
- ★ *Upgrade to 3 Years On-site Service, add $99.*

$4999

Business Lease: $179/Mo.
Order Code #250072

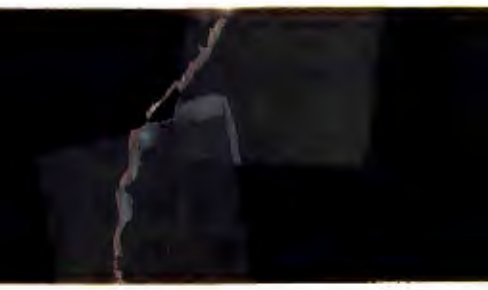
DELL POWEREDGE 2200 SERVER
233MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 32MB ECC EDO Memory
- 2GB Ultra-Wide SCSI-3 Hard Drive (7200 RPM, 8ms) (27GB Max.)
- 8X SCSI CD-ROM Drive
- 3Com OfficeConnect Hub 8/TPC
- ★ *Upgrade to 64MB ECC EDO Memory, add $239.*
- ★ *Upgrade to a 4GB Ultra-Wide SCSI-3 Hard Drive, add $320.*
- ★ *4/8GB SCSI DAT Tape Backup, add $749.*

$3249

Business Lease: $119/Mo.
Order Code #250070

IS SO STRONG, IT'LL
FROM YOUR DOLLAR.



DELL LATITUDE NOTEBOOKS

Common features: ◆ 256KB L2 Pipeline Burst Cache ◆ Options Bay accepts 12X Variable CD-ROM, 3.5" Floppy Drive (both included), or Optional 2nd Li-Ion Battery ◆ PCI Bus with 128-bit Graphics Accelerator with 64K Colors ◆ Integrated 16-bit Stereo Sound ◆ Smart Lithium Ion Battery ◆ Microsoft Windows 95 ◆ IrDA 1.0 Standard Compliant ◆ Touchpad ◆ Under 7 Pounds* ◆ Extendable 1 Year Warranty†

NEW DELL LATITUDE® LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 72MB RAM
- 2.1GB Hard Drive
- 2nd Lithium Ion Battery
- MS Office 97 Small Business Edition
- ★ *Motorola 33.6 Fax Modem, add $169.*
- ★ *3Com LAN+ 33.6 Modem PC Card, add $349.*
- ★ *Dell Latitude LM Port Replicator, add $159.*
- ★ *Leather Carrying Case, add $129.*

$3949‡

Business Lease: $142/Mo.
Order Code #800143

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 40MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem
- MS Office 97 Small Business Edition
- ★ *Upgrade to 72MB RAM, add $299.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *3Com 10Base-T Network Card, add $139.*

$3499‡

Business Lease: $129/Mo.
Order Code #800144

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- MS Office 97 Small Business Edition
- ★ *Upgrade to 40MB RAM, add $299.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *Motorola 33.6 Fax Modem, add $169.*
- ★ *Dell Latitude LM Port Replicator, add $159.*
- ★ *Leather Carrying Case, add $129.*

$2999‡

Business Lease: $111/Mo.
Order Code #800140

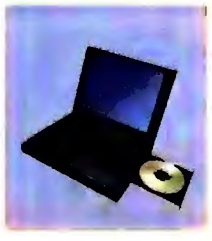
DELL LATITUDE LM P133ST
133MHz PENTIUM® PROCESSOR

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem
- ★ *Upgrade to 24MB RAM, add $99.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *Nylon Carrying Case, add $69.*
- ★ *Dell Latitude LM Port Replicator, add $159.*

$2699‡

Business Lease: $100/Mo.
Order Code #800138

vailable. What can we build yours to do?



TO ORDER TOLL-FREE
800-545-7126
TO ORDER ONLINE
www.dell.com/buydell

Mon-Fri 7am-9pm CT
Sat 10am-6pm CT
Sun 12pm-5pm CT
In Canada, call 800-232-6978
GSA Contract #GS-35F-4076D

Keycode #03276

DELL®

File•Get More Messages. In **Collabra,** select *Edit•Preferences,* and in the Mail & Groups *Groups Server* category set the *Notify me when downloading more than xx messages* option.

In **Internet News,** select *News•Options,* click the *Read* tab, and set the *Download xx headers at a time* option. When you're ready for the next batch, select *News•Get next xx headers.* In **Outlook Express,** select *Tools•News Options,* click the *Read* tab, and set the *Download xx headers at a time* option. To retrieve the next group of messages, select *Tools•Synchronize•Get next xx headers.*

Messages in Threads Sort a newsgroup by thread to keep related messages together. In **Netscape News,** select *View•Sort•Thread Messages.* In **Collabra,** select *View•Sort•by Thread* or click the *Sort by Thread* icon by the column headings. In either IE news program, select *View•Sort By•Group Messages by Thread.*

Communicating One-on-One

Collaborating with someone who lives far away? If you both use the same browser collaboration tool—CoolTalk, Conference, or NetMeeting—you can work together in real time over the Internet.

Speedy Dialing You'll probably want to place the people you call most often on easy-to-use "speed dial" buttons for one-click access. In N3's **CoolTalk,** click the *Start Conference* icon, select an address, and click *Add to Speed Dial.* Type a label for the button, click *Add,* then click *OK* to display the button at the bottom of the CoolTalk window. In Communicator's **Conference** program, select *Speed Dial•Speed Dial 1•Edit* and type in the relevant information. Click *OK,* then click *Show Speed Dial* to display the buttons.

In IE3's **NetMeeting 1.0,** you must actually place the call. Select *Call•Place Advanced Call,* complete the dialog box, making sure that *Add Speed Dial* is selected, then click *Call.* If the call is successful, the address will be preserved.

In IE4's **NetMeeting 2.0,** click the *Speed Dial* button, complete the dialog box, making sure that *Add to Speed Dial List* is checked, then click *Call.*

Unlisted Conferencing Don't want strangers calling you to test their conferencing software? Then keep your name out of public directories. In **CoolTalk,** select *Conference•Options,* go to the *Conference* tab, and deselect *Make me available through server.* In **Conference,** select *Call•Preferences* and on the *Network* tab deselect *List my name in phonebook.*

In **NetMeeting 1.0,** select *Tools•Options,* click the *My Information* tab, and deselect *Publish the information in the User Location Service directory.* In **NetMeeting 2.0,** select *Tools•Options,* click the *Directory* tab, and check *Do not list my name in the directory.*

Hold All Calls You can choose to receive incoming calls automatically, upon your approval, or not at all. To set this option in **CoolTalk,** select *Conference•Options,* and at the *Conference* tab choose an option under *Accept Invitation.* In **Conference,** the various options are on the *Call* menu.

For similar options in either version of **NetMeeting,** select *Tools•Options,* and on the *General* tab select any or all of the options under *Incoming calls.*

Do Not Disturb And what if you don't want to be bothered at all? In **Conference** or either version of **NetMeeting,** select *Call•Do Not Disturb.* This feature is not available in **N3.**

Valerie Ryan is a staff editor for PC World Online. She writes tips and how-to columns for PCW Online and Tip World. ■

aol with your choice of browser

YES, VIRGINIA, YOU CAN use the latest Windows 95 browsers with America Online 3.0. The trick is having the *right* version of AOL 3.0—and it's not the one that comes on those ubiquitous floppies. Here's how to make AOL act like a real Internet provider:

1 Find out what version of AOL you have. Launch AOL and select *Help•About America Online.* You probably have AOL 3.0 for Windows; you want version 3.0 for Windows *95.*

2 Upgrade if you have to. If you don't have the Windows 95 version, log on to AOL and go to the keyword **get95.** There you can download an 11MB file called setup95.exe. When you run the program, it will install the new version.

3 See what you've got. AOL for Windows 95's browser is Internet Explorer 3.0, albeit neatly disguised with a special user interface. For proof, go to the browser and click *Prefs;* you'll get IE's Options menu.

4 Pick your browser. If you're not satisfied with a disguised Internet Explorer, you can use any Win 95 browser with your new version of AOL. In fact, you can use almost any Internet-aware application, even Norton AntiVirus's LiveUpdate. Just log on to AOL, then launch your browser or other Internet program and start using it—no configuration necessary.

THE DEFAULT browser in AOL for Windows 95 is really Internet Explorer 3.0.

5 Know the exceptions. Separate mail readers and newsreaders won't work with AOL. You must use AOL's own software to read e-mail and converse with other users.

Juiced Up.

Call now to order.
800-249-1176
www.micronpc.com

MICRON ELECTRONICS™

CONFIGURED FOR YOUR LIFE

Pick Micron.™

The best computers in the bunch.

At Micron, we back our computers. Every day.

We know you want the freshest technology out there. That's why our engineers are constantly coming up with ways to make our award-winning PCs and notebooks smarter, faster and more fun. You won't find a lemon in the bunch, either. Our components go through rigorous quality-assurance tests, and all of our products conform to rigid certification standards.

When you pick Micron, you can custom-configure a system that meets your needs—so it's homegrown, not mass-produced. When you pick Micron, you get the steadfast 24-hour customer service and support that we're famous for. And when you pick Micron, you get one of the best warranties in the business from one of the best companies in the business.

So pick Micron today. It's good for you.

intel inside

pentium® PROCESSOR

Portables

Lots of zing.

The Micron TransPort™ Series. Notebooks with real bite.

What's small, sweet and gives you a lot of punch?

A Micron TransPort notebook, of course. Our outstanding line of portable PCs offers impressive flexibility, tempting prices and the hottest features on the market.

High-end users will handpick our TransPort XKE. A true desktop replacement, we've loaded our XKE with a high performance graphics accelerator, active matrix screen, upgraded CD-ROM, tons of memory and more. Our TransPort XPE fits the bill if you're looking for a top-grade computer for home, office or travel. And, our TransPort VLX offers flexibility and sleek styling for a more-than-palatable price.

So pack a little punch. Try our TransPort notebooks.

Call now to order.

800-249-1176

www.micronpc.com

MICRON ELECTRONICS™

CONFIGURED FOR YOUR LIFE

intel inside
pentium® PROCESSOR

Like peas in a

The Micron™ Vetix™ and ClientPro™ Series. Solutions for a healthy network.

Need solutions for your growing network?

If you can dish it out, our systems can take it. Our ClientPro PCs and Vetix servers effortlessly get you network running–and keep it running.

We pack our hearty Vetix MXI chock-full of features, like redundant power supplies and high-degre fault-tolerant components including swappable hard drives. And, we made our entry-level LXI mode expandable, reliable and tough.

pod.

Business Solutions

Complement your server with our ClientPro desktops. We've designed them to be easy to set up, easy to upgrade and easy to network. That means you reduce potential downtime and lower your total cost of ownership. And, if you have networking questions–your answers are just a phone call away. That's what our unwavering customer support is all about.

This powerful pair makes networking easy. And that's a pretty sweet dish.

Call now to order.

800-249-1176

www.micronpc.com

MICRON ELECTRONICS™

CONFIGURED FOR YOUR LIFE

intel inside
pentium PROCESSOR

Extra hot.

The Micron™ Millennia™ Series. Desktops and workstations with some kick.

You want power. You want performance. In other words, you want Micron.

Check out our Millennia series. Even though it's packed a wallop in personal computing for a long time, we keep figuring out ways to make it even hotter.

Now, our Millennia line includes models with Fusion 3D™ for those ready to dish up computer entertainment – real entertainment like graphics-laden games or video-packed Internet sites. Our Millennia XRU with Pentium II processors and MME with Pentium processors feature MMX™ technology, 3D video, MPEG and 16X EIDE CD-ROM. These desktops promise speed, performance and easy upgrades.

Or, set a blistering pace with the new Micron Powerdigm™ workstation. The Powerdigm, fueled by dual Pentium Pro processors, works great for graphic design projects, engineering graphics, financial analyses, AutoCad work and more.

Looking for more hot stuff? The Powerdigm comes loaded with a network card and Microsoft® Windows NT® preinstalled–so you're immediately ready to network. And the optional Diamond Fire GL video cards make 3D imaging an affordable reality.

Call now to order.
800-249-1176
www.micronpc.com

MICRON ELECTRONICS ™

CONFIGURED FOR YOUR LIF

MICRON™ MILLENNIA™ XRU WITH FUSION 3D™

Intel 266MHz Pentium® II processor (features MMX™ technology)
32MB EDO RAM
4GB EIDE hard drive
19" Hitachi SuperScan CM751, .26dp (18" display)

STANDARD FEATURES

512KB internal L2 cache, 2MB BIOS
PCI 64-bit 3D video, MPEG, 4MB EDO RAM
Monster 3D graphics card with 4MB memory
3.5" floppy drive, 100MB Iomega Zip drive
DVD-ROM drive,* DVD software, E4 Cool DVD PCI decoder card:
6 channel AC-3 to 2 channel out capability,
SPDIF output (digital audio out)
56Kbps technology modem**
Awe 64 sound card
Cambridge SoundWorks/MicroWorks-
2 speaker satellite with subwoofer stereo system
Tool-free minitower or desktop
Popular game titles/Internet multi-player gaming
Microsoft® Intellimouse, 104-key keyboard
Microsoft Windows® 95 and MS® Plus! CD
Microsoft Office 97 SBE CDs
Universal Serial Bus connections
MS Sidewinder Pro joystick
5-yr/3-yr Micron Power℠ limited warranty

$4,199
Bus. lease $143/mo.

MICRON MILLENNIA MME WITH FUSION 3D

Intel 233MHz Pentium processor with MMX
32MB SDRAM
3.1GB EIDE hard drive
17" Micron 17Fcx, .26dp (16.0" display)

STANDARD FEATURES

512KB pipeline burst cache, flash BIOS
PCI 64-bit 3D video, MPEG, 4MB EDO RAM
Monster 3D graphics card with 4MB memory
3.5" floppy drive
100MB Iomega Zip drive
24X EIDE variable speed CD-ROM drive
32 voice wavetable stereo sound
Advent 370's - speaker/subwoofer system
56Kbps data fax/modem**
Tool-free minitower or desktop
Microsoft Intellimouse, 104-key keyboard
Microsoft Windows 95 and MS Plus! CD
Microsoft Office 97 SBE CDs
Universal Serial Bus connections
Popular game titles/Internet multi-player gaming
MS Sidewinder Pro joystick
5-year/3-year Micron Power limited warranty

$2,899
Bus. lease $99/mo.

MICRON MILLENNIA XRU

Intel 266MHz Pentium II processor (features MMX)
32MB EDO RAM
5.1GB EIDE hard drive
17" Micron 17FGx, .26dp (16.0" display)

STANDARD FEATURES

512KB internal L2 cache, 2MB BIOS
3.5" floppy drive
100MB Iomega Zip drive
24X EIDE variable speed CD-ROM drive
32 voice wavetable stereo sound with speakers
56Kbps technology modem**
PCI 64-bit 3D video, MPEG, 4MB EDO RAM
Tool-free minitower or desktop
Microsoft Intellimouse, 104-key keyboard
Microsoft Windows 95 and MS Plus! CD
Microsoft Office 97 SBE CDs
Multimedia Xcitement Pak
(comprised of MMX technology-based software)
Universal Serial Bus connections
5-year/3-year Micron Power limited warranty

$2,899
Bus. lease $99/mo.

MICRON MILLENNIA MME P200

Intel 200MHz Pentium processor with MMX
32MB SDRAM
3.1GB EIDE hard drive
17" Micron 17FGx, .26dp (16.0" display)

STANDARD FEATURES

512KB pipeline burst cache, flash BIOS
3.5" floppy drive
100MB Iomega Zip drive
16X EIDE variable speed CD-ROM drive
32 voice wavetable stereo sound with speakers
56Kbps technology modem**
PCI 64-bit 3D video, MPEG, 4MB EDO DRAM
Tool-free minitower or desktop
Microsoft Intellimouse, 104-key keyboard
Microsoft Windows 95 and MS Plus! CD
Microsoft Office 97 SBE CDs
Multimedia Xcitement Pak
(comprised of MMX technology-based software)
Universal Serial Bus connections
5-year/3-year Micron Power limited warranty

$2,299
Bus. lease $78/mo.

MICRON MILLENNIA LXE P166

Intel 166MHz Pentium processor with MMX
16MB EDO RAM
2.1GB EIDE hard drive
15" Micron 15FGx, .28dp (13.7" display)

STANDARD FEATURES

512KB pipeline burst cache, flash BIOS
3.5" floppy drive
16X EIDE variable speed CD-ROM drive
16-bit stereo sound and speakers
PCI 64-bit 3D video, MPEG, 4MB EDO RAM
Tool-free minitower or desktop
Microsoft Mouse, 104-key keyboard
Microsoft Windows 95 and MS Plus! CD
Microsoft Works CD
5-year/3-year Micron Power limited warranty

$1,649
Bus. lease $56/mo.

MICRON POWERDIGM™ XLI

Dual Intel 200MHz Pentium Pro processors
64MB ECC EDD RAM
4GB Ultra-Wide SCSI-3 hard drive
19" Hitachi SuperScan CM751 (18" display) .26dp color monitor
Number Nine Imagine 128 series II video card, 4MB VRAM

STANDARD FEATURES

256KB internal L2 cache, flash BIOS
3.5" floppy drive
Plextor 12/20 Plex variable speed SCSI CD-ROM drive
Memory upgradable to 512MB ECC EDO RAM
Supports multiple Ultra-Wide SCSI-3 hard drives
PCI 32-bit Ultra Wide SCSI-3 controller
Iomega Jaz SCSI drive with 1GB removable cartridge
32 voice wavetable stereo sound with speakers
3Com 3C905 Fast EtherLinkXL 10/100 PCI TPO network adapter
Tool-free minitower
Microsoft Intellimouse, 104-key keyboard
Microsoft Windows NT® Workstation
5-year/3 year Micron Power limited warranty

$5,499
Bus. lease $173/mo.

*The CD-ROM drive will be removed upon the purchase of the DVD upgrade.
**Maximum transmission speed of up to 56Kbps when downloading data and 33.6Kbps when uploading. However, actual performance is dependent upon numerous factors and transfer rates may be less than the maximum potentials.

Sweet deals.

MICRON VETIX™ 2MXI

Dual Intel 200MHz Pentium® Pro processors
256MB ECC EDO RAM
Five 4GB Ultra-Wide SCSI-3 hard drives (20GB total)

STANDARD FEATURES

512KB integrated L2 cache
Mylex dual channel Ultra-Wide SCSI-3 RAID caching controller w/4MB ECC RAM
Dual Pentium Pro ZIF sockets
Memory upgradable to 1GB (8 DIMM slots)
8 open expansion slots: 5 PCI, 2 ISA, 1 shared ISA/PCI
Integrated Adaptec PCI Ultra-Wide SCSI-3 controller
Integrated Intel EtherExpress™ Pro 100 controller
Integrated SVGA graphics
12x variable speed SCSI CD-ROM drive, 3.5" floppy drive
5 internal, hot-swappable hard drive array bays (upgradable to 10)
3 external 5.25" media bays
1 (one) 330 watt power supply standard (upgradable to 3 for added redundancy)
Microsoft® Mouse, 104-key keyboard
Microsoft Windows NT® Server 4.0 (10-user license)
Intel LANDesk Server Manager 2.52
Integrated hardware instrumentation
Dedicated server technical support, 7x24
5-year/3-year Micron Power™ limited warranty
1-year next-business-day on-site service†
NOS Support (3 incident resolutions/1st year), 7x24

$13,499
Bus. lease $424/mo.

MICRON VETIX MXI

Intel 200MHz Pentium Pro processor
128MB ECC EDO RAM
Three 4GB Ultra-Wide SCSI-3 hard drives (12GB total)

STANDARD FEATURES

256KB integrated L2 cache
Dual Pentium Pro ZIF sockets
Memory upgradable to 1GB (8 DIMM slots)
8 open expansion slots: 5 PCI, 2 ISA, 1 shared ISA/PCI
Integrated Adaptec PCI Ultra-Wide SCSI-3 controller
Integrated Intel EtherExpress Pro 100 controller
Integrated SVGA graphics
12X variable speed SCSI CD-ROM drive
3.5" floppy drive
5 internal, hot-swappable, hard drive array bays (upgradable to 10)
3 external 5.25" media bays
1 (one) 330 watt power supply standard (upgradable to 3 for added redundancy)
Microsoft Mouse, 104-key keyboard
Microsoft Windows NT Server 4.0 (10-user license)
Intel LANDesk Server Manager 2.52
Integrated hardware instrumentation
Dedicated server technical support, 7x24
5-year/3-year Micron Power limited warranty
1-year next-business-day on-site service†
NOS Support (3 incident resolutions/1st year), 7x24

$7,999
Bus. lease $251/mo.

MICRON TRANSPORT™ XKE

166MHz Mobile Intel Pentium processor with MMX
128MB EDO RAM
5GB removable hard drive
13.3" TFT XGA display

STANDARD FEATURES

Intel 430TX Mobile PCI chip set
512KB L2 pipeline burst cache
PCI bus with 128-bit graphics accelerator, 2MB DRAM
20X modular CD-ROM drive with AutoPlay™
Pick-a-Point™ dual pointing devices
Sound Blaster 16-bit stereo sound (supports surround sound and wavetable)
Built-in stereo speakers and microphone
Motorola Montana 33.6 fax/modem* w/full telephony duplex phone
CardBus-and zoomed video-ready
2 infrared ports, 1 front, 1 rear
S-video and NTSC-video capability, built-in game port
Management Pak, Executive Travel Pak
2 modular expansion bays (hard drive, CD-ROM drive, 3.5" floppy drive, lithium-ion battery)
Custom nylon carrying case
Microsoft Windows 95 and MS® Plus! CD
Microsoft Office 97 SBE CDs
5-yr/3-yr Micron Power limited warranty

$5,999
Bus. lease $188/mo.

MICRON TRANSPORT XPE

166MHz Mobile Intel Pentium processor with MMX
32MB EDO RAM (80MB max)
2.1 GB removable hard drive
12.1" active matrix color display, 800x600

STANDARD FEATURES

Intel 430MX Mobile PCI chip set
256KB L2 pipeline burst cache
PCI graphics accelerator, 2MB VRAM
8X modular CD-ROM drive
Pick-a-Point dual pointing devices
Sound Blaster 16-bit stereo sound
Built-in stereo speakers and microphone
Motorola Montana 33.6 fax/modem*
CardBus- and zoomed video-ready
2 infrared ports, 1 front, 1 rear
S-video and NTSC-video capability
Built-in game port
Management Pak, Executive Travel Pak
2 modular expansion bays (hard drive, CD-ROM drive, 3.5" floppy drive, lithium-ion battery)
Custom nylon carrying case
Microsoft Windows 95 and MS Plus! CD
Microsoft Office 97 SBE CDs
5-yr/3-yr Micron Power limited warranty

$4,099
Bus. lease $140/mo.

† On-site service for the Vetix server is provided by Digital Equipment Corporation and is optional.
* Maximum transmission speed of up to 56Kbps when downloading data and 33.6Kbps when uploading. However, actual performance is dependent upon numerous factors and obse ved

MICRON VETIX LXI-N

Intel 200MHz Pentium Pro processor
32MB ECC EDO RAM
2GB Ultra Wide SCSI-3 hard drive

STANDARD FEATURES

Dual Pentium Pro ZIF sockets
256KB integrated L2 cache
Memory upgradable to 1GB (8 DIMM slots)
8 open expansion slots: 5 PCI, 2 ISA, 1 shared ISA/PCI
Integrated Adaptec PCI Ultra-Wide SCSI-3 controller
Integrated Intel EtherExpress Pro 100 controller
Integrated SVGA graphics
12X SCSI-2 CD-ROM drive
3.5" floppy drive
9 drive bays: 6 internal 3.5," 3 external 5.25"
Microsoft Mouse, 104-key keyboard
Integrated hardware instrumentation
Dedicated server technical support, 7x24
5-year/3-year Micron Power limited warranty
1-year next-business-day on-site service*

$2,999
Bus. lease $102/mo.

MICRON CLIENTPRO™ XLU

Intel 233MHz Pentium II processor (features MMX™ technology)
32MB EDO RAM
2.1 GB SMART EIDE hard drive
17" Micron 17FGx, .26dp (16.0" display)

STANDARD FEATURES

512KB internal L2 secondary cache, DMI support
3.5" floppy drive
16X EIDE variable speed CD-ROM drive
3Com PCI 10/100 ethernet NIC
PCI 64-bit 3D video, MPEG, 4MB EDO RAM
Upgradable wavetable audio with speakers
Microsoft Intellimouse, 104-key keyboard
Microsoft Windows NT Workstation
Intel LANDesk Client Manager
5-year/3-year Micron Power limited warranty

$2,649
Bus. lease $90/mo.

MICRON TRANSPORT VLX

133MHz Intel Pentium processor
16MB EDO RAM (40MB max.)
1.4GB hard drive
11.3" SVGA DSTN, 800x600

STANDARD FEATURES

Intel Pentium processor
256KB L2 pipeline burst cache
PCI bus with 128-bit graphics accelerator
MPEG compatible
Touchpad pointing device
16-bit stereo sound
Built-in stereo speakers and microphone
2-way infrared port
NiMH battery
Modular floppy drive (flexible bay swappable with CD-ROM)
Microsoft Windows 95 and MS Plus!
5-year/1-year Micron limited warranty

$1,699
Bus. lease $58/mo.

MICRON CLIENTPRO MTE

Intel 166MHz Pentium processor with MMX
16MB EDO RAM
1.6GB SMART EIDE hard drive
15" Micron 15FGx, .28dp (13.7" display)

STANDARD FEATURES

512KB pipeline burst cache, flash BIOS, DMI Support
3.5" floppy drive
3Com 3C905 network adapter
Integrated S3 ViRGE/DX graphics
accelerator, 2MB EDO RAM
Integrated wavetable sound
Tool-free minitower or desktop
Microsoft Intellimouse, 104-key keyboard
Microsoft Windows 95
Intel LANDesk Client Manager
5-year/3-year Micron Power limited warranty

$1,599
Bus. lease $54/mo.

nsfer rates may be less than the maximum potentials.

intel inside
pentium PROCESSOR

Appealing options.

MULTIMEDIA OPTIONS

32 voice wavetable stereo sound card	$59
32 voice wavetable stereo sound card with 2MB RAM	$99[1]
Advent AV270 Powered Partners stereo speakers	$79
Advent AV370 Powered Partners stereo speakers with subwoofer	$199
Microsoft® SideWinder 3D Pro joystick	$59
Microsoft SideWinder gamepad	$39

STORAGE/MEDIA OPTIONS

Adaptec 2940U Ultra SCSI Fast-20 controller (upgrade from system with standard Ultra SCSI Fast-20 controller)	$100
Plextor 12/20 Plex 3MB/sec SCSI internal CD-ROM drive (upgrade from system with standard IZT EIDE CD-ROM drive)	$200[1]
Iomega Jaz SCSI drive with 1GB removable cartridge	$299[2]
Iomega ZIP IDE drive with 100MB removable cartridge	$99
Iomega 6-pack of 100MB Zip cartridges	$99
Iomega Ditto 2000 (1/2GB) Travan tape backup drive with tape	$149
Iomega Ditto 3200 (1.6/3.2GB) Travan tape backup drive with tape	$199
Sony 4/8GB SCSI DDS-2 tape backup drive with tape and software	$899[2]
Seagate Backup Exec (for servers)	$249
Mylex dual channel Ultra-Wide SCSI-3 RAID caching controller with 4MB ECC RAM	$899

COMMUNICATION OPTIONS

33.6 internal data/fax modem	$99[3]
33.6 internal data/fax modem, speakerphone, voice mail	$119[4]
33.6 external data/fax modem	$299
56Kbps technology modem**	$99

NETWORKING OPTIONS

3Com 3C509B Etherlink III ISA combo network adapter	$79
3Com 3C900 EtherLinkXL PCI combo network adapter	$99
3Com 3C905 Fast EtherLinkXL 10/100 PCI TPO network adapter	$99
3Com OfficeConnect Hub 8/TPC	$149
3Com OfficeConnect Switch 140	$969

SOFTWARE OPTIONS

EdVenture Pak. Sheila Rae the Brave, Putt-Putt Saves the Zoo, Reader Rabbit's Reading Development Library 1, Freddie Fish and the Case of the Missing Kelp Seeds, and the Thinkin' Things Collections 2*	$69
Quicken Financial Pak: Quicken Deluxe, Quicken Financial Planner, Quicken Parents' Guide to Money, Quicken Family Lawyer*	$69
CorelDRAW 7 (full retail version	$299
Corel WebMaster Suite (full retail version)	$99
Novell Intranetware 4.11, 5-user license, (for Vectra Lx-n only)	$699

HP PRINTERS

HP DeskJet 692c printer	$319
HP DeskJet 870Cxi printer	$419
HP LaserJet 6P printer	$799
HP LaserJet 6Lxi printer	$429

DISPLAY/VIDEO OPTIONS

17" Hitachi SuperScan CM630 (15.9" display) .26dp color monitor	$150[5]
21" Hitachi SuperScan CM801 (20.0" display) .26dp color monitor	$650[5]
Number Nine Imagine 128 series II video card, 4MB VRAM	$299[6]
Number Nine Imagine 128 series II video card, 8MB VRAM	$549[6]

TRANSPORT OPTIONS

MicronDock™ multimedia port replicator: ethernet 10BT LAN adapter, SCSI-2 port, S-video and NTSC-video output, built-in stereo speakers, infrared port, headphone, microphone, line-in jacks, parallel, serial, VGA and 2 PS/2 ports (with warm dock and built-in game port - available on XPE models only)	$299
Micron™ Executive™ desktop package: matching black 17"monitor (16.0" display), mouse, mousepad and keyboard (can be used with or without MicronDock)	$699
Motorola Montana 33.6 fax/modem supports regular telephone connections, cellular phones and two-way paging devices	$259

DIGITAL CAMERAS

Kodak Digital Science DC20 camera	$199
Kodak Digital Science DC25 camera	$399
Kodak Digital Science DC50 zoom camera	$699

SCANNER OPTIONS

HP Scanjet 5s sheetfed scanner	$269
HP Scanjet 5p flatbed scanner	$399
HP Scanjet 4c flatbed scanner	$799

EXTENDED DESKTOP SERVICE OPTIONS

Optional 1st year on-site service[7] coverage included	
2nd year on-site service[7] coverage (with system purchase)	$79
2nd year on-site service[7] coverage (after system shipment)	$99
2nd and 3rd year on-site service[7] coverage (with system purchase)	$99
2nd and 3rd year on-site service[7] coverage (after system shipment)	$139

EXTENDED NOTEBOOK SERVICE OPTIONS

2nd and 3rd year parts and labor; 3-business-day turnaround for 3 years (with system purchase)	$269
2nd and 3rd year parts and labor; 3-business-day turnaround for 3 years (after system shipment)	$319
2nd and 3rd year parts and labor; 7-business-day turnaround for 3 years (with system purchase)	$209
2nd and 3rd year parts and labor; 7-business-day turnaround for 3 years (after system shipment)	$259

OTHER OPTIONS

APC Per7T surge suppressor	$39
APC Pro7T surge suppressor	$59
APC Smart-UPS 700 with PowerChute plus software	$389
APC Smart-UPS 1000 with PowerChute plus software	$529
Microsoft Natural Keyboard (upgrade from standard keyboard)	$49

[1] Upgrade from systems with standard 16-bit stereo sound card
[2] Requires SCSI host adapter
[3] Modem includes trial memberships to CompuServe and America Online
[4] Modem includes trial memberships to CompuServe and America Online, requires sound card
[5] Upgrade from systems with standard Micron 17" CTGx color monitor
[6] Upgrade from systems with standard 64-bit 4MB video card
[7] 1st year on-site service is available in the United States and in limited areas in Canada from third-party service provider per customer's agreement with provider
[8] 2nd year and 2nd and 3rd year offerings are available in the United States only
Some options and accessories available with system purchase only

*Available only on desktop and notebook systems with Microsoft Windows 95.
**Maximum transmission speed of up to 56Kbps when downloading data and 33.6Kbps when uploading. However, actual performance is dependent upon numerous factors and observed transfer rates may be less than the maximum potentials.

Call now to order.

800-249-1176

www.micronpc.com

MICRON POWER WARRANTY

- 5-year limited warranty on microprocessor and main memory
- 3-year limited parts-only system warranty (1-year for TransPort VLx)
- 1-, 2- or 3-year optional on-site service agreement for Micron desktop and server systems
- 30 days of free Micron-supplied software support for Micron desktop systems; 3 optional network operating system incident resolutions included for Micron server systems
- 30-day money back policy
- 24-hour technical support

The foregoing is subject to and qualified by Micron's standard limited warranties and terms and conditions of sale. Terms and conditions of sale may vary for specific configurations. Copies of the limited warranties may be obtained on our Web site or by calling Micron.

Micron Sales Hrs: Mon-Fri, 6 am-10 pm, Sat, 7 am-5 pm (MT) Technical Support Available 24 Hours A Day, 7 Days A Week
Toll free from Mexico: 95-800-708-1755
Toll free from Canada: 800-708-1758 · Toll free from Puerto Rico: 800-708-1756 · International Sales: 208-893-8970 · International Fax: 208-893-7393

MICRON ELECTRONICS™

©1997 Micron Electronics, Inc. All rights reserved. Micron Electronics is not responsible for omissions or errors in typography or photography. All purchases are subject to availability. Prices and specifications may be changed without notice; prices do not include shipping and handling and any applicable taxes. 30-day money-back policy does not include return freight and original shipping/handling charges, applies only to Micron brand products and begins from date of shipment. All sales are subject to Micron Electronics' current terms and conditions of sale. Lease prices based on 36-month lease. The Intel Inside Logo and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. Microsoft, Windows, Windows NT and the Windows logo are registered trademarks of Microsoft Corporation. Other product names used in this publication are for identification purposes only and may be trademarks of their respective companies.

CONFIGURED FOR YOUR LIFE

WEB OF DECEIT

How to separate information from infomercials on the Net.

ILLUSTRATIONS: JIM LUDTKE

By Fern Schumer Chapman

LAST FEBRUARY a new site opened its doors in a corner of the World Wide Web. The site was called Circuit Breaker (www.circuitbreak.com), and it advertised itself as an entertainment guide for the San Francisco Bay Area. It was hip and colorful—even earned a mention in *USA Today* as a hot site. In reality, it was something more troubling.

Among Circuit Breaker's many links were a few simple interactive games. To play, you had to supply a little information about yourself. Name. (Sure.) E-mail address. (Why not?) Are you 21? (Hmm.) Do you smoke? (Hey, what's going on here?)

Circuit Breaker turned out to be sponsored by the Brown & Williamson Tobacco Corporation—the company that brings you Lucky Strike cigarettes. Nowhere on the site was this information disclosed. (The company's name is now displayed, but you will find no mention of Lucky Strike.)

The Center for Media Education, a group that monitors unethical practices in cyberspace, threatened to report the site to the Federal Trade Commission. Brown & Williamson officials insisted Circuit Breaker was a legitimate entertainment site, part of a test to see if the company could reach its target audience over the Web. And Web watchers became more convinced than ever of one unnerving fact: The Web ain't what it used to be. ▶

"The Web started with defense, math, and science people," explains Janice Norton of Hands of Time Animation & Design, interactive advertising specialists in Sherman Oaks, California. "And now marketers have taken over."

And taken over they have. Everywhere you go on the Web, you will find marketers lurking. Some disguise their efforts as innocent entertainment sites. Some are cementing influential partnerships with media groups you trust, the better to sell you their wares. And most are using the unique interactive ability of the Web to gather information about you even as they try to sell you goods and services.

Stealth Marketing

ON THE WEB, WHAT LOOKS like objective information may be anything but. The Web is rife with "stealth sites," which appear to offer unbiased content but are really marketing material in disguise.

Café Herpé (www.cafeherpe.com), for instance, appears merely to provide frank information about a common virus. It has attractive graphics, a quiz that tests knowledge of the subject, links to support groups, even an art gallery of romantic paintings. The gallery page proclaims, "Art must be shared, or it grows stale. Sensing this, we opened Café Herpé, which we designed as an ideal environment to house our collection."

Who, you might ask, is "we"? If you scroll down to the bottom of the home page, you'll find that the site is copyrighted by SmithKline Beecham. To many people, that name means nothing—it's not a household name like Pepsi or Nike. SmithKline Beecham is in fact a pharmaceutical company that makes Famvir, a drug to fight herpes. You can find out all about Famvir if you click on the link that takes you to the Café Herpé Espresso Bar. In short, the site is not just an online version of a coffee shop where you can get information in a relaxed atmosphere—it's a virtual soft-sell product brochure. But you'll be hard-pressed to find any mention that the site's sponsor manufactures the product it's endorsing.

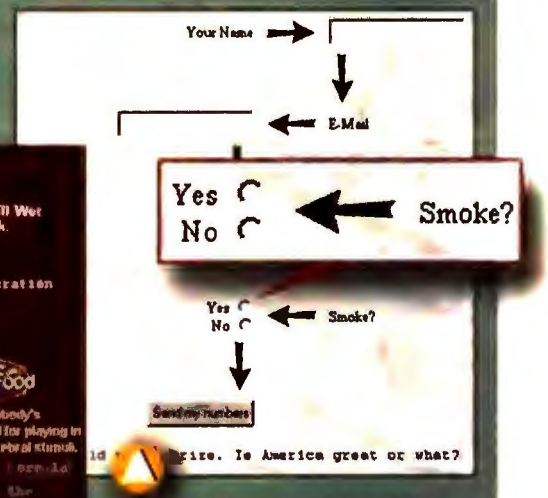
A Word From Our Sponsor

SITES LIKE CIRCUIT BREAKER and Café Herpé are basically the work of single companies. But a more common form of marketing on the Web brings two companies together: the content provider and the marketer—aka the sponsor.

Because media companies find it hard to produce interesting online publications and still turn a profit, many have reached out to advertisers in a way that might be frowned upon in the world of

SMOKE AND MIRRORS

CIRCUIT BREAKER did not originally indicate (as it does now) that it is sponsored by a tobacco company...



...and visitors were asked to provide personal information—including whether they smoked.

getting past the hype

YOU WANT THE BEST information you can get from the Web. But everywhere you go, sites are rife with marketing. Here are a few tips to help you deflect and fight the Web's increasing commercialism.

➤ **Don't believe everything you read.** Your mother said it long ago, and it still holds true. Sometimes it's hard to tell the editorial matter from the marketing pitch.

➤ **Get more than one opinion.** If you read a glowing review, look for other discussion of the same product. On the Web, you can't tell what influences might creep into a review.

➤ **Find sites you trust.** Once you build a relationship with a Web site, you'll have confidence in its information, just as you do with magazines and newspapers.

➤ **Assume your name is for sale.** When you're asked to fill out an online registration form, chances are that information will be used to pitch something to you.

➤ **Don't sell out.** If a site asks you to register, think twice before you sign up. Personal information is a commodity on the Web, so spend it at sites you like. Don't just give it away.

➤ **Know where you're going and where you've been.** If you click on a banner or some other link, you may be transported to an advertiser's site. Before clicking the mouse, hold the cursor over the link and check the status bar. It may tell you where you're heading, so you won't be surprised when you get there.

➤ **See the entire picture.** If a Web site is the creation of a corporate sponsor, it may reveal this fact only at the bottom of the page. So scroll down.

➤ **Blow the whistle.** If you think a Web site has crossed the line between content and advertising without telling its visitors, complain. Send e-mail to the site, to the Federal Trade Commission (consumerline@ftc.gov), or to the Center for Media Education (cme@cme.org).

—Brad Grimes

print. More and more sites are pulling in corporate sponsors to fund their editorial. In some cases, these sponsors are in a business that is directly related to the content they sponsor.

For example, Procter & Gamble recently joined forces with Time Warner to create ParentTime, a site dedicated to parenting issues and advice (found on Pathfinder's site at www.pathfinder.com). As with some stealth sites, the only notice that P&G is involved appears in the fine print. But maybe you're enough of a consumer to recognize that many of the products advertised are from P&G. If readers don't make the connection between ParentTime and its sponsor, they won't realize that the site is also a marketing vehicle for P&G—on the surface it looks like an electronic magazine.

ParentTime articles range from "Taking the Sting Out of Diaper Rash" to "The Magic of Reading," providing an excellent resource for parents. Depending on when you visit ParentTime (ads rotate in and out), you may find a link to P&G's Pampers Parenting Institute near the diaper rash story. At the Institute's site, you can get more information about bringing up baby, plus a directory of P&G's Pampers products.

This kind of marketing marriage isn't necessarily unscrupulous, but it's more than just an online magazine. "The public isn't necessarily aware that one of the major news organizations they trust is partnering with P&G to jointly create editorial content online," says Jeff Chester, executive director of the Center for Media Education.

"Procter & Gamble has no influ- ▶

can you trust your search engine?

IMAGINE YOU'RE SCOURING the Web for information on mutual funds. You go to a search engine, type 'mutual funds', and get a long list of sites that seem to be what you're looking for. You don't have time to scroll through thousands of listings, so you probably pick from the first couple of pages. Now what if you knew that the sites at the top had paid money to be listed first? Would you be confident you were getting the best information?

This scenario seemed implausible until last year, when Open Text (www.opentext.net) began selling preferred placement in its index. In other words, a company that sells mutual funds was given the opportunity to pay a fee to Open Text to ensure that its Web site would jump to the top of the list when users searched for mutual funds. The practice drew sharp criticism, and eventually Open Text ended its preferred-listings program.

Should you be concerned today that search engines are selling preferential placement? Thankfully, no. *PC World* asked an operator of a small Web site to approach the top search engines, including Alta Vista, Excite, Infoseek, Lycos, Open Text, and Yahoo, and ask if he could buy preferred placement for his Web site. None of the companies would sell it to him. Each site flat-out stated that it did not offer such a program. In fact, most sent detailed tutorials on how to design a Web site so search engines could easily identify it, thereby improving its chances of appearing higher in search results.

Lycos representative Sarah Garnsey says that her company "does not and will not adjust relevancy ranking of URLs in a given search." Says Garnsey, "It would violate users' trust in the effectiveness of the service."

But many directories on the Web—sites that organize links into categories based on subject matter—*will* skew their listings for a fee. Some "yellow page" directories sell preferential placement in the same way that printed yellow pages sell large ads. For instance, BigYellow (www.bigyellow.com) includes an extensive alphabetical listing of businesses and services throughout the country. But if you pay $250 per year, BigYellow will make sure that your information always appears at the top of the list.

Debra Aho Williamson, interactive editor at *Advertising Age*, says users need to consider the source when they search for products and companies on the Web. "Online yellow pages aren't much different from regular yellow pages," she says, referring to the selling of special treatment. "But the question is, do people perceive them as paid listings, or do they see them the same way they see search engines?"

William Wise, president of BigYellow, says that users get the picture. "People understand when they come to our site that we're a shopping service. People know we get paid for placement." Sites that pay BigYellow to be at the top of the list are denoted with a gold star, but there's no explanation that these starred companies have paid money for the premium treatment. Whether users actually understand BigYellow's system remains unclear.

The pay-for-position practice is not confined to online yellow pages. Directories like CitySurf (www.citysurf.com), which lists companies alphabetically for a number of U.S. cities, has a "Top 10 Listings" program that puts businesses at the head of the list for a fee, regardless of alphabetical order.

In some cases, a directory might be easier to navigate than an all-encompassing search engine, but users should be aware of the differences between the two. Search engines give you the Web as they find it, while directories often show it to you based on payments from companies.—**Brad Grimes**

ence over ParentTime's content," says Paula McDonald, director of marketing and sales for ParentTime. According to McDonald, P&G partnered with Time Warner to create a site that would attract potential buyers of P&G products.

To ParentTime's credit, the site doesn't review or recommend products sold by its sponsor. But some Web sites are sponsored by marketers who stand to profit from the reviews appearing there.

Salon Magazine (www.salonmag.com/) is a literary Web site in the spirit of magazines like the *New Yorker*. It covers current events and social issues and reviews books and recordings. The review sections are clearly sponsored by Borders Books & Music, with a line at the top of the page indicating so. In fact, you can click on a link to order a reviewed book or CD—directly from Borders. The link on Salon's review page does not reveal that Borders, the company that makes the site possible, is also the merchant. You won't know that you're ordering from Borders until you go to make a purchase.

This lack of disclosure makes the reviews suspect. But David Talbott, editor and CEO of Salon, insists that the reviews are impartial. "Borders completely appreciates the need for editorial separation," he says.

Do consumers care when the lines between editorial and advertising blur? A Chicago doctor, who asked that his name not be used, says he felt "duped" when he was attracted to a site offering educational materials about infectious diseases. When he visited the site, he discovered that the material was produced by a pharmaceutical company with the purpose of hawking its antibiotics. "When I realized that, I immediately clicked off the site," he says. "[The drug maker's] sponsorship discredited the information," he explains.

JANICE NORTON *Hands of Time Design*
"The Web started with defense, math, and science people. And now marketers have taken over."

You Are Being Watched

ONE OF THE MOST CHILLING aspects of the marketing explosion on the Web, however, is that salespeople are doing more than just disguising ads as editorial so they can hawk products at you. They lure you to their site, and while you're there, they gather detailed information.

Sites like Circuit Breaker can ▶

some cookies aren't yummy

EVEN IF YOU ARM YOURSELF with all the skepticism it takes to separate real information from a sales pitch on the Web, marketing forces you can't see and might never know about are hard at work. *Cookies* are tiny files that Web sites send to your PC—often without your knowledge—to collect information about your online habits.

Cookies aren't necessarily a bad thing: They can help a Web site improve its content by learning what you like or don't like about it. But they can also gather information for marketing purposes: how long you spend on a Web page, what intrigues you enough to click on it, and more.

According to a recent survey by market researcher Cyber Dialogue, 72 percent of Web surfers have never heard of cookies. Of the 28 percent who are aware of them, only half know what they really are. Most of this information gathering goes on without consumers' knowledge or permission.

The Internet Engineering Task Force, which sets standards for the Internet, recently considered a proposal that would make it impossible for Web users to receive a cookie without knowing it. Currently Web browser software can warn you about an incoming cookie, but the default setting lets cookies through without warning. If the IETF's proposal is accepted and browser makers comply with its directives, the default will change. Users will be able to specify which cookies can come through and which will be automatically blocked.

In addition, the proposal seeks to keep third parties, such as advertisers and data collection firms, from sending cookies through Web sites. This would affect companies like DoubleClick, which posts its clients' ads from a central server and also sends cookies to track Web user activities.

Marketers realize that the proposal could seriously hinder their efforts to target advertising, so expect a struggle to ensue over your privacy. As we went to press, the fate of the proposal was uncertain.

In the meantime, you can use software utilities that automatically block all cookies instead of simply warning you each time one arrives. Perhaps the best such utility is the Cookie Crusher, which you can find in the PC World Online Software Library at www.pcworld.com/files. **–Brad Grimes**

PHOTOGRAPH: GARY MOSS

Get it your way.

RIGHT AWAY.

QUIN-55 (Pentium® processor & Pentium® processor with MMX™ technology based PCs)

APRI-31/32 (Single/Dual Pentium Pro processor based PCs)

APRI-74 (Pentium® processor based workstations/servers)

DTN-5M (Pentium® processor with MMX™ technology based notebooks)

You're savvy about PC systems. You know what you need and what you want. And our line of award winning QUIN-55 PCs offers you a world of networking choices. Our economical NetPC desktop system can help reduce your total cost of ownership as well as the complexity of managing your PC environment. It includes a 133MHz Pentium® processor and runs Microsoft® Windows® operating systems. Need more power? Our cost efficient workstations/servers are available with a 200MHz Pentium® processor, 200MHz single or dual Pentium® Pro processor, or a 266MHz Pentium® II processor to run Windows NT™. Client presentations? Consider our budget-friendly line of DTN-5M notebooks that feature a 150MHz or 166MHz Pentium® processor with MMX™ technology.

Best of all. These systems can be custom configured to the way you work. From components to peripherals, you name it, we'll do it. Your way. To discover the DTK price/performance difference, contact your reseller. Or call 1-800-BUY-A-DTK (1-800-289-2385).

dtk®

DTK Computer

www.dtkcomputer.com

intel inside pentium® PROCESSOR

MMX™ intel inside pentium® II PROCESSOR

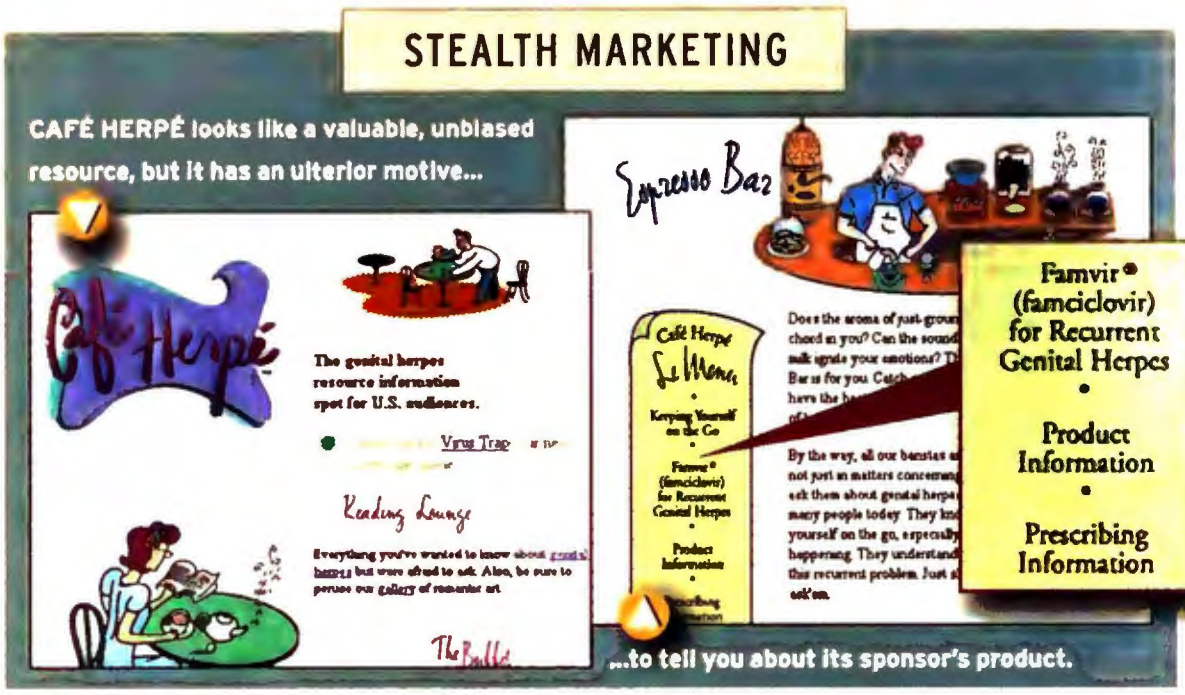
The Intel Inside Logo and Pentium are registered trademarks and MMX is a trademark of Intel Corp. Windows is a registered trademark of Microsoft Corp. © 1997 DTK Computer Inc. All rights reserved.

Boston	New York	Washington, D.C.	Atlanta	Tampa	Miami	Pittsburgh	Cleveland	Chicago
617/932-3800	908/562-8800	703/222-9194	770/279-1385	813/885-2668	305/597-8888	412/373-6750	216/349-1995	847/593-3080

Indianapolis	Milwaukee	Minneapolis	Kansas City	Dallas	Houston	Scottsdale	Los Angeles
317/872-8850	414/679-7870	612/557-1973	913/492-3800	972/484-8535	281/568-6688	602/451-6774	818/810-0098

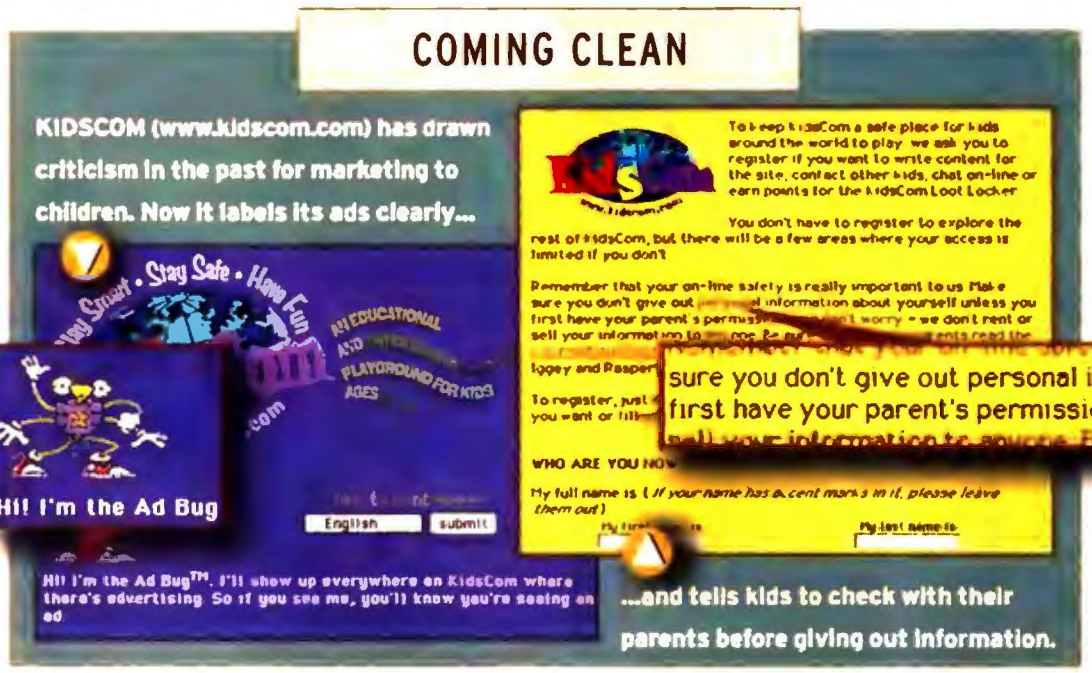
Circle 84 on reader service card

obtain information about you instantly by getting you to register. Children surfing the Web are especially susceptible to fun-looking sites that request information about their families for purposes of marketing (see *Consumer Watch*, June). Advertisers can also get a detailed picture of what interests you by gathering data about where you click when you're online. They do this by sending out *cookies*—miniature programs that track your activity (see "Some Cookies Aren't Yummy"). Once they've got this data and your registration information, they can use it to target ads at you or even send junk mail to your house.



This type of information gathering is probably the most common marketing activity on the Web. "The new online business model is based on capturing and controlling the most personal information," says Chester.

Consumers are accustomed to media that is carefully regulated and harmless. And if they assume the Internet is merely an electronic form of other media, offering on a computer screen the same objectivity of, say, newspapers and magazines, they will be easily duped. How would you feel about the magazine you're reading right now if you knew it was taking notes as you turned the pages and reporting back to advertisers?



While many Web sites, such as news sites, remain unbiased, others take advantage of users' assumptions that the Web is just another form of media. They may pretend to be journalistic, or fail to disclose their marketing slant. And few can resist the temptation to gauge how well their marketing efforts are working.

Who's Watching the Watcher?

THE PROBLEM IS, the Web is still new, and regulators are just learning about potential abuses. In the absence of enforceable guidelines, marketers are free to reach out in ways that aren't possible or allowed in print or on television.

Moreover, just about anyone can be a publisher on the Web. In traditional media like magazines and TV, the producer of the publication or show controls the advertisers' access to the audience. The Web has no go-between—advertisers can take their messages directly to the site visitors. When print or television marketers *do* produce their own content—so-called advertorials and infomercials—strict industry guidelines require them to label the material as an ad. But as yet no guidelines for such disclosure are in force on the Web.

Seth Goldstein, whose company, Site-Specific, markets brands on the Web, acknowledges the effect that groups like his are having on Web content. "We're reaching a time when you won't be able to separate what's [editorial] and what's advertising," he says.

Finding Credible Content

THERE'S CERTAINLY nothing criminal about the strategies that companies employ to lure Web surfers, but consumers need to know whether a site's information is objective.

"If users want objectivity, they have to be willing to pay for it," says Cebra Graves, the editor of Morningstar.Net (www.morningstar.net), a site that helps people build and track stock and mutual fund portfolios. If users paid for the information they got on the Web, it could even up the score with marketers. No longer would advertisers be the only source of revenue for groups that want to publish on the Web. But so far, visitors haven't been all that willing to pay subscription fees. According to a study by NetSmart Research, only 8 percent of Web surfers surveyed are willing to pay.

What you may not realize is that you are already paying for much of the material you find on the Web. The currency you use is your own personal information, rather than cash. Essentially, ▶

"Perhaps the first product for which the name 'desktop color laser' is not a fib."

Lyra Research – The Hard Copy Observer

The Xerox DocuPrint C55 Network Color Laser Printer. Starting at $3500.

A different line of thinking.

A breakthrough price, a surprisingly small footprint, and ingenious new features for the networked office.

Now you can afford the quality and speed of color laser technology along with breakthrough convenience features that save time and effort.

The Adobe® PostScript® option includes exclusive features like Fax Friendly Black. It converts color to patterns of black and white, so they're readable when faxed. ImageFix enhances imperfect photos.

3 ppm color
6 ppm fast blue
12 ppm black
600 dpi
(Less than 10¢ per page, full color.)

And Fast Blue prints quick drafts in shades of blue and black.

With our new CentreWare Internet Services, you can manage and maintain network printers over the Web.

So, for an exceptional value in color laser printing, think differently. Call 1-800-34-XEROX ext. 2961 for product literature and print samples. In Canada, 1-800-ASK-XEROX dept. 2961. Or stop by http://xerox.networkprinters.com and see our powerful new line of network laser printers.

THE DOCUMENT COMPANY

XEROX

Stated price is the estimated U.S. street price for the base model.

Xerox®, The Document Company®, the stylized X are trademarks of XEROX CORPORATION. Adobe® and PostScript® are trademarks of Adobe Systems Incorporated. Adobe® PostScript® option sold seperately.

Circle 257 on reader service card

you pay for the sites that you visit by revealing who you are and what you'll buy.

To keep drawing ad dollars, sites must prove to advertisers that they attract a targeted audience with plenty of disposable income. With cookies in one hand and registration forms in the other, sites try to reel you in and find out about you.

Morningstar.Net has made a concerted effort not to mingle advertising with editorial content, but Graves certainly understands how a site could succumb to the pressures. "The theory," he says, "is that the more we know about you, the more we can target the advertising to you. But it's hard to draw the line between the content provider and someone selling you something."

SETH GOLDSTEIN *SiteSpecific*
"We're reaching a time when you won't be able to separate what's [editorial] and what's advertising."

Regulating the Market

IN FEBRUARY the American Society of Magazine Editors drew up guidelines for Web content. Essentially, the online guidelines invoke the same principles that apply to editorial content, ads, and special advertising sections in print publications. The proposed guidelines state, "It is the responsibility of each online publication to make clear to readers which online content is editorial and which is advertising and to prevent any juxtaposition that gives the impression that editorial material was created for or influenced by advertisers." (Check this month's *Up Front* for news on the ASME guidelines.)

Frank Lalli, president of the ASME board and managing editor of *Money* magazine, says ASME has enforced print guidelines very successfully, and he feels that publishers understand the importance of distinguishing between editorial and advertising. Now, he says, ASME will find out if it can regulate the Web.

"Publications that serve their readers build a loyal audience, and it is that loyal audience that becomes their stock-in-trade," says Lalli.

The FTC says its regulations regarding unfair marketing practices apply to the Web, but so far the agency has turned its attention mainly to flagrant cases of fraud, such as credit repair schemes and pyramid scams. In a speech last March, Commissioner Roscoe B. Starek said regulating online advertising poses unprecedented problems because of the Web's international scope—rules and regulations vary greatly from country to country. "My concern is that once governments begin to regulate or try to enforce their own laws against advertising on the Internet, we may be left with a Net containing only that which violates no country's laws," he said.

The fact is, policing the Web is nearly impossible; no government is staffed or equipped to do the job. Without the security of law and its enforcement on your side, you'll have to take an active role in keeping marketers in check. Always ask questions as you browse. Who published this information? Who is paying for it? Look for disclaimers like "sponsored by." Does knowing who's behind the site affect the way you interpret the information it provides? If you find yourself the subject of slippery marketing tactics, simply leave the site. And you can always refuse to give out personal information. You can also opt to turn away all cookies at the door (see "Browser Secrets").

When you venture into the open market of the Web, you need a healthy sense of consumerism. A magnifying glass for reading the fine print may become your most useful Web browsing tool. Look closely before you answer any questions or buy anything. And keep an eye on your wallet.

Fern Schumer Chapman is a freelance writer based near Chicago. Brad Grimes is a senior associate editor for PC World. *Lewis Perdue, founder of www.webethics.com, contributed to this article.* ■

TELL US WHAT YOU THINK

WHILE YOU'RE BROWSING the Web, point yourself toward PC World Online (www.pcworld.com/aug97/forsale) and give us your impressions of online advertising. Is it getting out of hand? Or does it enhance your Net-surfing experience? You can also tell us about any site you feel has overstepped its bounds.

Upgrade Now! APC's Trade-UPS™ Plan boosts Web server power protection

Protect ME! APC

Now you can easily trade in your old UPS for discounts toward enhanced APC protection. Plus, discover the myths and musts of web server protection. See how Smart-UPS® seamlessly integrates with and provides graceful shutdown for major web platforms, including Windows NT and Solaris. The bundled PowerChute plus *WebAgent™ lets users manage their UPS via web browser. Get your FREE handbook today!**

"...Inherent flexibility and excellent software... Don't be caught without one."

○ **Yes!** I'm interested in trading up an older APC or competitors' UPS to a Smart-UPS. Please send Trade-UPS information.

○ **No,** but I would like a FREE Handbook!

Name: _____

Company: _____

Title: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Brand of UPS used? _____ # _____

Brand of PCs used? _____ # _____

Brand of Servers used? _____ # _____

* We regret we cannot fulfill incomplete requests.

Dept. P3-WEB

APC®

888-289-APCC x8162

http://www.apcc.com

PCW 6/97

©1997 APC. All rights reserved. Smart-UPS, Trade-UPS and SmartSlot are trademarks of American Power Conversion. SU02FBRC Fax 40 788-2797 Worldwide (+1140) 789-0204 PowerFax Literature 800-347-FAXX

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 36 WEST KINGSTON, RI

POSTAGE WILL BE PAID BY ADDRESSEE

APC®

AMERICAN POWER CONVERSION

DEPT. BRC-P3-WEB
132 FAIRGROUNDS ROAD
PO BOX 278
WEST KINGSTON RI 02892-9920

Our new Smart-UPS® ensures the web hits you *want*... and prevents those you *don't*

Web-enabled PowerChute® *plus* now ships with every Smart-UPS®

Whether you're using the web to sell or support, once you invest in a web server and operating system, you've made a commitment to yourself, your company and your customers. However, without power protection, you risk losing your expensive software, hardware, and data, and the opportunity to interface with new prospects and existing customers. That's why the world's most reliable power protection is now available to meet your web-based needs.

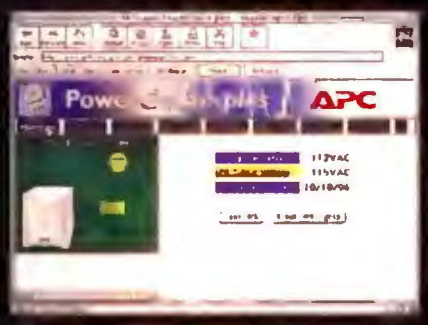
Smart-UPS ensures your web server is always there, like you promised. Don't become a statistic! Power problems damage hardware, and are the leading cause of data-loss.

APC Smart-UPS ensures protection from surges, spikes and lost power. Backed by a $25,000 lifetime equipment protection guarantee, Smart-UPS brings the confidence of APC to the excitement and opportunity of the Web.

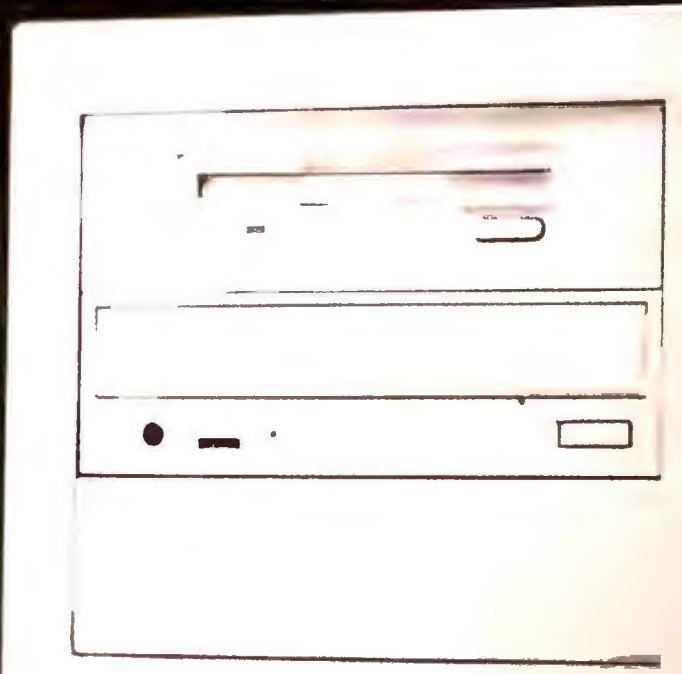
All 120V Smart-UPS now include FREE Web enabled PowerChute *plus* software for safe web server and OS shutdown. PowerChute *plus* protects system and data integrity by automatically shutting down server applications and operating systems.

PowerChute *plus*' FlexEvents feature can page you when an out-of-bounds environmental condition occurs. APC's NEW WebAgent allows administrators to manage their Smart-UPS via their browser. NEW WebAlert notifies users of Web server shutdown.

Instead of increasing your risk by waiting, join over 8,000,000 satisfied computer users worldwide who prefer APC to protect hardware and data.



Smart-UPS now ships with PowerChute plus power management software with WebAgent, to make Smart-UPS browser-manageable. (Ships free with 120V Smart-UPS only.)



Check out APC's new web solution by browsing our PowerPage™ at http://www.apcc.com, or assess your risk with our interactive quiz at http://www.apcc.com/english/itool003.htm After all, there's one kind of web hit you and your site can't afford.

DELL PowerEdge 2100/200

APC's award-winning Smart-UPS units are available in convenient rack-mount models. The Smart-UPS XL series is recommended for long runtime applications. For maximum protection, ask about our new NetShelter™ premium rack enclosures for all server and internetworking equipment sales.

APC's MasterSwitch™ provides Web /SNMP-manageable, independent control of power to connected loads.

"...inherent flexibility and excellent software. Don't be caught without one"

PC MAGAZINE EDITORS' CHOICE November 19 1996 APC Smart-UPS 1000

To receive FREE information about PowerChute *plus* with WebAgent, just complete this coupon and mail or fax to APC

☐ **YES!** I'd like more information about new PowerChute *plus* software with WebAgent

☐ **NO** I'm not interested at this time but please send my FREE Power Protection Handbook.

Name: _____

Title: _____

Company: _____

Address: _____

_____

City/Town: _____

State: _____ Zip: _____ Country _____

Phone: _____

Brand of UPS used? _____ # _____

Brand of PCs used? _____ # _____

Brand of Servers used? _____ # _____

APC

(888) 289-APCC x8176

Fax: (401) 788-2797 • http://www.apcc.com

Dept. P3-WEB

1997 APC. All Trademarks are the property of their owners. SU02EF • (800)347-FAXX PowerFax • CompuServe: GO APCSUPPORT • 132 Fairgrounds Road, West Kingston, RI 02892 USA

APC has won more awards for reliability than all other UPS vendors combined.

Circle 17 on reader service card

"I was

surprised to

my account

learn how much Marcus, manager at CDW®, knows about compatibility

and what's going to work with my system

,,

and what's not.

Experience is the best teacher. And your CDW account manager has in-depth, hands-on experience with a lot of products from a lot of different manufacturers. It's part of his ongoing training.

So once he gets to know you, your company's purchase history, and your system, he can help you find the optimal match. In fact, it's downright shocking what he can do for the productivity of your system. And your company. As well as save you a lot of time, money and aggravation.

Get more than just a great price.

For example, he'll turn you on to product options that might be more productive or economical for your company. Get you the **free tech support** you need before you need it. And, of course, line up the right price for you.

So give us a call. We'll set you up with your own compatibility expert. A technically-trained business computer specialist you can count on day after day.

That way, your company not only gets our huge selection of brand-name products like **IBM®**, **Compaq®**, **Hewlett-Packard®**, **Toshiba®** and **Microsoft®** at the right prices, in stock, ready for overnight delivery, and easy credit. You'll also get someone who can help you make the most of it. And some honest, friendly, professional advice that will save you more than money.

Call today and get hooked up with some free advice, and a free CDW catalog.

Check out some of our products and prices in the back of the magazine. Then give us a call. We'll send you our latest catalog. Or check us out at **www.cdw.com**. You'll see where optimal computer performance, productivity, and compatibility really begin. With your CDW account manager's compatibility with you.

CDW COMPUTER DISCOUNT WAREHOUSE™

The right price. The right advice.

800-767-4239 See our ad in the back

Circle 44 on reader service card

Copyright 1997 by CDW Computer Centers, Inc.

IBM Business Partner

CDW® and IBM offer you a rare sales tool. It's called multiple choice.

Take your pick.

We know IBM like no one else.
At CDW, we'll give you more than just a great price. We'll set you up with your own personal account manager who'll offer honest, friendly and professional advice that'll save you more than money. We'll custom configure your new computer purchase–we'll even ship it the same day you buy it. Our team of IBM-trained technicians will offer up their expertise and support should you need it. And we'll provide you the comfort of knowing that CDW is one of the leading direct resellers of IBM products as well as an IBM Business Partner–we know IBM like no one else.

"You can't buy this kind of peace of mind– at CDW, it's FREE."

Desktops

Aptiva C3E	Aptiva S9C
233MHz Pentium MMX	200MHz Pentium MMX
32MB RAM/4.2GB HD	32MB RAM/4.2GB HD
16X CD-ROM	16X CD-ROM
33.6K bps modem	33.6K bps modem
$2399.00 CDW 90536	**$2499.00** CDW 83775
C3D 32MB/4.2GB/DVD	**S3C** 233MHz/4.2GB
CDW 90535 $2899.00	CDW 90537 $2599.00
	S35 233MHz/6.4GB
	CDW 90538 $2999.00

QUALITY EXPRESS SERVICE AVAILABLE from CDW®

One great plan. One great price.
Only $269
Should you have a computer problem, simply make one TOLL-FREE CALL!
Call your CDW account manager for details!

PC 300GL	PC 300XL	PC 365
166MHz Pentium	233MHz Pentium II	200MHz Pentium Pro
16MB RAM/1.2GB HD	32MB RAM/2.5GB HD	32MB RAM/2.5GB HD
—	16X CD-ROM	16X CD-ROM
256KB L2 cache	512KB L2 cache	Win NT Workstation
$1257.06 CDW 85188	**$2639.89** CDW 86313	**$2614.91** CDW 84735
16MB/2.5GB	233MHz/2.5GB	4.2GB/Matrox
CDW 85190 $1339.76	CDW 86314 $2366.39	CDW 84737 $2985.42
16MB/2.5GB/16X	266MHz/4.2GB	
CDW 85189 $1576.84	CDW 86315 $3049.52	
166MHz MMX/2.5GB		
CDW 85405 $1699.48		

Intellistation Z Pro

200MHz Pentium Pro
32MB RAM/2.1GB HD
16X CD-ROM
Matrox Millennium
$3679.13 CDW 88178
64MB/4.5GB
CDW 88179 $4449.76
128MB/4.5GB
CDW 88181 $7619.68

All monitors shown sold separately

Aptiva S

Notebooks

ThinkPad 365X

133MHz Pentium
8MB RAM/1GB HD
optional CD-ROM
11.3" dual-scan display
16-bit sound

$1076.76 CDW 74859

365XD 8MB/1.35GB/6X
CDW 74858 **$2065.84**
365XD 8MB/1.35GB/6X
CDW 81181 **$1569.25**

ThinkPad 380

150MHz Pentium
16MB RAM/1.35GB HD
8X CD-ROM
12.1" dual-scan display
SVGA resolution

$2059.50 CDW 86304

380 16MB/1.08GB
CDW 86302 **$1769.64**
380D 16MB/2.1GB
CDW 86305 **$3345.06**

ThinkPad 560

133MHz Pentium
8MB RAM/2.1GB HD
—
12.1" active-matrix display
4.1 lbs. subnotebook

$3869.45 CDW 81186

560 8MB/810MB
CDW 69376 **$1399.00**
560 8MB/2.1GB
CDW 81184 **$2429.56**
560E 16MB/2.1GB
CDW 89290 **$2699.86**

ThinkPad 760XL

166MHz Pentium MMX
16MB RAM/2.1GB HD
optional CD-ROM
12.1" active-matrix display
SVGA resolution

$4289.78 CDW 84102

760XL 32MB/2.1GB/NT
CDW 84103 **$4488.21**
760XD 32MB/3GB/8X
CDW 84101 **$5089.28**
760ED 16MB/2.1GB/6X
CDW 74862 **$3897.56**

ThinkPad 765L

166MHz Pentium MMX
32MB RAM/3GB HD
optional CD-ROM
13.3" active-matrix display
XGA resolution

$6179.71 CDW 89293

765D 32MB/3GB/8X
CDW 89292 **$6759.22**

Servers

PC Server 310

200MHz Pentium
32MB RAM/2.1GB HD
8X CD-ROM
file and database server

$2449.13 CDW 89307

5/200MHz/no HD
CDW 89306 **$2135.40**

PC Server 315

180MHz Pentium Pro
32MB RAM/2.1GB HD
8X CD-ROM
entry business network server

$2999.28 CDW 89308

6/180MHz/2.1GB HD
CDW 89309 **$2558.95**
6/200MHz/2.1GB HD
CDW 89311 **$2877.79**

PC Server 325

200MHz Pentium Pro
32MB RAM/2.25GB HD
—
mini-tower LAN server

$3944.60 CDW 83521

6/200MHz/no HD
CDW 78653 **$3267.32**
6/200MHz/rack
CDW 86296 **$3588.45**

PC Server 330

200MHz Pentium Pro
32MB RAM/2 x 2.25GB HD
8X CD-ROM
symmetrical multi-processing

$7999.80 CDW 82447

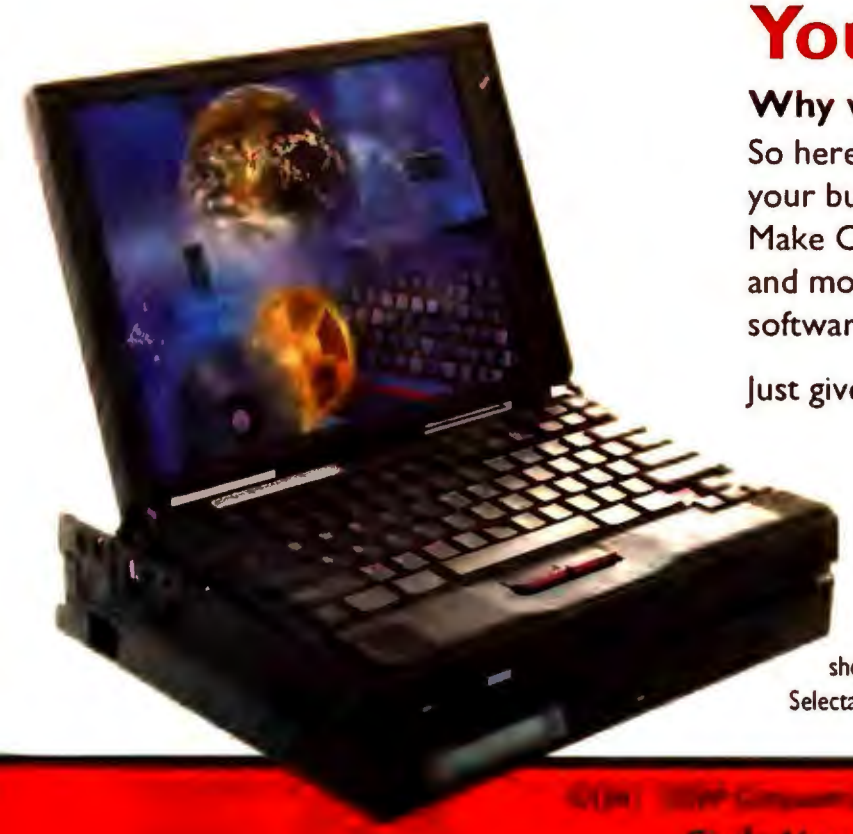
6/200MHz/no HD
CDW 83722 **$4156.66**
6/200MHz/no HD
CDW 82445 **$4639.65**

PC Server 704

200MHz Pentium Pro
128MB RAM /no HD
4X CD-ROM
4-way multiprocessor support

$10,889.56 CDW 78291

6/200MHz/256MB RAM
CDW 89937 **$15,767.83**
6/200MHz/256MB RAM
CDW 89938 **$18,919.31**



ThinkPad 760
shown with optional
SelectaDock accessories

Your time is valuable

Why waste it shopping around?

So here you have it. The best IBM options for your business at the best prices in the industry. Make CDW your one-stop source for IBM and more than 20,000 other hardware, software and peripheral computer products.

Just give us a toll-free call.

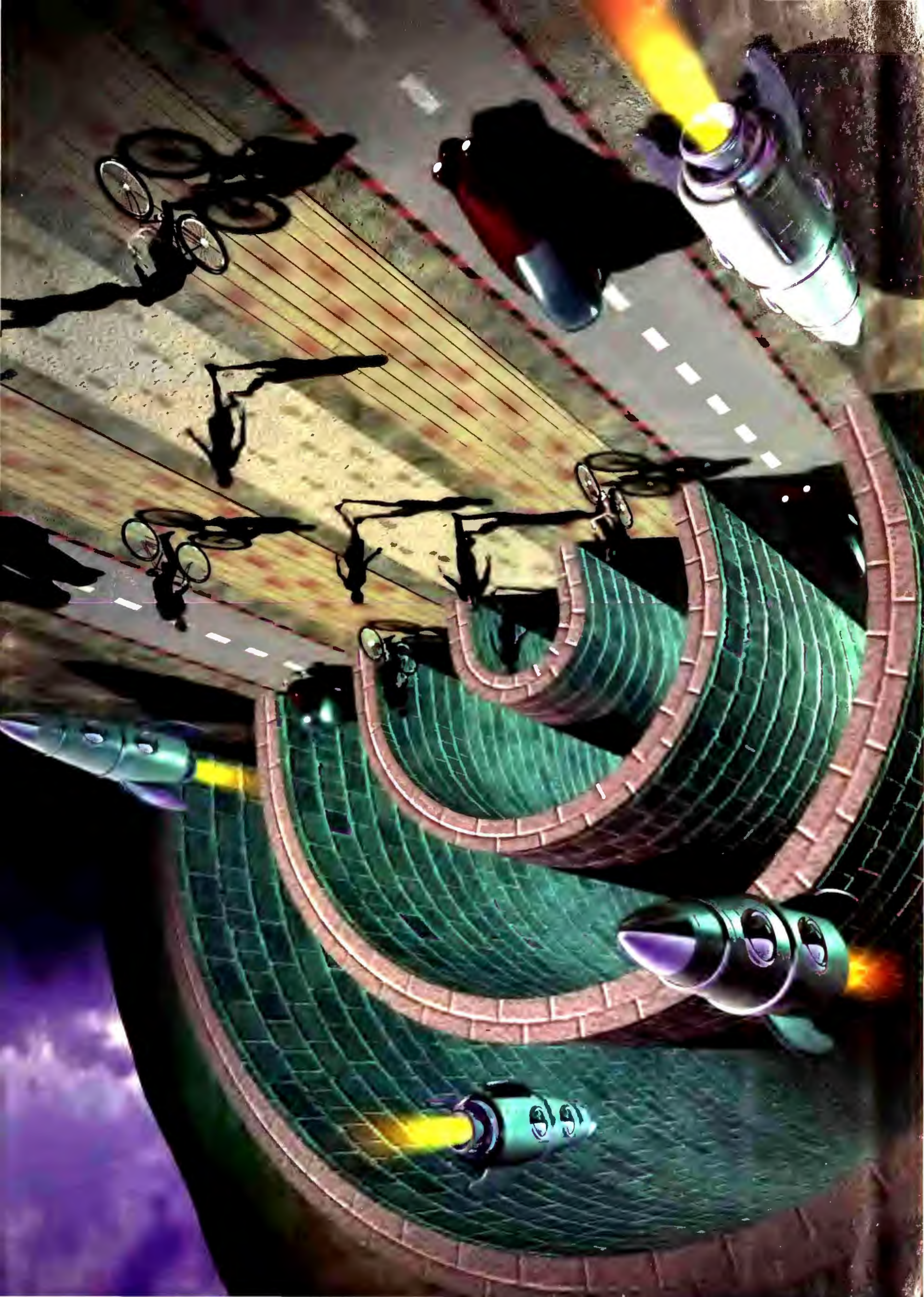
CDW COMPUTER DISCOUNT WAREHOUSE

The right price.
The right advice.

800-767-4239 See our ad in the back

www.cdw.com/pwl

Circle 46 on reader service card



HIGH-BANDWIDTH on demand

YOUR SMALL BUSINESS is finally in the black, but your Internet connection is still chugging along, trying to catch up. You remember the fast T1 lines of your corporate days: Despite the fact that they're shared by

The fastest ways to connect, from 56-kbps modems to satellite hookups.

hundreds of users, T1 lines are almost always very, very fast. They display Web pages in a flash and download multimegabyte files in seconds. You and your modem? Even when you manage to make a 33.6-kbps connection, your online activities seem to take forever. Your data transmission capacity—or *bandwidth*—is just plain slow.

But how do you get up to speed? Several new technologies coming down the pike promise to speed up Net access to 128 kbps, 400 kbps, even 30 *mega*bits per second—fast enough to download the entire text of the *Encyclopaedia Britannica* in less than a minute. We tested five technologies and assessed their suitability for small-business use. Some aren't widely available yet, but don't despair: A fix for your high-bandwidth habit is within reach. ▶

By Scott Spanbauer

T1 and Other Technologies. In case you're wondering, you *don't* want your own T1 line. It's expensive—the equipment costs at least $2000, and the service itself runs at least $300 a month—and you may have to act as your own Internet service provider. That means setting up and managing mail, news, and Web servers.

What are your other options? Plenty—if you're lucky enough to live where they're offered. For this review, we looked at 56-kbps modems; Integrated Services Digital Network terminal adapters; and Asymmetric Digital Subscriber Line, cable, and satellite services. Of these five options, only ISDN terminal adapters and 56-kbps modems—and their related services—are widely available.

ADSL and cable are so new that the only way we could test them was to use a live Internet connection from the vendor's site. We tested the other products over the Net as well, either from the PC World Test Center or from the author's house. For all products, the test procedure was the same: We loaded a Web page, jumped to a link on another page, and uploaded and downloaded five common file types (.doc, .tif, .jpg, .exe, and .zip). Testing over the Net left us at the mercy of variable line conditions and Web traffic, but it still gave a general idea of how much speed each technology offers. (For ranges, see "The Lowdown on High Bandwidth.")

Bandwidth for Today. Our findings? If you want higher speed now and can deal with the cost and complexities of installation, an **ISDN terminal adapter** is probably your best choice for curing the bandwidth blues. These modemlike digital devices are available as either internal cards or external units, just like analog modems. But they offer up to *four times* a 33.6-kbps modem's speed and are three times as fast as a 56-kbps modem—for about the same purchase price of $100 to $300.

What are your bandwidth options? Plenty—if you're lucky enough to live where they're offered.

But while ISDN is good for, say, the serious telecommuter, it's far from a perfect solution. You'll have to pay the phone company anywhere from $100 to $400 to install an ISDN line. More ISPs are offering ISDN services, but you'll have to check with yours to be sure it's one of them. And depending on where you live and the adapter you buy, ISDN service can still be expensive—and a pain in the neck to set up.

Don't want to deal with installation woes, or wait for other high-bandwidth technologies to arrive in your area? Then consider a **56-kbps modem.** It's a relatively hassle-free and inexpensive way to speed your communications. While 56-kbps modems are a far cry in speed from the other technologies reviewed here, in our tests they achieved download rates that were 34 percent faster than a 33.6-kbps modem's on average. Unfortunately, warring standards make it difficult to choose a 56-kbps modem that won't soon become obsolete.

THE LOWDOWN ON HIGH BANDWIDTH

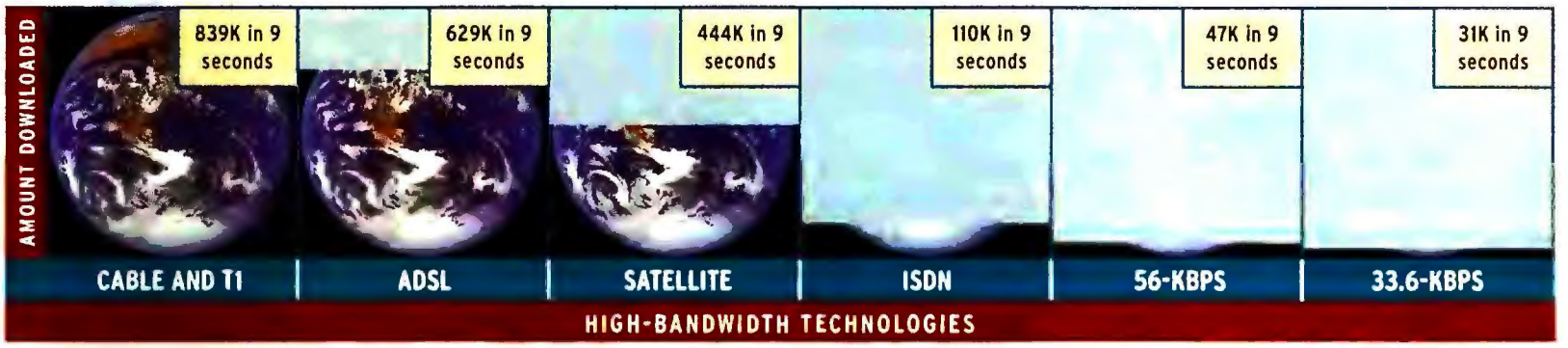
OF THE FIVE HIGH-BANDWIDTH OPTIONS we tested, only ISDN is widely available today; 56-kbps modems are a close second. Satellite, though not widely used, should be relatively easy to set up anywhere. Cable and ADSL are the real wild cards: Each is currently available only in very limited areas. We include the established T1 line technology for comparison.

TECHNOLOGY OPTION	Estimated or projected upload/download speed[1]	Current availability	Estimated cost of hardware/monthly service cost	Suitability	Pros/Cons
56-kbps analog modem	33.6 kbps/53 kbps	Most ISPs and online services support either x2 or K56flex modems, or both	$100–$295/ $10–$25[2]	E-mail, basic Web browsing, small file downloads	Works with regular phone line; may be upgradable from existing modem/Only modest speed gains; competing standards
ISDN terminal adapter	128 kbps/128 kbps	Most urban and suburban areas except New Mexico[3]	$100–$500/ $35–$1000[4]	Power Web browsing, large file downloads, streaming audio/video playback, basic videoconferencing	Widely available; 3 to 4 times analog modem speeds/Costs can be prohibitive; installation can be difficult
ADSL adapter	640 kbps–2 mbps/ 1.5–9 mbps	A handful of cities served by US West; other companies will launch services this fall	$500–$1000/ $50–$200	Power Web browsing, videoconferencing, LAN-to-LAN links, streaming audio/video playback	Very fast; uses regular phone lines/Currently only point-to-point connections are available; upload speed may be limited
Cable modem	300 kbps–10 mbps/ 1.5–30 mbps	Gradually increasing support in urban and suburban areas nationwide	$0–$500/$15–$60	Power Web browsing, streaming audio/video playback, large file downloads	Potentially very fast and cheap/Upload speed may be limited; available only where cable is installed
Satellite system	analog modem speeds/ 400 kbps	Anywhere	$399–$499/ $10 plus 70¢ per MB[5]	Web browsing, streaming audio/ video playback, large downloads	Wireless; downloads faster than ISDN/Uploads must go through analog modem
T1 line	1.5 mbps/1.5 mbps	Urban and suburban areas nationwide	$2000–$3000/ $300–$2000	Web server use, ISP hosting, corporate LAN-to-Internet links	Fast uploads and downloads; widely available/ Very expensive; requires data communications expertise

[1] ADSL and cable speeds are projected based on information from different vendors.
[2] Cost of phone line.
[3] The Public Utilities Commission in New Mexico has not approved ISDN service.
[4] Average range for constant use. See www.pcworld.com/aug97/bandwidth for pricing details.
[5] Both measured and unlimited pricing plans are available; doesn't include analog modem cost for uploads.

HOW MUCH CAN YOU DOWNLOAD IN 9 SECONDS?

CABLE MODEMS ARE THE fastest new high-bandwidth technology on the horizon: They're running neck and neck with T1 lines for downloading. Each took only 9 seconds to download an 839K image of the earth; the other technologies didn't perform as well. Here we show what percentage of our image each technology can download in 9 seconds. Even though 33.6-kbps modems aren't a high-bandwidth technology, we've included their results for comparison.



Bandwidth for Tomorrow. ADSL adapters, cable modems, and satellite systems are all much faster than ISDN terminal adapters, but they're fledgling technologies by comparison.

Like ISDN, **ADSL** works over your regular phone lines, but it's a lot faster. Theoretically, ADSL adapters can download data at up to 9 mbps; in practice, however, services will initially top out at about 1.5 mbps, and uploads can be ten times slower than downloads. Speed aside, ADSL does have some drawbacks. For example, it currently acts only as a point-to-point service. In other words, you and your ISP must have dedicated ADSL lines running to the same phone company office.

The **cable** companies are also jumping into the bandwidth fray. Using the same cable wiring that brings you your evening's television entertainment, cable companies will provide a faster, less expensive alternative to ADSL, with possible download speeds of up to 30 mbps. Of course, there is a catch: Cable bandwidth is shared by all users on the system, so there's no guarantee that you will always get the maximum promised throughput rate.

Satellite systems are for people who are desperate for bandwidth—super Web surfers who live so far from civilization that they don't have access to ISDN or other options. Hughes Network Systems' DirecPC is the only end-user satellite system available right now. To deliver information, the DirecPC software intercepts the data coming to you and then forwards it over your satellite. During our testing, we saw one big disadvantage to this option: The satellite system is for downloading only. To upload files or send e-mail, you'll also need a standard modem, a phone line, and an ISP account.

Despite the limitations of each technology, the bandwidth horizon is getting broader and broader. With this multitude of options, there's no doubt that the world will be increasingly well connected. No matter where you live or work, you should be able to satisfy your craving for high-speed Internet access.

ISDN: Here Today, Around Tomorrow

Ever since ISDN became a household acronym, it's had a bad rap. People reported that it was difficult to install, that the phone companies took forever to set up the lines, and that it was expensive. When the new 56-kbps modems began to appear, they stole what little thunder ISDN had mustered.

PICK YOUR ADAPTER
The external and internal Best Buys of the ten ISDN adapters we tested are from Zyxel and Diamond.

But despite its problems, ISDN is still the fastest and most widely available technology of the high-bandwidth options here. Increasing numbers of ISPs, including GTE Internet Solutions and EarthLink, as well as online services like CompuServe, are capable of handling ISDN. Once installed properly on your end, the all-digital terminal adapters connect reliably at up to 128 kbps and transfer data at up to 300 kbps with compression.

Healthy competition among ISDN vendors has brought adapter prices down from an average of about $650 in our August 1996 roundup to about $290 for the adapters reviewed this month. ISDN may eventually be replaced by the much faster ADSL or by cable, but for now it's a pretty good deal.

The ten ISDN terminal adapters we reviewed included three internal models and seven externals ranging in price ▶

from about $100 to $400. Based on installation, configuration, and performance, our Best Buy internal adapter is Diamond's Supra NetCommander. It offers easy installation and configuration along with near-top performance for a moderate $250. Our Best Buy external adapter is Zyxel's $249 omni.net. Like the NetCommander, the omni.net speeds data across the wires, installs in a jiffy, and simplifies sharing ISDN with analog phones and fax devices.

Of the remaining internal adapters, 3Com's $249 U.S. Robotics Sportster ISDN 128K runs a close second to the NetCommander. But if you're using this terminal adapter, your phone won't ring if it's hooked up through your ISDN line. You can get an add-on device to generate the ring, but it will cost an extra $59. At only $99, Tiger Jet's PCI ISDN adapter is tempting but very basic—it has no analog ports, and its performance is mediocre.

Among external adapters, the Hayes Accura ISDN is practically identical to the omni.net and almost as good a buy. It has the same design, software, and controls but costs a little more—$279. 3Com's U.S. Robotics Courier I-Modem is fast and includes a built-in 56-kbps analog modem, but it has only one POTS (plain old telephone service) port for other analog devices, and at $370 is

pricey. Although the $249 3Com Impact IQ is economical, it's plagued by buggy firmware and middling speed. The performance and features of Adtran's Express XRT are decent but don't justify its relatively high $369 price. 3Com's $260 U.S. Robotics DataBurst ISDN 128K is very fast but doesn't support analog devices at all—which means you'll have to keep a regular phone line for voice calls. The aging $399 Motorola BitSurfr Pro is both costly and slow. (In mid-April—too late for this review—Motorola introduced a new model, the BitSurfr Pro EZ, that should solve some of the problems we saw in the old BitSurfr Pro.)

Internal versus External Adapters.

Which should you buy—an internal or external ISDN adapter? Both have serious trade-offs that you'll want to think about.

The big downside to internal adapters is that they provide fewer analog telephone ports than do most external units. So with an internal, you may not be able to attach a phone and a fax machine that use separate numbers. And because internals receive power from your PC, attached analog devices don't work when the computer is turned off.

But the installation problems we ran into with external models had us muttering for hours. ISDN can send and receive

ISDN TERMINAL ADAPTERS — FEATURES COMPARISON

	INTERNAL ADAPTERS	Street price	Interface	Number of RJ-11 analog ports	Number of analog devices capable of ringing	Caller ID support	Automatic B-channel allocation	Incoming-call bumping	Warranty (years)	Weekday phone support (hours)
1	Diamond Supra NetCommander 800/727-8772 www.diamondmm.com	$250	ISA	1	3	●	●	●	5	14
2	U.S. Robotics Sportster ISDN 128K 800/877-2677 www.3com.com	$249	ISA	1	1 [2]	○	●	●	5	10
3	Tiger Jet PCI ISDN 408/725-7506 www.tigerjet.com	$99	PCI	0	0	○	○	○	5	9
	EXTERNAL ADAPTERS									
1	Zyxel omni.net 800/255-4101 www.zyxel.com	$249	460K serial	2	2	●	●	●	2	9
2	Hayes Accura ISDN 800/374-8388 www.hayes.com	$279	460K serial	2	6	●	●	●	2	10
3	U.S. Robotics Courier I-Modem 800/877-2677 www.3com.com	$370 [3]	230K serial, ISA	1	5	●	●	●	5	10
4	3Com Impact IQ 800/638-3266 www.3com.com	$249	230K serial	2	6	●	●	●	5	24
5	Adtran Express XRT 800/923-8726 www.adtran.com	$369	230K serial	2	6	●	○ [4]	●	5	24
6	U.S. Robotics DataBurst ISDN 128K 800/877-2677 www.3com.com	$260	parallel	0	0	○	●	○	5	10
7	Motorola BitSurfr Pro 800/365-6394 www.mot.com/mims/isg	$399 [5]	115K serial, ISA	2	4	●	●	●	5	16

Best Buy ● Yes ○ No

[1] Prices for external units do not include cost of a high-speed serial interface board.
[2] With $59 external ring generator.
[3] Internal version available for $315.
[4] Will allocate B channel for analog use.
[5] Internal version available for $389.

data at up to 300 kbps with compression. Internal adapters, which connect directly to your PC's ISA or PCI bus, have no trouble performing at this top speed. With an external adapter, however, you'll face two potential performance drawbacks, each of which leads to its own installation woes. First, some ISDN adapters have slow serial ports. You may have to go through additional hassles to set the port speed, depending on your hardware.

Second, most PC serial ports that external ISDN adapters connect to also have speed limitations. If your PC's serial port is the bottleneck, you'll have to install an optional high-speed serial interface board that allows speeds as fast as 460 kbps. These boards, like the Boca Research I/O 650 that we used, cost about $50. You'll also have to open the computer to install the board, negating much of the external device's setup convenience. In addition, these interface boards can be daunting to configure, sometimes requiring hours of frustrating trial and error.

Overall, we recommend going with an internal ISDN adapter if you want the simplest installation process. If you prefer goodies such as status lights, an on/off switch, and continuous power to your connected analog devices, an external unit is your best bet.

Weekend phone support (Sat./Sun.)	Repair turnaround time (days)	Reader service number
●/○	2	731
○/○	7	732
○/○	7	733
○/○	5	734
○/○	3	735
○/○	7	736
●/●	1	737
●/●	10	738
○/○	7	739
●/●	14	740
All products:	911	

taking ISDN step by step

ISDN IS STILL far from a plug-and-play technology. Is it worth the frustration? Price may be the determining factor for you: Depending on where you live and how much you plan to use it, an ISDN line can cost as little as about $35 per month for unlimited usage or as much as hundreds of dollars.

If you do decide to spring for ISDN, the steps below give you an idea of what it will take to get your connection working. For more detailed setup information and for a table that gives you ISDN pricing in your state, check out PC World Online (www.pcworld.com/aug97/bandwidth).

1. Buy the terminal adapter first...
2. ...then order your ISDN line from the phone company (not vice versa).
3. Install a high-speed serial interface board (for external adapters only).
4. Install the terminal adapter.
5. Configure the adapter to work with your ISDN line.
6. Set up the multilink point-to-point protocol.
7. Set the adapter's port to its top speed (for external adapters only).
8. Configure your Dial-Up Networking connection. *–S.S.*

Two B or Not Two B? To achieve the top ISDN connection rate of 128 kbps, all of the terminal adapters we tested support the multilink point-to-point protocol. This simply means they use two 64-kbps B ("bearer") channels, either independently for voice, data, and fax calls, or linked together into one wide 128-kbps digital connection. Each B channel gets its own analog phone number, so you can connect two separate devices—a phone and a fax machine, for example. (Eight of the ten adapters we tested have such POTS ports for analog connections.) If one of the two B channels is needed to answer a voice call or send a fax, the adapter simply yanks a B channel from the data connection, dropping it to 64 kbps. If you're currently paying for a second dedicated data or fax line in your home or office, one ISDN line can replace both of your existing POTS lines.

Linking your adapter's two B channels doubles the speed of the connection, but there are two reasons you may not want to do this. First, if your ISDN provider charges by the B channel, a 128-kbps connection could get expensive. What's more, one B channel usually provides more than enough speed for activities like basic Web surfing. Even streaming video and audio require less than 64 kbps and so may not look or sound any better over a two–B-channel connection.

The best ISDN adapters give you precise control over B-channel allocation. All of the adapters we reviewed, except Adtran's Express XRT and the Tiger Jet PCI ISDN, give you the option of connecting at 64 kbps and then adding or dropping the second channel.

If you've attached an analog phone or fax device to your ISDN adapter, you may want incoming calls to override one, both, or neither of the B channels. Each of the eight adapters with POTS ports supports this incoming-call bumping and automatically allocates a B channel when you make an analog phone or fax call.

The ISDN Bottom Line. If you need speed for both sending and receiving data—and you don't want to wait—ISDN is definitely your best option. The service is now more widely available than ever, if not always cheap. Although other technologies like ADSL and cable are faster, those services may not be available in your area for years to come. ▶

56-kbps Modems

Need speed, but short on cash? Modem makers tout the new 56-kbps analog modems as a quick, inexpensive way to double your download speed. Don't believe it.

That's not to say that a 56-kbps modem isn't worth your upgrade dollar. It's as easy to install and configure as a regular modem and works over your existing telephone line. In addition, many manufacturers—like Hayes—have trade-in programs so that you can upgrade your older, slower modem to the 56-kbps variety.

How much faster will you go with 56-kbps? It's not T1, but you'll get a nice little boost in speed. On average, the four 56-kbps modems we tested were about 50 percent faster for downloads than a 28.8-kbps U.S. Robotics Sportster and 34 percent faster than a 33.6-kbps Sportster. (For more information on individual 56-kbps modems, see "33.6 and Getting Faster," July.)

DOUBLE STANDARDS
With the competing x2 and K56flex specs, it's difficult to choose a 56-kbps modem.

But as with all of the other technologies, this one is not problem-free. First of all, 56-kbps modems don't *really* perform at 56 kbps. They can achieve a download speed of only 53 kbps; upload speed is limited to 33.6 kbps, although future standards may improve that performance.

The other problem with 56-kbps modems is that two competing specifications have emerged. The only reason your current modem can connect to another modem—whether at America Online, your ISP, or your office—is that both units conform to a standard such as V.34, which allows 28.8- and 33.6-kbps modems from different manufacturers to work together reliably. Unfortunately, the organization that considers these things, the International Telecommunication Union, may not agree on a single 56-kbps standard until next year.

In the meantime, you'll have to choose between two incompatible de facto standards: U.S. Robotics' x2, and K56flex, which was developed jointly by Lucent Technologies and Rockwell.

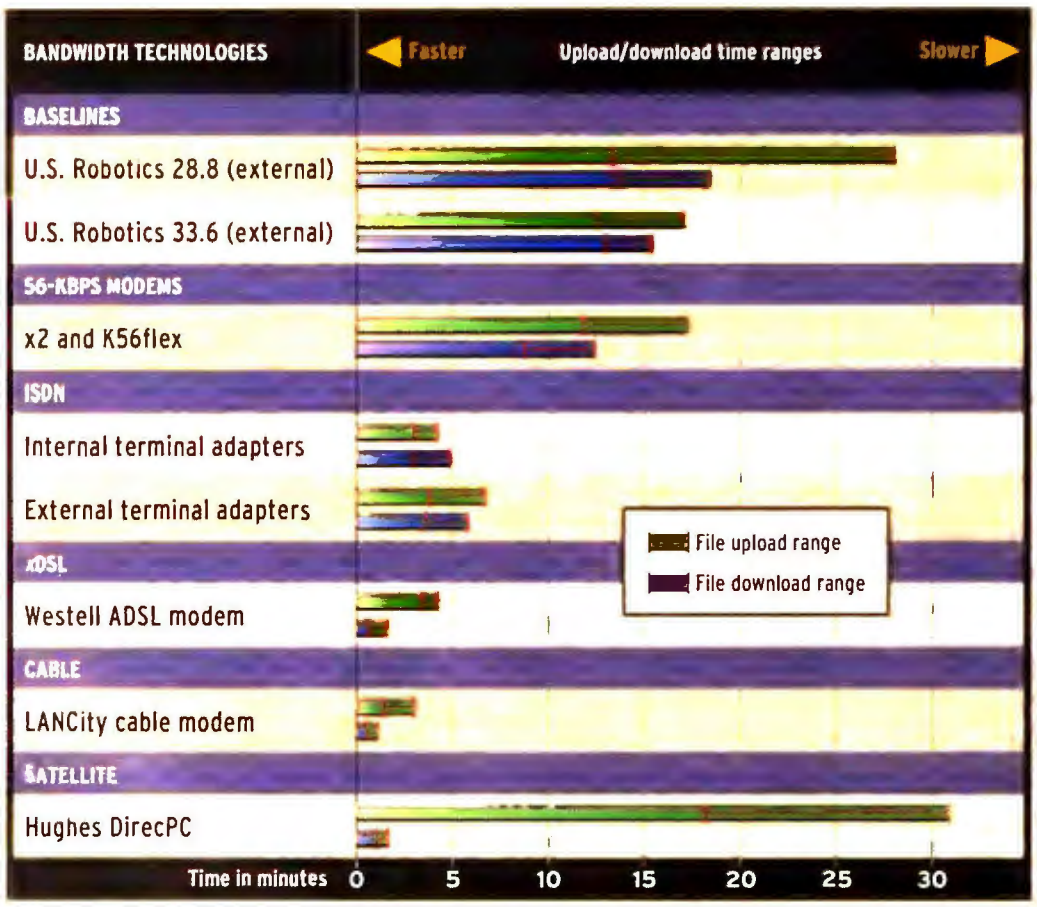
Your safest bet is to purchase a model that's compatible with what your ISP or other primary dial-in sites use. Though some services like Prodigy already provide both K56flex- and x2-compatible access numbers, others may choose to settle on one spec. Both U.S. Robotics (x2.usr.com/connectnow) and Rockwell (www.nb.rockwell.com/mcd/K56/isps.html) maintain updated lists of online services and ISPs that use their respective 56-kbps technologies.

When shopping for a 56-kbps modem, it's equally important to purchase one that's software-upgradable. Buying a modem equipped with programmable chips doesn't guarantee you'll be able to upgrade it to V.*whatever* next year, but you definitely can't upgrade a modem that has read-only chips. Before you buy, be sure to ask the manufacturer about upgrading down the road. ▶

TEST REPORT

Bandwidth Compared

Range of longest and shortest transfer times.



HOW WE TEST We tested four 56-kbps modems, ten ISDN terminal adapters, one ADSL adapter, one cable modem, and one satellite dish. We uploaded and downloaded each of the following five files six times: a .doc file (611K), a .tif file (839K), a .jpg file, an .exe file (452K), and a .zip file (916K). We show the times to transfer all five files.

U.S. Robotics

PROPER attire

means having exactly what the occasion demands.

To make the right impression you need the proper information. The new PalmPilot™ connected organizer is how you keep it close at hand. PalmPilot takes contacts, e-mail,** schedules, everything you thought was stuck on your PC, and puts them neatly in your palm. And HotSync™ technology lets you synchronize that data and all its changes with your PC. The new PalmPilot is how you know you're always dressed for success.

Use the personal information management software included or choose one of the optional links to Schedule+, Lotus Organizer, Symantec ACT!, Maximizer, ECCO, Sidekick, Goldmine, Now Up-to-Date, Day-Timer Organizer, and others (sold separately).**

Call 1-800-881-7256 ext. 12 or visit our web site at www.usr.com/palm for the PalmPilot retailer nearest you.

Palm Pilot™

PalmPilot Personal $299*

Instantly syncs data with your PC

Backlit display for low-light viewing

Easy expense tracking

Stores thousands of entries

User upgradeable to Professional Edition

PalmPilot Professional $399*

All PalmPilot Personal features plus:

E-mail connectivity

Internet ready (TCP/IP support)

Twice the memory

*The average U.S. street price for PalmPilot Personal Edition is $299. The average U.S. street price for PalmPilot Professional Edition is $399. PalmPilot MacPac, required for Macintosh connectivity, is sold separately at an average U.S. street price of $14.95. **Expense and Mail features and some links to desktop software not supported on Macintosh. Mail feature supported on Professional edition only. © 1997 U.S. Robotics. All rights reserved. U.S. Robotics and the U.S. Robotics logo are registered trademarks, and HotSync, PalmPilot, and the PalmPilot logo are trademarks of U.S. Robotics and its subsidiaries. All other brands and product names are trademarks or registered trademarks of their respective holders.

Circle 171 on reader service card

ADSL: Nearly Ready for Prime Time

If all you know is 28.8 kbps or 33.6 kbps, a 56-kbps modem or an ISDN connection may look pretty good. But these technologies are far from the last word in high-speed communications.

Asymmetric Digital Subscriber Line links are the next big thing on the bandwidth horizon: Download speeds can be 1.5 mbps or better. That makes it potentially more than ten times speedier than ISDN.

ADSL OVERDRIVE This ADSL modem is much faster than ISDN.

For now, though, ADSL is just a twinkle in your phone company's eye. Pacific Bell, Bell Atlantic, and other regional Bell operating companies are conducting ADSL tests around the country, but you still can't order an ADSL line unless you live in one of the 14 cities served by US West's fledgling commercial service.

And even when ADSL becomes widely available—at prices predicted to be competitive with ISDN's—it will have some drawbacks. Its maximum upload speed could top out at 640 kbps, significantly slower than its download speed (accounting for the "Asymmetric" moniker). This imbalance shouldn't matter to Web surfers and telecommuters, who will be satisfied with ADSL's near-instant downloads and merely lightning-fast uploads. But for companies with the money and the technical expertise, ADSL doesn't make any sense as a replacement for T1, which offers 1.5-mbps speeds for both uploads and downloads. Still, by the time ADSL becomes a product that consumers can buy, it may be supplanted by a similar technology like Rate Adaptive DSL, which offers symmetric download and upload rates and even higher throughput.

Another issue is that ADSL currently operates only as a dedicated connection from your computer to an ADSL adapter that your ISP or online service installs in the phone company's central office. In other words, you won't be able to make ADSL connections to anyone else over the public switched network, as you can with an ISDN line or an analog modem.

And what ADSL will cost is anybody's guess. Based on the gouging that ISDN users have had to endure, ADSL may be beyond the average infonaut's reach for years to come. US West's ADSL service costs $175 per month, which is reasonable for a small business but may be too pricey for a home office. As for installation, all we know now is that you'll have to install a network card in your PC before connecting an ADSL device.

Nevertheless, ADSL's prospects look good. It promises to be a cost-effective way for telecommuters to make fast Net connections, and it should be fairly convenient to use. It runs through existing copper wires and, unlike ISDN, saves a dedicated channel for your analog phone line. So when the power goes out, the phone should still work.

Modem manufacturers are revving up for the new ADSL technology. Hayes, Motorola, 3Com, and other major companies have ADSL products in the works, as do some lesser-known companies like NetSpeed and Westell. We tested Westell's FlexCap2, a black plastic device that looks like an oversize modem. In our tests at Pacific Bell's ADSL labs, the FlexCap2 achieved a maximum download speed of 586 kbps—significantly faster than ISDN.

Although ADSL and other *x*DSL technologies may be scarce now, the market research firm Dataquest predicts that they are about to explode, and that up to 2 million users will be hooked up by 2000. But it's still too soon to tell which type of DSL will win out, and whether the telephone companies will price it within the reach of average consumers.

FUNKY AND FAST With downloads as fast as a T1 line's, cable modems like this one lead the high-bandwidth pack.

HBO, MTV...and WWW?

ISDN may be fast and ADSL even faster, but—in theory, at least—cable is the quickest of them all. A cable modem that connects your PC through a network card has the capacity to download data at up to 30 mbps, more than twice as fast as ADSL. We tested one cable modem—a black metal unit from LANCity with Mohawk-like fins on top—at @Home, an Internet service provider that works with cable company TCI in Fremont, California.

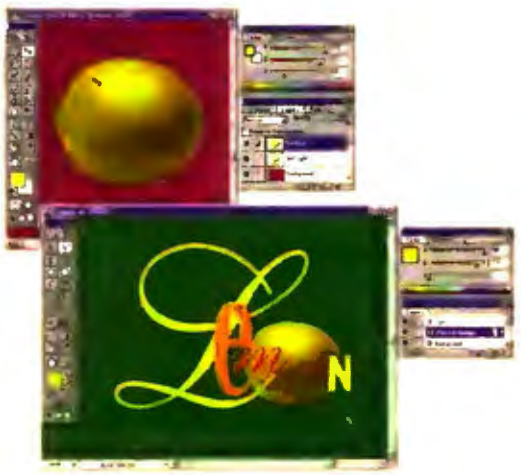
The fastest download speed we saw? About 1.5 mbps—the same as a T1 line, still plenty fast for most users. Uploads were significantly slower (but still relatively fast) at 820 kbps.

Despite cable's theoretical maximum, the cable companies we've talked to will probably limit speeds to these lower ranges. And cable could be slower still in actual practice. Unlike ADSL and ISDN, which provide a dedicated line from your computer to your ISP, your local cable system is shared among all users. So if every- ▶

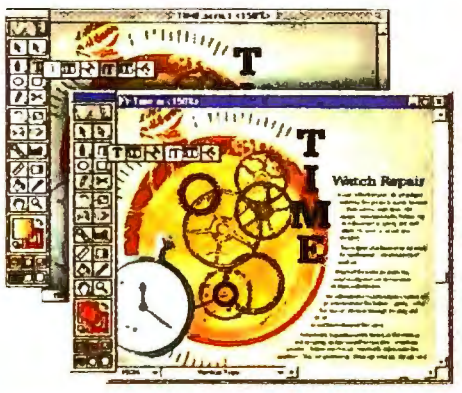
NEW ADOBE® ILLUSTRATOR® 7.0 *for* WINDOWS®

PICTURE THE POSSIBILITIES

NO JOB IS TOO BIG OR TOO SMALL. From the simplest graphics to the most complex artwork, new Adobe Illustrator 7.0 for Windows handles just about all your illustration jobs.

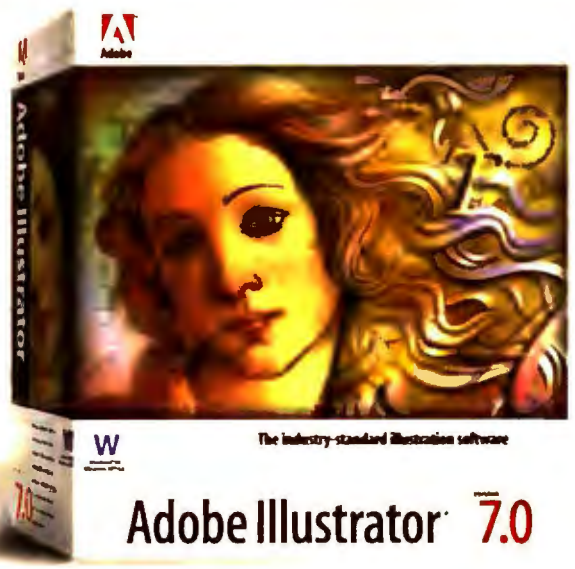


WORKS SEAMLESSLY WITH ADOBE PHOTOSHOP® and Adobe PageMaker® like no other illustration software. You learn and work faster, with the same user interface, including shortcuts and menus. Even drag & drop among all three programs.



WINDOWS AND MACINTOSH—SAME GREAT FEATURES. It's never been easier to share files across platforms with colleagues, clients and service bureaus.

PRECISE CONTROL OF ARTWORK AND TYPE. Create, transform and align elements just the way you want. Adjustable "snap-to" guides and grids make layout design easier. You can even wrap text around any shape or run type along any line.



UNMATCHED COMPATIBILITY. Input from anywhere, output for everywhere. Support for more than 20 image, graphics and text formats, including TIFF, WMF, CDR, PhotoCD,™ GIF89a and MS-Word—plus Adobe PostScript® printing, too.

AND GET $50 BACK.

Just look what's possible now that new Adobe Illustrator 7.0 for Windows is here. And for a limited time it's as low as $249US *(after $50US mail-in rebate)** if you have CorelDRAW!,™ Adobe Photoshop, Adobe PageMaker, Micrografx® Designer, Macromedia® Freehand,™ Canvas™ or ClarisDraw.® Get it now at your favorite place to buy software. Offer expires 10/15/97. For more information, call 800-649-3875, extension 31915. Or visit <*www.adobe.com/prodindex/illustrator*>.

Adobe

If you can *dream* it, you can *do* it.®

*Based on suggested retail price, subject to terms and limitations of rebate. ©1997 Adobe Systems Incorporated. All rights reserved. Adobe, the Adobe logo, Adobe Illustrator, Photoshop, PageMaker, PostScript and "If you can *dream* it, you can *do* it" are trademarks of Adobe Systems Incorporated. Windows is a registered trademark of Microsoft Corporation, Inc. Macintosh is a registered trademark of Apple Computer, Inc., registered in the U.S. and other countries. PhotoCD is a trademark of Eastman Kodak. All other trademarks are the property of the respective owners.

Circle 32 on reader service card

one in your neighborhood is Web surfing at the same time, you'll all take a bandwidth hit. (Cable companies reserve a separate part of the line for television, so TV watchers won't affect your speeds.)

Also, if you sign up for a cable modem, the cable company may act as your link to the Internet. If your cable provider doesn't give you all the services (such as e-mail) that come with most Internet accounts, you'll have to get them from a separate ISP, adding to your monthly costs. And each cable company will decide what services they will offer.

But if cable providers follow in Continental CableVision's footsteps, you will be a happy mouse potato. Although the nationwide system's MediaOne Express (www.mediaone.com) provides cable Internet service in only a few areas like Boston and Detroit, the offer is still a good one: Subscribers get unlimited 1.5-mbps download and 300-kbps upload speeds, all the usual Internet services, and in some areas a free cable modem and installation—all for about $50 to $60 per month.

With cable, if everyone in your neighborhood is Web surfing at the same time, you'll take a bandwidth hit.

@Home's service (www.athome.net), available in areas including Seattle, Phoenix, and Baltimore, costs between $35 and $50 a month and provides a modem, an ethernet card, and e-mail service (installation costs extra). And Time Warner's RoadRunner service (www.rdrun.com) is being offered in areas like San Diego; Columbus, Ohio; and Albany, New York.

Overall, there's no way of knowing when—and whether—cable companies will make these services more widely available in a given area.

One thing is fairly certain: Cable will probably never replace the phone company in the hearts of businesses that need high-speed connections. All companies have phone lines, but few have cable. Most U.S. consumers, on the other hand, regularly tune in to CNN and other cable TV channels. If cable providers can beat the telephone companies at the price game, a nation of couch potatoes could soon be surfing the Web at one of the highest bandwidths yet.

Satellite: Look Ma, No Wires

Feel like the Henry David Thoreau of computing? It can get pretty lonely out there, holed up in your mountain cabin, armed only with a copy of Herodotus, a plain table and chair, and a PC. But that's what the Internet is for—to help you reach out and connect every now and then.

But your chances of receiving ISDN, ADSL, or cable services out in the sticks are slim, and you'll also have a tough time getting a phone line capable of 56-kbps (well, 53-kbps) speeds. With satellite, however, you can connect to the Net wherever you live.

Hughes Network Systems' DirecPC is a combination ISA adapter and satellite dish that gives you high-speed access where no ISP has gone before. Although fast, the technology is a compromise: In our tests, the dish provided download speeds of up to 488 kbps—about three times faster than ISDN—but speeds varied widely. Worse, uploads had to be done by modem to a local ISP. The result? DirecPC is great for most Web surfing and for receiving streaming audio and video, but it's dog-slow for file uploads: In our tests, the upload rate was as poky as 16.6 kbps—slower than a 28.8-kbps modem connection.

The DirecPC service isn't cheap, either. Besides an analog phone line, you'll still need an account with a local ISP, which costs about $20 to $50 per month in most areas. Hughes charges you a $50 setup fee, and you'll then have to choose from a variety of usage pricing plans. You can pay a $10 monthly fee plus 60 to 80 cents for each megabyte you transfer; or you can select from various package deals, all of which cost less than $130 a month but limit the time of day you can use the service.

While you have your checkbook out, get ready to cough up about $500 for the DirecPC satellite dish itself. (Many retailers have an instant $100 rebate, so your actual cost may be lower.) The roughly 2-by-3-foot saucer must first be bolted to a roof or an exterior wall, then precisely aligned with Hughes's satellite using both a handheld compass (provided in the kit) and the installation software, which gives you the proper coordinates based on your location.

DISH UP DOWNLOADS Hughes's DirecPC satellite downloads files three times faster than ISDN, but it's slow for uploads.

If Hughes can increase upload speeds and iron out the download glitches, DirecPC could be a viable alternative to ADSL or ISDN. Meanwhile, if you can't get those services where you live, satellite is a fast but pricey link to the Net.

online *For additional information about high-bandwidth technologies, see PC World Online (www.pcworld.com/aug97/bandwidth). Contributing Editor Scott Spanbauer is author of* The No B.S. Guide to Windows 95 *(No Starch Press, 1996, 800/420-7240).* *See page 14 for contact information.* ■

Are you going to buy *another* computer from this guy?

Probably Not!

YOU'VE BEEN TO THE "MEGA STORES."

YOU'VE BEEN TO THE MAGAZINE RACKS.

YOU HAVE DONE YOUR HOMEWORK.

NOW, YOU ARE READY TO MAKE YOUR DECISION. PERFORMANCE, KNOWLEDGE, SERVICE, QUALITY ARE ALL THE PRIORITY COMPONENTS THAT ADD *UP* TO YOUR *BOTTOM* LINE...

value.

SO WHEN YOU'RE READY TO BUY A TOASTER, THE MEGA STORE IS THE PLACE TO GO. AFTER ALL, YOU'RE JUST PUTTING BREAD INTO IT. BUT, WHEN YOU'RE RESEARCHING THE BEST VALUE ON YOUR NEXT COMPUTER, YOU'LL FIND EPS TECHNOLOGIES ON YOUR BOTTOM LINE. OFFERING A FULL RANGE OF NOTEBOOK AND DESKTOP PC TECHNOLOGY, EPS HAS THE SYSTEM JUST RIGHT FOR YOU. CALL ONE OF OUR FRIENDLY AND KNOWLEDGEABLE CUSTOMER SERVICE REPRESENTATIVES TO FIND OUT MORE ABOUT THE ABSOLUTE BEST VALUES IN COMPUTERS. AFTER ALL, YOU'RE PUTTING *REAL* BREAD INTO THIS.

EPS®

TECHNOLOGIES

"a tradition of value and performance"

Performance

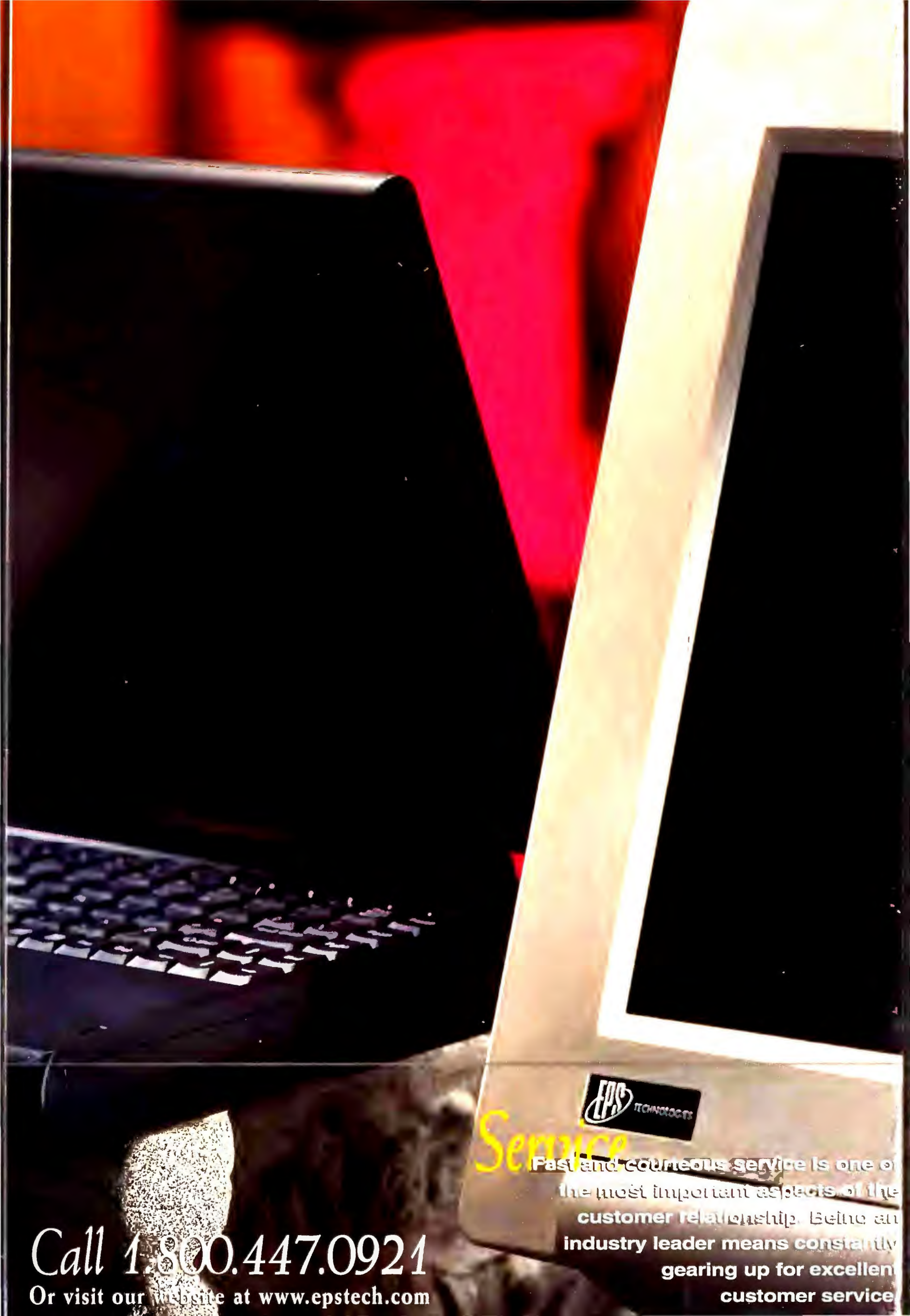
The Research and Development Team at EPS Technologies tirelessly explores and institutes the newest and most advanced technology in order to stay ahead of the curve in personal computing.

Knowledge

The EPS Sales Team makes it policy to be able to answer any questions our customers may have. Knowledge is the key to any industry, and knowing what the customer wants is where EPS excels.

EPS TECHNOLOGIES

"a tradition of value and performance"



Service

Fast and courteous service is one of the most important aspects of the customer relationship. Being an industry leader means constantly gearing up for excellent customer service.

Call 1.800.447.0921

Or visit our website at www.epstech.com

Quality

Quality products are the cornerstones of today's competitive successful companies. EPS Technologies stands behind a long tradition of the highest quality products and the highest quality customer service.

your *bottom* line

MOBILE TECHNOLOGY

Apex™ SC-166

- 12.1" SVGA Dual Scan Color Display
- 166MHz Pentium Processor
- 16MB RAM, 256K L2 Cache
- 1.3GB Hard Drive / 3.5" Floppy
- 10X CD-ROM Drive (Removable)
- Infrared Interface Support
- 16-Bit Built-in Sound with Speakers
- Integrated Personal Touchpad
- Two Type II / One Type III PCMCIA Slot
- Lithium Battery / AC Adapter
- Microsoft Windows95
- Quicken Deluxe
- Lotus SmartSuite or Corel Office Professional 7
- Two-Year Warranty, 30-Day Money-Back Guarantee
- Carrying Case

$1995

BUSINESS LEASE **$66/mo.**

Apex™ XC-166

- 12.1" SVGA Active Matrix Color Display
- 166MHz Pentium Processor
- 24MB RAM, 256K L2 Cache
- 1.4GB Hard Drive / 3.5" Floppy
- 8X CD-ROM Drive (Removable)
- Infrared Interface Support
- 16-Bit Built-in Sound with Speakers
- Integrated Personal Touchpad
- Two Type II / One Type III PCMCIA Slot
- Lithium Battery / AC Adapter
- 33.6 PCMCIA Fax Modem
- Mobile Car Adapter
- Microsoft Windows95
- Quicken Deluxe
- Lotus SmartSuite or Corel Office Professional 7
- Two-Year Warranty, 30-Day Money-Back Guarantee
- Carrying Case

$2495

SHIPS TODAY! (IF ORDERED BY 2:00pm CST)

BUSINESS LEASE **$82/mo.**

Apex™ M-166

- 12.1" SVGA Active Matrix Color Display
- 166MHz Pentium Processor **WITH MMX TECHNOLOGY**
- 32MB EDO RAM, 256K L2 Cache
- 2MB EDO PCI Graphics
- 2.1GB Hard Drive / 3.5" Floppy
- 10X CD-ROM Drive (Removable)
- Zoomed Video Port, Video In Jack
- Infrared Interface Support
- 16-Bit Built-in Sound with Speakers
- Integrated Personal Touchpad
- Two Type II / One Type III PCMCIA Slot
- Lithium Battery / AC Adapter
- 33.6 PCMCIA Fax Modem
- Mobile Car Adapter
- Microsoft Windows95
- Quicken Deluxe
- Microsoft Office 97 Small Business Edition
- Lotus Organizer
- Two-Year Warranty, 30-Day Money-Back Guarantee
- Ballistic Nylon Carrying Case

$2995

BUSINESS LEASE **$95/mo.**

Apex™ M-200

- 13.3" SVGA Active Matrix Color Disp
- 200MHz Pentium Processor **WITH MMX TECHNOLOGY**
- 48MB EDO RAM, 256K Pipeline
- 2MB EDO PCI Graphics
- 2.1GB Hard Drive / 3.5" Floppy
- 16X CD-ROM Drive (Removable)
- Zoomed Video Port, Video In Jack
- Infrared Interface Support
- 16-Bit Built-in Sound with Speakers
- Integrated Personal Touchpad
- Two Type II / One Type III PCMCIA Slot
- Lithium Battery and AC Adapter
- 33.6 PCMCIA Fax Modem
- Mobile Car Adapter
- Microsoft Windows95
- Quicken Deluxe
- Microsoft Office 97 Small Business
- Lotus Organizer
- Two-Year Warranty 30-Day Money-Back Guarantee
- Ballistic Nylon Carrying

$3695

BUSINESS LEASE **$121/mo.**

DESKTOP TECHNOLOGY

Evolution™ SC-166

- 166MHz Pentium Processor
- 16MB EDO RAM, 256K Pipeline Burst Cache
- 2.1GB EIDE Hard Drive
- 2MB PCI 64-Bit Video
- 17" Non-Interlaced (.28 Dot Pitch) MPR II Compliant, Low Radiation
- Ensonic PCI Concert Busmastering Wavetable Sound Card with Labtec Speakers
- 16X EIDE CD-ROM/1.44MB Floppy
- Internal 33.6 Fax Modem with Voice Mail, Full Duplex Speaker Phone and Caller ID
- 104 Enhanced Keyboard, Microsoft Mouse with Pad
- Microsoft Windows95
- Quicken Deluxe
- Lotus SmartSuite or Corel Office Professional 7
- Three-Year Warranty, 30-Day Money-Back Guarantee, and One-Year On-Site Service

$1545

BUSINESS LEASE **$51/mo.**

Evolution™ M-200

- 200MHz Pentium Processor **WITH MMX TECHNOLOGY**
- 32MB EDO RAM, 512K Pipeline Burst Cache
- 3.2GB EIDE Hard Drive
- Diamond Stealth 3D 2MB EDO PCI 64-Bit Video
- 17" Non-Interlaced (.28 Dot Pitch) MPR II Compliant, Low Radiation
- Ensonic PCI Concert Busmastering Wavetable Sound Card with Labtec Speakers
- 16X EIDE CD-ROM/1.44MB Floppy
- Internal 33.6 Fax Modem with Voice Mail, Full Duplex Speaker Phone and Caller ID
- 104 Enhanced Keyboard, Microsoft Mouse with Pad
- Microsoft Windows95
- Quicken Deluxe
- Lotus SmartSuite or Corel Office Professional 7
- Three-Year Warranty, 30-Day Money-Back Guarantee, and One-Year On-Site Service

$1795

BUSINESS LEASE **$59/mo.**

Evolution™ M-233

- 233MHz Pentium Processor **WITH MMX TECHNOLOGY**
- 32MB SDRAM, 512K Pipeline Burst Cache
- 4.3GB EIDE Hard Drive
- Diamond Stealth 3D 4MB EDO PCI 64-Bit Video
- 17" N.I. 1600 x 1200 (.25 Dot Pitch) MPR II Compliant, Low Radiation
- Ensonic PCI Concert Busmastering Wavetable Sound Card with Labtec 2612 3-D Satelites and Subwoofer
- Labtec N-DAT Microphone
- 16X EIDE CD-ROM/1.44MB Floppy
- Internal 33.6 Fax Modem with Voice Mail, Full Duplex Speaker Phone and Caller ID
- 104 Enhanced Keyboard, Microsoft Mouse with Pad
- Microsoft Windows95
- Quicken Deluxe
- Microsoft Office 97 Small Business Edition
- Three-Year Warranty, 30-Day Money-Back Guarantee, and One-Year On-Site Service

$2295

BUSINESS LEASE **$75/mo.**

Evolution™ LPII-266

- 266MHz Pentium II Processor
- 64MB EDO RAM, 512K Cache
- 6.5GB EIDE Hard Drive
- Diamond Stealth 2MB VRAM PCI 64-Bit Video (upgradeable to 4MB VRAM)
- 17" Non-Interlaced (.28 Dot Pitch) MPR II Compliant, Low Radiation
- Ensonic PCI Concert Busmastering Wavetable Sound Card with Labtec 2612 3-D Satelites and Subw
- Labtec N-DAT Microphone
- 16X EIDE CD-ROM/1.44MB Floppy
- Internal 56K Fax Modem with Voice Mail, Full Duplex Speaker Phone and Caller ID
- 104 Enhanced Keyboard, Microsoft Mouse with Pad
- Microsoft Windows95
- Microsoft Office 97 Small Business E
- Three-Year Warranty, 30-Day Money-Back Guarantee, and One-Year On-Site Service

$2895

BUSINESS LEASE **$95/mo.**

EPS TECHNOLOGIES "a tradition of value and performance"

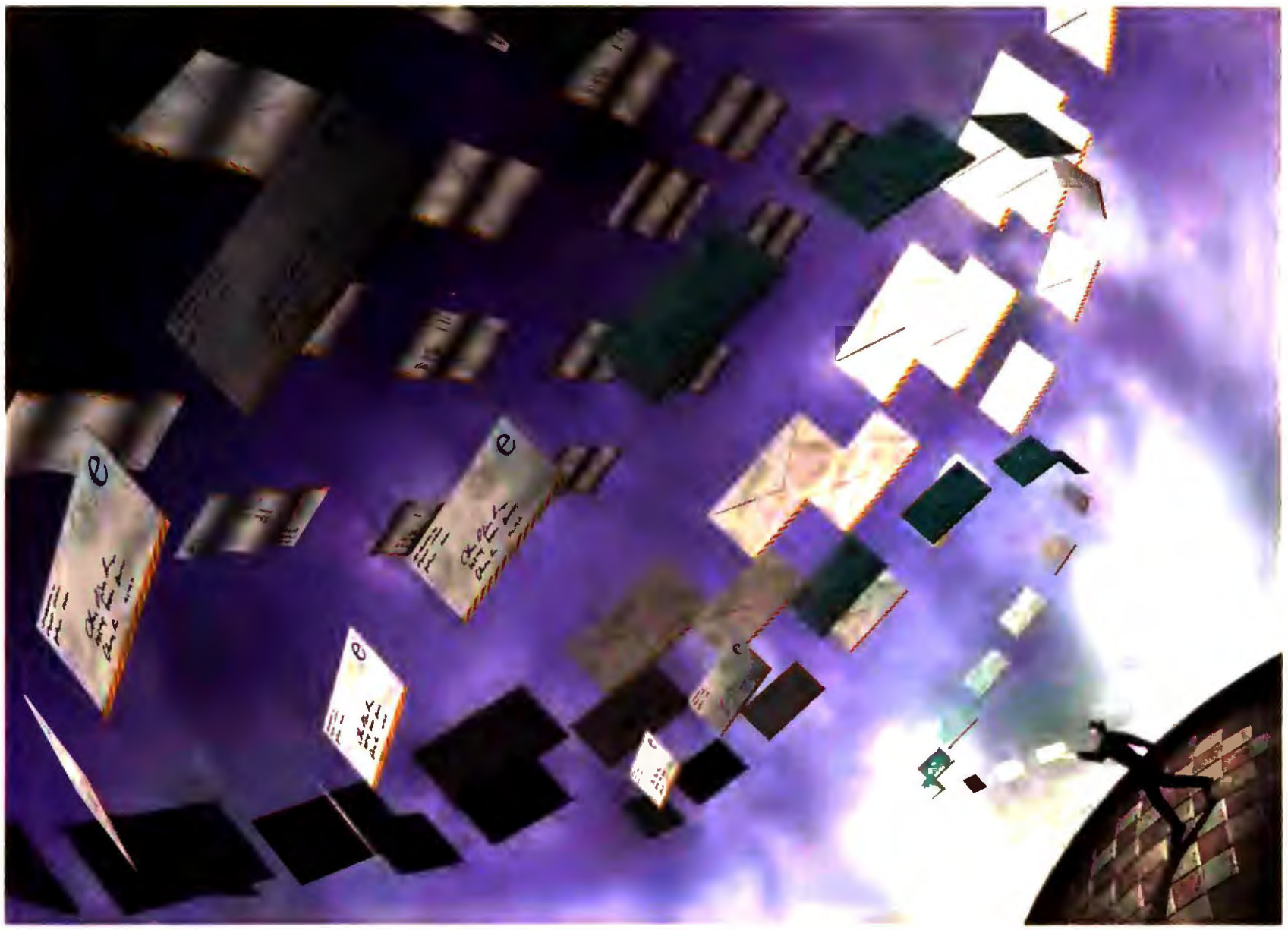
Call 1.800.447.0921

Or visit our website at www.epstech.com

EPS TECHNOLOGIES, Inc. 8877 South 137th Circle Omaha, NE
Web Site: www.epstech.comFAX Orders 402-891-9383 Direct Line 402-89
Technical Hotline 800-526-4258 Hrs: 7am-9pm M-F, 9am-4pm Sa

GSA Contract No.GS35F40

ref. #



first class E-MAIL

Six tools that get your Internet message across.

By Daniel B. Levine

ELECTRONIC MAIL—can't live with it, can't live without it. At least that's the way I sometimes feel, and I don't think I'm alone.

Internet e-mail is an indispensable part of the way I do business as an independent consultant and writer. I use it to solicit new work, communicate with clients, and manage projects of all sorts, not to mention keep in touch with friends and family.

But the problem is, I get tons of the stuff. Along with vital business correspondence, I get scads of press releases, mailing-list digests, unwanted solicitations for questionable investments, jokes that can't be repeated in good company—they all clog my in-box. ▶

INTERNET E-MAIL SOFTWARE

winners		losers
JUNO There is one big advantage to Juno's just-the-basics proprietary e-mail service—no setup worries.	ease of setup	EUDORA PRO No Internet e-mail program is a joy to configure, but this one provides the least amount of hand-holding.
JUNO, NETSCAPE MESSENGER, AND MICROSOFT OUTLOOK EXPRESS Anyone can figure out Juno's few features; the other two packages make full-featured e-mail fairly inviting.	ease of use	EUDORA PRO Old hands at Internet e-mail will love it; those with less experience may be confused at times.
E-MAIL CONNECTION This package supports the Internet, America Online, and CompuServe—it even works with pagers.	support for multiple services	JUNO You're stuck with using Juno's proprietary dial-up service only—there are no other options.
NETSCAPE MESSENGER Multiple, nestable folders and searching options let you find old messages when you need them.	folders and searching	JUNO, MICROSOFT OUTLOOK EXPRESS, AND EUDORA PRO Juno can't search, and its folders can't be nested. Outlook Express and Eudora Pro folders are fine, but searching is clumsy.
PEGASUS MAIL You get all the basic filtering tools, plus unique, powerful extras like mailing list management.	filters	JUNO AND E-MAIL CONNECTION Juno doesn't have any e-mail filters at all, and E-Mail Connection's are anemic in options and only partly automated.
NETSCAPE MESSENGER AND MICROSOFT OUTLOOK EXPRESS Both use HTML for Web-page richness; Outlook Express assumes by default that your recipients can view it.	formatting	JUNO You get plain text only; Juno doesn't provide support for file attachments, either.
PEGASUS MAIL Neat touches include phone-message notes and a mail notification icon for your Windows desktop.	extra goodies	JUNO Has few trimmings to speak of, unless you count the advertisements that appear over your in-box.
MICROSOFT OUTLOOK EXPRESS, PEGASUS, AND JUNO They're free, and Juno even includes free service. But for real features, opt for one of the other two.	price	EUDORA PRO At $59 for e-mail only, it's the most expensive package here. At least its technical support policies are relatively generous.

If you face the same dilemma, a good e-mail package can help separate the electronic wheat from the chaff, as well as make your outgoing messages easier to compose, better looking, and safer from prying eyes. This review covers six prominent Internet e-mail packages, ranging in price from free to $59: ConnectSoft's E-Mail Connection 3.1a, David Harris's Pegasus Mail 2.53, Juno Online Services' Juno 1.23, Microsoft's Outlook Express 4.0, Netscape's Messenger 4.0, and Qualcomm's Eudora Pro 3.0. (Note: International Data Group, the parent company of *PC World*, owns a minority interest in Netscape Communications.) All of them work with Windows 3.1 as well as 95 and NT, except for Outlook Express, which is a 95/NT-only product. Microsoft plans to release a Windows 3.1 edition of the package, but hasn't announced when it will be available.

With the exception of Juno, a proprietary service intended for e-mail beginners, the packages here all work with the SMTP and POP3 protocols, which means that you can use them with any Internet service provider. If your company's internal e-mail system uses an SMTP/POP3-compatible mail server, such as Qualcomm's Eudora WorldMail Server, you can also use one of these packages to communicate with your coworkers across the local area network. Right now, SMTP/POP3 servers are less common within corporate environments than proprietary systems that require specific client software, but the differences are starting to blur. Internet packages are adding new features with appeal for corporate users, and proprietary packages such as Lotus's cc:Mail are beginning to support Internet standards.

Better Browser E-Mail

SURPRISINGLY, the two packages that stood above the crowd were Messenger 4.0, which is in Netscape's Communicator suite, and Outlook Express, included in Microsoft's Internet Explorer 4.0. At press time, neither browser suite was shipping in final form, but free downloadable prerelease versions of both were available. Communicator should be formally shipping by the time you read this, but Internet Explorer 4.0 may not be complete until later this summer. For details, see our previews "Netscape: The Great Communicator?" (May) and "Internet Explorer 4.0: The Empire Strikes Back" (June).

These two mail clients mark a big change from Netscape's and Microsoft's earlier ones. Netscape Mail and Internet Mail provided the basic features, but serious users tended to replace them with more powerful stand-alone packages.

With Messenger and Outlook Express, you're less likely to need to upgrade to a better e-mail client, even if you're a demanding user. These two products have caught up with stand-alone clients

in most respects and passed many of them in others, including support for the newest e-mail protocols: IMAP4, the Internet Mail Application Protocol, version 4; and LDAP, the Lightweight Directory Application Protocol. (See "New Standards to Watch For.") They've got the most straightforward user interfaces (except for Juno), each with a look and feel that's consistent with the rest of the applications in its suite.

The other programs here all have their strong points: Pegasus Mail and Eudora Pro have the best tools for automating e-mail handling; E-Mail Connection supports an amazing array of services, including America Online and CompuServe; and Juno, although very limited in features, is as hassle-free as e-mail gets. Can't decide among them? Every package here except E-Mail Connection is either free or available in a downloadable trial version, so you can try several on for size.

Features That Matter

HERE'S A QUICK guide to the most important features to consider as you compare e-mail packages.

Searching and folders. Unless you get only a trickle of incoming e-mail, you'll want the ability to sort messages into a variety of custom folders and retrieve old messages based on the sender, subject, or other criteria. Nearly all the packages here let you create your own nested folders and do fairly sophisticated searches, although Eudora Pro and Outlook Express return search results one message at a time, so you may have to wade through voluminous folders of old mail, instead.

Filters. Also known as rules or agents, filters can do much of the grunt work of dealing with a high volume of mail. A filter is an automated process you create to handle e-mail (incoming messages, generally speaking) based on predefined criteria; once you set up the filter, it usually operates with no intervention on your part. For example, a filter can watch for messages from your boss, then sort them into a high-priority folder, or deep-six any message that contains the phrase "Make money fast!" When you go on vacation, you can have a filter forward your e-mail messages to a coworker. Or you might create a filter to send out corporate information in response to any incoming message with the word "info" in the subject line.

Of the products here, only Juno doesn't have filters. The power of the other clients' filters varies quite a bit: Pegasus Mail and Eudora Pro boast the most versatile filters, and E-Mail Connection's and Messenger's are the most basic —they can file and delete messages but can't forward or reply to them. To create filters in any of the packages, you use dialog boxes filled with options. This is a simple form of programming that takes time to learn.

File attachments. Sending attachments over the Internet has often been a source of grief, with files arriving garbled or not at all. In many cases, however, it's not the client software that's at fault—intermediary gateways in the Internet pipeline have done the mangling. As the bugs get worked out along the way, the situation is improving. In the meantime, most packages here support several common standards for sending attachments across the Internet, such as Uuencoding and MIME, and make it reasonably easy to save incoming files to your hard disk or launch them within the appropri- ▶

recommendations

IF YOU'VE MOVED to one of the new Web browser suites, you already have one of the best Internet e-mail packages. Though we can't name either as a Best Buy until we've seen final versions, we're impressed by Outlook Express and Messenger, the e-mail modules in the prerelease versions of Microsoft's Internet Explorer 4.0 and Netscape's Communicator, respectively. Both are easy to use, handle newsgroups, and support the newest features and technologies. One difference is price: Communicator costs $59; Internet Explorer is free. Another is platform support: Communicator runs on Windows 3.1 as well as Win 95/NT, while IE 4.0 is Win 95/NT only for the time being.

FEATURES COMPARISON

		FEATURES						SUPPORT		
E-MAIL PACKAGE	Street price	HTML formatting	IMAP4/ LDAP	Public key encryption	Searching/ folders	Apply filters to incoming mail/ outgoing mail	Read newsgroups	Free support (days)/toll-free call	Weekday (hours)/ weekend	Fax/online support
E-Mail Connection 3.1a	$50	○	○/○	●	●/●	●/○	○	none/○	6/○	○/●
Eudora Pro 3.0	$59	○	○/○	○	●/●	●/●	○	90/●	8/○	○/●
Juno 1.23	free	○	○/○	○	○/●	○/○	○	none/○	15/●	○/●
Microsoft Outlook Express 4.0	free	●	●/●	●	●/●	●/○	●	none/●	24/●	●/●
Netscape Messenger 4.0	$59 [1]	●	●/●	●	●/●	●/●	●	90/●	14/●	○/●
Pegasus Mail 2.53	free	○	○/○	○ [2]	●/●	●/●	○	none/○ [3]	○/○	○/●

● Yes ○ No

[1] Part of $59 Communicator suite. [2] Includes proprietary encryption. [3] Toll call to New Zealand.

Best of Show
CT EXPO 97
Computer TELEPHONY

PC Computing
THE A LIST

1 Other end of connection must also be camera equipped to see called party. Compatible with any standard H.324, or VDOPhone Internet video software.
2 All [illegible] Powered [illegible] FCC rules which restrict power output current download speeds are limited to 53 kbps. Actual speeds may vary. See **www.usr.com/x2** for details.
3 Annual performance subject to [illegible] and Internet traffic.
©1997 U.S. Robotics. All rights reserved. U.S. Robotics and the USRobotics logo are registered trademarks of U.S. Robotics and Bigpicture, the bigpicture logo, RapidComm, x2 and the x2 logo are trademarks of U.S. Robotics. All other product [illegible] trademarks of their respective companies. Product specifications subject to change without notice. Contact your U.S. Robotics representative for current product information.

:-) :-(;-)

There are only so many emotions you can capture on a keyboard.

Your complete videophone system that makes being online truly interactive.

bigpicture™ video

Today you're feeling excited, with a little hint of frustration and slight agitation. Now, how are you going to express those emotions using a semi-colon, a colon and a parenthesis?

The Bigpicture™ Video Kit from U.S. Robotics provides all the latest technology for full video capabilities on your computer. You can make video phone calls. Capture, edit, and manipulate video. Send video e-mail, and see and speak with others on the Internet at the same time.[1] Or, for even better performance, you can make point-to-point videophone calls over standard analog phone lines.

The Bigpicture Video Kit is an all-in-one video system that includes a top-of-the-line, high-quality color camera with superior focus and built-in microphone for true videophone capability.

Included is a video-enhanced U.S. Robotics 33.6 Kbps voice/faxmodem which lets you download and transmit your audio and video at incredible speeds.

And if you want to go even faster, your new modem can be upgraded to download information at speeds up to 56K[2] with new x2™ Technology from U.S. Robotics. This revolutionary new development lets you download nearly twice as fast as 28.8 modems can, making it ideal for video applications.

You can even send pictures and video you take with your own VHS home camcorder. Just use the video capture card, which can capture video at up to 30 frames per second, to grab moving images directly from those sources for transmission over the Internet, or for placement on your Web page. You can also videoconference at up to 15 frames per second.[3]

The U.S. Robotics Bigpicture Video Kit also comes with the latest software to edit and manipulate your video footage. Included with Bigpicture are Asymetrix® Digital Video Producer,® Kai's Power GOO™ Special Edition, RapidComm™ Video, VDOPhone Internet, VDOLive and everything you need for complete communication on your computer.

Call **1-800 DIAL USR** for the dealer nearest you, or visit us at **www.usr.com/bigpicture** and let us show you how really cool the Internet can be.

Bigpicture Video from U.S. Robotics. Because unfortunately, :-) can only say so much.

U.S. Robotics®

ate program. (See "Browser Secrets" in this issue for tips on avoiding file-attachment woes.)

Formatting. Traditionally, most e-mail has been plain text that looks rather gray compared to the graphical realm of the Web. That's changing: Messenger and Outlook Express both let you use the Web's HTML standard to format messages, so you can choose fonts and colors, add graphics, and embed hyperlinks with word processor–like tools. Once most mail packages can handle HTML, this will be a great feature—but few can do so yet. An HTML message received by a non-HTML mail package will contain the text, but it may also be festooned with raw formatting codes.

Security. With horror stories about Internet security breaches making headlines, encrypted mail (sometimes called S-MIME, for "secure multi-part Internet mail extension") is becoming more popular. Unfortunately, the process for using it is still a bit complex. First you must request a "public-key certificate" from a certificate authority such as VeriSign (www.verisign.com). For individuals, the price for this service ranges from nothing to about $20 a year, depending on the provider and the level of security desired. This electronic certificate allows you to digitally "sign" messages, so the recipient knows they really came from you. It also lets you exchange encrypted messages with other users who also own certificates. E-Mail Connection, Messenger, and Outlook Express have built-in public key encryption features; with other packages, you can always use an external encryption utility such as Pretty Good Privacy.

Newsgroups. If you're an avid reader of any of the Internet's thousands of special-interest bulletin boards, or *newsgroups*, it's a great convenience to be able to peruse them using the tools you use for personal e-mail. Messenger and Outlook Express let you do this. With the other e-mail packages, you'll need to get a separate newsgroup reader, such as Free Agent, and learn a new user interface.

New Standards to Watch For

UNTIL RECENTLY, almost all Internet e-mail clients used the POP3 protocol to connect to mail servers and retrieve messages. However, POP3 is an *offline* protocol, which means that a client using it usually downloads messages from the server (either at an ISP or on a company's LAN) to the local hard disk, deletes them from the server, and then displays them.

Messenger and Outlook Express are the only packages here that support a new protocol called IMAP4, which lets you manage your e-mail offline (like POP3); but it can also operate online, so your folders and messages are stored on the server, not on your hard disk.

That's closer to the way proprietary e-mail systems such as cc:Mail handle things, and it's especially helpful if you use more than one PC—say, a desktop at the office and a notebook when you travel. ▶

better e-mail for america online and compuserve

IF YOU USE America Online or CompuServe, most Internet e-mail packages aren't available to you, because AOL and CompuServe use proprietary e-mail systems rather than the standard Internet protocols. Fortunately, there are powerful shareware e-mail tools designed specifically for use with these online services: OzWin II 2.12.2 for CompuServe, and PowerMail 1.3 for America Online.

OzWin II 2.12.2. A venerable offline reader for CompuServe, OzWin lets you efficiently and economically use mail, forums, and other features without actually being connected to the service. (The program dials in to the service just long enough to shuttle data back and forth.) OzWin has many useful features that are missing in CompuServe's own software: It can spell-check your mail, for instance, and it can squelch annoying mail by ignoring certain CompuServe addresses. You can quickly insert boilerplate text into a message, an especially handy feature for business mail such as price quotes. OzWin also includes many tools for ferreting items from CompuServe's forums—you can track a single thread of conversation while ignoring everything else, for example.

As its documentation states forthrightly, OzWin will appeal mostly to power users. It lacks the slick, Web-like look of CompuServe's own software, and the sheer number of options can be daunting. It's also not a total substitute for CompuServe's software, since it lacks some features such as online chats.

PowerMail 1.3. This utility gives America Online's own software an extra menu and a customizable toolbar devoted to e-mail features that are much more powerful than AOL's standard fare. Like OzWin, PowerMail provides a spelling checker and the ability to store text blocks that you can retrieve and alter as necessary for a particular message. It can encrypt messages so no one can read them without entering a password. You can also set up keyboard macros to automate tasks such as forwarding messages.

The one big annoyance with using PowerMail: it appears *in addition to* AOL's existing e-mail tools, not in place of them. To make use of its extra features, you've got to remember to use the PowerMail menu rather than the standard Mail menu.

—Harry McCracken

• OzWin II 2.12.2 $69 registration fee, Ozarks West Software, GO OZWIN on CompuServe for more information.

READER SERVICE NO. 632

• PowerMail 1.3 $35 registration fee, BPS Software, 703/716-9137 or keyword BPS on America Online for more information.

READER SERVICE NO. 633

GROWTH HAPPENS. MANAGE IT.

DELL POWEREDGE 2200 SERVER
NEW 266MHz PENTIUM II PROCESSOR
(Dual Processor Capable, RAID Capable)

- 64MB ECC EDO Memory (512MB Max.)
- 512KB L2 Cache
- Integrated PCI Ultra-Wide SCSI-3 Controller
- 4GB Ultra-Wide SCSI-3 Hard Drive [7200 RPM, 8ms] (27GB Max.)
- 8X SCSI CD-ROM Drive
- Intel® EtherExpress™ Pro/100 NIC
- Intel LANDesk® Server Manager v2.5x
- *NEW* Dell Server Assistant CD-ROM
- 6 Expansion Slots: 3 PCI, 3 EISA
- 6 Drive Bays: 3 External 5.25"/ 3 Internal 3.5"
- 3 Year Limited Warranty[1]

★ *Additional 266MHz Pentium II Processor, add $1099*
★ *Upgrade to 128MB ECC EDO Memory, add $460*
★ *Add a 4GB Ultra-Wide SCSI-3 Hard Drive, add $849*
★ *Upgrade to a 9GB Ultra-Wide SCSI-3 Hard Drive, add $450*
★ *MS® Windows NT® Server 4.0 (10 Client Access Licenses), add $799.*

$3999

Business Lease[0]: $141/Mo.
Order Code #250071

THE NEW DELL POWEREDGE 2200 SERVER. EXPANDABILITY FOR YOUR GROWING BUSINESS.

Just because growth is unpredictable doesn't mean it has to be unmanageable. Especially since the *NEW* Dell PowerEdge 2200, the feature-optimized server with the perfect mix of performance and expandability, can be yours for one of the best prices in the industry. Advanced technology like Pentium II® processors, dual processing capability, and an optional RAID feature deliver outstanding performance. Call Dell today and we'll start building a PowerEdge 2200 Server for your growing business immediately. Since it's never too early to get a jump on the competition.

MMX™ intel inside pentium® II

DELL®

TO ORDER TOLL-FREE
800-247-2607
TO ORDER ONLINE
www.dell.com/buydell
Mon-Fri 7am-9pm CT • Sat 10am-6pm CT
Sun 12pm-5pm CT In Canada: call 800-232-6978
GSA Contract #GS-35F-4076D

Keycode #03277

[1]For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L.P., One Dell Way, Box 12, Round Rock, TX 78682. [0]Leasing arranged by third-party leasing companies to qualified companies. [4]On-site service is provided by an independent third-party provider and may not be available in certain remote areas. *Prices and specifications valid in the U.S. only and subject to change without notice. Intel, the Intel Inside Logo, Pentium and LANDesk are registered trademarks and EtherExpress, the Pentium Processor logo and the Pentium Pro Processor logo are trademarks of Intel Corporation. MS Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation. 3Com is a registered trademark of 3Com Corporation. DirectLine is a service mark of Dell Computer Corporation. ©1997 Dell Computer Corporation. All rights reserved.

Because mail is stored on the server, you have access to your messages from whatever PC you use. IMAP4 can also make using e-mail via modem faster—if you get a message with a huge attachment that you don't need just then, you can postpone downloading it until later.

Right now, there's a big gotcha with IMAP4: It works only if both your mail client and the server you're connecting to support it, and plenty of products still don't. Look for IMAP4 to become more common as interest in it grows.

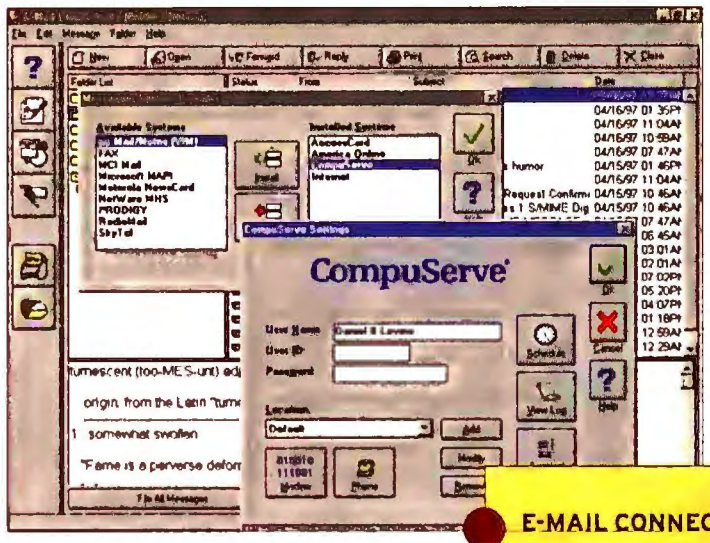
Another recent development is the use of LDAP, a protocol that stores directories of e-mail addresses in a standard format rather than in the proprietary ones that mail programs have usually employed. An LDAP directory on your company's server can contain the e-mail addresses of all employees; public LDAP directories are also available over the Internet (see "White Pages for the Internet").

Like IMAP4, LDAP is far from universal: The only products here that support it are Messenger and Outlook Express. Do you need it? Yes, if you plan to use a LAN-based Internet mail server within your organization. Sharing a single corporate address book is much simpler than making each user maintain a separate one. But if you're just using a personal ISP account, you can always search a public directory in your Web browser, then paste the address into your e-mail package.

With IMAP4 and LDAP, an internal e-mail system built around an Internet mail server and clients is much better equipped to compete with proprietary e-mail systems. Ironically, most of the old-line systems are now moving toward Internet protocols. The bottom line: While your company may currently use a system that locks you into using a specific mail client, it's likely you'll eventually be able to choose the e-mail client that best fits your work habits.

The Configuration Tango

SETTING UP AN Internet e-mail package can be painful, mainly because you need to configure your software with some information specific to the mail server you're connecting to. Most products here have wizard-style setup features that help, but you may still need advice from your ISP to get them working properly.



E-MAIL CONNECTION'S single in-box can handle Internet mail, America Online and CompuServe mail, and much more.

If you do have trouble, you might have to pay to talk to a real live tech support person. None of the three free packages comes with free phone support, nor does E-Mail Connection. Only Eudora Pro and Messenger provide no-cost toll-free phone help, for the first 90 days.

E-Mail Connection 3.1a

PRO: Works with lots of e-mail services; sends and receives faxes; imports address books.

CON: Limited features in some areas, skimpy technical support.

ONCE UPON A TIME, Microsoft envisioned that the Inbox icon on every Win 95 desktop would provide one-stop shopping for e-mail, faxes, and every service under the sun. Microsoft never made it happen, but ConnectSoft did. Its $50 E-Mail Connection runs under Windows 3.1 and Win 95 and jams support for a raft of services into one box—including Internet mail, America Online, CompuServe, Prodigy, Lotus Notes, and others. It even handles faxes and pager services.

Eudora Pro's user interface remains better suited to e-mail pros than beginners and casual users.

Putting messages from such disparate services into a single in-box is enormously convenient if you need to monitor multiple e-mail accounts, but E-Mail Connection does not have the same range of features for each service as would a dedicated client. Unlike America Online's and CompuServe's software, for example, E-Mail Connection doesn't allow you to choose whether or not to download a particular message—a big omission, because AOL and CompuServe accounts often accumulate vast quantities of junk e-mail.

It's easy enough to sort messages into custom folders and do simple searches, but E-Mail Connection's filters are weak: They can only sort mail into folders, not autoforward or autorespond, and they take effect only when you click a button. There's no support for MAPI 2.0, which means you can't send messages from within mail-enabled applications.

On the plus side, E-Mail Connection has a very good Security Wizard that walks you through requesting a VeriSign certificate for encrypted mail. The program can also can import address books from Eudora, CompuServe, and Netscape Mail, helping smooth the transition if you're moving from one of those packages. Too bad ConnectSoft's support policies are parsimonious. If you want to talk to a real person, you have to pay $1 per minute from day one, and the toll line is available only 6 hours a day. *ConnectSoft, 800/889-3499, www.connectsoft.com.*

READER SERVICE NO. 626

Eudora Pro 3.0

PRO: Excellent filters provide advanced automation; modest hardware requirements.

CON: Poor searching tools; user interface is sometimes confusing.

IN INTERNET TIME, Qualcomm's Eudora has been around forever. And once you've tallied up all the versions available for multiple platforms, it's the most ▶

*Based on May '97 industry average of 13 major ISP's and online service providers tested **Telephone access and other charges and taxes may apply Other terms and conditions apply

It's true. Great connections can take you anywhere. AT&T WorldNet℠ Service gets you on the Internet more reliably, outperforming the industry average in getting you connected on your first try.* And we're with you all the way.

Enjoy unlimited Internet access for just $19.95 a month.**

Call now for free AT&T WorldNet Service software

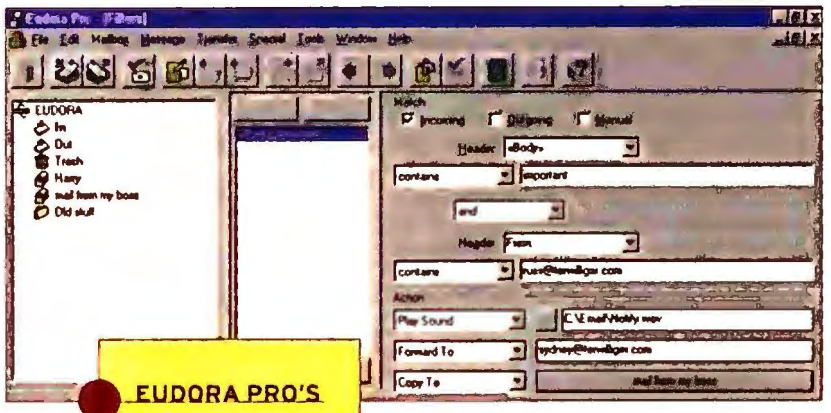
1 800 WORLDNET, ext. 106

Or download now at www.att.net

It's all within your reach.

AT&T

widely used Internet e-mail software there is. But now the full version of Eudora Pro costs $59, and there's no lack of e-mail programs to choose from. How is this pioneering package holding up?



EUDORA PRO'S interface is arcane at times, but its filters provide powerful automation.

Eudora Pro retains some strengths, not the least of which is that it works nicely on any machine that can run Windows 3.1, a feature that the resource-hungry Microsoft and Netscape products can't claim. (Both Windows 3.1 and Win 95 versions are included in the box.) Its powerful filtering, second only to Pegasus Mail's, makes it a good choice if you want to automate managing a heavy e-mail load. As messages arrive that match your predefined criteria, e-mail filters can activate a wide range of actions, including sending out a canned response or running another application.

The package doesn't allow you to use HTML for fancy formatting, but you do get a little control over font size and color using the MIME text/enriched standard. This standard isn't widely used, but other Eudora users can receive messages that were formatted with it.

Eudora's interface remains better for e-mail pros than for beginners or casual users; it's the least helpful package here in steering you through the often tricky job of configuring the software to work with your server. But the program's weakest spot is its slow, crude search engine. You can search for only a single keyword, and the program displays just one retrieved message at a time—infuriatingly time-consuming if you've got a large archive of old mail.

Casual users should check out Eudora Light, a freeware version (available from Qualcomm's Web site) that lacks many of the Pro edition's features, such as enhanced filtering and support for multiple ISP accounts. *Qualcomm, 800/238-3672, www.eudora.com.*

READER SERVICE NO. 627

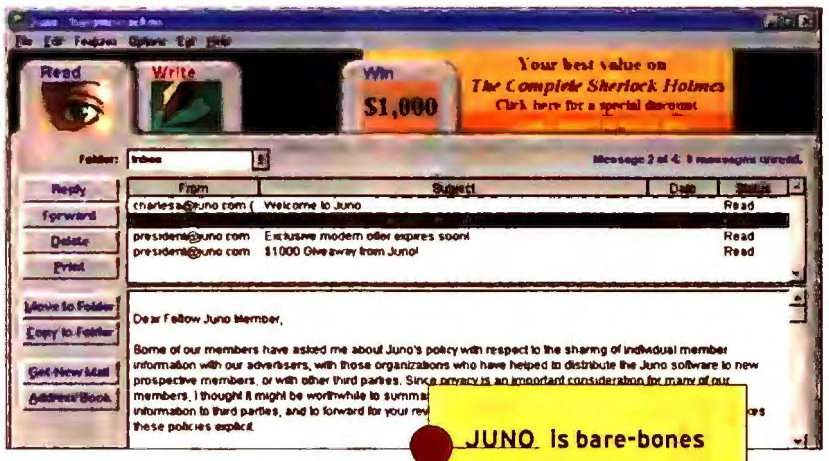
Juno 1.23

PRO: Free software and service; very easy to install and use; can import address books from other services.

CON: Plain-vanilla mail with ads; can't handle attachments; no free phone support.

SOME OTHER PACKAGES here are free, but only Juno includes free e-mail service as well as software, for true no-cost e-mail—no ISP required. Though it offers only the most basic of features—it can't even handle file attachments—it's by far the simplest product to set up and learn. That makes it a contender if you're new to e-mail, or don't care to spend $20 a month for an ISP account. Phone support is the one thing you'll have to pay for, at $1.95 a minute via a 900-number line.

Unlike other mail clients, Juno requires no Internet savvy to set up; the most time-consuming step is filling out a questionnaire on the intimate details of your consumer habits, hobbies, household income, and the like. From then on, Juno targets you with ads that appear above your in-box—you can either ignore them or let them whip you into a froth of consumerism. Juno provides local dial-in numbers across the country, but it's an e-mail service only—you'll need an ISP account to access the Web or use other Internet features.



JUNO is bare-bones e-mail with ads, but it's free and good-looking, and it won't intimidate beginners.

Once you're up and running, Juno assumes nothing about your level of technical expertise. It provides spell-checking for outgoing messages and folders for sorting incoming ones, but that's about all you get: There are no filters, search tools, or other features that are essential for managing a steady stream of e-mail. If you have very basic needs, though, Juno's a nice package. *Juno Online Services, 800/654-5866, www.juno.com.*

READER SERVICE NO. 628

Microsoft Outlook Express

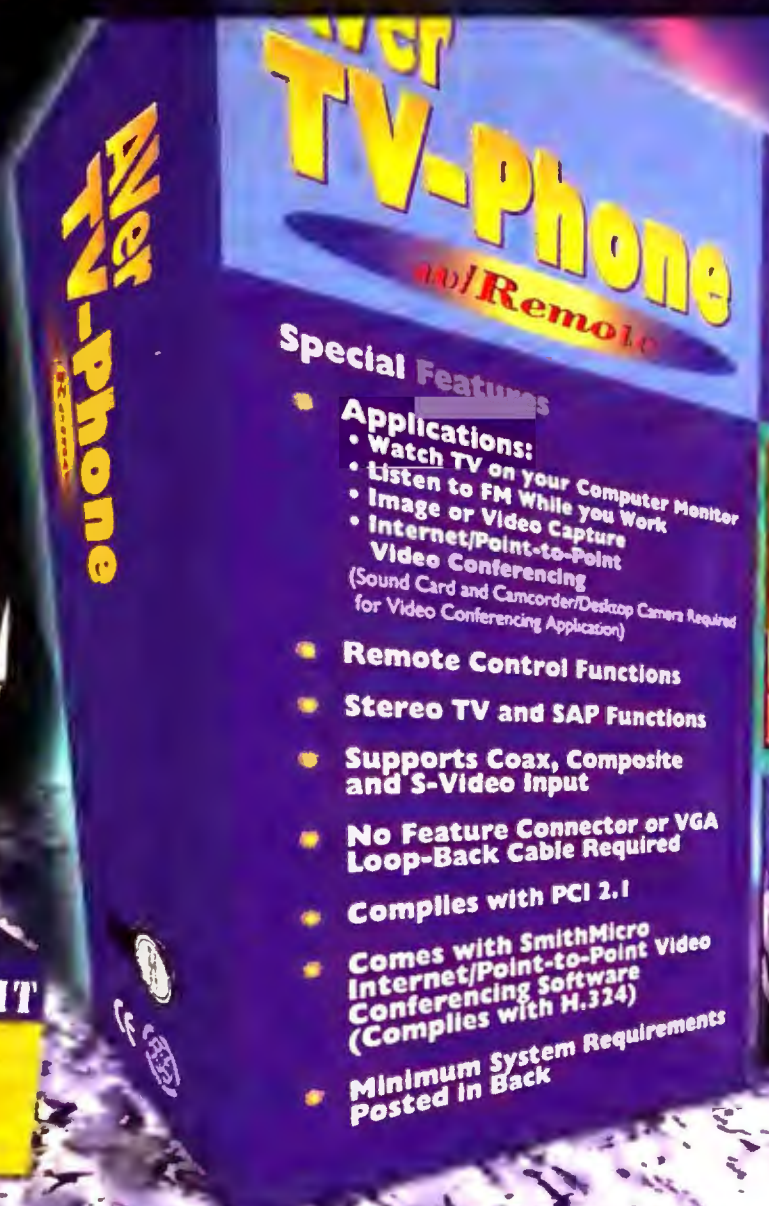
PRO: Easy to use; HTML formatting; newsgroup reader; built-in directory searching.

CON: Doesn't run under Windows 3.1; clumsy search feature; no free phone support.

INTERNET EXPLORER 4.0's most innovative feature is undoubtedly the way it meshes its Web browser with the Windows desktop. But the hullabaloo over this integration should not overshadow IE 4.0's excellent e-mail client, Outlook Express, a much-improved version of IE 3.0's e-mail package. And Internet Explorer is free except for phone tech support, which costs $35 per incident. (If you get the package with a new PC or an Internet account, you may be able to get no-cost help from the manufacturer or ISP.)

Despite its name, Outlook Express bears slight resemblance to Outlook, the personal information manager that ships with Microsoft Office 97. But confusing name aside, Outlook Express gives you almost everything you might want in an Internet e-mail client, with a very straightforward user interface. You get support for multiple accounts, easy encryption, filters, and the ability to handle Internet newsgroup messages in addition to your personal e-mail. Using LDAP, the program also lets you quickly search Internet directory services right from within its address book. ▶

THE COMPETITION JUST DOESN'T STACK UP



AVerMedia's AVer TV-Phone is 5 Products in One!

• INTERNET/POINT-to-POINT VIDEO PHONE • IMAGE/VIDEO CAPTURE • TV TUNER • FM TUNER • REMOTE CONTROL •

Finally you can have all of these features in one single package at a down-to-earth price of only $149* and it's only available from AVerMedia's AVer TV-Phone.

Internet/Intranet/Point-to-Point Video Conferencing
Bundled with Smith Micro's video phone software, the AVer TV-Phone allows you to do video conferencing over the internet, intranet or point-to-point regular phone line (H.324 standard). Talking and seeing your friends and family over regular phone lines are no longer a scene from outerspace! You can do it all with the AVer TV-Phone.

A True Entertainment Center for your PC
The AVer TV-Phone is more than just a video phone kit. With a built-in PCI TV, FM Tuner and Capture Board, you can watch TV on your computer monitor, listen to FM while you work, and capture high quality images or video on your computer for presentation or internet purposes. More importantly, it comes with a fully functional remote control. Now you can sit back, relax, watch your favorite television programs or listen to FM radio using your remote control. If you prefer to work on your computer and watch TV or listen to FM radio simultaneously, you can actually use the remote control to change channels and control a whole lot of other functions without interrupting your work.

The AVer TV-Phone is great for the home as well as business, entertainment and multimedia applications . Visit our home page or call us to learn more about AVer TV-Phone's functions and minimum system requirements. So don't be out of touch with your friends and family. Get your AVer TV-Phone today!

AVerMedia®
Bridging PC/MAC & Video
1-800-863-2332
www.aver.com

AVerMedia designs and manufactures a full line of multimedia video products including External TV Tuner/Game Display and PC/MAC-to-TV Converters.

AVerKey Plus
- Affordable Easy Conversion From VGA to TV
- SIX-LINE Buffer Technology for Flicker Free TV Display
- Touch Button Control
- Supports Resolution up to 640x480 in 16.7 Million Colors
- Comp/S-Video Output

AVer TVGenie
- Watch TV, CATV, or Video on a VGA or Multi-Sync Monitor Without Turning on your Computer
- No Software Driver Required
- Full Screen Display
- Full Remote Control
- Stereo Audio Input and Output

AVerMedia Technologies, Inc. 47923A Warm Springs Blvd., Fremont, CA 94539 Tel: (510) 770-9899 Fax: (510) 770-9901
AVer TV-Phone, AVerKey Plus and AVer TVGenie are registered trademarks of AVerMedia Technologies, Inc. All other trademarks belong to their respective companies. © Copyright 1997 AVerMedia Technologies, Inc.(Features subject to change without notice.)
Estimated Street Price. Desktop camera/camcorder, sound card and modem required for video phone application.

DELL DIMENSION DESKTOPS FOR BUSINESS

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ Microsoft® Office 97 Small Business Edition plus Bookshelf ◆ MS® Windows® 95 ◆ MS Mouse (MS IntelliMouse on XPS System) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty† with 1 Year On-site△ Service
Upgrades: ◆ 3Com® 3C905 Fast EtherLink® XL 10/100 PCI Card, add $109. ◆ 4/8GB EIDE TR4 TBU, add $199. ◆ HP LaserJet 6Pse Printer, add $799. ◆ 3-Pak of Zip 100MB Cartridges, add $39.

NEW DELL DIMENSION® XPS H266
266MHz PENTIUM® II PROCESSOR FEATURING MMX™ TECHNOLOGY

Common features listed above plus:
- 64MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- *NEW* 1000TX Trinitron® Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

$3399

Business Lease◊: $126/Mo.
Order Code #500709

NEW DELL DIMENSION XPS H233
233MHz PENTIUM II PROCESSOR FEATURING MMX TECHNOLOGY

Common features listed above plus:
- 32MB EDO Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- ★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2599

Business Lease◊: $96/Mo.
Order Code #500708

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM® PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers
- ★ *Upgrade to a 6.4GB Hard Drive with 512KB cache (9.5ms), add $85.*
- ★ *Upgrade to a Matrox Millennium II 4MB WRAM Video Card, add $99.*

$2399

Business Lease: $89/Mo.
Order Code #500707

DELL DIMENSION XPS M200s
200MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers
- ★ *Upgrade to 64MB SDRAM, add $239.*
- ★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$2199

Business Lease: $81/Mo.
Order Code #500706

SYSTEMS THAT BLOW YOUR MIND.

DELL DIMENSION DESKTOPS FOR HOME

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ *NEW* 56K Capable** U.S. Robotics x2 Telephony Modem ◆ MS Windows 95 ◆ MS Mouse (MS IntelliMouse on XPS Systems) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty with 1 Year On-site Service
Upgrades: ◆ Iomega Zip 100MB IDE Internal Drive w/One Cartridge, add $99 ◆ HP DeskJet 820Cse Color Printer, add $299. ◆ 3 yrs. On-site Service, add $99.

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- 1000TX Trinitron Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 8MB WRAM Video Card
- Yamaha 32 Wave Table Sound
- Altec ACS-490 Full Dolby* Surround Sound Speakers with Subwoofer
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- MS Office 97 Small Business Edition plus Encarta

$3499

Order Code #500704

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory
- 6.4GB Hard Drive with 512KB Cache (9.5ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack
- ★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2999

Order Code #500703

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 32MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack
- ★ *Upgrade to a 4.3GB Hard Drive (10ms), add $65.*

$2499

Order Code #500702

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 16MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- 2MB EDO ViRGE 3D Video
- Sound Blaster 16 PnP Sound Card
- Altec Lansing ACS-90 Speakers
- MS Home Essentials plus Best of Entertainment Pack
- ★ *Upgrade to 32MB SDRAM, add $119.*
- ★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$1899

Order Code #500701

Thousands of other custom configuratio

intel inside
pentium

‡Pricing is not discountable †For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L.P. attn: Warranty, One Dell Way, Round Rock, TX 78682 ◊Leasing arranged by third-party leasing companies to qualified customers *System weight with floppy drive or CD-ROM in options bay △On-site service provided by an independent third-party provider. May not be available in certain remote areas **x2 products are capable of 56Kbps downloads. Due to FCC rules that restrict power output, however, current download speeds are limited to 53Kbps. Upload speeds are limited to 33.6 Kbps. Actual speeds may vary depending on line conditions. *Pri... and ... th ... LANDesk and Pentium are registered trademarks and MMX and EtherExpress are trademarks of Intel Corporation. MS, Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation. 3Com and EtherLink are registered trademarks of 3Com Corporation. Trinitron is a registered trademark of Sony Corporation. DirectLine is a service mark of Dell Computer Corporation. ©1997 Dell Computer Corporation. All rights reserved.

GET FREE DELL NEWS, RIGHT AT YOUR DESKTOP!
With DirectNews, Dell's free priority email bulletin, you can get pricing, product announcements, and limited time offers emailed direct to your computer, as soon as they become available. This money and time saving bulletin is available exclusively by subscription. And it's easy to subscribe. Just email us at listserver@dell.com with the message "join ddn" And then watch your mailbox for the inside scoop on Dell's latest offers.

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 16MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 800LS Monitor (13.7" v.i.s.)
- 2MB EDO ViRGE 3D Video

★ *Upgrade to 32MB SDRAM, add $119.*
★ *Upgrade to an 800HS Trinitron Monitor (13.7" v.i.s., .26dp), add $49.*
★ *Sound Blaster 16 PnP and Altec ACS-90 Speakers, add $89.*
★ *Iomega Zip 100MB IDE Internal Drive with One Cartridge, add $99.*

$1799

Business Lease: $67/Mo.
Order Code #500705

DESKTOP SOFTWARE DESCRIPTIONS

MS Office 97 Small Business Edition (SBE) includes:
- Word 97
- Excel 97
- Publisher 97
- Outlook 97
- Automap Streets Plus
- Small Business Financial Mgr 97
- Internet Explorer 3.0

MS Home Essentials plus Best of Entertainment Pack includes:
- Word 97
- Works 4.0
- Encarta 97
- Greetings Workshop
- Arcade
- Internet Explorer 3.0
- TETRIS, Taipei, SkiFree, Dr. BlackJack and more.

NEW DELL POWEREDGE SERVERS

Common features: ◆ 512KB L2 Cache ◆ Integrated Ultra-Wide SCSI-3 Controller ◆ Intel® EtherExpress™ Pro/100 NIC ◆ Intel LANDesk® Server Manager v2.5x ◆ Dell Server Assistant CD ◆ 3 Year Limited Warranty†

DELL® POWEREDGE® 2200 SERVER
266MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 96MB ECC EDO Memory
- 4GB Ultra-Wide SCSI-3 Hard Drive (7200 RPM, 8ms) (27GB Max.)
- 8X SCSI CD-ROM Drive
- MS Windows NT® Server 4.0

★ *Upgrade to 128MB ECC EDO Memory, add $220.*
★ *Upgrade to a 9GB Ultra-Wide SCSI-3 Hard Drive, add $450.*
★ *Upgrade to 3 Years On-site Service, add $99.*

$4999

Business Lease: $179/Mo.
Order Code #250072

DELL POWEREDGE 2200 SERVER
233MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 32MB ECC EDO Memory
- 2GB Ultra-Wide SCSI-3 Hard Drive (7200 RPM, 8ms) (27GB Max.)
- 8X SCSI CD-ROM Drive
- 3Com OfficeConnect Hub 8/TPC

★ *Upgrade to 64MB ECC EDO Memory, add $239.*
★ *Upgrade to a 4GB Ultra-Wide SCSI-3 Hard Drive, add $320.*
★ *4/8GB SCSI DAT Tape Backup, add $749.*

$3249

Business Lease: $119/Mo.
Order Code #250070

NOT YOUR WALLET.

DELL LATITUDE NOTEBOOKS

Common features: ◆ 256KB L2 Pipeline Burst Cache ◆ Options Bay accepts 12X Variable CD-ROM, 3.5" Floppy Drive (both included), or Optional 2nd Li-Ion Battery ◆ PCI Bus with 128-bit Graphics Accelerator with 64K Colors ◆ Integrated 16-bit Stereo Sound ◆ Smart Lithium Ion Battery ◆ Microsoft Windows 95 ◆ IrDA 1.0 Standard Compliant ◆ Touchpad ◆ Under 7 Pounds* ◆ Extendable 1 Year Warranty†

NEW DELL LATITUDE® LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 72MB RAM
- 2.1GB Hard Drive
- 2nd Lithium Ion Battery
- MS Office 97 Small Business Edition

★ *Motorola 33.6 Fax Modem, add $169.*
★ *3Com LAN+ 33.6 Modem PC Card, add $349.*
★ *Dell Latitude LM Port Replicator, add $159.*
★ *Leather Carrying Case, add $129.*

$3949‡

Business Lease: $142/Mo.
Order Code #800143

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 40MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem
- MS Office 97 Small Business Edition

★ *Upgrade to 72MB RAM, add $299.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *3Com 10Base-T Network Card, add $139.*

$3499‡

Business Lease: $129/Mo.
Order Code #800144

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- MS Office 97 Small Business Edition

★ *Upgrade to 40MB RAM, add $299.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *Motorola 33.6 Fax Modem, add $169.*
★ *Dell Latitude LM Port Replicator, add $159.*
★ *Leather Carrying Case, add $129.*

$2999‡

Business Lease: $111/Mo.
Order Code #800140

DELL LATITUDE LM P133ST
133MHz PENTIUM® PROCESSOR

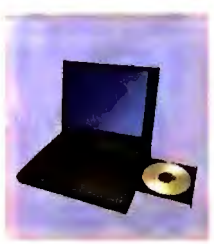
Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem

★ *Upgrade to 24MB RAM, add $99.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *Nylon Carrying Case, add $69.*
★ *Dell Latitude LM Port Replicator, add $159.*

$2699‡

Business Lease: $100/Mo.
Order Code #800138

ailable. What can we build yours to do?



TO ORDER TOLL-FREE
888-325-4268
TO ORDER ONLINE
www.dell.com/buydell

Mon-Fri 7am-9pm CT
Sat 10am-6pm CT
Sun 12pm-5pm CT
In Canada,* call 800-232-6978
GSA Contract #GS-35F-4076D
Keycode #03281

DELL®

Like Netscape Messenger, Outlook Express can use HTML for text formatting, letting you insert the same colors and fonts used by Web pages—even tables, graphics, and links. But though most other e-mail clients don't support HTML yet, it sends off HTML mail by default, assuming in that cute Microsoft way that everyone in the world uses Microsoft products and has upgraded to the latest version. Recipients who haven't done so may see unsightly raw HTML code in the messages they receive from you. (At press time, Microsoft said that the final version of the package will have features for tracking which recipients can and can't receive HTML mail, similar to those in Netscape Messenger.) The package's search tool could also stand improvement: Rather than returning results in a new window for easy browsing, it makes you tediously step through each message one by one.

One last point—Outlook Express is the only package here that won't work under Windows 3.1, and even a minimal installation of the Internet Explorer suite will consume an imposing 43MB of disk space. *Microsoft, 800/426-9400, www.microsoft.com.*

READER SERVICE NO. 629

Netscape Messenger 4.0

PRO: Easy to use; HTML formatting; built-in newsgroup reader and LDAP directory searching.

CON: Lacks some e-mail filtering options; tricky to configure multiple e-mail accounts.

FEATURE FOR FEATURE, Netscape's Messenger 4.0 is remarkably similar to Microsoft's Outlook Express: Both have slick interfaces that are easy to master, both have lots of features, and both let you read Internet newsgroups with the same tools you use for your personal e-mail. Like Outlook Express, Messenger is part of a Web megasuite, in this case Netscape Communicator, a mammoth download (available in Windows 3.1 and Win 95 versions) that needs between 8MB and 15MB of disk space and includes a browser, collaborative tools, conferencing, and more. Though not free, this $59 suite is a great deal.

Messenger's interface is a big improvement over that of its dowdy predecessor, Netscape Mail. Like the Navigator 4.0 Web browser and Communicator's other apps, Messenger sports large, clear toolbars that you can drag around or hide as you wish. Thanks to its LDAP support, it's easy to search online e-mail directories from within the address book, a feature that only Outlook Express matches.

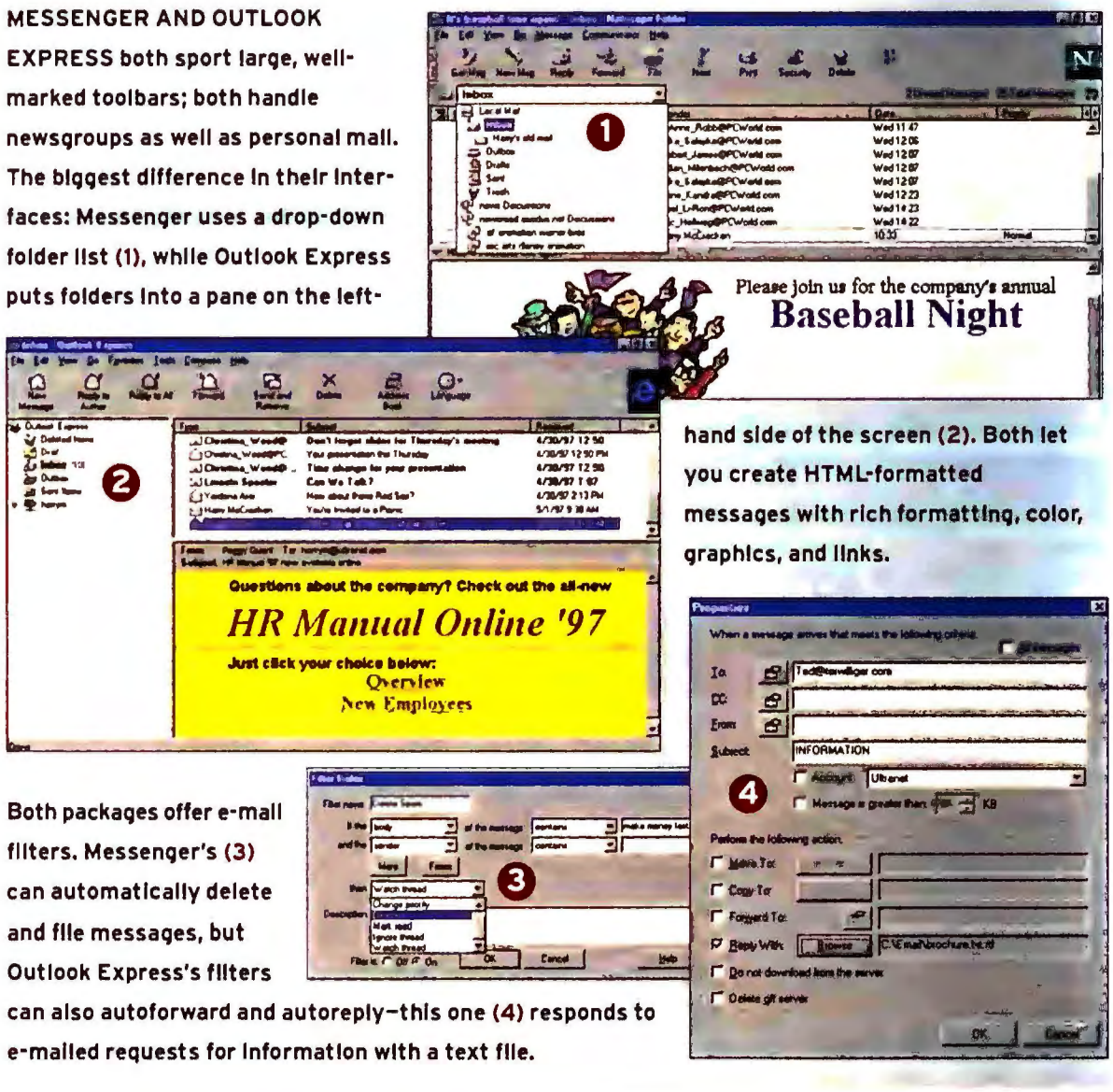
Messenger and Outlook Express are also the only packages here that let you send HTML-formatted e-mail with fancy fonts and hyperlinks. Thankfully, Messenger keeps track of which recipients can receive such mail, alerting you to potential problems and converting to plain text when necessary. It does this by remembering whether people have sent you HTML messages before, and by letting you manually select the preferred format for each addressee.

Messenger 4.0's weaknesses include filters that suffer a bit in comparison to those in Eudora Pro, Outlook Express, and Pegasus Mail. You can create filters that delete or file messages automatically based on keywords or other criteria, but there's no way to have Messenger automatically respond to messages or forward them to another account.

Also, there's no way to quickly check e-mail from more than one account—say, your work account and one at a personal service provider—although a separate utility lets you set up multiple profiles for different users. *Netscape Communications, 415/937-3777, www.netscape.com.*

READER SERVICE NO. 630 ▶

NETSCAPE MESSENGER VS. MICROSOFT OUTLOOK EXPRESS



MESSENGER AND OUTLOOK EXPRESS both sport large, well-marked toolbars; both handle newsgroups as well as personal mail. The biggest difference in their interfaces: Messenger uses a drop-down folder list (1), while Outlook Express puts folders into a pane on the left-hand side of the screen (2). Both let you create HTML-formatted messages with rich formatting, color, graphics, and links.

Both packages offer e-mail filters. Messenger's (3) can automatically delete and file messages, but Outlook Express's filters can also autoforward and autoreply—this one (4) responds to e-mailed requests for information with a text file.

NOW YOU SEE IT BETTER.

TeleVideo WebOptimized Monitors

Introducing TeleVideo's SuperView Series™ and Super-View Pro Series™. A complete line of feature rich color monitors – WebOptimized for your comfort and reliability. Our finely crafted monitors have the highest horizontal frequency up to 107KHz, a dot pitch as fine as 0.26mm, flicker-free refresh rates, digitized on-screen controls with memory recall and more. The spectacular specifications of our monitors allow you to comfortably enjoy razor-sharp images and exquisite shapes with optimum brilliance and vivid detail. As a leader in display technology for over two decades, we know how to optimize our monitors to make them ideal for the Web. Now you can enjoy the ever-evolving digital world of the Internet, DVD, desk-top publishing, high-end CAD and more. Break through all your conceptual horizons with TeleVideo.

TeleVideo®

Over 20 years of display technology working for you.

Call your favorite reseller today or call us at 1-800-835-3228 x 474 or 408-954-8333. Or, visit our website: www.televideoinc.com.

15" Models	Dot Pitch (mm)	Max. Res. (HxV)	H-Scan (KHz)	ERP ($)
TeleVideo SV100	**0.28**	**1280x1024**	**30-70**	**349**
PanaSync E15	0.27	1024x768	30-61	399
Mag InnoVision DX1595	0.28	1280x1024	30-65	429
Viewsonic 15GS	0.28	1280x1024	30-69	429

17" Models	Dot Pitch (mm)	Max. Res. (HxV)	H-Scan (KHz)	ERP ($)
TeleVideo SV210	**0.26**	**1280x1024**	**30-70**	**568**
NEC XV17+	0.28	1280x1024	31-65	850
PanaSync S17	0.27	1280x1024	30-69	799
ViewSonic 17GS	0.27	1280x1024	30-69	699

21" Models	Dot Pitch (mm)	Max. Res. (HxV)	H-Scan (KHz)	ERP ($)
TeleVideo SVP350	**0.28AG**	**1600x1200**	**30-107**	**1889**
NEC P1150	0.28AG	1600x1200	31-94	2079
Sony CPD300SF	0.30AG	1600x1200	30-85	1999
ViewSonic PT810	0.30AG	1600x1200	30-96	1899

© 1997 TeleVideo, Inc. The TeleVideo name and logo are registered trademarks and SuperView is a trademark of TeleVideo. All other names are the service mark, trademark or registered trademarks of their respective owners. TeleVideo reserves the right to change specifications without notice.

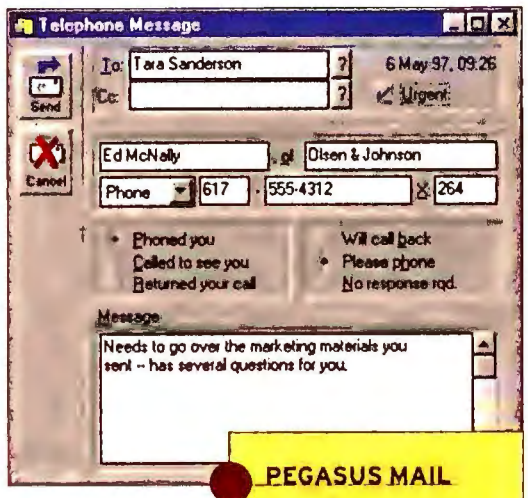
Pegasus Mail 2.53

PRO: Free; powerful; many inventive features.

CON: Interface may be complex for beginners; no U.S. number for phone support.

IF YOU'RE AN experienced user, don't spend money on another e-mail package without first downloading Pegasus Mail, available in Win 3.1 and Win 95 versions. Produced by David Harris, a generous New Zealander, this popular, powerful package won't cost you a thing unless you need a printed manual, which costs $35.

This home-grown package boasts some features that the packages from corporate behemoths Microsoft and Netscape can't equal. Its filters are hands-down the most powerful here: They can automatically launch other applications, file incoming or outgoing messages in a variety of ways, and even manage Internet mailing lists. Other clever touches include the ability to annotate mail you've received (useful for jotting notes to yourself) and to send "While you were out" alerts, handy if you are using the package for e-mail within your company. You may need the on-screen help to figure out some features, though, such as the way you sort mail into both "trays" and "folders."



PEGASUS MAIL offers creative tools such as a while-you-were-out form.

Pegasus Mail doesn't offer HTML for rich formatting, and the version I tested didn't support the IMAP4 and LDAP protocols. IMAP4 is planned for an upgrade due this summer, and the program already matches one of its features by letting you download mail selectively. For example, you can avoid transferring large attachments over a slow modem line.

Phone support for Pegasus is only available through a yearly contract, and it's a toll call to New Zealand, which is 17 hours ahead of the United States. Alternatively, you can get free support via an automated e-mail service. Of course, if you can't get the program to work at all, it may be hard to send an e-mail message asking for help. *David Harris, www.pegasus.usa.com.*

READER SERVICE NO. 631

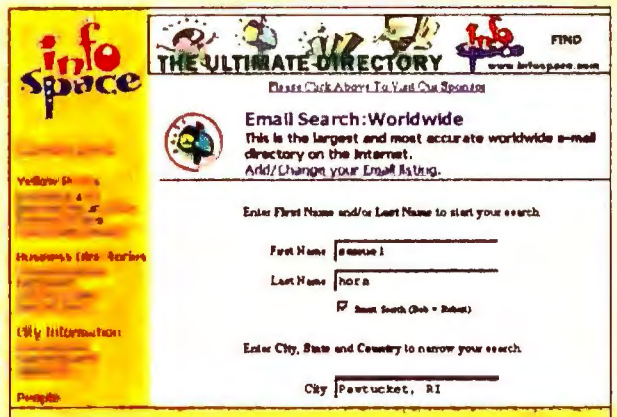
online *Visit www.pcworld.com/aug97/e-mail for a look at the best e-mail package add-ons. Daniel B. Levine is a consultant and writer in New Jersey. Harry McCracken is a senior associate editor for* PC World. *Bob Stepno is a writer in North Carolina.*

For more information about all products in this article, circle reader service no. 904. ■

white pages for the internet

HAVING TROUBLE tracking down the right e-mail address for a prospective business partner or an old friend? For help, you can turn to one or more of the many e-mail "white pages" search services on the Web. I used six such services—Bigfoot, Emailbook, Four11, Internet Address Finder, InfoSpace, and MIT's Usenet-Addresses Service—to search for four far-flung old friends: Julie, Janet, Howard, and Bob. I also searched for my own address and that of Harry, my editor at *PC World*. InfoSpace performed best, locating everybody but Howard; only Emailbook failed to come up with any addresses at all.

A basic search in any of the services is simple enough: Type in the person's name, and you get a list of names and e-mail addresses that match. Of course, the results may well include other people who just happen to share the name of the person you're really searching for. InfoSpace was the only directory that made it easy to verify that the Bob I found was the right Bob—besides his e-mail address, it showed his street address and a map that pinpointed his condo.



FIND MISSING PERSONS with InfoSpace's online e-mail address white pages service.

(Whether Bob, or anyone else, really *wants* this information available on the Web for all to see is another question.)

When my exact search failed, some services also looked for names with the first initial I'd specified. With others, I needed to use DOS-style wild cards such as "Rob*." InfoSpace and Four11 were smart enough to translate nicknames into a double search for the likes of "Bob" and "Robert."

Just because a directory provides an e-mail address doesn't mean your search is over. For example, some had outdated ones for Harry and Janet; when I sent them mail, I got an error message.

In some cases, you may need to do additional legwork. For instance, none of the directories located Howard, but I did find someone in his home state that had the same last name. Could this be his sister who went to medical school? It was, as I confirmed when I searched for her name using the AltaVista search engine, and got a report of her delivering a patient's sextuplets! The lesson here: If you can't locate someone, you may be able to find a relative who can serve as an intermediary. **—Bob Stepno**

E-mail Address Directories

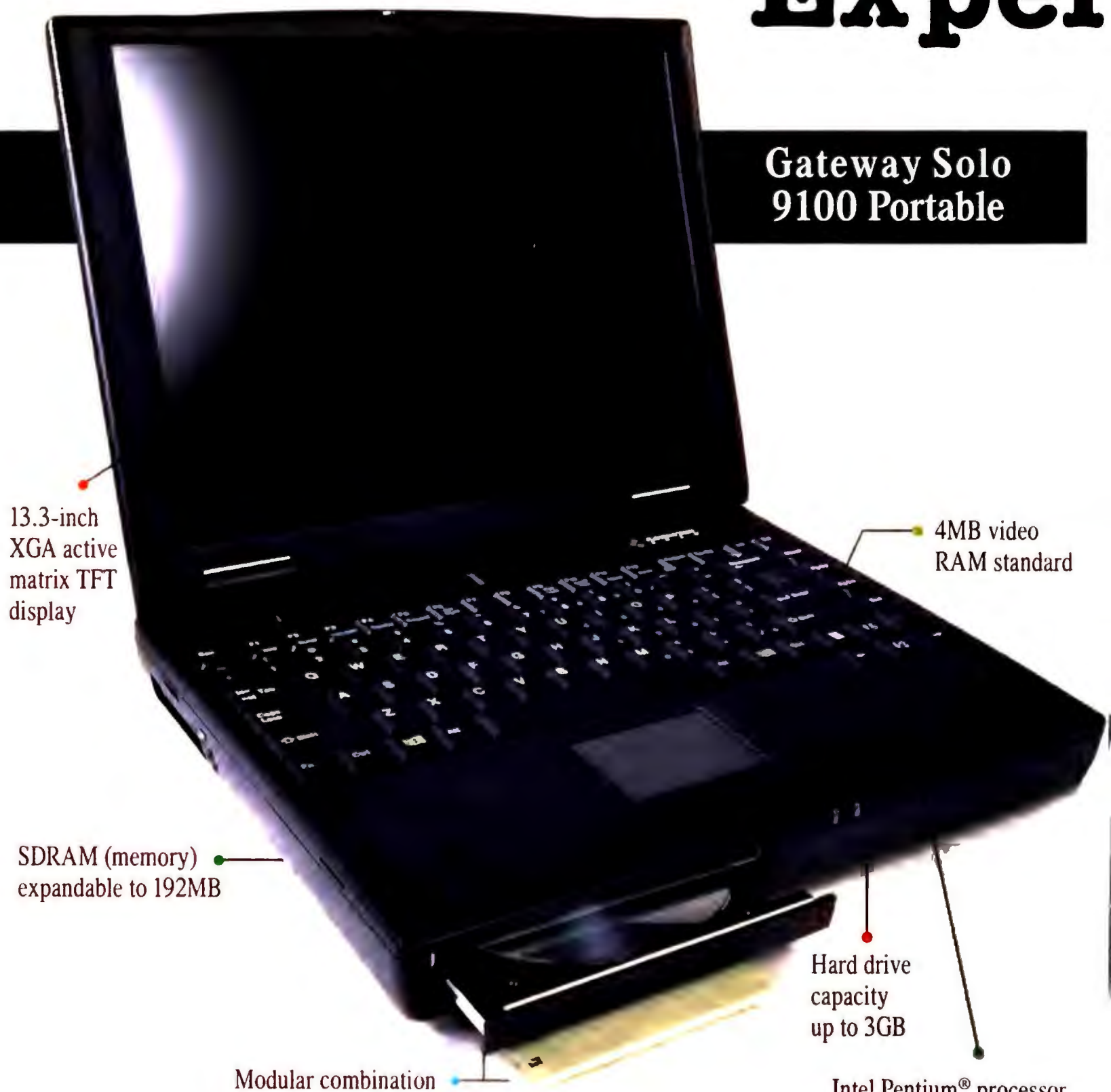
- **www.bigfoot.com**
- **www.emailbook.com**
- **www.four11.com**
- **www.iaf.net**
- **www.infospace.com**
- **usenet-addresses.mit.edu**

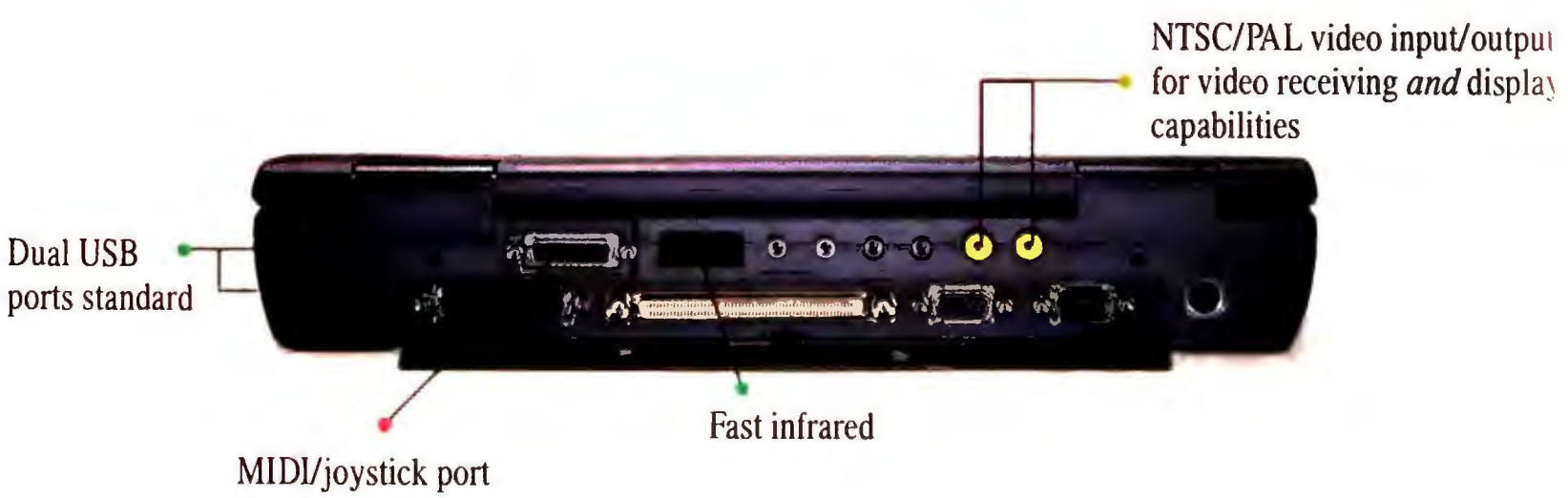
More Computing,
More Places,

More Choices

Exper

Gateway Solo 9100 Portable





ence it!

GATEWAY2000
S O L O™

Whether you're outfitting the fleet or looking for a power PC that can handle the desktop as easily as the tray table, you'll find a family of portable PCs at Gateway 2000. ◆ The Gateway Solo™ 9100 notebook includes the features of a desktop in a PC that's at home on the road. ◆ The 9100's 13.3-inch diagonal screen is comparable to the viewing area of many 15-inch monitors and features next-generation XGA LCD display technology. An Intel Pentium® processor with MMX™ technology, combination CD-ROM/floppy drive and high-performance video chip set deliver desktop power in a portable package. ◆ Need an affordable complement to your desktop PC? The new Gateway Solo 2300 notebooks offer things like a 12.1-inch display, 12-cell lithium ion battery and MMX technology — plenty of power and performance to handle all your road work. ◆ No matter what model you pick, you decide what goes into your Gateway Solo portable. Your sales representative will go over your component options and you make the decisions. ◆ We've also increased the flexibility of our portables by designing "common modularity" of some components into the Gateway Solo 2300 and the premium 9100 notebook. That means Walker in sales can easily trade some things like the battery, AC adapter and memory from his Gateway Solo 2300 notebook with those from O'Brien's 9100 portable in marketing, and IS can buy one set of components and docking stations to supply everyone. ◆ No matter what your needs, the choice is black and white — Gateway 2000. Call us for more computing, more places, *more choices*.

MMX™ intel inside pentium® PROCESSOR

GATEWAY2000
"You've got a friend in the business."®

888-888-2039

www.gateway.com

Gateway Solo™ Portable PCs

2100SE

- 11.3" SVGA Dual Scan Color Display
- Intel® 120MHz Pentium® Processor
- 16MB EDO RAM (expandable to 72MB)
- 256K Pipelined Burst Cache
- 1MB EDO Video RAM
- USB & Zoomed Video Ports
- 1GB Hard Drive
- Modular 6X min/11X max CD-ROM Drive
- Modular 3.5" Diskette Drive
- 16-Bit Sound with Stereo Speakers
- NiMH Battery & AC Pack
- 85-Key MS® Windows® 95 Keyboard
- EZ Pad™ Pointing Device
- Casual Carrying Case
- Microsoft® Windows 95
- MS® Works 95
- Gateway Gold™ Service and Support for Portable PCs

$1899 *Business Lease* $70/mo.*

2200SE

- 12.1" SVGA TFT Color Display
- Intel 133MHz Pentium Processor
- 16MB SDRAM (expandable to 80MB)
- 256K Pipelined Burst Cache
- 1MB EDO Video RAM
- USB & Zoomed Video Ports
- NTSC/PAL Video Output
- 1.3GB Hard Drive
- Modular 6X min/11X max CD-ROM Drive
- Modular 3.5" Diskette Drive
- 16-Bit Wavetable Sound with Stereo Speakers
- NiMH Battery & AC Pack
- 85-Key MS Windows 95 Keyboard
- EZ Pad Pointing Device
- Casual Carrying Case
- MS Windows 95
- MS Works 95
- Gateway Gold Service and Support for Portable PCs

$2599 *Business Lease* $96/mo.*

2200LS

- 12.1" SVGA TFT Color Display
- Intel 166MHz Pentium® Processor with MMX™ Technology
- 32MB EDO RAM (expandable to 192MB)
- 256K Pipelined Burst Cache
- 1MB EDO Video RAM
- USB & Zoomed Video Ports
- NTSC/PAL Video Output
- 2GB Hard Drive
- Modular 6X min/11X max CD-ROM Drive
- Modular 3.5" Diskette Drive
- 16-Bit Wavetable Sound with Stereo Speakers
- Lithium Ion Battery & AC Pack
- 85-Key MS Windows 95 Keyboard
- EZ Pad Pointing Device
- Casual Carrying Case
- MS Windows 95
- MS Office 97, Small Business Edition plus Encarta® 97
- Gateway Gold Service and Support for Portable PCs

$3649 *Business Lease* $134/mo.*

2300LS

- 12.1" SVGA TFT Color Display
- Intel 150MHz Pentium Processor with MMX Technology
- 32MB SDRAM (expandable to 192MB)
- 256K Pipelined Burst Cache
- 1MB EDO Video RAM
- USB & Zoomed Video Ports
- NTSC/PAL Video Output
- 2GB Hard Drive
- Modular 6X min/11X max CD-ROM Drive
- Modular 3.5" Diskette Drive
- 16-Bit Wavetable Sound with Stereo Speakers
- 33.6 PCMCIA Data**/14.4 Fax Modem
- 12-Cell Lithium Ion Battery & AC Pack
- 85-Key MS Windows 95 Keyboard
- EZ Pad Pointing Device
- Casual Carrying Case
- MS Windows 95
- MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service and Support for Portable PCs

$3899 *Business Lease* $143/mo.*

9100XL

- 13.3" XGA TFT Color Display
- Intel 166MHz Pentium Processor with MMX Technology
- 64MB SDRAM (expandable to 192MB)
- 256K Pipelined Burst Cache
- 4MB Video RAM
- USB & Zoomed Video Ports
- NTSC/PAL Video Input And Output
- 3GB Hard Drive
- Modular Combo 6X min/11X max CD-ROM Drive & 3.5" Diskette Drive
- 16-Bit Wavetable Sound with Stereo Speakers
- 33.6 PCMCIA Modem with x2™ Technology**
- Two 12-Cell Lithium Ion Batteries & AC Pack
- 88-Key MS Windows 95 Keyboard
- EZ Pad Pointing Device
- Deluxe Carrying Case
- MS Windows 95
- MS Office 97, Small Business Edition plus Encarta 97
- Gateway Gold Service and Support for Portable PCs

$5999 *Business Lease* $215/mo.*

Peripheral Options

- Upgrade From Casual Carrying Case To Deluxe Carrying Case **$25**
- Gateway Solo Mini Docking Station **$19**
- Gateway Solo Docking Station **$599**
- 33.6 PCMCIA Data**/14.4 Fax Modem **$2**
- 33.6 PCMCIA Fax Modem with x2 Technology** **$200**
- 2100/2200 NiMH Battery **$95**
- 2100/2200 Lithium Ion Battery **$190**
- 2300/9100 Lithium Ion Battery **$250**
- 2300 NiMH Battery Option **$125**
- PCMCIA 3Com® Ethernet Twisted Pair Adapter **$129**
- PCMCIA 3Com Ethernet TP/BNC Combo Adapter **$159**
- PCMCIA Token Ring Adapter **$399**
- Call for additional details about memory, processors and hard drive options.

***Maximum data transfer rate dependent an certain variables including particular modems with which you are communicating, telephane lines, communicatians saftware and communications pratocols.*

Toll free from Canada
800-846-3609

Toll free from Puerto Rico
800-846-3613

GATEWAY2000

"You've got a friend in the business."℠

888-888-2039

www.gateway.com

MMX™ intel inside pentium® PROCESSOR

More Choices

Desktop features for the road. The Gateway Solo™ 9100 portable PC handles both worlds in one portable package.

The Gateway Solo 2300 notebook PC delivers power and performance to handle all your road work at a price that won't break the budget.

Gateway Solo Docking Station
$599

Gateway Solo Mini Docking Station
$199

Microsoft® Office 97 Small Business Edition plus Encarta® 97

- MS® Word 97
- MS Excel 97
- MS Publisher 97
- MS Automap® Streets
- MS Outlook™ 97
- MS Small Business Financial Manager
- MS Encarta 97

Service & Warranty

- Portable-specific, toll-free service and support.
- One-year limited warranty standard. For a free copy, call or write.

GATEWAY2000

"You've got a friend in the business."℠

888-888-2039

www.gateway.com

MMX™ intel inside pentium® PROCESSOR

©1997 Gateway 2000, Inc. GATEWAY 2000, black-and-white spot design, "G" logo, EZ Pad and "You've got a friend in the business" slogan are registered trademarks, and GATEWAY, Gateway Gold and Gateway Solo are trademarks of Gateway 2000, Inc. The Intel Inside Logo, Intel and Pentium are registered trademarks, and MMX is a trademark of Intel Corporation. All other brands and product names are trademarks or registered trademarks of their respective companies. All prices and configurations are subject to change without notice or obligation. Prices do not include shipping or applicable sales tax. Many Gateway 2000 products are custom engineered to Gateway 2000 specifications, which may vary from retail versions of the software and/or hardware in functionality, performance or compatibility. *Leasing arranged by independent leasing companies to qualified commercial customers. Lease payments based on 36-month term. Lease terms subject to change without notice or obligation.

best of the net

The 101 best Web sites, chat rooms, and newsgroups on the Internet.

TRYING TO FIND USEFUL INFORMATION on the Internet is like rummaging through a teenager's bedroom. The encyclopedia is mixed in with the comic books. A PC manual is buried under some soiled socks. And don't even think about looking under the bed. You don't want to know.

What you want is information you can use—right now. That's why we assembled this guide to the best of the Internet.

Here you'll find the top sites for computing and commerce, business and home, work and play. We tell you how to get technical support at 2 a.m. and where to find funding for your start-up. We also locate the best sites for helping you stay competitive, change jobs, make plane reservations, finance a new home, even find true love. Don't worry, we haven't forgotten the Web's strange and unusual sites (check out the Twinkies site or the Bureau of Missing Socks).

But the Net is more than just the Web. We've listed the best Usenet newsgroups for particular topics (see "Usenet or Lose It: Best Newsgroups"), and the best places to engage fellow Netizens in real-time chat (see "Talk is Cheap: Best Chat Areas"). Because life is too short to be lost on the Net. ▶

By Michael Cahlin, Matt Lake, and Dylan Tweney

Computers

THE BEST PLACES TO...

Get Tech Support at 2 a.m.

www.supporthelp.com

Printer blue? Software flu? If your vendor is unreachable, try SupportHelp.Com. This terrific *free* service warehouses tech support sites, e-mail, bulletin boards, and phone numbers for more than 3000 companies. It even checks to see if a Usenet newsgroup is available to help.

Get Support Worth Paying For

www.tuneup.com

Smart, very smart. We're talking about the staff at TuneUp.Com. For a measly 4 bucks a month, they'll answer computer questions by e-mail within 2 hours during business hours. Or within 2 hours of opening the next day if your question arrives at night. Members can also download the latest drivers and get helpful tips.

Find Cool Net Tools

www.cooltool.com

Dripping with Gen-X Nettitude, Cool Tool of the Day reviews Internet utilities and plugs-ins almost daily. You can join the Cool Tool mailing list or search the site by keyword, platform, or helpful categories. At BrowserWatch (www.browserwatch.com) you'll find up-to-the-nanosecond links to all plug-ins available on the Net.

THE BEST PLACES TO START

LOOKING FOR A NEW home page on the range? In the spirit of shameless self-promotion, let us humbly suggest three sites of our own for starting your Web odyssey. A good beginning is right at PC World Online (www.pcworld.com). Here you'll find everything that appears in the print version and a lot more, including daily news updates and an interactive Top 20 where you can roll your own Best Buys.

Next, check in at Tip World (www.tipworld.com) for byte-size computer tips, tricks, news, and gossip delivered by e-mail to your virtual door. Choices include Windows, Navigator, Games, and more.

Finally, stop by The Web Magazine (www.webmagazine.com) for the lowdown on everything from the wired to the weird. Popular culture *is* Web culture—and The Web Magazine reviews it all.

Foil Would-Be Hackers

www.ncsa.com

Don't get hacked, get even. The National Computer Security Association's tips, links, security alerts, libraries, and search engine are the best ways to learn how to keep data secure. From data encryption news to antivirus blues, you'll find it here.

Master Your Domain

rs.internic.net/cgi-bin/whois/

Want to register *yourname*.com? It might already be taken. The InterNIC site's Whois search will find domains by owner and give you contact information in case you want to bid on a domain someone else already owns. (For example, Devil.com is a steal at $6660.)

Turn Your $2000 PC Into a $29.99 Radio

www.realaudio.com

Progressive Networks' free RealAudio plug-in brings live news, sports, and music to your PC. The spanking new $29.99 RealPlayer Plus 4.0 lets you scan the virtual airwaves, choose six preset sta-

usenet or lose it best newsgroups

WANT TO ENGAGE in a stimulating discussion about hubcaps? How about dental floss? Skip the Web and go directly to a Usenet newsgroup. Here you can post questions, get answers, and uncover the naked skinny on any topic you imagine—including lots of news about PC products and companies. All you need is an Internet account that offers Usenet access, and a newsreader, like the ones built into the current versions of Netscape Navigator and Microsoft Internet Explorer. Here are 30 good places to start. Good luck!

Strictly PC. If you're good at sorting and sifting, **comp.os.ms-windows.win95.misc** is Windows central, with hundreds of news posts daily. If that's too much, start with **comp.os.ms-windows.win95.setup**. Read any group under **comp.sys.ibm.pc.hardware** for advice (and complaints) about hardware. If you're looking to pick up a cheap PC, read **misc.forsale.computers.pc-specific.systems**. Meanwhile, Microsoft's news server at **msnews.microsoft.com** carries hundreds of product-specific groups.

Dough.Re.Me. Wanna save some money? Log on to **misc.consumers.frugal-living**. You'll find tips on making dental floss last and how to sell your body parts, plus a FAQ on dumpster diving. Not sure about where to stash your cash? **Misc.invest.mutual-funds** will give you a good start, and then you can read **misc.invest.stocks** (and its amazing investment FAQ) when you get serious.

Fast Company. The CEO of business newsgroups is the high-volume, general interest **alt.business**. It's also high in *spam* (unsolicited junk e-mail). **Misc.business.consulting** and **misc.business.marketing.moderated** are low-volume, low-spam groups where you can find business solutions, ask a question, even

tions, and even record your own stuff. Sound quality varies from fuzzy AM to funky CD, depending on your speakers.

Turn Your $2000 PC Into a $1.19 TV Guide

www.tvtonight.com

Surfing the *other* tube? TV Tonight lists every network, cable, and premium cable show available in your zip code. Links include episode descriptions, air dates, and reviews, along with silly rating icons like the Happy Box and Mr. Yeech.

Turn Your $2000 PC Into a $1000 Music Mixer

www.mbinter.com

Download Macromedia's free Shockwave plug-in, and glide on over to M/B Interactive. CD-quality sound, funky animations, and galloping graphics help you mix yourself silly using M/B's stunning audio controls. From junglematic to electrobop, the streaming audio helps you discover the digital DJ within. Chaka-khan!

MIXMASTER: Play the DJ with the Deep Forest Mixer at M/B Interactive's site.

Find Out if You Need a Life

www.starfishsoftware.com

Download a free copy of InternetMeter Inlay 2.0 from Starfish Software's site, and pay close attention to the online activity meter. You might be surprised how much time you *really* spend Web surfing.

Stash Your Data

www.connected.com

We believe that you back up regularly. Of course you do. But if you don't store your backed-up copies *off-site*, they are still vulnerable to theft, fire, and any number of other disasters. With Connected Online Backup, you can use the Web to keep your data safe and sound. Connected's free backup software is easy to set up, and the storage prices are reasonable: $14.95 per month for 50MB of storage, 25 cents per each additional megabyte.

find a mentor. For tips on selling products abroad, consult **alt.business.import-export** or **biz.marketplace.international.discussion.**

Be Fruitful and Multiply. For help planning a pregnancy or surviving your current one, waddle on over to **misc.kids.pregnancy.** **Misc.kids** is an intelligent compendium of child-rearing wisdom. Consult the **misc.education** groups for discussions of public and private schooling. When you can't take it anymore, fly over to **misc.kids.vacation.**

Jock Life. Do the Rockies have a chance this year? The denizens of **alt.sports.baseball.col-rockies** think so, but you'll probably get a less biased opinion in **rec.sport.baseball.** If your news server carries the commercial Clarinet groups, you can follow women's basketball on the read-only **clari.sports.basketball.college.women**; otherwise, check **rec.sport.basketball.women.**

Dirty Words. Everybody does it, but nobody talks about it—except on Usenet. The seminal discussions lie under **alt.sex** (notably, **alt.sex.extraterrestrial**), but most of these groups are littered with ads for cybersex sites. Torn between two lovers? Stop feeling like a fool and read **alt.polyamory.** Addictive types can stick with **alt.recovery.addiction.sexual**; victims of abuse support each other in **alt.sexual.abuse.recovery.**

Sound and Fury. Still pining after Kristin Scott-Thomas? Share your longings in **rec.arts.movies.people** or **alt.fan.actors.** You can catch up on your favorite *The Young and the Restless* characters in **rec.arts.tv.soaps.cbs.** If you're wondering what that old *Valley of the Dolls* soundtrack is worth, ask in **rec.music.marketplace.vinyl.** And when everything falls to pieces, you can take refuge in **alt.music.abba.** —Scott Spanbauer

THE WACKY WIDE WEB

Find Out What's in a Twinkie
(www.owlnet.rice.edu/~gouge/twinkies.html)
What's more deranged: Eating a Twinkie, or spending days and nights, as these mad scientists did, conducting intensive scientific analysis on them? The T.W.I.N.K.I.E.S. Report—Tests With Inorganic Noxious Kakes In Extreme Situations—includes experiments like rapid oxidation (using a Bic lighter and rubbing alcohol) and radiation (microwave).

Business

THE BEST PLACES TO...

Get the Company Line

www.prnewswire.com
www.businesswire.com

BusinessWire and PR Newswire give away loads of useful material online. Both sites are cleanly designed, providing useful searches, timely information, and company background stories. Though PR Newswire's content is spin-doctored, many companies have empirical data (such as SEC records) attached.

Become the Next Bill Gates

www.sbaonline.sba.gov

One of Uncle Sam's best-kept secrets, the Small Business Administration site is an excellent resource for starting and maintaining a business. Besides helpful software, you'll find online tutorials and information about SBA assistance programs and applications.

Raise a Million Bucks

www.vfinance.com

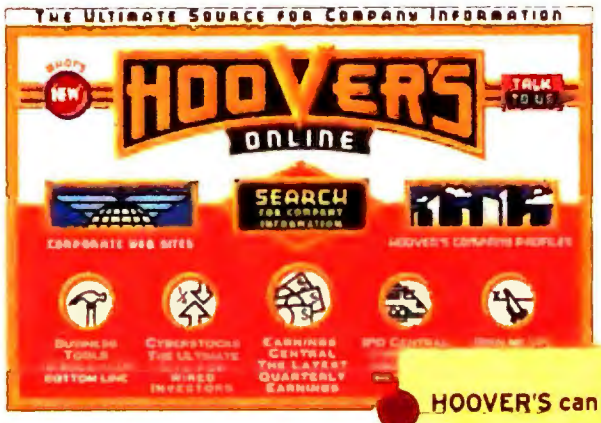
So, you've got a killer idea for a Java-based mousetrap, and you've got a business plan. All you need is a little cash infusion, right? Stop by the Venture Capital Resource Library for some free tax, legal, ▶

and strategic information. You can download a free business plan template, and even submit your plan via a form if you want the site operators to give you some advice. Just remember us when you strike it rich.

Get the Lowdown on Competitors

www.hoovers.com

Yes, Hoover's saves its detailed profiles of public and private companies for its $10-a-month subscribers. But its free IPO backgrounders, stock tracking, and 10,000 capsule company reviews ain't so shabby either; in addition, there's contact info, sales and employment figures, and Web site links galore.



HOOVER'S can pull up thousands of capsule company reviews.

Replace Your Morning Paper

crayon.net

The Web is stuffed with newspapers, RealAudio radio broadcasts, weather reports, stock feeds, and cartoons. How's a busy business person supposed to find the important stuff? Browse Crayon's vast compendium of free online news sources, check off the ones you like, and henceforth, whenever you visit your personal page on the site, scroll down the links on the left to visit your news sources of choice.

Start Your Own McFortune

www.betheboss.com

Whether you're the Roto-Rooter type or an aspiring Jerky Hut owner, if you really want to be your own employer, Be the Boss should be your home page. It provides background on major franchisers, a huge list of companies, and the most comprehensive set of links to entrepreneurial resources we've seen.

Careers

THE BEST PLACES TO...

Find a Dream Job or Employee

www.jobtrak.com/jobguide/

Searching for a job is a job in itself, but so is finding good employees. Jobtrak, Margaret Riley's guide to employment opportunities and resources on the Internet, is an excellent first stop primer for job seeker and employer alike. In tandem, don't miss The Riley Guide's gold mine of links to employment search sites at www.jobtrak.com/jobguide/multiple.html.

Create a Killer Résumé

jobsmart.org/tools/resume/

Before you post that résumé, visit JobSmart. This thoughtful site not only teaches you how to build the best résumé for your intended career, it shows you how to evaluate the online résumé banks and provides links to the top dozen or so where you can post yours.

Hire a Virtual Headhunter

www.espan.com

www.nationjob.com

Don't want your résumé online, for your boss to see? Use a virtual headhunter. NationJob's Personal Job Scout (P.J. Scout to its friends) and E-Span's CareerMail are the ideal agents: On a regular basis, they e-mail for free job listings that match a profile you enter at the sites.

Translate New York Dollars Into Duluth Dollars

www.homefair.com/homefair/cmr/salcalc.html

So you've been offered a job with a 15 percent pay raise in a new state? But how much will that enticing salary *really* buy in another town? Come to The Homebuyer's Fair, and enter the names of your current and future home towns and your salary. Homebuyer's Fair spits back what your paycheck's worth in the new burg.

THE WACKY WIDE WEB

Find Out How Looney You Are (www.geocities.com/TelevisionCity/1568/) Sufferin' succotash! Who is the best Looney Tunes character—the wascawy wabbit or the dishpicable duck? Other choices pit Tweety Bird against the Tazmanian Devil, plus you can take a twicky twivia test.

Motivate a Pessimist (www.speedoflight.com/techs/ray/death/) We all need a kick in the pants. At The Death Clock, you get yours by calculating when you'll kick the bucket. Enter your birth date and gender, and select *DeathClock*, *Pessimistic*, and *Sadist*. Then be prepared to see how many seconds you have left ticking away until that inevitable day.

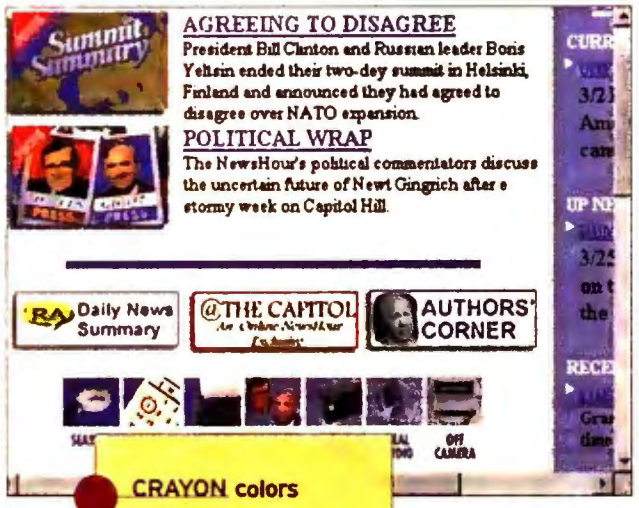
Travel

THE BEST PLACES TO...

Get Lost

www.expedia.com

Equally suited to global jet-setters and armchair travelers, Expedia offers travel guides; plane, hotel, and car reservations; even a fare monitor that e-mails you when prices drop. Or just enjoy Expedia's lush travelogues—day-by-day reports from adventurers in remote corners of the world.



CRAYON colors busy people's days with custom news summaries.

Get Found

www.mapquest.com

MapQuest provides geographic information over the Web. You navigate a global atlas, searching by city, business, or ▶

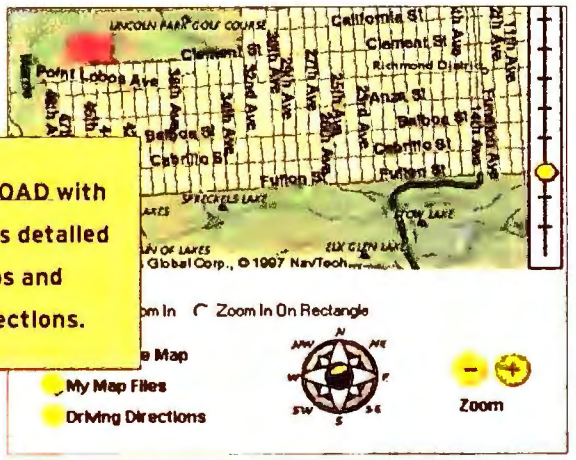
ake Roo

Disk space a problem? Too many disk drives? Here's the solution. Make Room. 120MB of room. Introducing SuperDisk™ and the LS-120 drive. Unlike the Zip™ drive, the LS-120 drive is compatible with standard 3.5" disks. So you only need one drive. In other words, don't buy a PC without it. To learn more about the SuperDisk™ diskette and other LS-120 solutions for notebook, desktop, and add-on drives, call 1·800·888·1889, ext. 4050 or visit www.imation.com.

IMATION

Borne of 3M Innovation

street address. You can then zoom in to a detailed street map and get point-to-point driving directions.



HIT THE ROAD with MapQuest's detailed street maps and driving directions.

Travel in Style
www.thetrip.com

TheTrip.com isn't unique. Other sites provide flight information, reservations, airport maps, city guides, ground transportation, hotel and restaurant reviews, and up-to-date travel news. But no other site does it quite as smoothly. A visit here can make your visit *there* a better one.

Get Your Kicks on Route 66
www.delorme.com/cybermaps/cyberrouter.htm

Planning a quick business trip across state lines? Before you hit the highway, stop by Delorme's CyberRouter (an online version of the company's Map'n'Go software). The site helps you pick the shortest or quickest route between two cities and provides an itinerary that's as concise or as detailed as you need.

Get Hard Copy in a Strange Town
www.kinkos.com/info/
www.sirspeedy.com/SirSpeedy/Where/

Why carry paper in your carry-on? These two sites help you find all the Kinkos or Sir Speedy print shops in virtually any town. Better yet, you can send your print job ahead electronically and have it waiting at your destination.

Collect Frequent Flyer Miles
www.insideflyer.com

Like many Web sites, Inside Flyer will book your flight via the Internet Travel Network site (www.itn.com), but that's only the beginning. Check here for links to the best deals in flyer and hotel programs, frequent flyer links, and hefty doses of humor and consumer advocacy.

Land a Free Trip to Paris
www.tscentral.com
www.techweb.com/calendar/

Want to visit Paris in the spring but can't afford the fare? No problem—just find a conference you can attend and let your boss foot the bill. (Hmmm, next February's BioExpo looks *très interessante*...) Trade Show Central and TechWeb let you look up domestic and international trade shows by location, date, or category and get conference schedules; you can even register without having to stand in line.

Find Things to Do in Toledo (or Anywhere Else)
city.net

City.net's highly usable guide to the cities of the world has clickable image maps that let you zoom in on the city of your destination. From there, with links to other helpful Web sites, you can figure out what to do, where to stay, and where to eat. For a star-studded night in Toledo, try the Ritter Planetarium. ▶

talk is cheap best chat areas

NOTHING TO DO this Saturday night? Pull up a bar stool and join the Net's ongoing tête-à-tête. Those with the gift of gab can now log on for live text chats, or create avatars to speak for them in 3-D environments. Chats are *the* place to get the scoop on everything from recipes for ragout to the dirt on diaper rash. Here are our picks for the best places online to flap your jaws about politics, food, parenthood, movies, and computers.

Find Out Whether the Government Is Reading Your E-Mail (www.talk.com/talk/wiredside) Have a conspiracy theory to share? Join the Net pundits at HotWired's live text-based chat, who have more mud to rake than a worm farmer.

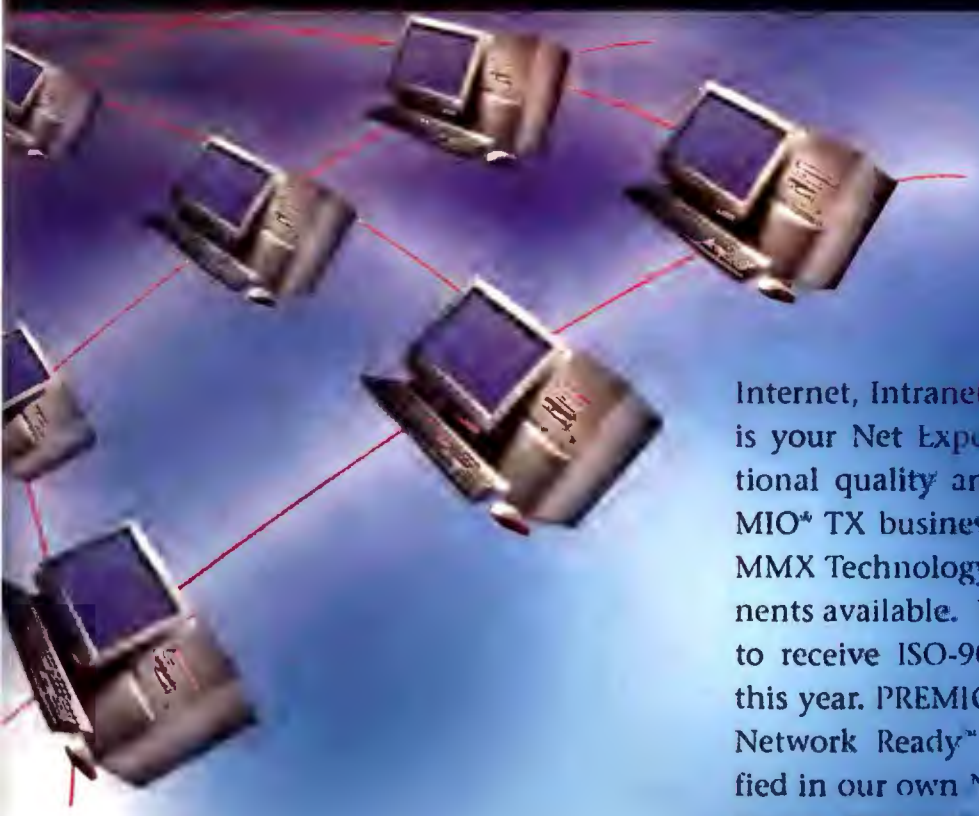
Find Out What Corn Smut Means (food4.epicurious.com/f_forums/f00_home/forums.html) Online home to *Gourmet* and *Bon Appetit*, Epicurious's threaded message boards are where virtual Martha Stewarts go to swap recipes and Tupperware. (Corn smut, by the way, is a fungus.)

Plot to Destroy Tickle Me Elmo (www.parentsoup.com) Wired and weary parents, rejoice! Parent Soup's real-time text chat is your one-stop resource for Gerbers and group therapy.

Argue About What Medication David Lynch Is On (www.mrshowbiz.com/chat/index.html) Text talk for film junkies of every stripe. Don't be caught dead here without knowing what Rosebud is.

Witness How All PC Talk Eventually Disintegrates Into Downright Naughtiness (www.thepalace.com) Come watch the computer geeks gather at this 3-D chat site to compare hard disks and hacking triumphs.

Find Out What's On Now (yack.com) If you're always worried there might be better conversations elsewhere on the Web, keep an eye on Yack, the *TV Guide* of live chat on the Internet. **–Shoshana Berger**



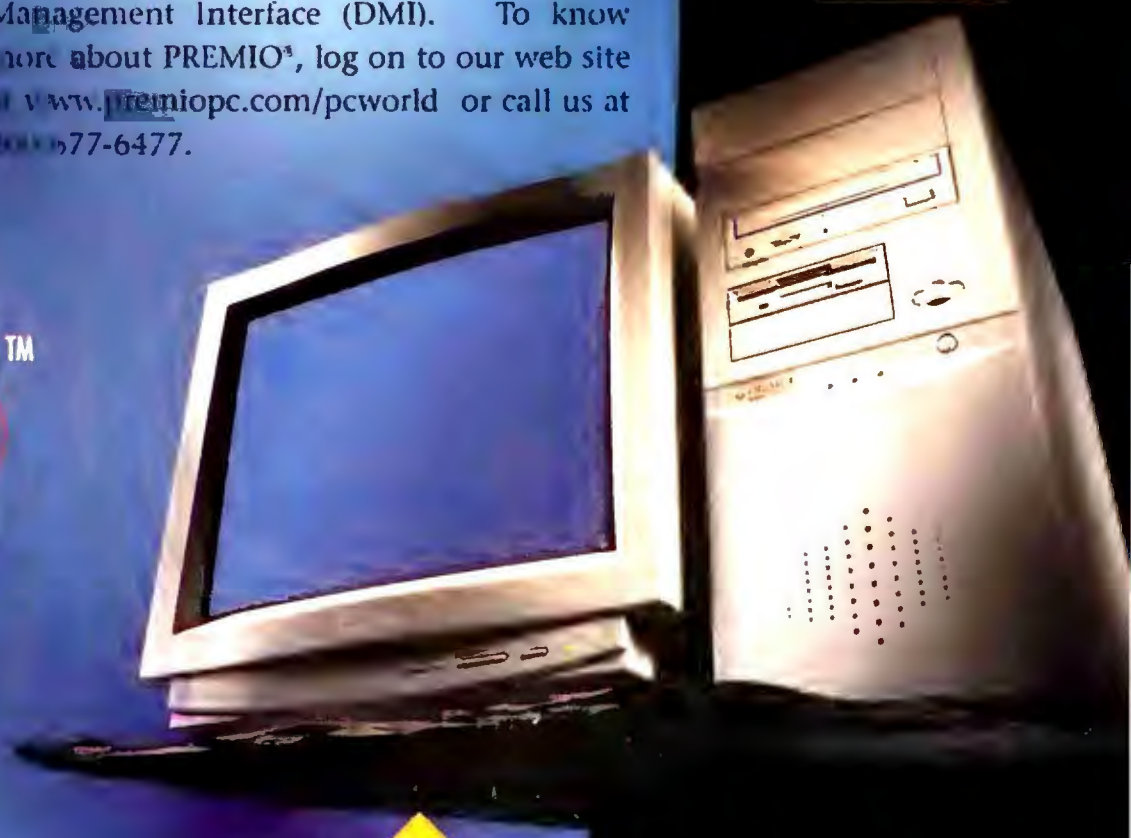
Internet, Intranet, [illegible] PREMIO is your Net Expert [illegible] exceptional quality and reliability. Our PREMIO® TX business desktops come with MMX Technology™ and the best components available. In fact, we are scheduled to receive ISO-9002 certification in July this year. PREMIO® TX systems are 3Com Network Ready™ and NetWare YES certified in our own Novell® Labs approved test center. PREMIO® systems and workstations are optimized to run with Windows NT™, Solaris® and SCO® Unix. Therefore, they fit perfectly into any network of any size in any department. PREMIO® systems have received rave reviews from PC Magazine, PC World and Windows Magazine. Together with strong strategic alliance and fast time-to-market of the latest products, PREMIO® products increase your total benefit of ownership while decreasing maintenance cost with features such as the Desktop Management Interface (DMI). To know more about PREMIO®, log on to our web site at www.premiopc.com/pcworld or call us at 800-677-6477.

- Fast Pentium® 166MHz/200MHz processor-based systems with MMX technology™
- 16MB or more RAM, 2.0GB or higher HDD, 16X CD-ROM and quality components from 3Com®, ATI®, Adaptec®, Intel™ and others.
- 3Com Network Ready Partner™
- Optimized for 32-bit environment and Windows NT™, Windows® 95, NetWare® 4.x, Solaris® and SCO® Unix compatible, DMI-enabled
- NetWare® YES certified in PREMIO's Novell® Labs approved test center
- Pending ISO-9002 certification
- 3-year warranty with optional on-site service
- Toll free technical support
- GSA and CMAS approved

MMX™ intel inside pentium® PROCESSOR

Premio Systems are Net perfect™

Any Net, Any Where



PREMIO®

800-677-6477

www.premiopc.com/pcworld

PREMIO is a registered trademark of Premio Computer, Inc. Intel, the Intel inside logo, Pentium and the Pentium Processor logo are registered trademarks of Intel Corporation. All other trademarks and brand names are the property of their respective owners.

Circle 192 on reader service card

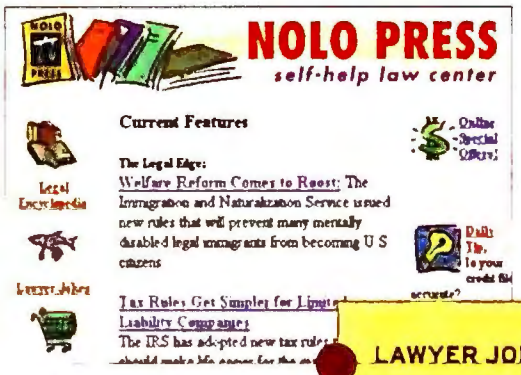
Law

THE BEST PLACES TO...

Find a Lawyer

www.wld.com

Next time you have a legal beef, don't hire the first shyster whose ad you see on late-night TV. Search West's Legal Directory, a respected directory for the practices in your town, based on 42 areas of specialization—and find out the lawyers' education, qualifications, and the percentage of the attorney's practice that's devoted to litigation.



LAWYER JOKES are the fun part of this do-it-yourself law site.

Avoid a Lawyer

www.law.cornell.edu/topical.html

Want to get the letter of the law on a vast range of subjects, from admiralty to workplace safety and all points between? The Cornell University Law School site's well-designed interface and speedy search engine uncover the content of the U.S. Code on matters that matter to you.

Be Your Own Lawyer

www.nolo.com

Any legal site with a huge collection of lawyer jokes and the slogan "Don't feed the sharks" is worth a visit. Nolo Press's long history of dispensing legal aid and publishing translates well to the Web. Don't miss the daily tips, regular features, online legal encyclopedia, and FAQs.

Parlez Legalese

lcweb2.loc.gov/glin/mdbquery.html

Them furriners do things different—and that's true of their business, export, and import laws too. Unless you have an international lawyer on payroll, do your preliminary legal lookup at the Library of Congress. Then bring in an attorney to translate the jargon.

Patent Your Brilliant Ideas

www.uspto.gov

That great idea for a Frisbee that doubles as a life preserver? Don't look for venture capital yet—it's already patented. How can you tell? Dial up the U.S. Patent Office site, which lists all patents registered since 1976 and provides answers to scores of questions on a wide range of intellectual property issues.

Find Out if Your Brand Name Is Taken

www.thomson-thomson.com

Thomson & Thomson's secure site requires registration—but a guest account provides a lot for nothing: access to the federal trademark database of half a million designs and logos, trademark news, application form downloads, and a search of new trademark applications. You can order a trademark availability search here, but it will cost you $350 or more.

Money

THE BEST PLACES TO...

Pick Up Hot Stock Tips

www.fool.com

If you favor irreverent but informed humor coupled with daily news updates, workshops, and portfolio recommendations, go with The Motley Fool. It's a rich source of straight-shooting, down-to-earth, often idiosyncratic investment advice from experienced amateurs. From investing basics to advanced analysis, this Fool is no fool.

Protect Your Nest Egg

www.sec.gov

Once you've checked Motley Fool's hot tips, where do you check out the details on a public company that you want to invest in? Where else but the hub of all publicly traded companies—the Securities and Exchange Commission? Searching EDGAR briefings and other documents will bring up detailed and relevant information, and the SEC's briefs are the definitive fiscal resource.

Retire With $1 Million

www.eschwab.com

Schwab, the king of the discount brokers, is now online with e.Schwab. Get real-time stock information, set up a portfolio, make stock trades, and manage your retirement fund. All you need is $5000 to open an account ($2000 for an IRA) and download e.Schwab's proprietary software for Windows or Mac.

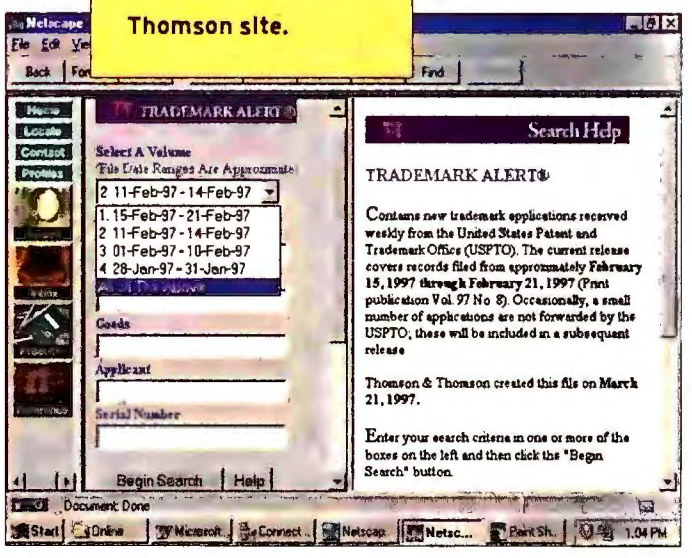
Get an Insurance Quote

www.quickquote.com

www.quotesmith.com

All life insurance policies seem to be designed to bore you to death ("Oh, we're sorry, but your husband's policy doesn't cover death by boredom"). QuickQuote cuts a swift path through all the jargon to provide excel- ▶

CHECK trademarks by searching trade names at the Thomson & Thomson site.



THE WACKY WIDE WEB

Sock It to You—Literally

(www.jagat.com/joel/socks.html) This witty site answers the burning question "What happens to missing single socks?" The Bureau of Missing Socks contains a database to help locate them, interviews with leading missing sock theorists, a sock museum and sock fiction, and of course, the RealAudio recording of "I Lost My Sock" by Doctor Coconuts.

RUFF, WOOF, WOOF, ERRRRRRR, WOOF...
RUFF, WOOF, ERRRR, WOOF, WOOF...

ARTMEDIA'S 17" MONITOR. VOTED BEST 17" MONITOR.

THE EDITORS AT BYTE MAGAZINE HAVE SOMETHING TO BARK ABOUT. BYTE JUST VOTED ARTMEDIA'S 17" MONITOR THE BEST 17" MONITOR. MAYBE IT WAS OUR ADVANCED TRINITRON TECHNOLOGY, THE FLATTER SCREEN OR THE SUPER-FINE PITCH. OUR MONITORS OFFER SHARPER RESOLUTION, BETTER FOCUS, LESS DISTORTION AND HIGHER BRIGHTNESS-BASICALLY, JUST A BETTER PICTURE! AND A SOUND INVESTMENT. SO IF YOU WANT THE BEST PROFESSIONAL MONITORS ON THE MARKET, LISTEN TO THE EXPERTS. THEY KNOW WHAT THEY ARE BARKING ABOUT.

ARTMEDIA TN-1885T
BYTE JANUARY 1997.

BYTE BEST

ArtMedia
WHERE REALITY IS TRUE

energy TCO 1992

ARTMEDIA USA 2272 CALLE DEL MUNDO SANTA CLARA, CA 95054, USA TEL: 1-800-682-7863 FAX:1-408-980-8999 HTTP://WWW.ARTMEDIA.COM
PACIFIC TECHNOLOGY CO., LTD. 7F, NO. 285, CHUNG HSIAO E. RD., SEC. 4, TAIPEI, TAIWAN, R.O.C. TEL:886-2-778-5850 FAX:886-2-741-9521 HTTP://WWW.ARTMEDIA.COM.TW

Circle 20 on reader service card

lent guidance for neophytes, along with impartial quotes and referrals. However, if you know what type of policy you need, Quotesmith is a better bet: With a database of 316 insurance companies, it provides more price and plan choices.

Get a Home Loan
www.microsurf.com/info.html

Want a mortgage lender that won't drop you in the East River if you fall behind on payments? Microsurf has more than 5000 mortgage tables online, ranging from 1- to 30-year fixed or adjustable rate loans, including two-step and balloon programs. Don't know what any of this means? Then you can use the site's jargon-to-English glossary, along with smart mortgage calculators to figure out how much all this is going to cost you. (Answer: a lot.)

Find Your Dream Home
www.ired.com

Ready to make a move? Try The International Real Estate Directory, a vast compendium of real estate information, advice, news, and columns. Its colossal listing of real estate Web sites—more than 13,000 of them—will help you to figure out how much of a mortgage you can afford, whether renting or buying is a better deal, and what the moving and insurance costs will be.

YOU *CAN* BUY a car on the Web. AutoWeb gives you everything you need but the keys themselves.

Have Fun While Uncle Sam Takes Your Money
www.irs.ustreas.gov

Okay, we lied. Paying taxes is never fun. But the IRS's nifty Digital Daily site makes finding tax information easy, and you can download any form on the spot in Adobe Acrobat format. Sure beats going to the post office!

Shopping
THE BEST PLACES TO...

Shop Till You Drop
www.internet-mall.com

The Internet Mall is so enormous even your teenager couldn't cover it all in a day. Its 20,000 shopping sites are filed in easy-to-navigate categories, and the mall's search tool helps you zero in on exactly the stuff you're looking for.

Find a Deal on Wheels
www.autoweb.com

Whether you're looking to buy a brand-new Miata or unload your clunky old Volvo, AutoWeb does everything but give you the keys. Scan extensive directories of car dealers and new model specs, post your own used-car ad for $19.95 for 30 days, or search the database of classified ads. When you're ready to buy, you can submit a request directly to the dealer online.

Go Buy the Book
www.amazon.com

If a book is in print, you're almost certain to find it among the 2.5 million-plus titles at Amazon.com. Be sure to keep an eye out for reader and staff recommendations, or post your own book reviews. Ordering is a snap and—best of all—the prices are reasonable.

Tap Your Toes and Buy the CD
www.cdnow.com

More than a regular music store, CDnow contains music news, discographies, biographies, information on upcoming concert dates, and more. You can even join discussion groups to chat with other fans about your favorite stars. And, of course, you can purchase hard-to-find CDs and sample RealAudio sound clips for many album tracks before you buy the disc.

Information Please
THE BEST PLACES TO...

Put Some Zip Into Your Mail
www.cedar.buffalo.edu/adserv.html

You know your mail will get there through snow, rain, heat, and gloom of night, but it will get there sooner with a proper 9-digit zip code. Look up the full zip code at this site, then print an address label complete with postal bar code.

Find the Definition of Foobar
www.onelook.com

Stuck in a bog of acronyms and technical terms? OneLook indexes 79 computer, business, acronym, and general dictionaries for a one-stop word search. Just enter your mystery word in a box and pick a dictionary. Oh, yes, *foobar* is a cute misspelling of *FUBAR*—and the acronym is demystified in OneLook. ▶

THE WACKY WIDE WEB

Avoid Clichés Like the Plague (www.eccentricsoftware.com/ZKDemo.html) It's as plain as the nose on your face: If clichés run rampant in your business writing today, your goose will be cooked tomorrow. To find the phrases that will bore your readers stiff, run like the wind to Eccentric Software's A Zillion Kajillion Rhymes and Clichés. Cutting down on stock phrases isn't the unkindest cut of all, but it will help you save face.

Seeing is Believing.

(fish not included!)

Be part of the scene with SHINHO monitors! Produced in ISO 9001 certified factories, SHINHO monitors provide complete user-friendly adjustments and set new standards for Value in Technology. Our AV2 monitors are true "Plug-n-Play," right out of the box! Add our 3-year Limited Warranty on parts and labor, and you have the best value in monitor technology available today. Call *toll free* 1-888-4-SHINHO (474-4646) to see all the believable details.

Circle 207 on reader service card

SHINHO®

Value in Technology™

(888)4-SHINHO

(888)474-4646

16200 A Carmenita, Cerritos, CA 90703
Tel: 562-802-8116 • Fax: 562-802-7637
Internet: http://www.shinhousa.com
E-mail: shinho@shinhousa.com

Plug the Holes in Your Memory
www.merc.com

Want a virtual mom to remind you of birthdays, appointments, and anniversaries? Pump dates and reminders into Mercury Mail's free ConsoliDate, and you get e-mail notices the week and the day before the event. Other e-mail services include a news digest that's updated three times a day, weather reports for any number of cities, sports reports, and entertainment info.

Learn About Mad Cow Disease
whyfiles.news.wisc.edu

Sponsored by the National Science Foundation, The Why Files site is dedicated to explaining the science behind everyday events, usually with tongue planted firmly in cheek. Find out about the science of the stock market, how O. J. Simpson's DNA was analyzed, and what made the cows so mad.

Heal Thyself
www.mayo.ivi.com

Worried about that wart growing on your nose? Search the Mayo Health O@sis's huge library to find information on nearly any medical topic. You'll also find feature stories on topical subjects and the latest health news as well.

Tell if It's Raining Without Sticking Your Head Out the Window
www.intellicast.com

So you've been surfing the Web for the last 48 hours, and you're wondering what

WHY BOTHER to look outside? Intellicast lets you see the weather on your PC.

the weather's like outside in the "big room." Point your browser to Intellicast, where you can find satellite photos, maps, and the current and future weather for your town, whether it's New York, Hong Kong, or Wausau.

Leisure Time

THE BEST PLACES TO...

Enjoy a Dry Martini
www.hotwired.com/cocktail

Seventy percent of any cocktail is attitude. How you order one. How it's mixed. What you look like drinking it. The resolutely hip HotWired features a new libation every week, with poetic ruminations on the history and meaning of the drink, recipes (of course), and links to Cocktail's database of spirits and mixed drinks. Even if you don't drink, you will feel suave just browsing this site.

Save the Planet
www.sierraclub.org

Forget hugging a tree—if you're concerned about the environment, visit the Sierra Club's Web site. Browse current issues of *Sierra* and the *Planet* on the TreeFree Newsstand, get outings and trips info, and most important, find out how to lobby your elected officials to protect the environment.

Destroy the Universe
www.kali.net

Feeling trigger-happy? Try playing against real, human opponents. Just download Kali Multiplayer Gaming Network, and you're ready to play popular games like Descent or Doom over the Net in real time against multiple adversaries. Best of all, Kali doesn't charge hourly fees.

Dish the Dirt
www.eonline.com/Gossip/

If you can't live without your daily dose of dirt, check out E! Online's Gossip site. Like the TV show of the same name, it offers gossip from professional star watchers, plus message boards where you can start your own rumors.

Get Sporty
www.sportszone.com

If your daily workout involves a six-pack and a TV remote, dial up SportsZone. With player profiles, an almanac, audio and video highlights, and more, SportsZone is a big thrill for unabashed sports fans. Warning: Dick Vitale audio clips are available.

Find Your High School Sweetheart
www.whowhere.com

So you got your teeth fixed, dropped some weight, and landed a job. Now it's time to track down that old flame. WhoWhere can help—type in a name (or part of one) and location, and this search engine tracks down e-mail addresses, phone numbers, and street addresses.

Find True Love
www.lovesearch.com

If you're looking for love in all the wrong places, you probably haven't been to LoveSearch.com. This nonsleazy site boasts a good sense of humor. In addition to the personals ads, you'll find advice for the lovelorn, chat rooms, message boards, and a mall where you can buy chocolates, flowers, and diamond rings for your dates.

THE WACKY WIDE WEB

Meet Oliver Stone Lovers (www.webcom.com/~conspire/) Is the Japanese Mafia responsible for the death of Nicole Brown Simpson? Find the answer at Conspire.com, a comprehensive conspiracy site that's a paranoid's paradise.

Get Even More Paranoid (www.nashville.net/~police/risk) Worried about being stabbed, robbed, beaten, murdered, or kidnapped? Take these tests created by Webmaster Ken Peace (that's his real name), so you can calmly evaluate how much danger you're in. Remember, you're not paranoid if they're really out to get you.

online *Find additional information at www.pcworld.com/aug97/net.*

Shoshana Berger is an assistant editor for The Web; *Michael Cahlin is a freelance writer in Los Angeles; Matt Lake is a freelance writer in Ridley Park, Pennsylvania; Scott Spanbauer is a contributing editor for* PC World; *and Dylan Tweney is a senior editor for* InfoWorld. ■

THEY TELL YOU TO

GET CREATIVE.

TELL THEM YOU NEED A

MACHINE

DESIGNED FOR CREATIVE PROFESSIONALS.

UMAX®

The Features You Need:

- Pentium® II & Dual Pentium II Processors
- Zip,™ Jaz,® and DVD Multimedia Drives
- High-Resolution Display Adapters & Flat Square Monitors
- Windows NT® & Application Software from Adobe
- Three-year Warranty / One-year Onsite Service
- Free Umax Scanner with Every System!*

(*Offer good through August 15, 1997. See details on back.)

UMAX—GRAP

NT SYSTEMS DESIGNED FOR

UmaxStation 6000

- Intel 266MHz Pentium II processor
- 32MB EDO RAM/512KB Pipeline Burst Cache
- 4GB EIDE Hard Disk Drive
- DVD Multimedia/CD-ROM Drive
- 100MB Zip Drive, 3.5" Floppy Drive
- Matrox Millenium 4MB WRAM Graphics Card
- 17" Flat Square Color Monitor (15.6" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows® 95 available)
- Adobe® PhotoDeluxe,™ Adobe PageMill™ 2.0, Adobe Type Manager,® Lotus SmartSuite®

#S6000.....$3295

Call for business leasing price.

UmaxStation 6200

- Intel 266MHz Pentium II processor
- 64MB EDO RAM/512KB Pipeline Burst Cache
- 5GB EIDE Hard Disk Drive
- DVD Multimedia/CD-ROM Drive
- 100MB Zip Drive, 3.5" Floppy Drive
- Matrox Millenium 8MB WRAM Graphics Card
- 17" Flat Square Color Monitor (15.6" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers with Sub-Woofer
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows 95 available)
- Adobe PhotoDeluxe, Adobe PageMill 2.0, Adobe Type Manager, Lotus SmartSuite

#S6200.....$3995

Call for business leasing price.

UmaxStation 6400

- Intel 266MHz Pentium II processor
- 128MB EDO RAM/512KB Pipeline Burst Cache
- 5GB EIDE Hard Disk Drive
- DVD Multimedia/CD-ROM Drive
- 1GB Jaz Drive, 3.5" Floppy Drive
- ELSA Gloria-L 8MB VRAM/8MB DRAM 3D Graphics Accelerator
- 19" Multi-Step Dynamic Focus Color Monitor (18" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers with Sub-Woofer
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows 95 available)
- Adobe PhotoDeluxe, Adobe PageMill 2.0, Adobe Type Manager, Lotus SmartSuite

#S6400.....$5995

Call for business leasing price.

Toll Free: 1-888-289-8629 Keycode #301

1-888-BUY-UMAX

www.umaxpc.com

GET CREATIVE

UMAX®

NT Systems for Creative Professionals

Umax understands that creative work requires a special kind of system. That's why we've drawn upon 10 years' experience to develop a new line of NT-based, Adobe-driven workstations that give designers, animators, illustrators, and production artists everything they need. The high-end **UmaxStation** models feature state-of-the-art dual Pentium II 266Mhz processors for maximum power and come bundled with Adobe's latest graphics applications. The **UmaxPC** line of value-priced systems includes many of the same graphics-ready components— Zip drives, high-end video cards, 56K modems— at very affordable prices. Whatever your plans, whatever your budget, we've got a graphics system that will inspire your creativity. These are the machines you need, from a company that knows how to build them.

HICS POWER CREATIVE PROFESSIONALS.

UmaxStation 9000

- Dual Intel 266MHz Pentium II processors
- 64MB EDO RAM/512KB Pipeline Burst Cache
- 4GB EIDE Hard Disk Drive
- DVD Multimedia/CD-ROM Drive
- 100MB Zip Drive, 3.5" Floppy Drive
- Matrox Millenium 4MB WRAM Graphics Card
- 17" Multi-Step Dynamic Focus Color Monitor (15.9" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers with Sub-Woofer
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows 95 available)
- Adobe PageMaker® 6.5, Adobe Photoshop® 4.0, Adobe Illustrator® 7.0, Adobe PageMill 2.0, Adobe Type Manager, Lotus SmartSuite

#S9000.....$4995
Call for business leasing price.

UmaxStation 9300

- Dual Intel 266MHz Pentium II processors
- 128MB EDO RAM/512KB Pipeline Burst Cache
- Adaptec® 2940 Ultra-Wide SCSI-3 Controller
- 9GB SCSI Hard Disk Drive
- DVD Multimedia/CD-ROM Drive
- 1GB Jaz Drive, 3.5" Floppy Drive
- Matrox Millenium 8MB WRAM Graphics Card
- 21" DiamondTron Color Monitor (19.7" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers with Sub-Woofer
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows 95 available)
- Adobe PageMaker 6.5, Adobe Photoshop 4.0, Adobe Illustrator 7.0, Adobe PageMill 2.0, Adobe Type Manager, Lotus SmartSuite

#S9300.....$7995
Call for business leasing price.

MMX™ intel inside pentium® II Processor

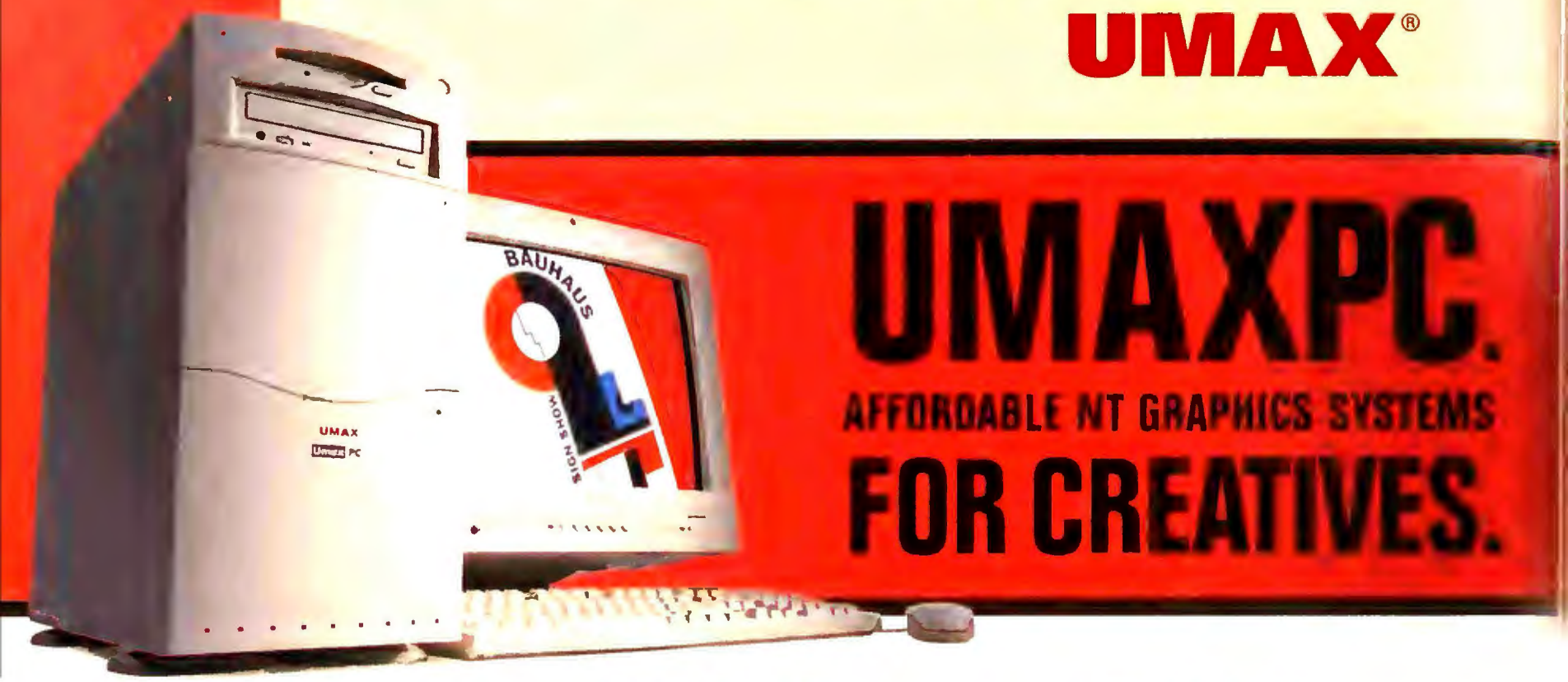
Turn the page to find out more about affordable UmaxPC systems.

1-888-BUY-UMAX

1 888 728 8629 Keycode #301

GET CREATIVE

UMAX®



UmaxPC 2000

- Intel 200MHz Pentium processor with MMX™ technology
- 32MB EDO RAM/512KB Pipeline Burst Cache
- 3GB EIDE Hard Disk Drive
- 100MB Zip Drive, 3.5" Floppy Drive
- 24X ATAPI CD-ROM Drive
- S3 ViRGE 4MB DRAM Graphics Card
- 15" Flat Square Color Monitor (13.7" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows 95 available)
- Adobe PhotoDeluxe, Adobe PageMill 2.0, Adobe Type Manager, Lotus SmartSuite

#P2000.....$1995
Call for business leasing price.

UmaxPC 2200

- Intel 200MHz Pentium processor with MMX
- 32MB EDO RAM/512KB Pipeline Burst Cache
- 4GB EIDE Hard Disk Drive
- 100MB Zip Drive, 3.5" Floppy Drive
- 24X ATAPI CD-ROM Drive
- Matrox Millenium 4MB WRAM Graphics Card
- 17" Flat Square Color Monitor (15.8" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows 95 available)
- Adobe PhotoDeluxe, Adobe PageMill 2.0, Adobe Type Manager, Lotus SmartSuite

#P2200.....$2295
Call for business leasing price.

UmaxPC 2400

- Intel 200MHz Pentium processor with MMX
- 64MB EDO RAM/512KB Pipeline Burst Cache
- 5GB EIDE Hard Disk Drive
- 100MB Zip Drive, 3.5" Floppy Drive
- 24X ATAPI CD-ROM Drive
- Matrox Millenium 4MB WRAM Graphics Card
- 19" Multi-Step Dynamic Focus Color Monitor (18" v.a.)
- 56Kbps Data & Fax Modem
- 10/100TX PCI Ethernet Card
- Creative Labs 3D Sound, Audio In/Out & Mic ports
- Amplified Stereo Speakers
- Mid-tower Case with 250W Power Supply
- EPP/ECP printer port, (2) 16550 serial ports, (2) USB ports
- PS/2 Keyboard & Microsoft IntelliMouse
- Windows NT Workstation (Windows 95 available)
- Adobe PhotoDeluxe, Adobe PageMill 2.0, Adobe Type Manager, Lotus SmartSuite

#P2400.....$2795
Call for business leasing price.

Options

for UmaxStation and UmaxPC systems:

- 17" Flat Square Color Monitor (15.6" v.a.)
- 19" Dynamic Focus Color Monitor (18" v.a.)
- 21" DiamondTron Color Monitor (19.7" v.a.)
- 4x/6x Yamaha Recordable CD-ROM
- Iomega® Jaz Drive
- Adobe Premiere® 4.0
- Adobe After Effects®
- Iomega Ditto™ 3200 Tape Drive
- Adaptec 2940UW SCSI Controller
- Yamaha Stereo Speakers with Sub-Woofer
- Extended Warranties Available

Call for latest pricing.

Ordering

To order, call 1-888-BUY-UMAX between 6 am and 6 pm (Pacific time), seven days a week. To configure and/or order your system online, visit our web site at www.umaxpc.com. We welcome payment by Visa, MasterCard, Discover, American Express, wire transfer, money order, or check. Check orders are held 5-10 days for clearing. Purchase Orders from major corporations, government offices, and educational institutions are gladly accepted.

Warranty

All UmaxPC and UmaxStation systems are backed by the Umax 30-day Moneyback Satisfaction Guarantee and are covered by a three-year limited warranty with one year of onsite service. For a complete copy of our guarantees, limited warranties, or service policies, please write to Umax Systems Sales, 3485 Kifer Road, Santa Clara, CA 95051, or visit our web site at www.umaxpc.com.

Shipping

Umax offers a variety of shipping services, ranging from UPS Groundtrack to Federal Express Priority Overnight. Please ask your salesperson for details regarding pricing and availability.

Technical Support

Technical support for UmaxPC and UmaxStation systems is available 24 hours a day, seven days a week. Additional technical support is provided by the publishers of software bundled with Umax systems. Complete information on technical support is included with each system.

Umax Technologies, Inc. is not responsible for omissions or errors in typography or photography. Prices and specifications valid in the U.S. only and subject to change without notice. All purchases are subject to availability, and are subject to Umax Technologies' current terms and conditions of sale. Prices do not include shipping and handling. 30-day money back guarantee policy does not include return freight and original shipping/handling charges, applies only to UmaxPC brand products, and begins on the date of shipment. Free scanner must be returned with system. Onsite service is provided by an independent third-party provider and may not be available in certain remote locations. *Astra 300P scanner included free until 8/15/97. The Intel Inside logo and Pentium are registered trademarks, and MMX is a trademark of Intel Corporation. MS, Microsoft, Windows, and Windows NT are registered trademarks of Microsoft Corporation. All other trademarks or registered trademarks are property of their respective companies.
© 1997 Umax Technologies, Inc.
All rights reserved.

MMX™ intel inside pentium® PROCESSOR

Toll Free: 1-888-289-8629 Keycode #301

1-888-BUY-UMAX

www.umaxpc.com

Umax Systems Sales
3485 Kifer Road, Santa Clara, CA 95051-0711

PC WORLD

TOP 100

210 Power Desktops

222 Budget Desktops

230 Notebooks

241 Printers

245 Monitors

249 Graphics Boards

251 Modems

CHIP WARS, Cheaper PCs

C-R-A-A-A-A-A-A-C-K. HEAR THAT? It's the sound of Intel's monopoly on processors beginning to buckle under pressure from competing CPU makers Advanced Micro Devices and Cyrix. The two ▶

EDITED BY REX FARRANCE AND ERIC HELLWEG

GATEWAY 2000'S G6-233: The first Pentium II-233 PC we've reviewed is a power Best Buy.

companies are ramping up production on the strongest selection of non-Intel CPUs available in years. If they can convince the big PC manufacturers to buy their processors instead of Intel's, the result may not be as dramatic as the fall of the Berlin Wall, but the ultimate impact on PC users will be far greater.

This month, five non-Intel–powered PCs appear on our Top 20 charts. These systems—including three based on AMD processors that rival the Pentium MMX-200 and MMX-166 in speed, and two that are based on Cyrix's older and slower 6x86-PR166+ chip—are just the tip of the iceberg. Next month, we will review our first AMD K6-PR233 system—from PC vendor Micro Express. Digital Equipment is the first top-tier system vendor to announce a K6-PR233 PC, and this CPU will compete head-to-head with Intel's new Pentium II. By the time you read this, Cyrix will be penetrating the power and budget categories with its 6x86MX processors (formerly code-named M2). These CPUs, initially available in 200- and 233-MHz flavors, compared well with Pentium MMX and Pentium II processors in early tests (see this month's *Top of the News*). Of course, AMD's and Cyrix's success with their new products will depend on how many of the major system vendors can be convinced to buy the new processors in large quantities.

But what's in it for you? Two things: First, the competition will force down the prices of Pentium MMX and Pentium II systems, so even if you stick solely with Intel-based PCs, you will pay less than you would if AMD and Cyrix weren't around. At the end of April, Intel slashed the price of its processors even as system manufacturers were waiting for new AMD and Cyrix CPUs to get into production. Second, it will become much easier to find really fast and loaded PCs for peanuts. For example, the new number eight system on our Budget Desktops chart this month, Micro Express's MicroFlex-K5/5166, with its AMD K5-PR166 processor, performs as fast as a Pentium-200 system and costs just $1349. If you consider only price/performance, it's the best deal on the chart.

TOP PERFORMANCE = PENTIUM II

THESE ALTERNATIVE CPUS notwithstanding, the fastest PCs on our Top 20s continue to be powered by Intel's 266-MHz Pentium II-266. And the fastest of the bunch is Dell's Dimension XPS H266—our top power desktop Best Buy for the second month in a row. At $3649, it's the third most expensive system, but it turned in an astounding PC WorldBench score of 263—more than 2½ times as fast as a Pentium-75. The chart's least expensive Pentium II is Gateway 2000's G6-233, which debuts at number four. It costs $760 less than the Dell, and you won't have to give up much speed: With a PC WorldBench score of 251, this 233-MHz Gateway is less than 5 percent slower.

The only power desktop PC based on a non-Intel CPU is Xi Computer's new K200 MTower, in 14th place. The MTower uses AMD's K6-PR200 chip; its PC WorldBench score of 227 compares with those of systems based on the Pentium MMX-200, and it's about 16 percent slower than the number one Dell.

The most common processor on the Power chart continues to be the Pentium Pro, the CPU for 7 of the 20 systems. That's a little surprising, given the faster performance of the newer Pentium II, but price cuts have kept the Pentium Pro in the game. We saw some substantial reductions last month, and this month both Dell and IBM cut the price of their Pentium Pro-200 systems by over $200. But don't expect Pentium Pros to get much cheaper; instead, with Intel's Pentium II and MMX processors selling briskly, Pentium Pro–based PCs will probably disappear from the Top 20 charts—and the market—by the end of the year.

In the coming months, the selection of powerful processors will get even more complicated. Intel will release a 300-MHz Pentium II late in the year and is expected to release a 233-MHz version of its Pentium MMX by the time you read this.

Even if your bankroll is slim, you don't have to give up performance. There are five Pentium MMX-200 systems on our Budget Desktops chart this month, and one is a Best Buy: The $2149 Dell Dimension M200a is the slowest of the five—but it still turned in a very quick PC WorldBench score of 219. Even some of the least expensive PCs on our Budget chart have impressive speed. The CyberMax Cyrix Max C3 P166+ (powered by a Cyrix 6x86-PR166+ chip) had a PC WorldBench score of 205 and is priced at only $1399. (For comparison, an average Pentium-133 PC scores about 180.)

GETTING THE BIG PICTURE

THIS MONTH we tested four new state-of-the-art notebooks from Hewlett-Packard, IBM, and Toshiba; the latter has a 13.3-inch screen. But unless you're willing to pay $5000 or more for one of these machines, don't bother looking at them—it'll only break your heart. Using a notebook with a 13.3-inch screen is sort of like having a 14-inch monitor on your lap (only a lot more comfortable). Toshiba's Tecra 740CDT was the only new portable we tested that made the Power Notebooks chart—and just barely, at number ten.

At $5899, the Tecra 740CDT is the most expensive notebook to make our chart. Nevertheless, it's a swift Pentium MMX-166 machine with an outstanding array of features, including a fast 11X CD-ROM drive. The HP and IBM models are part of a wave of new notebooks designed as no-compromise desktop replacements. Each is a speedy MMX-166 loaded with RAM, storage, and multimedia features.

Six of the notebooks on the power chart this month are based on the MMX-166. Only one MMX notebook, CTX's new $2149 EZBook, has so far cracked the Budget chart, taking fourth place. But this dearth of low-cost MMX portables could change dramatically in the next few months. Intel has announced a mobile Pentium MMX-133 CPU that could translate into cheap, fast multimedia notebooks.

A final note on notebooks: We received late word that our number one budget Best Buy, the Compaq Armada 1130T, will be discontinued by the end of August.

BIG PRINTS

IF YOU NEED to print posters or large charts on oversize stock, consider HP's DeskJet 1000C, a wide-carriage personal printer we reviewed this month. At $499, it's too expensive to make our Top 10 Printers chart, but it prints good color images on paper up to 13 by 19 inches.

We also looked at Practical Peripherals' ProClass 336 V.34, the first monitor-top modem. This $159 device saves you desk space while putting a mike and speakers in front of you, right where you want them.

Rex Farrance is a senior associate editor and Eric Hellweg a staff editor for PC World. *Assistant Editor Grace Aquino, Editorial Researcher Julie Campagna, Editorial Assistant Mick Lockey, Associate Editors Melissa Riofrio and JoAnne Robb, and freelance writers Jon Jacobi, Todd Jatras, and Dan Littman contributed to the Top 100. Testing for the Top 100 by Ulrike Diehlmann, Robert James, Elliott Kirschling, Jeffrey Kuta, Mike Salayko, and Susan Silvius. See page 14 for contact information.* ▶

YOUR GUIDE TO THE TOP 100

QUESTIONS ABOUT OUR CHARTS? The following section should answer most of them. If not, ask us; see page 14 for contact information.

How do the charts work? The Top 20 and Top 10 charts are evolving lists of the best PCs, monitors, modems, printers, and graphics boards we've tested. The Top 20 charts are divided by price. Power desktops cost $2500 or more; power notebooks cost $2750 or more. Every month we test the latest products in each category and compare them to the pool of items we've already reviewed. As new products earn places on the charts, those at the bottom drop off. Price cuts also cause chart changes.

Where do you get your prices? We estimate street prices based on vendor information and our own research, including surveys of retail outlets. We recheck all prices every month.

What does the overall rating mean? It's the sum of all our tests—both hands-on evaluations and automated speed tests. The scale is 1 to 100, so a product that scores in the 90s is generally considered exceptional, one in the 80s is among the best, one in the 70s is above average, and one that scores lower usually doesn't place.

What does the Top 20 PC WorldBench score mean? It's a measure of how fast a PC is in relation to our baseline machine, a Dell Dimension P75t configured with 8MB of RAM, a 540MB hard drive, and no secondary cache. A PC that scores 200, for instance, is twice as fast as the baseline unit.

Where do Top 20 scores for reliability, support quality, and support policies come from? The reliability and support quality scores come from readers who respond to the Reliability and Service fax-back survey in each issue of *PC World*. The policies score is based on the vendor's support policies (such as length of warranty and support hours).

What do all those word scores mean? Word scores for performance and price are based on a product's rating in relation to other products in its category. For example, a budget PC that is rated "expensive" is high-priced only compared to other budget PCs. Likewise, a power notebook rated "good" for performance is good only in relation to other power notebooks. Word scores for other categories, such as features, are relative to all desktops or all notebooks.

Where can I find the online version of the Top 100? Go to PC World Online (www.pcworld.com). There you'll find not only the current issue of *PC World* and reviews for the last 10 months, but also some extra features you'll want to check out. For example, PC World Online includes reviews you won't find in print. If a product misses a chart and we don't cover it here, you can go directly to an online review by using the URL provided in each Top 100 section.

Have you ever wished you could build your own chart based on your buying criteria? You can, with Buyer's Guide, our Web site's unique chart customizer. Buyer's Guide combines your criteria with *PC World*'s current data and test results to generate customized Top 20s and Top 10s. For instance, if you want your chart to rank notebooks that have 120-MHz processors and 1.6GB hard drives, Buyer's Guide will find and rank all the machines that fit your specifications.

PC WORLD

TOP 20 POWER DESKTOPS

	SYSTEMS	Last month	Month tested	Street price (5/9/97)	CPU	Comments
1	Dell Dimension XPS H266 800/388-8542 www.dell.com	1	July 97	$3649	Pentium II-266	Ultrafast, superb multimedia; $120 higher but with Zip drive.
2	Dell Dimension XPS M200s 800/388-8542 www.dell.com	2	Mar 97	$2579	Pentium MMX-200	High-end MMX model is faster than similarly priced Pentium Pro.
3	Dell Dimension XPS Pro200n 800/388-8542 www.dell.com	3	Jan 97	$2549	Pentium Pro-200	$230 price drop enhances value of easily upgradable PC.
4	Gateway 2000 G6-233 800/846-2000 www.gateway.com	–	NEW	$2889	Pentium II-233	Fast, loaded; Ultra-OMA hard drive, Office 97; PII-266 also good value.
5	Dell OptiPlex GXi 200 800/388-8542 www.dell.com	4	Jun 97	$3255	Pentium MMX-200	Do-it-all corporate desktop has ethernet, multimedia, and voice modem.
6	Micron Millennia Pro2 200 B 888/634-8799 www.micronpc.com	5	Feb 97	$2738	Pentium Pro-200	Fast, loaded, reasonably priced; new Gateway bumps it from top five.
7	Dell OptiPlex GX pro 200 800/388-8542 www.dell.com	8	July 97	$3749	Pentium Pro-200	Closely matches speed of number five MMX-200 OptiPlex.
8	Micron Home MPC P200 888/634-8799 www.micron.com	–	Mar 97	$2518	Pentium-200	Former budget Best Buy now has Zip drive, slightly higher price.
9	Quantex QP6/266 SM-4x 800/896-4898 www.quantex.com	9	July 97	$2899	Pentium II-266	Blazing fast, comes with very sharp screen.
10	Gateway 2000 G6-266 800/846-2000 www.gateway.com	–	NEW	$2999	Pentium II-266	Business version of last month's G6-266 M doubles RAM; no modem or sound.
11	HP Vectra VA 6/200 MT 800/322-4772 www.hp.com	10	Mar 97	$3242	Pentium Pro-200	Nice corporate PC has top reliability record, but support hours are limited.
12	HP Pavilion 7370V 800/724-6631 www.hp.com	11	May 97	$3248	Pentium MMX-200	$200 drop, nice software bundle; only one year of free tech support.
13	Quantex QP6/200 SM-4 800/896-4898 www.quantex.com	12	May 97	$2649	Pentium Pro-200	Nimble business PC saves you $250 over faster Pentium II at number nine.
14	Xi Computer Xi K200 MTower 800/432-0486 www.xicomputer.com	–	NEW	$2549	AMD K6-PR200	New, affordable AMD K6-based PC is fast, loaded; great software bundle.
15	Sys Technology Sys Performance P200T2M 800/613-9963 www.systechnology.com	13	July 97	$2657	Pentium MMX-200	Speedy; sharp monitor; components bear warranties from one to six years.
16	CLR Infinity PT5-A 200 MMX 800/611-1555 www.clrusa.com	17	Apr 97	$2629	Pentium MMX-200	Fast, inexpensive, has good support policies; relatively small monitor.
17	IBM PC 365 800/426-2968 www.pc.ibm.com	–	Mar 97	$4221	Pentium Pro-200	$254 cut puts classy business PC with rewritable optical drive back on chart.
18	Acma EXP 200 800/786-6888 www.acma.com	–	NEW	$2595	Pentium MMX-200	Affordable, plenty of performance, comes with CorelDraw; support limited.
19	Sys Technology Sys Performance Pro 200 800/613-9963 www.systechnology.com	15	Dec 96	$2849	Pentium Pro-200	Good graphics card, generic; parts warrantied from one to six years.
20	Sys Technology Sys Performance Pro 266 800/613-9963 www.systechnology.com	18	July 97	$4299	Pentium II-266	Superfast, relatively expensive; components warrantied from one to six years.

Best Buy See features chart, page 212; performance chart, page 214. Recommended as home system

[1] Insufficient data.

THREE NEW SYSTEMS BASED ON Pentium II and AMD chips duke it out on this month's Power Desktops Top 20. Of these newcomers, Gateway's $2889 G6-233, the first 233-MHz Pentium II that we've reviewed, emerged the winner, with a fourth-place Best Buy earned on the strength of terrific performance and a powerhouse configuration. We also reviewed an Intergraph Pentium II-266 PC configured for high-end corporate work and an NEC Pentium MMX-166 that's well set up for the home office. The former wasn't fast enough to land on our chart; the latter was too expensive. To read about the PCs that didn't make this month's Power chart, visit PC World Online (www.pcworld.com/t20pcsnaps).

SCORECARD

★ Overall rating	PC WorldBench score/performance	Vendor's system reliability	Features and design	Price	Vendor's support quality/policies	Reader service number
94	263/outstanding	best	outstanding	expensive	best/best	656
93	234/very good	best	very good	very inexpensive	best/best	657
93	230/very good	best	very good	very inexpensive	best/best	658
91	251/outstanding	fair	outstanding	inexpensive	best/best	659
90	226/very good	best	outstanding	average	best/best	660
88	231/very good	good	very good	inexpensive	best/best	661
87	230/very good	best	good	average	best/best	662
87	216/good	good	very good	very inexpensive	best/best	663
86	259/outstanding	fair	good	inexpensive	good/best	664
86	258/outstanding	fair	good	inexpensive	best/best	665
86	229/very good	best	very good	average	good/fair	666
82	222/very good	best	good	average	good/fair	667
82	230/very good	fair	good	inexpensive	good/best	668
81	227/very good	'	very good	very inexpensive	'/good	669
81	233/very good	'	very good	inexpensive	'/fair	670
81	229/very good	'	very good	very inexpensive	'/good	671
79	232/very good	fair	outstanding	very expensive	good/best	–
79	233/very good	'	very good	very inexpensive	'/fair	672
79	236/outstanding	'	very good	inexpensive	'/fair	673
79	262/outstanding	'	outstanding	very expensive	'/fair	674
Scorecard weightings ▶	Performance 25 percent	Reliability 25 percent	Features 20 percent	Price 15 percent	Support 15 percent	All products: 907

This Month's Best Buys

1 DELL DIMENSION XPS H266

PRO: Lightning fast, fine features, top-notch support policies and service and reliability ratings

CON: Pricey, case cover is hard to remove

If Dell's $3649 Dimension XPS H266 is any indication, the Pentium II processor deserves all the fanfare it's been getting. This terrific home-office system ran up a PC WorldBench score of 263—one of the best we've seen to date.

The Dimension XPS H266 is a high-end machine in all respects. The H266's Matrox Millennium II card, a habitué of our monthly Top 10 Graphics Boards chart, is among the first to have 8MB of video memory, which will appeal to anyone who wants to do 3-D modeling. The 17-inch monitor produces exceptionally crisp text and graphics. The fast 12X CD-ROM drive, wavetable-equipped Yamaha sound card, and Altec Lansing ACS 90 speakers with ACS2 90 subwoofer comprise a great multimedia setup.

Dell Dimension XPS H266

The H266 comes with a huge 6.4GB hard drive, plus all the communications components a home office needs, including a voice-enabled 3Com U.S. Robotics 33.6-kbps modem. And Microsoft Office Small Business Edition is in the software bundle. This is also one of a few systems to sport an Iomega Zip drive, which accepts 100MB floppy-style disks.

Our biggest complaint is the documentation, which is split into separate booklets for the main system and each peripheral. While these manuals are excellent, they'd be handier if integrated into one package. Also, though you can hand-turn a large screw to remove the minitower's side panel, pulling the panel off and putting it back on takes some finagling.

Dell's excellent reliability and service complete the picture. *PC World* readers continue to report high satisfaction with both in our ongoing fax-back survey.

2 DELL DIMENSION XPS M200S

PRO: Very fast; components, software bundle, service quality, and reliability rating are all tops

CON: Maximum RAM limited to 64MB

This Pentium MMX-200 minitower has a winning combination of speed, high-quality components, good design, and top-rated service. And its price is great: At $2579, it very nearly qualifies for our Budget chart.

With a WorldBench score of 234, this general business system is faster than most Pentium Pro PCs, and the Pentium Pro doesn't use MMX technology. The multimedia setup is great, including Altec Lansing's ACS 290 speakers with subwoofer. A 3.2GB hard drive ▶

Dell Dimension XPS M200s

TOP 20 POWER DESKTOPS — STANDARD FEATURES

	SYSTEMS	CPU	RAM (MB)	Secondary cache (K)	Hard drive (GB)	Graphics adapter	Video RAM (MB/type)	Monitor tube/ viewable diagonal (inches)	Screen pitch (mm)	CD-ROM drive speed
1	Dell Dimension XPS H266*	Pentium II-266	32	512	6.4	Matrox Millennium II	8/WRAM	17/15.9	.25	12X
2	Dell Dimension XPS M200s*	Pentium MMX-200	32	512	3.2	Matrox Millennium	4/WRAM	17/15.8	.28	12X
3	Dell Dimension XPS Pro200n*	Pentium Pro-200	32	256	3.2	Number Nine Imagine 128 II	4/VRAM	17/15.6	.28	12X
4	Gateway 2000 G6-233*	Pentium II-233	64	512	3.2	STB Virge 4MB 3D PCI	4/VRAM	17/15.9	.28	16X
5	Dell OptiPlex GXi 200*	Pentium MMX-200	32	512	3.2	Matrox Millennium	4/VRAM	17/16	.28	8X
6	Micron Millennia Pro2 200 B	Pentium Pro-200	32	256	3.1	Diamond Stealth 3D 2000	4/EDO DRAM	17/16	.26	16X
7	Dell OptiPlex GX pro 200	Pentium Pro-200	32	512	3.2	Matrox Millennium	4/WRAM	17/15.8	.28	8X
8	Micron Home MPC P200	Pentium-200	32	512	2.1	Diamond Stealth 3D/Monster	4/EDO DRAM	17/16	.26	16X
9	Quantex QP6/266 SM-4x	Pentium II-266	32	512	4.3	Matrox Millennium II	4/WRAM	17/16	.25	12X
10	Gateway 2000 G6-266	Pentium II-266	64	512	6.4	STB Virge 4MB 3D PCI	4/VRAM	17/16	.28	16X
11	HP Vectra VA 6/200 MT	Pentium Pro-200	32	256	2.5	Matrox Millennium	2/WRAM	17/15.7	.28	8X
12	HP Pavilion 7370V	Pentium MMX-200	32	256	4	integrated	2/EDO DRAM	17/15.7	.28	16X
13	Quantex QP6/200 SM-4	Pentium Pro-200	32	256	3.2	Matrox Millennium	4/WRAM	17/16	.26	12X
14	Xi Computer Xi K200 MTower	AMD K6-PR200	32	512	5.1	STB Nitro 3D	4/EDO DRAM	17/16.1	.26	16X
15	Sys Technology Sys Performance P200T2M	Pentium MMX-200	32	512	3.2	Diamond Stealth 3D 3000	4/VRAM	17/15.8	.26	12X
16	CLR Infinity PT5-A 200 MMX	Pentium MMX-200	32	512	3.2	Number Nine Imagine 128	4/VRAM	15/13.7	.28	12X
17	IBM PC 365	Pentium Pro-200	32	256	2.1	Matrox Millennium	4/WRAM	17/15.7	.28	6X
18	Acma EXP 200	Pentium MMX-200	32	512	3.2	Matrox Millennium	4/WRAM	17/15.9	.25	12X
19	Sys Technology Sys Performance Pro 200	Pentium Pro-200	32	256	2.5	Matrox Millennium	2/WRAM	17/15.8	.26	12X
20	Sys Technology Sys Performance Pro 266	Pentium II-266	32	512	4.3	Matrox Millennium	4/WRAM	17/15.8	.28	12X

* Best Buy [1] Download only, uploads at 33.6-kbps; uses U.S. Robotics' x2 technology. [2] Five years on CPU and main RAM, three years on other parts. [3] Toll call. [4] First year.

provides ample storage. Communications are handled by a 3Com USR 33.6-kbps voice-enabled modem and Vocal Point voice/fax/data software. Microsoft Office Professional also comes bundled with the M200s. The system's 4MB Matrox Millennium card, while not a high-end, workstation-class board, is excellent for general graphics chores. Keep in mind that the M200s is limited to 64MB of system memory—only half the amount most PCs can take. Users of programs such as Photoshop and other demanding graphics software would be better off with the Dimension XPS Pro200n.

The case opens with just the turn of a thumbscrew, though the side panel can be a bit sticky. The interior is impeccably clean, with plenty of free slots and bays.

Dell's system documentation is thorough and easy to understand, and the company's support policies are extensive, although its labor warranty recently dropped from three years to one. Dell's system reliability rates among the best, according to *PC World* readers.

3 DELL DIMENSION XPS PRO200N

PRO: Very fast, has both top reliability rating and excellent support

CON: None significant

A $230 price cut this month makes the $2549 XPS Pro200n an even better choice for a Windows NT workstation. The price includes a Pentium Pro-200 processor and a high-end graphics card—the Number Nine Imagine 128 II—plus 256K of secondary cache.

The Pro200n uses the same minitower case as the number two M200s. The CD-ROM drive is at the top of the front panel, making it easily accessible. The interior is roomy, and the four free slots and four free bays are easy to get to.

The support policies for this system mirror those of its XPS M200s sibling: You get a three-year parts warranty and one year of coverage for labor, along with round-the-clock toll-free support that garners a great rating in our fax-back surveys. Our readers also give Dell consistently excellent ratings for system reliability.

Dell XPS Pro200n

		EXPANDABILITY					CUSTOMER SUPPORT			
Modem speed (kbps)	Sound board	Case style	Max. RAM (MB)	Maximum secondary cache (K)	Open RAM sockets	Open drive bays (ext./int.)	Open slots	Warranty for parts/labor (years)	Weekday toll-free support (hours)	Weekend support	Online support
33.6	integrated Yamaha OPL3-Sax	minitower	128	512	2	2/1	4	3/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	integrated Vibra 16	minitower	64	512	1	2/1	3	3/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	Sound Blaster AWE 32	minitower	128	256	2	3/1	4	3/1	24	Sat., Sun.	BBS, CIS, WWW
56 [1]	Ensoniq Audio PCI Wavetable	minitower	256	512	2	3/2	4	3/3	24	Sat., Sun.	AOL, BBS, CIS, MSN, WWW
33.6	integrated Vibra	desktop	512	512	3	1/0	3	3/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	integrated Sound Blaster 32	minitower	512	512	3	3/0	4	3 [2]/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	Creative Labs Vibra 16	desktop	512	512	3	1/1	3	3/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	Sound Blaster AWE 32	minitower	128	512	2	3/1	3	3 [2]/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	integrated Yamaha OPL3-Sax	tower	128	512	0	3/3	4	3/1	24	Sat., Sun.	BBS, WWW
–	–	minitower	128	512	2	2/2	5	3/3	24	Sat., Sun.	AOL, BBS, CIS, MSN, WWW
–	Sound Blaster PnP	minitower	192	256	4	2/1	4	3/3	11 [3]	–	AOL, BBS, CIS, WWW
33.6	integrated Yamaha	minitower	128	256	2	2/2	5	1/1	24 [3]	Sat., Sun.	AOL, BBS, CIS, WWW
33.6	Ensoniq Soundscape Vivo-90	minitower	128	256	0	3/3	4	3/1	24	Sat., Sun.	BBS, WWW
33.6	Addonics Soundvision 510	minitower	128	512	7	4/1	4	3/3	11.5	Sat.	WWW
33.6	Sound Blaster 32	minitower	512	512	4	3/2	4	varies	24 [4]	Sat., Sun.	–
28.8	Sound Blaster AWE 32	minitower	256	512	2	2/0	5	3/3	12	Sat.	WWW
–	–	desktop	512	256	3	0/1	3	3/3	24	Sat., Sun.	AOL, BBS, CIS, WWW
33.6	integrated	minitower	128	512	2	1/1	4	3/1	10	–	BBS, WWW
33.6	Sound Blaster 32 PnP	minitower	128	512	2	3/1	4	varies	24 [4]	Sat., Sun.	–
33.6	Sound Blaster 32 PnP	minitower	512	512	4	3/2	2	varies	24 [4]	Sat., Sun.	–

4 GATEWAY 2000 G6-233

PRO: Fast, excellent documentation, nice design

CON: Drive bays can be tough to access

If the jury is out on how well the Pentium II-233 will do compared with the new Pentium MMX-233 PCs we're reviewing next month, the Gateway 2000 G6-233 leaves no question about its value: It's clearly an outstanding deal. This blazingly fast Pentium II-233 minitower costs only $2889. The first 233-MHz Pentium II we've reviewed in the Top 20, it was nearly as fast as 266-MHz PCs we tested, yet it costs almost $600 less than the average Pentium II-266 system we've looked at to date. With 64MB of EDO RAM and 512K of cache, the G6-233 scored 251 on our PC WorldBench performance tests—about 4 percent behind the average score for PCs with a Pentium II-266. The G6-233 is a sturdy, stylish multimedia system that's suitable for power home and business use.

Our test system came with a 16-bit Ensoniq Audio PCI Wavetable sound card, Altec Lansing speakers with a subwoofer, and an STB Virge 4MB 3D PCI graphics card. Gateway adds another first, a 3.2MB Ultra-DMA hard drive, which doubles the top data transfer rate. The company also includes a 56-kbps x2 modem for fast data communications.

Gateway 2000 G6-233

The system looks unusual: Soft edges and a slight "billowing" effect lend some grace to this minitower. The large thumbscrews make getting inside the case for repairs or upgrades very easy. We also like the use of color-coded I/O ports.

Our unit had plenty of expansion room, and the cables were all neatly bundled. The drawbacks were minor: We had to unscrew thumbscrews on the case's right side panel to remove the drive cages, and the hard drive already occupies the most accessible of the internal drive bays.

Gateway's documentation is great, as always—complete, clear, and easy to read.

Readers rank Gateway's system reliability as only fair, but they also rate support quality as top-notch. You get three-year parts and labor warranties and round-the-clock toll-free tech support. ▶

5 DELL OPTIPLEX GXI 200

PRO: Fast; above-average service, support, and system reliability

CON: Expensive, limited expandability

Like all OptiPlex models, this $3255 MMX-200 desktop isn't for the faint of budget: It costs $676 more than the number two Dimension XPS M200s. But it has everything you need in a high-end corporate machine—snappy performance, bountiful storage, built-in networking, and great support. The Dell D1728D-LS monitor isn't Dell's top 17-inch model; for an extra $100, you can move up to a 17HS Trinitron, which displays even sharper text and provides more on-screen controls.

The GXi 200 is particularly well designed. Expansion slots sit on a daughtercard above the motherboard; we found plugging cards into them as painless as it gets. Our only beefs: With just one available external drive bay, one free 32-bit slot, and two 16-bit slots, the expansion options are a bit tight.

Dell OptiPlex GXi 200

As with all OptiPlexes, support is great. Dell backs the GXi with a three-year warranty on parts and one year on labor. ▶

TOP 20 POWER DESKTOPS

PERFORMANCE

	SYSTEMS	CPU	RAM (MB)	Secondary cache (K)	PC WorldBench score
1	Dell Dimension XPS H266*	Pentium II-266	32	512	263
2	Dell Dimension XPS M200s*	Pentium MMX-200	32	512	234
3	Dell Dimension XPS Pro200n*	Pentium Pro-200	32	256	230
4	Gateway 2000 G6-233*	Pentium II-233	64	512	251
5	Dell OptiPlex GXi 200*	Pentium MMX-200	32	512	226
6	Micron Millennia Pro2 200 B	Pentium Pro-200	32	256	231
7	Dell OptiPlex GX pro 200	Pentium Pro-200	32	512	230
8	Micron Home MPC P200	Pentium-200	32	512	216
9	Quantex QP6/266 SM-4x	Pentium II-266	32	512	259
10	Gateway 2000 G6-266	Pentium II-266	64	512	258
11	HP Vectra VA 6/200 MT	Pentium Pro-200	32	256	229
12	HP Pavilion 7370V	Pentium MMX-200	32	256	222
13	Quantex QP6/200 SM-4	Pentium Pro-200	32	256	230
14	Xi Computer Xi K200 MTower	AMD K6-PR200	32	512	227
15	Sys Technology Sys Performance P200T2M	Pentium MMX-200	32	512	233
16	CLR Infinity PT5-A 200 MMX	Pentium MMX-200	32	512	229
17	IBM PC 365	Pentium Pro-200	32	256	232
18	Acma EXP 200	Pentium MMX-200	32	512	233
19	Sys Technology Sys Performance Pro 200	Pentium Pro-200	32	256	236
20	Sys Technology Sys Performance Pro 266	Pentium II-266	32	512	262

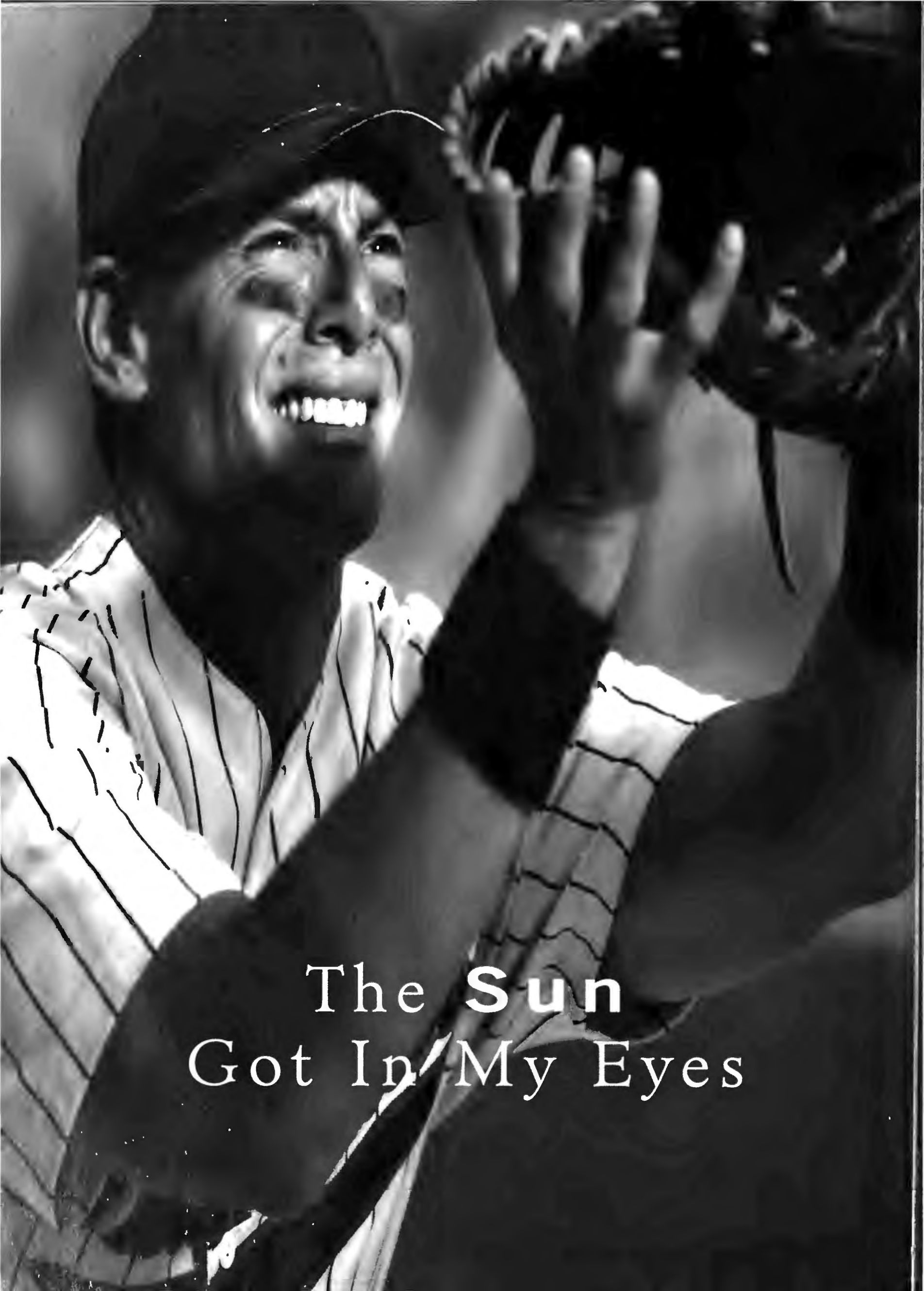
*Best Buy

Word 7.0 for Windows 95 · Picture Publisher 6.0 for Windows 95 · WordPerfect 6.1 for Windows
Excel 7.0 for Windows 95 · Paradox 5.0 for Windows · 1-2-3 release 5 for Windows

HOW WE TEST All systems are tested with PC WorldBench, PC World's application-based benchmark. A higher PC WorldBench score is better. All PCs have Windows 95, and video resolution is set to 800 by 600 in 256 colors. We run automated scripts on six popular business applications, performing common tasks such as spelling checks, scrolls, saves, sorts, and recalculations. The PC WorldBench score is a sum of the weighted result of each script: Word (25 percent), Excel (20 percent), Picture Publisher (15 percent), Paradox (15 percent), WordPerfect (15 percent), and 1-2-3 (10 percent). For more details on our benchmark and how we run it, see PC World Online (www.pcworld.com/testing).

HYUNDAI'S CRITICALLY ACCLAIMED DELUXSCAN 17" (15.8"V) AND 15" (13.8"V) COLOR MONITORS PUT EVERYTHING IN PERSPECTIVE. WITH HIGH RESOLUTION IMAGES AT FLICKER-FREE REFRESH RATES, ON-SCREEN DIGITAL CONTROLS, NON-GLARE/ANTI-STATIC, DARK TINT, FLAT-SQUARE SCREENS, A FULL 3 YEAR WARRANTY AND A VERY VIBRANT DISPLAY—HYUNDAI MONITORS REMIND YOU EVERYDAY THAT LIFE IS BRILLIANT WHEN YOU SEE THINGS CLEARLY. FOR MORE PRODUCT INFORMATION CALL 800.568.0060.

Circle 110 on reader service card


The Sun
Got In My Eyes

No Excuses

That's the whole idea behind our reliable new workgroup printers — the Fujitsu PrintPartner® 10V and PrintPartner 14AV.

Two exceptional printers designed to set new standards for price, performance and reliability.

PrintPartner 14AV*

PrintPartner 10V

Here's where the No Excuses℠ part comes in. Fujitsu backs each printer with an industry leading one-year warranty, so in the unlikely event of a breakdown, your printer will be replaced within two business days.

No Excuses.

And as you might expect, coming from Fujitsu — the world's second largest computer company — these new workgroup printers have the speed and performance you want. And the price? Let's just say there's no excuse to own anything else.

For the PrintPartner reseller nearest you, call 1-888-561-2035.

Get $200 cash back when you buy a Fujitsu PrintPartner® 14AV printer, (or $100 when you buy a PrintPartner® 10V — see details below.)

FUJITSU

$200 Mail-In Rebate

With the purchase of a Fujitsu PrintPartner® 14AV printer. ($100 rebate with purchase of Fujitsu PrintPartner 10V printer.) Just send this completed coupon along with the original UPC symbol from the printer carton and your original dated sales receipt for a mail-in rebate.

Mail claim to:
PrintPartner® Rebate Offer
2904 Orchard Parkway
San Jose, CA 95134-2009

Name/Title: _____
Company: _____
Address: _____
City: _____ *State:* _____ *Zip:* _____
Phone: _____ *e-mail:* _____

Printer model purchased:
☐ *PrintPartner 14AV*
☐ *PrintPartner 10V*

Additional Terms & Conditions:
1. *Offer good in US only. Rebate in US Dollars only.*
2. *Purchases must be made and sales receipts must be dated between June 1, 1997 and August 31, 1997.*
3. *Requests for rebate must be received by September 30, 1997.*
4. *Customers must send in: original UPC symbol from PrintPartner packaging, original sales receipt, completed coupon.*
5. *Only original sales receipt accepted. Customers can request return of sales receipt by including a note and a stamped self-addressed envelope with their rebate request.*
6. *Void where prohibited or restricted by law.*
7. *Limit one (1) rebate per customer.*
8. *Proof of mailing does not constitute proof of delivery. Fujitsu is not responsible for lost, late, illegible or incomplete orders or postage-due, damaged or separated mail.*
9. *Not eligible: Fujitsu Computer Products employees, agencies, distributors or resellers.*
10. *Fraudulent submission of requests could result in federal prosecution under mail fraud statutes.*
11. *Not valid with any other offer.*
12. *Allow 6-8 weeks for delivery of refund check.*
13. *Offer expires August 31, 1997.*
14. *Offer good only on PrintPartner 10V and PrintPartner 14AV printers.*
15. *Fujitsu Computer Products of America, Inc. reserves the right to cancel this offer at any time.*

©1997 Fujitsu. All rights reserved.

Download your free No Excuses Screensaver at www.fcpa.com.

*©1997, Fujitsu Computer Products of America, Inc. All rights reserved. No Excuses is a service mark of Fujitsu Computer Products of America, Inc. All other trademarks are the property of their respective companies. *Shown with optional second 500-sheet paper tray.*

New This Month

The following PCs made our Power Desktops chart for the first time this month. For original reviews of previously tested PCs on the chart, visit our Web page (www.pcworld.com/t20pcs).

10 GATEWAY 2000 G6-266

PRO: Fast; solid construction, relatively inexpensive, terrific documentation

CON: Sound card, modem are extra

Gateway 2000's G6-266—one of the vendor's corporate PCs—is basically the same as the G6-266 M reviewed last month, but without modem, sound, or speakers. At $2999, it costs $110 more than the multimedia- and communications-ready G6-233 at number four, and with a PC WorldBench rating of 258, it's only about 3 percent faster. Compared with other Pentium II-266s we've reviewed so far, however, it is still a good deal.

Gateway 2000 G6-266

Our test unit came with 64MB of RAM; a fast, cavernous 6.4GB Ultra-DMA hard drive; and a 17-inch CrystalScan monitor (not as good as Gateway's Vivitron 700, which adds only $100 to the price). The graphics adapter is an STB Virge with 4MB of VRAM.

As with the Gateway G6-233 reviewed above, the G6-266 is sturdy and cleanly designed, inside and out—and the documentation and warranty are every bit as good. Toll-free tech support is available 24 hours a day. Gateway's support is rated as among the best available by readers in our fax-back survey, but its system reliability is ranked only fair.

14 XI COMPUTER XI K200 MTOWER

PRO: Clean design, big hard drive, low price

CON: Limited support, meager documentation

For a low $2549, Xi Computer's Xi K200 MTower delivers impressive speed, plenty of memory and storage, and a nice video and sound system. The box may be generic, but its contents aren't. AMD's new K6-PR200 processor kicks this system along to a PC WorldBench score of 227—comparable to some Pentium MMX-200s, though a similarly configured AMD K6-200 system from Sys Technology scored 238. The STB Nitro 3D video card with 4MB of EDO DRAM matches up well with the OptiQuest V773 monitor to deliver a good picture. The Altec Lansing ACS 45 speakers add a subwoofer to enhance the low end, and the Addonics Soundvision 510 16-bit sound card does a fair job of delivering audio. A 16X CD-ROM drive from Hitachi and a 33.6-kbps U.S. Robotics Sportster Voice 33.6 fax-modem (software-upgradable to 56 kbps) round out the system.

XI Computer XI K200

Even with all the multimedia extras, there's plenty of room for more peripherals and storage. The interior is tailor-made for expansion: Cards and memory sockets are easy to reach, with no clutter in the way.

Unfortunately, the documentation is another story. It's too technical and generic, and it consists of Windows 95 documents, vendor-supplied manuals for the peripherals, and sparse setup instructions. Xi's support policies aren't bad, with three-year parts and labor coverage, toll-free tech support available 11.5 hours every day except Sundays, and free on-site service for the first year.

18 ACMA EXP 200

PRO: Nice performance, very tidy interior

CON: Scant software bundle, no weekend support

Don't be fooled by the nondescript beige casing of the Acma EXP 200. Inside the unit are all the components you'll need for speed and multimedia. This $2595 minitower performed well in our tests with a PC WorldBench score of 233, which puts it on a par with the average of the Pentium MMX-200 machines that we've tested. Its software bundle, however, is on the skimpy side.

Acma's latest system comes well equipped for a small office or home office, with 32MB of RAM and a 3.2GB hard drive. Its Matrox Millennium graphics card—one of the best in its class—offers 4MB of fast WRAM and drives 3-D images to the system's 17-inch monitor, which displays them brilliantly. The monitor also has an on-screen menu that makes adjustments a breeze. Other multimedia perks include a first-rate 33.6-kbps U.S. Robotics modem (a perennial contender on our Top 10 Modems chart), a 12X CD-ROM drive, and speakers. The machine's slim software bundle includes Kodak Colorific and the excellent CorelDraw 4, but that's about it. We'd like to see more bundled software with a system that's so geared toward multimedia use.

The EXP 200's chassis flexes a little bit, although it's sturdy with the cover on, and its thumbscrews make for easy removal for upgrades and servicing. The keys have a slightly mushy feel.

The interior of this computer is exceptionally tidy. The cables are neatly tucked away, so you have easy access to the two free PCI slots, one shared PCI/ISA slot, and one free ISA slot. For memory upgrades, two SIMM sockets are also available, and are easy to get to. The unit is a little stingy on drive bay space, however, with just two bays available. On the back of the machine, you'll find the I/O ports clearly labeled.

There's room for improvement in service and support. For instance, while Acma provides a three-year parts and one-year labor warranty, it gives short shrift to answering technical questions. Tech support is available for only 10 hours each weekday. That might not bother you if you have a system expert on your site, but it's sure to confound home users and novices. The user manual is also below par, covering only basic setup instructions. ▶

Acma EXP 200

Beyond the Top 20

We evaluated these systems along with the others, but they didn't score high enough to reach the Top 20 Power Desktops chart. For write-ups, see PC World Online (www.pcworld.com/t20pcsnaps).

- **Intergraph TD-225**
- **NEC Ready Office 1715**
- **Total Peripherals Archer 2000A**

We care about every pent-up, angst-filled word she can muster as much as she does.

Sloth. Greed. Gluttony. Love. Whatever musings she gives voice to, we care about them—enough to give her the most reliable drives possible. Because it's where she keeps her life and writings. It's where she feeds her art, unfettered. And whether her ideas are sheer genius or drivel, she doesn't have to worry about them because Western Digital drives also happen to be the world's most recommended hard drives. We offer a whole line of high-quality Enhanced IDE and SCSI drives. So even if you don't relate to things like depth and range, alliteration, metaphor or metonymy, your information can still be saved in a customized, secure, accessible place. Just visit our website at www.wdc.com/life or call 1-888-4WD-DRIVE(493-3748), extension 111.

©1997 Western Digital Corporation.

PUT YOUR LIFE ON IT.™

Western Digital

Circle 251 on reader service card

MICRON™ VETIX™ 2MXI

Dual Intel® 200MHz Pentium® Pro processors
256MB ECC EDO RAM
Five 4GB Ultra-Wide SCSI-3 hard drives (20GB total)

STANDARD FEATURES

512KB integrated L2 cache
Mylex dual channel Ultra SCSI-3 RAID caching controller with 4MB RAM
Dual Pentium Pro ZIF sockets
Memory upgradable to 1GB (8 DIMM slots)
8 open expansion slots: 5 PCI, 2 ISA, 1 shared ISA/PCI
Integrated Adaptec PCI Ultra-Wide SCSI-3 controller
Integrated Intel EtherExpress™ Pro 100 controller
Integrated SVGA graphics
12X variable speed SCSI CD-ROM drive, 3.5" floppy drive
5 internal, hot-swappable, hard drive array bays (upgradable to 10)
3 external 5.25" media bays
1 (one) 330 watt power supply standard
(upgradable to 3 for added redundancy)
Microsoft® Mouse, 104-key keyboard
Microsoft Windows NT® Server 4.0 (10-user license)
Intel LANDesk Server Manager 2.52
Integrated hardware instrumentation
Dedicated server technical support, 7x24
5-year/3-year Micron Power℠ limited warranty
1-year next-business-day on-site service*
NOS Support (3 incident resolutions/ 1st year), 7x24

$13,499

MICRON VETIX MXI

Intel 200MHz Pentium Pro processor
128MB ECC EDO RAM
Three 4GB Ultra-Wide SCSI-3 hard drives (12GB total)

STANDARD FEATURES

256KB integrated L2 cache
Dual Pentium Pro ZIF sockets
Memory upgradable to 1GB (8 DIMM slots)
8 open expansion slots: 5 PCI, 2 ISA, 1 shared ISA/PCI
Integrated Adaptec PCI Ultra-Wide SCSI-3 controller
Integrated Intel EtherExpress Pro 100 controller
Integrated SVGA graphics
12X variable speed SCSI CD-ROM drive
3.5" floppy drive
5 internal, hot-swappable, hard drive array bays (upgradable to 10)
3 external 5.25" media bays
1 (one) 330 watt power supply standard
(upgradable to 3 for added redundancy)
Microsoft Mouse, 104-key keyboard
Microsoft Windows NT Server 4.0 (10-user license)
Intel LANDesk Server Manager 2.52
Integrated hardware instrumentation
Dedicated server technical support, 7x24
5-year/3-year Micron Power limited warranty
1-year next-business-day on-site service*
NOS Support (3 incident resolutions/ 1st year), 7x24

$7,999

MICRON VETIX LXI-N

Intel 200MHz Pentium Pro processor
32MB ECC EDO RAM
2GB Ultra-Wide SCSI-3 hard drive

STANDARD FEATURES

Dual Pentium Pro ZIF sockets
256KB integrated L2 cache
Memory upgradable to 1GB (8 DIMM slots)
8 open expansion slots: 5 PCI, 2 ISA, 1 shared ISA/PCI
Integrated Adaptec PCI Ultra-Wide SCSI-3 controller
Integrated Intel EtherExpress Pro 100 controller
Integrated SVGA graphics
12X SCSI-2 CD-ROM drive
3.5" floppy drive
9 drive bays: 6 internal 3.5", 3 external 5.25"
Microsoft Mouse, 104-key keyboard
Integrated hardware instrumentation
Dedicated server technical support, 7x24
5-year/3-year Micron Power limited warranty
1-year next-business-day on-site service*

$2,99

On-site service for the Micron Vetix is provided by Digital Equipment Corporation and its affiliates.

INTERNET OPTIONS

3Com OfficeConnect Hub 8/TPC	$149	Sony 4/8GB SCSI DDS-2 tape backup drive with tape and software	$899	Novell IntranetWare 4.11 (5-user license, for Vetix LXI-N only)	$6
3Com OfficeConnect Switch 140	$969				
APC Smart-UPS 700 with PowerChute plus software	$389	Seagate Backup Exec	$249		

intel inside
PENTIUM PRO PROCESSOR

Powerful Pair.

MICRON CLIENTPRO™ MTE

Intel 166MHz Pentium processor with MMX™ technology
16MB EDO RAM
1.6GB SMART EIDE hard drive
15" Micron 15FGx, .28dp (13.7" display)

STANDARD FEATURES

512KB pipeline burst cache, flash BIOS, DMI Support
3.5" floppy drive
3Com 3C905 network adapter
Integrated S3 ViRGE/DX graphics
w/ accelerator, 2MB EDO RAM
Integrated wavetable sound
Tool-free minitower or desktop
Microsoft Intellimouse,™ 104-key keyboard
Microsoft Windows® 95
Intel LANDesk Client Manager
3-year/3-year Micron Power limited warranty

$1,599

MICRON POWER WARRANTY

Micron Sales Hrs Mon-Fri 6am-10pm, Sat 7am-5pm MT. Technical Support Available 24 Hours A Day 7 Days A Week · Toll free from Mexico 95 800-708-1755 · Toll free from Canada 800-708 1758 · Toll free from Puerto Rico: 800 708 1756 · International Sales 208-893-8970 International Fax 208 893 7393

Microsoft Windows 95

Call now to order.
800-421-8942
www.micronpc.com

MICRON ELECTRONICS ™

CONFIGURED FOR YOUR LIFE

Circle 149 on reader service card

PC WORLD TOP 20 BUDGET DESKTOPS

	SYSTEMS	Last month	Month tested	Street price (5/9/97)	CPU	Comments
1	Dell Dimension XPS M166s 800/388-8542 www.dell.com	1	July 97	$2279	Pentium MMX-166	Speedy, very big hard drive, good graphics, fast modem, top reliability rating.
2	Dell Dimension M200a 800/388-8542 www.dell.com	3	June 97	$2149	Pentium MMX-200	Quick, well-rounded, with top reliability and service ratings.
3	Gateway 2000 G5-166 M 800/846-2000 www.gw2K.com	–	NEW	$1779	Pentium MMX-166	Fast, affordable, fast modem, full multimedia; spring for a better monitor.
4	IBM PC 350 (Pentium-166) 800/426-2968 www.pc.ibm.com	7	Dec 96	$1715	Pentium-166	$277 drop, great networking features on corporate PC; slow CD-ROM drive.
5	Dell OptiPlex Gs+166 800/388-8542 www.dell.com	4	June 97	$2018	Pentium-166	Attractively priced corporate PC with standard Pentium.
6	Quantex QP5/166 SM-3 800/896-4898 www.quantex.com	–	NEW	$1899	Pentium MMX-166	Quick for Pentium MMX-166, full multimedia, good graphics, 33.6-kbps modem.
7	HP Pavilion 5320 800/724-6631 www.hp.com	10	June 97	$1848	Pentium-150	High reliability rating, comes with good software bundle; on slow side.
8	Micro Express MicroFlex-K5/5166 800/989-9900 www.microexpress.net	–	NEW	$1349	AMD K5-PR166	Long warranty, great price; except for monitor, mostly generic components.
9	Midwest Micro MWH-200 800/728-8582 www.mwmicro.com	12	Feb 97	$1889	Pentium-200	$140 price cut this month, full multimedia, 33.6-kbps modem.
10	Micro Express MicroFlex-PCI/5166 800/989-9900 www.microexpress.net	–	Dec 96	$1699	Pentium-166	Quick for a P-166, good graphics card and monitor, long warranty; no apps.
11	Quantex QP6/200 PD-4 800/896-4898 www.quantex.com	–	Feb 97	$2459	Pentium Pro-200	Fastest on chart, comes with good modem and load of software; pricey.
12	HP Vectra VE 5/133 800/322-4772 www.hp.com	11	Dec 96	$1705	Pentium-133	Corporate PC with nice touches; Unified Memory Architecture slows it down.
13	CyberMax Cyrix Max C3 P166+ 800/437-4956 www.cybmax.com	14	Feb 97	$1399	Cx6x86-PR166+	$100 price drop, full multimedia, 33.6-kbps modem; support hours limited.
14	Polywell Poly 5000X 800/999-1278 www.polywell.com	18	June 97	$1598	AMD K5-PR166	P-200 zip for peanuts, home software, full multimedia, good warranty.
15	Kingdom 6x86 P166+ Super Value 800/385-3436 www.kingdomcomputers.com	13	May 97	$1297	Cx6x86-PR166+	Least expensive here, reasonably fast, has 16X CD-ROM drive but no modem.
16	Quantex QP5/200 M-4 800/896-4898 www.quantex.com	–	June 97	$2349	Pentium MMX-200	Speedy, nice software bundle, full multimedia, fast modem; pricey.
17	Kingdom Pentium MMX 200 Home & Office 800/385-3436 www.kingdomcomputers.com	–	July 97	$2297	Pentium MMX-200	$100 price cut, second fastest on chart, full multimedia, 33.6-kbps modem.
18	ProGen Atlas X 200 888/776-9595 www.progen.com	–	NEW	$1999	Pentium MMX-200	Terrific speed, affordable, has it all, including speakers, subwoofer.
19	CyberMax Max I6/P200MMX 800/443-9896 www.cybmax.com	16	July 97	$2199	Pentium MMX-200	Very fast, full multimedia, 33.6-kbps modem, very large hard drive.
20	DirectWave P133 MVP Pro 800/882-8108 www.directwave.com	17	Oct 96	$1549	Pentium-133	One of faster Pentium-133s we've tested, full multimedia, well built.

Best Buy See features chart, page 224; performance chart, page 226. Recommended as home system

[1] Insufficient data. [2] Limited data; score is based on responses for this company and average of all companies.

THE BUDGET CHART IS THE LAST bastion of the standard (non-MMX) Pentium. This month the Pentium-166 version of IBM's business PC, the PC 350, rode a big price drop of $277 to a number four Best Buy. But if you want one, act soon: Plain old Pentium machines won't be available much longer. Of ten systems that didn't make the chart, the AMD K6-PR200–based Sys Technology Sys Performance 200K6 had the most impressive speed, but a fairly high price kept it off the list. We also reviewed new AST Pentium MMX-166 and DTK Pentium MMX-200 models. For more on these and other systems that didn't make the Budget Top 20, visit PC World Online (www.pcworld.com/t20pcsnaps).

SCORECARD

★ Overall rating	Price	Vendor's system reliability	Features and design	PC WorldBench score/performance	Vendor's support quality/policies	Reader service number
86	expensive	best	very good	223/very good	best/best	675
85	average	best	very good	219/very good	best/best	676
82	inexpensive	fair	very good	213/very good	best/best	677
82	inexpensive	fair	outstanding	197/good	good/best	–
80	average	best	satisfactory	198/good	best/best	678
80	average	fair	very good	218/very good	good/best	679
79	average	best	good	180/good	good/fair	680
79	very inexpensive	[1]	good	208/good	[1]/best	681
79	average	fair [2]	very good	210/very good	good [2]/fair	682
78	inexpensive	[1]	good	212/very good	[1]/best	683
78	expensive	fair	very good	235/outstanding	good/best	684
78	inexpensive	best	good	166/satisfactory	good/fair	685
78	very inexpensive	[1]	good	205/good	[1]/good	686
77	inexpensive	[1]	good	213/very good	[1]/best	687
77	very inexpensive	[1]	good	197/good	[1]/good	688
76	expensive	fair	very good	221/very good	good/best	689
76	expensive	[1]	outstanding	233/outstanding	[1]/good	690
76	average	[1]	very good	232/outstanding	[1]/fair	691
76	expensive	[1]	very good	230/very good	[1]/good	692
76	inexpensive	[1]	very good	194/good	[1]/best	693
Scorecard weightings ▶	Price 25 percent	Reliability 25 percent	Features 20 percent	Performance 15 percent	Support 15 percent	All products: 908

This Month's Best Buys

1 DELL DIMENSION XPS M166S

PRO: Terrific speed, great reliability and support

CON: Relatively high price

If you're shopping for a home office system that gives you the most for your money, put the XPS M166s on your short list. It's superfast (its PC WorldBench score is 223), comes with a set of components that reads like a Who's Who of our Top 10 charts, and is backed by excellent support. No PC is without its weak points, but this has only one: a relatively high $2279 price.

Using a less expensive graphics board is one way that Dell could have cut the cost—the 15-inch monitor is too small to take full advantage of the ultrahigh resolutions possible with the 4MB Matrox Millennium graphics card. Even so, the XPS M166s is a superb deal.

Dell Dimension XPS M166s

It comes with a spacious 4.3GB hard drive and a 33.6-kbps 3Com USR Sportster Voice modem, one of the more highly rated modems *PC World* has tested.

Its software bundle makes this PC a nice choice for a small business or home office. Besides the Vocal Point communications package, Dell includes Microsoft Office Small Business Edition. Dell's Dimension PCs are backed by a three-year warranty on parts and one year of free labor; toll-free support is available 24 hours a day. The company continues to earn top marks for service and system reliability in our reader fax-back surveys.

2 DELL DIMENSION M200A

PRO: Excellent support, a lot for the money

CON: Slow for an MMX-200, monitor a little dull

With a PC WorldBench score of 219, this MMX-200 minitower is only slightly faster than the average MMX-166 system. But at $2149, this lively home PC is $400 less than the average system in its CPU class, and it comes with an appealing set of components: a roomy 2.1GB hard drive, a 12X CD-ROM drive, a 33.6-kbps voice modem, and Microsoft Office Small Business Edition. Unfortunately, the 15-inch LS monitor that came with our test unit is not Dell's best; the picture lacks sharpness. It's worth the extra $175 to get Dell's basic 17-inch monitor.

Dell Dimension M200a

The M200a's clean interior makes it easy to upgrade. We also reviewed the Dimension M166a, an MMX-166 version of this system that sells for $1743 and includes the Microsoft Office Small Business Edition suite; it, too, is a good value.

Dell's documentation is complete with illustrations, index, and glossary. We just wish it were integrated into one book. ▶

TOP 20 BUDGET DESKTOPS

STANDARD FEATURES

	SYSTEMS	CPU	RAM (MB)	Secondary cache (K)	Hard drive (GB)	Graphics adapter	Video RAM (MB/type)	Monitor tube/ viewable diagonal (inches)	Screen pitch (mm)	CD-ROM drive speed
1	Dell Dimension XPS M166s*	Pentium MMX-166	32	512	4.3	Matrox Millennium	4/WRAM	15/13.8	.28	12X
2	Dell Dimension M200a*	Pentium MMX-200	16	256	2.1	integrated	2/DRAM	15/13.6	.28	12X
3	Gateway 2000 G5-166 M*	Pentium MMX-166	16	256	1.3	integrated	2/EDO DRAM	17/16	.28	16X
4	IBM PC 350 (Pentium-166)*	Pentium-166	16	256	1.3	integrated Trio64V+	2/EDO DRAM	15/13.7	.28	6X
5	Dell OptiPlex Gs+166*	Pentium-166	32	256	2.1	integrated	2/VRAM	15/14	.28	8X
6	Quantex QP5/166 SM-3	Pentium MMX-166	32	512	2.5	STB Velocity 3D	4/SGRAM	17/16	.25	12X
7	HP Pavilion 5320	Pentium-150	16	256	1.6	integrated	2/EDO DRAM	15/13.8	.28	8X
8	Micro Express MicroFlex-K5/5166	AMD K5-PR166	32	512	2.1	ATI PC2TV	2/WRAM	15/13.8	.28	10X
9	Midwest Micro MWH-200	Pentium-200	16	512	3.2	STB Lightspeed 128	2/MDRAM	15/13.8	.28	16X
10	Micro Express MicroFlex-PCI/5166	Pentium-166	32	512	2.1	STB Lightspeed 128	2/MDRAM	17/16	.28	12X
11	Quantex QP6/200 PD-4	Pentium Pro-200	32	256	3.2	Matrox Millennium	2/WRAM	17/16	.28	12X
12	HP Vectra VE 5/133	Pentium-133	16	256	1.1	integrated SiS 6205	2/EDO DRAM	15/14	.28	8X
13	CyberMax Cyrix Max C3 P166+	Cx6x86-PR166+	24	512	2.1	STB Lightspeed 128	4/MDRAM	15/13.8	.28	12X
14	Polywell Poly 5000X	AMD K5-PR166	32	512	2.5	Diamond Stealth 30 2000	2/EDO DRAM	15/13.8	.28	12X
15	Kingdom 6x86 P166+ Super Value	Cx6x86-PR166+	16	256	2.1	PCI-60V	2/EDO DRAM	15/13.8	.28	16X
16	Quantex QP5/200 M-4	Pentium MMX-200	32	512	3.2	Matrox Mystique	4/SDRAM	17/16.1	.28	12X
17	Kingdom Pentium MMX 200 Home & Office	Pentium MMX-200	32	512	3.2	Hercules Dynamite 128	4/MDRAM	17/15.8	.28	16X
18	ProGen Atlas X 200	Pentium MMX-200	32	512	3.2	Matrox Millennium	4/WRAM	17/15.8	.26	16X
19	CyberMax Max 16/P200MMX	Pentium MMX-200	32	512	4.3	Diamond Stealth 30	4/EDO DRAM	17/15.7	.26	12X
20	DirectWave P133 MVP Pro	Pentium-133	16	512	2.5	Diamond Stealth 3D 2000	4/EDO DRAM	17/16.1	.28	16X

* Best Buy Download only, uploads at 33.6 kbps; uses 3Com U.S. Robotics' x2 technology. ‡ Toll call.

3 GATEWAY 2000 G5-166 M

PRO: Good price, excellent internal design

CON: None significant

Maybe you aren't the type of computer user that absolutely *has* to have the newest, fastest processor; maybe a good price/performance ratio is what gets your attention. If so, the Gateway 2000 G5-166 M is your kind of PC. The newest addition to Gateway's successful G5 line has a Pentium MMX-166 processor, and it's completely outfitted for multimedia and communications.

What makes this unit a shoo-in for a Best Buy is the price—a mere $1779. That's more than $350 less than the average cost of all MMX-166 systems we've looked at. The G5-166 M's WorldBench score of 213 is average for its CPU class.

The unit comes with Gateway's CrystalScan 17-inch monitor. The display isn't as full featured or as well focused as Gateway's Vivitron (which costs $100 more), but it's adequate for word processing and spreadsheets. The system also houses a smallish 1.3GB hard drive, 2MB of integrated video, a 16-bit sound card, a 16X CD-ROM drive, a Telepath 56-kbps modem, and Altec Lansing speakers.

From the outside, the case is quite a looker. Its softened edges give it a less utilitarian look than the usual rectangular cookie-cutter boxes. It's sturdy and, with thumbscrews, very easy to open. Although the front panel's on/off switch and reset buttons are unlabeled, the input-output ports in back are color-coded.

Gateway 2000 G5-166 M

If you need to add a component that Gateway didn't ship with the G5-166 M, or upgrade, swapping ISA or PCI cards shouldn't be a problem, as the interior of the system is one of the cleanest we've seen. Everything is well organized for easy access. The cables are neatly bundled, so you won't have to push them aside to add memory, and nothing obstructs the adapter slots. All of the drive bay screws and rails are placed so that you can get at them without contortion, although the installed hard drive does take up the most accessible bay.

One of Gateway 2000's strengths has always been its documentation. The man-

		EXPANDABILITY					CUSTOMER SUPPORT			
Modem speed (kbps)	Sound board	Case style	Max. RAM (MB)	Maximum secondary cache (K)	Open RAM sockets	Open drive bays (ext./int.)	Open slots	Warranty for parts/labor (years)	Weekday toll-free support (hours)	Weekend support	Online support
33.6	Sound Blaster 16	minitower	64	512	1	3/1	4	3/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	Sound Blaster 16	minitower	64	512	1	3/1	6	3/1	24	Sat., Sun.	BBS, CIS, WWW
56 [1]	integrated	minitower	128	512	1	3/2	5	3/3	24	Sat., Sun.	AOL, BBS, CIS, MSN, WWW
–	–	desktop	192	512	4	1/1	4	3/1	24	Sat., Sun.	AOL, BBS, CIS, WWW
–	Sound Blaster 16	compact	128	256	2	0/0	2	3/1	24	Sat., Sun.	BBS, CIS, WWW
33.6	Ensoniq Audio PCI S5016	minitower	128	512	2	2/1	4	3/1	24	Sat., Sun.	BBS, WWW
33.6	integrated	desktop	128	256	2	1/0	3	1/1	24 [2]	Sat., Sun.	AOL, BBS, CIS, WWW
33.6	Superior Sound32	minitower	128	512	4	3/2	3	4/4	24	Sat., Sun.	WWW
33.6	Sound Blaster AWE 64	minitower	128	512	4	3/2	3	3/3	12	Sat.	BBS, WWW
33.6	Sound Blaster AWE 32	minitower	256	512	4	3/1	4	4/4	24	Sat., Sun.	WWW
33.6	Ensoniq Soundscape Vivo 90	minitower	256	512	2	3/3	4	3/1	24	Sat., Sun.	BBS, WWW
–	Sound Blaster 16 PnP	desktop	192	256	4	1/1	3	3/3	11 [2]	–	AOL, BBS, CIS, WWW
33.6	Ensoniq Soundscape Vivo 90	minitower	128	512	0	3/2	4	3/1	12	Sat.	BBS, WWW
33.6	Supersound Origins 3D	minitower	128	512	4	3/0	4	3/5	24	Sat., Sun.	BBS, WWW
–	Schubert 3D	tower	128	512	3	3/3	5	3/1	13	Sat.	WWW
33.6	Ensoniq Soundscape Vivo	minitower	128	512	2	2/1	4	3/1	24	Sat., Sun.	BBS, WWW
33.6	Schubert 3D	minitower	128	512	3	3/3	4	3/1	13	Sat.	WWW
33.6	ProGen AWE 32 PnP 3D	minitower	256	512	4	3/1	4	3/1	9	–	BBS, WWW
33.6	Ensoniq Soundscape Vivo	minitower	128	512	2	2/2	3	3/1	24	Sat., Sun.	BBS, WWW
33.6	Sound Blaster AWE 32	minitower	256	512	2	3/0	3	3/1	24	Sat., Sun.	BBS, WWW

ual we received with the G5-166 M is a helpful and friendly tour guide that keeps you focused and moves you along to the information you need. The company also integrates its material very well with the vendor-supplied component manuals.

The software package bundled with the system is another strong point. Gateway covers both business and home-oriented applications. Encarta Encyclopedia 97, Microsoft's Office 97 Small Business Edition, and Street Plus, which helps you locate virtually any address in the United States, are all included. Gateway also throws in a few titles, like The Human Body 2.0, that take advantage of MMX.

Our readers rate Gateway's system reliability as only fair, but hail its support as among the best.

4 IBM PC 350 (PENTIUM-166)

PRO: LAN tools, USB ports, infrared option

CON: Subpar monitor

When we first reviewed the P-166 PC 350 in December, we noted it was pricey. Now the cost is down almost $800 to an affordable $1715. If you're looking for a networkable system and will be satisfied with average performance, you'll be pleased with the PC 350. Just keep in mind that standard (non-MMX) Pentiums are no longer the top choice for graphics or multimedia. The latter consideration shouldn't bother buyers of this system, however, as this PC is a buttoned-down corporate model with no sound or speakers.

IBM PC 350

The unit comes with special tools that allow a network administrator to monitor and work on the system from a central location. NetFinity can update software and track PC configurations across a network, while Wake-on-LAN lets administrators perform upgrades and take inventory when no one is in the office.

The PC 350 also has built-in infrared support with a special port for connecting a receiver/transmitter. The infrared kit costs $79 extra.

IBM backs its PCs with a three-year parts, one-year labor warranty. Toll-free support is available around the clock. In our surveys, readers give IBM good marks for the quality of its support. ▶

5 DELL OPTIPLEX GS+166

PRO: Built-in networking, great support

CON: Thin feature set, limited expandability

This slim, compact $2018 desktop is the entry-level system in Dell's network-ready corporate PC line. The OptiPlex Gs+166 is a good choice for the business buyer looking for a low-cost machine that offers a space-saving design and built-in ethernet connectivity.

This Pentium-166's PC WorldBench score of 198 is a little low these days, and most of its components are basic. But because it has a non-MMX CPU, its price is low for an OptiPlex. The 15-inch Dell monitor has as clear a display as you'll find in that size, and extras include a good pair of speakers and a 16-bit Sound Blaster card. The plain-vanilla Pentium does a competent job with most business apps, but it's far from the best choice now for multimedia or graphics. Dell also bundles the Microsoft Office Professional software package. There's plenty of room in the system's 2.1GB hard drive, but if you want to add a Zip drive or a tape back-up drive, you're out of luck, as there are no free bays. ▶

Dell OptiPlex Gs+166

TOP 20 BUDGET DESKTOPS

PERFORMANCE

	SYSTEMS	CPU	RAM (MB)	Secondary cache (K)	PC WorldBench score
1	Dell Dimension XPS M166s*	Pentium MMX-166	32	512	223
2	Dell Dimension M200a*	Pentium MMX-200	16	256	219
3	Gateway 2000 G5-166 M*	Pentium MMX-166	16	256	213
4	IBM PC 350 (Pentium-166)*	Pentium-166	16	256	197
5	Dell OptiPlex Gs+166*	Pentium-166	32	256	198
6	Quantex OP5/166 SM-3	Pentium MMX-166	32	512	218
7	HP Pavilion 5320	Pentium-150	16	256	180
8	Micro Express MicroFlex-K5/5166	AMD K5-PR166	32	512	208
9	Midwest Micro MWH-200	Pentium-200	16	512	210
10	Micro Express MicroFlex-PCI/5166	Pentium-166	32	512	212
11	Quantex OP6/200 PD-4	Pentium Pro-200	32	256	235
12	HP Vectra VE 5/133	Pentium-133	16	256	166
13	CyberMax Cyrix Max C3 P166+	Cx6x86-PR166+	24	512	205
14	Polywell Poly 5000X	AMD K5-PR166	32	512	213
15	Kingdom 6x86 P166+ Super Value	Cx6x86-PR166+	16	256	197
16	Quantex OP5/200 M-4	Pentium MMX-200	32	512	221
17	Kingdom Pentium MMX 200 Home & Office	Pentium MMX-200	32	512	233
18	ProGen Atlas X 200	Pentium MMX-200	32	512	232
19	CyberMax Max 16/P200MMX	Pentium MMX-200	32	512	230
20	DirectWave P133 MVP Pro	Pentium-133	16	512	194

*Best Buy

Word 7.0 for Windows 95 · Picture Publisher 6.0 for Windows 95 · WordPerfect 6.1 for Windows

Excel 7.0 for Windows 95 · Paradox 5.0 for Windows · 1-2-3 release 5 for Windows

HOW WE TEST All systems are tested with PC World8ench, PC World's application-based benchmark. A higher PC World8ench score is better. All PCs have Windows 95, and video resolution is set to 800 by 600 in 256 colors. We run automated scripts on six popular business applications, performing common tasks such as spelling checks, scrolls, saves, sorts, and recalculations. The PC World8ench score is a sum of the weighted result of each script: Word (25 percent), Excel (20 percent), Picture Publisher (15 percent), Paradox (15 percent), WordPerfect (15 percent), and 1-2-3 (10 percent). For more details on our benchmark and how we run it, see PC World Online (www.pcworld.com/testing).

The most advanced technology is used to outperform the HP ScanJet 4c:

- Faster scanning speed; full-color page in 74 seconds
- Bit Enhancement Technology (B.E.T.) that allows the scanner to capture more accurate colors and tones and provide smoother gradations
- Scans up to legal size
- Enclosed optical system for dust-free scanning; cold cathode lamp lasts ten times longer than a fluorescent lamp
- Bundled with Adobe® PhotoDeluxe™ or Adobe Photoshop® 4.0 image editing software and Presto!® PageManager® with OCR
- Advanced technology at an affordable price

PRODUCTIVITY. CREATIVITY. THE ASTRA 1200S SCANNER GIVES YOU BOTH.

PhotoDeluxe

The Astra 1200S does more than you ever thought a scanner could. It's the next generation of the award-winning S-12, and it uses Bit Enhancement Technology to provide crisp, clean images with amazing detail. The Astra 1200S not only helps you produce quality scans, but also send faxes and e-mail, OCR, make copies with UMAX Copy Utility, add text and images to your work, and create Web pages. There's no limit to how productive you can be with the Astra 1200S from UMAX.

Call us for more details at 1-800-331-8629, or visit us at www.umax.com

UMAX®

© 1997 UMAX Technologies, Inc. All rights reserved. UMAX is a registered trademark of UMAX Technologies, Inc. All other brands and product names are trademarks or registered trademarks of their respective companies.

Circle 250 on reader service card

Dell continues to get the highest ranking for reliability and support in our fax-back surveys. Policies include a warranty of three years on parts and one year on labor, and round-the-clock tech support.

New This Month

The following PCs made our Budget Desktops chart for the first time this month. For original reviews of previously tested PCs on the chart, visit our Web page (www.pcworld.com/t20pcs).

6 QUANTEX QP5/166 SM-3

PRO: Powerful package for under $2000

CON: Mediocre reliability score

Quantex's QP5/166 SM-3 adds a healthy dollop of MMX performance to the company's line of budget PCs, and it almost earned a Best Buy. Powered by an Intel Pentium MMX-166, it's fast and loaded with features—yet it's still priced at a quite reasonable $1899. For the dough, you get a nice minitower with 2.5GB of storage, a quick 12X CD-ROM drive, a fast 33.6-kbps voice modem, a microphone, sound, and speakers. The 17-inch MAG InnoVision monitor will satisfy most business users. To soup this system up, Quantex threw in 32MB of RAM, resulting in a PC WorldBench score of 218—very fast for its class.

Quantex QP5/166 SM-3

Overall, the design of the QP5/166 SM-3 is good. The case is sturdy, but harder to open than we'd like. The on/off switch isn't clearly labeled, but the I/O ports are color-coded to avoid confusion.

Inside the case, there's plenty of room. Our system had three open drive bays and four available expansion slots, all of which were easily accessible.

Quantex offers toll-free tech support 24 hours a day and a three-year parts warranty. In our ongoing survey, the company's reliability rating is improving, but it's still not among the best.

To Quantex's credit, the documentation that we received with our QP5/166 SM-3 was better than most. It was clearly written and included easy-to-understand setup instructions.

8 MICRO EXPRESS MICROFLEX-K5/5166

PRO: Quick, good features for the price

CON: Documentation could be better

If you need good performance, full multimedia, and a modem—and you have only a few bucks to spend—this could be your PC. It's an example of how AMD's fast, inexpensive K5 and K6 CPUs are providing much-needed competition for Intel's processors. This PC is priced over $450 less than its Pentium MMX counterparts, and with a PC WorldBench score of 208, it's 7 percent faster than the average P-166 and only about 7 percent slower than the number one Dell Dimension XPS M166s.

Micro Express MicroFlex

The $1349 MicroFlex-K5/5166 isn't as fast as some of the other K5-PR166–based machines we've tested, but it's still quick enough to outpace some Pentium-200s. This minitower is also nicely designed, with a well-labeled on/off switch and an easily removed cover. The interior is one of the cleanest we've seen—no cable clutter to speak of.

Our system came well equipped, with 32MB of SDRAM and a 2.1GB hard drive. It also included a generic 33.6-kbps modem, a Superior Sound32 sound card and speakers, and a 15-inch Princeton monitor. All in all, a lot for the price.

You get separate booklets for Windows 95 and the peripherals, but no system-specific manual. If you already know how to set up a PC, they're sufficient; if you don't, they won't help much. Tech support is now available 24 hours a day, and Micro Express's warranty, at four years, is very attractive. However, we don't have enough data to compile a reliability and service profile for Micro Express. So this PC is best bought by those who have PC savvy or a good MIS department.

18 PROGEN ATLAS X 200

PRO: Good price, above-average performance

CON: Meager manuals, short tech support hours

If you're buying a new home PC and want to make sure it has the multimedia oomph for gaming *and* business, the Atlas X 200 from ProGen satisfies those requirements and saves you a few bucks—although the tech support hours are short. There's plenty of power in this MMX-200—it earned an impressive PC WorldBench score of 232—giving it the speed of a power machine for only $1999.

The components used in this expandable system are impressive, including a Matrox Millennium video card with a healthy 4MB of WRAM, a fast 16X CD-ROM drive, a good ProGen AWE32 PnP 3D sound card with wavetable capabilities, and sweet-sounding speakers with a subwoofer. ProGen also throws in a 3Com USR 33.6 Faxmodem and a 17-inch MAG InnoVision monitor.

ProGen's documentation is disappointing, however. You get the standard vendor-supplied booklets for the peripherals, but nothing in the way of high-quality, thorough system information: The slim manual begins with clear, concise instructions and helpful illustrations covering the setup, but it then lapses into the brand of techspeak recognizable only to those who have been working on their particular systems for a number of years.

ProGen Atlas X 200

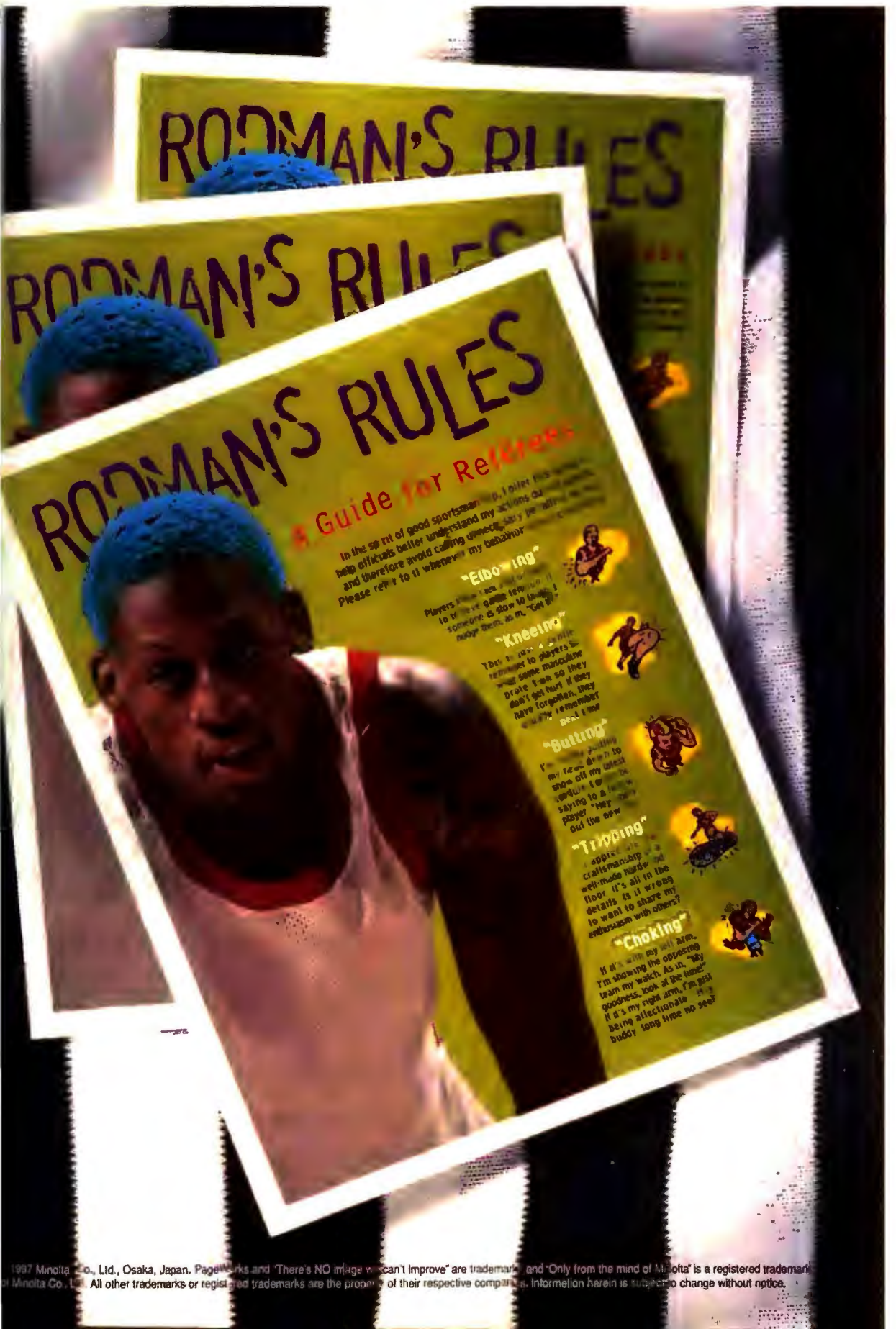
Support policies also could use fleshing out. The warranty of three years for parts and one year for labor is good, but toll-free technical support is available for only nine hours each weekday. ▶

Beyond the Top 20

We evaluated these systems along with the others, but they didn't score high enough to reach the Top 20 Budget Desktops chart. For write-ups, see PC World Online (www.pcworld.com/t20pcsnaps).

- **ALR Optima SL 5166 X**
- **AST Bravo MS 5166**
- **DTK Quin-55M/PM 200**
- **Intergraph TD-25**
- **Kingdom IBM P200+ Value**
- **LEK Tornado 150**
- **Micro Express MicroFlex-686/P200+LC**
- **Nova NV 686 200T**
- **Premio Apollo TX-200-MMX**
- **Sys Technology Sys Performance 200K6**

There's NO image we can't improve.™



COLOR PAGEWORKS

No matter what kind of image you have, chances are a little improvement couldn't hurt. To that end, Minolta introduces PageWorks™, a revolutionary line of laser printers for business.

Consider Minolta's Color PageWorks. It's one of the most affordable true 600 dots per inch color laser printers available.

PAGEWORKS 6i

PAGEWORKS 6e

PAGEWORKS 12

PAGEWORKS 20

COLOR PAGEWORKS

Finally, you can afford to add the impact of real laser color to the documents you print every day.

In addition, there is also a full line of Minolta monochrome laser printers. Featuring speeds from 6 to 20 pages per minute, each is designed for maximum output quality and throughput speed, yet priced for a minimal budget.

For over 10 years, Minolta has been one of the world's largest manufacturers of laser printer engines. That field-proven reliability allows us to offer laser printers of unparalleled quality and value.

For more information, visit our Web site at www.minoltaprinters.com/pwd1 or call 1-888-2MINOLTA, ext. 32, and we'll send you a free CD-ROM so you can see for yourself what we can do for your image.

MINOLTA

ONLY FROM THE MIND OF MINOLTA®

Circle 153 on reader service card

1997 Minolta Co., Ltd., Osaka, Japan. PageWorks and "There's NO image we can't improve" are trademarks and "Only from the mind of Minolta" is a registered trademark of Minolta Co., Ltd. All other trademarks or registered trademarks are the property of their respective companies. Information herein is subject to change without notice.

PC WORLD

TOP 20 NOTEBOOK PCs

	POWER NOTEBOOKS	Last month	Month tested	Street price (5/9/97)	CPU	Comments
1	Dell Latitude LM M166ST 800/388-8542 www.dell.com	1	June 97	$3899	Pentium MMX-166	$100 off one of fastest notebooks on chart, long battery life, large hard drive.
2	WinBook LM 800/468-2162 www.winbookcorp.com/	3	May 97	$3199	Pentium-133	Fast, long battery life; keyboard could be better.
3	Transmonde Vibrant 133T 888/988-2883 www.transmonde.com	4	June 97	$2999	Pentium-133	Speedy, terrific battery life, interesting design; support policies limited.
4	WinBook FX 800/468-2162 www.winbookcorp.com/	5	May 97	$3599	Pentium-133	Sturdy notebook with comfortable keyboard and large hard drive.
5	Gateway 2000 Solo 2100 S5-150 800/846-2000 www.gw2K.com	6	Apr 97	$3749	Pentium MMX-150	Quick, loaded MMX with good battery and outstanding features.
6	Gateway 2000 Solo 2200 S5-166 800/846-2000 www.gw2K.com	–	May 97	$4439	Pentium MMX-166	Uncompromising desktop replacement is still the fastest we've tested.
7	Dell Latitude XPi CD M166ST 800/388-8542 www.dell.com	8	July 97	$4838	Pentium MMX-166	Quick; expensive; great keyboard; heavy.
8	Compaq Presario 1080 800/345-1518 www.compaq.com	9	June 97	$4499	Pentium MMX-166	Audiophiles will like sleek unit; heavy, expensive, 90 days on-site service.
9	Digital HiNote VP 575 800/344-4825 www.windows.digital.com	–	July 97	$4499	Pentium MMX-166	Fast, good-looking, well-built slimline with super battery; no modem.
10	Toshiba Tecra 740CDT 800/334-3445 www.computers.toshiba.com	–	NEW	$5899	Pentium MMX-166	Fast, first 13.3-inch screen to make our chart; very expensive heavyweight.
	BUDGET NOTEBOOKS					
1	Compaq Armada 1130T 800/345-1518 www.compaq.com	1	Apr 97	$1399	Pentium-120	Low-cost active-matrix will be replaced by next month.
2	Compaq Armada 1520DM 800/345-1518 www.compaq.com	–	NEW	$2199	Pentium-133	Trim, dual-scan screen; great first notebook for the budget-conscious.
3	Toshiba Satellite Pro 430CDS 800/457-7777 www.computers.toshiba.com	6	July 97	$1699	Pentium-120	$300 price drop, excellent keyboard, fast CD-ROM drive, heavy.
4	CTX EZBook 750MS 800/888-9052 www.ctxintl.com	–	NEW	$2149	Pentium MMX-150	Big screen, fastest budget notebook; short support hours.
5	WinBook XP5 Pro P150 800/468-2162 www.winbookcorp.com/	3	June 97	$2599	Pentium-150	Very quick, comes with vivid screen, modem, CD-ROM drive.
6	Toshiba Satellite 200CDS 800/457-7777 www.computers.toshiba.com	10	July 97	$1299	Pentium-100	$300 price drop on slow, entry-level corporate portable.
7	Mega Image MegaBook 911 800/250-1876 www.megai.com	–	Mar 97	$2199	Pentium-133	$300 off quick Pentium-133 with relatively slow CD-ROM drive.
8	Gateway 2000 Solo 2100 S5-120 800/846-2000 www.gw2K.com	7	Jan 97	$2099	Pentium-120	Very fast for a Pentium-120, fast CD-ROM drive, relatively short battery life.
9	ARM TS753CD-113D 408/935-9800 www.armcomputer.com	–	July 97	$1699	Pentium-133	Inexpensive, undistinguished basic note with 24-hour support.
10	AcerNote Light 382 800/733-2237 www.acer.com/aac/	8	July 97	$1999	Pentium-150	Fast, best battery life on the Top 20; case feels a bit flimsy.

Best Buy See features chart, page 232; performance chart, page 234.

[1] Includes computer, adapter, power card, floppy drive, and CD-ROM drive if notebook has one. [2] Insufficient data.

THIS MONTH WE SAY FAREWELL to discontinued Dell and Hewlett-Packard portables (the Dell Latitude XPi P133ST, long a power Best Buy, and HP's OmniBook 800CT and OmniBook 5500CS)—and hello to seven chart newcomers, including three tested this month. Toshiba's Tecra 740CDT, in tenth place on the power chart, is the first notebook with a 13.3-inch screen to make our list. Our favorite of 11 that missed: the $5175 HP OmniBook 5700CTX, an MMX-166 portable with a 3GB hard drive. To read about the notebooks that didn't make our Top 20, visit PC World Online (www.pcworld.com/t20pcsnaps).

SCORECARD

★ Overall rating	PC WorldBench score/ rating	Price	Vendor's system reliability	Features and design	Vendor's support quality/policies	Battery life (hours:min)/ rating	Traveling weight [1]	Reader service number
85	212/outstanding	average	average	very good	average/fair	5:52/very good	heavy	694
83	182/good	inexpensive	average	very good	average/fair	5:46/very good	heavy	695
83	190/very good	inexpensive	average	outstanding	below average/poor	6:19/outstanding	heavy	696
83	188/good	average	average	very good	average/fair	4:15/good	heavy	697
82	199/very good	average	average	outstanding	below average/fair	3:12/good	heavy	698
82	218/outstanding	expensive	average	very good	below average/fair	3:46/good	average	699
82	199/very good	expensive	average	outstanding	average/good	4:35/good	heavy	700
81	197/very good	expensive	average	good	above average/fair	5:02/very good	heavy	701
81	209/very good	expensive	[2]	good	[2]/poor	6:34/outstanding	average	702
80	190/very good	very expensive	[2]	outstanding	[2]/fair	4:28/good	very heavy	703
Power scorecard weightings ▶	Performance 22 percent	Price 14 percent	Reliability 22 percent	Features 16 percent	Support 10 percent	Battery life 8 percent	Weight 8 percent	
83	140/good	very inexpensive	average	good	above average/fair	3:57/good	average	704
80	151/good	average	average	good	above average/fair	3:39/good	average	705
79	141/good	inexpensive	average	good	below average/fair	4:10/good	heavy	706
79	198/outstanding	average	[2]	satisfactory	[2]/poor	4:21/good	heavy	707
79	183/outstanding	expensive	average	very good	average/fair	3:24/good	average	708
79	91/satisfactory	very inexpensive	average	satisfactory	below average/fair	3:51/good	heavy	709
78	165/very good	average	[2]	good	[2]/fair	4:38/good	heavy	710
77	171/very good	average	average	good	below average/fair	2:15/satisfactory	average	711
77	131/satisfactory	inexpensive	[2]	satisfactory	[2]/good	2:55/good	heavy	712
77	170/very good	average	below average	good	[2]/fair	6:45/outstanding	average	713
Budget scorecard weightings ▶	Performance 14 percent	Price 22 percent	Reliability 22 percent	Features 16 percent	Support 10 percent	Battery life 8 percent	Weight 8 percent	All products: 909

POWER NOTEBOOKS

This Month's Best Buys

1 DELL LATITUDE LM M166ST

PRO: Blazing speed, big bright screen

CON: Heavy, no modem

The Latitude LM M166ST is aimed at business users looking for a notebook that has a lot of the performance and features they find in their desktops. Packing a Pentium MMX-166 CPU and a whopping 40MB of RAM, this fleet-footed portable earned a PC WorldBench score of 212—faster than some desktop MMX-166 systems. The price is a reasonable $3899—$100 less than last month. There's also a big software bundle: Microsoft Office Small Business Edition; the LapLink file transfer and remote control utility; and Sidekick 95, a personal information manager.

Dell Latitude LM M166ST

Seasoned travelers may balk at the Latitude's hefty 9.2 pounds (with AC ▶

TOP 20 NOTEBOOK PCs

STANDARD FEATURES

	POWER NOTEBOOKS	CPU	Traveling weight (pounds)[1]	RAM (MB)	Hard drive (MB)	Color screen type	Screen diagonal (inches)	Screen resolution	Maximum screen colors	Battery type	Pointing device
1	Dell Latitude LM M166ST*	Pentium MMX-166	9.2	40	2160	active	12.1	800 x 600	65,536	lithium ion	touchpad
2	WinBook LM*	Pentium-133	8.6	16	1083	active	12.1	800 x 600	65,536	lithium ion	touchpad
3	Transmonde Vibrant 133T	Pentium-133	10.4	32	1440	active	12.1	800 x 600	65,536	NiMH	touchpad
4	WinBook FX	Pentium-133	9.4	32	2167	active	12.1	800 x 600	65,536	lithium ion	eraserhead
5	Gateway 2000 Solo 2100 S5-150	Pentium MMX-150	8.8	40	1300	active	12.1	800 x 600	65,536	lithium ion	touchpad
6	Gateway 2000 Solo 2200 S5-166	Pentium MMX-166	8.2	40	2160	active	12.1	800 x 600	65,536	lithium ion	touchpad
7	Dell Latitude XPi CD M166ST	Pentium MMX-166	9	32	2160	active	12.1	800 x 600	65,536	lithium ion	trackball
8	Compaq Presario 1080	Pentium MMX-166	8.8	16	1440	active	12.1	800 x 600	65,536	lithium ion	touchpad
9	Digital HiNote VP 575	Pentium MMX-166	8.2	16	2160	active	12.1	800 x 600	65,536	lithium ion	touchpad
10	Toshiba Tecra 740CDT	Pentium MMX-166	11.2	16	2100	active	13.3	1024 x 768	65,536	lithium ion	eraserhead
	BUDGET NOTEBOOKS										
1	Compaq Armada 1130T*	Pentium-120	7.5	16	1080	active	10.4	800 x 600	256	NiMH	trackball
2	Compaq Armada 1520DM*	Pentium-133	7.8	16	1083	dual-scan	11.3	800 x 600	65,536	lithium ion	touchpad
3	Toshiba Satellite Pro 430CDS	Pentium-120	8.8	16	1358	dual-scan	11.3	800 x 600	65,536	lithium ion	eraserhead
4	CTX EZBook 750MS	Pentium MMX-150	8.6	16	1080	dual-scan	12.1	800 x 600	65,536	NiMH	touchpad
5	WinBook XP5 Pro P150	Pentium-150	8.4	16	1083	active	11.3	800 x 600	256	lithium ion	eraserhead
6	Toshiba Satellite 200CDS	Pentium-100	9.2	8	810	dual-scan	11.3	800 x 600	65,536	NiMH	eraserhead
7	Mega Image MegaBook 911	Pentium-133	9.2	16	1374	active	12.1	800 x 600	65,536	NiMH	touchpad
8	Gateway 2000 Solo 2100 S5-120	Pentium-120	8.2	16	1080	dual-scan	11.3	800 x 600	65,536	NiMH	touchpad
9	ARM TS753CD-113D	Pentium-133	8.8	16	1083	dual-scan	11.3	800 x 600	256	NiMH	touchpad
10	AcerNote Light 382	Pentium-150	8.4	16	1400	dual-scan	11.3	800 x 600	256	NiMH	touchpad

*Best Buy ● Yes ○ No [1]Includes computer, adapter, power cord, floppy drive, and CD-ROM drive if notebook has one.

adapter and removable 10X CD-ROM drive). But battery life is good—the lithium ion pack lasted nearly 6 hours in our tests. The keyboard is comfortable and quiet, and moving the pointer on screen with the touchpad is hassle-free. The 12.1-inch active-matrix screen gives sharp text and brilliant graphics. Built-in stereo speakers provide adequate sound.

Dell's documentation is superb, but its support policies, unlike those for its desktops, are only fair: Although the company offers nonstop phone support, it covers its Latitude LM systems for only one year. Readers responding to our monthly fax-back survey give Dell average marks for service and notebook reliability.

2 WINBOOK LM

PRO: Fast, long battery life, relatively low price

CON: Limited support policies, keyboard could be more ergonomic; heavy

The $3199 WinBook LM combines good speed with a well-rounded array of features that should suit the needs of most people who need to do some work on the road.

The LM includes a 1.1GB hard disk, a 6X CD-ROM drive, a high-quality 12.1-inch active-matrix screen, and a 28.8-kbps modem. Unfortunately, the keyboard isn't as easy to use as those on other WinBook models: Its keys aren't scalloped deeply enough for comfortable typing. Without the CD-ROM drive, the LM weighs 7.4 pounds, and it has a battery life of 5.75 hours—long enough for a cross-country flight. With the CD-ROM and AC adapter, the unit weighs 8.6 pounds.

WinBook LM

The WinBook LM's biggest problem isn't with the notebook itself but with the company's fairly thin support policies: a one-year warranty, a shortish 13 hours per day of technical support, and no Sunday support. However, responses to our fax-back survey have recently indicated improved reliability.

		EXPANDABILITY					CUSTOMER SUPPORT			
CD-ROM drive speed	Modem speed (kbps)	Maximum RAM (MB)	Modular expansion bays	Bay for second battery	Optional docking station	Infrared port	Warranty for parts/labor (years)	Weekday toll-free support (hours)	Weekend support	Online support
10X	–	72	1	●	○	●	1/1	24	Sat., Sun.	AOL, BBS, CIS, WWW
6X	28.8	40	1	●	●	●	1/1	13	Sat.	BBS, WWW
6X	33.6	64	1	○	○	●	1/1	11	–	WWW
8X	33.6	40	1	●	●	●	1/1	13	Sat.	BBS, WWW
11X	33.6	72	1	●	●	●	1/1	24	Sat., Sun.	BBS, WWW
11X	33.6	80	1	●	●	●	1/1	24	Sat., Sun.	BBS, WWW
10X	33.6	80	0	○	○	●	3/1	24	Sat., Sun.	AOL, BBS, CIS, WWW
10X	33.6	48	0	○	○	○	1/1	24	Sat., Sun.	AOL, BBS, CIS, WWW
12X	–	80	1	●	○	●	1/1	12	–	AOL, BBS, CIS, WWW
11X	28.8	144	1	○	●	●	3/1	24	Sat., Sun.	WWW
–	–	48	0	○	○	○	1/1	24	Sat., Sun.	AOL, BBS, CIS, WWW
10X	33.6	64	1	●	○	●	1/1	24	Sat., Sun.	AOL, BBS, CIS, WWW
10X	–	48	1	○	●	●	1/1	24	Sat., Sun.	BBS, CIS, WWW
6X	–	72	2	●	●	●	1/1	10	–	WWW
8X	28.8	40	1	●	●	●	1/1	13	Sat.	BBS, WWW
6X	–	40	1	○	●	●	1/1	24	Sat., Sun.	BBS, CIS, WWW
6X	–	72	0	○	●	●	1/1	11	Sat.	BBS, WWW
11X	–	72	1	●	●	●	1/1	24	Sat., Sun.	BBS, WWW
8X	–	40	0	○	●	●	1/1	24	Sat., Sun.	AOL, BBS, WWW
10X	–	64	0	○	○	○	1/1	24	Sat., Sun.	AOL, BBS, CIS, WWW

New This Month

The following PC made our Power Notebooks chart for the first time this month. For original reviews of previously tested PCs on the chart, visit our Web page (www.pcworld.com/t20pcs).

10 TOSHIBA TECRA 740CDT

PRO: Brilliant 13.3-inch screen, great documentation, comes with video camera

CON: Heavy, very expensive; screen panel flex

The Toshiba Tecra 740CDT offers high-end technology for the mobile professional—at a high-end price. It has a sharp, clear 13.3-inch screen with 1024 by 768 resolution, an Intel Pentium MMX-166 processor, and a 2.1GB hard drive. But it's not for the fiscally faint of heart—it costs a hefty $5899. One reason for the high price is the video capture board, camera, and internal 28.8-kbps modem that accompany the system. Indeed, Toshiba is marketing this notebook as a portable videoconferencing system. The 740CDT is speedy by power notebook standards, although its PC WorldBench score of 190 means that our number one MMX-166 notebook, Dell's Latitude LM M166ST, is almost 12 percent faster.

Toshiba Tecra 740CDT

While the 740CDT has a beautiful display, we were less impressed by the overall design and construction. We found some flex in the screen panel (which means it may not hold up well under the roughest handling), and the CD-ROM/floppy drive bay is placed front and center—a position that makes media changes difficult when working with the unit on your lap (although you can attach the floppy drive externally). Another flaw is a volume control that allows a sound level too high for the internal speakers to handle without distortion—a troubling oversight.

On the plus side, the Tecra's keyboard and eraserhead pointing device are quite comfortable. This eraserhead takes ▶

less effort to operate than most and is more accurate and easier to use one-handed than the currently popular touchpads.

But ergonomics aside, the Tecra is no flyweight—with the video camera and other options, it weighs in at a ponderous 11.2 pounds. Leave off the extras, and it's still 9.2 pounds. However, many power notebook buyers will accept the added weight as a fair trade-off for features like the video capabilities and the big screen.

The Tecra's user guide has to be the world's thickest. Accordingly, it's extremely thorough—and also very well written. In addition, Toshiba's toll-free technical support is available around the clock, every day. Unfortunately, after your three-year warranty runs out you'll have to pay $35 per incident for answers to technical questions you can't resolve on your own.

BUDGET NOTEBOOKS

This Month's Best Buys

1 COMPAQ ARMADA 1130T

PRO: Crisp display, low cost, very sturdy, fast

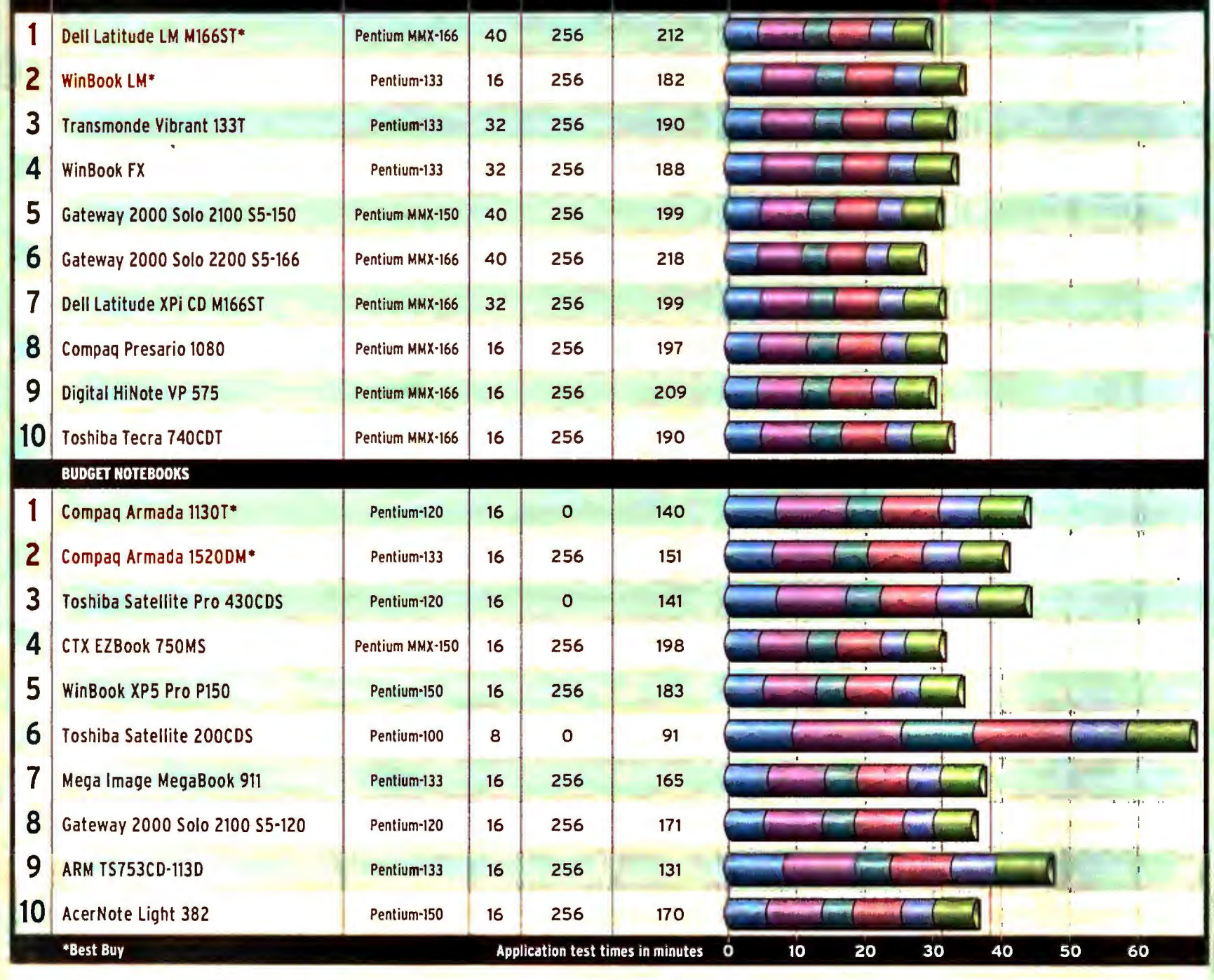
CON: No multimedia features or modem

If you want a rugged portable with good performance and an active-matrix screen at a surprisingly ▶

TOP 20 NOTEBOOK PCs

PERFORMANCE

	POWER NOTEBOOKS	CPU	RAM (MB)	Secondary cache (K)	PC WorldBench score
1	Dell Latitude LM M166ST*	Pentium MMX-166	40	256	212
2	WinBook LM*	Pentium-133	16	256	182
3	Transmonde Vibrant 133T	Pentium-133	32	256	190
4	WinBook FX	Pentium-133	32	256	188
5	Gateway 2000 Solo 2100 S5-150	Pentium MMX-150	40	256	199
6	Gateway 2000 Solo 2200 S5-166	Pentium MMX-166	40	256	218
7	Dell Latitude XPi CD M166ST	Pentium MMX-166	32	256	199
8	Compaq Presario 1080	Pentium MMX-166	16	256	197
9	Digital HiNote VP 575	Pentium MMX-166	16	256	209
10	Toshiba Tecra 740CDT	Pentium MMX-166	16	256	190
	BUDGET NOTEBOOKS				
1	Compaq Armada 1130T*	Pentium-120	16	0	140
2	Compaq Armada 1520DM*	Pentium-133	16	256	151
3	Toshiba Satellite Pro 430CDS	Pentium-120	16	0	141
4	CTX EZBook 750MS	Pentium MMX-150	16	256	198
5	WinBook XP5 Pro P150	Pentium-150	16	256	183
6	Toshiba Satellite 200CDS	Pentium-100	8	0	91
7	Mega Image MegaBook 911	Pentium-133	16	256	165
8	Gateway 2000 Solo 2100 S5-120	Pentium-120	16	256	171
9	ARM TS753CD-113D	Pentium-133	16	256	131
10	AcerNote Light 382	Pentium-150	16	256	170



*Best Buy

Word 7.0 for Windows 95 · Picture Publisher 6.0 for Windows 95 · WordPerfect 6.1 for Windows

Excel 7.0 for Windows 95 · Paradox 5.0 for Windows · 1-2-3 release 5 for Windows

HOW WE TEST All systems are tested with PC WorldBench, PC World's application-based benchmark. A higher PC WorldBench score is better. All PCs have Windows 95, and video resolution is set to 800 by 600 in 256 colors. We run automated scripts on six popular business applications, performing common tasks such as spelling checks, scrolls, saves, sorts, and recalculations. The PC WorldBench score is a sum of the weighted result of each script: Word (25 percent), Excel (20 percent), Picture Publisher (15 percent), Paradox (15 percent), WordPerfect (15 percent), and 1-2-3 (10 percent). For more details on our benchmark and how we run it, see PC World Online (www.pcworld.com/testing).

If your Ethernet•Modem fails, then what are you?

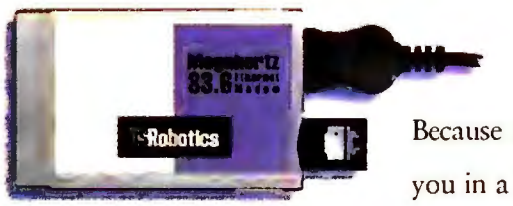
Settle for an unreliable combo card, and you could take some heat.

At U.S. Robotics,® we realize the last thing you need from a PC Card is hassles. That's why we offer PC Cards known for solid connections and innovation. And we include features like our patented XJACK® connector, so you don't need to carry (or lose) a proprietary cable. And since frying a modem has the same effect on your nerves, our Digital Line Guard warns you before a digital PBX can sizzle your circuitry.

No matter where you roam, you still need to stay in touch. No problem—Direct Connect Cellular with Cable Sensor automatically configures your modem for a cellular connection.

Put simply, Megahertz® PC Cards are the most reliable on the market. It's why we can offer such generous support and a money-back guarantee.

Learn more about today's most reliable PC Cards and our complete line of information access products. Visit our Web site at www.USR.com/mobileusr. Or call 1-800 LINKING, EXT. 4312. Because choosing anything less could leave you in a jam.



US Robotics

SPECTRUM Connected™

©1997 U.S. Robotics Mobile Communications Corp. Portions of this product are covered by U.S. Patent Nos. 5,183,404, 5,336,099, 5,338,210, 5,574,401, and 5,532,898, property of U.S. Robotics Mobile Communications Corp. U.S. Robotics, the USRobotics logo, Megahertz and XJACK are registered trademarks of U.S. Robotics and U.S. Robotics Mobile Communications Corp. SPECTRUM Connected is a trademark of Spectrum Information Technologies, Inc.

Circle 238 on reader service card

low cost, the $1399 Armada 1130T fits the bill. If you want to take advantage of the price, however, you'd better act quickly—Compaq tells us that this model will be gone from stores by the end of August.

Compaq Armada 1130T

The 1130T is a no-frills machine—it has no multimedia, no modem, and no infrared port, and its 1GB hard drive is a little cramped by today's standards. Even so, you get a lot of notebook for the money. This Armada cranked out a PC WorldBench score of 140, which is very good for a Pentium-120 with 16MB of RAM. It's also the least expensive notebook we've seen with a color active-matrix screen—and it has 800 by 600 resolution, although the screen is small at 10.4 inches. Compaq also bundles Microsoft Works 4.0—an integrated package that has all the basics.

The keys have crisp action, and are comfortably sized and well spaced. The Armada uses a precise, sensitive trackball input device rather than a touchpad.

With a 7.5-pound traveling weight, the 1130T is fairly light and quite compact. If you need to compute on the go, it has a longish battery life of nearly 4 hours. The Armada series comes with clear, well-written documentation. Though Compaq provides just a one-year warranty on this budget unit, readers give the company an above-average rating for support and an average rating for PC reliability in our ongoing fax-back survey.

2 COMPAQ ARMADA 1520DM

PRO: Great all-in-one design requires no external power adapter

CON: Middling Pentium-133 performance

The Compaq Armada 1520DM boasts the great design and solid construction of the Armada line, and as a new offering, it will remain on the market longer than the number one Armada 1130T. Its Pentium-133 CPU and 11.3-inch dual-scan display help to keep the cost down to $2199. Compaq still manages to include a 10X CD-ROM drive, a 33.6-kbps modem, a 1.1GB hard drive, and great 16-bit stereo sound. Its PC WorldBench score of 151 is acceptable if you're not doing heavy number-crunching or fancy presentations.

By far the best feature is the integrated, all-in-one design. The CD-ROM, floppy drive, and even the power supply are built into main unit. That means fewer loose items to forget or carry around. All you have to remember is the power cord, and not even that if you plan to work for less than 3.5 hours at a stretch. The Armada's lithium ion battery lasted 3 hours and 39 minutes in our tests. Even with all that's packed in it, the notebook travels at only 7.8 pounds.

Although choice of pointing device and keyboard tends to be personal and varies depending on the user, we found both the keyboard and touchpad easy to work with. The keyboard has a lively feel, and the touchpad is appropriately sensitive. The dual-scan display is typical—you get color, but next to an active matrix, it looks lifeless. As with all dual-scans, you can't view the screen from much of an angle before you lose the picture. Still, budget notes usually involve some trade-offs, and this system's dual-scan screen makes the low price possible.

Compaq Armada 1520DM

The volume control for the stereo sound consists of two buttons (up and down) instead of the usual dial or sliding tab; when you press either button, you get a nice, audible click that corresponds to the setting increment.

As with all our budget notes, the warranty is for only one year, but Compaq guarantees a two-day turnaround on factory repairs and also provides round-the-clock toll-free support. According to readers in our fax-back survey, the company scores above average in support and average in system reliability.

New This Month

The following PC made our Budget Notebooks chart for the first time this month. For original reviews of previously tested PCs on the chart, visit our Web page (www.pcworld.com/t20pcs).

4 CTX EZBOOK 750MS

PRO: Impressive speed, nice speakers

CON: Dull screen, short support hours

The first Pentium MMX notebook on our budget chart, this CTX is one of the few systems in its performance category to emphasize price over features. At $2149, it costs $350 less than the next cheapest P-150 MMX notebook in our lab, the NEC Versa 2655CD PC-6. Its PC Worldbench score of 198 ties it for second fastest among the five MMX-150s we've seen.

CTX EZBook 750MS

Features and design are a mixed bag. On the downside, you must push the power switch especially hard and hold it down for too long before the notebook turns on. The display is among the dullest dual-scan screens we've seen, and the documentation is far too rudimentary.

But battery life was over 4.3 hours in our tests, and the software bundle includes ClarisWorks for Windows 95, Microsoft Plus, and LapLink for Windows 95. CTX throws in a game pad, and the built-in stereo speakers sound great. With the AC adapter plugged in, you can pull out the battery and have both the floppy and CD-ROM drives installed.

CTX has a fairly typical one-year parts and labor warranty, and toll-free tech support is available only 10 hours a day. We have too few faxes from readers to rank the company's reliability and service. ■

Beyond the Top 20

We evaluated these systems along with the others, but they didn't score high enough to reach the Top 20 Notebook PCs chart. For write-ups, see PC World Online (www.pcworld.com/t20pcsnaps).

- EPS Apex XL-200
- EPS Apex L-166
- Fujitsu LifeBook 555TX
- Gateway 2000 Solo 2100
- HP OmniBook 800CT
- HP OmniBook 5700CTX
- IBM ThinkPad 760XD
- NEC Versa 2655CD PC-6
- Tatung TNB 5500
- Toshiba Portégé 660CDT
- Total Peripherals Alcam XL-353

How fast can you download with our x2™ Technology?

Download nearly twice as fast as 28.8Kbps with Megahertz® modems.

U.S.Robotics X2 TECHNOLOGY.

Here's a flash for you. Presenting Megahertz® PC Card modems with x2™ Technology. Our latest innovation, x2 Technology is capable of downloading your information at up to 56Kbps* over standard phone lines.

By taking advantage of the existing digital phone network, x2 Technology gives modems a shot of adrenaline during downloads. So it's perfect for access with many leading ISPs and on-line services committed to x2 Technology.

x2 Technology gives you faster, more reliable connections than with standard V.34 modems. Equally important, you're guaranteed a free upgrade to the pending 56Kbps ITU industry standard once it is adopted.** It's just what you'd expect from U.S. Robotics®—the company known for solid connections and a complete line of information access products.

Shed more light on today's most exciting technology with our x2 Mobile Technology Brief. To get your copy, call 1-800 LINKING, EXT. 4313, or visit us at www.USR.com/mobileusr.

U.S.Robotics

©1997 U.S. Robotics Mobile Communications Corp. All rights reserved. Portions of this product are covered by U.S. Patent Nos. 5,183,404, 5,336,099, 5,338,210, 5,574,401, and 5,532,898, property of U.S. Robotics Mobile Communications Corp. U.S. Robotics, the USRobotics logo, Megahertz and XJACK are registered trademarks and x2 and the x2 Logo are trademarks of U.S. Robotics and U.S. Robotics Mobile Communications Corp.

*Note: all x2 products are 56Kbps capable, however, due to FCC regulations which restrict power output, download speeds are limited to 53Kbps. Actual speeds may vary depending on line conditions. Uploads from users to service providers travel at speeds up to 28.8Kbps. An x2 capable modem, x2 compatible local analog phone line and x2 capable service provider are required for high speed downloads. See www.usr.com/x2 for details.

**Free upgrades available on model nos. XJ1560 and CC1560 through June 30, 1998. U.S. and Canada only.

Circle 232 on reader service card

Win a Gateway 2000 G5-166 M

Have you ever contacted your PC maker for service and support? Or has your PC been trouble-free? Tell us about it! Fill out and fax in the questionnaire below—even if you have no problems to report, and even if you have responded to this survey before—and we'll enter you in a drawing to win a Gateway 2000 G5-166 M, a Pentium-166 PC in this month's Top 20. Send in a separate copy of the survey for each of your PCs.

HOW TO ENTER: FOR BEST RESULTS, PHOTOCOPY THIS PAGE. Fax your completed survey to 415/357-4522. Do NOT fax a cover page. Or mail it to *PC World*, Box 8-SS, c/o 800-SCAN, 543 Howard St., San Francisco, CA 94105-3013. Surveys must be received by August 31.
PRIZE: One entry per person. IDG employees and their families are not eligible. One prize will be awarded through a random drawing. *PC World* will make reasonable efforts to contact winners by telephone and fax. If *PC World* is unable to do so within 30 days of the drawing, a new winner will be selected. No purchase necessary. Void where prohibited by law.
HOW TO FILL OUT THE FORM: Print your name (block capital letters) and your fax number, and fill the circles for each digit of your daytime phone number. Then fill out the questionnaire. AVOID GOING OUTSIDE THE LINES!

LAST, FIRST NAME

FAX NUMBER — —

ZIP CODE

Please fill in your daytime phone number below.

1	○	○	○	○	○	○	○	○	○	○
2	○	○	○	○	○	○	○	○	○	○
3	○	○	○	○	○	○	○	○	○	○
4	○	○	○	○	○	○	○	○	○	○
5	○	○	○	○	○	○	○	○	○	○
6	○	○	○	○	○	○	○	○	○	○
7	○	○	○	○	○	○	○	○	○	○
8	○	○	○	○	○	○	○	○	○	○
9	○	○	○	○	○	○	○	○	○	○
0	○	○	○	○	○	○	○	○	○	○

How did you get this copy of *PC World*?
○ By subscription ○ On the newsstand ○ From someone else

ABOUT YOUR PC

Who is the manufacturer of the PC you use most frequently?

○ Acer	○ Diamond	○ Hyundai	○ Packard Bell	○ Tangent
○ Acma	○ Digital (DEC)	○ IBM	○ Panasonic	○ Texas Instruments
○ ALR	○ DTK	○ Insight	○ PerComp	○ Toshiba
○ Apple	○ EPS	○ Intelesys	○ Pionex	○ Twinhead
○ AST	○ Epson	○ Leading Edge	○ Polywell	○ Unisys
○ Austin (IPC)	○ Everex	○ Micro Express	○ Quantex	○ USA Flex
○ Compaq	○ Fujitsu	○ Micron	○ Robotech	○ Vektron
○ Compudyne	○ Future Tech	○ Midwest Micro	○ Samsung	○ WinBook
○ Comtrade	○ Gateway 2000	○ MIS	○ Sharp	○ Xi
○ CTX	○ Hewlett-Packard	○ Nat'l Micro	○ Sony	○ Zenith (ZDS)
○ CyberMax	○ HiO	○ NCR	○ Swan	○ Zenon
○ Dell	○ Hitachi	○ NEC	○ Sys Tech.	○ Other

What size is this PC?
○ Desktop
○ Notebook/laptop

What is the CPU?
○ PowerPC ○ 6x86
○ Pentium ○ 6x86MX
○ Pentium Pro ○ MediaGX
○ Pentium MMX ○ K5
○ Pentium II ○ K6
○ Other _____

Where did you buy this PC?
○ Local dealer
○ Mail/phone order
○ Direct from field sales force
○ Membership discount store
○ Computer superstore
○ Home electronics store
○ Retail store
○ Value-added reseller
○ Other

After ordering, how long did it take to get your PC?
○ Less than 1 week
○ 1-2 weeks
○ 3-4 weeks
○ More than 4 weeks

Who set up your PC?
○ Dealer/retailer/VAR
○ Staff computer technician
○ Self or coworker

Where do you use this PC? ○ At home/home office ○ At work ○ Both

WHEN YOU FIRST GOT YOUR PC

When did you buy this PC? (Specify month and year.)

○ Jan	○ Mar	○ May	○ July	○ Sept	○ Nov	○ 92	○ 94	○ 96
○ Feb	○ Apr	○ June	○ Aug	○ Oct	○ Dec	○ 93	○ 95	○ 97

When you first set up your PC, were any components "dead on arrival" (DOA)?
○ Yes ○ No ○ Don't know

If so, which component was it? (Mark all that apply.)

○ Battery	○ Graphics/video board	○ Modem/fax board	○ Power supply
○ CD-ROM	○ Hard drive	○ Monitor/screen	○ Sound board
○ CPU	○ Keyboard	○ Motherboard	○ Other
○ Floppy drive	○ Memory	○ Mouse	

Did your problem occur only after you added your own hardware or software?
○ Yes ○ No ○ Don't know

Would you buy this brand of PC again?
○ Yes ○ No ○ Not sure

How many times have you had a problem with this PC?
○ No problem ever ○ Three
○ One ○ Four
○ Two ○ More than four

If you have had a problem that you have not reported in a previous survey, please fill out the right column. If you are reporting a DOA for the first time, skip to the service section.

NEW PROBLEM REPORT

Answer for the most recent problem—*other than DOA*—not reported in a prior survey.

When did this problem occur? (Specify month and year.)

○ Jan	○ Mar	○ May	○ July	○ Sept	○ Nov	○ 92	○ 94	○ 96
○ Feb	○ Apr	○ June	○ Aug	○ Oct	○ Dec	○ 93	○ 95	○ 97

How long after you purchased your PC did the problem occur?
○ Less than 1 month ○ 4-6 months ○ More than 12 months
○ 1-3 months ○ 7-12 months ○ Not sure

Did the problem occur as a result of adding new hardware or software?
○ Yes ○ No ○ Don't know

Did the problem occur under warranty?
○ Yes ○ No ○ Don't know

What was the problem finally identified as? (Mark all that apply.)
○ Faulty component ○ Wrong configuration ○ Device conflicts ○ Other
○ Incorrectly installed software ○ Faulty peripheral ○ OS problem ○ Don't know

If a component failed, which one was it? (Mark all that apply.)

○ Battery	○ Graphics/video board	○ Modem/fax board	○ Power supply
○ CD-ROM	○ Hard drive	○ Monitor/screen	○ Sound board
○ CPU	○ Keyboard	○ Motherboard	○ Other
○ Floppy drive	○ Memory	○ Mouse	

SERVICE

Please use this section to describe the service and support you received for the problem reported above or the DOA reported at left.

Who fixed your PC?
○ Manufacturer
○ Dealer/store where purchased
○ Manufacturer's authorized repair technician
○ Self ○ Other

What types of service and support did you receive? (Mark all that apply.)
○ Phone ○ System swap
○ On site ○ Component swap
○ In store ○ Factory return

If you received phone service, how long were you on hold?
○ Not at all ○ 1-2 minutes ○ 6-10 minutes ○ More than
○ Less than 1 minute ○ 3-5 minutes ○ 11-20 minutes 20 minutes

How long did it take before you talked to the person who finally helped you?
○ Less than 15 minutes ○ 2-5 hours ○ 11-24 hours ○ 3-5 days
○ 15 minutes-1 hour ○ 6-10 hours ○ 1½-2 days ○ 1 week or more

How long did it take to resolve the problem completely?
○ 1-2 days ○ More than 1 month
○ 3-7 days ○ Never resolved
○ 8-14 days ○ Awaiting resolution
○ 15-30 days

Was it resolved to your satisfaction?
○ Yes ○ No

How would you rate the person(s) who helped you?

	Poor		Good		Excellent
Courtesy	○	○	○	○	○
Knowledge	○	○	○	○	○
Follow-through	○	○	○	○	○

Based on the service and support you received, would you buy this brand of PC again?
○ Yes ○ No

On the whole, how satisfied are you with the service and support you received?
○ Not at all ○ ○ Satisfied ○ ○ Extremely satisfied

PLEASE FAX TO 415/357-4522. FOR BEST RESULTS, PHOTOCOPY THIS PAGE.

KDS

What are you looking at?℠

Choosing a monitor is typically a matter of balancing what you want with what you can afford. Fortunately, KDS makes sure you always come out on top with Visual Sensations.™

That's because Visual Sensations are built and sold based on four basic brand principles. First, they're neither under- nor over-designed, but made to function specifically for their intended use, whether it's professional graphics or business applications. Second, they're extremely reliable, a quality made possible by ISO-certified, fully robotic manufacturing. Third, without sacrificing either functional design or superior reliability, they consistently offer you the best value. And finally, Visual Sensations come with service and support that's second to none, as demonstrated by KARES, the industry's only lifetime, rapid replacement service.

So no matter what you're looking at, call KDS at 1-800-237-9988 or check out www.kdsusa.com for more information about Visual Sensations.

Because when it comes to choosing the right monitor, they won't leave you up in the air.

Order Desk: 800-285-8443

KDS ADVANCED REPLACEMENT KARES EXPRESS SERVICE

© 1997 KOREA DATA SYSTEMS CO LTD All rights reserved Visual Sensations is a trademark of KOREA DATA SYSTEMS CO., LTD

Circle 170 on reader service card

QUICK, WHAT'S THE ONE BRAND OF PAPER FOR ALL YOUR NEEDS?

HERE'S A HINT.

OK, here's another hint, it's great and it's white. Son of a gun you guessed it. It's Great White® Recycled Content Paper from Union Camp.

What's so great about Great White? Just about everything. Great White performs as well as virgin paper. And when you use it, you won't have to worry about paper jams. So it's as good for your needs as it is for the environment.

Great White is the simple choice for all your paper needs. We've got multi-purpose paper for general use. There's uncoated and coated inkjet paper for sharp black & white graphics and bright, vibrant color reproduction. And laser paper for crisper laser images.

After all this, what's the one paper for all your needs? If the answer was any more obvious, it would bite you.

Union Camp

For information on where to purchase Great White paper products, call toll-free 1-888-GR8-WHITE.

GREAT WHITE®
Recycled Content Paper
ONE LESS THING TO WORRY ABOUT™

Circle 237 on reader service card

PC WORLD

TOP 10 PRINTERS

	MONOCHROME PERSONAL PRINTERS	Month tested	Street price (5/15/97)	Overall rating	Speed for plain text (ppm)	Speed for full-page graphics (ppm)	Comments	Reader service number
1	HP LaserJet 6Lse 800/752-0900 www.hp.com	NEW	$399	80	5	1.8	FEATURES: 6-ppm laser. Standard 1M8 of RAM, 600-by-600-dpi maximum resolution, 100 sheets input, 100 output. PRO/CON: Excellent print quality and paper handling; faster text speed than its predecessor, the LaserJet 5L Xtra. Still slowest on the monochrome chart, and software bundle is not very useful.	647
2	Brother HL-720 800/827-6843 www.brother.com	June 97	$350	80	5.5	2.6	FEATURES: 6-ppm laser. Standard 512K of RAM, 600-by-600-dpi maximum resolution, 200 sheets input, 100 output. PRO/CON: Low price; fast performance; good print quality; 200-sheet input tray among the best on the chart. Not as easy to use as the HP LaserJet 6Lse; output tray takes up a lot of space.	648
3	NEC SuperScript 860 800/632-4636 www.nec.com	June 97	$399	79	7	2.4	FEATURES: 8-ppm laser. Standard 1MB of RAM, 600-by-600-dpi maximum resolution, 200 sheets input, 50 output. PRO/CON: $50 price drop; blistering text speed; easy controls for creating booklets and more; two-year warranty. Gray-scale graphics are blotchy; pages collate in reverse order.	649
4	NEC SuperScript 660plus 800/632-4636 www.nec.com	June 97	$349	79	5.1	2.5	FEATURES: 6-ppm laser. Standard 256K of RAM, 600-by-600-dpi maximum resolution, 150 sheets input, 100 output. PRO/CON: Low-priced laser has good print quality and speed; includes parallel cable and two-year warranty. Paper trays are flimsy; two-piece toner cartridge is hard to install.	650
5	Panasonic KX-P6500 800/742-8086 www.panasonic.com	June 97	$349	78	5.6	2.3	FEATURES: 6-ppm laser. Standard 512K of RAM, 2400-by-600-dpi maximum resolution, 100 sheets input, 50 output. PRO/CON: Huge price drop from $449; text and gray-scale print quality are very good, thanks to the 2400-dpi resolution enhancement; tower design saves space. On-screen help lacks detail.	651
	COLOR PERSONAL PRINTERS							
1	Epson Stylus Color 600 800/463-7766 www.epson.com	June 97	$299	82	2	0.6	FEATURES: 6-ppm monochrome/4-ppm color ink jet. 1440-by-720-dpi maximum resolution, 100 sheets input, 30 output. Similar $229 Stylus Color 400 is just 720 dpi. PRO/CON: Near-photo quality without special inks; easy installation; two-year warranty. Mediocre text quality on plain paper.	–
2	HP DeskJet 694C 800/752-0900 www.hp.com	June 97	$299	80	2.2	0.3	FEATURES: 3-ppm monochrome/0.8-ppm color ink jet. 600-by-600-dpi maximum resolution, 100 sheets input, 50 output. The DeskJet 692C is identical. PRO/CON: Easy to use; prints well on plain paper; software includes home and small-office applications. Printing photos requires special ink and paper.	652
3	Canon BJC-4200 Photo 800/848-4123 www.ccsi.canon.com	June 97	$279	80	1.4	0.3	FEATURES: 5-ppm monochrome/1-ppm color ink jet. 720-by-360-dpi maximum resolution, 100 sheets input and output. $249 BJC-4200 lacks photo kit. PRO/CON: $20 cheaper this month; bountiful software; photo kit included. Slowest printer on chart; not as easy to use as the DeskJet 694C.	653
4	HP DeskJet 820Cse 800/752-0900 www.hp.com	June 97	$299	79	4	0.3	FEATURES: 5-ppm monochrome/1.5-ppm color ink jet. 600-by-600-dpi maximum resolution, 150 sheets input, 50 output. PRO/CON: Price dropped $100. Near-laser text quality and speed; easy to use; includes Microsoft Publisher 97 desktop publishing app. Color graphics look fine except for photos.	654
5	HP DeskJet 672C 800/752-0900 www.hp.com	NEW	$199	79	1.7	0.3	FEATURES: 2.5-ppm monochrome/0.75-ppm color ink jet. 600-by-600-dpi maximum resolution, 100 sheets input, 50 output. PRO/CON: Very low price; prints text well on plain paper; excellent manual; fastest of the sub-$200 printers. Color quality is a little grainy; external power supply is bulky.	655

Best Buy online www.pcworld.com/t10printers. Windows 95-certified Plug and Play All products: 906

HOW WE TEST The overall rating for both monochrome and color personal printers is based on print quality (25 percent), price (25 percent), features (15 percent), speed (10 percent), service and support (10 percent), and ease of use (15 percent). For all ratings, higher is better. Data based on tests designed and conducted by the PC World Test Center. All rights reserved.

GOOD NEWS if you're shopping for a printer: This summer many vendors have cut prices by as much as 25 percent. A few models on the chart now cost $20 to $100 less. Also, two new Hewlett-Packard printers debut on the Top 10: One, the monochrome LaserJet 6Lse, earned a Best Buy. The other was the $199 DeskJet 672C, a bargain ink jet that placed fifth on the color chart.

Printers we tested that didn't make the Top 10 include the ▶

$499 HP DeskJet 1000C and the $299 Lexmark 2055 Color Jetprinter, and the $509 Okidata OL610e and the $629 OL810e LED monochrome printers, which we retested with updated drivers.

You'll find better deals on several Top 10 printers. The NEC SuperScript 860 fell from $449 to $399 and rose two positions on the chart. Faster and more capable, the SuperScript 860 overshadowed the Panasonic KX-P6500, despite its more dramatic cut from $449 to $349. On the color chart, the Canon BJC-4200 Photo fell from $299 to $279 and gained a point in its overall rating. HP cut the DeskJet 820Cse from $399 to $299; it rose to number four. It now costs the same as the second-ranked HP DeskJet 694C. The DeskJet 820Cse's speed appeals more to business users, while the DeskJet 694C's photo inks and papers give it better color capabilities for home and artistic use.

HP IMPROVES LASERJET SPEED

THE NEW $399 HP LaserJet 6Lse improved upon the most glaring fault of its predecessor, the LaserJet 5L Xtra: slow text speed. In our tests, the 6Lse printed text at 5 pages per minute compared with the 5L Xtra's poky 3.8 ppm. Surprisingly, however, the LaserJet 6Lse's 1.8-ppm graphics speed in our tests was slower than the LaserJet 5L Xtra's 2.4-ppm rate.

Despite its improved text speed, the LaserJet 6Lse is still the slowest laser on the chart. But it didn't need much to jump over the Brother HL-720 and become the higher of our two monochrome Best Buys. The LaserJet 6Lse outstrips the Brother HL-720 in print quality and ease of use. Text and line art are impeccable, and gray-scale images are subtly shaded. Installing and maintaining the printer is a snap. The manual is well organized.

The LaserJet 6Lse's two noticeable faults: The input tray is rather small at just 100 sheets—most other monochrome printers on the chart take 150 sheets or more. And its software bundle consists mostly of Microsoft application trial versions, more promotional than useful.

A NEW BEST BUY, HP's LaserJet 6Lse is faster than its predecessor. It also has excellent print quality and ease of use.

A $199 PRINTER MAKES THE CUT

ON THE COLOR CHART, HP's new DeskJet 672C takes fifth place thanks largely to its very low price. The DeskJet 672C is basic—it lacks bundled software, and it can't use special photo inks or do T-shirt transfers and the like. Compared with the other sub-$200 color printers we've tested, however, the DeskJet 672C is faster, and its plain-paper text quality is the best. Color quality is a little grainy, but it's fine for most graphics except photos.

The DeskJet 672C is very easy to use. The manual is thorough and detailed. Unlike other low-end printers, the DeskJet 672C doesn't sacrifice basic parts like an output tray. The only thing we didn't like was its external AC adapter, which is bigger and heavier than most we've seen. It's a clunky addition to the rat's nest of wires and cables found under a typical desk.

Another new HP printer, the DeskJet 1000C, didn't make the chart because of its high $499 price. Nevertheless, businesses that need to make their own signs or promotional posters, or artistic types who want a bigger canvas, will like its wide-format design. The DeskJet 1000C can take regular-size paper, sheets up to 13 inches wide and 19 inches long, and 13-inch-wide banners. Its software can make posters, print booklets, and put reduced images of multiple pages on a single page ("n-up" printing). The DeskJet 1000C has good print quality and speed, a useful software bundle including Corel PrintHouse Select and MyColorMarketing Materials, and helpful documentation.

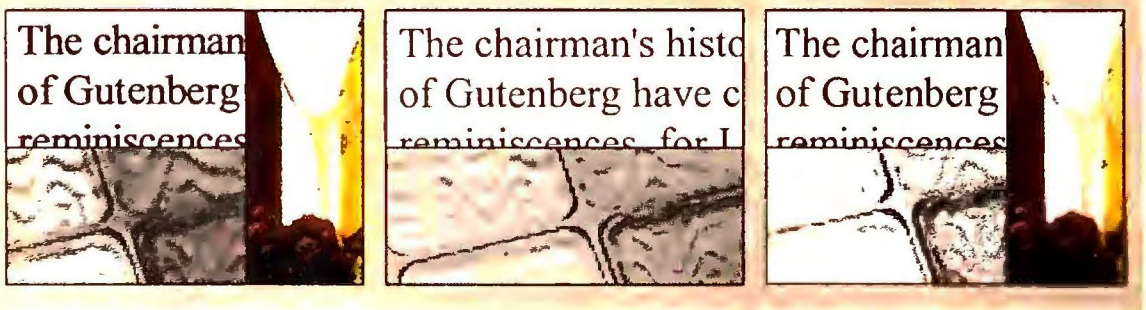
Although the printer didn't make our chart, small business startups may appreciate the useful software that comes with the $299 Lexmark Color Jetprinter 2055, including Peachtree's First Accounting. The 2055's color quality was impressive, especially on flesh tones and other natural colors. Unfortunately, it's very slow, and its monochrome print quality is mediocre: Text looks feathery, and gray-scale images lack subtle gradations.

The Okidata printers we retested, the 6-ppm OL610e and the 8-ppm OL810e, were too expensive to make the chart. In addition, the OL610e's 300-dpi print engine outputs jagged-looking text and overly dark gray-scale images.

—Dan Littman and Melissa Riofrio ■

PRINT QUALITY SAMPLES

HP Printers Excel in Text Quality



HP DESKJET 672C

HP's lowest-cost ink jet offers good text quality. Color quality, especially in photographs, looks somewhat grainy but is still adequate for most home projects.

HP LASERJET 6LSE

This new laser has superior text quality, and in our tests its subtle gray-scale quality surpasses that of many other personal lasers we've tested.

LEXMARK COLOR JETPRINTER 2055

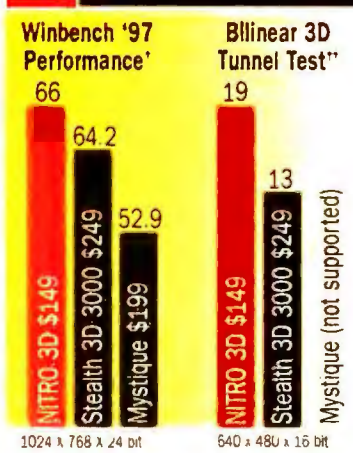
The Lexmark didn't make the chart, but it had impressive color quality. Text looks somewhat feathery, though.

SAMSUNG
monitors
SAMSUNG
SyncMaster 700s
simply perfect vision™
s series monitors
for small office/home office
SyncMaster™ 500s • SyncMaster 700s
superior image*
1280 x 1024 resolution, completely
flicker-free, edge to edge viewing,
anti-reflective UltraClear™ screen coating
multimedia/internet kit (option)†
stereo speakers, microphone, 2 free months
of Prodigy Internet with Netscape browser,
internet phone, color calibration software
call 1 800 933 4110
for the dealer nearest you or visit
our web site at www.sosimple.com
simply samsung
3-Year Warranty
24-Hour Support
Advanced Replacement Program
Sept. Oct. 176
Feb. 1996 6Ne
May 1996 20GLs July 1996 17GLt Nov. 1996 20GLsl, Feb. 1997 5GLt
June 1996 17GLsl Aug. 1996 21GLs
July 1996 17GLt
Aug. 1996 21GLs
Aug. 1996 17GLsl May 1997 21GLs
Summer 1996 17GLsl June 1997 21GLs
1996 VAR Business Product Award Winner 17" monitors
Jan. 199 4Ne
*700s ONLY, COMPLETELY FLICK FREE UP TO 1024 x 768 RESOLUTION. †SOLD SEPARATELY. AVAILABLE IN THE U.S. ONLY 1997 SAMSUNG ELECTRONICS AMERICA, INC. SIMPLY PERFECT ISION AND SYNCMASTER ARE TRADEMARKS OF SAMSUNG ELECTRONICS AMERICA, INC. THE TRADEMA "SIMPLY PERFECT VISION" IS NOT A LITERAL DESCRIPTION OF HE PRODUCT. ALL OTHER BRANDS AND PRODUCT NAMES ARE TRADEMARKS OR REGISTERED TRADEMARKS OF HEIR RESPECTIVE COMPANIES.

We'll take you there

NEW

NITRO 3D™



Advanced 3D Rendering Features

- Gouraud shading for more realistic shading effects
- Z buffering for faster 3D performance
- Bi- and Tri-linear filtering for smooth images
- MIP Mapping for better resolution of texture maps
- Alpha Blending for complete or partial transparencies
- Perspective Correction for proper perception of depth
- Video Texture Mapping to place video into images

getting back is up to you

Enter a 3D world limited only by your imagination. A world where images flow as fast as your ideas, powered by the most advanced technology.

- 4MB of Ultra High-Speed (600*MB/s) Video Memory
- 1024 x 768 resolution with 16.7 million colors
- Microsoft Direct3D and Active Movie support
- 170Mhz RAMDAC for refresh rates up to 160Hz

NITRO 3D. New from STB, one of the largest multi-media companies in this world. Helping you create yours. From $99.99*

Copyright 1997 STB Systems Inc. All rights reserved. All trade names referenced are the trademarks, service marks,or reg.stered trademarks of their respective holders. Mechwarrior® 2 image © 1996 FASA Corporation. †WinBench 97 1.0 tests conducted on a Gateway P5-200 MMX, PCI 2.0 Bus, 512K cache, 32MB SORAM, 1024 x 768 x 24 bit, at 75Hz refresh without GDI bypass as required for Microsoft certification. Memory and driver versions: STB Nitro 3D*(4 MB) 1.50G 2/28/97, Diamond Stealth 3D 3000 (4MB) 4.04.00.2104 12/10/96, and Matrox Mystique (4MB) 3.30 1/30/97. ††Single pass bilinear filtering tunnel 3D test. Prices and specifications subject to change without notice. *Price for 2 MB after introductory rebate. **Software shown included with 4MB model. 2MB includes Mechwarrior2: Mercenaries and Hyperblade.

Available at:

COMPUSA · BEST BUY · COMPUTER City · MICRO CENTER · Fry's ELECTRONICS · ELEK-TEK, Inc. · ComputAbility Consumer Electronics · PC Connection 800-800-5555

STB Systems, Inc.

(888) 234-8750 http://www.stb.com

Circle 210 on reader service card

FREE

Full versio
games fro
Activision®
with your
purchase
NITRO 3D

HyperBlade

Interstate

MechWarric
Mercenarie

Spycraft: Th
Great Game

PC WORLD

TOP 10 MONITORS

	15-INCH MONITORS	Month tested	Street price (5/21/97)	Overall rating	Quality of text/graphics	Comments	Reader service number
1	Dell UltraScan 800HS 800/289-3355 www.dell.com	Feb 97	$399	83	excellent/ excellent	**FEATURES:** 13.7-inch viewable screen, .25mm stripe pitch Trinitron tube, up to 110-Hz refresh rate,[1] Plug and Play ready,[2] 24-hour toll-free tech support. **PRO/CON:** Terrific text and graphics detail, easy-to-use on-screen gauges; brief one-year warranty, very faint line across screen, expensive.	721
2	Nokia Multigraph 449Xa 800/296-6542 www.nokia.com	June 97	$399	82	very good/ very good	**FEATURES:** 13.8-inch viewable screen, .25mm stripe pitch Diamondtron tube, up to 80-Hz refresh rate,[1] Plug and Play ready,[2] three-year warranty, 12-hour weekday toll-free technical support. **PRO/CON:** Sharp text and graphics, speakers, extensive on-screen controls, color-adjustment software, TCO-95 compliant; expensive.	722
3	Panasonic PanaSync/Pro P15 800/742-8086 www.panasonic.com	June 97	$349	81	very good/ very good	**FEATURES:** 14-inch viewable screen, .27mm dot pitch tube, up to 75-Hz refresh rate,[1] Plug and Play ready,[2] three-year warranty, 24-hour toll-free tech support. **PRO/CON:** $50 price drop, fine text and detailed color graphics, large viewable screen, easy-to-adjust on-screen controls; lacks tilt control to level a crooked picture.	723
4	Hitachi SuperScan Pro 500 800/441-4832 www.nsa-hitachi.com	Apr 97	$349	81	very good/ very good	**FEATURES:** 13.6-inch viewable screen, .28mm dot pitch tube, up to 85-Hz refresh rate,[1] Plug and Play ready,[2] three-year warranty, 8-hour daily toll-free technical support. **PRO/CON:** Very crisp text detail, accurate color graphics; small viewable screen, tedious button pressing required to navigate on-screen menus.	724
5	Panasonic PanaMedia PM 15 800/742-8086 www.panasonic.com	June 96	$349	81	very good/ good	**FEATURES:** 14-inch viewable screen, .27mm dot pitch tube, up to 107-Hz refresh rate,[1] Plug and Play ready,[2] speakers and mike, three-year warranty, 24-hour toll-free support. **PRO/CON:** $50 price drop, big viewable screen, very sharp text, ample on-screen controls; easy-to-adjust screen is a little less bright in the corners.	725
6	CLR VisionPro 15 800/611-1555 www.clrusa.com	Apr 97	$272	80	very good/ good	**FEATURES:** 13.6-inch viewable screen, .28mm dot pitch tube, up to 75-Hz refresh rate,[1] Plug and Play ready,[2] three-year warranty. **PRO/CON:** Lowest price on chart, easy-to-read text, bright color, ample on-screen menus; graphics could be more distinct, some adjustments take too many clicks, small viewable screen.	726
7	Gateway 2000 CrystalScan 500 800/846-2000 www.gateway.com	NEW	$345	80	very good/ good	**FEATURES:** 13.9-inch viewable screen, .27mm dot pitch tube, up to 75-Hz refresh rate,[1] Plug and Play ready,[2] three-year warranty, 24-hour daily toll-free support. **PRO/CON:** Low price, big viewable screen, crisp and well-focused text, liberal assortment of on-screen controls; hard to discern what controls do in different modes.	727
8	ViewSonic 15GS 800/888-8583 www.viewsonic.com	Feb 97	$355	79	good/ very good	**FEATURES:** 13.8-inch viewable screen, .28mm dot pitch tube, up to 108-Hz refresh rate,[1] Plug and Play ready,[2] three-year warranty, 11-hour weekday toll-free support. **PRO/CON:** Very crisp graphics, TCO-92 compliant; text could be sharper, controls require repetitive button pressing, no image tilt control.	728
9	MAG InnoVision DX15T 800/827-3998 www.maginnovision.com	Aug 96	$359	79	very good/ very good	**FEATURES:** 13.9-inch viewable screen, .25mm stripe pitch Trinitron tube, up to 85-Hz refresh rate,[1] Plug and Play ready,[2] limited three-year warranty. **PRO/CON:** Sharp text—even with small type—and realistic color graphics; navigating to some on-screen menu items is complicated, faint line across screen.	729
10	Mitsubishi Diamond Scan 15VX 800/843-2515 www.mitsubishi-display.com	Oct 96	$350	79	good/ good	**FEATURES:** 13.8-inch viewable screen, .28mm dot pitch tube, up to 90-Hz refresh rate,[1] Plug and Play ready,[2] image correction software, three-year warranty, 8.5-hour weekday toll-free support. **PRO/CON:** $60 price drop, detailed text and graphics, ample menus; no degauss button to manually demagnetize the tube.	730

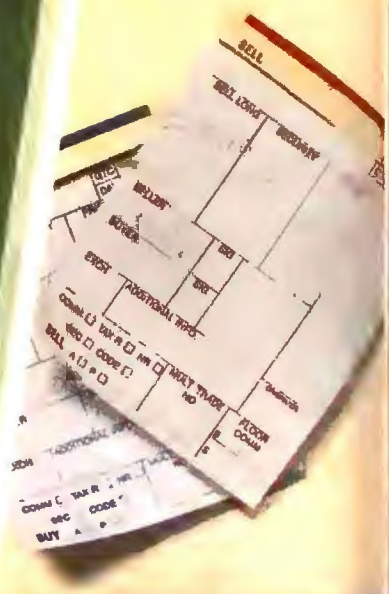
Best Buy For expanded reviews, visit www.pcworld.com/t10monitors. All products: 910

[1] Highest refresh rate at 1024 by 768 resolution. [2] Plug and Play monitors and graphics cards can communicate bidirectionally. However, Windows 95 does not fully utilize monitor Plug and Play.

HOW WE TEST Ten judges rate a monitor's text and graphics quality. We evaluate each unit on how well it displays typical business letters, spreadsheets, Web pages, and scanned images. The overall rating is based on price (30 percent), features and ease of use (25 percent), text and graphics quality (20 percent each), and service and support (5 percent). The best possible overall rating is 100. Data based on tests designed and conducted by the PC World Test Center. All rights reserved.

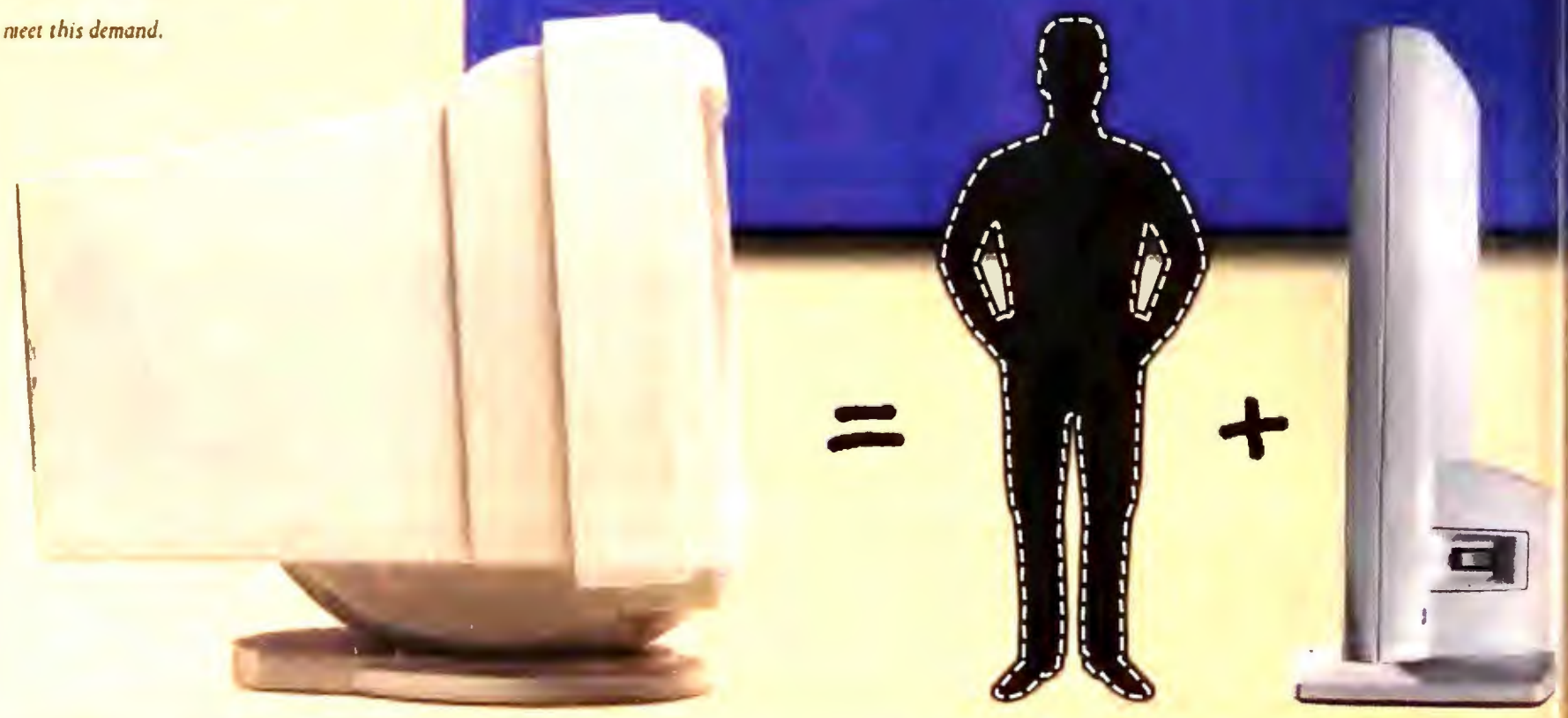
DELL AND NOKIA are tops again, though the latter barely fends off the less expensive PanaSync/Pro P15. The CLR VisionPro 15—now $58 cheaper—rises to number six, and the Mitsubishi at number ten comes back with a $60 price drop. Gateway's redesigned CrystalScan 500 debuts at number seven with fine text and an affordable price. And Samsung's SyncMaster 500b, which replaces the SyncMaster 15GLi, just missed the chart. ■

WALL ST



Perhaps the first instance where computers are being replaced by people.

3 REPLACING A BIG, BULKY CRT *with a slim flat panel display actually makes room for more traders on the floor. Which is a good thing, since the trading volume on the major exchanges is higher than it has ever been in the past. The increased volume in trades means that there is an even greater need for traders to meet this demand.*



MultiSync is a registered trademark and LCD2000, LCD400, XtraView, "Expect more. Experience more." and the NEC Technologies icon are trademarks of NEC Technologies, Inc. All other trademarks

1 IN A FREE MARKET ECONOMY, *companies are always competing for capital. In fact, the market has never been more competitive than it is today. This increases the number of specialists needed to trade stocks. It also puts an additional burden on the technology needed to support this effort, since traders need to constantly view as many as four or five displays to stay abreast of market news and economic data.*

NEC MultiSync LCD2000
20.1" Viewable LCD Monitor

Wall Street at least, it pears that less may actually more. Because replacing big, lky, energy-hogging CRTs with slim flat nel displays allows you to put more traders the floor of the exchange.

Take NEC Technologies' new MultiSync® D monitors, including the world's first mmercially available 20.1" viewable LCD nitor. These remarkable flat panel displays ke up 60% less space and weigh 70% less an a traditional monitor. Size, however, is t all that sets them apart.

Our XtraView™ technology ables clear and accurate ewing of the screen at virtually any angle (which comes in handy when you're straining to see over the shoulder of another trader). These monitors produce a brighter, sharper image than many CRTs. They eliminate eye-fatiguing flicker (which traders will appreciate since they have to keep an eye on so many displays). They also consume up to 50% less power and have much lower emissions. Plus they're compatible with most PCs, Macs and workstations.

To learn more, call 1-800-NEC-INFO. Or, if you prefer, please visit us at www.nec.com. Expect more. Experience more.

NEC
NEC Technologies

2 THE TRADING FLOOR *is crowded with specialists. The trading floor is also crowded with big, bulky CRTs that take up precious room. These CRTs also hog energy and produce a tremendous amount of heat. (Besides, as any trader will tell you, it's already "hot" enough on the trading floor.)*

MultiSync® LCD Monitor Series		
	LCD2000™	LCD400™
Viewable Size	20.1"	14.1"
Maximum Resolution	1280 x 1024	1024 x 768
Weight	22.0 lbs	11.5 lbs
Dimensions (W, H, D)	19.7 x 19 x 8.7"	14.1 x 14.3 x 6.7"
Brightness	150 cd/m²	180 cd/m²
Viewing Angle	160° conical XtraView technology	160° conical XtraView technology

Both models are compatible with PC, Mac, workstation or any VESA compliant analog RGB signal, no special card required.

4 MORE TRADERS MEANS MORE TRADES, *which means more money. (And let's be completely frank, shall we, what financial person doesn't like news like that?) In fact, one could even argue that migrating from big, bulky CRTs to slim flat panel monitors like the MultiSync LCD2000 could actually put a positive spin on the term 'downsizing'.*

Circle 201 on reader service card

or registered trademarks are the property of their respective holders. ©1997 NEC Technologies, Inc.

A FLIGHT *of* FANCY.

Actions boost your productivity by letting you automate critical imaging tasks and then apply them to a folder full of images.

With support for all the key **Web file formats**, it's no wonder that Adobe Photoshop is the number one tool for Web image processing.

Grids and Guides bring precision layout capabilities to even the most complex compositing projects.

Free Transform allows virtually unlimited experimentation while retaining image quality.

Adjustment Layers give you unlimited flexibility for color and tonal corrections.

ADOBE PHOTOSHOP 4.0

Let your imagination soar. Because the newest version of Adobe Photoshop has the wings to take you anywhere. Now, the world's leading photo design and production tool has evolved. Version 4.0 adds a host of new capabilities to send your productivity and creativity skyward. So whether you are designing compelling visuals for print, laying out a sexy interactive interface for your latest multimedia creation, or processing scores of images to fuel your Web page, Photoshop 4.0 is the indispensable tool that's ready to lift your visions to new heights. Call 1-800-492-3623, offer code 26117 or visit our web site at www.adobe.com.

CALL NOW FOR YOUR **UPGRADE** TO THE NEW ADOBE PHOTOSHOP 4.0 FOR MACINTOSH® AND WINDOWS®

Adobe

If you can *dream* it, you can *do* it.®

Adobe, Adobe Photoshop and the tagline, "If you can dream it, you can do it" are trademarks of Adobe Systems Incorporated. Macintosh is a registered trademark of Apple Computer, Inc. Windows is a registered trademark of Microsoft in the U.S. and other countries. All other marks are the property of their respective companies. ©1997 Adobe Systems Incorporated. All rights reserved.

Circle 12 on reader service card

PC WORLD

TOP 10 GRAPHICS BOARDS

	GRAPHICS BOARDS	Month tested	Street price (5/19/97)	Overall rating	PC WorldBench graphics score	Comments	Reader service number
1	STB Nitro 3D 888/234-8750 www.stb.com	July 97	$149	104	189 very good	**FEATURES:** 4MB of EDO DRAM, 120-Hz refresh rate at 1024 by 768, 3-D acceleration, bilinear video interpolation, Active Movie MPEG player, S3 Virge/GX chip, optional TV tuner. **PRO/CON:** Fast 2-D and 3-D performance, excellent AVI and MPEG playback, lifetime warranty; all components not automatically installed.	637
2	Hercules Terminator 3D/DX 800/532-0600 www.hercules.com	June 97	$149	104	189 very good	**FEATURES:** 4MB of EDO DRAM, 120-Hz refresh rate at 1024 by 768, 3-D acceleration, bilinear video interpolation, Xing MPEG software, S3 Virge/DX chip. **PRO/CON:** 2-D and 3-D graphics improved over Terminator 3D, excellent MPEG playback, good software; mediocre AVI playback.	638
3	Matrox Mystique 220 Business 800/361-1408 www.matrox.com/mga	NEW	$179	103	188 very good	**FEATURES:** 4MB of SGRAM, 140-Hz refresh rate at 1024 by 76B, bilinear video interpolation, Compcore 2.2 MPEG software, Matrox MGA-1164SG chip, optional video editing card. **PRO/CON:** Easy installation, clear documentation, good quality MPEG and AVI playback; no hardware filtering for smooth 3-D images.	639
4	ATI 3D Xpression+ PC2TV 905/882-2600 www.atitech.ca	Jan 97	$129	102	180 very good	**FEATURES:** 4MB of SDRAM, 15D-Hz refresh rate at 1024 by 768, 3-D acceleration, bilinear video interpolation, ATI MPEG player, ATI Rage II chip, bundled games and 3-D graphics programs. **PRO/CON:** $60 price drop, connects to a TV, excellent AVI and MPEG video; 3-D quality merely okay, relatively slow 2-D.	640
5	Diamond Stealth 3D 3000XL 800/468-5846 www.diamondmm.com	Mar 97	$200	102	184 very good	**FEATURES:** 4MB of VRAM, 120-Hz refresh rate at 1D24 by 768, 3-D acceleration, bilinear video interpolation, Mediamatics MPEG software, S3 Virge/VX chip, bundled games. **PRO/CON:** Good for graphical apps, great software utilities, excellent AVI and video playback; expensive.	641
6	STB Velocity 3D 888/234-8750 www.stb.com	Feb 97	$199	101	187 very good	**FEATURES:** 4MB of VRAM, 120-Hz refresh rate at 1024 by 768, 3-D acceleration, bilinear video interpolation, Mediamatics MPEG software, S3 Virge/VX chip, bundled games. **PRO/CON:** Good for graphically intense programs, memory upgradable, lifetime warranty; mediocre AVI and MPEG video playback.	642
7	STB Lightspeed 128 888/234-8750 www.stb.com	Aug 96	$99	101	186 very good	**FEATURES:** 2.25MB of MDRAM, 12D-Hz refresh rate at 1D24 by 768, bilinear video interpolation, Xing MPEG software, Tseng Labs ET6000 chip. **PRO/CON:** Performs well with business and graphics programs, perfect AVI video playback, excellent MPEG, lifetime warranty, low price; no 3-D acceleration.	643
8	Diamond Stealth 3D 2000 Pro 800/468-5846 www.diamondmm.com	July 97	$150	100	182 very good	**FEATURES:** 4MB of EDO DRAM, 1DO-Hz refresh rate at 1024 by 768, bilinear video interpolation, Mediamatics MPEG player, S3 Virge/DX chip, bundled multimedia software. **PRO/CON:** Excellent MPEG and AVI video playback; software difficult to install, performance could be better.	644
9	Matrox Millennium 800/361-1408 www.matrox.com/mga	Apr 97	$219	100	187 very good	**FEATURES:** 4MB of WRAM, 12D-Hz refresh rate at 1024 by 768, Compcore MPEG software, Matrox MGA-2064W chip, bundled game and 3-D graphics program. **PRO/CON:** Fast, superb AVI and MPEG video, great software utilities, upgradable memory; expensive, no bilinear interpolation for sharp images.	645
10	VideoLogic GrafixStar 600 800/578-5644 www.videologic.com	Apr 97	$149	99	189 very good	**FEATURES:** 4MB of MDRAM, 12D-Hz refresh rate at 1D24 by 768, bilinear video interpolation, Xing MPEG software, Tseng Labs ET6000 chip, bundled multimedia apps. **PRO/CON:** Very fast 2-D performance, excellent software utilities; no 3-D acceleration, average AVI and MPEG performance.	646

Best Buy For expanded reviews, visit www.pcworld.com/t10graphics. Windows 95 Plug and Play All products: 905

HOW WE TEST We tested PCI boards under Windows 95 with PC WorldBench 1.0 at 8D0 by 6D0 resolution and 16.8 million colors (reported here) and at 1024 by 768 and 65,536 colors. Boards were tested in a Dell Dimension XPS P133c with 16MB of EDO DRAM and 256K of pipeline-burst secondary cache. The overall rating is based on performance (40 percent), features (3D percent), price (20 percent), and support policies (10 percent). For all ratings, higher is better. Data based on tests designed and conducted by the PC World Test Center. All rights reserved.

THIS MONTH'S NEW number three graphics board, the Matrox Mystique 220 Business, is a faster, more powerful version of the Matrox Mystique, which was on our chart for three months. It offers higher refresh rates and better 2-D performance. Matrox is selling the card in two flavors: the Business version on our chart, which comes with productivity software, and the Mystique 220, packaged with games for the home user. ■

Breakthrough

IN KEYBOARD MONITOR SWITCHES

Multi Platform & On-Screen Display

SEE US AT COMDEX CANADA
July 9-11, Toronto, Ont
Booth #146

BREAKTHROUGH the clutter of multiple keyboards, monitors, and mice with this latest **INNOVATION** from Rose. This switch has every feature you asked for:

Switches several servers or computers to a single monitor, keyboard, and mouse

Supports any mix of PC, Apple, Sun, RS 6000, HP 700 series, DEC Alpha, SGI, or other computers from any keyboard or mouse

Front panel has keypad for easy selection of computers and configuration

Front panel display shows computers name and other information

Command to switch can come from your keyboard, front panel, or RS232 port

Simple to use keystrokes switch computers for fast and easy control

Built in daisy-chaining to support up to 256 computers

Flash memory for future upgrade of features

Easy to use **OverView™** system gives control and status with on-screen graphics

Many other features!

ROSE ELECTRONICS INVENTED the first keyboard-monitor switch. We have an extensive line of keyboard and video control products for any application.

CALL TODAY FOR FREE CATALOG:

- *Keyboard/Video Control*
- *Print Servers*
- *Data Switches*

800-333-9343

VISIT OUR WEB SITE AT WWW.ROSEL.COM

ROSE ELECTRONICS

10707 STANCLIFF ROAD HOUSTON, TEXAS 77099 TEL 281-933-7673 FAX 281-933-0044

Circle 194 on reader service card

PC WORLD

TOP 10 MODEMS

	EXTERNAL MODEMS	Month tested	Street price (5/15/97)	Overall rating	Average transfer time per MB (min:sec)	Comments	Reader service number
1	U.S. Robotics Courier V.Everything 56k 800/877-2677 www.usr.com	retested this month	$285	81	2:26	FEATURES: 56-kbps, FlashROM, distinctive ring, 115.2-kbps modem-to-PC speed, callback, password, Caller ID, RapidComm Win/DOS fax/data software. PRO/CON: Fastest modem on the chart, great documentation, toll-free tech support, manual volume control, 33.6-kbps version also a good buy; expensive.	616
2	Diamond Multimedia SupraSonic 336V+ 800/727-8772 www.diamondmm.com	NEW	$199	80	2:44	FEATURES: 33.6-kbps, FlashROM, distinctive ring, 115.2-kbps modem-to-PC speed; comes with serial cable, headphones, microphone, ComIt voice/fax/data software, Caller ID; voice enabled. PRO/CON: Loaded with features, weekend tech support, SupraFax voiceless sibling also a good buy; expensive.	617
3	Practical Peripherals PC288LCD V.34 770/840-9966 www.practinet.com	retested this month	$329	79	2:28	FEATURES: 28.8-kbps, distinctive ring, stores multiple profiles, 230.4-kbps modem-to-PC speed, QuickLink II fax/data software, Caller ID, lifetime warranty. PRO/CON: Amazingly fast for 28.8-kbps modem, LCD English-language status display, loaded with features; most expensive modem on chart.	618
4	Zoom Fax/Modem V.34X Plus 800/631-3116 www.zoomtel.com	retested this month	$99	79	2:52	FEATURES: 33.6-kbps, MNP-10EC error control, 115.2-kbps modem-to-PC speed, distinctive ring, DOS/WinFax Lite fax/data software, stores multiple profiles. PRO/CON: $20 price drop brings it below $100, easy-to-follow documentation, seven-year warranty; slowest modem on chart, no security features.	619
5	Motorola ISG Premier 33.6 800/566-3266 www.mot.com/modems	retested this month	$230	77	2:28	FEATURES: 33.6-kbps, FlashROM, 230.4-kbps modem-to-PC speed, distinctive ring, QuickLink II fax/data software, stores 20 profiles. PRO/CON: Among the fastest we've tested, toll-free technical support, 30-day money-back guarantee; on the expensive side overall, documentation not for novices.	620
	PC CARD MODEMS						
1	Practical Peripherals ProClass 336 V.34 Data/Fax PC Card with EZ-Port 770/840-9966 www.practinet.com	NEW	$159	86	2:41	FEATURES: 33.6-kbps, FlashROM, distinctive ring, 230.4-kbps modem-to-PC speed, Caller ID, QuickLink II fax/data software, built-in phone jack. PRO/CON: Lowest price on PC Card chart, above-average performance, cross-ship replacement, full security includes password and callback; awful documentation.	621
2	Motorola Montana 33.6 800/427-2624 www.mot.com/pccards	retested this month	$199	86	2:38	FEATURES: 33.6-kbps, FlashROM, direct cellular connection, 115.2-kbps modem-to-PC speed, QuickLink Mobile fax/data software, digital line protection with alert. PRO/CON: Moderate price, good for cellular use, great documentation, toll-free tech support, above-average performance; not many features.	622
3	Megahertz U.S. Robotics XJ1336 800/527-8677 www.usr.com/mobileusr	NEW	$239	84	2:32	FEATURES: 33.6-kbps, FlashROM, built-in phone jack, 230.4-kbps modem-to-PC speed, digital line-voltage protection, FaxWorks fax/data software, stores multiple profiles. PRO/CON: Fastest modem on PC Card chart, extensive online documentation, voice-enabled XJ4336 also a good buy; expensive.	623
4	U.S. Robotics Sportster 33.6 Faxmodem 800/527-8677 www.usr.com/mobileusr	NEW	$229	82	2:38	FEATURES: 33.6-kbps, FlashROM, 230.4-kbps modem-to-PC speed, digital line-voltage protection, FaxWorks fax/data software, stores multiple profiles. PRO/CON: Above-average performance, very good documentation; on the expensive side, no weekend tech support, no cross-ship replacement.	624
5	TDK CyberExpress 3000 800/999-4835 www.tdk.com	retested this month	$179	78	3:20	FEATURES: 33.6-kbps, MNP10, MNP-10EC error control, FlashROM, 115.2-kbps modem-to-PC speed, digital line-voltage protection, QuickLink II fax/data software, stores multiple profiles. PRO/CON: Support package includes toll-free technical support, five-year warranty; very slow.	625

Best Buy For expanded reviews, visit www.pcworld.com/t10modems. Windows 95-certified Plug and Play All products: 903

HOW WE TEST We test a pair of identical modems on a simulated phone network. For the phone line test, we send a text file over 55 line conditions. For the file type test, we send five files—graphics, text, program, and compressed file types, plus a mixture of these four types—over one line condition. We then average the results of the two tests. Overall rating is based on performance (43 percent), features (26 percent), price (12 percent), support (10 percent), and ease of use (9 percent). Data based on tests designed and conducted by the PC World Test Center. All rights reserved.

THE U.S. ROBOTICS Courier V.Everything 56k moved to number one this month on the External Modems chart after we adjusted our sheets to reflect the pricing of today's modems. The Courier was tested only at its 33.6-kbps speed; in September we'll start testing at 56 kbps as well. On the PC Card chart, Practical Peripherals' ProClass 336 V.34 Data/Fax PC Card with EZ-Port replaces the 28.8-kbps version and becomes our other new Best Buy. ■

ATI Takes Xcitement to Xtremes

ATI XPERT@Play™

The only accelerator that gives you everything for the best in gaming, entertainment and practical use.

- One card does it all - for high performance 3D, 2D and video acceleration, with big screen TV-out display.
- Superior 3D quality with bilinear filtering, alpha blending and special effects that blows away the competition.
- Brute force 3D acceleration with over 1 million triangles/second and 60fps gameplay - with hardware setup engine, texture cache and more.
- Great gaming in Windows 95 (Direct3D, DirectDraw) and DOS.
- DVD-quality, full-screen, full-motion video
- Connect to a large screen TV for truly immersive game play, or record your stratospheric scores on a VCR.
- Includes the hottest 3D games - Formula 1 and Terracide -
- Starting at $249*
- Check out www.atitech.com or call (905) 882-2600

MORE FEATURES

FEATURE	XPERT@Play	Matrox Mystique	Diamond Monster 3D
Triangle Setup Engine	•		
Bilinear/Trilinear Filtering	•		•
Texture Decompression	•		•
Alpha Blending/Fog	•		•
Standard Max. Memory	8MB	4MB	4MB
DVD-Quality Video	•		
2D Acceleration (Win 95)	120M	103M	n/a

KILLER 3D PERFORMANCE

Copyright '997, ATI Technologies Inc. XPERT@Play, and ATI-TV are trademarks and/or registered trademarks of ATI Technologies Inc. All other company and/or product names are trademarks and/or registered trademarks of their respective manufacturers. Features, performance, and specifications may vary by operating environment and are subject to change without notice. Products may not be as exactly shown. 1Winbench 97 and 2 3D Winbench 97, on a Pentium II 266MHz, 512K cache, 32MB memory at 1024x768x16bpp@75Hz and 640x480x16bpp@75Hz respectively. 2 Screen shot examples from FORMULA 1. FORMULA 1 is the creation of PSYGNOSIS. Licensed by FOCA to Fuji Television. Used with permission. Terracide is a registered trademark of Eidos Interactive. *Suggested retail price for 4MB upgradeable version.

Now You See It.™

Circle 25 on reader service card

Do-It-Yourself Law, Docs in a Box

CHEAP LEGAL ADVICE

TAKE IT FROM a lawyer: If all you need is a basic contract for a small transaction, lawyers charge too much. **Quicken Family Lawyer Deluxe** is a much cheaper way to create basic legal documents (and it's incredibly simple to use). The program will walk you through the creation and customization of more than 80 fundamental legal documents, such as employment agreements, powers of attorney, bills of sale, and promissory notes. The package also includes Quicken's Estate Planner and the American Bar Association's Family Legal Guide, which provides advice about everything from what you can do about your neighbor's barking dog to how to evict a tenant. Quicken Family Lawyer Deluxe is no substitute for a skilled legal adviser, but if all you need is a simple contract, using this CD-ROM is a better option than trying to go it alone.

—Mark Grossman

Quicken Family Lawyer Deluxe

GRADE: **A**; PRICE: $49 street; Parsons Technology; 888/883-0791; www.parsonstech.com

READER SERVICE NO. 714

DOCTOR, DOCTOR

YOU WAKE UP at 2 A.M. with burning stomach pains. You need an electronic medical adviser that can tell you if those pains warrant a wee-hours trip to the emergency room. Unfortunately, neither **Home Medical Advisor** nor **Mosby's Medical Encyclopedia** truly accomplishes this task. Their texts are mostly in medical lingo, and "first aid" for common problems is scant. Both programs do include ample anatomy lessons, drug listings, and Web links. They can also be fun to browse if you're a hypochondriac looking for exotic conditions to worry about. Mosby's has a more attractive interface, but HMA's three-disc set boasts more photos and videos, including some gory graphics. HMA also offers interactive videos to help diagnose some conditions, and an area where the program assesses your health risks based on your medical history. These two CD-ROMs are fascinating references, but look elsewhere if you need more in-depth medical advice. *—Naomi Wise*

Home Medical Advisor

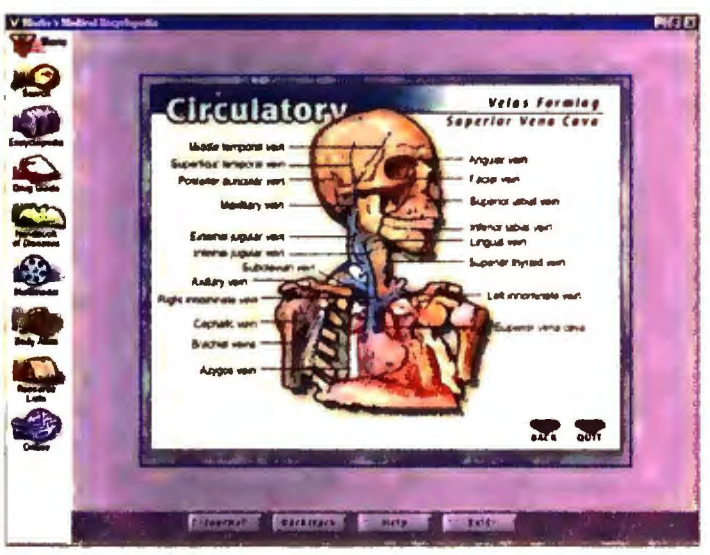
GRADE: **C**; PRICE: $50 street; The Learning Company; 800/852-9952; www.learningco.com

READER SERVICE NO. 715

Mosby's Medical Encyclopedia

GRADE: **C**; PRICE: $45 street; The Learning Company; 800/227-5609; www.learningco.com

READER SERVICE NO. 716



THE BODY ELECTRONIC: Mosby's Medical Encyclopedia offers a wealth of information about the human body.

PHOTOGRAPH ROBERT CARDIN

EDITED BY

Christina Wood

SIGNS OF INTELLIGENT LIFE

WANT TO FIND OUT the definition of plate tectonics, or why carbon is the basis of life as we know it? Or do you just want to browse through the mass of scien- ▶

Old Players, New Tricks

I'VE GOT A SECRET: I love playing games (especially shoot-'em-ups), but I'm always getting skunked by my 16-year-old nephew. But with a SpaceOrb 360, youth and skill take a backseat to experience and treachery. This gizmo gives me tons more control than even a joystick does. Its secret is a ball that I twist, pull, and push to whiz around corners, jump into cubbyholes, and dash through corridors. Six programmable buttons add to my deadly navigational skills. The SpaceOrb works with most popular games, including Doom, Quake, Duke Nukem 3D, MechWarrior 2, and Descent I and II. The only downside is that it needs a free COM port. If you see me online, watch out—I'm ready for you. I've got a SpaceOrb. **–Steve Bass**

SpaceOrb 360

GRADE: **A+**; PRICE: $89 street; Spacetec IMC; 508/275-6100; www.spacetec.com/

READER SERVICE NO. 717

TAKE CONTROL: Sharpen your shoot-'em-up skills with the SpaceOrb game controller.

tific knowledge that famed physicist Stephen Hawking has integrated into his seemingly superhuman brain? Either way, **Life in the Universe** will provide hours of intellectually intense entertainment. Its extrapolations of Hawking's lectures about the origins of life include gorgeously animated terrains, scrollable timelines, *Scientific American* articles, challenging games, and Web links. Phage, the cutest navigator this side of R2-D2, keeps track of your accumulated knowledge.

BELLY UP TO THE BAR: Aliens like this bartender are the keys to solving the mystery behind The Space Bar.

Designed to break you of linear thinking habits, Life in the Universe immerses you in a vortex of theory and fact.

—Derk Richardson

Life in the Universe

GRADE: **A**; PRICE: $39.95 list; MetaTools; 800/472-9025; www.metatools.com

READER SERVICE NO. 718

SPACED OUT

I PULLED UP to the counter in the Thirsty Tentacle (aka **The Space Bar**) and began my adventure as Alias Node, a space cop looking for the shape-shifting thief who kidnapped my partner. I like a good game but I'm not a hard-core gamer or a sci-fi maven. By the end of an evening in this place, I was feeling the need for a real drink. In order to track down my partner, I had to rely heavily on telepathic conversations with the other characters, delving into their memories for clues. But while I found the game's graphics impressive, the entire experience annoyed me: My PDA kept popping up on screen, and I quickly wanted off the crazy merry-go-round of first-person navigation. Hey, if you're a science-fiction nut, loved *Independence Day*, and can't get enough of *The X-Files*, you'll likely have a good time at The Space Bar. Send me a postcard. *—Gabrielle Mitchell*

The Space Bar

GRADE: **B-**; PRICE: $50 street; SegaSoft; 888/734-2763; www.segasoft.com

READER SERVICE NO. 719

HIDE AND SEEK

IF YOU'VE EVER leafed through a dog-eared copy of *Highlights* magazine at the pediatrician's office, you've probably played Hidden Pictures—you know, that mesmerizing children's game in which you squint at black-and-white line drawings in search of cleverly hidden umbrellas, kittens, and other random objects. Well, now your kids can fire up the home PC and play an enhanced version featuring animation, sound, and even an art studio that lets them create and print their own masterpieces. **Highlights Hidden Pictures Workshop** offers 40 drawings to choose from, each containing 12 to 20 hidden objects. Three difficulty levels and ample clues let even prereaders finish a puzzle, but navigation can be awkward, especially for younger users. Also, anyone who's spent an hour or so peering at small images on a computer screen knows the strain it can put on the eyes—so parents, don't cancel that *Highlights* subscription yet, or you'll be leafing through back issues at the ophthalmologist's office. *—Anne Kandra*

Highlights Hidden Pictures Workshop

GRADE: **B-**; PRICE: $30 street; Palladium Interactive; 800/910-2696; www.palladiumnet.com

READER SERVICE NO. 720 ■

F Y I

KIDS AREN'T AT the mall anymore. They're online. In 1996 the number of children age 2 to 17 using online services nearly doubled over 1995 levels—reaching over 4 million.

SOURCE: JUPITER COMMUNICATIONS CONSUMER CONTENT GROUP

KEEPING UP

Getting Answers Quick

PICTURE THIS: You've got a little time to yourself and grab the opportunity to fire up that mindless game you just bought. It crashes during installation. Do you really want to spend your free time on troubleshooting? If it's a Microsoft product, try going over to www.microsoft.com/support/ and check out the new Support Wizards at Microsoft's technical support forum. The wizards will run diagnostics on your system, search the knowledgebase for other problems like yours, and suggest the solution that has the highest probability of fixing the problem. The service is available for any Microsoft product and is free for consumer products and Microsoft Office (if you bought a retail version). It's not game play, but it's pretty neat technology.

Making a Big Purchase?

EVERY TIME YOU buy something, you feel that pressure to log hours of research first, right? How much will an ice maker on a new fridge set you back? Do you need digital zoom on the video camera? How much do you have to spend to get a camera you'll be happy with? Well, check out www.compare.net. Tell it what you're planning to buy, and it quizzes you about design particulars and how much you want to pay. Then it provides a table of products with features and prices. The list isn't complete, so don't treat it as an all-knowing source, but at least it prepares you for a trip to the retail outlet.

Software for Rent

HOW ABOUT IF you paid a little bit every time you used a software package instead of buying it outright? That's the plan with Knowledgepoints' Descriptions Now, a program that helps you write a job description. Surf on over to www.jobdescription.com, pay your $7.95, and follow the on-screen instructions. The site will walk you through creating a job description that complies with the Americans With Disabilities Act; you can then download your creation and edit it.

—Christina Wood

"I COULDN'T BELIEVE MY EYES!"

If it weren't for Family Tree Maker,™ I would never have found my family

Using Family Tree Maker, Diana found her great-great grandparents Hannah & William Hunt Wilson.

Dear Family Tree Maker,

I became interested in genealogy because I never knew my ethnic heritage. The only ancestor name and location I knew of was that of my great-great grandfather, William Hunt Wilson who lived in Oregon.

I then decided to purchase a genealogy program, and chose Family Tree Maker because of the FamilyFinder Index. I went home, loaded the program, did a search in the FamilyFinder Index using my great-great grandfather's name, and it referenced a World Family Tree CD*. I couldn't believe my eyes!

I found the name "William Hunt Wilson" on the CD. The family tree was huge — hundreds of names! My name was not there, so I decided to contact the tree's contributor to let her know that I found the connection. I left a message, and that night, I received the long-awaited call. The contributor, who is also my cousin, was screaming on the phone because she could not believe she had found me. I was part of a "long lost leg" that the family had not heard of for over 50 years! We laughed, we cried, and talked all night. And now, we have contact every day — either by phone or by e-mail.

A family reunion is scheduled to take place this Fall, thanks to Family Tree Maker. I would have never found my family if it wasn't for the program.

Thank you!

Diana Yashar

San Jose, CA

PRESERVE MEMORIES EASILY

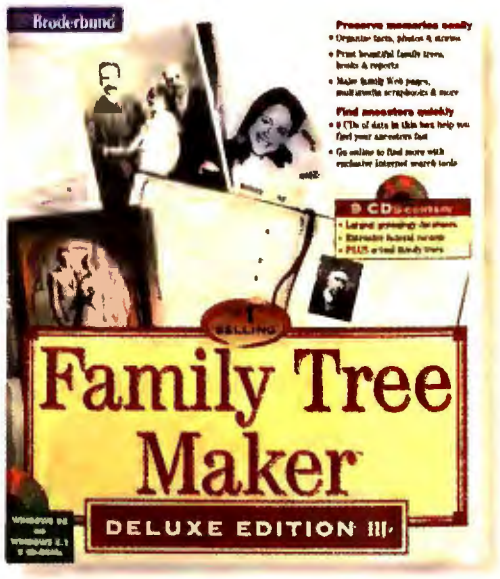
- Organize facts, photos & stories
- Print beautiful family trees, books & reports
- Make family Web pages, multimedia scrapbooks & more

FIND ANCESTORS QUICKLY

- 9 CDs of data (included) help you find your ancestors fast
- Go online to find more with exclusive Internet search tools

PC MAGAZINE "★★★★" 9/95

ComputerLife BEST OF BEST EVERYTHING 1996



Broderbund®

*The World Family Tree CDs contain actual family trees. Submitter information is available free upon request. Family Tree™ Maker is available now for Windows 3.1, Windows 95, and Power Macintosh. Features vary according to platform and price. Additional accessory CDs sold separately. ©1997 Broderbund Software, Inc. All products are trademarks of their respective holders. Codie awarded to Deluxe Edition II, March 1997.

SOURCE CODE 1635

Call us at 1-800-474-8696 or visit www.familytreemaker.com

Meet The Compaq Family Of Notebooks. And Take Work Home (Or Just About Anywhere Else) Today.

Wherever your work takes you, Compaq has a notebook that's perfect for the ride.

Take the Armada 1500 Family for instance. It's an all-in-one business notebook that combines all the functionality you need with an economical price. What do we mean all-in-one? For starters, you get a Pentium® processor (up to 133MHz) or a Pentium processor with MMX™ technology (up to 150MHz), dual battery support, integrated AC adapter, and built-in 33.6 data/fax modem. What's more, the Armada 1500 allows you to access your hard drive, floppy drive, and CD-ROM simultaneously.

If you've got flexibility on your mind, look to the Armada 4100 Family. It transforms from a lightweight, 1.5" slimline notebook to a multimedia notebook with an optional and detachable CD-ROM base. It can even work harder (and longer) for you when you utilize its 3-battery configuration.

Finally, there's the powerhouse Armada 7700 Family, the ultimate in notebook performance and mobile convenience. With a robust Pentium processor with MMX™ technology (up to 166MHz) and exceptional memory capability (up to 144MB, 2 slots), there's nothing to stop you from taking work wherever you go. Even if you just want to get home.

Armada 7700 Family

Armada 4100 Family

Armada 1500 Family

ARMADA	7700 Family	4100 Family	1500 Family
Processor	150MHz – 166MHz Pentium Processor with MMX™ technology	133MHz Pentium Processor – 166MHz Pentium Processor with MMX™ technology	133MHz Pentium Processor – 150MHz Pentium Processor with MMX™ technology
Display	12.1" CTFT (SVGA or 1024 x 768)	12.1" CSTN or 12.1" CTFT (SVGA)	12.1" CTFT or 12.1" CSTN (SVGA)
Standard/Max Memory	16MB or 32MB EDO RAM up to 144MB 2 slots	16MB up to 80MB	16MB EDO RAM up to 80MB
Hard Drive (SMART)	1.6GB – 2.1GB (up to 3.0GB optional)	1.4GB – 2.0GB	1.4GB – 2.1GB
CD-ROM	8X optional	8X optional	Integrated 10X
Modem	Integrated 33.6 Kbps data/fax Upgradable to K56 flex protocol*	Compaq PC Card optional	Integrated 33.6 Kbps data/fax
Integrated AC Adapter	Yes	No	Yes
Battery Type/Life**	Li-Ion up to 2.5 hr (up to 2 batteries)	Li-Ion up to 2.5 – 3 hr (up to 3 batteries)	Li-Ion up to 3.5 hr (up to 2 batteries)
Desktop Expansion	Convenience Base or Expansion Base (with tower stand optional)	Convenience Base (with or without Ethernet)	Convenience Base (with or without Ethernet)
Pre-installed Software	Microsoft Windows 95 or NT Workstation 4.0	Microsoft Windows 95	Microsoft Windows 95 or NT Workstation 4.0
Dimensions/Weight	2.0" x 12.6" x 9.5" / 7.8 lb – 7.9 lb	Slimline: 1.49" x 11.4" x 8.8" / 5.3 lb Standard: 1.49" x 11.6" x 10.3" / 6.2 lb Multimedia: 2.3" x 12.6" x 9.5" / 8.3 lb	2.1" x 12.2" x 9.6" / 7.35 lb – 7.52 lb
Limited Warranty†	3-year worldwide limited warranty	3-year worldwide limited warranty	1-year worldwide limited warranty with optional 2-year upgrade available

COMPAQ

1-800-345-1518
Or Visit Us At www.compaq.com For More Information Or For A Reseller Near You

intel inside
pentium® PROCESSOR

Featured products not sold through retail locations. Reseller prices may vary. Other models may be available. Offer valid in the U.S. only. *Upgrade planned for year end. The K56 flex protocol is designed only to allow faster downloads from K56 flex compliant digital sources. Maximum achievable download transmission rates are currently unknown, may not reach 56Kbps, and will vary depending on line conditions. **Battery life is estimated based on normal usage and with Advanced Power Management. †The Compaq Armada 7700 and 4100 Families are covered by a Three-Year Worldwide Limited Warranty with pick up/carry in service. The Compaq Armada 1500 Family is covered by a One-Year Worldwide Limited Warranty with pick-up/carry in service. Battery packs and certain options are covered by a One Year Limited Warranty. © 1997 Compaq Computer Corporation. All rights reserved. Compaq and the Compaq Logo registered U.S. Patent and Trademark Office. Products, prices and programs are subject to change without notice. Windows is a registered trademark of Microsoft Corporation. The Intel Inside Logo and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. Other products are trademarks of their respective companies.

PC WORLD

TOP 5 HOME PCs

	SYSTEMS	Street price (5/1/97)	Overall rating	PC WorldBench score	Reliability/ service rating	Setup rating	Comments	Reader service number
1	Dell Dimension XPS M166s 800/388-8542 www.dell.com	$2199	89	223 outstanding	best/ best	fair	FEATURES: Pentium MMX-166, 32MB of SDRAM, 4GB hard drive, 12X CD-ROM drive, 33.6-kbps fax-modem, 15-inch monitor; comes with Microsoft Office 97 Small Business Edition but no other software. PRO/CON: Reasonably priced and loaded with hardware, faster than some Pentium MMX-200s; mail-order only.	601
2	HP Pavilion 5320 800/724-6631 www.hp.com/info/pchome1	$1848	87	180 good	good/ best	outstanding	FEATURES: Pentium 150, 16MB of RAM, 1.6GB hard drive, 8X CD-ROM drive, 33.6-kbps fax-modem, 15-inch monitor; software includes Works, Encarta 97, Quicken SE, Magic School Bus, Hansel and Gretel, and Great Word Adventure. PRO/CON: HP's lowest-price entry level machine; lacks power for high-end multimedia titles.	602
3	HP Pavilion 7370V 800/724-6631 www.hp.com/info/pchome1	$2948	86	222 outstanding	good/ best	outstanding	FEATURES: Pentium MMX-200, 32MB of RAM, 4GB hard drive, 16X CD-ROM drive, 33.6-kbps fax-modem, 15-inch monitor, game pad, 3-D video card with 4MB of RAM; software includes Works, Mech Warrior 2 for MMX, Whiplash, and SimCity 2000. PRO/CON: Super muscle machine, ideal for serious gamers; somewhat expensive.	603
4	Micron Home MPC 800/223-6571 www.micron.com	$2269	86	230 outstanding	good/ best	good	FEATURES: Pentium MMX-200, 32MB of RAM, 3.1GB hard drive, 12X CD-ROM drive, 33.6-kbps fax-modem, 17-inch monitor; includes Works, Encarta 97, and Quicken Deluxe. PRO/CON: Very fast PC for a reasonable price, suitable for home office and family entertainment; software bundle not as extensive as the HPs', mail-order only.	604
5	HP Pavilion 7350P 800/724-6631 www.hp.com/info/pchome1	$2748	85	200 good	good/ best	outstanding	FEATURES: Pentium MMX-166, 32MB of RAM, 2.5GB hard drive, 16X CD-ROM drive, 33.6-kbps fax-modem, 17-inch monitor, built-in color scanner; includes image-editing software, Adobe Photo Deluxe, and EasyPhoto. PRO/CON: Great system if you like working with art; expensive if you don't need image-editing software or scanner.	605

Best Buy — All products: 901

HOW WE TEST The overall rating is based on reliability and service (30 percent), price (20 percent), PC WorldBench performance (20 percent), setup (10 percent), compatibility (10 percent), and extra features (10 percent). Reliability and service ratings are based on results of PC World's Reliability and Service survey.

BRAND NEW THIS MONTH is Micron's MMX entry in its Home MPC line. It makes its debut at number four after Micron's two-month absence. And boy is this system a racehorse, with the fastest PC WorldBench score ever. Rounding out the chart are machines from PC makers we've seen before: Dell and HP.

For the third month in a row, Dell's Dimension XPS M166s captures the top spot. It's a winner again on the strength of its $2199 price ($150 less than last month), excellent performance, and first-class reliability and service ratings. The meaty hardware bundle and Pentium MMX processor give it the muscle to perform the toughest home office or gaming tasks. But there is a drawback: You get only one software package—Microsoft Office 97 Small Business Edition.

The number two spot belongs to the HP Pavilion 5320. At $1848, the 5320 is a great deal if your computing needs are average—you don't want to run high-end games. Its PC WorldBench score of 180—the lowest on the chart—falls far behind the scores of the latest MMX machines.

If you're a serious gamer and want a machine that can take on multimedia challenges, the third-place HP Pavilion 7370V is a better bet. It comes with a game pad, 4MB of video RAM, and 3-D graphics. But at $2948, this PC is not cheap.

Micron weighs in at number four with its Home MPC, a Pentium MMX-200. This speed demon has a PC WorldBench score of 230. For $2269, you get a 17-inch monitor and a handy Iomega Zip drive, and the software bundle includes Microsoft Works, Encarta 97, and Quicken Deluxe. We also tested the 166-MHz model, but since it's so similar to the P-200 version, we didn't give it a slot of its own. Its PC WorldBench score is 213, and it also comes with a 17-inch monitor; the price is a very reasonable $1928. Either machine would be an ideal choice for your home office or small business.

The HP Pavilion 7350P was pushed down a notch to number five by Micron's Home MPC. If you're interested in playing with art, video, and photos on the PC, you'll like the 7350P. It comes with a built-in 5-by-7-inch color scanner, a 17-inch monitor, and plenty of image-editing software. However, the 7350P is rather pricey at $2748.

—Kirk Steers

MICRON'S HOME MPC has the highest PC WorldBench score.

Kirk Steers is a contributing editor for PC World. *Testing performed by Ulrike Diehlmann of the PC World Test Center.* ■

Plug. Play. Perform.

QMS WX Print Systems — Optimized Printing for Windows NT & 95

Extend the power of Windows with printers that mean business. Designed to take full advantage of the printing features and capabilities of Windows NT and 95, the plug and play compatible QMS WX printers offer high-performance processing for all your Windows® desktop applications.

The QMS 2060 WX is the ultimate on-demand print system for Windows workgroups. It combines a standard Ethernet® connection, duplexing capabilities, broad paper handling, and fast print speeds to give users flexibility and performance.

With the QMS *magicolor*® WX Laser Printer, workgroups can create, express, and emphasize with color. The power of this printer makes it easy to produce effective, colorful business documentation. Both QMS WX printers play to your bottom line with a low, affordable price tag.

Open your Windows applications to high-performance printing with the Windows-optimized QMS WX print systems.

©1997 QMS, Inc. QMS, the QMS logo, and *magicolor*, are registered trademarks of QMS, Inc. All other trademarks are the property of their respective companies.

Circle 225 on reader service card

QMS® 2060 WX Laser Printer

This 20 ppm laser printer has a versatile feature set for PC users. Attach the QMS 2060 WX through the standard Ethernet or parallel interface to make the connection to a host of powerful options. Designed for use with Windows NT 4.0 and 95, the QMS 2060 WX is an affordable, industrious workgroup printing solution.

- 600 x 600 dpi
- Standard Ethernet interface
- Up to 13" x 19" page sizes
- Broad media support
- Duplexing option
- Plug and play compatible

QMS magicolor® WX Laser Printer

Add brilliant color to business documents or print image-rich Web pages with the QMS *magicolor* WX. Unlike typical ink jet printers, the QMS *magicolor* WX can handle the demands of a busy Windows workgroup easily and inexpensively.

- 600 x 600 dpi
- 3 to 6 ppm color, up to 12 ppm monochrome
- Plug and play compatible
- High monthly duty cycle
- No special paper required
- Designed for Windows NT 4.0 & 95

MICROSOFT WINDOWS READY-TO-RUN

1-800-523-2696
Ext. 88
http://www.qms.com

QMS®

One Magnum Pass • Mobile Al 36618

Cool Tools for Internet Muscle

"CAN YOU COME by for dinner?" It was my mother calling, trying to set up some on-site tech support. After chatting, she got around to it: "While you're here, do you think you could upgrade my modem to 56 kbps?" No, Mom, I insisted; your old 28.8 works just fine.

My mother isn't unusual. She's just enjoying America's new favorite pastime. Everywhere I go—parties, movie lines, and sushi bars—people are reciting URLs and arguing about browsers. I won't join *that* debate, but I will recommend a few tools to cut flab from your downloads, check up on your Internet service provider, and grab e-mail while you're catching Zs.

One thing that drives me crazy about the Internet is downloading files. I'll start downloading a humongous file, get within minutes of completion, and then lose everything when my ISP disconnects me or Windows 95 throws me a GPF.

In the old BBS days of online (what, two years ago?), I could start a download, get kicked offline, and in the next session resume where I left off. Relive those days of old: Just pick up **GetRight**, unabashedly the best $17.50 utility for downloading files from the Net I've seen. It works with Win 3.*x*, Win 95, and Windows NT.

And it's a no-brainer to use. From your browser, instead of clicking the file name's link, load GetRight, then drag and drop the link onto the program's small window. After prompting you for a location to save the file, it opens a window with pause and resume buttons that let you stop and restart the download.

If you're downloading many files, GetRight shows them all in a dialog box and lets you pause, start, and set priorities. Say the word when you're ready, and it will launch the download. It lets you set up a .wav file that plays when it's done. It supports both HTTP and FTP protocols and, when you arrive at a site, lets you know if the site supports resuming. (Not all do—go to the FTP site if you have a choice.)

Net.Medic looks like the dashboard of a Ferrari and will impress your friends.

CHECK UP ON YOUR ISP

WHILE YOU'RE WAITING for files to download, you might be wondering how well your modem's performing. Maybe you want to know if your ISP's up to snuff, or if the Web server is overloaded. Now you can know all with **Net.Medic**, a remarkable $49.95 program that does a thorough exam of your Internet connection.

I configured Net.Medic to display my modem's compression, its send and receive rate, my ISP's traffic congestion level, the speed between my browser and Web server, and the server's idle time. Net.Medic logs every activity and, when problems arise, sends e-mail detailing them. If nothing else, Net.Medic's interface—with gauges, dials, lights, and ticker tapes—looks like the dashboard of a Ferrari and will impress your friends.

BACKGROUND MAIL CHECKS

FEELING LIKE A slave to e-mail? Do you check your e-mail a dozen times a day just to get those three important messages, along with umpteen dull ones? Liberate yourself. Grab a copy of **Mail Spy 1.1,** a terrific—and free—application that unobtrusively checks for new mail in the background.

Mail Spy isn't feature-laden, but it's not difficult to use or configure. And it takes only about 256K of disk space. (Ain't *that* unusual?) It just sits in your Win 95 system tray, automatically dialing your ISP at intervals you set. (Sorry, but it won't work with America Online, CompuServe, or Prodigy.) If you get antsy and *must* see if you have mail, Mail Spy understands. Ask, and it will check immediately.

If the utility finds any mail, you'll get a beep or .wav file sound, a message, or both—your choice. You can even tell Mail Spy to launch your e-mail program, browser, or favorite game when a message comes in. (Why not? It might be from your boss.)

By the way, I convinced my mom to stay with her trusty USR modem, so I can eat dinner in peace. The bad news is, she's now asking me about ISDN phone lines.

GetRight

$17.50; HeadLight Software;
www.headlightsw.com/

READER SERVICE NO. 634

Mail Spy 1.1

Free; SaberQuest; 801/235-1738;
www.saberquest.com

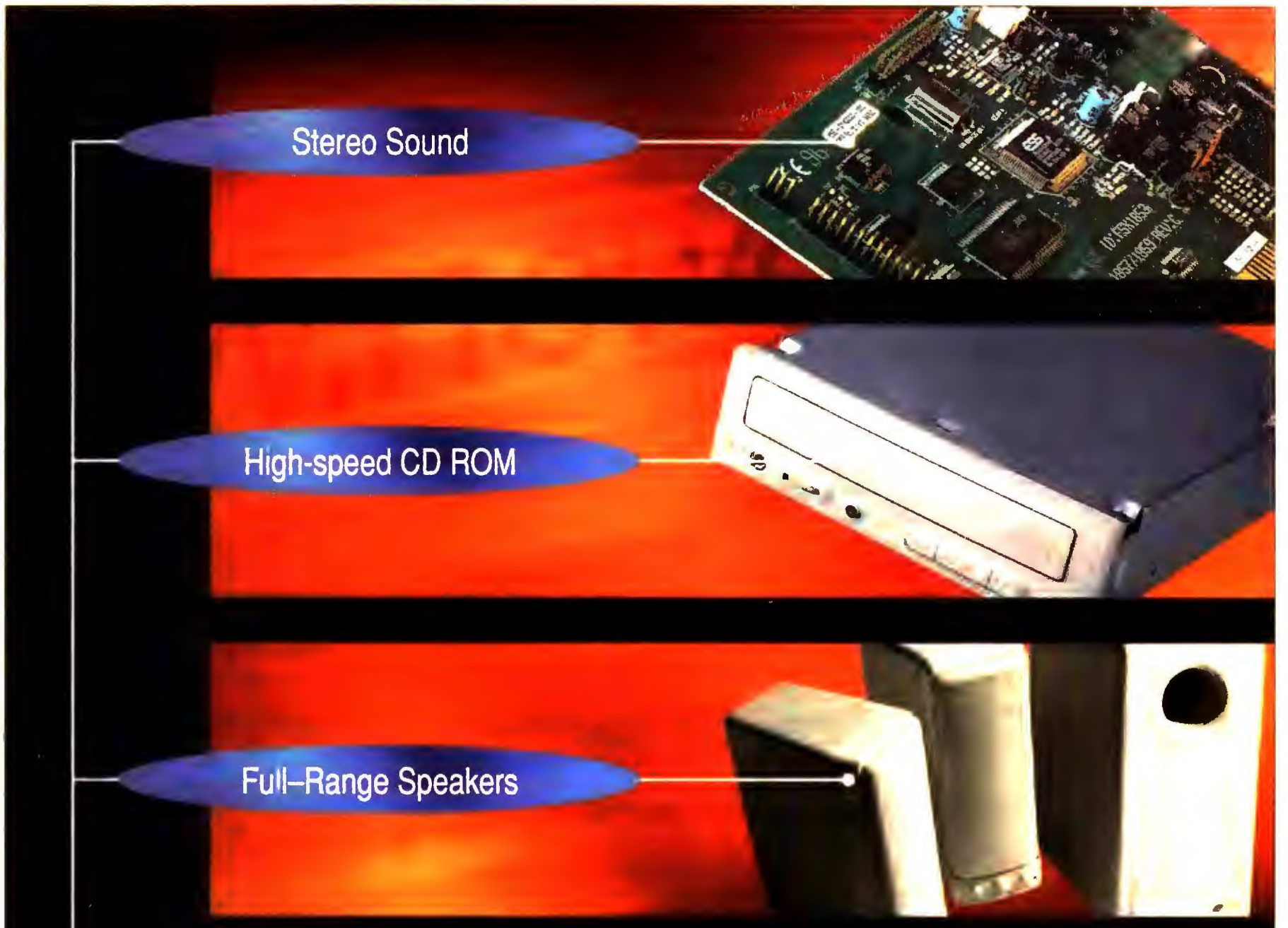
Net.Medic

$49.95; VitalSigns Software; 888/984-8259;
www.vitalsigns.com

READER SERVICE NO. 635

Contributing Editor Steve Bass, a licensed marriage and family therapist and president of the Pasadena IBM Users Group, can be reached at steve_bass@pcworld.com. ■

ILLUSTRATION: MARK MATCHO



It's too nice a day to play outside.

Play to learn, learn to play.

Technology makes the promise. We make the tools.

Multimedia by NewCom.

Our 16-bit Plug and Play Sound Card with built-in wave table features real instrument sources, not synthesized sounds, record and playback, and MIDI interface.

Our Audiophile Multimedia Kits include a Wavetable 3D Sound Card, NRT speakers with big 3" drivers, a 16x high speed CD-ROM drive for Photo and Audio CDs, clip-on microphone, Internet ulilities, free interactive encyclopedia, 100's of games and 200 sound effects.

Find out about all of NewCom's advanced multimedia and communications products. Call **(818) 597-3200** for your nearest authorized dealer or visit us on the web.

It's a nice day. Go play inside.

New.

www.newcominc.com

Now.

NewCom

Circle 174 on reader service card

NEWCOM
A Subsidiary of Aura Systems, Inc.

All specifications are subject to change without prior notice. All rights reserved.

DELL DIMENSION DESKTOPS FOR BUSINESS

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ Microsoft® Office 97 Small Business Edition plus Bookshelf ◆ MS® Windows® 95 ◆ MS Mouse (MS IntelliMouse on XPS System) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty† with 1 Year On-site^Δ Service
Upgrades: ◆ 3Com® 3C905 Fast EtherLink® XL 10/100 PCI Card, add $109. ◆ 4/8GB EIDE TR4 TBU, add $199. ◆ HP LaserJet 6Pse Printer, add $799. ◆ 3-Pak of Zip 100MB Cartridges, add $39

NEW DELL DIMENSION* XPS H266
266MHz PENTIUM® II PROCESSOR FEATURING MMX™ TECHNOLOGY

Common features listed above plus:
- 64MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- *NEW* 1000TX Trinitron® Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

$3399

Business Lease^◊: $126/Mo.
Order Code #500709

NEW DELL DIMENSION XPS H233
233MHz PENTIUM II PROCESSOR FEATURING MMX TECHNOLOGY

Common features listed above plus:
- 32MB EDO Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2599

Business Lease: $96/Mo.
Order Code #500708

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM® PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to a 6.4GB Hard Drive with 512KB cache (9.5ms), add $85.*

★ *Upgrade to a Matrox Millennium II 4MB WRAM Video Card, add $99.*

$2399

Business Lease: $89/Mo.
Order Code #500707

DELL DIMENSION XPS M200s
200MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to 64MB SDRAM, add $239.*

★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$2199

Business Lease: $81/Mo.
Order Code #500706

OUR ENGINEERS ASSURE THESE SYSTEMS WILL

DELL DIMENSION DESKTOPS FOR HOME

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ *NEW* 56K Capable** U.S. Robotics x2 Telephony Modem ◆ MS Windows 95 ◆ MS Mouse (MS IntelliMouse on XPS Systems) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty with 1 Year On-site Service
Upgrades: ◆ Iomega Zip 100MB IDE Internal Drive w/One Cartridge, add $99. ◆ HP DeskJet 820Cse Color Printer, add $299. ◆ 3 yrs. On-site Service, add $99.

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- 1000TX Trinitron Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 8MB WRAM Video Card
- Yamaha 32 Wave Table Sound
- Altec ACS-490 Full Dolby® Surround Sound Speakers with Subwoofer
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- MS Office 97 Small Business Edition plus Encarta

$3499

Order Code #500704

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory
- 6.4GB Hard Drive with 512KB Cache (9.5ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2999

Order Code #500703

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 32MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to a 4.3GB Hard Drive (10ms), add $65.*

$2499

Order Code #500702

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 16MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- 2MB EDO ViRGE 3D Video
- Sound Blaster 16 PnP Sound Card
- Altec Lansing ACS-90 Speakers
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 32MB SDRAM, add $119.*

★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$1899

Order Code #500701

Thousands of other custom configuratio

MMX™ intel inside pentium

†Pricing is not discountable. †For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L.P. attn: Warranty, One Dell Way, Round Rock, TX 78682. ◊Leasing arranged by third-party leasing companies to qualified customers. *System weight with floppy drive or CD-ROM in options bay. ΔOn-site service provided by an independent third-party provider. May not be available in certain remote areas. **x2 products are capable of 56Kbps downloads. Due to FCC rules that restrict power output, however, current download speeds are limited to 53Kbps. Upload speeds are limited to 33.6 Kbps. Actual speeds may vary depending on line conditions. *Prices and specifications valid in the U.S. only and subject to change without notice. Intel, the Intel Inside logo, LANDesk and Pentium are registered trademarks and MMX and EtherExpress are trademarks of Intel Corporation. MS, Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation. 3Com and EtherLink are registered trademarks of 3Com Corporation. Trinitron is a registered trademark of Sony Corporation. DirectLine is a service mark of Dell Computer Corporation. ©1997 Dell Computer Corporation. All rights reserved.

GET FREE DELL NEWS, RIGHT AT YOUR DESKTOP!
With DirectNews, Dell's free priority email bulletin, you can get pricing, product announcements, and limited time offers emailed direct to your computer, as soon as they become available. This money and time saving bulletin is available exclusively by subscription. And it's easy to subscribe. Just email us at listserver@dell.com with the message "join ddn" And then watch your mailbox for the inside scoop on Dell's latest offers.

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 16MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 800LS Monitor (13.7" v.i.s.)
- 2MB EDO ViRGE 3D Video

★ *Upgrade to 32MB SDRAM, add $119.*
★ *Upgrade to an 800HS Trinitron Monitor (13.7" v.i.s., .26dp), add $49.*
★ *Sound Blaster 16 PnP and Altec ACS-90 Speakers, add $89.*
★ *Iomega Zip 100MB IDE Internal Drive with One Cartridge, add $99.*

$1799

Business Lease: $67/Mo.
Order Code #500705

DESKTOP SOFTWARE DESCRIPTIONS

MS Office 97 Small Business Edition (SBE) includes:
- Word 97
- Excel 97
- Publisher 97
- Outlook 97
- Automap Streets Plus
- Small Business Financial Mgr 97
- Internet Explorer 3.0

MS Home Essentials plus Best of Entertainment Pack includes:
- Word 97
- Works 4.0
- Encarta 97
- Greetings Workshop
- Arcade
- Internet Explorer 3.0
- TETRIS, Taipei, SkiFree, Dr. BlackJack and more.

NEW DELL POWEREDGE SERVERS

Common features: ◆ 512KB L2 Cache ◆ Integrated Ultra-Wide SCSI-3 Controller ◆ Intel® EtherExpress™ Pro/100 NIC ◆ Intel LANDesk® Server Manager v2.5x ◆ Dell Server Assistant CD ◆ 3 Year Limited Warranty†

DELL® POWEREDGE® 2200 SERVER
266MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 96MB ECC EDO Memory
- 4GB Ultra-Wide SCSI-3 Hard Drive (7200 RPM, 8ms) (27GB Max.)
- 8X SCSI CD-ROM Drive
- MS Windows NT® Server 4.0

★ *Upgrade to 128MB ECC EDO Memory, add $220.*
★ *Upgrade to a 9GB Ultra-Wide SCSI-3 Hard Drive, add $450.*
★ *Upgrade to 3 Years On-site Service, add $99.*

$4999

Business Lease: $179/Mo.
Order Code #250072

DELL POWEREDGE 2200 SERVER
233MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 32MB ECC EDO Memory
- 2GB Ultra-Wide SCSI-3 Hard Drive (7200 RPM, 8ms) (27GB Max.)
- 8X SCSI CD-ROM Drive
- 3Com OfficeConnect Hub 8/TPC

★ *Upgrade to 64MB ECC EDO Memory, add $239.*
★ *Upgrade to a 4GB Ultra-Wide SCSI-3 Hard Drive, add $320.*
★ *4/8GB SCSI DAT Tape Backup, add $749.*

$3249

Business Lease: $119/Mo.
Order Code #250070

US THAT AT THESE PRICES, MOVE EVEN FASTER.

DELL LATITUDE NOTEBOOKS

Common features: ◆ 256KB L2 Pipeline Burst Cache ◆ Options Bay accepts 12X Variable CD-ROM, 3.5" Floppy Drive (both included), or Optional 2nd Li-Ion Battery ◆ PCI Bus with 128-bit Graphics Accelerator with 64K Colors ◆ Integrated 16-bit Stereo Sound ◆ Smart Lithium Ion Battery ◆ Microsoft Windows 95 ◆ IrDA 1.0 Standard Compliant ◆ Touchpad ◆ Under 7 Pounds* ◆ Extendable 1 Year Warranty†

NEW DELL LATITUDE® LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 72MB RAM
- 2.1GB Hard Drive
- 2nd Lithium Ion Battery
- MS Office 97 Small Business Edition

★ *Motorola 33.6 Fax Modem, add $169.*
★ *3Com LAN+ 33.6 Modem PC Card, add $349.*
★ *Dell Latitude LM Port Replicator, add $159.*
★ *Leather Carrying Case, add $129.*

$3949‡

Business Lease: $142/Mo.
Order Code #800143

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 40MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem
- MS Office 97 Small Business Edition

★ *Upgrade to 72MB RAM, add $299.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *3Com 10Base-T Network Card, add $139.*

$3499‡

Business Lease: $129/Mo.
Order Code #800144

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- MS Office 97 Small Business Edition

★ *Upgrade to 40MB RAM, add $299.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *Motorola 33.6 Fax Modem, add $169.*
★ *Dell Latitude LM Port Replicator, add $159.*
★ *Leather Carrying Case, add $129.*

$2999‡

Business Lease: $111/Mo.
Order Code #800140

DELL LATITUDE LM P133ST
133MHz PENTIUM® PROCESSOR

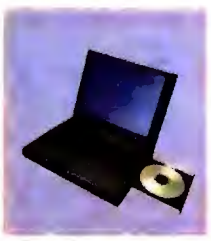
Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem

★ *Upgrade to 24MB RAM, add $99.*
★ *Upgrade to a 2.1GB Hard Drive, add $149.*
★ *2nd Lithium Ion Battery, add $199.*
★ *Nylon Carrying Case, add $69.*
★ *Dell Latitude LM Port Replicator, add $159.*

$2699‡

Business Lease: $100/Mo.
Order Code #800138

vailable. What can we build yours to do?



TO ORDER TOLL-FREE
888-325-4281
TO ORDER ONLINE
www.dell.com/buydell

Mon-Fri 7am-9pm CT
Sat 10am-6pm CT
Sun 12pm-5pm CT
In Canada,* call 800-232-6978
GSA Contract #GS-35F-4076D

Keycode #03283

DELL®

OUTLAWS.™ A GAME OF THE OLD WEST. WHEN GUN CONTROL

The gameplay's packed with strategy, puzzles, and plenty of gun fighting action.

First person shooter action lets you set your sights and pull the trigger.

After you gun down the last outlaw, you'll ride off triumphantly into the sunset.

MEANT LOADING QUICKLY AND SHOOTING STRAIGHT.

Get ready for the good, the bad, and the even worse. As Marshall James Anderson, you'll face a horde of ornery, gun-slinging outlaws. You'll shoot your way through a twisted plot of greed and revenge. You'll arm yourself with firearms, as well as your wits. You'll fight alone, or engage in multi-player gameplay over modem, LAN or Internet. So go ahead, and make your day.

ZONE
play it on zone.com

TEEN
T
AGES 13+
CONTENT RATED BY ESRB

LUCAS Arts

http://www.lucasarts.com

1997 LucasArts Entertainment Company. All rights reserved. Outlaws is a trademark of LucasArts Entertainment Company. The LucasArts logo is a registered trademark of LucasFilm Ltd. used under authorization. The ratings icon is a trademark of the Interactive Digital Software Association.

HERE'S HOW

ANSWER LINE

Troubleshoot Windows Fatal Exception Errors

WINDOWS 95 HAS an annoying "feature": Recurring 'Fatal Exception OE' errors occur when the PC boots up. We get the errors sporadically on several of our systems, but they don't go away even when we reinstall Windows. I've tried applying every patch supplied by Microsoft, but nothing helps. I've even swapped system memory to rule out bad SIMMs, to no avail. Is there anything else I can do?

Craig Smith, West Chester, Pennsylvania

FATAL EXCEPTION ERRORS are Windows 95's way of preventing programs or drivers from performing operations in the PC's processor that aren't allowed or will destroy data. The source of the problem could be a buggy driver or program, faulty memory, or a bug in Windows 95.

Trying to run memory with the wrong BIOS wait-state settings can also generate such errors. To rule out this possibility, go into your system's CMOS setup program and choose the default wait-state settings, or experiment with different settings.

Microsoft has documented numerous Fatal Exception error problems and solutions in its online Knowledgebase. **FIGURE 1** lists the most common problems.

To read a specific Knowledgebase document, go to www.microsoft.com/kb, select *Windows 95* from the list in step 1, select *Search for a specific article ID* in step 3, enter the document's number in the search field of step 5, then click *Begin Search*. If your problem isn't listed in the Knowledgebase, read document Q136337, an extensive step-by-step troubleshooting guide to Windows 95 start-up problems, including the Fatal Exception errors.

GET A BETTER OUTLOOK

I'VE RECENTLY upgraded to Microsoft Office Professional 97 and have been trying to use Outlook 97 as my primary Internet mail application. I love the features it provides, but I'm having one major problem. I prefer to download e-mail messages from my Internet service provider's server at the end of each week, and I'd like to be able to read the messages directly from the server until then. That way I can read them again from a different computer if necessary. The settings for leaving messages on the server are easy to find in Netscape Mail and Internet Explorer's Internet Mail. Can I set Outlook to work the same way?

Kevin M. Meehan, Internet

THIS ONE DROVE ME nuts, too, until I figured out that it simply cannot be done using Outlook 97's normal mail-retrieval mechanism. If you use your modem to read Internet mail, you can work around the missing feature in Outlook by using the program's Remote Mail utility. Choose *Tools•Services*, double-click *Internet Mail* in the list of installed services, choose *Connection*, check *Work off-line and use Remote Mail*, and then click *OK* twice to make the change.

To retrieve your mail, select *Tools•Remote Mail•Connect*; this starts a Remote Connection Wizard. Check *Internet Mail* in the first screen, click *Next*, select *Do only the following*, check *Retrieve new message headers via Internet Mail*, and click *Finish*. Outlook will dial in to your Internet mail server and download only the message headers. Select all that you want to download, then choose *Tools•Remote Mail•Mark to retrieve a copy* and select *Tools•Remote Mail•Connect* again. This time, the wizard will give you the option of retrieving a copy of the message. Don't choose the 'Send and receive all messages'

By Scott Spanbauer

Read Up on Fatal Windows Errors

Cause of Fatal Exception error	Document number
Wavetable audio/CMOS setting clash	Q129777
Diamond Viper video board drivers	Q131743
Adobe Type Manager/video board driver clash	Q133440
ATI Mach32 ISA settings	Q139771
Clash with Windows for Workgroups TCP/IP files	Q140903
Damaged Registry	Q145836
VPOWERD power management bug	Q153395
winipcfg.exe/DHCP/Token Ring bug	Q158713
Terminal emulation/NetWare/DLC bug	Q159344
Windows 95/Zip drive clash	Q160800
Stacker 4.1/Install Wizard clash	Q162390
Windows Sockets over IPX bug	Q163329
Windows 95 NetWare client/Directory Services bug	Q163673
SideWinder gamepad resource conflict	Q165049
HP OfficeJet/Plug and Play clash	Q166047

FIGURE 1: MICROSOFT'S KNOWLEDGEBASE tells you how to find and eilminate Fatal Exception errors.

option; it won't leave a copy on the server.

If you think that's a lot of work, join the crowd. Microsoft has posted a free Outlook upgrade, called the Internet Mail Enhancement Patch, on its Web site at www.microsoft.com/officefreestuff/outlook. The patch provides support for leaving messages on POP3 servers—the most common Internet mail server protocol. And for those of us with more than one Internet identity, it also supports multiple POP3 accounts, as well as Net-style quoting (in which text from the message you're replying to is prefixed with a special character like >).

As we went to press, the same Microsoft page already offered two other free Outlook add-ons: a Rules Wizard for processing incoming mail based on criteria you define, and a preview pane (see **FIGURE 2**), which adds a third window to the Outlook interface, displaying the contents of highlighted messages before you open them.

There's also Outlook Express, which is part of Internet Explorer 4.0. Outlook Express is a combined and upgraded version of the Mail and News programs included with Internet Explorer 3.0. Unlike Outlook, which lets you connect to Microsoft Exchange Server, Microsoft Mail, Lotus cc:Mail, CompuServe, America Online, the Internet, and fax, Outlook Express works only with Internet Mail.

FIGURE 2: IMPROVE YOUR OUTLOOK with free add-ons from Microsoft. This preview pane lets you browse your in-box.

LET YOUR SWAP FILE ROAM

I HAVE A 1.2GB hard disk that is partitioned into C: and D: drives. Drive D:, where Windows 95 is installed, is about 120MB. I'm running out of room on this partition, and every time I install a program—even if it's on drive C:—it eats up space on D:.

I read a tip in *PC World* stating that twice as much free space should be available on the hard drive for the Windows swap file as you have installed memory. I have 16MB of RAM but only 9MB of free space on drive D:.

Can I copy my Windows installation to drive C:, or should I just uninstall Windows 95 and then reinstall it on C:? If I choose the latter option, I'll have to reinstall all of my programs, too.

Marlan Hanson, Internet SIMPLY MOVING Windows 95 to another drive (using Explorer or the xcopy command) won't work, since all of the Registry and .ini file references to drive D: would fail. The easiest thing to do is move the swap file to another drive that has more free space; I'm assuming C: has more room.

To do that, choose *Start•Settings•Control Panel*, double-click the *System* icon, click the *Performance* tab and then *Virtual* ▶

CONTENTS

ANSWER LINE
266 Fix fatal errors, get a better Outlook
267 Move your swap file
268 Download Word 97's file converter, speed your Sportster, properly launch executables

WINDOWS TIPS
270 More undocumented tips
272 Disengage Excel's AutoSave, trim win.ini, add sound effects to your applications
274 Get rid of My Documents, add virus scanning to Send To menu

SPREADSHEETS
276 Copy formulas, import Quicken data

WORD PROCESSING
278 Border a page, upgrade DOS WordPerfect suite
280 Gather file elements on Word's Spike, create your own SmartFill lists in Word Pro

DATABASE TIPS
285 Fax reports from within Access

INTERNET TIPS
288 Keep kids safe online, resume interrupted downloads
290 Completely delete e-mail, enhance your Web page, hide Web travels, launch Navigator from Internet Explorer icon

HARDWARE TIPS
292 Improve your PC's memory

MULTIMEDIA TIPS
294 Pick the right speakers

UPGRADE GUIDE
296 Replace your CMOS battery

I N T E R N E T

online

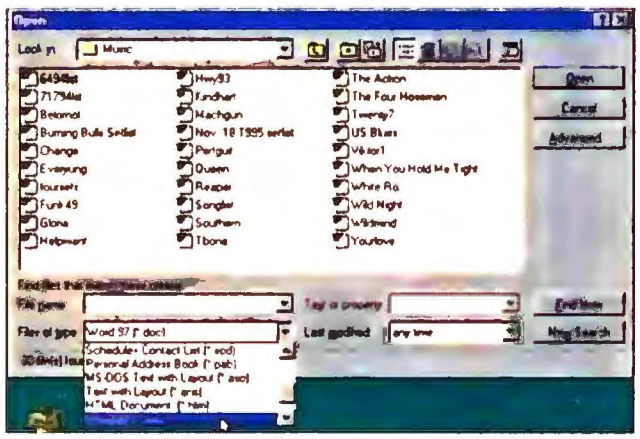
DON'T MISS ADDITIONAL HERE'S HOW information. Check out *PC World*'s broadened Here's How coverage, including an expanded version of our *Upgrade Guide* column, at www.pcworld.com/hereshow.

Swap Files Between Word 97 and Earlier Versions

SO YOUR COMPANY just upgraded to Word 97. You bring home a file and try opening it using an earlier version, but all you see is garbage.

Yup, Word 97 uses a file format other versions can't read. Don't curse Microsoft; download its free Word 97 file converter from www.microsoft.com/kb/softlib/mslfiles/wrd97cnv.exe.

A service pack that fixes the problem should be out by the time you read this. Check Microsoft's Migration page for more information.



Memory, select *Let me specify my own virtual memory settings*, and choose another drive from the *Hard disk* list. Click *OK*, *Yes*, and *Close*. When you restart your PC, your hard disk should be breathing easier.

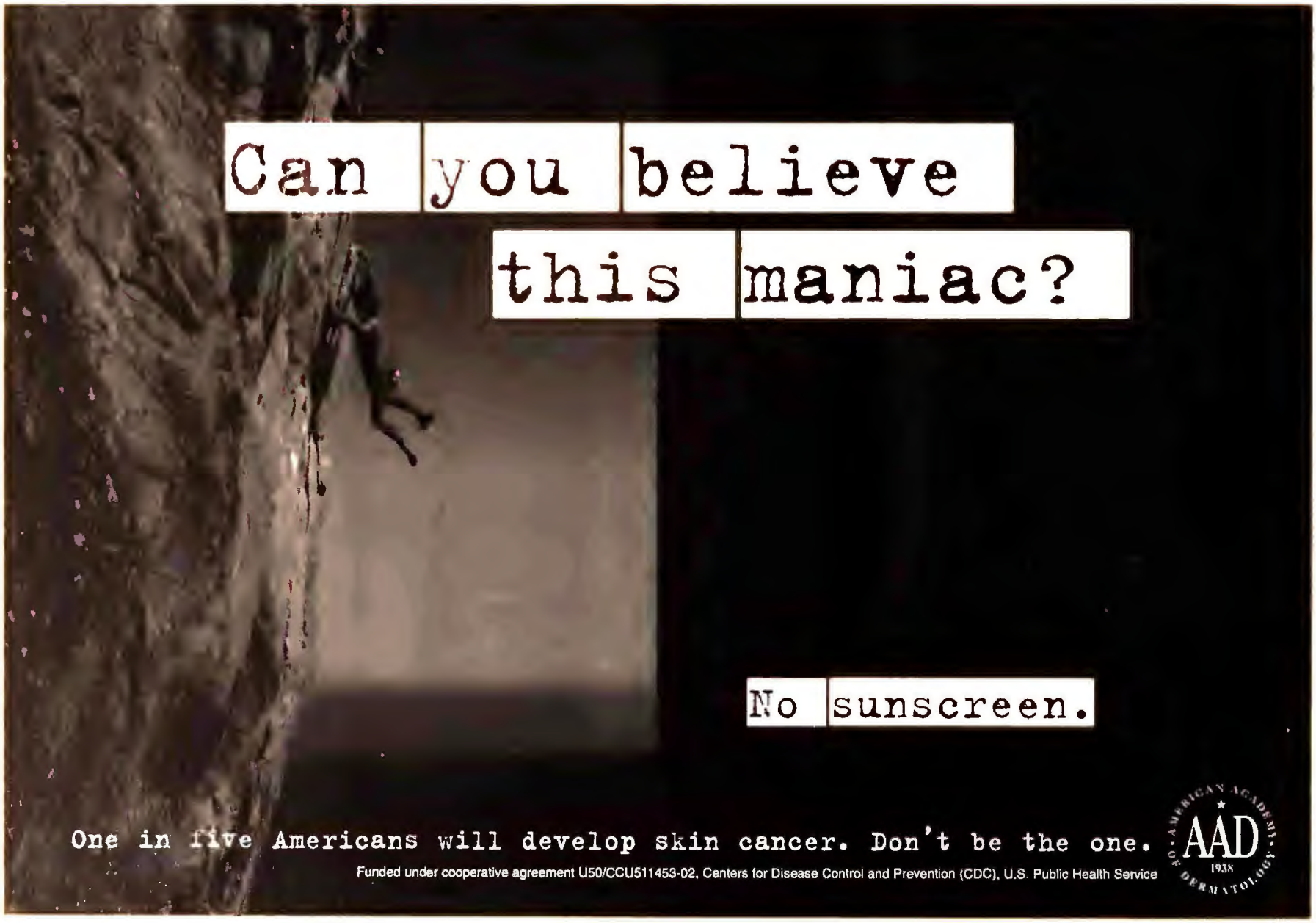
SPEED YOUR SPORTSTER, AGAIN

THE APRIL TIP about convincing Win 95 to use the U.S. Robotics 33.6-kbps Sportster Voice modem at its maximum speed works only for standard 33.6-kbps Sportsters. The Sportster Voice installation file is mdmusrvi.inf, found at www.usr.com/home/software/dl07.htm. For a complete Sportster Voice installation guide, retrieve document 14113 ("Sportster Voice Installation Under Windows 95") from USR's mail server; send a blank message with the document number in the subject line to support@usr.com. Thanks to Gerard E. Siebert of Herrin, Illinois, for the pointer to the document. I apologize for the error.

STEPPING UP TO .BAT

IN THE MAY *Answer Line* ("The Best Way to Launch Any Executable File"), I incorrectly stated that entering the command 'pkzip' would launch pkzip.bat before pkzip.exe if both were present in the current directory. In truth, the order of execution for executables when you don't specify the file extension is .com, .exe, and lastly .bat. In any case, be careful when you create batch files in the same directory as a .exe or .com file of the same name. To be sure you're running the right executable, type the entire file name. Sorry for the error.

Find additional tips at www.pcworld.com/hereshow. Answer Line *welcomes your questions and tips and pays $50 for published items. Contributing Editor Scott Spanbauer is author of* The No B.S. Guide to Windows 95 *(No Starch Press, 1996, 800/420-7240).* *See page 14 for contact information.* ■



microsoft office 97

everything else

where can't you go today?

Way to go Microsoft! Office 97 is packed with hot new features that make it number one. But those same features make Office 97 file formats incompatible with previous versions of Office. Or with just about anything else for that matter.

Is this a dead end or what?

Conversions Plus to the rescue.

Just in the nick of time there's new **Conversions Plus® 4.0** to take care of all your Office 97 file conversion needs. From DataViz, the file compatibility experts. Loaded with over 1,000 file translation combinations, **Conversions Plus** translates hundreds of word processing, spreadsheet, graphic and database file formats. Quickly and accurately. Between many different Windows programs or between Windows and Macintosh. New **version 4.0** also includes **e-ttachment Opener™**, an amazing program which converts garbled e-mail attachments into their original file formats. And **MacOpener**, a nifty utility for reading and writing Macintosh disks on your PC.

How's that for a set of tools to get you where you want to go. Today.

*For details, call **1.800.270.0030 ext.118** or visit our web site at http://www.dataviz.com/CPW7*

And find out for yourself that with DataViz, there are no dead ends.

Runs on Windows 3.1, Windows 95 and Windows NT.

DATAVIZ

Available at these locations. COMPUSA THE COMPUTER SUPERSTORE EGGHEAD SOFTWARE MICRO CENTER

Circle 80 on reader service card

All product names are trademarks of their respective holders.

Reduce win.ini bloat ◆ Add sound effects ◆ Delete the My Documents folder

New and Improved Undocumented Tips

THE MARCH COVER story ("Undocumented Secrets: 101 Tips for Windows 95, NT, and 3.x") elicited some questions and improvements from our ever-resourceful readers.

Easier moves to floppies. You can indeed add a batch file to the Send To menu so you can move a file to a floppy disk rather than simply copying it. But Brett Stallman of Spring Hill, Kansas, points out a way to do this without writing a batch file: Right-click the file name, then hold down **<Shift>** as you choose *Send To•3 Floppy (A)*.

If you added a new destination to your Send To menu (by creating a Shortcut to a folder in the Windows\SendTo folder), any file from the same drive you try to send to that location via the Send To menu will get moved, not copied. In that case, you can force the Send To menu to copy (not move) by right-clicking the object and holding down **<Ctrl>** while you choose the destination from the Send To menu.

Instant wallpaper. To make a prettier desktop, you can simply convert a picture into a .bmp file and use it as wallpaper. But just how to convert a picture file to the BMP format baffled Don A. Varney of Chambersburg, Pennsylvania.

The answer: Use a utility specially designed to convert any graphics file to BMP format. You'll find many such inexpensive utilities online. My favorite is PolyView, at www.kagi.com/authors/polybytes/default.html, or available from PC World Online.

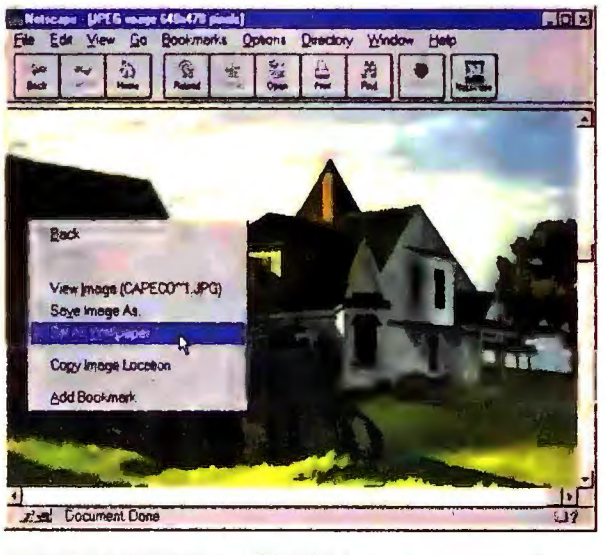


FIGURE 1: NEW WALLPAPER is just a couple of clicks away from your Web browser.

To use the picture as wallpaper, select *Start•Settings•Control Panel*, double-click the *Display* icon, and make sure the *Background* tab is selected. To find your picture, click the *Browse* button. Double-click the file name, select the *Tile* or *Center* button, then click *OK*.

Not fast enough? Try this: If you find a nice image while surfing the Internet with Netscape Navigator 3.*x* or Microsoft Internet Explorer 3.*x*, you can change your wallpaper instantly without first saving the file. With the image displayed in your browser, right-click the image and choose *Set As Wallpaper*, as in **FIGURE 1**. The new wallpaper will be either centered or tiled, depending on this setting in the Control Panel's Display Properties sheet.

Snap to it—or don't. Reader Jim Goss of Lancaster, California, tried arranging his icons and Shortcuts along the edge of his screen for neatness and efficiency, but they stubbornly kept snapping back to where they had been.

If this happens to you, right-click on the desktop and choose *Arrange Icons*. If you see a check mark next to *Auto Arrange*, you've found the culprit. This feature provides a handy way to keep things neatly arranged and works best if you don't have too many items on your desktop. For more control, however, turn Auto Arrange off and put your icons where *you* want them—not where Microsoft does.

Update that screen saver for password protection. You may assume that adding password protection to your screen saver will foil nosy coworkers (unless they reboot your computer). Those who don't know the password will not be able to clear the screen saver. But Jeff Labute, writing via the Internet, has discovered that in Windows 95, some password-protected screen savers can easily be circumvented.

If you're using an old Windows 3.*x* screen saver in Windows 95 (such as Starfield Simulation, whose file name is ssstars.scr), all it takes is a simple **<Ctrl>-<Alt>-<Delete>** to display the Close Program dialog box. Select the name of the screen saver (such as *Stars*) and click *End Task* (twice if necessary), and suddenly the screen saver is gone—along with your privacy. The moral of the story: Stick to the screen savers that come with Windows 95 or the Microsoft Plus Pack.

Conceal some of your past. Tip number 68 in the March cover story asserts that you can't use a batch file to delete files of a specified extension from the Documents menu because the menu is constructed from Shortcuts with the .lnk extension residing in the Windows\Recent folder.

Nevertheless, Brian R. Sheffield of Gainesville, Florida, does just that with an easy batch file like the following:

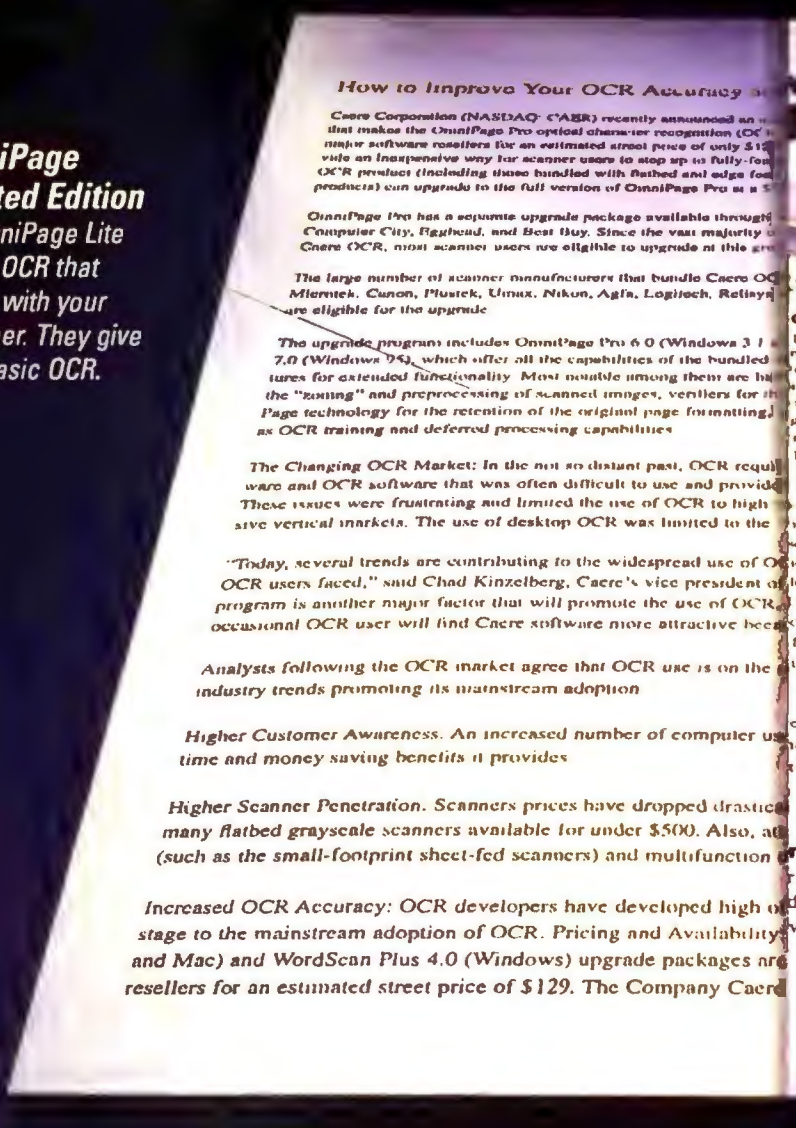
```
del c:\windows\recent\*jpg*.lnk
del c:\windows\recent\*gif*.lnk
```

This example hides the graphics files you've been viewing by deleting .jpg and .gif files from the Documents menu (your path and extension may differ). Just enter lines like the above in Notepad and save them in a file with the **.bat** extension. For top efficiency, right-click your batch file in Windows Explorer and choose *Properties*. Click the *Program* tab, select *Minimized* from the *Run* drop-down list, check *Close on exit*, and click *OK*. Then run the file any time you need to cover your tracks.

For maximum peace of mind, Brian suggests one more step: If you have Microsoft Plus, you can use System Agent to run your batch file automatically so that you never have to give it a second thought. Choose *Start•Programs•Accessories•System Tools•System Agent*. In the System Agent dialog box, choose *Program•Schedule a New Program*. In the Program box of the resulting dialog box, type in the path to the Shortcut you created when you set properties for your batch file (or click ▶

Upgrade to OmniPage Pro and get the recognition you deserve.

OmniPage Limited Edition *or OmniPage Lite is the OCR that came with your scanner. They give you basic OCR.*



How to Improve Your OCR Accuracy

Caere Corporation (NASDAQ: CAER) recently announced an u
that makes the OmniPage Pro optical character recognition (OC
major software resellers for an estimated street price of only $1
vide an inexpensive way for scanner users to step up to fully-fea
OCR product (including those bundled with flatbed and edge fee
products) can upgrade to the full version of OmniPage Pro at a

OmniPage Pro has a separate upgrade package available through
Computer City, Egghead, and Best Buy. Since the vast majority o
Caere OCR, most scanner users are eligible to upgrade at this gre

The large number of scanner manufacturers that bundle Caere OC
Mitsitek, Canon, Plustek, Umax, Nikon, Agfa, Logitech, Relisys
are eligible for the upgrade

The upgrade program includes OmniPage Pro 6.0 (Windows 3.1
7.0 (Windows 95), which offer all the capabilities of the bundled
tures for extended functionality. Most notable among them are hi
the "zoning" and preprocessing of scanned images, vendors for th
Page technology for the retention of the original page formatting,
as OCR training and deferred processing capabilities

The Changing OCR Market: In the not so distant past, OCR requi
ware and OCR software that was often difficult to use and provide
These issues were frustrating and limited the use of OCR to high
sive vertical markets. The use of desktop OCR was limited to the

"Today, several trends are contributing to the widespread use of OC
OCR users faced," said Chad Kinzelberg, Caere's vice president of
program is another major factor that will promote the use of OCR.
occasional OCR user will find Caere software more attractive beca

Analysts following the OCR market agree that OCR use is on the
industry trends promoting its mainstream adoption

Higher Customer Awareness. An increased number of computer us
time and money saving benefits it provides

Higher Scanner Penetration. Scanners prices have dropped drastica
many flatbed grayscale scanners available for under $500. Also, at
(such as the small-footprint sheet-fed scanners) and multifunction

Increased OCR Accuracy: OCR developers have developed high o
stage to the mainstream adoption of OCR. Pricing and Availability
and Mac) and WordScan Plus 4.0 (Windows) upgrade packages are
resellers for an estimated street price of $129. The Company Caere

ove Your OCR
l Save Big $$$

Higher Scanner Penetration:
Scanners prices have dropped drastically in the last few years with many flatbed gray-scale scanners available for under $500. Also, attractive, new scanner form factors (such as the small footprint sheet fed scanners) and multifunction devices have entered the market

Low cost scanners entering the market have helped push OCR use to a new level

CR Market:
past, OCR required
n hardware and OCR
re difficult to use
n satisfactory results
strating and limited
gh volume applications
rtical markets. The use
limited to the early

are contributing to
f OCR that overcome
ers faced," said Chad
ice president of market
e program is another
promote the use of
e point, even the occa
find Caere software
use it is so cost

e OCR market agree
e rise and have identi
trends promoting its

r Awareness:
of computer users
d the time and money
vides.

Increased OCR Accuracy:
OCR developers have developed high accuracy OCR technology for increased output. The greatest improvement has been made on degraded and hard to read documents.

Pricing and Availability
OmniPage Pro 7.0 (Windows and Mac) and WordScan Plus 4.0 (Windows) upgrade packages are immediately available at major resellers for an estimated street price of $129.

The Company:
Caere Corporation, with U.S. headquarters in Los Gatos, Calif. and European headquarters, Caere GmbH., in Munich Germany, is a leader in OCR technology and desktop document management products. Caere has recently expanded its product line of OCR

continued on next page

OmniPage Pro *gives you almost twice the OCR accuracy with the same ease-of-use as OmniPage Limited Edition.*

OmniPage Pro *keeps text in its original format and layout, including graphics.*

OmniPage Pro *even outputs to HTML.*

OmniPage Limited Edition | **OmniPage Pro**

Upgrade now to faster, more accurate OCR.

Sure, the OmniPage Limited Edition OCR that came with your scanner is good. In fact, that's why scanner makers like HP, Microtek and Agfa chose it above all others.

But if you want greater accuracy, full-throttle speed and a ton of new time-saving features, then it's time you moved up to OmniPage Pro®.

OmniPage Pro employs a new, more powerful OCR engine to recognize poor copies and degraded faxes. It integrates seamlessly with your favorite applications like Word, WordPerfect and more. It even guides you through the OCR process using its AutoOCR Toolbar. All with the simple push of a button.

What's more, you get the advantages of the world's most popular OCR software without learning an entirely new program. So make sure you're getting all the OCR power and accuracy you deserve. Visit a local computer retailer today to get your $30 mail-in rebate coupon.

Now Just **$99** with mail-in rebate.

caere

www.caere.com

Key Feature Comparison	OmniPage Pro	OmniPage Limited Edition
Caere's fastest and most accurate OCR engine	✔	
AutoOCR Toolbar™ for easy, one-button OCR processing	✔	
OCR Wizard to guide you through the process	✔	
Integrates with most image editors like Photoshop	✔	
OCR from within your favorite applications	✔	✔
Retains original layout	✔	

SPECIAL UPGRADE

~~$129~~

CALL TODAY TO ORDER!
800-736-5735
extension 60

Available for Windows 95, Windows 3.1 and Windows NT.

MICROSOFT® WINDOWS™ COMPATIBLE

WINDOWS 1995 WIN 100

Suggested price US $—subject to change. Valid in US & Canada only. Caere, the Caere logo and OmniPage Pro are registered trademarks and AutoOCR Toolbar is a trademark of Caere Corporation. © 1997. All other names are the property of their respective holders.

Circle 91 on reader service card

Browse, locate and select the file, and click *Open*). Click *When To Run*, and set the interval of your choice—for example, *Hourly* for the extra paranoid. Then click *OK* and close System Agent.

Conceal your entire past more quickly. To clear all the files from the Documents menu, you could right-click a blank area on the Taskbar, select *Properties*, click the *Start Menu Programs* tab, click *Clear*, and then click *OK*. Or you could save yourself a few clicks by using the following one-line batch file submitted by Corvus Elrod of St. Paul:

echo Y | del c:\windows\recent*.*

Just enter this line (your path may differ) in Notepad, and save it with the **.bat** extension. (Naturally, you can also add the bells and whistles described in the previous tip.) Run this batch file from a Shortcut on the Start menu, or (if you have Microsoft Plus) automate it with System Agent as described above.

A final tip: If you don't have Microsoft Plus, don't worry: You can still make this or any other batch file run automatically every time you start your computer by simply copying its lines and pasting them to the end of your autoexec.bat file in the root directory of your start-up disk.

SAVE SCREEN SAVE FROM EXCEL'S AUTOSAVE

IF YOU USE Excel's AutoSave feature—that handy option that saves your worksheet at a designated interval—you may have been surprised to return from lunch and notice that Windows' screen saver never started. What gives? The answer is, this feature prevents Windows' screen saver from kicking in as long as Excel is the active window. You can always disable Excel's AutoSave function by choosing *Tools•AutoSave*, unchecking the *Automatic Save Every* box, and clicking *OK*.

But a better solution is simply to switch to a different application before you leave your desk by clicking its icon on the desktop or by pressing **<Alt>-<Tab>**. The screen saver will then engage as usual.

If this seems inconvenient, however, you can always shell out some additional bucks for a different screen saver.

PUT WIN.INI ON A DIET

RARE IS THE Windows 3.*x* user who never, ever has to futz with the file called win.ini. This text file, located in the Windows directory, is the site of several important system and application settings. And although you can often modify its settings (usually without realizing it) by using the Control Panel or other dialog boxes, sooner or later you find yourself editing win.ini directly. One important reason to do so is to keep the file's size in check. Windows won't tolerate win.ini getting larger than 65,536 bytes. But Windows starts acting strangely even before you reach that magic number. As you get closer to the limit, applications may report that they're unable to write to win.ini, or you may receive out-of-memory error messages and even general protection faults.

Don't wait for that to happen. Follow these tips for keeping win.ini fit and trim:

1. Make a backup copy. Choose *File•Run* in either Program Manager or File Manager, type **win.ini**, and press **<Enter>**. If win.ini already exceeds 45K, you may be unable to edit it in Windows Notepad. The System Configuration Editor is even less tolerant, choking on files of about 30K. If this happens, open win.ini in a word processing program capable of saving in text-only format. Save the file with a name like **win.old**. Once you've made this backup, reopen win.ini in your text editor and prepare to make some serious changes.

2. Remove the relics. Like most .ini files, win.ini is divided into sections, each of which begins with a bracketed heading. Read each heading to find software you no longer use. Older shareware is notorious for adding sections to win.ini. If you find a defunct section, delete the heading and every line underneath down to the next bracketed heading. You can also delete the sections for Windows accessories that you don't use—for example, [Cardfile], [Paintbrush], [Recorder], [Solitaire], and [Terminal]. Finally, check the [embedding] section for lines referring to applications you've removed from your system, and delete the outdated lines.

3. Delete the dupes. While you're browsing through win.ini, make a note of any duplicate lines or sections. Then eliminate any redundancies. Windows uses only the first instance it finds, anyway. If you're not sure about deleting a line, disable it by typing a semicolon at the beginning of the line. Save the file and restart Windows. If Windows and your applications function properly over the next few days or weeks, you know you can do without that line.

4. Extract extensions. The [Extensions] section lists your files' three-letter extensions and the program associated with each. In the old days, these lines allowed you to double-click a file in File Manager (or other file management software) and automatically open it in the proper application. Since the advent of Windows 3.1, however, most of this information has been stored in the Registration Database—the redundant win.ini entries remain only to ensure compatibility with older software. To see if a file extension is listed in both locations, do this: Make a note of a file extension you find in win.ini's [Extensions] section. Switch to File Manager, select a file with that extension, and choose *File•Associate*. Make a note ▶

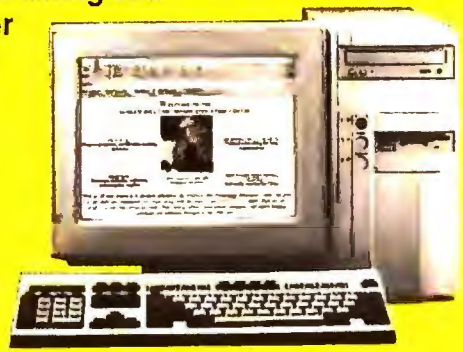
WINDOWS TOOLBOX

Sound Effects for Win 95 Programs

IS WINDOWS 95 too quiet for you? Jazz it up a little by customizing sounds for individual applications. It's easy with the $10 shareware utility Wave Events from Gregory Jones. Wave Events is available on PC World Online.

Rush this postage-paid card for your free catalog!

Only NRI gives you the training and the equipment for career advancement, part-time earnings, or even a business of your own.



Check one ☑

Please send my FREE catalog on NRI training in:

- ☐ **Computer Programming**
- ☐ Microcomputer Servicing
- ☐ Visual Programming in C++
- ☐ PC Applications Specialist
- ☐ Desktop Publishing w/ PageMaker
- ☐ Telecommunications
- ☐ TV/ Video/Audio Servicing
- ☐ Electronic Music Technology
- ☐ Industrial Electronics & Robotics
- ☐ Networking with Windows NT
- ☐ Basic Electronics
- ☐ Mastering Microsoft Office
- ☐ Webmaster
- ☐ Paralegal
- ☐ Fiction/Nonfiction Writing
- ☐ Bookkeeping and Accounting
- ☐ Multimedia Programming

OR GET YOUR DEGREE!

- ☐ **New!** AAS Degree in Accounting
- ☐ **New!** AAS Degree in Business Management

Name _____ *(Please print)* Age _____

Address _____ *(No P.O. Box numbers please)* Phone _____

City/State/Zip _____

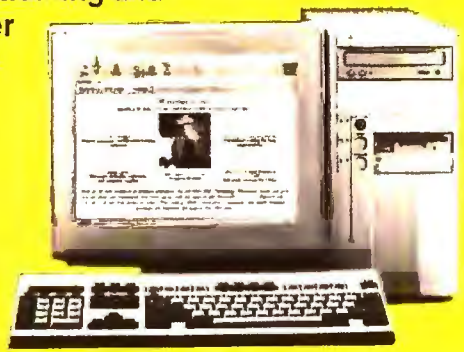
Accredited Member, Distance Education and Training Council 0141-0897

A Division of The McGraw-Hill Companies

For career courses approved under G.I. Bill, ☐ check for details

Rush this postage-paid card for your free catalog!

Only NRI gives you the training and the equipment for career advancement, part-time earnings, or even a business of your own.



Check one ☑

Please send my FREE catalog on NRI training in:

- ☐ **Computer Programming**
- ☐ Microcomputer Servicing
- ☐ Visual Programming in C++
- ☐ PC Applications Specialist
- ☐ Desktop Publishing w/ PageMaker
- ☐ Telecommunications
- ☐ TV/ Video/Audio Servicing
- ☐ Electronic Music Technology
- ☐ Industrial Electronics & Robotics
- ☐ Networking with Windows NT
- ☐ Basic Electronics
- ☐ Mastering Microsoft Office
- ☐ Webmaster
- ☐ Paralegal
- ☐ Fiction/Nonfiction Writing
- ☐ Bookkeeping and Accounting
- ☐ Multimedia Programming

OR GET YOUR DEGREE!

- ☐ **New!** AAS Degree in Accounting
- ☐ **New!** AAS Degree in Business Management

Name _____ *(Please print)* Age _____

Address _____ *(No P.O. Box numbers please)* Phone _____

City/State/Zip _____

Accredited Member, Distance Education and Training Council 0141-0897

A Division of The McGraw-Hill Companies

For career courses approved under G.I. Bill, ☐ check for details

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 10008 WASHINGTON, D.C.

POSTAGE WILL BE PAID BY ADDRESSEE

NRI Schools

4401 CONNECTICUT AVENUE NW
WASHINGTON DC 20078-3543

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 10008 WASHINGTON, D.C.

POSTAGE WILL BE PAID BY ADDRESSEE

NRI Schools

4401 CONNECTICUT AVENUE NW
WASHINGTON DC 20078-3543

Studies show that jobs for computer service technicians will be up by 38% in the next 10 years!

Prepare for today's opportunities in computer service with NRI's flexible, state-of-the-art training

As an NRI student, you're in charge. You decide when and where to study. You set your own pace. You even build a computer system that suits your needs and budget. Only NRI training gives you the control you want, the expertise you need!

With a combination of step-by-step lessons and hands-on training projects, NRI builds your skills and confidence quickly. You begin with an exploration of electronics and move on to such cutting-edge subjects as virus protection, multimedia troubleshooting, PC communications, Local Area Networks, and more.

Best of all, you get the top-notch computer and diagnostics you need to put theory into practice — and start earning while you learn!

You train with and keep the exact computer you want

Understanding that technology changes rapidly, NRI has just created its unique PC Options Plan. When you're due to receive your Pentium® processor-based system, you're given options based on future developments in technology. You may choose the Pentium® 166 system described here or purchase selected upgrades at special student rates. It's our state-of-the-art guarantee!

No matter what PC features you prefer, you'll get the software and diagnostics respected throughout the industry: Windows 95, Netscape Navigator™, and the self-booting ForeFront Troubleshooter™ diagnostic package. No school gives you more!

YOU GET EVERYTHING YOU NEED FOR SUCCESS

- **PENTIUM® 166 PC** Features 16 meg RAM, 256K cache memory, and 1.6 gigabyte hard drive for exceptional data storage capacity and data access speed
- **SUPER VGA COLOR MONITOR** Plus 1 meg video memory
- **EXCITING MULTIMEDIA PERIPHERALS** 8X CD-ROM drive, 16-bit sound card, and stereo speakers
- **FAX/MODEM** 28,800 baud for fast communications, plus Netscape Navigator™ Web browser and ten free hours of America Online
- **DIAGNOSTIC PACKAGE** The portable ForeFront Troubleshooter™ software and CD-ROM for quick detection of system and multimedia failures
- **NRI DISCOVERY LAB** Complete breadboarding system to design and modify circuits, diagnose and repair faults
- **DIGITAL MULTIMETER** Professional, hand-held test instrument for quick and easy measurements
- **WINDOWS 95** Today's popular, time-saving operating system
- **CD-ROM TUTORIAL** Easy prep for A+ Certification!

You prepare for A+ Certification with one-on-one instruction and NRI's CD-ROM tutorial

Throughout your course, your work is reviewed and evaluated by your experienced instructor. So even though you're studying at home, you're never alone. You can reach your instructor by mail, phone, fax, or modem.

That's right! With NRI's exclusive Online Connection you can chat with your instructor, attend online seminars, get the answers to frequently asked questions, download supplemental materials, find out about changes in technology, and more.

As the culmination of your training, you receive NRI's interactive CD-ROM with tutorials related to the A+ Certification exam. In no time at all, you'll have the skills, experience, and confidence you need to sit for the A+ exam and take advantage of the booming opportunities in computer service. Just think — everyone with a computer is a potential client!

FREE CATALOG!
1-800-321-4634, Ext. 2672
Visit our Home Page at http://www.mhcec.com

SEND TODAY FOR FREE NRI CATALOG!

NRI Schools
4401 Connecticut Avenue, NW, Washington, DC 20008
A Division of The McGraw-Hill Companies

OR GET YOUR DEGREE!
- ☐ AAS Degree in Accounting
- ☐ AAS Degree in Business Management

☑ **Check one FREE catalog only. High school diploma or GED recommended for all courses, required for degree programs.**

- ☐ **MICROCOMPUTER SERVICING**
- ☐ Computer Programming
- ☐ TV/Video/Audio Servicing
- ☐ Desktop Publishing with PageMaker
- ☐ PC Applications Specialist
- ☐ Networking with Windows NT
- ☐ Bookkeeping and Accounting
- ☐ Visual Programming in C++
- ☐ Mastering Microsoft Office
- ☐ Webmaster

Name (please print) Age

Address

City State Zip

Accredited Member, Distance Education and Training Council

0141-0897

Take My Documents—Please!

HOW DO YOU permanently delete the My Documents folder?

Debra Palaima, Santa Ynez, California

YOUR PITHY QUESTION refers to a folder Microsoft Office creates for storing files saved with Office applications. It's Microsoft's way of helping you organize your work and preventing you from storing work in application folders, a shockingly common practice that has caused some users to destroy their work accidentally when they upgrade or uninstall the application.

But if you already have your own system of folders for storing work, you might resent Microsoft's forcing the My Documents folder on you—along with the dire warning about Windows needing the folder to run properly.

Fortunately, there's a simple solution. If you already have a folder for storing your work (say, for example c:\work), you can simply move all the contents of that folder into My Documents, delete your old Work folder, and then rename My Documents as Work. You can also move My Documents anywhere you like without causing problems; Windows will keep track of its new location.

6. Silence sounds. While you're in Control Panel, double-click the *Sound* icon. Look for sound Events for software you've removed or Events you don't want. (Do you really need to hear America Online's welcome?) You can't remove the items here, but once you've identified them, you can delete the corresponding lines under the [Sounds] heading in win.ini.

7. Fix fonts. If you use Adobe fonts with a PostScript printer, chances are a good chunk of win.ini is taken up with information about where these fonts reside so they can be downloaded to the printer as needed. Each font requires its own path line in win.ini, and if you want the font to be sent to the printer automatically (rather than using a font downloader), that line will be twice as long—one path for the outline file, one for the font metrics file. For font lovers, win.ini bloat is inevitable.

One solution is to live with fewer fonts. But if you have Adobe Type Manager, a better solution is to use its control panel to remove (but not delete) fonts (see **FIGURE 3**). This action takes fonts out of win.ini but leaves them on your hard drive, where you can easily use ATM to add them back later. With version 2.5 or later, you can perform these operations without restarting Windows. Unfortunately, having to select individual fonts for adding or removing can be cumbersome.

Another solution is to ditch the PostScript driver that comes with Windows and download the Adobe PostScript driver from www.adobe.com. This driver doesn't require font references in your win.ini file. Note: You may need to remove the old PostScript driver completely.

of its description in the Associate With list. Then click *Cancel*. Choose *File•Run*, type **regedit**, and press **<Enter>** to launch the Registration Info Editor. If you see that same description in this window, File Manager doesn't need the related line in win.ini. Type a semicolon at the beginning of the line to disable it until you're sure you no longer need it.

5. Purge printers. Open the Control Panel and double-click the *Printers* icon. Check the Installed Printers list for those items you no longer need—for example, that old network printer that IS sold off months ago. Select each outdated item and click *Remove* (see **FIGURE 2**).

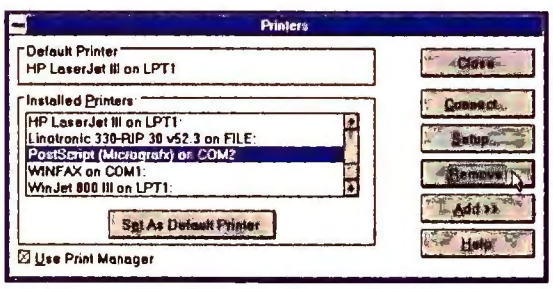


FIGURE 2: REMOVE PREHISTORIC PRINTERS from your Control Panel to relieve win.ini bloat.

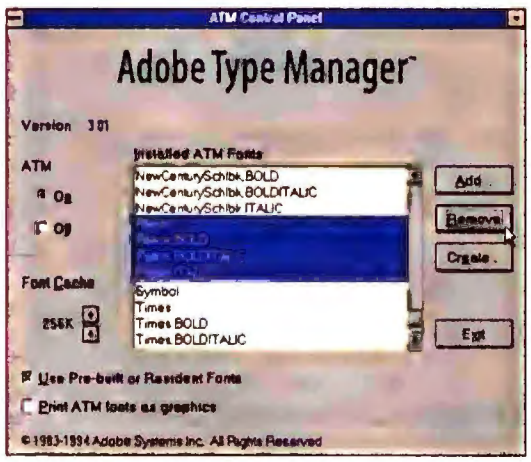


FIGURE 3: SHRINK WIN.INI by removing font path lines with Adobe Type Manager.

QUICK VIRUS SCANNING WITH NORTON ANTIVIRUS

SOME ANTIVIRUS utilities, such as McAfee VirusScan 95, add a command to your right-mouse menu so that you can right-click a drive, folder, or program file and scan it for viruses without first launching the application. Norton AntiVirus doesn't do this, but Daniel Wilson of Milwaukee points out an easy way to give Norton this ability. Simply locate the Shortcut for Norton AntiVirus in the appropriate folder in your \Windows\Start Menu\Programs folder (your path may differ). Select the Shortcut and choose *Edit•Copy*. Then navigate to the \Windows\SendTo folder and choose *Edit•Paste* or *Edit•Paste Shortcut*. Now any time you need to scan a file or folder for viruses, just right-click its icon and choose *Send To•Norton AntiVirus*, as in **FIGURE 4**. The program will run almost invisibly (you'll see a button on the Taskbar), then close when it's done, assuming all is well. If it finds a virus, it will display a warning.

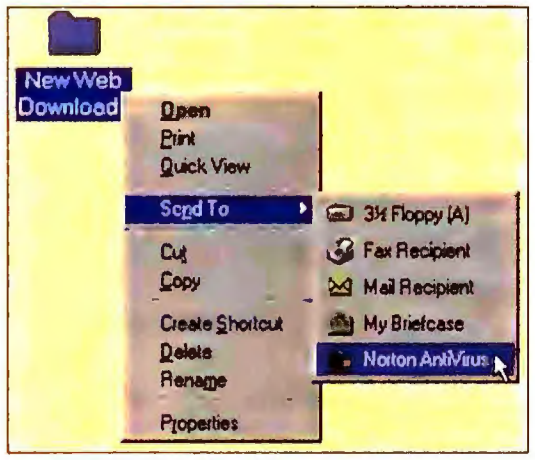


FIGURE 4: CHECK ANY FILE for infection by adding a virus scanner to the Send To menu.

You can use this tip with any virus-scanning software that supports file names on the command line.

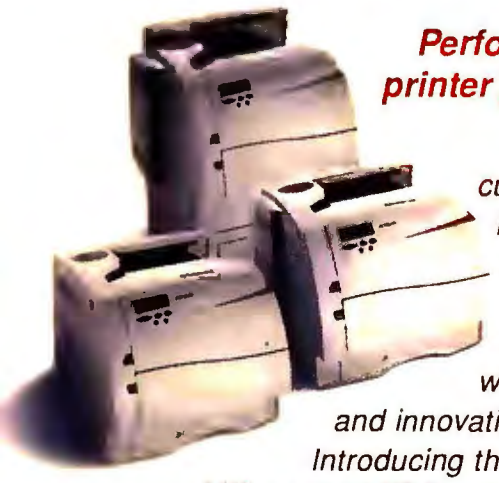
Find files from this article at www.pcworld.com/files and additional tips at www.pcworld.com/hereshow.html. Windows Tips *welcomes your tips and questions and pays $50 for published items.* PC World *contributing editor Scott Dunn is a principal author of the* PC Bible, 2nd Edition *(Peachpit Press, 1995, 800/283-9444).* *See page 14 for contact information.* ■

Get the new Lexmark printers over HP? Why should I stick my neck out?

"Sometimes you have to look past the market leader to find an exceptional product that is also an exceptional value."

PC MAGAZINE EDITORS' CHOICE™

June 10, 1997
Lexmark Optra S 1250
Lexmark Optra S 1650



Performance and value so outstanding, you'll rethink your next printer purchase — introducing the Lexmark Optra S laser printers.

It's no secret that HP® is the customary choice. But for the last six years at Lexmark, we've listened closely to your needs. And created a whole new line of 1200 dpi printers with the quality, reliability and innovations you've been looking for. Introducing the Optra™ S laser printers.

HP compatible. *Every Optra S printer includes PCL®6 and PostScript Level 2 emulations at no extra charge. And, right out of the box, all major network environments are completely supported.*

Faster than HP. *On the toughest, most complex jobs, the Lexmark Optra S delivers throughput up to two times faster than Hewlett-Packard's comparably equipped 12, 16 and 24 ppm printers.*

More adaptable than HP. *The Optra S family uses the same supplies and input options. So you can mix and match components quickly and easily. The 16 and 24 ppm models also share the same output options. To give you even greater flexibility.*

More value than HP. *Lexmark's exclusive MarkVision™ software lets you manage the Optra S printers right from your PC. Toner and paper gauges let you know when you're running low. So you can avoid costly downtime. Plus there are many other features to help lower your operating costs. To learn more about why we're head and shoulders above HP, call 1-800-LEXMARK or visit us at www.lexmark.com.*

A bold new breed of performance printers.

PRINT LEXMARK™

© 1997 Lexmark International, Inc. All rights reserved. Lexmark and Lexmark with diamond design, MarkVision and Optra are trademarks of Lexmark International, Inc. registered in the United States and/or other countries. Print Lexmark is a trademark of Lexmark International, Inc. HP and PCL are registered trademarks of Hewlett-Packard Company. Other trademarks are property of their respective owners. ©1997 PC Magazine. Ziff-Davis Publishing.

Circle 141 on reader service card

Copying Formulas: Gotcha!

I'M TRYING TO COPY a formula from one sheet to another in Excel, using the Edit•Copy and Edit•Paste commands. But when I do this, I get #REF instead of a number. What am I doing wrong?

R. T. Roark, Sacramento, California

THE PROBLEM YOU describe occurs in any spreadsheet because the copy you've made refers to an impossible cell address.

Let's say that cell A11 contains a formula that adds up numbers above it: =sum(A1:A10). You copy the formula and paste it into cell A21, and the new formula correctly reads =sum(A11:A20). The cell references have shifted so that they stay relative to the new formula's location. But if you copy the formula into A5, the result is #REF, because the new formula refers to cells located off the top of the sheet.

To fix your workbook, double-check those formulas and adjust the layout of your data. Good luck!

FROM QUICKEN TO SPREADSHEET

IN MY WORK as treasurer for a recently successful congressional campaign, I kept track of contributions using Quicken 5. Now I want to bring the raw transaction data into a spreadsheet database to do some queries and what-if analyses. What's the easiest way to do this?

Mark Russell, Internet

YOU CAN DO IT with any Quicken transaction. Here's how: From Quicken 5's Home Base menu, select *Reports*, click the *Other* tab, select *Transaction*, and click *Customize*. Specify the Start and End dates for the transactions you want to transfer, select *Split Transaction Detail*, and in the Show Columns list select the columns you want. Click *Create* and review the report on screen. Now select *File•Print Report*, select *Tab-Delimited Disk File*, and click *OK*. In the dialog box, specify a file name and click *OK*.

Open the resulting text file in your spreadsheet (I'm using 1-2-3), specifying *Tab-Delimited* as the column delimiter. Delete the blank rows, and you'll wind up with something that looks like **FIGURE 1**.

The data's all there, but columns A through D are missing some cell entries you'll need for your database operations. For example, instead of repeating the date 08/03/97 in A3..A9, 1-2-3 leaves the cells blank. You can, of course, infer that the dates for rows 3 through 9 are the same as the date in cell A2. However, when you sort the data for querying and what-if analyses, all these blank cells will appear at the beginning or end of the column.

	A	B	C	D	E	F	G
1	Date	Account	Num	Descriptio	Memo	Category	Amount
2	08/01/97	UMB Main	DEP S	Deposit	10248	Contrib	500
3					10396	Contrib	1000
4					10397	Contrib	1000
5					10353	Contrib	500
6					1107	Contrib	25
7					549	Contrib	25
8					5930	Contrib	25
9					10396	Contrib	1000
10	08/08/97	UMB Main	TM2000	Deposit	10395	Contrib	1000
11					10054	Contrib	1000
12					10101	Contrib	1000
13	08/15/97	UMB Main	DEP S	Deposit	10397	Contrib	1000
14					10398	Contrib	1000

FIGURE 1: WHEN YOU IMPORT DATA into 1-2-3, repeating values may appear blank.

To fill the blank cells with their correct entries, enter **+A2** in cell I2 (in Excel, enter **=A2**) and copy it to J2..L2. This formula copies the first row of data to a temporary area in the worksheet. In cell I3, enter the formula **@if(@cell("type",A3)="b",I2,A3)** and copy it to I2..L14. (In Excel, enter **=if(isblank(A3),I2,A3)** and copy it to I2..L14.) This formula tests whether the current cell is blank. If it is, 1-2-3 returns the entry in the cell above.

Finally, select I2..L14 and select *Edit•Copy*. Select A2, choose *Edit•Paste Special*, select *Formulas as Values* in the dialog box, and click *OK*. Now delete columns I through L. Your database (shown in **FIGURE 2**) is ready for sorting or querying.

	A	B	C	D	E	F	G
1	Date	Account	Num	Descriptio	Memo	Category	Amount
2	08/03/97	UMB Main	DEP S	Deposit	10248	Contrib	500
3	08/03/97	UMB Main	DEP S	Deposit	10396	Contrib	1000
4	08/03/97	UMB Main	DEP S	Deposit	10397	Contrib	1000
5	08/03/97	UMB Main	DEP S	Deposit	10353	Contrib	500
6	08/03/97	UMB Main	DEP S	Deposit	1107	Contrib	25
7	08/03/97	UMB Main	DEP S	Deposit	549	Contrib	25
8	08/03/97	UMB Main	DEP S	Deposit	5930	Contrib	25
9	08/03/97	UMB Main	DEP S	Deposit	10396	Contrib	1000
10	08/08/97	UMB Main	TM2000	Deposit	10395	Contrib	1000
11	08/08/97	UMB Main	TM2000	Deposit	10054	Contrib	1000
12	08/08/97	UMB Main	TM2000	Deposit	10101	Contrib	1000
13	08/15/97	UMB Main	DEP S	Deposit	10397	Contrib	1000
14	08/15/97	UMB Main	DEP S	Deposit	10398	Contrib	1000

FIGURE 2: A FEW FORMULAS fill in the blanks so that you can sort the data and perform queries.

TURN YOUR WORKSHEET SIDEWAYS IN 1-2-3

SUPPOSE YOU HAVE a 1-2-3 worksheet laid out like the one shown in the top of **FIGURE 3**. Column E contains formulas like @sum(B2..D2), and row 6 contains formulas such as @sum(B2..B5). Now suppose your boss wants the worksheet turned sideways, with the row headings displayed across the top and the column headings down the side, as shown in the bottom of Figure 3.

The Range•Transpose command may seem like a good place to start. If you use it, though, you'll find that it converts all the formulas into numbers.

Here's the correct way to turn the table: In cell A10, enter the formula **@@(@coord(1,@cell("row",A1..A1),@cell("col",A1..A1),8))** and copy it into range A10..F14. You'll end up with a pivoted image of the original table that changes when you update values in the original.

The formula uses 1-2-3's @cell functions to retrieve the row and column numbers of the referenced cell. The @coord function converts those numbers into a cell address; I've used the row number where @coord expects to see a column number, and vice versa. Note that the first argument of the @coord function, 1, refers to sheet A; to use it on another worksheet, adjust the number accordingly. Finally, the @@ function creates a reference to the cell address produced by the @coord function.

	A	B	C	D	E	F
1	ITEM	JAN	FEB	MAR	SUM	
2	Flights	234	345	123	702	
3	Training	345	456	234	1035	
4	Concessions	465	567	987	2019	
5	Sales	567	678	98	1343	
6	SUM	1611	2046	1442	5099	

	A	B	C	D	E	F
10	ITEM	Flights	Training	Concession	Sales	SUM
11	JAN	234	345	465	567	1611
12	FEB	345	456	567	678	2046
13	MAR	123	234	987	98	1442
14	SUM	702	1035	2019	1343	5099

FIGURE 3: TURN A 1-2-3 WORKSHEET on its side using a formula, not Range•Transpose.

Obvious? No. Handy? Yes!

Spreadsheets welcomes your questions and tips and pays $50 for published items. Contributing Editor Richard Scoville is a software training consultant in Chapel Hill, North Carolina. See page 14 for contact information. ■

You can take it with you.

Powerful multi-media features, ready to go, anytime, anywhere.

For people that want full-on multimedia power at their fingertips anytime, anywhere, Twinhead presents its exciting new Slimnote 9. A multimedia marvel that features a floppy drive and up to 20X CD-ROM co-existing in the system at the same time.

For over a decade, Twinhead has been manufacturing notebooks for some of the biggest names in the business. Now that same quality and experience is available to you in our own Slimnote Brand. When it comes to mobile computing, Twinhead is truly Two Steps Ahead.™ Plus, all Slimnotes are backed with our exclusive ExpressCare program, providing you with 48-hour service and toll-free support.

- Only 7 pounds, including CD, Floppy & Battery
- USB (Universal Serial Bus)
- 64-bit PCI graphics accelerator with 2Mb of video memory
- 32-bit CardBus and ZV enabled PC Card slot

Call Twinhead today for more information!

Slimnote 9133TZ
Survivor of the 5th Annual PC Computing Torture Test
—April 1997

Twinhead *Two steps ahead™*

West – Phone: 800-995-8946 • East – Phone: 800-552-8946 • Phone: 510-492-0828 • Fax: 510-492-0820
www.twinhead.com • Twinhead Corporation • 48295 Fremont Blvd. • Fremont, CA 94538

Copyright ©, 1997, Twinhead Corporation, All Rights Reserved. Reproduction without the express written permission of Twinhead Corporation is prohibited. All specifications and configurations subject to change without notice. Twinhead, the Twinhead logo and Slimnote are registered trademarks of Twinhead Corporation. Intel, the Intel Inside Logo, MMX and Pentium are registered trademarks of Intel Corporation. All other trademarks acknowledged.

MMX™ intel inside pentium® PROCESSOR

Circle 240 on reader service card

Corel upgrade for DOS users ◆ Word's Spike feature ◆ Custom SmartFills in Word Pro

Adding Page Borders in Word 97

UNTIL NOW, THERE was no simple way to create a border around a page. Finally, Microsoft makes it easy in Word 97 to embellish title pages, certificates, and flyers with borders—but many veteran Word users won't notice this new tool.

Here's how to apply a page border (also see **STEP BY STEP**):

1. Select *Format•Borders and Shading*, then click the *Page Border* tab in the Borders and Shading dialog box.
2. Select a type of border by clicking one of the Setting icons. Each selection you make is reflected in the Preview window on the right side of the dialog box.
3. If you want a simple line border, scroll through the Style list to find a line that suits your document. Notice that some graphical styles appear near the bottom of the list, so be sure to view the entire list before selecting a style. Check the Preview window to see how your selection looks.
4. If you want the border lines to be in a color other than black, select a color from the *Color* drop-down list. Leave the setting on Auto if you want black.
5. For most line styles, you can choose a line width ranging from thin to thick, to further customize your border. Select from the *Width* drop-down list.
6. To get a more fanciful border, click the *Art* drop-down list and choose from dozens of images such as trees, flowers, hearts, and stars. You can control the size of the repeated images by selecting from the *Width* list.
7. Once you're satisfied with your border, click the *Apply to* drop-down list and select where you want the border to appear. For simple, one-page documents, choose *Whole Document;* to place a border just on the first page of the document, choose *This section – First page only.*
8. Word automatically fits your border to the page, as close to the outside of the printable area on the page as possible. This is normally a good default, but you can change margin settings if you wish by clicking the *Options* button.
9. Finally, click *OK* to complete the process. If you need to change any of the settings, simply return to the page that has the border and select *Format•Borders and Shading* again.

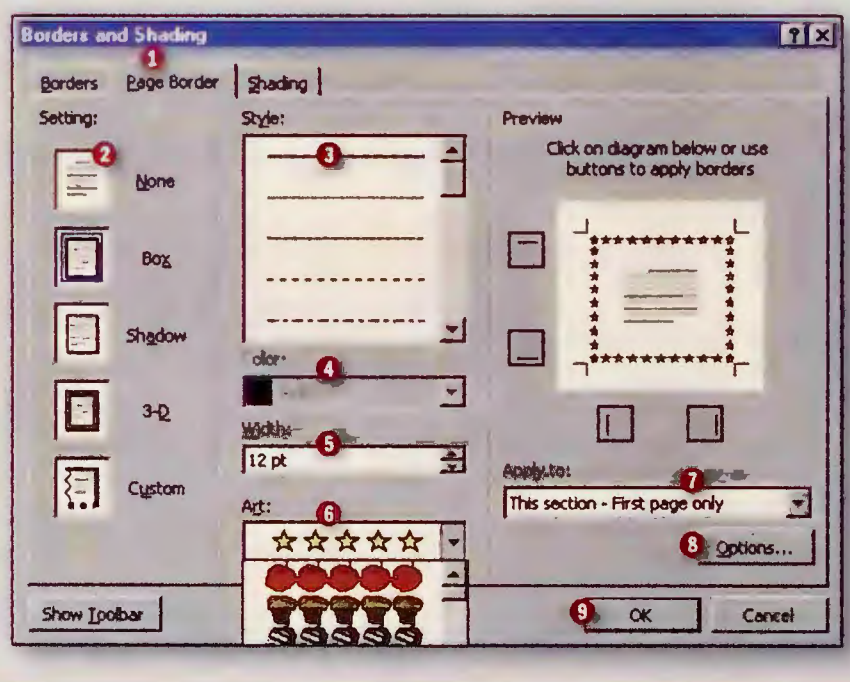
ATTENTION DOS USERS: NEW COREL WORDPERFECT SUITE IS HERE

SINCE WINDOWS crashed onto the scene, users who are stuck with DOS-based PCs have been ignored by most software publishers. Corel, however, has just released a brand-new product that brings the power of its office suite to DOS users. Corel WordPerfect Suite for DOS offers WordPerfect 6.2 for DOS, Quattro Pro 5.6 for DOS, Corel Presentations 2.1 for DOS, Corel Shell 4.0c, plus a large collection of clip art, fonts, and even a copy of WordPerfect 6.1 for Windows 3.1, all on floppy disks and a CD-ROM.

The new version of WordPerfect will be familiar to users of previous 6.*x* versions for DOS, but Corel has added QuickCorrect (which fixes typos while you type), a Make it Fit feature, and dozens of document templates. As with earlier 6.*x* versions, you get a WYSIWYG screen for editing—a real plus over version 5.1, although you can drop back to a text-based editing mode for speed. ▶

STEP BY STEP

Embellish Word 97 Documents With Simple or Fanciful Borders



1. Select *Format•Borders and Shading*, then click the *Page Border* tab.
2. Click one of the Setting icons to select a border type.
3. Select a line from the Style list if you want a simple border.
4. For some color, select a shade from the *Color* drop-down list.
5. Select a line width from the *Width* drop-down list.
6. For a border with images instead of lines, click the *Art* drop-down list.
7. Click the *Apply to* drop-down list to select the position of the border.
8. Click *Options* if you want to adjust the position.
9. Click *OK* to finish.

Accelerate your HD up to 500%*

Launch programs faster

Multi-task faster

Windrenalin HD – think of it as adrenaline for Windows 95

windrenalin hd™

LAUNCH PROGRAMS FASTER

EVEN WHILE MULTI-TASKING

184%
104%
47%
Netscape Navigator™ version 3.0

90%
88%
78%
Delrina WinFax Pro™ version 7.0

134%
49%
34%
Microsoft Word® version 7.0

530%
455%
490%
Netscape Navigator™ version 3.0

Here are the numbers

And they speak for themselves. PCTest measured how much faster you can launch these applications, even while multi-tasking (four intense, concurrent disk access processes).

*While results may vary based on your system, applications and nature of multi-tasking, we think you'll be impressed.

check out this control panel

www.syncronys.com

show me the numbers

©1997 Syncronys Softcorp All rights reserved Syncronys, the Syncronys logo and Windrenalin HD are trademarks of Syncronys Softcorp. All other trademarks are the property of their respective holders.

Circle 232 on reader service card

The other applications in the suite also get new features and enhancements. If you're using DOS, this is the only new game in town, and it's worth the upgrade.

To run the Corel WordPerfect Suite for DOS, you'll need at least a 386 PC, with 520K of free conventional memory and a 20MB hard disk.

• Corel WordPerfect Suite for DOS $395 list, upgrade $129; Corel Corp.; 800/772-6735, 613/761-9176 (fax); www.corel.com

READER SERVICE NO. 607

COLLECT AND MOVE WITH WORD'S SPIKE

HAVE YOU EVER had to collect blocks of text and graphical images from different places in one or more Word documents, then insert them into another document?

This sounds like a multistep process, but if you're working in Word 6.0 or a later version, you can simplify the job by using the Spike. The Spike, named after the old-fashioned editor's spindle, is part of Word's AutoText feature, which lets you store text for repeated use. You add text and graphics to the Spike one by one, then insert them into another document as a group. Here's how:

1. Open the document, or documents, containing the text or graphics that you want to collect.
2. Select the first item you want to send to the Spike. Keep in mind that items in the Spike are inserted in the final document in the order in which they were added.
3. Adding an item to the Spike removes it from the original document, so if you need to keep the original intact, press **<Ctrl>-C** to copy the item to the Windows Clipboard.
4. Press **<Ctrl>-<F3>** to move the first item to the Spike.
5. Press **<Ctrl>-V** to reinsert the item in the originating document if necessary.
6. Repeat the steps above until you've collected all the material you want to transfer.
7. To insert all your collected material and clear the Spike's contents, position the cursor on a blank line in the document where you want the items to go, then press **<Ctrl>-<Shift>-<F3>**. To insert the contents of the Spike without clearing it, so that you can use the items again later, position the cursor where you want to insert the Spike material, type **spike**, then press **<F3>**.

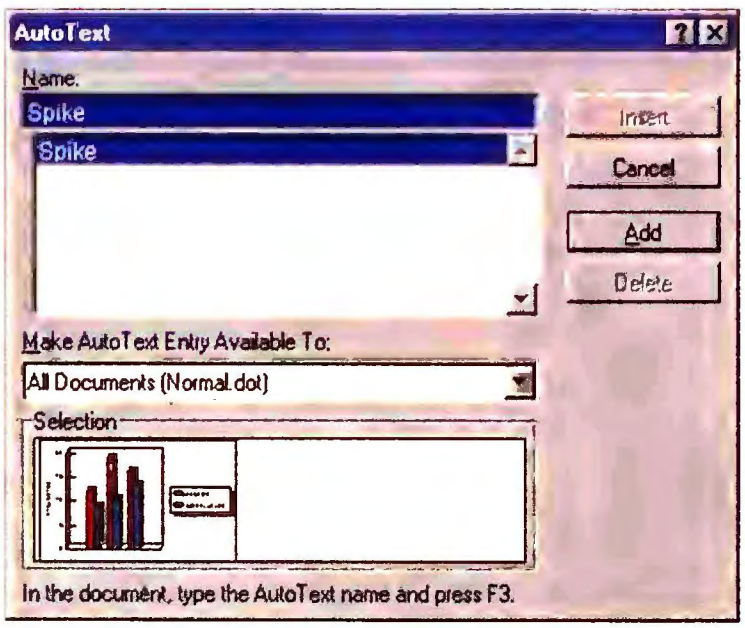


FIGURE 1: WORD'S SPIKE FEATURE lets you gather chunks of text or graphics from several files, then move them to a new file.

Note: Before you begin a new collection of items, make sure the Spike is empty. To view its contents, to insert a new item, or to delete an item, select *Edit•AutoText* (*Insert•AutoText•AutoText* in Word 97), then choose *Spike* from the list of AutoText entries, as in **FIGURE 1.**

CREATE CUSTOM SMARTFILL LISTS IN WORD PRO

SPREADSHEET USERS can fill a worksheet range with a sequence of items—the days of the week, the months of the year, or product ID codes, for example—by entering just the first item in the sequence. Users of all versions of Lotus Word Pro can do the same in their tables, thanks to the terrific SmartFill feature.

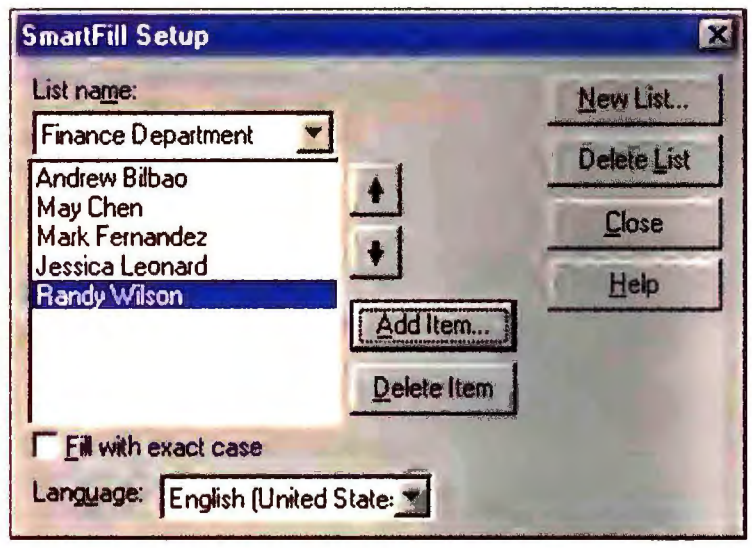


FIGURE 2: CREATE A WORD PRO CUSTOM SMARTFILL to speed entry of sequential items in a table.

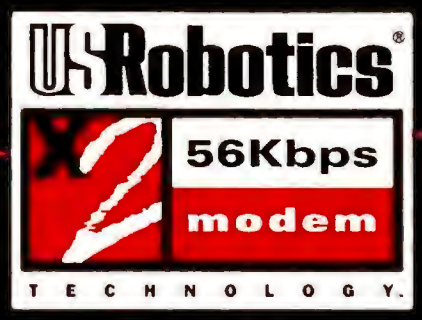
For example, you can type **Monday** in a table cell, then hold down the **<Ctrl>** key while you click and drag down or across other cells. When you release the mouse button, Word Pro automatically fills in the rest of the days of the week.

Word Pro comes with several standard SmartFill lists like the above, but you can easily create your own lists of items you commonly keep tabs on. For example, you might want to create a custom list of the employees in your department, the students in your class, or all the branch offices in your company.

Follow the steps below to create your own SmartFill lists in Word Pro 96 and Word Pro 97:

1. From the main menu, select *File•User Setup•SmartFill Setup.*
2. In the SmartFill Setup dialog box, click *New List.*
3. In the New SmartFill List dialog box, type a name for your new list, and then click *OK.*
4. Back in the SmartFill Setup dialog box, click *Add Item.*
5. In the New SmartFill Item dialog box, enter the items in your new list.
6. Repeat steps 4 and 5 until you've entered all the items in your new list (see **FIGURE 2**). To save time, enter the items in the order you'll normally want them to appear in your tables.
7. Check the order of the items in the list. To move an item, click it, then click the up or down arrow button to reposition it within the list.
8. Finally, click *Close* to finish the job and save your list.

Word Processing *welcomes your questions and tips and pays $50 for published items. Contributing Editor George Campbell is a contributor to* The PC Bible *(Peachpit Press, 1995, 800/283-9444).* *See page 14 for contact information.* ■



CONNECT NOW
WITH MORE THAN 350 ISPs LIVE TODAY

GUARANTEED FREE UPGRADE
TO 56K ITU-T STANDARD

ONE FREE MONTH
OF INTERNET SERVICE (UP TO $25)

30-DAY
MONEY-BACK
GUARANTEE

All x2 products are capable of 56 Kbps downloads, however, due to FCC rules which restrict power output of service providers' modems, current download speeds are limited to 53 Kbps. ctual speeds may vary depending on line conditions. Uploads from users to providers travel at speeds up to 28.8 Kbps.
An x2-capable modem, an x2-compatible analog phone line and an x2-capable service provider are required for these high speed downloads. See www.usr.com/x2 for details.

1997 U.S. Robotics. All rights reserved U.S. Robotics, the USRobotics logo, Sportster and Megahertz are registered trademarks and Courier, x2 and the x2 logo are trademarks of US Robotics and its subsidiaries. All
ner product names are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies. Product specifications subject to change without notice 6497 #2483

x2 Delivers...guaranteed.

x2 Delivers...more than ever

Every day, more and more information is added to the Internet. Whether it's streaming audio or video, larger data files or richer graphics, never before has the need for faster downloads been so great. That's why we created the new x2 Technology 56K* modem, the fastest ever for regular phone lines.

x2 Delivers...high download speeds now

You don't need to wait to take advantage of this modem's superior download speed. That's because x2 has already received the support of more than 500 Internet service providers (ISPs), from industry giants like America Online, Prodigy and NETCOM to smaller regional providers. In fact, more than 350 of them are live today, with many offering local access. That means you can download at high speeds in all 50 states right now with x2.** It's that simple.

x2 Delivers...free upgrade to standard

You may already know that the international 56K modem standard hasn't yet been defined. That's why we're offering a no-risk guarantee of a free upgrade to make your x2 Technology 56K modem meet the ITU-T standard. And since x2 uses DSP Solutions technology from Texas Instruments, it can easily be upgraded to future performance enhancements as they're developed.

x2 Delivers...guaranteed

To prove just how committed we are to x2, we're introducing "x2 Delivers," a special program that will show you why buying an x2 modem now makes so much sense:

CONNECT NOW
in all 50 states and Canada

*Right now, you can call an ISP and get x2 service, no matter where you live.***

FREE upgrade to ITU-T standard[1]

After the new 56K ITU-T standard is approved, we'll upgrade your U.S. Robotics x2 Technology 56K modem – absolutely free.

FREE month of service

Now, for a limited time, when you purchase a U.S. Robotics x2 Technology 56K modem, we'll reimburse you for one month of service from any x2-capable Internet service provider – up to $25.

30-day money-back guarantee

We're confident you'll be completely satisfied with your new x2 modem. If not, return it within thirty days of purchase – no questions asked.

See the back cover for complete details of the x2 Delivers program.

x2 Delivers...an easy choice

The ability to connect now in all 50 states and Canada. A free month of service. A free upgrade to the ITU-T standard. A 30-day money-back guarantee. It couldn't be any easier. For more information, visit **http://x2.usr.com/connectnow**, or call **1-800-525-USR1** to find a provider near you with live x2 service.

Now get high speed downloads with modems from the company that connects more people to the Internet than any other. If extra speed is what you're looking for, remember one thing: x2 delivers.

U.S. Robotics®

U.S. Robotics X2 TECHNOLOGY.

x2 Delivers GUARANTEED

CONNECT NOW WITH MORE THAN 350 ISPs NATIONWIDE
FREE UPGRADE TO 56K ITU-T STANDARD
FREE MONTH OF INTERNET SERVICE (UP TO $25)
30-DAY MONEY-BACK GUARANTEE

Buy any Sportster,® Courier™ or Megahertz® 56K modem with x2™ Technology between June 1 and September 15, 1997 and get one month of Internet service plus upgrade to 56K ITU-T standard,[1] FREE. And if you're not satisfied after 30 days you can return the modem for a full refund.

To get your free month of Internet service with an x2-capable Internet service provider, just complete and return the form below.

Then, you'll also be registered for the free upgrade. After the ITU-T standard for 56K modems is approved, we'll upgrade your U.S. Robotics x2 Technology 56K modem, free of charge. Since every x2 modem is equipped with Flash ROM, we expect the upgrade to be as simple as a software download from the Internet. If it's not, we'll replace your modem with one that does meet the new standard – free of charge. Register your modem, and after the 56K standard is approved by the ITU-T, we will notify you how and when to get your free upgrade. Approval is expected some time in early 1998.

And again, if you're not satisfied with your U.S. Robotics x2 Technology 56K modem, simply return it within 30 days of purchase, along with dated receipt, to the store or mail order reseller where you bought it for a full refund.

1 Guaranteed upgrade valid for all currently available Sportster 56K Faxmodems (Models 1783, 1784, 1785, 1786, 1787 and 1789), Courier 56K Faxmodems (Models 1867, 1868 and 1869) and Megahertz 56K PC Card Faxmodems (Models XJ1560, CC1560, XJ5560, CC5560). This offer valid in the U.S. and Canada only.

U.S. Robotics x2 TECHNOLOGY

FREE MONTH OF INTERNET SERVICE

Get 1 month of Internet service from any ISP live now with x2 Technology (up to $25).

To get your free month of Internet service:

1. Buy any Sportster, Couner or Megahertz modem listed below between June 1 and September 15, 1997
2. Call 1-800-525-USR1 or visit http://x2.usr.com/connectnow to find out if your current ISP has live x2 service now. If not, choose one of the x2-capable ISPs listed there.
3. Fill in all requested information on this form.
4. Enclose this completed form with a copy of your dated modem receipt, original UPC bar code symbol and serial number from the modem package (see samples below) and proof of your x2 ISP monthly fee (credit card bill or monthly statement) and mail to:
   U.S. Robotics, x2 Delivers, PO Box 8061, Young America, MN 55551-8061
   (Any questions regarding this program, please call 1-800-727-2107.)

(Please print all information clearly.)

Name _____

Address _____

City _____ **State** _____ **ZIP** _____

Phone _____ **E-mail Address** _____

Retailer / Mail Order where modem purchased _____

ISP Name _____ **Monthly fee** _____

Internet service offer valid with purchase of Sportster 56K Faxmodems models 1783, 1784, 1785, 1786, 1787 and 1789; Courier 56K Faxmodems models 1867, 1868 and 1869 and Megahertz 56K PC Card Faxmodems models XJ1560, CC1560, XJ5560, CC5560 only; purchased between June 1, 1997 and September 15, 1997. Request must include copy of dated modem sales receipt, actual UPC bar code and serial number from the modem package, and proof of x2 ISP monthly fee. One Internet service refund per address. Not responsible for lost, late or misdirected mail. Request must be postmarked by November 15, 1997. Valid in U.S. and Canada only. Not valid with any other offer. Please allow 6 to 8 weeks for receipt of check. Consumer is responsible for payment of monthly fee to service provider.

UPC SAMPLE

XXXXX XXXXX

SERIAL NUMBER SAMPLE

21NG23xxxxxx

The following UPC codes are the only acceptable codes for this offer. No other UPC codes are valid. Tape UPC bar code over this box.

7-38168-00611-3	7-38168-00612-0	7-38168-00613-7	7-38168-00614-4
7-38168-00615-1	7-38168-00616-8	7-38168-00630-4	7-38168-00629-8
7-38168-00682-3	6-62662-52776-1	6-62662-52939-0	6-62662-52778-5
6-62662-52823-2	6-62662-52825-6	7-36168-00686-1	7-36168-00669-4
7-36168-00670-0	7-36168-00687-8		

Tape serial number & bar code over this box.

Fax Reports From Access

IF YOU WANT to fax an Access report, you can print the report, trot over to the fax machine, and send it. Or you can remain seated and fax the report directly from Access. All you need is a fax-modem, the Microsoft Exchange e-mail client, and Microsoft Fax or Symantec's WinFax Pro. In the examples here, we'll use Microsoft Fax. To see how this technique works with either program, download rptsampl.exe from ftp://ftp.microsoft.com/softlib/mslfiles or from PC World Online.

FAX A REPORT TO ONE NUMBER

IF YOU ROUTINELY fax a particular report to one person, you can create a simple macro that records that person's phone number and the name of the report you want to send. Here's how:

1. In the Database window, click the *Macros* tab and then *New*.
2. Choose *SendObject* from the *Action* drop-down list. In the bottom half of the macro builder dialog box, set Object Type to *Report*, set Object Name to the name of the report you want to fax, set Output Format to *Rich Text Format*, and enter **fax: ###-####** after 'To:' where ###-#### is the number you want to fax to.
3. Close the macro and save it as **Fax Report**, or whatever you like.
4. To fax the report, click the *Macros* tab in the Database window, select *Fax Report*, then click the *Run* button.

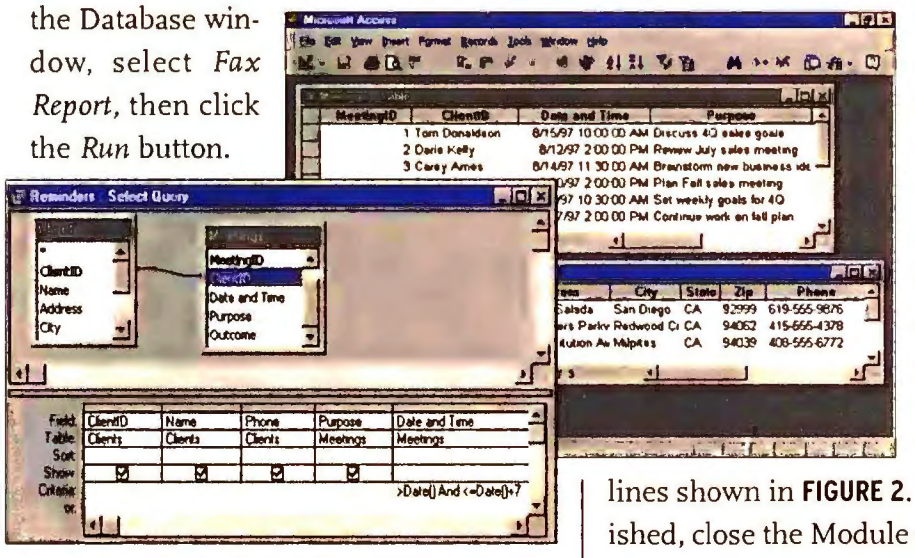
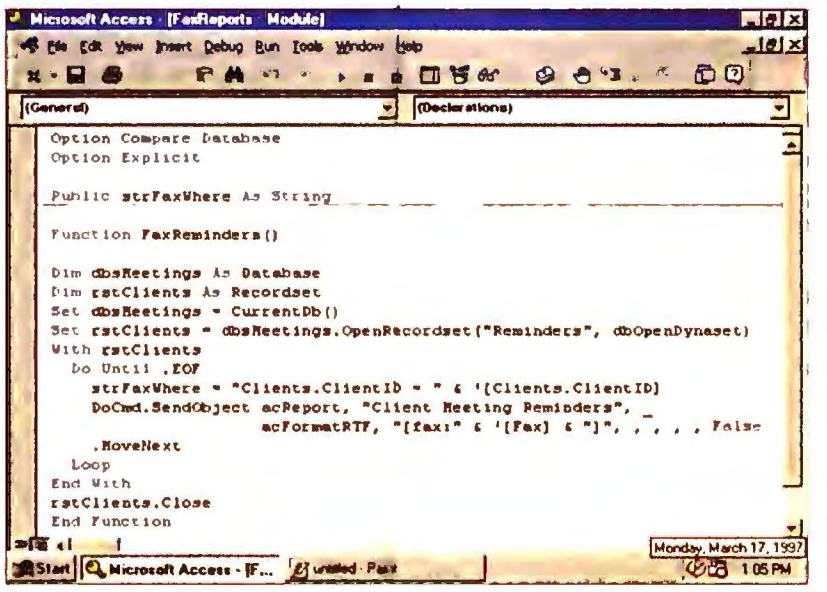


FIGURE 1: THE QUERY selects people from the Meetings table who are scheduled for meetings in the next week. The Meetings table is joined to the addresses in the Clients table.

FAX A REPORT TO SEVERAL PEOPLE AT ONCE

A SLIGHTLY MORE complex procedure allows you to send a fax to several different numbers. In the example below, we'll create a report to remind selected individuals of an upcoming meeting. The date and purpose of the meeting will vary with each individual.

1. Create a query to select the people you want to receive the report. The left side of **FIGURE 1** shows a query called 'Reminders' that selects records from a Clients table and a Meetings table (shown on the right).
2. Create a design for the report.
3. With the report in design view, right-click the box in the upper-left corner of the report window and choose *Properties*. Click the *Event* tab, select *[Event Procedure]* from the drop-down menu for *On Open*, and click the ... at the end of the line. Then enter **Me.Filter=strFaxWhere** in the window that opens. Close the code window, close the report, and save it. This step tells Access to print only records in which ClientID is the same as the value stored in the variable strFaxWhere.
4. Click the *Module* tab in the Database window, then click *New*. Under 'Option Explicit', type the lines shown in **FIGURE 2**. When you're finished, close the Module window and save it as **FaxReports**.
5. Create a macro to fax the reports: Click the *Macros* tab in the Database window, then click *New*. Select *RunCode* from the *Action* list, and enter **FaxReminders()** in the Function Name box. Save the macro as **Fax Meeting Reminders**.
6. To fax the reminders, highlight *Fax Meeting Reminders* on the *Macros* tab in the Database window and click *Run*. Choose a profile if you're prompted, and click *OK*.

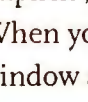


```
Option Compare Database
Option Explicit

Public strFaxWhere As String

Function FaxReminders()

Dim dbsMeetings As Database
Dim rstClients As Recordset
Set dbsMeetings = CurrentDb()
Set rstClients = dbsMeetings.OpenRecordset("Reminders", dbOpenDynaset)
With rstClients
  Do Until .EOF
    strFaxWhere = "Clients.ClientID = " & ![Clients.ClientID]
    DoCmd.SendObject acReport, "Client Meeting Reminders", _
                       acFormatRTF, "[fax:" & ![Fax] & "]", , , , , False
    .MoveNext
  Loop
End With
rstClients.Close
End Function
```

FIGURE 2: THIS MODULE FAXES A REPORT directly from Access to each individual selected in the Reminders query.

You'll have to make some changes to the code to make it work with your database:

- In the first 'Dim' statement, replace 'Meetings' (in the expression 'dbsMeetings') with the name of your database.
- Replace the term 'Reminders' with the name of the query your report is based on.
- Replace the term 'Clients.ClientID' with the name of your client code or customer number field.
- Replace 'Client Meeting Reminders' with the name of your report.
- Replace the term 'Fax' in ![Fax] with the name of the field that contains your fax numbers.
- In this example, ClientID is an AutoNumber field. If you're using a text field to select records, change the line under 'Do Until...' to read: **strFaxWhere = "Clients.ClientID = '" & ![Clients.ClientID] & "'"**. Include a space followed by an underscore at the end of any line you break, as in the 'DoCmd.SendObject' line in Figure 2.



Find files from this article at www.pcworld.com/files. PC World *contributing editor Celeste Robinson is coauthor of* Mastering Paradox 7 for Windows 95 *(Sybex, 1996, 800/227-2346).* *See page 14 for contact information.* ■

The European IT Forum 1997

Information Society and Digital Economy

21-23 September, Le Meridien Montparnasse, Paris, France

Keynote speakers at this prestigious event include:

Steve Case, Chairman & CEO, America OnLine

Irving Wladawsky-Berger, General Manager, IBM Internet Division

Gerhard Schulmeyer, CEO, Siemens Nixdorf

Robert Palmer, Chairman & CEO, Digital Equipment Corporation

Andreas Barth, Senior Vice President & General Manager Europe, Middle East & Africa, Compaq Computer Corporation

Franz Nawratil, Chairman & CEO, Hewlett-Packard Europe & Middle East.

Edward R. Kozel, Chief Technical Officer, Cisco Systems Inc.

Glover T. Ferguson, Director Worldwide Electronic Commerce, Andersen Consulting

Jeff Papows, President, Lotus Development Corporation

Eric Schmidt, CEO, Novell Inc. (tbc)

Charles Wang, Chairman & CEO, Computer Associates

Joseph W. Alsop, CEO, Progress Software

Keith Todd, CEO, ICL

Jim Barksdale, President & CEO, Netscape

Bernard Vergnes, Chairman, Microsoft Europe

Robert Metcalfe, Inventor of Ethernet & V.P. Technology, IDG

IDC's European IT Forum has definitely established itself as the most comprehensive and authoritative conference on the status and trends of Information Technology & Communications in Europe.

The focus of the 1997 edition will be on the "Information Society and the Digital Economy".

The liberalization and deregulation of the worldwide Information and Telecommunications Market, fostered by the recent resolutions of WTO (World Trade Organization), are accelerating the process of the transformation of the Information Industry into what is by far the largest industry in the world: production, marketing and sales are increasingly moving towards the digital marketspace dimension, and cultural values and social relationships are being substantially influenced.
The aim of the European IT Forum will be to reflect these multiple processes by means of a number of high-level, in-depth sessions.

Sunday 21 September: Welcome cocktails - Monday 22 September and Tuesday 23 September: Sessions - Monday 22 September: Gala Dinner.

Registration fee : before June 27, 1997 : US$1,700 (+VAT 20,6%)
after June 27,1997 : US$1,850 (+VAT 20,6%)

IDC
INTERNATIONAL DATA CORPORATION

For full details on the European IT Event of the Year, please complete and return the attached coupon. Since spaces are limited, early booking is advisable.

YES please send me full details of the European IT Forum 1997.

Name _____ Position _____

Organisation _____ Address _____

_____ Tel _____ Fax _____

US PW

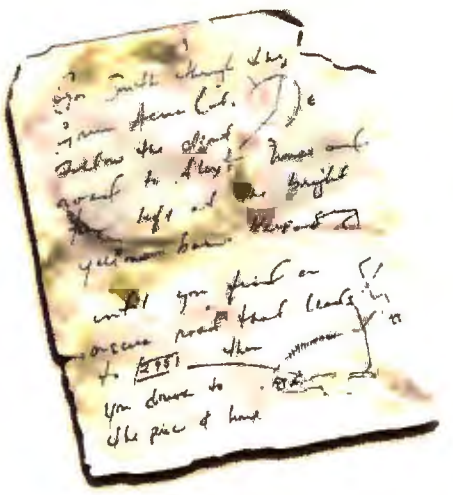
Please return to Myriam De Greef, IDC Belux, 86 Avenue E. de Beco, 1050 Brussels, Belgium.
Telephone: +32-2-626 13 92 Fax: +32-2-646 10 23. Visit our conference web site: http://www.idcresearch.it

The European IT Forum 1997 is being held by IDC and is sponsored by the following organisations:

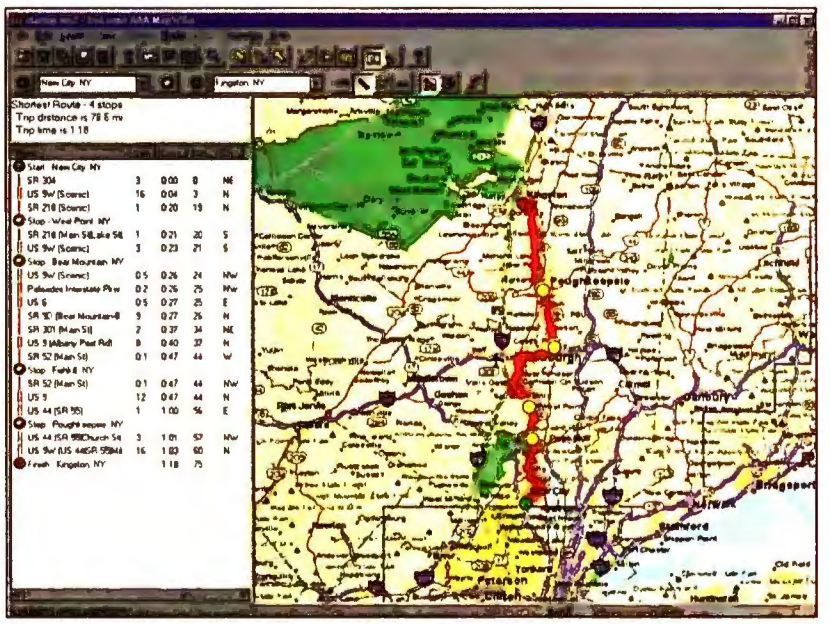
Cisco Systems · Andersen Consulting · COMPAQ · Computer Associates · digital · Hewlett-Packard · IBM · ICL · Lotus · Novell. · Progress Software · Siemens Nixdorf

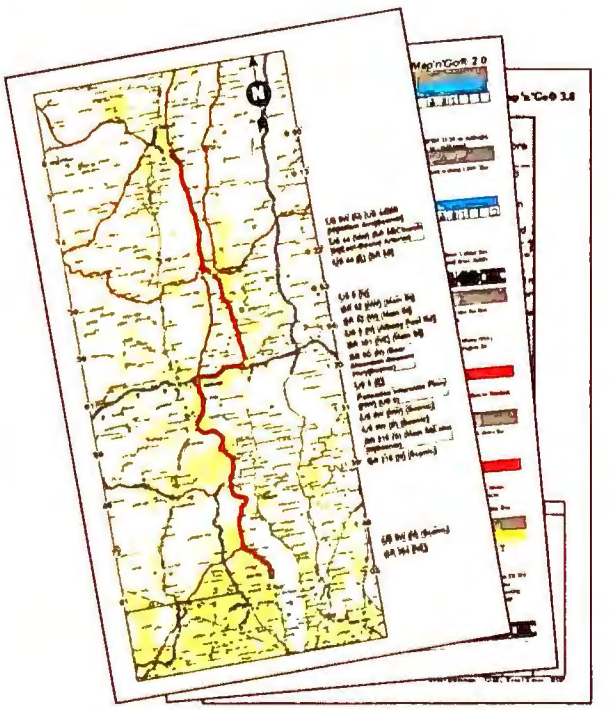
Some people just give you directions...

New
Version 3.0
May 1997



AAA Map'n'Go gives you a travel plan.





Create the Perfect Route!

- Get the route for the way you travel—with the fastest, most scenic or a customized route
- Route around toll roads or busy urban areas
- With over one million miles of routable roads, you get incredibly accurate driving directions

Complete Travel Information

- AAA Map'n'Go gives you comprehensive, up-to-date AAA information on over 64,000 lodgings, restaurants, campgrounds and fun things to see and do
- Choose lodgings and restaurants by type, price and AAA diamond rating to match your budget and style

Plan the Perfect Trip!

- Search detailed street maps of 4,164 cities—locate individual street addresses!
- Print directions or detailed maps—including all your stops along the way
- Get complete US interstate highway exit services
- Find up-to-date travel information with the FREE Internet link to highway construction, tourist events and weather. Or link to city and popular attraction Web sites
- Never get lost again—with the unique link to the Global Positioning System*
- Save $10 on a NEW AAA membership

AAA Map'n'Go®

DELORME®

CD-ROM for Windows® 3.1 and Windows 95 *requires GPS receiver

1-800-795-3951 www.delorme.com

Circle 37 on reader service card

Resume interrupted downloads ◆ Delete e-mail completely ◆ Keep Web travels secret

Teach Your Children Internet Safety

WHILE THE INTERNET is full of wonders for children, it's also fraught with hazards. Friendly strangers may not be who they seem, and many Web sites contain material that's inappropriate for minors.

Fortunately, there are several steps you can take to keep your kids' cyberspace adventures safe.

• **Find out what they're doing online.** Learn how to log on to the online services and sites that your children use. Get to know your kids' online pals, just as you know their real friends.

• **Become familiar with online services' parental controls.** Services such as America Online let you block adult chat areas or real-time requests for chat. Also consider installing Internet screening software like CyberPatrol (www.cyberpatrol.com) or Net Nanny (www.netnanny.com).

• **Bookmark family-friendly links.** Numerous sites offer collections of screened kid-safe sites. Two good ones are EZConnect (www.ezconnect.com) and Virtuocity (www.virtuocity.com/family.html). Look for omnibus sites that screen several "levels" of links—in other words, they also screen their links to other Web sites. KidsCom (www.kidscom.com) offers a game that children can play to learn about Internet safety (see **FIGURE 1**).

• **Establish household rules for computer use.** If your children are using online services excessively, especially late at night, you should limit the times they may use the computer, and place it in a family room if it isn't already there. Also consider requiring your kids to sign a "contract" that outlines the rules for using online services; a sample is available at the National Center for Missing and Exploited Children site (www.missingkids.org) and is printed here (see "My Rules for Online Safety").

My Rules for Online Safety

1. I will not give out personal information such as my address, telephone number, parents' work address or phone number, or the name and location of my school without my parents' permission.
2. I will tell my parents right away if I come across any information that makes me feel uncomfortable.
3. I will never agree to get together with someone I "meet" online without first checking with my parents. If my parents agree to the meeting, I will be sure that it is in a public place and bring my mother or father along.
4. I will never send a person my picture or anything else without first checking with my parents.
5. I will not respond to any messages that are mean or in any way make me feel uncomfortable. It is not my fault if I get a message like that. If I do, I will tell my parents right away so they can contact the online service.
6. I will talk with my parents so that we can set up rules for going online. We will decide upon the time of day I can be online, the length of time I can be online, and appropriate areas for me to visit. I will not access other areas or break these rules without their permission.

Copyright © 1994 National Center for Missing and Exploited Children. All rights reserved.

FIGURE 1: BEFORE YOU LET YOUR CHILDREN WANDER in cyberspace, point them to KidsCom.

SALVAGE INTERRUPTED DOWNLOADS

YOU KNOW THAT sick feeling. Your PC has been chugging away for nearly an hour downloading a 5MB shareware program off the Internet when someone picks up the phone in another room, or your Internet service suddenly disconnects. Lawrence Goetz of Brooklyn writes that in some instances you can resume the interrupted download by leaving your browser window untouched and reconnecting to the Internet. The download should then automatically pick up where it left off.

Why is this? It's because both HTTP and FTP can resume downloads that are interrupted. Not all Internet servers support "resume" requests, however, so the phenomenon that Goetz writes about won't necessarily happen with every Internet download that gets interrupted.

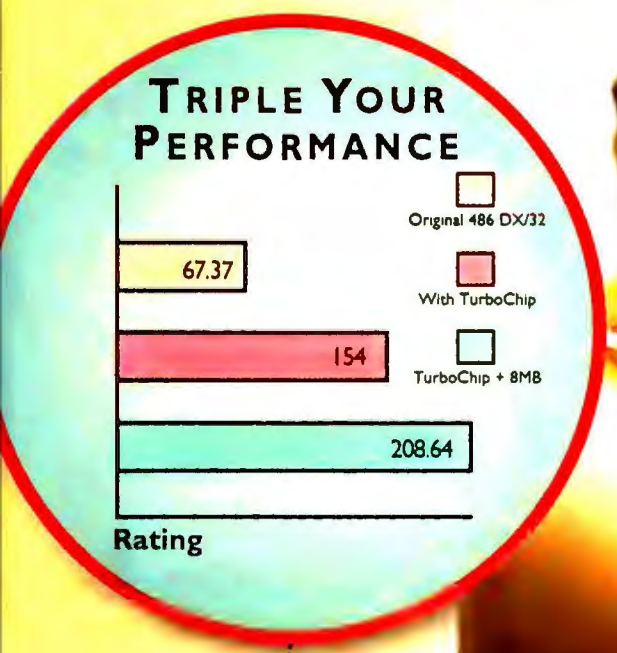
You can increase your odds of successfully resuming a botched download by using GetRight, a $17.50 shareware program from HeadLight Software.

You start a download by dragging the file link from the Web page to your GetRight download box. You can configure the program to download files to specific directories, to automatically run all downloads through a virus checker, and to download files through an FTP link instead of a slower Web one.

If the download is interrupted for whatever reason—even because of a power outage—you can continue the file transfer by clicking on GetRight's *Resume* button. But just like your browser, GetRight can't resume all broken transfers; its ability to do so depends on whether the site you're downloading from supports resume requests. You can download the Windows 95 or NT version of GetRight from HeadLight Software's Web site (www.headlightsw.com) or from PC World Online. ▶

WANT A 486 UPGRADE THAT OUTPERFORMS INTEL?

PUT KINGSTON INSIDE.



For a baseline score, we used an NEC Image 433ES equipped with an Intel® 486DX/33MHz with 8MB of RAM. The baseline machine was upgraded with Kingston's TurboChip 133 and later 8MB of RAM (totaling 16MB)

Making your 486 run like a Pentium® doesn't take magic. It just takes a Kingston® TurboChip™ and a little pocket change. Instantly, you will have 5 x 86 clock-quadrupled technology that will help your system run three times faster. And the TurboChip has all the power you need to run today's demanding software, whether you have a 486-based DX2, DX, SX2, or SX system. So how does the TurboChip compare to the Intel OverDrive®? Not only does the TurboChip beat OverDrive's price, compatibility, and warranty, but in a recent study* it also outperformed it. The TurboChip is designed with the AMD® Am 5 x 86-P7i5 CPU and upgrades most IBM-compatible desktop systems. And since the TurboChip is a chip-for-chip replacement upgrade, it's easy to install. Plus it preserves your system configuration. To find your nearest Kingston Reseller just call our toll-free number at (800) 588-5517.

www.kingston.com

MICROSOFT® WINDOWS NT™ COMPATIBLE

Kingston® TECHNOLOGY

COMPUTING WITHOUT LIMITS™

For more information call Kingston at (800) 588-5517.

ISO 9001

*Wintach test, Advanced Micro Devices, 1995. Kingston Technology Company, 17600 Newhope Street, Fountain Valley, CA 92708 USA, (714) 435-2600, Fax (714) 435-2699. © 1997 Kingston Technology Company. All rights reserved. Computing Without Limits and TurboChip are trademarks of Kingston Technology Company. All other registered trademarks and trademarks are the property of their respective owners.

Circle 128 on reader service card

INTERNET MAIL BONDAGE

WHILE BACKING UP my hard disk recently, I discovered a 112MB file called 'deleted items.mbx' in my Internet Mail and News directory [part of Microsoft's Internet Explorer]. When I opened it I found that it contained every e-mail message I had ever deleted since June 1996, when I first got on the Net. Holy cow!

Brandon Cole, Cincinnati

WHEN YOU DELETE a file, it's usually not really gone. It's invariably left lingering in a dark corner of your hard disk, accessible to employers, ex-spouses, and blackmailers. To force Internet Explorer to really wipe out the messages you've marked for deletion, click IE's *Mail* icon, then click *Read Mail*. In the mail program, select *Mail•Options*. Click the *Read* tab and check *Empty messages from the 'Deleted Items' folder upon exit.*

ADD SPECIAL EFFECTS TO WEB PAGES WITH LVIEW PRO

ONE OF MY FAVORITE programs for creating Web page graphics is MMedia Research's nifty $30 shareware program LView Pro. Look for Windows *3.x*, 95, and NT versions on PC World Online. LView Pro is especially good for working with scanned photos because it includes lots of features for brightening, sharpening, and adjusting colors. Here are a few tutorials.

Sweeten a scanned image. When you scan a photo or a piece of art, the colors in the scanned image aren't as vivid as those in the original, and the picture looks furry.

1. To sharpen an image, select *Retouch•Image Filters*, then select *Sharpen* in the Image Filter Control Panel. Click *Help* for instructions. Click *Exec* to make your changes, then click *OK*.
2. To heighten contrast, select *Retouch•Contrast Enhancement*. Nudge the scrollbar toward the C for more contrast or toward the o for less. Click *OK*.
3. To smooth an image if it has too much detail, select *Retouch•Image Filters*, choose *Smooth* in the Image Filter Control Panel, then click *Exec* and *OK*.

Create a transparent background. Start by "cutting out" the foreground and placing it on a solid-color background. Then follow these steps:

1. Select *File•Save As* and choose *GIF89a* from the 'Save as type' drop-down list.
2. Select *File•Properties* and click the *GIF* tab. Make sure 'Save transparent color information in GIF89a files' is checked. Click the *Quantizing* tab, select either *256 Colors* or *Black and White*, and click *OK*.
3. Select *Retouch•Background Color*, pick any color, and click the *Dropper* button.
4. Go back to your image. Using the dropper, click the color you want to be transparent. (You won't see the change.) Save the image again in GIF89a format.

For the page shown in **FIGURE 2**, I used a bright blue background because that color appeared nowhere else in the picture.

5. Now start your browser and open your Web page to see if the background shows through where you want it to.

Add shadowing to letters. To create letters with shadowing, you create one set in gray and an identical copy in black. You then blur the gray set and move the black set on top of it, offset by just a few pixels.

1. Select *Edit•Add Text*. Type your text in the 'Text to add' box. Click *Foreground*, select gray in the palette, and click *OK*.
2. Adjust the font and type size if needed, then click *Exec* and *OK*.
3. Select *Retouch•Image Filters*, click *Yes* at the prompt, select *Blur* in the Image Filter Control Panel, click *Exec*, and click *OK*.
4. Select *Edit•Add Text* again; your text should still be in the 'Text to add' box. Leave all the settings the same. Make sure *Transparent text background* is checked. Then change the text's color to black.
5. Position the black letters by moving the slide bars below Modify Selection Area. Click *Exec*, then click *OK*.
6. Save your file in GIF89a format.

• LView Pro $30 if delivered by e-mail, $35 (disk) or $40 (CD-ROM) by first-class mail; MMedia Research; 954/458-9698 (fax); www.lview.com

READER SERVICE NO. 615

FIGURE 2: A TRANSPARENT BACKGROUND and shadowed letters enhance a Web page.

HIDE YOUR WEB TRACKS

IN MY WINDOWS directory I found a 14MB file named win386.swp that contains every URL I've visited recently. Can I delete this file? I share my PC, and I'd like to keep my Web travels private.

Beth Twomey, Belmont, Massachusetts

WIN386.SWP IS A swap file that Windows *3.x* and Windows 95 create on startup, then delete when you exit. The only way to get rid of it is to exit Windows.

FIRE UP NAVIGATOR FROM THE INTERNET ICON

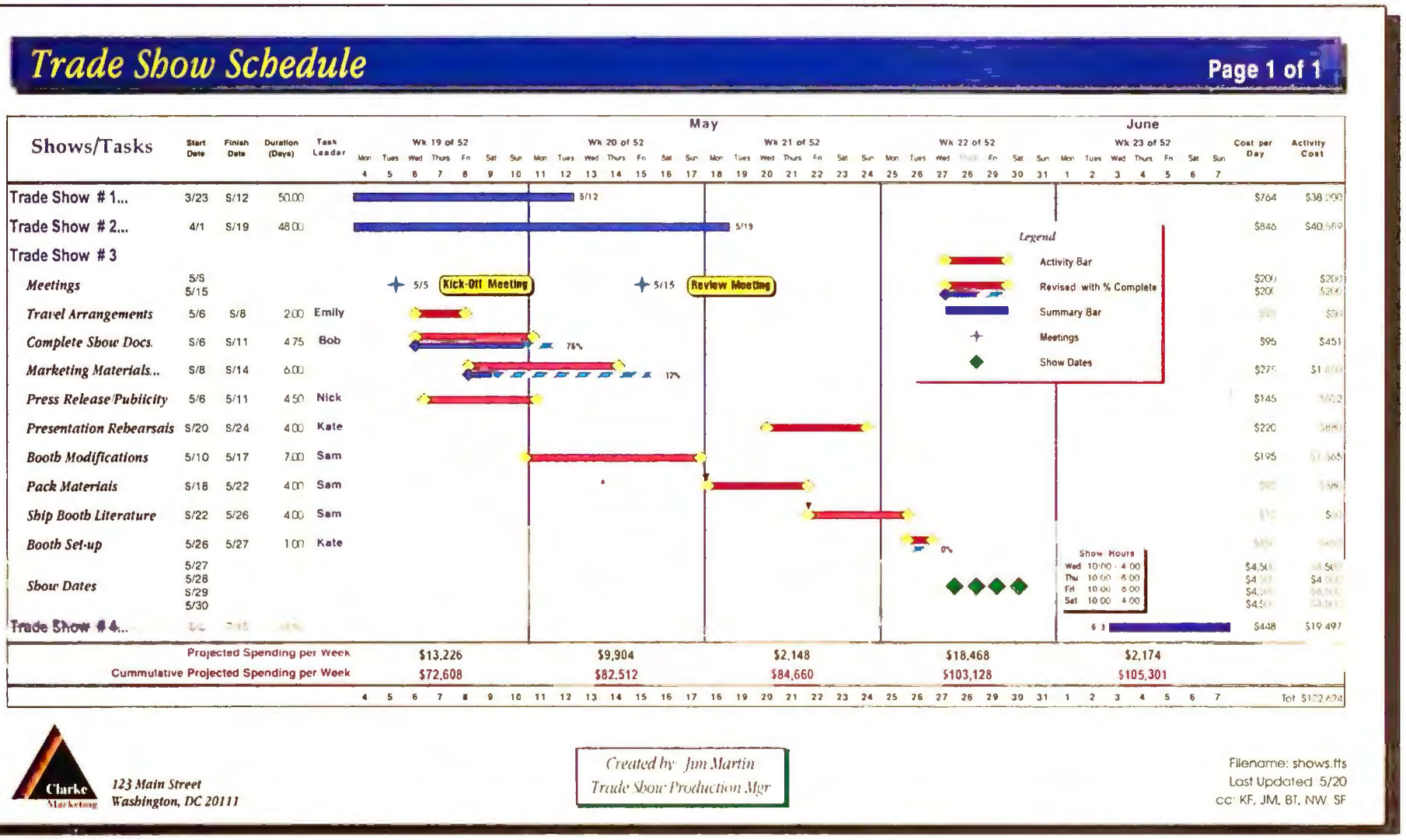
DAVE BEAUCHEMIN of Montreal says that you can edit Windows 95's Registry so that Netscape Navigator launches instead of Microsoft's Internet Explorer when you click *The Internet* on your desktop. But before you tweak the Registry, back up the following files: user.dat, user.dao, system.dat, and system.dao.

1. Select *Start•Run* and type **regedit**.
2. Expand *HKEY_CLASSES_ROOT•CLSID•{FBF23B42-E3F0-101B-8488-00AA003E56F8}•Shell•Open*.
3. Click *Command* on the left, and double-click *(Default)* on the right.
4. Change the path in the Value data line so it points to Navigator. For example, type **C:\Progra~1\Netscape\Commun~1\Program\netscape.exe**. (If a directory name exceeds eight characters, count six characters, then replace the rest with **~1**.)
5. Press **<F5>** to refresh the Registry.
6. Double-click *The Internet* on your desktop to launch Navigator.

Find files from this article at www.pcworld.com/software_lib and more tips at www.pcworld.com/hereshow. Internet Tips *welcomes your questions and tips and pays $50 for published items. Contributing Editor Judy Heim is author of* The Needlecrafter's Computer Companion *(No Starch Press, 1995, 800/420-7240).* *See page 14 for information.* ■

Project Scheduling Made Easy.

New Version 5.0



It's easy to use. FastTrack Schedule is intuitive and flexible, meeting all your project scheduling needs. It works how you do, letting you schedule projects quickly, easily, but with the control your projects require. You don't have to be an expert in project management to keep your projects organized; you just need the right tool to get it done. It's that simple.

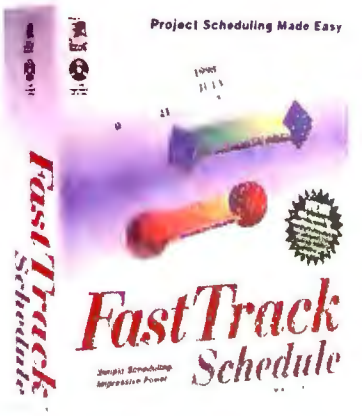
FastTrack Schedule™

It's easy to learn. Can you afford to waste time learning software over and over again? Now you don't have to. With online help systems, tool tips, and bubble help, you'll have quick solutions at your fingertips. And with FREE and UNLIMITED technical support, you'll always stay on track.

MONEY BACK GUARANTEE 30 DAY

It's easy to buy. We give you a free demo to try the software. If you like it, call us and we'll activate your demo on the fly. Plus FastTrack Schedule is 1/3 of the cost of most project management software, so it will fit your budget as well. Call today for a free demo or download it from our web site!

Simple Scheduling. Impressive Power.



Get on track!

Call to order, for more information or download a FREE DEMO today!

(800) 450-1984

http://www.aecsoft.com

Here are just some of the new features you'll find in Version 5.0:

- Calculation Fields
- Time Period Summaries
- Choice Lists
- Legend Builder
- Column Summaries
- Export directly to HTML, GIF, JPEG
- Copy Page vs. Copy Schedule
- Right-Clicking
- Finish-to-Finish Linking

plus many more...

Upgrade to Version 5.0 Today!

Designed for Microsoft® Windows NT® Windows® 95

yes It runs with NetWare

AEC Software, Inc., 22611-113 Markey Ct., Sterling, VA 20166, USA • Phone (703) 450-1980 • FAX (703) 450-9786 • http://www.aecsoft.com

©1997 AEC Software, Inc. All rights reserved. Windows, Windows 95 and Windows NT are registered trademarks or trademarks of Microsoft Corporation. Macintosh is a registered trademark, and Power Macintosh is a trademark of Apple Computer, Inc

Circle 14 on reader service card.

Tune Up Your Memory

LAST MONTH I covered memory upgrades (remember?). Here are a few more steps you can take to increase your PC's memory performance, plus two things you should avoid.

GO UNDER THE HOOD

WINDOWS 95's System Monitor is a great tool for peering into the inner workings of your computer's memory allocation. System Monitor is found in Start•Programs•Accessories•System Tools; install it from your CD-ROM if you don't have it. This utility lets you display real-time graphs of 16 parameters that illustrate how your PC's memory is allocated.

Among these, *allocated memory* is a measure of Windows 95's overall needs. It's a combination of swappable memory and other memory, and changes with demand. And *free memory* is just that. Don't worry if it seems too low; Windows 95 automatically assigns idle memory to the disk cache. To monitor a given program's memory demands, observe the changes on the graph as you load a program, pause, and unload it (see **FIGURE 1**).

REAL MODES, REAL PROBLEMS

ONE KEY WAY of optimizing memory performance is to use the protected-mode device drivers that were written for Windows 95 and to avoid using any older, real-mode drivers that were designed for DOS. (Real-mode drivers must be loaded into the first 1MB of memory, which is a real performance drain.)

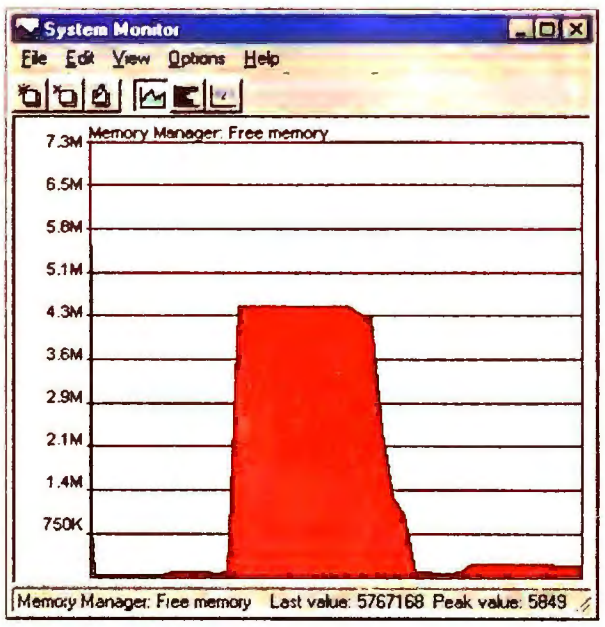


FIGURE 1: SYSTEM MONITOR SHOWS how memory usage changes when you open and close programs.

To check for old drivers, open the Control Panel, double-click the *System* icon, and click the *Performance* tab. Any real-mode ("MS-DOS compatibility mode") drivers will be listed (see **FIGURE 2**). Click the *Details* button for suggestions on how to update drivers.

Sometimes you can't avoid real-mode drivers. If you need to run software in Windows 95's DOS compatibility mode—some games require this—then you'll need to add real-mode drivers for your mouse, joystick, or whatever to your autoexec.bat and config.sys files. And if the drivers take up too much of your 640K of conventional memory, you'll also need to add a memory manager. Remember what fun *that* was?

Windows 95 provides the same medieval memory management tools as DOS 6.*x*. In order to place drivers in the upper memory block between 640K and 1MB, you'll have to add your old friends DOS=HIGH, UMB, himem.sys, and emm386.exe to your config.sys. Then you can use the DOS Memmaker utility to find the optimal placement of the drivers in memory and upper memory. You'll find memmaker.exe on the Windows 95 CD-ROM in the other\oldmsdos directory. If you need a DOS refresher, check out the Windows 95 Resource Kit help file—win95rk.hlp—on the Win 95 CD-ROM in the admin\reskit\helpfile directory.

Alternatively, you can buy a memory manager like Quarterdeck's QEMM 8.

DON'T TRY THIS AT HOME

IN THEORY, you can squeeze a little more performance out of your system with memory compression software. These programs compress more data into existing memory—much like a file compression program compacts your files—and thus minimize the need to access the hard disk's swap file. Some even claim to make 8MB of memory perform like 16MB. Unfortunately, *PC World* tests of three memory compression programs (Agent 97, Hurricane 2.03, and MagnaRAM 97) yielded disappointing results. All of these programs actually *slowed* performance on at least one of the nine tasks tested, some by as much as 12 percent. And with the exception of tasks that manipulate graphics files, most performance gains were less than 10 percent.

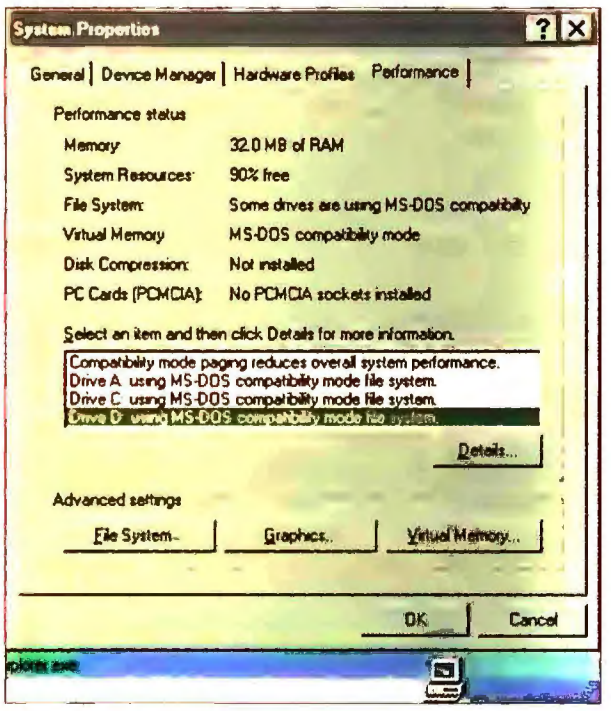


FIGURE 2: SPOT REAL-MODE DEVICE DRIVERS in System Properties, and replace them if you can.

For the price of one of these packages, you can buy at least 8MB of memory—a much better choice.

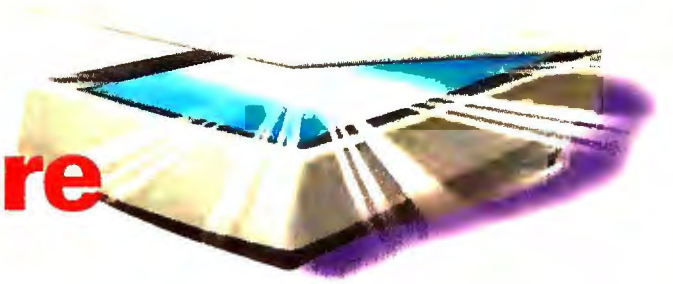
One final thing to avoid. If you're tempted to recycle those old 30-pin SIMMs you've got lying around from your old PC, don't. There are adapters on the market that let you snap 30-pin SIMMs into a 72-pin socket. But buying new memory may be cheaper, and the adapters sometimes overheat and cause errors.

• QEMM 8 $65 street; Quarterdeck; 800/354-3222; www.quarterdeck.com

READER SERVICE NO. 609

Find additional tips at www.pcworld.com/hereshow. Hardware Tips *welcomes your questions and tips and pays $50 for published items. Kirk Steers is a contributing editor for* PC World. *See page 14 for contact information.* ■

Your Scanner is Only as Good as its Software



Experts agree...TextBridge Pro & Pagis Pro are as good as it gets!

TextBridge Pro

"...a smarter OCR engine than OmniPage." **— Windows Magazine, April 1997**

"...faster, significantly more accurate and did a far better job retaining the original formatting. [vs. OmniPage]" **— Law Office Computing, January 1997**

"...if you value accuracy...this is the OCR package to choose." **— PC Magazine, September 1996**

Pagis Pro

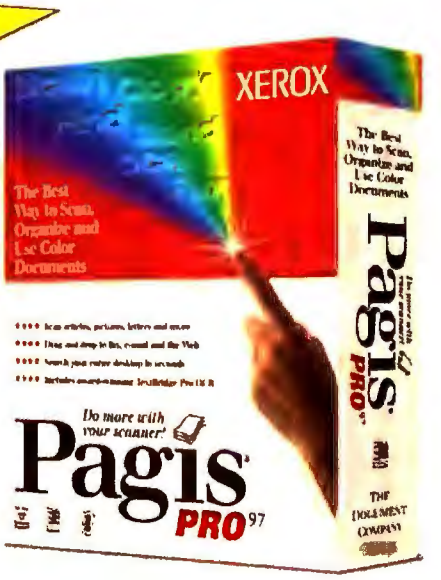
"Clear winner if you do lots of color scanning." **— PC World, February 1997**

"...offers the strongest search tools of the lot. ...Check it out if you plan to manage lots of files directly from your desktop." **— Windows Sources, March 1997**

"...superb image enhancement and color support make Pagis Pro the scanning suite of choice." **— PC Magazine, May 1997**

NEW $79* LOW PRICE

NEW $99* LOW PRICE



Turns Paper into PC Documents Without Typing

www.textbridge.com

The Best Way to Scan, Organize and Use Color Documents

www.pagis.com

1-800-248-6550

THE DOCUMENT COMPANY

XEROX

*Manufacturer's suggested retail price. Xerox, The Document Company, the stylized X, TextBridge and Pagis are trademarks of Xerox Corporation.
All other trademarks are the property of their respective companies. Reprinted from PC Magazine, Windows Sources. © Ziff-Davis Publishing Company 1996.

Designed for Microsoft Windows 95

Pick the Right Speakers

I WANT BETTER sound than I get from the small, anemic speakers that came with my multimedia PC. What sound system do you recommend for playing multimedia, games, and music CDs?

Jana Nicol, Internet

YOU'RE IN FOR a treat! There's a slew of reasonably priced PC sound systems on the market today that provide great audio for CD-ROM multimedia and games, business presentations, and Internet music—they're even good enough to pump out the music at your next party.

Multimedia PCs often come bundled with low-end speakers that sound flat and tinny. You'll get better audio by upgrading to higher-performance speakers with more power, wider frequency response, and other sound improvements.

Altec (www.altecmm.com), Koss (www.koss.com), Labtec (www.labtec.com), Nakamichi (www.nakamichiusa.com), Yamaha (www.yamaha.com), and others offer PC speaker systems, typically priced between $75 and $150. If you're willing to pay more, you can get higher-end speakers that sound as good as a home hi-fi system from Atlantic Technology (617/762-6300), Audix (www.audixusa.com), Bose (www.bose.com), Cambridge SoundWorks (www.hifi.com), Sony (www.sony.com), and other suppliers. Here are the key buying issues:

Sound card. The sound quality of your multimedia PC depends as much on the installed sound card (or sound-equipped motherboard) as it does on the speaker system. For the best audio reproduction, use a wavetable synthesis sound card capable of delivering 16-bit, 44.1-kHz stereo sampling.

Unlike older and inferior FM synthesis cards, wavetable cards let a PC play back digitized samples of real musical instruments and sound effects, providing a vastly superior audio experience. And if you're interested in playing back orchestral MIDI scores or you want full-duplex audio for communications software and interactive gaming, get a card that supports 64 musical instruments (instead of only 32) from Creative Labs (www.creaf.com), Ubi Soft (www.ubisoft.com), or others.

Two-piece versus three-piece speakers. Many two-piece speaker systems can produce excellent sound for any number of applications. But the most popular systems these days are three-piece speakers: two *satellites* (left and right speakers) and a separate subwoofer. The satellites manage mid- to high-range frequencies (150 Hz to 20 kHz), while the under-desk subwoofer handles the low range (20 to 150 Hz), creating a much stronger and more distinct bass. If you're not ready for bone-rattling bass, you can go with a two-piece system that has an optional subwoofer output jack in case you want to upgrade later.

Speaker performance. The best way to judge performance is to audition the speakers with your own ears. You'll generally find the best listening rooms at consumer electronics and hi-fi stores. If possible, take your favorite music CDs with you for the test drive, and play a wide variety of recordings.

Speaker controls. Manual controls for power, volume, tone, mute, and such are generally faster and easier to use than software-based controls—as long as all the knobs are within easy reach.

3-D sound. If you're a game or multimedia enthusiast, three-dimensional sound may add a lot to your enjoyment. Several 3-D sound technologies are available, each creating the illusion (with just a two- or three-piece speaker system) that you're surrounded by sound. To hear 3-D audio, you need a speaker system or sound card that supports 3-D sound technology, as well as a CD-ROM multimedia title or game that has 3-D audio. By itself, a sound card with 3-D audio-processing capabilities can provide "surround sound" on any two speakers, but you'll get better results from a speaker system designed to reproduce 3-D audio. And such speakers can provide surround sound even if your sound card lacks 3-D audio support.

Several manufacturers offer speakers that support various 3-D sound technologies, ranging in cost from $100 to $500, and many MMX-enhanced multimedia titles provide 3-D sound.

Altec Lansing's ACS55 Power Gaming Speaker System with Dolby Multimedia Surround Sound is a good example of an entry-level 3-D sound system. The three-piece setup provides six speaker drivers—housed in two satellites, plus a separate subwoofer—to deliver five audio channels and create the illusion of 3-D sound.

The system also comes with WaveCube, a software MIDI driver that lets you steer the audio of any MIDI sound track. For example, in the figure below, drag the jazz guitar icon in the graphical sound stage to the left rear corner, and you'll hear the guitar playing from that side of the room.

CREATE A CUSTOM 3-D SOUND STAGE with WaveCube, a MIDI utility bundled with Altec Lansing speakers. Drag an instrument around the stage, and you'll hear the sound shift in the speakers.

• ACS55 Power Gaming Speaker System with Dolby Multimedia Surround Sound $200 street; Altec Lansing; 800/648-6663; www.altecmm.com

READER SERVICE NO. 608

Find additional tips at www.pcworld.com/hereshow. Richard Jantz is a consultant and freelance writer in Kensington, California. See page 14 for contact information. ■

Business' Choice

Editors' Choice

"We needed top-of-the-line 17" monitors that deliver the performance and features critical to our business... at a price to fit our bottom line. The Optiquest V775 is all that. And more."

Extraordinary Performance

Whether your company needs a large screen monitor for desktop publishing, graphics design, spreadsheets or multiple Windows® applications, one choice stands out: the Optiquest V775. This powerful 17" (16.0" viewable) monitor offers the specs and features you'd expect from much higher priced monitors, including an ultra fine 0.26mm dot pitch, Invar shadow mask, resolutions up to 1,600 x 1,280, intuitive OnView® controls, ARAG® screen treatment, Super Contrast screen and more. The payoff is luxuriously rich colors and sharp text for both PC and Mac® systems. You'll be impressed with the Optiquest V775 – the editors of PC Magazine certainly were.

OPTIQUEST MONITORS							
	Q100	V775	V773	Q71	V655	Q53	V641
Size/Viewable	20"/18.4"	17"/16.0"	17"/15.8"	17"/16.0"	15"/13.8"	15"/13.8"	14"/13.2"
Dot Pitch	0.28mm	0.26mm	0.26mm	0.28mm	0.28mm	0.28mm	0.28mm
Max. Resolution	1,600 x 1,280	1,600 x 1,280	1,280 x 1,024	1,280 x 1,024	1,280 x 1,024	1,280 x 1,024	1,024 x 768
Horiz. Scan Freq.	30-86kHz	30-85kHz	30-69kHz	30-70kHz	30-65kHz	30-70kHz	31.5/37.5/48.4kHz
MSRP	$1,149	$699	$599	$549	$319	$299	$219

Prices effective June 1, 1997

Corporate names and trademarks stated herein are property of their respective companies
Prices and specifications subject to change without notice
Copyright © 1997, ViewSonic Corporation. All rights reserved

Extraordinary Price

Now, if you're looking for a high performance 17" (16.0" viewable) monitor that's even more affordable, check out our award-winning Optiquest V773. In fact, both of these Optiquest® montors boast a 0.26mm dot pitch, surpass environmental requirements and include a limited three year warranty. **Call (800) 843-6784 TODAY and ask for agent 7557 for additional product information.**

All business decisions should be this easy!

OPTIQUEST®

A ViewSonic® Company

20480 Business Parkway, Walnut, CA 91789
(800) 843-6784
FaxSonic (909) 869-7318 (24-hour fax-on-demand)
Internet:www.optiquest.com

HOME OFFICE COMPUTING BEST BUY
Optiquest V773
April 1997

PC WORLD TOP 10 MONITORS
Optiquest V655
February 1997

MacUser RATED 5555
Optiquest V775
December 1996

PC MAGAZINE EDITORS' CHOICE™
Optiquest V775
October 1996

Circle 247 on reader service card

Replace Your CMOS Battery

IS YOUR PC CLOCK LOSING TIME? That's a warning that its CMOS battery is about to go. And when it does, you'll have a very hard time using your computer until you change the battery.

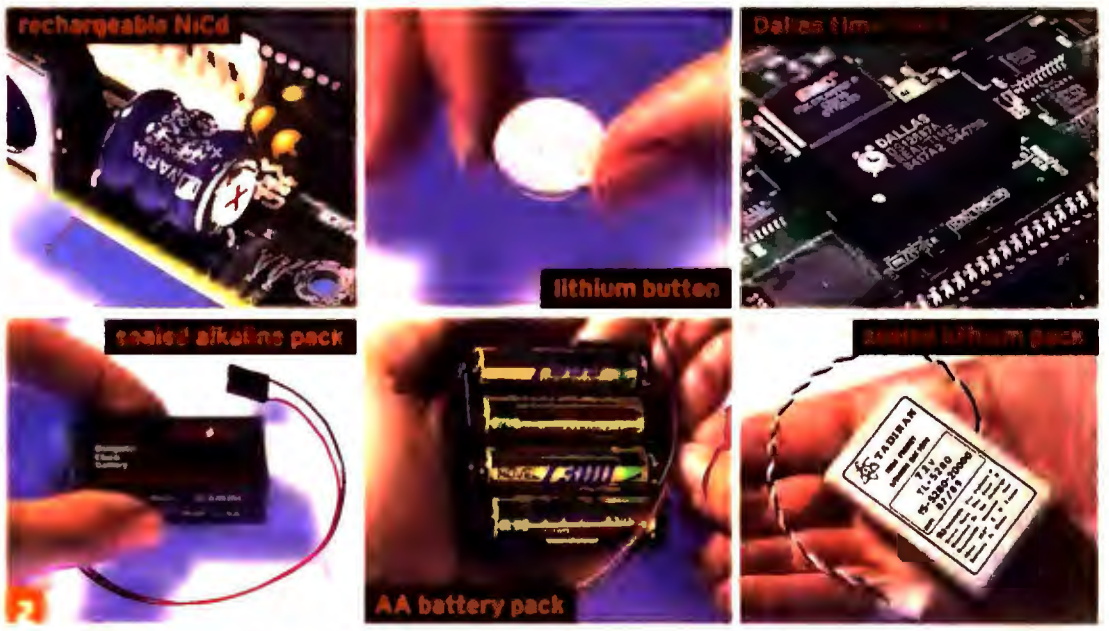
This battery powers both the PC's internal time clock and a CMOS memory chip that holds all the PC's crucial setup information, such as hard disk parameters and amount of memory.

There are many types of CMOS batteries, and their life expectancy varies widely. The lithium batteries installed in PCs for the last year or two should last five or six years, but batteries in older PCs last an average of two to three years.

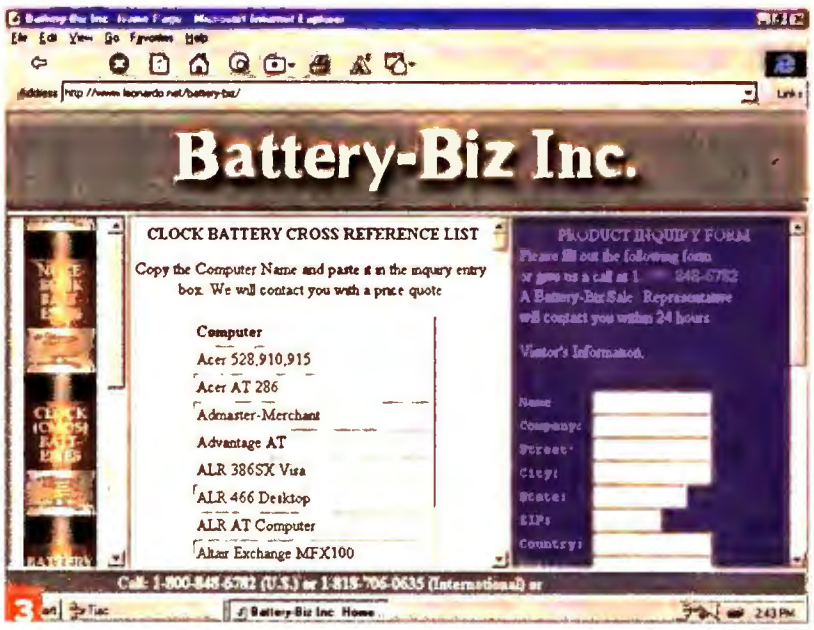
CMOS batteries often die slowly. A dead CMOS battery usually displays a 'CMOS Read Error' or 'CMOS Battery Failure' message when you turn on your PC. That means your PC has no idea how to start up because its crucial parameters are lost. Some older systems make it even harder, displaying a cryptic error message. Here's how to change your CMOS battery. For more details, especially on older models, see www.pcworld.com/hereshow.

Stan Miastkowski is a contributing editor for PC World.

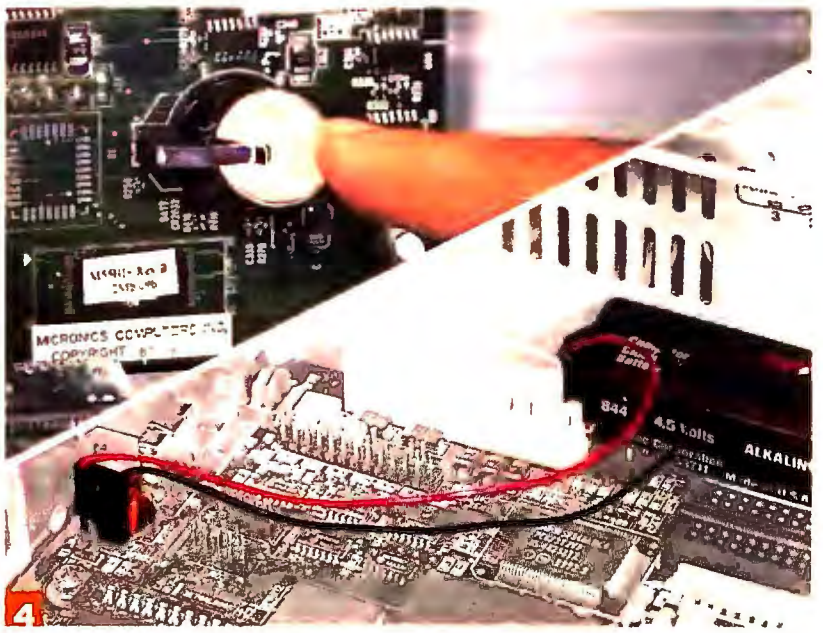
Save the setup information. Either go through the PC's setup screens and write down all the settings, or back up settings with a program such as Norton Utilities.



Find the current CMOS battery. If you're lucky, your PC's manual will tell you where the CMOS battery is located, what type it is, and how to change it. More often, it says little or nothing. Turn off your PC, open the case, and take a look around. The types of CMOS batteries fall into a few basic categories, shown above, distinguished by packaging, wiring, voltage, and chemistry.

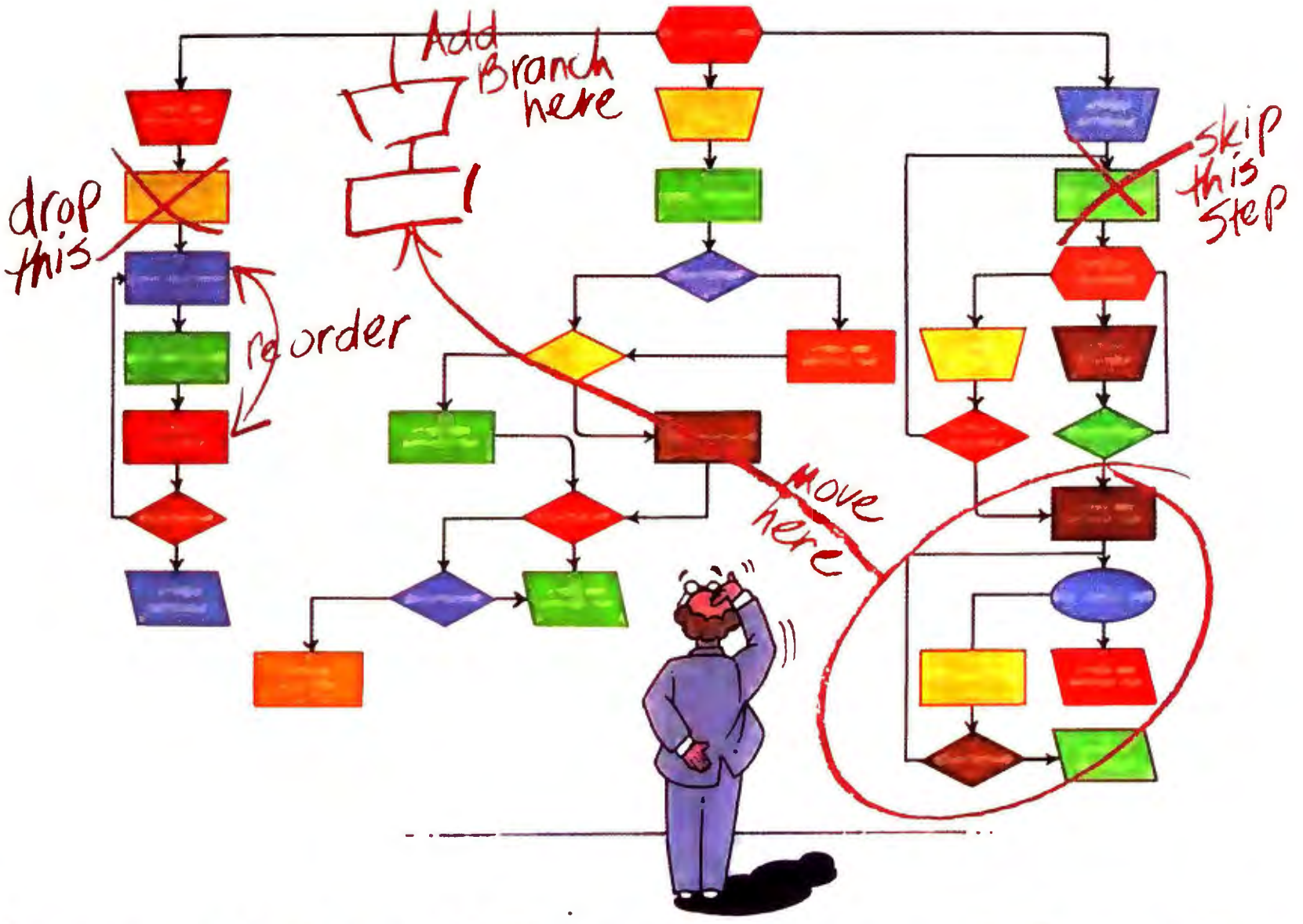


Buy the right battery. If your computer dealer or system vendor doesn't have the right replacement battery, try Battery-Biz (800/848-6782, www.battery-biz.com/battery-biz) or Resource 800 (800/430-7030, www.dalias.net/~r800).



Replace the battery. Remove the old battery, put in the new one, turn on the PC, and read any error messages. In your PC's setup program, enter the date and time. If needed, enter other settings or restore them from the backup floppy created with your utility program. ■

PHOTOGRAPHS: KEVIN CANDLAND



Reroute, Redraw, Resize Instantly

allCLEAR makes flowcharting easier

Lots of last minute changes? No problem. allCLEAR™ does them for you. When you make a change, allCLEAR automatically reroutes, redraws and resizes your diagram. Automatic page connectors join multiple pages; intelligent page breaks mean boxes never split; and smart spacing automatically makes room so boxes never overlap.

allCLEAR makes creating and updating diagrams, especially complex ones, easy. Our customers agree – **2/3 tried other products first, then switched to allCLEAR, the Smarter Flowcharter.™** Why? Because simple drawing tools can't handle all the details of real-world diagramming the way allCLEAR does.

Quickly and easily create a chart using templates, by dragging and dropping shapes or even by adding whole branches with a single click. Or, use outlining to create a diagram as fast as you can type the information that goes in the boxes.

All the diagrams you need

allCLEAR gives you every chart type you need for quality management, ISO/QS-9000 certification, systems design, training, business process reengineering, auditing and more.

Without drawing a single line, you can quickly create:

- flow charts
- organization charts
- procedure diagrams
- process maps
- fishbone diagrams
- decision trees
- deployment charts
- network diagrams
- auditing diagrams
- and more

Share your diagrams with others – even those who don't have allCLEAR – via its own interactive viewer, Lotus Notes® F/X support or OLE capabilities. The unique CLEAR Viewer™ walks people through your process step by step.

Get the Smarter Flowcharter

No other tool makes creating and updating your diagrams this easy and this automatic. Make it all clear with the Smarter Flowcharter.

Circle 202 on reader service card

"allCLEAR is a must-buy"
– Computer Shopper

allCLEAR™
The Smarter Flowcharter™

1-800-841-0054
http://www.spss.com/Products

A5837C PCW-397

yes It runs with NetWare · PC Magazine Best of 1995 · PC Computing · PC Magazine Editor's Choice · Runs With Lotus Notes · Windows Magazine 1995 Win 100 · Computer Reseller News Test Center · Microsoft Windows Compatible

Extreme Performance!

When it comes to number crunching, graphics generating, data processing, presentation creating, information storing performance, the Soundx 4500 ROCKS!

Go ahead, check out IBM, AST, Digital, HP, NEC, and Compaq*.

Then call us at:
1-800-788-2878
for a dealer near you.
(Check out our web site at: www.sceptretech.com)

*If we sound confident, it's because the Soundx 4000, our previous model, just beat their best in an independent NSTL test!

MMX™ intel inside pentium®

Soundx 4500

Power Configuration:
166 MHz Pentium Processor with MMX Technology
32 MB RAM
2 GB HDD
$3,895 MSRP

SCEPTRE®

EXCELLENCE FOR ALL THE WORLD TO SEE

Face The Future

The First, The Best, The Only

multimedia LCD monitor is ready to blow your CRT monitor off the desk! Sceptre's FT15 15" LCD monitor (14.5" viewable) is flicker and distortion free, gives off negligeable amounts of electrical emissions and zero magnetic radiation. Compared with a standard 17" CRT monitor, (yes, 17"!) the plug and play FT15 uses just one quarter the desktop real estate.

The FT15 is Sceptre's fourth generation flat panel LCD monitor. With that history of engineering excellence, plus the fact that Sceptre is an ISO 9001 manufacturer, you know that you are getting nothing but the best.

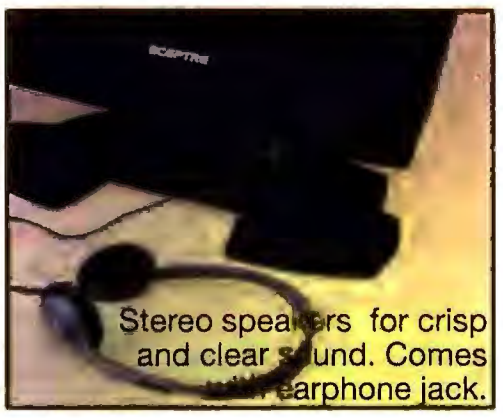
Period.

Call now to find out how to blast your viewing experience into the future.

800-788-2878

Check out our web site at:
www.sceptretech.com

1024 x 768 TFT,
14.5" viewable,
Plug and Play,
Advanced
On-Screen Display
(Also available in white)



Only
2 1/2"
Thin!

Sceptre's mascot, Brutus, is a Komodo dragon. Komodo dragons are on the endangered species list. Sceptre donates a portion of its revenues to the Center for the Reproduction of Endangered Species (CRES). Until August 31, 1997, with the purchase of any Sceptre LCD (11" & 12"), receive a 24" Brutus. Just send in a copy of your proof of purchase and this ad along with your warranty card.

"As an ENERGY STAR® partner, Sceptre Technologies has determined that this product meets the ENERGY STAR® guidelines for energy efficiency."

SCEPTRE®

EXCELLENCE FOR ALL THE WORLD TO SEE

Circle 213 on reader service card

Windows 95 without Risk!

PC MAGAZINE BEST OF 1996
Jan. 7, 1997

Now you can run both Win 95 & DOS/Win3.x on the same PC!

If you've been considering Windows 95, but have "upgrade phobia", now *System Commander* lets you switch without fear! In fact, you can run Windows 95, 3.1, NT, OS/2, and DOS *without* repartitioning your PC, unless you want to . . . *safely, effortlessly and inexpensively.*

System Commander is an indispensible tool for **developers, help desk, tech support, classrooms** and **labs** by allowing the installation of up to 100 OSes on one machine. Once installed, switch from one OS to another with just a reboot and click of a button.

It prepares your PC automatically for new OSes in 5 minutes, allows you to boot from any combination of hard drives, partition and install up to 32 OSes in a single FAT partition, and offers multiple levels of security. Use any combination of Intel-compatible OSes in English or **any other language**. *System Commander* uses less than 1MB of hard drive space and, since it uses ***no*** resident memory, it can't conflict with your existing system. So to minimize your equipment expenses and gain almost limitless multi-OS flexibility - *Get System Commander, the "mighty superhero to users of multiple operating systems."** *Infoworld*

Run any or all of these operating systems on one PC!

- **Windows**
  - Windows 3.x
  - Windows 95
  - Windows 95J
  - Windows 97
  - Windows NT3
  - Windows NT4
- **DOS**
  - DOS/V
  - DR-DOS
  - MS-DOS
  - Novell-DOS
  - PC-DOS
  - PTS-DOS
  - SDOS
- **UNIX**
  - Coherent Unix
  - FreeBSD
  - Interactive Unix
  - Linux
  - Lynx OS
  - Minix
  - NetBSD
  - NeXT Step
  - OpenStep
  - SCO Unix
  - Solaris
  - UnixWare
  - XENIX
- **Others**
  - OS/2
  - NetWare
  - CTOS
  - Pick
  - QNX
  - THEOS
  - CP/M

1995 BYTE POURNELLE'S USER'S CHOICE AWARD
April 1996

"Highly recommended"
John C. Dvorak
PC Magazine

"System Commander is a blooming miracle"
Jerry Pournelle, BYTE

System Commander is only $99.95 and comes with an UNCONDITIONAL 60-DAY MONEY BACK GUARANTEE!

*Get FREE overnight shipping** when you mention this ad.*

Call today, have it tomorrow!**

800-648-8266

www.v-com.com

V Communications, Inc. • 2290 North First St., Ste 101-PCW • San Jose, CA 95131 • (408) 965-4000 • Fax (408) 965-4014

** When ordered before noon PST. No Saturday delivery. Continental US. CA res. add $7.25 sales tax. Offer subject to change without notice.

All logos and product names are trademarks of their respective companies. VISA/MC/Amex ©1997

Circle 255 on reader service card

GrabiT!

Turns your camcorder into a digital camera

1997 PCG·V HIGHLY RECOMMENDED

Here's just a taste of what you can do with GrabIT.

Make an advertisement.

Make a wedding album

Make a calendar.

Make a greeting card.

FREE! Now includes $150 worth of software

Family Album Creator, iPhotoExpress and PhotoMorph 2.

Available at

BEST BUY · EGGHEAD Computer Software & Hardware · Fry's ELECTRONICS · MICRO CENTER THE COMPUTER DEPARTMENT STORE

Mail Order: PC Zone at 1-800-258-2088, MicroWarehouse 1-800-367-7080, Global Computer Supplies at 1-800-8GLOBAL, Damark at 1-800-729-9000, TigerDirect at 1-800-888-4437.

Take a snapshot of your favorite video from any video source in 1,440 by 960 resolutions in 16 millions color.

GrabIT is a fun, simple way to get color images onto your PC from any video source - including your camcorder, laser disc player, cable or broadcast TV source, or S-VHS video connection.

It's easy to install. Just plug GrabIT into your printer port of your PC or notebook computer. Connect a camcorder and with a click of the mouse your capturing images into your PC.

With the GrabIT, you can use your pictures for web page publishing, multimedia presentations, disk-based catalogs, personal photo albums, image databases, digital greeting cards, newsletters, school reports or family projects - like T-shirts, morphing fun, posters and etc. You can even e-mail pictures to friends and family around the world.

$129.95 A.S.P

AIMS

Visit our web site at http://www.aimslab.com

AIMS Lab Inc., 46740 Lakeview Boulevard, Fremont 94538. Phone 510.661.2525 Fax 510.252.1572
© 1996, 1997 AIMS Lab Inc. GrabIT is a registered trademark of AIMS Lab Inc.
All other trademarks or registered trademarks are property of their respective owners.

Circle 19 on reader service card

With the miroVIDEO DRX, the only difference between *your* epic film and the top studios'...

Load scenes and images from camcorder to PC.

Edit and rearrange footage, add titles and special effects.

Output to CD-ROM, the Internet, or videotape and grab a bag of popcorn!

...is about $40 million.

Maybe you're the next Coppola. Maybe you just cherish the wonder of your own family. Or maybe you want to make your brother a wedding video he can't refuse. Any which way, you can.

The **miroVIDEO DRX** turns raw video footage into a studio-quality motion picture. Unlike other cards in its class, the **DRX** offers professional non-linear digital video editing technology (just like the pros use) that lets you re-sequence scenes in any order you like, making movie creation and edits as easy as yelling "CUT!" And it comes with MGI's VideoWave publishing software so you can choose from a range of wipes, fades, zooms, titles, special effects and loads of super cool scene transitions. Get ready to:

- **Use the power of full-motion video to create a Web site that'll wow the critics.**
- **Turn presentations or training tapes into show-stoppers.**
- **Input *and* output to VHS, Super VHS, Video 8 or Hi 8.**
- **Distort actors' faces with MGI's Power Goo™ (included free!)**
- **Revel in high quality resolution (320x480 pixels), and fast action video capture (60 fields/second) at 9:1 compression.**

And at $299, it's professional technology at a price *you* can't refuse!

Call us today at **1-800-249-6476** for more information, or visit our website at http://www.miro.com

miro

...move your mind

System requirements: Pentium™-class PC with 16MB RAM [illegible] CD-ROM drive, & Windows 95. miro is a trademark of miro Computer Products AG. All other company product names are trademarks or registered trademarks of their respective owners. © miro Computer Products Inc. 19[illegible]

Circle 150 on reader service card

YOUR **brain**

USES ONLY A **fraction** OF ITS CAPACITY.

WE THINK YOUR **hard disk** SHOULD BE A BIT MORE **efficient** THAN THAT.

UP TO **40%** OF YOUR HARD DISK MAY BE **wasted space.** RECLAIM IT WITH **PartitionMagic® 3.0!**

PC manufacturers typically ship hard disks formatted with one large partition. You know it as the C: drive. Without repartitioning, that drive uses large, inefficient storage units or clusters to store your data. The result is that up to 40% of your hard disk's capacity can be totally wasted. PartitionMagic lets you solve that problem by dividing your hard disk into smaller, more efficient and better organized partitions. Up to hundreds of megabytes of wasted disk space can be reclaimed quickly and easily. It's a no-brainer. For more information, visit our web site at: **www.partition.com.**

"How much extra space did I get on my hard drive? Would you believe 108 megabytes? Hiawatha Bray, ***Boston Globe***

"PartitionMagic ... not only gives you more space for data, but lets you manage your data better." Jim Sundeen, ***PC Today***

BUY NOW $15 CASH BACK

Buy PartitionMagic 3.0 and get $15 back from PowerQuest.® Visit your local software reseller or call 1-800-720-0399 for details.

Babbagge's • Best Buy • CompUSA • Computer City • Egghead
Electronics Boutique • Fry's • J&R • Micro Center • Office Depot • Software Etc.

© 1997 PowerQuest Corporation. All rights reserved. PowerQuest and PartitionMagic are registered trademarks of PowerQuest Corporation. Patents pending.

POWER® PQ QUEST

Circle 191 on reader service card

Create

DAZZLING

EFFECTIVE *intriguing* **Impressive**

FLASHY

STUNNING DETAILED

VRML Images

with

DesignCAD 97

2D/3D CAD System for Windows 95 or Windows NT

DesignCAD 97 makes .jpg images and 3D VRML files for use on your web page!

Your Creativity is the only limit.

INTERNET READY
- Output JPG, TIF, and TGA files.
- Create 3D VRML files.
- E-mail directly from DesignCAD.

ANIMATION AND PRESENTATION
- True 3D texture mapping.
- Great animation with AVI support.
- New anti-aliasing.

SMART EDITING
- Dozens of innovative editing features to enhance your drawings.

3D SOLID MODELING
- Create virtually any 3D surface with surface construction tools.
- Boolean operations allow precise solid additions, subtractions.

CUSTOMIZATION
- Full keystroke and screen customization.
- OLE automation with Visual Basic and C++.

MORE . . .
- Direct scanner support with bitmap to vector conversion.
- Embed designs into other documents with Windows Clipboard and OLE-2 options.
- Read and save DWG, DXF, IGES, and HPGL file formats.
- DesignCAD Developer's Kit for creating special features.

30 DAY MONEY BACK GUARANTEE

FREE TECH SUPPORT

only **$499***

*Competitive upgrade $299

CALL FOR FREE DEMO CD

Call, fax, or e-mail your order to:

800/233-3223

ViaGrafix

One American Way, Pryor, OK 74361

918/825-7555
fax: 918/825-6359
www.viagrafix.com
sales@viagrafix.com

H-1010-7

Circle 239 on reader service card

COLOR SCANNER $1.00
with the Special Packages below purchased before 9/1/97*

The faster you go, the more productive you become.

The more productive you become, the faster you can go.

Things get ugly fast.

Your thoughts are racing like a bullet train, but your computer just can't keep up. Lag. Pause. Whir. Yawn.

Seconds lost. Minutes lost. Ideas lost. Sanity lost.

Time to check out the PCs you'll find on the most productive desktops anywhere. Ours.

Sys Technology has a solution for every user. And one for every budget. From state-of-the-art 266MHz Pentium® II processor based systems to 133MHz Pentium processor based Value Editions. Every Sys has the same endearing quality. It extracts maximum performance from its price/CPU level. (Did you know that some of our 166MHz systems actually outperform the competition's 200MHz systems?)

Ask about our new Pentium II processor based systems.

Maybe that's why NASA, JPL, MIT, Northrop, Intel, the Department of Defense and tens of thousands of other enlightened users have Sys systems humming away under their roofs.

Or, maybe it's the fact that Sys delivers the exact system you need–custom-built from an amazing array of options in an amazing range of configurations–within 5-7 days. That your system is extensively pre-tested and burned-in to make sure it produces flawlessly right out of the box. That you get 24/7 phone support. A full year on-site service. Optional extended warranties. And a money-back satisfaction guarantee for 30 days.

Besides, with all the time you save with Sys, you can get something you've always wanted. A life.

PERFORMANCE TESTS
Source *PC Magazine*, December 3, 1996

Winstone 97 High-end

Sys Performance P200	20
Micron Millennia Pro 2 200 Plus	19
Dell XPS Pro200n	18
Gateway 2000 G6-200	17

Winstone 97 Business

Sys Performance P200	58
Micron Millennia Pro 2 200 Plus	58
Dell XPS Pro200n	54
Gateway 2000 G6-200	50

Of this group of computers only the Micron Millennia Pro 2 200 Plus approached Sys' performance scores but costs approximately 20% more.

To order a standard or custom system, call or visit us at
http://www.systechnology.com
800-613-9963

SYS PERFORMANCE systems
BASE PRICE: $2,149
SPECIAL PACKAGE -
get a color scanner for $1.00*

- 200MHz Pentium® processor with MMX™ technology
- OverDrive ready; dual channel PCI bus master, EIDE controller; floppy controller, integrated high-speed serial ports (2) and ECP/EPP parallel port (1)
- 512K Pipeline Burst Cache
- 16MB 60ns, 32-bit EDO RAM
- Hard Drive - 2.1GB 5400rpm, fast ATA-2
- Teac 1.44MB Floppy
- Matrox Millennium 2MB WRAM 64-bit accelerator
- Monitor - 17" Sys, high res .26 dot pitch, 95KHz refresh
- Sys 104 key Windows 95 Keyboard
- Microsoft serial mouse
- Case - Mini-Tower, 7 drive bays, 250W power supply
- 12X CD-ROM Drive
- Sound Blaster 16 Vibra stereo
- 80W powered speakers
- Operating System - Windows 95 (preinstalled, with CD & docs)

SYS VALUE EDITION systems
BASE PRICE: $1,179

SYS PERFORMANCE systems (Pentium® Pro processor)
BASE PRICE: $2,649
SPECIAL PACKAGE -
get a color scanner for $1.00*

*Limit of one color scanner per Special Package Sys Performance system purchased

©1997 Sys Technology, Inc

Circle 214 on reader service card

Bringing you the future... Today

Pentium TCP Processor
The 2.9V Intel's Pentium tape carrier package (TCP) CPU, which weighs under 1 gram and sizes only 29 Square millimeters, has been designed especially for notebook computer operation to offer superior thermal resistance characteristic and greatly reduces power consumption over regular PGA type CPU, therefore, ***your notebook is running cooler and faster.***

MMX TECHNOLOGY
- ✓FAST PROCESSORS
- ✓ENHANCED AUDIO
- ✓BRILLIANT VIDEO
- ✓EXCITING NEW SOFTWARE

Microsoft Windows'95

CE

ISO 9001

MEGABOOK 911MX

MEGABOOK 911R-TMX
- Pentium - 150 MMX
- 12.1" Active TFT SVGA
- 16 MB EDO Memory
- 1.3 GB HDD
- 10X CD Rom

$ 2599

MEGABOOK 911R-DMX
- Pentium - 150 MMX
- 11.3" Dual Scan
- 16 MB EDO Memory
- 1.3 GB HDD
- 10X CD Rom

$ 2199

MEGABOOK 911

MEGABOOK 911*Platinum Plus*
- Pentium - 150
- 12.1" Active TFT SVGA
- 16 MB EDO Memory
- 1.3 GB HDD
- 6X/10X CD Rom

$ 2399

MEGABOOK 911*Platinum*
- Pentium - 133
- 12.1" Active TFT SVGA
- 16 MB EDO Memory
- 1.3 GB HDD
- 6X CD Rom

$ 2199

OPTIONAL

- PCMCIA Cards (Fax/Modem, Ethernet,...)
- Mini Docking Station
- Extra Battery
- Car Adapter
- Quick Charger

EXCELLENT CUSTOMER SUPPORT

- 24 hrs, 7 days a week toll-free technical support
- 1 year parts and labor warranty
- Optional extended 3 years on site service available
- 72 hours hot-swap on all repairs

◆ **Business Lease Available**

Circle 135 on reader service card

COMPUTER SHOPPER — April '97 ... An excellent desk-top replacement

LAPTOP BEST BUY — March '97 ... A super performer

PCLapTop — March '97 ... Performance was impressive even with multiple application

PC World Top 20 — March '97 ... Very fast multi-media notebook

PC World Top 20 — April'97 ... Very fast multi-media notebook

PC World Top 20 — May '97 ... Very fast multi-media notebook

CNET BEST BUY — June '96 ... A best buy

not responsible for any typographical errors

MEGAIMAGE™ INC.

1-800-250-1876

Fax: (714) 228-5599

http://www.megai.com

NOMAI™ DOES Zip™ & Jaz™ Don't

While Zip 100 and Jaz are each stuck with one disk capacity, the Nomai 750.c drive offers multiple media options. The Nomai 750 uses Nomai or SyQuest® brand 135MB and 270MB disks, as well as, Nomai 540MB and 750MB disks.

- **The Nomai 750.c is just as fast as Jaz (10ms access time)**
- **The Nomai 750.c is at least 3X faster than Zip 100**
- **Only Nomai 750.c reads and writes 4 different removable media**
- **Available in internal & external SCSI or external parallel option**
- **Easy Plug `n Play external or 5-step internal installation**
- **Other options include SCSI dock, SCSI cards, or parallel kit**

$249
INTERNAL
$299 EXTERNAL

With 750MB disk included!
Call a distributor below, or Nomai, for reseller opportunities in your area.
Pricing and specifications subject to change without notice.

Microsoft® Windows®95 Compatible

Mac OS

NOMAI™
www.nomai.com

COMPUSA	TigerDirect	The PC Zone	9 TO 5 COMPUTER SUPPLY DISTRIBUTORS	T zone
1-800-COMPUSA	**1-800-888-4437**	**1-800-416-9663**	**1-800-334-3280**	**1-408-733-9920**
NCA Computer Products	ELECTRONICS BOUTIQUE	DATAVISION	RCS COMPUTER EXPERIENCE	UNPLUG•IT
1-510-841-9091	**1-800-800-0032**	**1-888-888-2087**	**1-212-949-6935**	**1-212-687-1539**

NOMAI USA Toll Free 1-888-99-NOMAI. Call for distributor and reseller opportunities. All trademarks are properties of their respective companies. 87GDA

Over $1,000 worth of award-winning software

Adobe for you

MetaTools Kai's Power GOO SE

MORPH

CD PRESS Burn your CD's

Includes VDOPhone Internet

VIDEOSAVER

Astound

The World's First True Digital Adapters for Camcorders

(or other Video Sources)

With the latest semiconductor and software technologies available today, we have created an extraordinary family of products: Dazzle™ & Dazzle Pro™ - external plug-in, parallel port adapters that allow you to record full screen video, CD quality audio & snapshots from your camcorder into your PC digitally! Dazzle converts all those messy analog signals into clean digital "1's" & "0's" and compresses your footage up to 200 times in MPEG-1 format - perfect for storage on your hard disk, CD ROM or Jaz/Zip drives. In other words, your Camcorder (VCR, TV or any video source) has just gone digital! Your movies and snapshots can be stored permanently without fear of fading or degradation and, what's more, because of its true digital (MPEG-1) format, can be played back in any Windows 95 machine without any special hardware.

The Dazzle family comes bundled with world class software applications which allow you to do everything from video editing to video conferencing! You can create Hollywood's morphing magic by morphing a friend into a TV star (**Gryphon Morph**); bend, twist, distort images with **Kai's Power Goo SE**; create your own customized greeting cards, calendars, flyers, school projects, ID badges, executive photo profiles or colorize and change backgrounds with **Adobe's PhotoDeluxe v.1.0** - and then print out the results. With digital video, you can create a video screen saver of a current family or corporate event or use Star Trek clips (20 mins) plus other exciting video footage (**Interactual**); create spectacular home movies with subtitiles & background music (**Astound Studio M**), conduct live video conferencing (**VDO Phone**); store & edit an hour long video tape in only 500 MB of disk-space (**Cinax**); drop in images or video into your website or e-mail (**Video Control**) or burn your own CD's in your CD recorder (**CD-Press**) compatible with DVD, CD ROM or VCD players. Both adapters have Composite & S-Video inputs, a pass thru parallel port connector (for printer, etc.), and feature battery-less operation. Dazzle Pro™ has the additional capability of playing back "true" (MPEG-1) digital recordings perfectly (no jerkiness) & of pumping out edited video to a VCR, DVD Ram or external storage devices for recording.

Like you, we are fed up with difficult to use products. So we created *Amigo*, a toy-like software control panel that pops up on your screen & lets you use your Dazzle Adapters with only 5 function buttons.

We would like to tell you of the awards we have won like other companies do in their ads, but since this is a brand new product (we expect to win many) you may want to enjoy owning a Dazzle right away by calling us toll free at:

1-888-436-4348

	Snapshots	Goo	Morph	PhotoDeluxe	True Digital Video Capture	CD Audio	Video Playback	Cinax Home Editor	Color Preview	S-Video In	Battery-less	Parallel Port Pass Thru	Video Screen Savers	Internet Video	Video Conferencing	Output to VCR	CD Press	Studio M	
Snappy™	✔	✔	✔	✔	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**$199**
Dazzle™	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	-	-	-	-	**$249**
Dazzle Pro™	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	**$349**

Circle 176 on reader service card

Dazzle & Amigo are registered trademarks of L.A. Vision. All other names are trademarks of their respective holders. ©1997 L.A. Vision

1867 Whipple Road, Hayward, CA 94544
Tel: 510-476-1300 • Fax: 510-476-1313

LAVISION

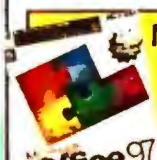
PC Connection®

7 Time Award Winner! PC WORLD WORLD CLASS Best Mail-Order Company!

Order as late as 3 a.m. ET and *still* get Overnight Delivery!
FAX US AT: 603-446-7791

Get the Best for Less!

UPGRADE!



MS Office 97 Pro with Intellimouse
Upgrade Only
$289.95* 35516
*After $40 mfr. rebate. Call for details.
While supplies last!

Director 6 Multimedia Studio
Exclusive Offer! *FREE* PhotoDisc Travel and Land Marks! A $249.95 value.
LOWEST PRICE!
Upgrade Only
$479.95 38644

Adobe PageMaker 6.5
The professional choice in desktop publishing!
FREE PTS Tutorial CD (a $49.95 value)
Upgrade Only
$94.95 32847

FREE TOOLS!
MS Office 97 Small Business Edition
Get FREE Business Tools or DataLink Watch! Ask about our Microsoft Summer Promos! Upgrade Only
$239.95 36691

Peripherals!

Epson Stylus Color 600 Inkjet Printer
COLOR!
Breakthrough 1440 x 720 dpi

37819
Only $299
4ppm photo-quality color!
6ppm black and white!
37817 Stylus Color 800..... $449
(8 ppm black, 7 ppm color, optional int. Ethernet & LocalTalk)

Save 100MB... and Save Money Too!
FREE 100MB Cartridge!

100MB Zip™ Drive
Only $149.95 19171
Hard drive-like performance!
Unlimited storage potential!
Dependable, fast, easy-to-use!

Canon Powershot 350

New!
- 640 x 480 dpi
- Color LCD panel with adjustable viewing angle
- Removable 2MB Compact Flash card for unlimited storage

40233
Only $699

Easy-to-Use Scanner at an Easy-to-Love Price!
Polaroid PhotoPad
- 100 to 400 dpi resolution
- 24-bit color, 256 color, grayscale

Only $75.95 41707

PalmPilot Pro Edition 39153
NEW VERSION!
Full 1MB Storage!
Backlit!
Keep track of contacts, expenses, appointments, and tasks, all in the palm of your hand!

Only $379.95

High-Performance Fujitsu 2GB Drive!

39585
Only 229
Satisfy your need for speed and capacity! Get industry-leading Fujitsu technology!

LEXMARK™ Optra E Laser Printer
COMPARE!
LOWEST PRICE!
$349
26976
600 dpi! 6ppm!

M3361 Internal Faxmodem Ideal for Home or Personal Use!
Windows 95-ready!
Only $59.95 38970
$150 worth of FREE trial Internet and online services

WebRamp Entre IP Router 4 Port Hub

35388
Only $669 Internal
Acts as a smart-hub, router, and modem sharer!
Triple your Internet speed!
Perfect for any home or small office

CD-ROM 10-Pack

Under $3 per disk!*
*After $30 mail-in rebate
Only $29.95* 39254

What A DEAL!
710V² – 17" .28mm High-Quality Color Monitor!
Now Only $499.95 38305

MAG INNOVISION

VELO 1 4MB with Dock
Put the power of Windows in the palm of your hand! Runs Pocket Word, Excel, and Internet Explorer Download. Also uploads & synchronizes with your PC
$739.95 39257

Visioneer Paperport Strobe
Superior Scanning Simplified!
Weighs only 1.5 pounds!
New technology... 24-bit color never fades!
4-Second scanning per page!
40455 Only $299

Super Fast, Super Portable, Super Newton 2000!
Powerful! As fast as a high-end desktop!
Fits in your pocket!
Shown with optional keyboard
Only $949 36376

OUR POLICY • VISA, MASTERCARD, AMERICAN EXPRESS, and NOVUS cards. No surcharge. • Most products are covered by manufacturer's warranty against defects for at least 30 days from the invoice date. • All returns require prior authorization; please call for an RMA. • We are not responsible for typographical errors. • Pricing and promotions are subject to change without notice. **Continental U.S.:** Shipping Charges: $5 per order up to 10 pounds. On orders weighing 10 pounds or more, shipping is $1 per pound. Please call for weight/shipping charge information. Item excessive size and/or weight may require additional days to deliver via a freight carrier. Please check with your sales rep for more details. Barring events beyond our control, all credit card orders phoned in weekdays by 3 a.m. ET will ship Airborne Express for delivery the next business day. Saturday delivery available to many areas upon request at no additional charge. Order all day Saturday thru noon Sunday for Monday delivery. Some areas require an extra day delivery. **APO/FPO, International orders and Hawaii, Alaska, Canada, Puerto Rico & U.S. Virgin Islands:** Shipping may require additional time and charges. All other areas: Call 603-446-4444 or FAX 603-446-7791 M-F 9 a.m.-5:30 p.m. ET. ©1997 PC Connection, Inc., Marlow, NH. MacConnection & the raccoon characters are registered trademarks of PC Connection, Inc.
All other trademarks remain the property of their respective companies.

FAST! Multimedia-Ready!

Inteva 5M2016III

monitor sold separately

- 32MB RAM
- Pentium II/ 266MHz
- 6.4GB hard drive
- 16X CD-ROM
- 56K data/voice/faxmodem

41863

Only **$2699**

COMPAQ Presario

Outstanding Performance, Outstanding Price!

Compaq Presario 2120 Home Computer

Lots of special Presario extras like Premier Sound and Easy Access!

40763

monitor sold separately

- 150MHz MediaGX Cyrix CPU
- 24MB RAM
- 2GB Hard Drive
- 8X CD-ROM
- 33.6 faxmodem

Only **$999**

Call Us First!

THE BEST PRICES ON PC SYSTEMS!

800-800-CPUs

ThinkPad 380 Series

The All-in-One MMX ThinkPad!

NEW!

- 150MHz MMX
- 16MB RAM
- 12.1" active display
- 2.1GB HD
- 8X CD-ROM

AS LOW AS **$2129**

Model Shown: ThinkPad/150-2.1TFT
Item no. 39912
$3749

39910 while supplies last!

IBM Business Partner

SAVE ask about... LEASING OPTIONS for BUSINESS CALL FOR DETAILS

NEW! Extended Service Plan

Supplement the mfr.'s warranty for 4 full years from date of purchase!

Tecra 500CDT Notebook!

Light in Weight, Long on Performance! Flexible! Expandable!

- 120 MHz Pentium
- 16MB RAM (expandable to 144MB)
- 12.1" Active Display
- 1.26GB Hard Drive
- 6X CD-ROM
- Integrated 28.8 Kbps voice/fax/modem
- 3-Year Warranty

Only **$2398**

TOSHIBA

16MB RAM FREE! w/purchase of 500CDT Ask for item #41787 while supplies last

Software!

Business		
12868	FastTrack Scheduler 5.0	168.95
35919	Visio Pro	329.95
35054	Jian BizPlanBuilder Interactive	89.95
39316	Mindworks Recollect/Scanner Bundle	149
40649	Quicken Family Lawyer Deluxe	44.95
32445	Quicken Financial Suite 2	79.95
27667	FileMaker Pro 3.0 Upgrade	99
Utilities		
32853	Norton Utilities Win95	74.95
31822	Norton Antivirus Win95	69.95
38438	Color QuickCam Windows V2	199.95
35300	Partition Magic 3.0 CD *(*After mfr. rebate)*	49.95*
32894	Clean Sweep 3.0	36.95
39592	Helix Nuts&Bolts *(*After mfr. rebate)*	39.95*
6508	Conversions Plus 3.5 for Win	89.95
Games		
40862	Dark Reign	49.95
40505	Aaron vs. Ruth	39.95
32103	STARFLEET ACADEMY	54.95
Graphics		
32921	Adobe Photoshop Version Upgrade	179.95
32920	Adobe Photoshop Full Version	549.95
29510	WordPerfect Suite Upgrade	89.95
29509	WordPerfect Suite Full Version	249.95
41394	Adobe PageMaker Upgrade	94.95
40606	Adobe PageMaker Full Version	549.95
10795	QuarkXPress Windows	569.95
33999	CorelDRAW Upgrade	239.95

Peripherals!

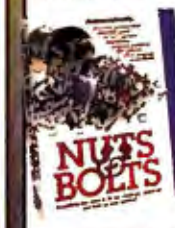
Accessories		
41830	Sharp SE-500 Mobile Organizer	299.95
39535	Kensington Orbit	59.95
29339	Mouse in the Box	27.95
33488	Solar Panel Mercury II	299.95
39020	100 CDR Disks	399.95
38599	Newton 2000 WITH KIT	1099
37737	ibid PC White Board	499
32497	Masterlock SECURITY	39.95
Digital Cameras		
39582	Eastman Kodak DC120 Digital Zoom	999
39509	Minolta Dimage V Digital Camera	699.95
DVD/CD-ROM		
39801	Creative Labs PC DVDROM	499.95
36788	Smart & Friendly CD-R 2006 Pro	399
32395	Neato CD-Labeler Kit	69.95
Monitors		
31254	ViewSonic G810	1599
39387	OptiQuest Q71	559
39436	Samsung 500B	379
34926	Sony 100SF	429
Storage		
38201	Verbatim 44MB 5.25" Cartridge	39.95
38202	Verbatim 88MB 5.25" Cartridge	45.95
38203	Verbatim 200MB 5.25" Cartridge	65.95
Video		
39681	STB Nitro 3D 4M	149
40146	Digital Vision Digital Color Video Cam	189
39615	Matrox Rainbow Runner	249

SUPER LOW SIMMS!

1MB SIMMS as low as $9.95 13020

4MB	8MB	16MB	32MB
as low as $24.95	as low as $49.95	as low as $99.95	as low as $189.95

Nuts & Bolts



The Only Fully Integrated Utilities Suite for Win 3.1 and 95!

Only **$39.95***

*$10 Rebate

39592

FREE!

Catalog Subscription! CALL TODAY!

☐ MacConnection ☐ PC Connection
Please check the catalog(s) you wish to receive
(Mention source code 897PCW)

Name _____
Address _____ Apt ____
City _____ State ____ Zip ____

10,000 HOT PRODUCTS 24 HRS A DAY!

888-800-4502

www.pcconnection.com
Now shop on-line with a name you can trust!

PC AD 897PCW

FREE 8MB OF MEMORY WITH THE PURCHASE OF ANY NOTEBOOK

EXCLUDES REFURBISHED COMPUTERS. MAIL-ORDER ONLY. OFFER GOOD THROUGH 8/3/97.

TAP TECHNOLOGY ASSURANCE PLAN

PC Technology Assurance Plans for systems and peripherals provide coverage above and beyond that offered by the manufacturer. As low as $59.97. Call today!

PCs COMPLEAT
A COMPUSA® COMPANY
800-610-8839

TOSHIBA
Satellite 220 CDS

- 133MHz Processor
- 1.4GB Hard Drive
- 16MB RAM
- 10X CD-ROM Drive
- 12.1" Dual-Scan Screen

NEW!

Satellite 220 CDS $1999.95

IBM

PC MAGAZINE TECHNICAL EXCELLENCE

Super Light at 4.1 lbs. and 1.2" thick!

ThinkPad® 560

ThinkPad® 560

- 133MHz Pentium® Processor
- 2.1GB Hard Drive
- 8MB RAM
- CD-ROM Drive Optional
- 12.1" SVGA Display
- 16-Bit Sound Blaster Compatible Audio
- External Floppy Drive Reduces Weight
- EDO RAM Enhances Performance
- Infrared Transceiver for Wireless Communication
- Only 4.1 lbs. and 1.2" Thick!

ThinkPad® 560
$4349.95
Price Break -350.00
Instant Rebate -300.00
$3699.95
Price after instant rebate and price break.

FUJITSU
FUJITSU PC CORPORATION

LifeBook™ 435DX Notebook

- 133MHz Pentium® Processor with MMX™ Technology
- 1.3GB Hard Drive
- 16MB RAM
- Built-In 10X CD-ROM Drive
- 12.1" Dual-Scan Display

LifeBook™ 435DX Notebook

NEW!

LifeBook 435DX ONLY $1999.95

COMPAQ

NEW!

Presario 1610 Notebook

- 150MHz Pentium® Processor with MMX™ Technology
- 1.6GB Hard Drive
- 16MB RAM
- 14X CD-ROM Drive
- Built-In 56K*/14.4 Data/Fax Modem
- 12.1" Dual-Scan Display

*56K modems are capable of downloads at 56Kbps, but speed in actual use may vary.

Presario 1610 ONLY $2999.95
Available 8/3/97

digital™

HiNote Ultra II

- 150MHz Pentium® Processor
- 1.44GB Hard Drive
- 16MB RAM
- CD-ROM Drive Optional
- 11.3" Super VGA, Active Matrix display
- Only 1.2" thick and 4.0 lbs!

Ultra II with external Floppy Dock

HiNote Ultra II $4799.95

KiWi®

64MB RAM!

USES STANDARD SIMMs!

680C Notebook

- 166MHz Pentium® Processor with MMX™ Technology
- 2.0GB Hard Drive
- 64MB RAM
- 10X CD-ROM Drive
- Built-in PC Card 33.6/14.4 Data/Fax Modem
- 12.1" Active Matrix Display

680C ONLY $3499.95

TOSHIBA
Tecra 500CDT

- 120MHz Pentium® Processor
- 1.2GB Hard Drive
- 16MB EDO RAM
- 10X CD-ROM Drive
- 12.1" Active Matrix Display

BEST SELLER!

16MB ADDITIONAL RAM FREE!

Tecra 500CDT $2999.95
Instant Rebate -500.00
$2499.95
Price after Instant Rebate

More Brand Names, Peripherals and Software available. If you don't see it, CALL!

International: 508-786-0600
Email: sales@pcscompleat.com
Visit us at www.compusa.com
Open 7am-12am ET weekdays, 8am-12am ET weekends and holidays.

800-610-8839

PCs COMPLEAT

A COMPUSA COMPANY

233 MHz HERE NOW!

800-610-8839

COMPAQ

Presario 2200 Multimedia PC

- 166MHz MediaGX Processor
- 56K/14.4 Data/Fax Modem
- 16 Bit Sound
- Windows®95

COMPLETE SYSTEM WITH MONITOR ONLY $999.95!

Compaq Multimedia $799.95 Available 8/3/97

14" ColorMonitor	13.2"	VIS1024x768	$229.95

*56K modems are capable of downloads at 56Kbps, but speed in actual use may vary.

COMPAQ

Presario 4808 Multimedia PC

- 200MHz Pentium® Processor with MMX™ Technology
- Huge 4.3GB Hard Drive
- 32MB RAM
- 24X CD-ROM Drive
- 56K/14.4 Data/Fax Modem

NEW!

56K IS HERE!

Presario 4808 $1999.95

Presario 4808

Model	CPU	RAM/HD	CD	Price
4814	233MHz MMX	32MB/4.3GB	24X	$2499.95
15" Color Monitor	0.28	13.5" VIS	1024x768	399.95

Monitor sold separately.

HEWLETT PACKARD Pavilion

HP 7285 Multimedia PC Factory Refurb

- 200MHz Pentium® Processor
- Large 3.1GB Hard Drive
- 32MB RAM
- 28.8 Modem
- 8X CD-ROM
- Altec Lansing Speakers
- 1-Year Warranty

7285 $1299.95

Model	CPU	RAM/HD	CD	Price
7410	200MHz MMX	24MB/2.1GB	16X	$1499.95
7420	166MHz MMX	32MB/2.5GB	16X	1699.95
15" Color Monitor	0.28	13.8"VIS	1024x768	399.95

Monitor sold separately. *Factory Refurbished

HEWLETT PACKARD Pavilion

HP 8140 Multimedia PC

- 200MHz Pentium® Processor with MMX™ Technology
- Huge 4.3GB Hard Drive
- 24X CD-ROM
- 56K/14.4 Data/Fax Modem

NEW!

8140 $1899.95

Model	CPU	RAM/HD	CD	Price
B160	233MHz MMX	32MB/6.0GB	24X	$2299.95
15" Color Monitor	0.28	13.8 VIS	1024x768	399.95

Monitor sold separately.

Packard Bell.

Packard Bell D1000 Multimedia

- 133MHz Pentium® Processor
- 1.2GB Hard Drive
- 16MB EDO RAM
- 8X CD-ROM Drive
- 33.6/14.4 Data/Fax Modem
- 1-Year Warranty

Packard Bell Multimedia $899.95
Instant Rebate -100
$799.95

Model	CPU	RAM/HD	CD	Price
2240X	200MHz MMX	32MB/3.2GB	16X	$1899.95
2250	233MHz MMX	32MB/6.4GB	16X	2299.95
14" Color Monitor	13.25" VIS	1024x768	1020	299.95

Monitors sold seporotely.

OUTSTANDING NAME BRAND VALUES!

SONY · COMPAQ · Packard Bell. · HEWLETT PACKARD · Authorized Reseller · NEC · TOSHIBA

Make	CPU	Part #	Price
Under $1000			
Apple	PPC 180, 16MB, 1.6GB	M5167LL/A	999.95
Compaq	P166, 24MB, 2.5GB	238550-005	999.95
Compaq	P166, 24MB, 2.5GB	239650-007	999.95
Compaq	P166, 24MB, 2.5GB	240250-005	999.95
Packard Bell	P150, 32MB, 2.1GB	842948	949.95
Under $1300			
HP *	P166, 16MB, 2.5GB,	D3901A#ABA888	1149.95
Apple	PPC 200, 16MB, 2.0GB	M5168LL/A	1199.95
HP *	P200, 32MB, 3.1GB	D3903A#ABA888	1299.95
NEC	P166, 16MB, 2.1GB	102-00197	1299.95
Other Multimedia Values			
Toshiba *	P166, 16MB, 1.9GB	DT7160U-06AB	999.95
HP *	P166MMX™, 16MB, 2.1GB	D3931A#ABA888	1299.95
NEC	P200, 16MB, 3.2GB	102-00198	1599.95
Toshiba	P200, 32MB, 3.0GB	DT7200U-06A	1949.95

* Factory Refurbished

IBM

NEW! 233MHz WITH MMX TECHNOLOGY

IBM Aptiva Multimedia PC

- 233MHz Pentium® Processor with MMX™ Technology
- DVD CD-ROM with MPEG-2
- Large 3.1GB Hard Drive
- 56K Upgradeable Modem

Aptiva C3D Multimedia $2899.95

Model	CPU	RAM/HD	CD	Price
C9E	200MHz MMX	32MB/3.2GB	16X	$1899.95
S9C	200MHz MMX	32MB/4.2GB	16X	2299.95
15" MM50 Color Monitor		13.7"VIS	1024 x 768	499.95
17" MM70 Color Monitor		15.7" VIS	1024 x 768	799.95

Monitors sold seporotely.

ONLY at PCs COMPLEAT ✓ Low Price Guarantee ✓ Money Back Guarantee ✓ Free Tech Support ✓ F[illegible] ✓ [illegible]ree Configuration

Circle 129 on reader service card

ACCESSORIES AND UPGRADES

PRICES GOOD VIA MAIL-ORDER ONLY

TAP TECHNOLOGY ASSURANCE PLAN

PCs Compleat's Technology Assurance Plans for systems and peripherals provide coverage above and beyond that offered by the manufacturer. As low as $59.97. Call today!

PCs COMPLEAT
A COMPUSA® COMPANY
800-610-8839

HEWLETT PACKARD HP DeskJet 855C Printer

C4551A-FR

$249.95
Price Break -50.00
$199.95

Premium printing at up to 7ppm black and white and 3ppm color. Includes HP's Real-Life Imaging system for high-performance printing.

FACTORY REFURBISHED 1-YEAR WARRANTY!

#51645A	HP Deskjet Black Cartridge	$24.95
#51641A	HP Inkjet Color Cartridge	$29.95

HEWLETT PACKARD HP LaserJet 6Lse Printer

Includes:
- 2 months free of Microsoft Network
- Microsoft Internet Explorer
- 60-day trial version of Microsoft Publisher 97
- Microsoft Internet Assistants
- 600x600dpi
- 6ppm

NEW!

$399.95

#C3906A LaserJet 5L-FS Toner Cartridge $62.95

C3944A#ABA

Epson Stylus Color 600

1440 DPI COLOR PRINTER

- 1440dpi Color Printer
- 6ppm Print Speed
- Quick-Dry Inks
- Micro Piezo Print Technology

C200001

Fastest Print Speed in its Class!

#S020093	Black Stylus Cartridge	$19.95
#S020089	Color Stylus Cartridge	$25.95

$299.95

Brother MFC-4550 All-in-One Printer

BEST SELLER!

- Laser Printer
- Scanner
- Fax Machine
- 30 Page Auto Document Feeder
- Stores up to 40 pages
- 600x600dpi Laser Output
- Scans at 400 dpi
- Multi-Copying
- Send Faxes Directly From PC
- 8 ppm Scanning Speed

$799.95

MFC-4550

#TN100PPF Toner Cartridge $29.95

Epson PhotoPC Digital Camera

A882371

Add real life pictures to your letters, reports, proposals and presentations quickly and easily!

$399.95
Price Break -50.00
Mail in Rebate -50.00
$299.95

PhotoPC 500 # A883031 499.95

Zip Drives and Disks!

iomega

$149.95

10012IOMEGA

Iomega Zip Drive

SONY

9.99 each after rebate!

$69.95
Manufacturer Rebate -10.00
$59.95

#6ZIP100CFSTOR

MGA-M1L4/N Matrox Video Card

NEW LOW PRICE!

Our Best Seller!

$199.95

Lightning Fast 56K Modems!

APEX DATA

56K* Flex/14.4 Data/Fax Modem

- 56K* high-speed access to the Internet and on-line services.
- Maximum compatibility with Internet service equipment providers and other modem users.

ONLY $129.95

ST56141DNAMSR

Megahertz

NEW!

56K*/14.4 PC Card Notebook Data/FaxModem

- 14.4 Fax and 56K Modem
- Software included

$239.95

#XJ1560

* 56K modems are capable of 56Mbps downloads, but speeds in actual may vary

WESTERN DIGITAL

4.0GB Hard Drive

4.0GB UNDER $300!

$379.95
Price Break -80.00
$299.95

Incredible large 4 GIG IDE hard drive features a sub 12 ms average seek time and 16.6MB data transfer rate.

4000RTh

NEW! DVD Drive

CREATIVE
CREATIVE LABS, INC.

- True Dolby Digital Sound
- Full MPEG-2 Video
- Backward Compatible with existing CD-ROMs

#5000001032

$499.95

Cutting Edge Technology!

Panasonic Portable 8X CD-ROM

$399.95

- Spatializer 3-D Stereo Sound
- Built-In Speakers
- Faster Data Transfer
- Includes: CD-ROM Player, PC Card Interface and AC Adapter
- 1-year Warranty

Intel MMX Chip Upgrades AT A NEW LOW PRICE!

$399.95
Price Break -60.00
$339.95

Includes Rebel Moon Rising the Hot New MMX game!

BPODMT60X150

Upgrade your 75MHz Pentium® Processor to 125MHz MMX™ or your 90MHz to a 150MHz MMX™.

166MHz MMX # BPODPMT66X166 $349.95

486 to 586 Processor Upgrade

- Upgrade your 486SX or DX to a 586/133
- Triple or Quadruple your original CPU clock speed
- 16K of Level 1 Write-Back Cache 248

BEST SELLER!

ONLY $109.95

800-610-8839

International: 508-786-0600
Email: sales@pcscompleat.com
Visit us www.compusa.com
Open 7am-12am ET weekdays. 8am-12am ET weekends and holidays.

More Brand Names, Peripherals and Software available. If you don't see it, CALL!

PCs COMPLEAT

A COMPUSA® COMPANY

800-610-8839

A COMPUSA COMPANY

TAP TECHNOLOGY ASSURANCE PLAN

PCs Compleat's Technology Assurance Plans for systems and peripherals provide coverage above and beyond that offered by the manufacturer. As low as $59.97. Call today!

POWER BUYS

PRICES GOOD VIA MAIL-ORDER ONLY

MEMORY BLOWOUT
STD OR EDO!

8MB SIMM Memory Upgrade
2x32pin non-parity
2x32
2x32EDO
$39.95

16MB SIMM Memory Upgrade
4x32, 72pin non-parity
4x32
4x32EDO
$59.95

32MB SIMM Memory Upgrade
8x32, 72pin non-parity
8x32
8x32EDO
$129.95

Packard Bell 17" Monitor

10285 15.8" viewable image size
$299.95

HEWLETT PACKARD Palmtop PDA

BEST SELLER!

$679.95

HP 320LX Palmtop handheld PC comes with 4MB of RAM and a backlit display. The display has 640x240 resolution with 4 gray scales. Software included: Win CE, Pocket Word, Pocket Excel, and Calendar.
F1221A

Norton AntiVirus

Complete antivirus protection that's easy to use.

$69.95

07-00-01850

AfterDark V4.0

20197

The World's #1 selling screen saver is now better than ever! For Windows® and Mac®.

Save 50% after MFR. Mail-In Rebate!

$29.95
MFR. Mail-In Rebate -15.00
$14.95

X-Wing vs. TIE Fighter

20818

NEW from LucasArts

$39.95

Microsoft Office 97 Upgrade

BEST SELLER!

Includes:
- Word
- Excel
- PowerPoint
- Access

$219.95
MFR. Mail-In Rebate -40.00
$179.95

021-00703

HEWLETT PACKARD HP 5L LaserJet Factory Refurb

Special Buy!

Features:
- 600 dpi
- Plug and Play compatibility
- 4-ppm output
- 1-year warranty

$299.95

C3941A#ABA-888

UPGRADE YOUR 486SX NOTEBOOK PROCESSOR TO A 586/133MHz!

Notebook Upgrade

Upgrade your notebook computer to a 586/133MHz processor. All you have to do is call Fed Ex and a week later you'll be running on the cutting edge. Your manufacturer's warranty will still be valid and we'll even provide the box to protect your notebook during shipping.
90-X50A-C2

NEW TECHNOLOGY!

Evergreen Technologies

90-X50A-C2 1 Week Upgrade Service.....399.95
90-X50A-C1 3 Day Upgrade Service.....449.95

$399.95

3Com Etherlink III

BEST SELLER!

3C589D-TP

$119.95
MFR. Mail-In Rebate -20.00
$99.95

Delivers full parallel tasking performance in a credit card sized package. Lifetime warranty.

MEMOREX Recordable CDs, 10-Pack

3202-3108R

$59.95
Manufacturer Mail-In Rebate -30.00
$29.95

CREATIVE Sound Blaster AWE64 Value

NEW!

Sound Blaster AWE64 64 voice wave table synthesis provides real and expressive music playback. 512KB onboard RAM.

$99.95

UMAX Astra 300P Scanner

Perfect for scanning photos or documents. Features easy setup via parallel port and single-pass 24-bit color scanning. Scans up to letter size documents. Windows® 3.1 and 95 compatible.

$199.95
Instant Rebate -30.00
$169.95

SPKG-13350

Maxtor 2.1GB Hard Drive

$199.95
MFR. Mail-In Rebate -30.00
$169.95

SUPER LOW PRICE!

K0182100A

FREE AFTER MANUFACTURER'S MAIL-IN REBATE!

3-Button PS/2 Mouse

MOUSE SYSTEMS

- Comfortable design
- Windows® 95/3.1/NT compability
- Serial mouse also available

$10.00
Instant Rebate -10.00
$0.00!

Limit: 1 per Customer While Supplies Last

904213-001

2120 Tape Cartridges, 2-Pack

SONY

$14.00
MFR. Mail-In Rebate -14.00
$0.00!

Certified to meet or exceed industry standards.
20D21200/PKSM

Limit: 1 per Customer While Supplies Last

MEMOREX 3.5" DS/HD IBM Formatted Diskettes, 40-Pack

$20.00
Mail-In Rebate -20.00
$0.00!

Part # 3202-1750R

BELKIN COMPONENTS Surge Protector

$10.00
MFR. Mail-In Rebate -10.00
$0.00!

F5C572-TEL-EXT

Blowout Prices on Leading Products!

MicroWAR

YOUR SOURCE FOR PC SOFTWARE,

COMPAQ Compaq Deskpro

CP3377: 166MHz Pentium® processor, 1.2GB HDD, 16MB RAM ... **$1199**

CP3448: 133MHz Pentium® processor, 2.5GB HDD, 16MB RAM, 8X CD-ROM ... **$1309**

CP3402: 166MHz Pentium® processor, 1.62GB HDD, 16MB RAM ... **$1399**

CP3449: 200MHz Pentium® processor, 2.5GB HDD, 32MB RAM ... **$1709**

CP3459: 180MHz Pentium® Pro processor, 1.2GB HDD, 16MB RAM, 8X CD-ROM ... **$1739**

CP3451: 166MHz Pentium® processor, 2.5GB HDD, 32MB RAM ... **$1789**

CP5076: 180MHz Pentium® Pro processor, 2.5GB HDD, 32MB RAM, 8X CD-ROM ... **$2109**

CP4393: 200MHz Pentium® Pro processor, 2.5GB HDD, 16MB RAM, 8X CD-ROM ... **$2209**

CP4373: 200MHz Pentium® processor, 2.5GB HDD, 32MB RAM, 8X CD-ROM ... **$2419**

IBM IBM Thinkpads

CP4775: 380, 150 Pentium®, 1.3GB 16MB RAM, 12.1 DSTN 2635-10U ... **$2199**

CP4773: 380D, 150 Pentium® 16MB, 8X CD-ROM, 12.1 DSTN 26352AU ... **$2499**

CP2907: 760EL, 120MHz Pentium® 1.08GB, 8MB/72MB, Upgradable, SVGA, 9547-U4F ... **$3199***

CP4774: 380D, 150MMX Pentium®, 2.1GB 16MB, 8X CD-ROM, 12.1 TFT, 26353AU ... **$3899**

CP3558: 760E, 150MHz Pentium®, 2.1GB, 16MB/1.04MB, 12.1 XGA TFT, 954GU9B ... **$3999**

CP3557: 760EL, 133MHz Pentium®, 2.1GB, 16MB/80MB, Upgradable, SVGA, 9547-U4G ... **$4199**

CP3559: 760ED, 133MHz Pentium® 2.1GB, 16MB/1.04MB, 12.1 XGA TFT, 6X CD, 954GU9A ... **$4399**

CP4434: 760XL, 166MMX Pentium®, 2.1GB, 16MB, 12.1 TFT, 9547U9C ... **$4999**

CP4433: 760XL, 166MMX Pentium® 2.1GB, 32MB, 12.1 TFT, 9547U9K ... **$5199**

CP4435: 760XD, 166MMX Pentium®, 3GB, 32MB, 8X CD, 12.1 XGA TFT, 954GU9E ... **$6249**

**While supplies last!*

TOSHIBA Toshiba Laptops

CP5205: 50CT, 75MHz Pentium®, 810MB, 6.1 TFT, 1.8lbs ... **$1989**

CP5166: 220CDS, 133MHz Pentium®, 1.4GB HDD, 16MB RAM, 10X CD-ROM, 12.1" SVGA DSTN ... **$1989**

CP3214: 420CDT, 100MHz Pentium®, 1.2GB, 6X CD, 8MB, 11.3" SVGA TFT, 33.6 ... **$1779***

CP3906: 430CDT, 120MHz Pentium®, 1.2GB, 10X CD, 16MB, 11.3" TFT ... **$2199***

CP5210: 440CDT, 133MHz MMX Pentium®, 1.34GB, HDD,12.1" TFT, 10X CD ... **$3389**

CP3217: 500CDT, 120MHz, 1.2GB HDD,12.1" SVGA TFT, 6X CD ... **$2899**

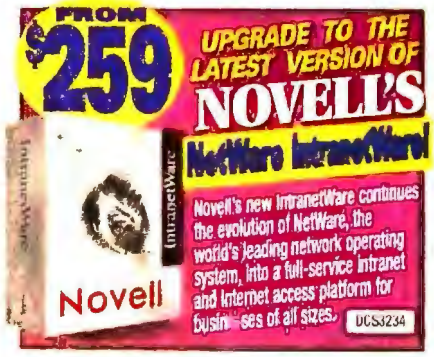
CP3902: T510CDT, 133MHz, 2.1GB HDD 12.1" SVGA TFT, 10X CD ... **$3379**

CP3514: 730CDT, 150MHz, 2.02GB HDD, 16MB 12.1" XGA TFT, 6X CD ... **$4299**

CP4139: 730DCDT, 150MHz MMX Pentium®, 2.02GB HDD 12.1" TFT, 10X CD ... **$4599**

CP4138: 740CDT, 166MHz MMX Pentium®, 2.02GB HDD, 13.3" TFT, 10X CD ... **$5499**

**While supplies last!*



- Visa and MasterCard accepted. Your credit card will not be charged until your order is shipped.
- Purchase orders subject to credit approval.
- All products covered by 30-day limited warranty. Defective software replaced immediately. Hardware replaced or repaired at our discretion.
- Connecticut, New Jersey, Illinois and Ohio residents add applicable sales tax.
- Orders for in-stock items placed by 12:00 midnight (E) weekdays, (barring system failure, etc.) ship overnight by Airborne Express. (Some areas require an extra day).
- We reserve the right to limit quantities.
- Shipping charge $9.95 per order up to 7 lbs. $1.25 per lb. above 7 lbs.
- UPS ground service also available at current UPS rates plus $2.95 handling charge per order except COD. UPS orders placed by 3:00 p.m. (E) weekdays, ship same day.
- Actual freight charges apply for computers, hard disks, Bernoulli's, tape backups, monitors, and printers.
- Alaska, Hawaii, outside continental U.S., APO/FPO call for information.
- Item availability an price subject to change without notice.
- Some products not available outside U.S. Please call for more information.
- Not responsible for errors or omissions.

EHOUSE

HARDWARE AND PERIPHERALS

FREE! JAVA TUTORIAL

*You pay only $2.95 shipping & handling. Shipped in promotional packaging. While supplies last. Ask for item #AAA0496.

New! IBM ThinkPads

BLOWOUT!

AS LOW AS $6399!

13.3" XGA TFT DISPLAY!

IBM ThinkPad 765

- 166MHz MMX Pentium® processor
- 32MB RAM •3GB Hard Drive
- 256KB Cache • 13.3" XGA TFT color display

CP5039 ..... $6399

IBM ThinkPad 765D

CP5040: 166MMX processor, 3GB hard drive, 32MB RAM, 8X CD-ROM, 256KB Cache, 13.3" XGA TFT color display $6999

NEC VERSA 6200MX

ONLY $5699

- 166MHz Pentium® MMX Processor
- 2.1GB HDD, 32MB EDO RAM
- 10X Cd-ROM
- 13.3" XGA TFT Display

CP4319

IBM PC300XL PENTIUM® II DESKTOP

ONLY $2425

- P2/233MHz Pentium® Processor
- 32MB RAM
- 2.5GB Hard Drive
- Windows 95

Monitor sold separately.

CP4768

TOSHIBA SATELLITE 220CDS

New!

AS LOW AS $1989

- 133MHz Pentium® processor
- 1.4GB hard disk drive
- 16MB EDO RAM
- 10X CD-ROM drive

CP5166

Storage Warehouse

IDE Hard Drives Starting at $189.95

SEAGATE HARD DRIVES (IDE)

DR5652: ST31276A, 1275MB	$189.95
DR5767: ST32132A, 2113MB	$219.95
DR5655: ST52520A, 2560MB	$249.95
DR6333: ST33240A, 3240MB	$289.95
DR6331: ST36450A, 6450MB	$539.95

WESTERN DIGITAL HARD DRIVES (IDE)

DR6112: Caviar 11200, 1.2GB	$189.95
DR5594: Caviar 21600, 1.6GB	$199.95
DR5595: Caviar 22100, 2.1GB	$229.95
DR5359: Caviar 33100, 3.1GB	$279.95
DR5972: Caviar 34000, 4.0GB	$349.95

IBM HARD DRIVES (IDE)

DR5732: Deskstar, 2 1GB	$259.95
DR5731: Deskstar, 3.24GB	$299.95

QUANTUM HARD DRIVES (IDE)

DR5842: Fireball 31280TM, 1.2GB	$219.95
DR5841: Fireball 32110TM, 2.1GB	$239.95
DR5840: Fireball 32550TM, 2.5GB	$259.95
DR5837: Fireball 33200TM, 3.2GB	$319.95
DR5836: Fireball 33840TM, 3 8GB	$359.95

MAXTOR HARD DRIVES (IDE)

DR6030: Maxtor KO182100A, 2.1GB	$219.95*
DR6069: Maxtor KD182500A, 2.5GB	$239.95*
DR5661: Maxtor KO183500A, 3.5GB	$299.95*
DR6390: Maxtor KO184300A, 4.3GB	$349.95*
DR5880: Maxtor KD185120A, 5.1GB	$419.95*

*Price reflects manufacturer's $30 Mail-in rebate. Ask for AA0781. Offer expires 8/13/97

MICROPOLIS HARD DRIVES (SCSI)

DR6091: 4345NS, 4.55GB	$899.95
DR6089: 4345WS, 4.55GB	$949.95
DR6088: 3391NS, 9.1GB	$1599.95
DR6093: 3391WS, 9 1GB	$1599.95

QUANTUM HARD DRIVES (SCSI)

DR5835: Fireball 31280TM, 1 2GB	$239.95
DR5834: Fireball 32110TM, 2.1GB	$339.95
DR5833: Fireball 33200TM, 3.2GB	$389.95
DR5832: Atlas II 34550AL, 4.5GB	$969.95

SEAGATE HARD DRIVES (SCSI)

DR5638: ST32171N, 2.15GB	$549.95
DR5640: ST32171W, 2.15GB	$599.95
DR5639: ST34371N, 4.35GB	$879.95
DR5636: ST34371W, 4.35GB	$879.95
DR5641: ST19171N, 9.1GB	$1479.95
DR5637: ST19171W, 9.1GB	$1579.95

IOMEGA DITTO TAPE DRIVES

DR4922: Ditto 3200 Int.,3200MB	$179.95†
DR4907: Ditto 3200 Ext., 3200MB	$229.95†
DR5402: Ditto 2GB Int., 2GB	$99.95†
DR5401: Ditto 2GB Ext., 2GB	$149.95†

†Price reflects $50 mfr mail-in rebate. Ask for rebate certificate AA0702. Rebate expires 7/31/97

IOMEGA JAZ DRIVE

DR4840: Internal, 1GB	$299.95
DRI1119: External, 1GB	$399.95
ME6478: 1.0GB Jaz Disk	$124.95*

*Quantity pricing available.

IOMEGA ZIP DRIVE

DR4602: Parallel Port	$149.95
DRI1050: SCSI	$149.95
DR5279: Insider SCSI	$149.95
ME6387: 100MB Diskette	$17.95

HP/COLORADO

DR5623: T3000 Int., 8GB	$189.95
DR5624: T4000ES Ext., 8GB	$479 95

PINNACLE MICRO

DR5513: RCD 4x4 Internal	$759.00
DR5512: RCD 4x4 External	$859.00
DR6051: Apex 4.6GB Internal	$1599.00
DR6050: Apex 4.6GB External	$1899.00

SEAGATE TAPE DRIVES

DR4709: TapeStor 800 Int., 800MB	$99.95**
DR5707: TapeStor 800 Ext., 800MB	$129.95
DR4769: TapeStor 3200 Int., 3200MB	$179.95**
DR5708: TapeStor 3200 Ext., 3200MB	$219.95
DR5180: TapeStor 8000 Int. SCSI, 8GB	$369.95**
DR5182: TapeStor 8000 Ext. SCSI, 8GB	$469.95**
DR5181: TapeStor 8000 Int. IDE, 8GB	$369.95**

**Includes cartridge.

SEAGATE MEDALIST™

- 1.2 GB IDE HARD DRIVE

ONLY $189.95!

DR5652

IOMEGA JAZ DRIVE

INTERNAL DRIVE ONLY $299.95!

INCLUDES DISK!

EXTERNAL SHOWN

DR4840

HEWLETT PACKARD DESKJET 672C

ONLY $199.95!

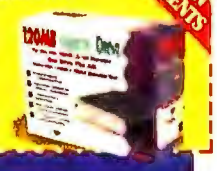
PR12302

- 4ppm
- 600X600dpi black
- 600X300dpi color

NEW! LS-120 Diskette Drive from Precision Instruments

* WHEN PURCHASED WITH 10 IMATION LS-120 DISKETTES.

ONLY $169!*



BN4253

SPORTSTER 56K MODEM

INTERNAL FOR ONLY $197.99!

U.S. Robotics 56Kbps modem

Internal DMD2389 EXTERNAL SHOWN

NEW! DVD TECHNOLOGY

- Watch theater-style video
- Retrieve up to 7 times more data than standard CD-ROM!
- Includes MPEG card!
- Listen to hi-fi audio

$499.99!

DR6307

D-200L DIGITAL CAMERA

ONLY $599!

INP0979

Free Catalog Subscription

Check the appropriate box(es) to receive a free, one-year subscription and mail this coupon to:
1720 Oak Street, P.O. Box 3014, Lakewood, N.J. 08701-3014

Name: _____

Address: _____ Apt.: _____

City: _____ State: _____ Zip: _____

○ MicroWAREHOUSE ○ MicroSYSTEMS WAREHOUSE

○ MacWAREHOUSE ○ Data Comm™ WAREHOUSE

(Expect to receive your next issue within 4-6 weeks).

©Copyright 1997 MicroWarehouse, Inc. MacWAREHOUSE® is a division of MicroWarehouse, Inc. MacWAREHOUSE® and MicroWarehouse® are registered servicemarks of MicroWarehouse, Inc.

PPW7

Get it Overnight — Order it Today and Use it Tomorrow!

To order, call toll-free 24 hours a day, 7 days a week

1-800-344-9314

On the Internet: http://www.warehouse.com

Fax: 908-905-5245

Order until 12:00 midnight (E) weekdays for overnight delivery of "in stock" items — only $9.95!*

*Shipping charge $9.95 per order up to 7 lbs., $1.25 per lb. over 7lbs.

CALL FOR A FREE CATALOG!

WE WILL TRY TO MATCH OR BEAT ANY ADVERTISED PRICE. CALL FOR LATEST PRICING!!

WE ACCEPT PO'S FROM QUALIFIED FIRMS

30 DAY* MONEY BACK GUARANTEE

MEMORY

LIFETIME WARRANTY

SECURITY WILL CALL WINDOW NOW OPEN! NO SURCHARGE FOR MC, VISA AE & DISCOVER

HOT BOX SPECIALS

WE'RE ON THE WEB!!!
Check out our website at
www.4LATrade.com
Check our website every day for Daily Specials and a Link for Items at or below our cost. You can e-mail us at Sales@LATrade.win.net Also use our "secure order form" to place an order!

72 PIN SIMMS (FPM, EDO)

	60NS	70NS
256 x 36	14 80	–
512 x 36	10 00	–
256 x 32	0 00	–
512 x 32	10 00	–
1 x 36 4 mg	35 00	35 00
2 x 36 0 mg	62 00	61 00
4 x 36 16 mg	102 00	101 00
8 x 36 32 mg	190 00	199 00
16 x 36 64 mg	480 00	480 00
1 x 32 4 mg	25 00	24 00
2 x 32 8 mg	47 00	46 00
4 x 32 16 mg	84 00	83 00
8 x 32 32 mg	160 00	168 00
16 x 32 64 mg	456 00	456 00
1 x 32 4 mg EDO	26 00	26 00
2 x 32 8 mg EDO	48 00	48 00
4 x 32 16 mg EDO	168 00	160 00
8 x 32 32 mg EDO	478 00	478 00

DIMMS (168 pin)

INDUSTRY STANDARD DIMMS Unbuffered	16Mg	32Mg	64Mg	128Mg	256Mg
3.3V ECC EDO	119	239	479	1208	—
3.3V EDO	99	199	387	—	—
5.0V EDO	Call	Call	Call	Call	Call
5.0V FPM	Call	Call	Call	Call	Call
Buffered					
3.3V ECC, EDO	110	239	479	1200	—
3.3V ECC FPM	110	239	480	1200	2689
APPLE					
1 x 64	8Meg				55 00
2 x 64	16Meg				99 00
4 x 64	32Meg				180 00
8 x 64	64Meg				379 00
DELL OPTIPLEX, GXPRO 200					
3.3V ECC EDO	16Meg				119 00
3.3V ECC EDO	32Meg				249 00
3.3V ECC EDO 8/32chip	64Meg				479 845
3.3V ECC EDO	128Meg				1690 00
DELL POWER EDGE 2100-4100					
3.3V ECC EDO	16Meg				110 00
3.3V	32Meg				240 00
3.3V 8/32 chip	64Meg				470 845
3.3V	128Meg				1690 00
3.3V	256Meg				3627 00
DELL & GATEWAY & UNIVERSAL					
3.3V SDRAM (2 clock)	8Meg				55 00
3.3V SDRAM	16Meg				99 00
3.3V SDRAM	32Meg				199 00
3.3V SDRAM	64Meg				460 00
MOTOROLA (Apple Compatible)					
3.3V EDO	0Meg				54 00
3.3V EDO	16Meg				99 00
3.3V EDO	32Meg				197 00
3.3V EDO	64Meg				383 00

ECC SIMMS

Pentium Pro 72 Pin (Install in pairs) / SIMMS

8Meg	59 00	64Meg	599 00
16Meg	110 00	128Meg	1206 00
32Meg	239 00		

SIMM MODULES (Add $5.00 for SIPP)

	50NS	70NS	80NS	100NS
256 x 9	–	6 00	5.00	5.00
1Meg x 0 (3 chip)	–	6 00	–	–
1Meg x 0 (0 chip)	17 00	17 00	12 00	10 00
4Meg x 0	33 00	33 00	33 00	–
16Meg x 0 (9 chip)	130 00	130 00	–	–

CACHE MODULES

256K (160 pin) Pipeline Burst Cache Module $27 00 (Coast Calp)

512K (160 pin) Pipeline Burst Cache Module $39 00 (Coast Calp)

256K (160 pin) Async Cache Module compatible with IBM Aptiva A&M Series $59 00

256K (160pin) Async Coast Module $29 00

CACHE MEMORY

	12NS	15NS	20NS	25NS
32K x8	9 00	4 50	4 25	4 00
32K x8 3.3V		14 00	9 50	
64K x1	–	1	9 00	8 00
64K x8		15		
128K x8		26	26	24 00
2x32 PB/SRAM 3.3V				0 00
128x32 PB/SRAM		89		
512x32 PB/SRAM	–		109	

INTEL Math Chips

8028[illegible] XL	29 00
8038 DX /Does All	54 00
8048 SX /Does All	183 00
Intel SX w/Does All	54 00
Intel SL Model	49 00

Lowest price Intel overdrive chips

Additional D-RAM Chips

MEMORY FOR IBM & APPLE

	40NS	50NS	60NS	70NS	80NS
1Meg x1			5 00	4 00	2 90
1Meg x4			19 00	18 00	17 00
1Meg x4 Zip Pr			1 00	90	10 00
256x4 Page Dip	–		7 25	75	6 50
256x4 Page Zip	–		0 25	0 00	8 95
256x4 Video				9 95	9 95
256x8/SOJ			12 00		
256x 8 SOJ	34 00	29 00	29 00		
256x16 SOJ		–	29 00	–	
256x16 Video		–		29 00	–

Make Your 486 Run like a Pentium*

Kingston upgrade chip Taste for 486 Based Dx2 D, Sx2 S, ONLY $129 00

Out performs Intel overdrive Pentium 83

UP TO 39% PERFORMANCE INCREASE**

VIDEO MEMORY MODULES

Matrox Millennium	2Meg 4Meg 8Meg WRAM	89 159 229
Matrox Mystique	2Meg SGRAM	59
ATI 3D Pro Turbo	2Meg/4Meg	89 179
ATI Xclaim 3D	4Meg SGRAM	179
ATI 3D Xpression	2/4Meg SDRAM	79
Apple PowerMac 4400	2Meg 4Meg	89 139
NEC Powermate Pro 150	2Meg 6Meg WRAM	129 259
HP Vectra XU 6 VT 6 VA XA	2Meg/6Meg WRAM	129 259
Compaq 1Meg Video 213922-001	1Meg	60
Compaq Deskpro 2000, 4000, 6000	2Meg/6Meg WRAM	129 295

Many More Please Call

NEC MEMORY

Ready 5010, 7010, 7020, 9010, 9022 (pairs)	4Meg/8Meg/16Meg/32Meg	22 43 94 186
Ready 9510, 9520, 9522, 9530, 9532 (pairs)	4Meg/8Meg/16Meg/32Meg	22 43 94 186
Ready 7022 (EDO, pairs	4Meg/8Meg/16Meg/32Meg	22 43 94 186
Image P60, P90 D, P100E pairs	4Meg/8Meg/16Meg/32Meg	22 43 94 186

We Carry All NEC Memory

HEWLETT PACKARD MEMORY

Netserver 4/66LC-5/133LC (pairs)	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Netserver LE 486SX33 – 486DX266	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Netserver LH Plus 5/133, 5/166 (EDO, ECC)	16Meg/32Meg/64Meg/128Meg	129/239/486/999
Netserver 4/33LM – 5/100LM (pairs)	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Netserver 5/75LS – 5/133 LS4 (pairs)	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Pavilion 5010-7170 (pairs)	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Vectra 500 (EDO pairs)	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Vectra VA 5/180, 6/200 (EDO pairs)	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Vectra VE2 5/75 – 5/133 (EDO, pairs	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Vectra XA 5/180, 6/200 (EDO, pairs)	4Meg/8Meg/16Meg/32Meg	34/59/99/199
Vectra XM4 Series	4Meg/8Meg/16Meg/32Meg	34/59/99/199

We Carry Memory for ALL Models – Call

We also sell Memory for: Dell, Gateway, DEC, Sun, Zenith, Acer and Epson

NO SURCHARGE FOR MASTERCARD, AMEX, VISA OR DISCOVER. PURCHASE ORDERS ACCEPTED FROM FORTUNE 2000 GOVERNMENT & INSTITUTIONS. California orders add 8.25% sales tax. Returned orders or ordered wrong parts are subject to a 20% restocking fee. Memory chips not installed in boards. We accept international orders shipped via UPS Air. APO, FPO orders welcome. Customers are expected to pay customs and "other" charges if shipped Int'l. All credit card charges verified for fraudulent use. SORRY, NO REFUNDS AFTER 30 DAYS – EXCHANGES ONLY. If you receive defective merchandise we exchange only—no refunds. We accept MC, VISA, Discover, AE, prepaid orders, purchase orders, wire transfer, COD (cashiers check) orders, cash & cashiers checks. Orders shipped by UPS, FEDX must be signed for. • ALL MANFACTUPER PART # S ARE FOR REFERENCE ONLY • MINIMUM ORDER $40.00 • NO REFUNDS ON SHIPPING

*certain restrictions apply. All prices final on date of sale

IBM PS/1, PS/2 MEMORY MODULES

Aptiva 300, 500 Series	4Meg/8Meg/16Meg/32Meg	24/49/99/169
Aptiva 700 Series (pairs)	4Meg/8Meg/16Meg/32Meg	24/49/99/169
Aptiva A Series (pairs)	4Meg/8Meg/16Meg/32Meg	24/49/99/169
Aptiva C Series (EDO pairs	4Meg/8Meg/16Meg/32Meg	24/49/99/169
Aptiva M Series	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 330 Models 8571-8576	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 330 Model 6577 (EDO, pairs	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 340 (EDO, pairs)	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 350 Models 8581-6585	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 350 Model 8586 (pairs)	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 350 Model 6587 (EDO pairs)	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 360	4Meg/8Meg/16Meg/32Meg	39/59/109/199
PC 730 Models 6875-6876 (pairs)	4Meg/8Meg/16Meg/32Meg	39/59/109/199
PC 730 Model 6877 (EDO pairs)	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC 750 Models 6885, 6886 (pairs)	4Meg/8Meg/16Meg/32Meg	39/59/109/199
PC 750 Model 6887 (EDO pairs)	4Meg/8Meg/16Meg/32Meg	24/49/99/169
PC Server 310 (pairs)	4Meg/8Meg/16Meg/32Meg	39/59/109/199
PC Server 500 (ECC pairs)	4Meg/8Meg/16Meg/32Meg	59/79/119/249
PS/1 30 Pin Simms	1/4Meg/4Meg	12/34
PS/1 72 Pin Simms	4Meg/8Meg/16Meg/32Meg	39/59/109/199
PS/2 55SX, 65SX	4Meg	49
PS/2 53, 53LS, 56, 57	4Meg/8Meg	39/69
PS/2 P75XP (ECC pairs)	4Meg/8Meg	49/79
PS/2 Server 95, 195, 295 (ECC pairs)	4Meg/8Meg/16Meg/32Meg	59/79/119/249

Call for All Rise 6800 Memory — Call for All Valuepoint Memory

IBM NOTEBOOK & LAPTOP MEMORY

Thinkpad 340, 345, 360, 360 C, CE	4Meg/8Meg/16Meg	49/79/149
Thinkpad 365C, CS, CD, E, ED	*4Meg/16Meg*	*39/130*
Thinkpad 365X, 365XD	*8Meg/16Meg/32Meg*	*80/139/280*
Thinkpad 500, 510CS	4Meg/8Meg/16Meg	59/89/149
Thinkpad 560	8Meg/16Meg/32Meg	59/139/289
Thinkpad 700, 729, 750, CL57SX	*4Meg/8Meg/16Meg/32Meg*	*39/70/159/284*
Thinkpad 701, 701C	*4Meg/8Meg/16Meg/32Meg*	*49/80/139/309*
Thinkpad 730T, TE	4Meg/8Meg/16Meg	49/109/189
Thinkpad 755C, CE, CD, CS	*4Meg/8Meg/16Meg/32Meg*	*39/80/129/250*
Thinkpad 780C, CD, L, LD	*4Meg/8Meg/16Meg/32Meg*	*40/79/129/319*
Thinkpad 789E, ED, EL, ELD	*8Meg/16Meg/32Meg*	*79/129/279*

COMPAQ MEMORY MODULES

Deskpro 486/25, 33L, 25S	2Meg/4Meg/8Meg/32Meg	29/79/199
Deskpro 3/25i, 33i, 4/25iS, 66i	2Meg/4Meg/8Meg	39/89/89
Deskpro 386, 486 M Series	2Meg/4Meg/8Meg	29/39/69
Deskpro M Series Expansion Board	0K (no memory)	119 00
Deskpro 450, 4/100, 5/75, 590, 5100, 5133	4Meg/8Meg/16Meg/32Meg	24/42/79/159
Deskpro 575, 5120, 5133, 5150, 5160, 5166 (EDO pairs)	4Meg/8Meg/16Meg/32Meg	24/42/79/159
Deskpro 2000, 4000, 6000 Series (EDO pairs)	4Meg/8Meg/16Meg/32Meg	24/42/79/159
Deskpro S 560M, S 566M, XE560 (quads)	2Meg/4Meg/8Meg/16Meg/32Meg	39/49/89/139/239
Deskpro P (pairs)	4Meg/8Meg/16Meg/32Meg	49/89/139/239
Deskpro XL 6150, 6200 ECC pairs	8Meg/16Meg/32Meg/64Meg/128Meg	Call
Deskpro 2000, Presario 4112, 4122, 4712, 4715, 5526, 5536	1Meg Video	69
Presario 5536, 9232, 9234, 9240, 9250, 9260, 9640, 9660	1Meg Video	89
Presario 510, 520, 524, 660, 720, 724, 660	4Meg/8Meg/16Meg/32Meg	24/42/79/159
Presario 9200, 924, 954, 974, 978, 992	4Meg/8Meg/16Meg/32Meg	24/42/79/159
Presario 833, 850, 860, 866	4Meg/8Meg/16Meg/32Meg	39/54/119/239
Presario 55x, 8[illegible]0, 7152	4Meg/8Meg/16Meg/32Meg	24/42/79/159
Presario 71 0, 9[illegible]6, 9546, 9548, 9564 pairs	4Meg/8Meg/16Meg/32Meg	24/42/79/159
Presario 9232, 9234, 9240, 9250, 9642, 9650 pairs	4Meg/8Meg/16Meg/32Meg	24/42/79/159
P (pairs), 5150, 2000 P, 4000 P (quads)	4Meg/8Meg/16Meg/32Meg	36/62/99/189
[illegible] 1500P pairs	4Meg/8Meg/16Meg/32Meg	36/62/99/189
Prolinea 4/5s, 4500R quads	4Meg/8Meg/16Meg/32Meg/64Meg	39/54/119/239/599
Prolinea 5000, 5000R pairs	32Meg/64Meg/128Meg/256Meg	Call
Prolinea 4/33, 4/66	2Meg/4Meg/8Meg	29/39/69
Pr[illegible]neg (enhanced) MT	4Meg/8Meg/16Meg/32Meg	36/62/99/189
Prolinea 575, 590, 5100, 5120, 5133 (pairs)	4Meg/8Meg/16Meg/32Meg	36/62/99/189
Prolinea 5100, 5120, 5133, 5150, 5166 (EDO pairs)	4Meg/8Meg/16Meg/32Meg	36/62/99/189
Prolinea 575E, 100E, 120E, 575MT pairs	4Meg/8Meg/16Meg/32Meg	36/62/99/189
Prolinea 590Mx, 5120Mx (pairs)	4Meg/8Meg/16Meg/32Meg	36/62/99/189
Prolinea 6150E, 6180E (pair	8Meg/16Meg/32Meg	89/119/239
Prosignia 300, 575, 590, 5120, 5150	4Meg/8Meg/16Meg/32Meg	36/62/99/189
Prosignia 500, 590, 5120, 5150 pairs	4Meg/8Meg/16Meg/32Meg	36/62/99/189

COMPAQ NOTEBOOK/LAPTOP MEMORY

Armada 1120, T 1125, 1130, T	8Meg/16Meg/32Meg/64Meg	69/129/239/489
Armada 4100, 4110, 4120, 4130 pairs	0Meg/16Meg/32Meg	89/129/239
Concerto 4/75, 433	*4Meg/8Meg/16Meg*	*49/79/139*
Contura 4/25, C, CX	*4Meg/8Meg/16Meg*	*49/79/139*
Contura 480C, 480CX, 410C, 410CX	*4Meg/8Meg/16Meg*	*49/79/139*
Contura 420C, 420CX, 430C, 430CX	*4Meg/8Meg/16Meg/24Meg*	*49/79/139/199*
Contura Aero 4/75, 433	*4Meg/8Meg/16Meg*	*39/70/139*
LTE 5000, 5100, 5200, 5300, 5400	*8Meg/16Meg/32Meg/64 Meg Kit*	*79/129/240/509*
LTE Elite 440C, CX, 475CX	*4Meg/8Meg/16Meg/24Meg*	*49/80/139/199*
LTE Lite 4/25	*4Meg/8Meg/16Meg*	*49/85/136*
Presario 1000, 1010, 1020, 1030, 1078, 1080	*8Meg/16Meg/32Meg*	*59/160/229*

DELL MEMORY

Dimension XPS M166S, M200, P133s, 166, 200s, P133w, 166w, 200w	8Meg/16Meg/32Meg	55/99/199
Dimension XPS P60, P75, P90, P100 (pairs	4Meg/8Meg/16Meg/32Meg	28/48/89/179
Dimension XPS P100c, 120c, 133c, 166c XPS P75T, 100T (pairs) FPM or EDO	4Meg/8Meg/16Meg/32Meg	26/48/89/179
Dimension XPS Pro 150, Pr, 200 quads	4Meg/8Meg/16Meg/32Meg	39/69/102/209
Dimension XPS 150n, 180n, 200n pairs, edo	4Meg/8Meg/16Meg/32Meg	26/49/89/179

LASER PRINTER MEMORY UPGRADES

AMOUNT UPGRADED	0K	0d	256k	1	2	3	3.5	4	5	6	8	16	32
Brother 630, 631, 641, 645				39	59	–	–	–	–	–	–	–	–
Canon LBP 430				39	–	–	–	39	–	–	–	–	–
Canon LBP 860, 1260			–	–	19	–	–	39	–	–	69	89	179
Canon LBP4, 4Lite, 4plus			–	129	179	–	–	–	–	–	–	–	–
Epson Action Laser 1100, 1600			–	19	29	–	–	59	–	–	09	99	
Epson Action Laser II			–	74	–	173	–	–	272	–	–	–	–
Epson 9[illegible]0, 4000, 4100, 4300			–	89	–	173	–	–	272	–	–	–	–
Epson 1000, 1[illegible]0, 5000, 5200			–	–	49	–	–	96	–	–	–	–	–
HP 2, 2D			–	–	59	–	–	79	–	–	–	–	–
HP 3, 3D, 3P, 2P, 2P+			–	–	39	–	–	79	–	–	–	–	–
HP 4, 4M, 4Si, 4Si/MX			–	–	19	–	–	49	–	–	79	–	–
HP 4P, 4PLUS, 4MPm, 1600, 1600CM			–	–	9	19	–	39	–	–	69	–	–
HP 4L			–	–	29	–	–	–	–	–	–	–	–
HP 3Si			–	–	9	–	–	39	–	–	69	–	–
HP 5L			–	–	39	49	–	67	–	–	99	–	–
HP 5P, 5MP, 4J, 4Mv, 6P, 6MP			–	–	9	19	–	39	–	–	69	99	–
HP Design Jet 600, 650, 200			–	–	–	19	–	39	–	–	69	109	199
HP Design Jet 700, 750C Plus			–	–	–	–	–	29	–	–	49	89	179
HP Deskjet 500, 500C, 510, 550, 560			–	*29*	–	–	–	–	–	–	–	–	–
HP Deskjet 1200C, 1200C/P			–	–	–	39	–	49	–	–	89	–	–
HP Paintjet XL300		S4	–	–	–	–	–	60	–	–	144	299	–
IBM Laser 4019, 4019E			–	–	–	–	109	–	–	–	–	–	–
IBM Laser 4029, 4037			–	–	–	–	–	49	–	–	–	–	–
IBM Laser 4030, 4079			–	–	–	30	–	89	–	–	90	–	–
Lexmark Medley 4C, 4x, 4SA			–	–	Call	Call	–	–	–	–	–	–	–
Lexmark Optra L, LX, R, RX			–	–	–	–	–	39	–	–	59	89	189
Lexmark Valuewriter 300, 500			–	–	29	39	–	09	–	–	–	–	–
Lexmark Wowriter 200, 400, 600			–	–	29	39	–	89	–	–	–	–	–
NEC 90, 290			–	–	–	59	–	–	–	–	–	–	–
NEC 95, 97			–	–	–	59	–	–	–	–	–	–	–
Okidata 400			–	–	–	59	–	–	–	–	–	–	–
Okidata 400E, 400EX, 410E, 410EX			–	–	67	89	169	–	189	–	–	–	–
Okidata 810E, EX, 600E, EX, 810E, EX			–	–	29	79	–	–	119	–	–	149	229
Okidata 830, 840			–	–	–	59	–	–	–	–	–	–	–
Panasonic 4420/4450			–	–	–	79	–	109	–	–	–	–	–
Panasonic 4419/4430			–	–	–	89	–	–	–	–	–	–	–
Panasonic 4450			–	–	89	–	–	–	–	–	–	–	–
Panasonic 4430/S400			–	–	49	69	–	109	–	–	–	–	–
Panasonic 4440, 5410			–	–	89	–	–	109	–	–	–	–	–
Panasonic 6500			–	–	14	29	–	69	–	–	–	–	–
Sharp 9400, 9450, 9600, 9700E			–	–	49	69	–	119	–	–	–	–	–
Sharp 9500, E, H, 9700, H			–	–	49	–	–	236	–	–	–	–	–

CUSTOMER SERVICE & TECHNICAL: OPEN M–F, 9–4 PST

All products brand new & guaranteed • We buy excess inventory

Trademarks are registered with their respective companies.

L.A. TRADE

22825 Lockness Avenue • Torrance, CA 90501

BATTERIES

★ ★ CALL FOR NOTEBOOK AND LAPTOP BATTERIES ★ ★
Compaq, IBM, Toshiba, Epson, AST, TI and More!!

ACER 730 thru 789	$129	NEC Versa E, V	$135
Canon Innova Book 350, 360, 475	134	NEC Versa S	99
Compaq Contura 3/25, 4/25	109	Sharp 3010, 3020, 3050, 3060, 3150	129
Compaq Aero, 400, 410, 420, 430	109	Sharp 8700, 8800, 8900	129
Compaq LTe 5000 Series	139	TI Extensa 450, 455, 510, 515	139
Epson Action Note 650, 660	119	TI Extensa 550, 555, 560, 570	149
Epson Action Note 800, 868, 880, 910	119	TI Extensa 600, 605, 650	169
IBM Thinkpad 355, 360	119	Toshiba 400, 405, 410, 415, 420, 425, 430 (NIMH)	219
IBM Thinkpad 365 C, ED, XD	129	Toshiba 100, 105, 110, 115, 200, 205	105
IBM Thinkpad 701	109	Toshiba 2100 Series	99
IBM Thinkpad 750, 755	179	Toshiba 2400, 2450, 1900, 1950, 1960	109
IBM Thinkpad 755 CD, CE, CV, CX	179	Toshiba 4700, 4800, 4850, 4900	109
NEC Versa 2400, 2405, 2430, 2435	159	Toshiba T4500, T4600	159

TOSHIBA LAPTOP MEMORY

MODEL	AMT. UPGRADED	PRICE
Tecra 510, P650	8Meg/16Meg/32Meg/48Meg/128Meg	79/119/249/369/599/1249
Tecra 700 (SDRAM)	8Meg/16Meg/32Meg	79/139/243
Tecra 710, 720	8Meg/16Meg/32Meg/64Meg/128Meg	79/139/249/649/1294
Tecra 730 CDT, 730X CDT, 740 CDT	8Meg/16Meg/32Meg/64Meg	Call
T2900SXE,T2950SX/T1609, 1850, C	*5Meg*	*94 99*
T2100, 2195, 2159, 2155, 2110, 2115	*4Meg/8Meg/16Meg/24 Meg*	*30/59/120/189*
T4500, C, T4600, T4700, T1900, C, T1910, T1950 (3.3 v)	*4Meg*	*30 99*
T4500, C, T4600, T4700, T1900, C, T1910, T1950 (3.3 v)	*8Meg*	*79 99*
T4500, C, T4600, T4700, T1900, C, T1910, T1950 (3.3 v)	*16Meg/32Meg*	*139/243*
T3400CT, T2400, T3600	*4Meg/8Meg/16Meg/24Meg*	*59/79/149/199*
T100, 105, 110, 115, 295, 210	*8Meg/16Meg/32Meg*	*70/120/239*
T400, 495, 419, 415, 420, 425, 430	*8Meg/16Meg/32Meg*	*79/120/239*
T400CS, 400CDT, T100, 105 Edo	8Meg/16Meg/32Meg	79/129/239
T600, 810, CT Edo, 660	8Meg/16Meg/32Meg	79/129/239

NOTEBOOK, LAPTOP MEMORY

MODEL	AMT. UPGRADED	PRICE
ACERNote 730C, 735C, 780C, 780CX, 789Cx	*2Meg/4Meg/8Meg*	*39/50/80*
ACERNote 763, 765, 782, 784, 786	4Meg/8Meg/16Meg	49/69/129
ACERNote Light 350, 352, 355	*4Meg/8Meg/16Meg*	*49/79/120*
ACERNote Light 358, 356, 359, 381 (pairs) edo	*4Meg/8Meg/16Meg*	*49/89/120*
ACERNote Nuovo 971, 972	8Meg/16Meg/32Meg	69/125/239
ACERNote Pro 950, 954, 955, 957, 959 (pairs)	4Meg/8Meg/16Meg	59/79/139
Ambra SN Series	*4Meg/16 Meg*	*60/140*
Ambra N 75, N 100	*4Meg/8/16*	*49/79/130*
AST Ascentia A61, A62	*8Meg/16Meg/32Meg/64Meg*	*70/139/280/620*
AST Ascentia P30, P50	8Meg/16Meg/32Meg	79/149/269
AST Ascentia 310, 330, 350	8Meg/16Meg/32Meg/40Meg Kit	79/129/249/359
AST Ascentia 900N, 800N, 810, 910	*8Meg/16Meg*	*79/129*
AST Ascentia 950	*8Meg/16Meg*	*79/130*
AST Bravo & Explorer	*4Meg/16Meg*	*79/140*
AT&T Globalyst 130, 200, 259	*4Meg/8Meg/16Meg*	*40/70/139*
Austin DX4, DX2, SX2, SX Series	*4Meg/16Meg*	*69/180*
Austin Edge CD P 133 edo	8Meg/16Meg	89/149
Austin Edge Duet (pairs) edo	16Meg/32Meg	129/229
Austin Vista	4Meg/8Meg/16Meg/24Meg	49/79/139/199
Canon 110D (pairs)	*4Meg/8Meg/16Meg*	*59/70/129*
Canon Innova Book 150, 175	*4Meg/8Meg/16Meg*	*59/130*
Canon Innova Book 290LS	4Meg/8Meg/16Meg/24Meg	59/89/179/249
Canon Innova Books 350CD, 360, 475	8Meg/16Meg	59/129
Canon Innova Book 489, 400 edo	*8Meg/16Meg*	*80/149*
CTX E2 Book 500, 600, 700 Pent Series	4Meg/8Meg/16Meg	59/89/139
DEC HiNote	*4Meg/8Meg/16Meg*	*59/80/139*
DEC HiNote Ultra, Ultra II	4Meg/8Meg/16Meg	49/69/129
DEC HiNote VP 520, 525, 535, 545 (pairs)	8Meg/16Meg/32Meg	89/139/260
DEC HiNote VP 5100, 5120	8Meg/16Meg/32Meg/64Meg	79/139/219/699
DEC HiNote VP, Css, LSS, CTS, LTS	8Meg/16Meg/32Meg	79/139/269
Dell Latitude LM (pairs)	4Meg/8Meg/16Meg	59/79/129
Dell Latitude 433, C, CX	4Meg/16Meg	64/149
Dell Latitude LX, M	*4Meg/8Meg/16Meg*	*50/89/130*
Dell Latitude XP, XPi	4 Meg/8Meg/16Meg	59/79/129
Epson ActionNote 850, 850c, 869c, 860cs	*4Meg/8Meg/16Meg*	*39/70/139*
Epson ActionNote 88D, 866c, 890, 910	4Meg/8Meg/16Meg/20Meg	49/79/139/199
Epson ActionNote 4LC/25, 4LC/33, 4SLC/2-50, 4060	*8Meg*	*89 00*
Fujitsu Lifebook 500, 600 Series edo	8Meg/16Meg/32Meg	69/139/269
Fujitsu Monte Carlo, Montego, Milan	8Meg/16Meg/32Meg	69/139/269
Gateway 2000 Colorbook 4/33	*4Meg/16Meg*	*89/179*
Gateway 2000 Nomad 425 DXL/SXL	*4Meg/16Meg*	*140/559*
Gateway 2000 Handbook or Liberty	4Meg/16Meg	49/139
Gateway 2000 Solo Series	4Meg/8Meg/16Meg	69/89/139
Gateway Solo Series 2100, 2200 edo	8Meg/16Meg	89/139
Hitachi C-Series	8Meg/16Meg/32Meg	79/129/229
Hitachi E Series, MX Series	*8Meg/16Meg/32Meg*	*70/139/289*
Hitachi M Series	*8Meg/16Meg/32Meg*	*60/119/249*
HP Omnibook 530, 800	*4Meg/8Meg/12Meg*	*49/80/99*
HP Omnibook 800	8Meg/16Meg/32Meg	79/129/349
HP Omnibook 5000	*4Meg/8Meg/16Meg*	*59/80/130*
HP Omnibook 5900, 5509	*6Meg/16Meg/32Meg*	*70/130/258*
Leading Edge Avina 2000	16Meg	139
Micron Transport Pentium (pairs)	8Meg/16Meg	89/149
Midwest Micro Elite or Soundbook	4Meg/8Meg/16Meg	69/99/149
Midwest Micro Elite or Soundbook Plus or SndBk II HP	4Meg/8Meg/16Meg	69/99/149
Midwest Micro Elite or Soundbook CD	4Meg/8Meg/16Meg	69/99/149
NEC Ultralite Versa, E, V, MP 4 Meg/8Meg/16Meg/20Meg/32Meg		*99/80/120/179/230*
NEC Versa S, Versa 2000C, 0 220SC	*4Meg/8Meg/16Meg*	*49/79/129*
NEC Versa 4000, 4050, 4080, 4200	4Meg/8Meg/16Meg/32Meg	59/79/139/299
NEC Versa 6000, 6050, 6030	8Meg/16Meg/32Meg/64Meg	69/139/249/559
NEC Versa 6200MX edo	8Meg/16Meg/32Meg/64Meg	69/139/279 Call
Olivetti Echos P75-P1335 (pairs)	4Meg/8Meg/16Meg	59/89/149
Packard Bell Statesman	*2Meg/8Meg*	*20/70*
Panasonic CF-V21P, CF-560	*4Meg/16Meg*	*40/144*
Panasonic CF-V41	*4Meg/8Meg/16Meg/32Meg*	*49/89/139/269*
Sager Midern, all models	*4Meg/8Meg/16Meg/32Meg*	*60/90/160/390*
Samsung Sens 810	*8Meg/16Meg/32Meg*	*79/139/247*
Sceptre Soundx, all models	4Meg/8Meg/16Meg	49/89/149
Sharp 3030D, 3040D, 3060D	8Meg/16Meg/32Meg	89/179/269
Sharp 8150, 5650, 6869, 7700, 7769	*4Meg/16Me

CDW COMPUTER DISCOUNT WAREHOUSE

The right price.
The right advice.

"Get more"™

AST

Ascentia P30, P50

8MB	$109.20	72097	16MB	$148.94	72098

Ascentia J10, J20, J30, J50, J55

8MB	$69.46	68811	16MB	$129.91	68809
32MB	$249.30	68810			

Cisco Systems

Router 3500, 2500 series

8MB	$69.85	77730	16MB	$139.22	77731

COMPAQ

Armada 1120

8MB	$68.07	71879	16MB	$125.02	71880

Armada 4110 series, 4120 series, 4130 series

8MB	$83.36	74915	16MB	$149.31	74917
32MB	$278.09	74918			

Deskpro 2000, 4000, 6000

8MB	$63.45	74165	16MB	$125.02	74166
32MB	$239.76	74167			

LTE Elite 5000 series

8MB	$86.83	62465	16MB	$149.31	62466
32MB	$269.76	62467	64MB	$577.66	62468

Prolinea 2500

32MB	$279.41	79833	64MB	$649.52	79834
128MB	$1229.41	79835			

Prolinea 5000, 5000R

64MB	$589.94	71875	128MB	$1066.36	71876
256MB	$3666.06	71877	512MB	$4838.72	71878

Presario 962, 9536, 9546, 9548, 972, 982, 974, 992, Prolinea P75, P90

8MB	$67.17	54679	16MB	$125.02	54680
32MB	$239.40	54682	64MB	$474.54	54681

Presario 7200 series

8MB	$59.48	68815	16MB	$125.02	68812
32MB	$239.76	68813	64MB	$409.06	68814

FUJITSU

LifeBook 555TX, 655TX, 635T

8MB	$72.93	83130	16MB	$129.32	80765
32MB	$319.34	80426			

GATEWAY 2000

STG-Pent/P5-75, 90, 100, 120, 133, 150, 166 Family PC, P5-100, 120, 133, 150, 166 BestBuy

8MB	$65.77	57571	16MB	$125.02	57572
32MB	$234.57	57573	64MB	$459.91	57575

Solo V75 Daluxa, V90, S90, S90 Deluxa, S90 BestBuy, Solo 2100

8MB	$134.96	62795			

HEWLETT PACKARD

LasarJet 4 Plus, 4M Plus, 4MV, 4V, 5MP, 5P, 5si MX, 6P, 6MP

4MB	$33.58	43306	8MB	$62.97	42443

LaserJet 4, 4M

4MB	$46.88	32151	8MB	$87.52	32568

LasarJat 4si, 4si MX

4MB	$41.48	43307	8MB	$87.52	37583

HITACHI

MX series, 133T, 150T, 166T

8MB	$97.24	85193	16MB	$159.87	85195

IBM

PC 300 model 330, 340, PC 700 model 730, 750 A, E, N, B, F, P

8MB	$65.77	74840	16MB	$125.02	72593
32MB	$239.76	72594			

PC 300-300GL

8MB	$81.26	90286	16MB	$179.38	90287
32MB	$329.98	90288			

ThinkPad 365E, 365ED

16MB	$129.19	63579			

ThinkPad 365, X, XD series, 560, 760 E, ED, EL, ELD

8MB	$69.15	69680	16MB	$128.92	69704
32MB	$289.06	71913			

IBM

ThinkPad 340, 345C, CS, 355, 360C, CS, P, 755, CS, CE, CD, CV, CX

4MB	$65.77	42715	8MB	$87.52	42716
16MB	$157.15	42717			

ThinkPad 750, 750 C series, P

8MB	$149.31	35181	16MB	$176.28	35182
32MB	$309.68	43310			

ThinkPad 760, E, ED, EL, ELD, XD, XL, 380, 380D, 385D

8MB	$69.15	69680	16MB	$128.92	69704
32MB	$289.06	71913			

NEC

Varsa 6000, 6030 series, 6050 series

8MB	$94.46	71586	16MB	$157.15	71583
32MB	$279.41	71584			

Versa 2000 series

8MB	$66.47	44184	16MB	$129.88	44186

Versa 2400, CD, 2405, CD, 2430CD, 2435CD

8MB	$65.51	76394	16MB	$127.80	76396

Versa 2600

8MB	$93.08	85753	16MB	$159.98	85754
32MB	$309.35	85755	64MB	$709.94	85756

Versa 4000 series, E, V, M, P

4MB	$81.26	30555	8MB	$87.52	30557
12MB	$138.01	43231	16MB	$149.31	31342
20MB	$199.21	43040	32MB	$278.09	43041

Versa 6200MX, NT

16MB	$147.89	85186	32MB	$279.41	85192

Texas Instruments

Extansa 450 series, 550 series, 560 series, 570 series

8MB	$71.54	59865	16MB	$127.80	59866

Extensa 510, 515

8MB	$77.10	72130	16MB	$139.38	72134
32MB	$249.30	72136			

TravelMate 5000 series, 5300

8MB	$118.63	68609	16MB	$169.82	68608
8MB piggyback module		$89.30	68610		

TOSHIBA

Dynapad T200, T200CS

8MB	$79.87	31508	16MB	$148.94	33132

Equium 5160D, 5200D, 6200D

8MB	$65.06	87226	16MB	$119.64	87227

Infinia 7130, 7160, 7200

8MB	$86.19	76190	16MB	$125.02	76191

Portege 650, 660, CDT, Tecra 500, 510 series, 730 series and 740 series

8MB	$66.47	72535	16MB	$129.54	72534

Portege 610, Tecra 710,720, 730 series, Satellite Pro 200, 420, 430 series

8MB	$91.69	67892	16MB	$149.31	67893
32MB	$279.41	67894			

Satellite 100, 105, Satellite Pro 400, 410 series

8MB	$89.30	63086	16MB	$149.68	63087
32MB	$286.06	61117			

Satellite 110, 115, 200CDS, Satellite Pro 430CDT, 430CDS

8MB	$91.69	67892	16MB	$149.31	67893
32MB	$279.41	67894			

T2100, T2150

4MB	$53.99	52810	8MB	$77.79	52811
16MB	$136.65	52812	24MB	$204.57	52813

Tecra 510CDT, 510CDS

8MB	$66.47	72535	16MB	$129.54	72534
32MB	$297.38	74695			

WORLDWIDE WEB
http://www.simpletech.com

FAX ON-DEMAND
1-800-429-5626 x500

If you don't see it, call! CDW® carries Simple Technology's complete line of 1500 memory upgrade products for portables, workstations, servers, printers, desktop systems, PDAs and more. Memory pricing subject to change–please call your CDW account manager for the latest pricing and availability information.

Simple TECHNOLOGY

Every Simple Technology product is tested for 100% compatibility and is backed with a lifetime warranty.

LIFETIME WARRANTY

100% COMPATIBLE

Each Simple Technology removable hard drive is pre-formatted with Ontrack Disk Manager (software included). Data transfer rate 16.6Mbps. Guaranteed for one full year.

Model	Hard drive capacity 1.44GB	2.1GB	3.08GB
IBM ThinkPad 355, 360, 750, 755	$519.21 87497	$599.40 71582	$759.18 88867
IBM ThinkPad 760, C, CD, L, LD	$519.23 87498	$696.65 85087	—
Toshiba T4700, T4800, T4850	$445.44 87501	—	—
Toshiba T700, T710, T720	$389.46 87502	$559.23 71588	$737.83 89072
NCR Safari 3181 4/50, 3182 4/75	$428.01 87499	$559.23 71587	$735.56 88869
AT&T Globalyst 250	$449.01 87500	$559.23 71587	$735.56 88869
NEC Versa 2000, 4000	$449.01 87500	$559.88 82845	—
NEC UltraLite, Versa E, V, M, P	$428.01 87499	$559.23 71587	$735.56 88869
Compaq LTE 5000, 5100, 5200, 5300, 5400	$487.84 87496	$599.44 71576	$759.18 88865

Digital "Film" for Your Digital Camera

ATA Flash PC Cards

4MB ATA Memory	$95.85	66564
8MB ATA Memory	$136.65	66560
12MB ATA Memory	$184.47	66561
16MB ATA Memory	$237.30	66563
32MB ATA Memory	$505.11	73712

Up to 40MB available

Compatible with Casio Cassiopeia-HPC, Canon Powershot 600, Kodak DC50, Ricoh RDC-2, NEC MobilePro

CompactFLASH

4MB Memory	$104.20	72849
8MB Memory	$128.58	81022
Flash card adapter	$26.59	72851
Flash card adapter with 4MB	$109.54	89653
Flash card adapter with 8MB	$148.94	89654

Compatible with Canon Powershot 350, Kodak DC25, DC120

Visit CDW® on the Internet for secure online ordering!

800-865-4239

www.cdw.com/pwi

©1997 CDW Computer Centers, Inc.

PCW/31196 8/97

Circle 68 on reader service card

COMPUTER DISCOUNT WAREHOUSE™

CDW COMPUTER DISCOUNT WAREHOUSE

The right price.
The right advice.

We offer you

UMAX Computer Corporation Astra 600S

■ Single-pass ■ Resolution: 300 x 600 dpi optical, 4800 dpi interpolated ■ Maximum scan area: 8.5" x 14" ■ Scanning modes: 30-bit color, 10-bit grayscale ■ Software: Adobe PhotoDeluxe, Presto!, PageManager with OCR, UMAX Copy Utility, VistaScan

Astra 600S ..... **$235.65** CDW 85639

Astra 600P ..... **$198.97** CDW 89348

■ Software: Presto!, PageManager with OCR and Adobe PhotoDeluxe

MOTOROLA ModemSURFR 56K

■ Motorola's K56 Plus™ technology allows you to download files at speeds up to 56K bps (uncompressed) ■ Data rates up to 56K bps and throughput rates up to 230.4K bps (external only) with data compression ■ Error control and T30 error correction ■ Caller ID and distinctive ring support (contact your phone company for service)

Internal ..... **$146.01** CDW 85116

External ..... **$164.59** CDW 85117

Hardware, Software & Peripherals at *DISCOUNT* Prices!

NETWORKING PRODUCTS

Microsoft

Windows NT Server V4.0	
Upg + 5-client license CD	346.98
Upg + 10-client license CD	479.72
Comp upg + 5-client license CD	346.98
Comp upg + 10-client license CD	479.72
Server + 5-client license CD	695.98
Server + 10-client license CD	999.96
Single-client license upg	16.98
Single-client license	33.98
Windows NT Workstation V4.0	
Version upg CD	129.52
Single-client upg	239.06
Full version CD	279.87

Novell

IntranetWare	
5-user CD	704.14
10-user CD	1316.20
25-user CD	2309.55
50-user CD	3119.90
Call for Novell IntranetWare upgrades.	
IntranetWare for Small Business	
1-user additional license	46.64
5-user additional license	216.83
Server with 5 licenses	594.80
Call for additional Novell IntranetWare multi-user configurations.	

3Com

3ComImpact IQ ISDN modem external	309.56
3C900 EtherLink XL PCI 10BT	99.44
3C900 Ethernet XL PCI combo	119.99
3C905 Fast EtherLink XL PCI 10/100BT	95.90
OfficeConnect 8-port hub	119.76
SuperStack II Hub 12-port 10BT	499.48
SuperStack II Hub 24-port 10BT	859.44

HOT BUY

SYMANTEC. pcANYWHERE32 V7.5

$79.99* *After $40 rebate

CDW 69840

ASANTÉ

FriendlyNet 5-port Ethernet hub	56.28
FriendlyNet 8-port Ethernet hub	59.91

Cisco Systems

MicroWeb 100 server	799.40
Catalyst 1900 24-port 10BT 2-port 100BT	2895.44
Catalyst 1900 24-port 10BT 1-port 100BT 1-port 100FX	3289.78

COMPAQ

Netelligent 10BT PCI controller	91.85
Netelligent 10/100BTX PCI controller	99.78

Dayna

CommuniCard 33.6 data/fax modem	189.27
CommuniCard PLUS 10BT/33.6 Ethernet/modem	344.76

HUMMINGBIRD

NFS Maestro V5.1.3 WIN/95/NT/DOS	229.18
Exceed V5.1.3 WIN/95/NT	319.94

intel

EtherExpress PRO 100 PCI	81.46
EtherExpress PRO/10+ PCI combo	119.07
NetPortExpress PRO Ethernet Internal	268.54
NetPortExpress PRO Ethernet external	367.15

NETWORKING PRODUCTS

NETGEAR

10/100 Fast Ethernet PCI adapter	53.01
EN104 4-port 10BT slimline Ethernet hub	65.09
EN108 8-port 10BT slimline Ethernet hub	87.02
FE104 4-port 100BT Fast Ethernet hub	188.56
FE108 8-port 100BT Fast Ethernet hub	359.88

SYMANTEC

Norton AntiVirus V2.0 WIN NT	63.93
Norton Utilities V2.0 WIN NT	87.90

DATA STORAGE

HOT BUY

HI-VAL PIONEER 12X CD-ROM DRIVE

$89.56* CDW 87112

iomega

Zip drive 100MB parallel	149.95
Zip drive 100MB external SCSI	149.95
Zip drive 100MB internal SCSI	149.95
Ditto Easy 800MB Travan internal	99.95
Jaz drive 1GB internal SCSI-2	299.95
Jaz drive 1GB external SCSI-2	399.95
Ditto drive 2GB internal	149.95
Ditto drive 2GB external	199.95
Ditto Dash Card	59.95

SyQuest

EZFlyer 230MB external	199.00
SyJet 1.5GB SCSI internal	399.00
SyJet 1.5GB SCSI external	499.00

INPUT DEVICES

Adesso NU-Form keyboard/touchpad	58.09
Alps GlidePoint Windows 95 keyboard	93.94
Calcomp Drawing Slate II 12x12 w/press pen	306.63
Casio QV-300 digital camera	655.65
Connectix Color QuickCam V2.0	209.57
Epson PhotoPC digital camera	334.92
Epson PhotoPC 500 digital camera	499.00
Epson ActionScanning System II	269.42
Epson Expression 636 Exec scanner	799.00
Hewlett Packard ScanJet 5s	239.57
Hewlett Packard ScanJet 5p	378.68
Hewlett Packard ScanJet 4Cse	799.00
Intel Smart Video Recorder III	169.17
Kensington Mouse-in-a Box	25.76
Kodak DC50 Digital Science Camera	699.00
Logitech TrackMan Marble	83.23
Logitech PageScan Color Pro	268.82
Microtek Color PageWiz compact scanner	149.39
Microtek ScanMaker E3 color flatbed	174.56
Nikon Coolpix 100 digital camera	396.02
Play Snappy video still capture	195.97
Polaroid 2000/40 digital camera	2877.79
Ricoh RDC-2 digital camera	799.00
UMAX Astra 600S scanner	235.65
UMAX Astra 1200S scanner w/PhotoDeluxe	445.48
Visioneer PaperPort mx scanner	225.39
Visioneer PaperPort lx scanner	179.37

MONITORS

MAG Innovision 410V2 14" 0.28mm	209.18
MAG Innovision 510V2 15" 0.28mm	289.78
MAG Innovision 710V2 17" 0.28mm	495.76
Magnavox MB4010 14" 0.28mm	229.71
Magnavox MV5011 15" 0.28mm	277.56
Magnavox MB7000 17" 0.28mm	539.92
NEC XV15+ 15" 0.25mm	376.42
NEC XV17+ 17" 0.28mm	679.69
NEC P750 17" 0.25mm	849.57
NEC P1150 21" 0.28mm	1758.30
Princeton E050 15" 0.28mm	289.76
Princeton E070 17" 0.28mm	489.49

MONITORS

Sony Multiscan 100sx 15" PnP 0.25mm	349.38
Sony Multiscan 100sf 15" PnP 0.25mm	397.07
Sony Multiscan 200sf 17" PnP 0.25mm	775.83
Sony Multiscan 300sf 20" PnP 0.30mm	1565.46
Sony Multiscan GDM-W900 24" 0.25mm	4404.62
ViewSonic E641 14" 0.28mm	209.35
ViewSonic E655 15" 0.28mm	294.93
ViewSonic PT775 17" 0.25mm	779.42
ViewSonic P815 21" 0.25mm	1539.04

PROCESSOR UPGRADES

intel

Pentium OverDrive Processors	
63MHz	139.96
83MHz	189.28
120/133MHz upg for 5/60, 5/66	189.00
125MHz upg for 5/75	259.37
Pentium OverDrive Processors w/MMX Technology	
125MHz upg for 75MHz	319.08
150MHz upg for 90MHz	319.08
166MHz upg for 100MHz	348.44

PC CARDS

3Com LAN PC Card combo	174.85
3Com 33.6 10BT LAN+modem	306.72
3Com 33.6 10BT LAN+modem combo	339.08
Hayes ACCURA 336	159.60
Hayes OPTIMA 336 w/EZjack	189.28
Hayes OPTIMA 56K	207.04
Motorola Montana 33.6	179.06
Motorola Manner 33.6	349.54
New Media PC Card joystick adapter	58.23
Simple 33.6 cellular	154.25
Simple 33.6 Communicator w/SimpleJack	158.21
U.S. Robotics Ethernet adapter w/XJACK	109.00
U.S. Robotics 33.6 cellular	239.00
U.S. Robotics 33.6 cellular w/XJACK	229.95
U.S. Robotics 33.6 w/XJACK	219.00
Xircom 33.6	189.55
Xircom 33.6 Ethernet 10BT	279.20
Xircom 33.6 Ethernet combo	316.91

MODEMS

Hayes

ACCURA 336 V.34 internal w/fax	119.54
ACCURA 336 V.34 external w/fax	137.60
OPTIMA 336 Business Modem internal	226.29
OPTIMA 336 Business Modem external	236.48
ACCURA 56K internal	139.31
ACCURA 56K external	169.97
ACCURA 56K speakerphone internal	158.78
ACCURA 56K speakerphone external	184.51
OPTIMA 56K internal	269.41
OPTIMA 56K external	279.73
ACCURA ISDN	249.45

HOT BUY

MAGNAVOX MV5011

$277.56* 15" monitor CDW 81224

MOTOROLA

ModemSURFR 56K internal	146.01
ModemSURFR 56K external	164.59
VoiceSURFR 56K internal	165.12
VoiceSURFR 56K external	179.78
BitSURFR Pro EZ ISDN	239.42

U.S. Robotics

Sportster Series	
Winmodem V.34 33.6 internal w/fax	105.36
V.34 33.6 internal w/fax	119.18
V.34 33.6 external w/fax	144.48
Voice V.34 33.6 internal w/fax	149.49
Voice V.34 33.6 external w/fax	175.24
56K x2 internal	197.99
56K x2 external	217.99
56K x2 Voice internal	217.99
56K x2 Voice external	237.99
ISDN 128K terminal adapter	199.65

MODEMS

U.S. Robotics

Courier Series	
V.34 33.6 internal w/fax	209.88
V.34 33.6 external w/fax	239.57
56K internal	237.78
56K external	269.91
I-modem ISDN V.34 faxmodem external	286.02
DataBurst ISDN U interface external	205.49
DataBurst ISDN S/T interface external	239.28

HOT BUY

U.S. Robotics Sportster V.34 internal

$119.18* CDW 45115

ZOOM

33.6 voice/SVD internal	98.23
33.6 voice/SVD internal	116.87
V.34I Plus 33.6 faxmodem internal	78.45
V.34X Plus 33.6 faxmodem external	99.30
56K internal	147.01
56K external	159.94

PRINTERS

brother

HL-720 laser	357.36
HL-730 laser	399.99
MFC-4550 5-in-1	799.99
MFC-6550mc 6-in-1	999.99

Canon

BJ-30 monochrome	269.38
BJC-70	297.28
BJC-240	169.00
BJC-620	399.00
BJC-4200	249.00
BJC-4550	499.00

EPSON

FX870	289.45
LQ2070	379.04
LX300	169.74
Stylus Color 400	229.00
Stylus Color 600	299.00
Stylus Color 800	449.00
Stylus 1500	469.10
Stylus Pro XL color	1499.00

HEWLETT PACKARD

HP DeskJet 340 portable inkjet printer	269.37
HP DeskJet 672C color printer	199.00
HP DeskJet 682C color printer	268.74
HP DeskJet 694C color printer	299.00
HP DeskJet 820Cse color printer	299.00
HP LaserJet 5se printer	1049.00
HP LaserJet 6Lse printer	399.00
HP LaserJet 6MP printer	878.45
HP LaserJet 6Pse printer	799.00
HP OfficeJet 570 multi-function	599.00

LEXMARK

Color Jetprinter 1020	149.98
Color Jetprinter 2030	184.05
Color Jetprinter 2050	199.26
Color Jetprinter 2070	229.19
Color Jetprinter 7000	408.41
Optra E+	379.49
Optra S 1250	1089.38
Optra S 1650	1255.23
Optra S 2450	2175.09
Optra SC 1275	3789.95

** Offer valid through 8/15/97 or while supplies last.*

800-865-4239

www.cdw.com/pwl

1996 CDW Computer Centers, Inc.
200 N. Milwaukee Avenue, Vernon Hills, IL 60061

PCW3118D 8/97

Visit CDW® on the Internet to sign up for Buyer's Edge for unadvertised specials!

a rare sales tool. it's called objectivity.

DIAMOND MULTIMEDIA — Maximum DVD Kit

■ Supports fast, rich 3D texture mapping for ultra-realistic gaming and virtual reality ■ Compatible with existing audio CDs and software CD-ROMs ■ Composite video and S-video outputs allow connection to your TV ■ Dolby Pro Logic Analog Audio and Dolby AC-3 digital audio outputs allow audio connection to your home theater or stereo speakers ■ Includes: Toshiba internal DVD-ROM drive; MPEG-2 decoder board; cables; DVD movies, games and software

$558.95 CDW 89056

Microsoft Office 97 Professional Edition Upgrade With Bookshelf Basics and IntelliMouse

For Windows 95 and NT Workstation

■ Contains five powerful Microsoft applications: Excel 97, Word 97, PowerPoint 97, Access 97 and Outlook™ 97 desktop information manager

$259.00* CDW 78405

$40 rebate!*

HOT BUY

** After $40 mail-in manufacturer rebate. Applies to upgrades from one of the following programs for Windows 95 or earlier: Microsoft Office, Professional or Standard edition, Word, Excel, PowerPoint, Access or Works. Users upgrading from competitive products do not qualify for the rebate offer.*

TRIPP LITE POWER PROTECTION — Internet Office UPS Systems

■ Protect your entire computer setup with 6 outlets (3 UPS and 3 surge) ■ Safeguard your modem/fax line with built-in RJ-11 jacks ■ Monitor UPS operating conditions with up-front, diagnostic LEDs ■ Get fingertip control over your entire system with the Internet Office 420 LP's front-panel switches ■ $25,000 Insurance Coverage

Internet Office 325 ..... **$126.50** CDW 81555
Internet Office 450 ..... **$138.20** CDW 81556
Internet Office 420 LP (under monitor)... **$165.82** CDW 71339

CDW® carries over 20,000 products! If you don't see it, Call!

COMPUTERS

TOSHIBA

Satellite & Satellite Pro Notebooks
200CDS 5/100 8MB 810MB 11.3" dual 6X CD 1299.63
420CDT 5/100 8MB 1.26GB 11.3" active 6X CD 1789.63
430CDS 5/120 16MB 1 2GB 11.3" dual 10X CD 1679.80
430CDT 5/120 16MB 1.2GB 11.3" active 10X CD 2279.16
Portege Notebooks
650CT 5/133 16MB 1.26GB 11.3" active.... 2997.53
660CDT 5/150 16MB 1.2GB 11.3" active 6X CD 4237.92
Tecra Notebooks
500CDT 5/120 16MB 1.26GB 12.1" active 6X CD 2938.18
510CDT 5/133 16MB 2.1GB 12.1" active 10X CD 3389.46
730XCDT 5/150 MMX 16MB 2GB 12.1" active 10X CD 4549.64
740CDT 5/166 MMX 16MB 2GB 13.3" active 10X CD 5589.75
Infinia Mini-towers
7161 5/166 MMX 32MB 2.38GB 12X CD ... 1649.89
7201 5/200 MMX 32MB 3GB 12X CD .. 1989.24
Equium Desktops
5160D 5/166 MMX 32MB 2.1GB 12X CD ... 1769.12
5200D 5/200 MMX 32MB 2.5GB 12X CD. 1967.76
6200D 6/200 32MB 3GB 12X CD 2359.74
Equium Mini-towers
6200M 6/200 32MB 4.3GB 12X CD .. 3248.21

AST

Ascentia Notebooks
A42 5/120 16MB 1GB 12.1" active 6X CD . 2669.88
A60 Plus 5/150 16MB 1.44GB 12.1" active 10X CD 2799.71
A70 Plus 5/150 MMX 16MB 1.44GB 12.1" active 10X CD 3269.85
J55 5/133 16MB 1GB 11.3" active 2239.97
P70 5/150 MMX 32MB 2.1GB 12.1" active 3899.84
P80 5/166 MMX 32MB 3GB 12.1" active . 4389.43
Bravo Desktops
LC 5133 5/133 16MB 1.2GB..... 865.85
LC 5133 5/133 16MB 2GB 909.13
LC 5166 5/166 16MB 1.2GB 1076.79
LC 5166 5/166 16MB 2GB 1125.05
MS 5133 5/133 16MB 1.2GB 897.28
MS 5133 5/133 16MB 2.1GB 909.13
Bravo Mini-towers
MS-T 5133 5/133 16MB 1.2GB..... 874.99
MS-T 5133 5/133 16MB 2.1GB 925.14

COMPAQ

Armada Notebooks
1120 5/100 8MB 810MB 10.4" dual 999.00
1120T 5/100 8MB 810MB 10.4" active .. 1299.00
1130 5/120 16MB 1.08GB 10.4" dual ... 1059.00
1130T 5/120 16MB 1.08GB 10.4" active... 1399.00
1510DM 5/120 16MB 1GB 11.3" dual 10X CD 1849.00
1520DM 5/133 16MB 1GB 11.3 dual 10X CD 2049.00
1550DMT 5/133 16MB 1 4GB 12.1" active 10X CD 3199.00
4110 5/100 8MB 810MB 11.3" dual 1199.00
4120 5/120 16MB 1.08GB 11.3" dual ... 1299.00
4120T 5/120 16MB 1.08GB 11.8" active... 2499.00
4130T 5/133 16MB 1.08GB 11.8" active... 2549.00
4131T 5/133 16MB 1.4GB 12.1" active ... 2849.00
7710MT 5/150 MMX 16MB 1.6GB 12.1" active 4399.00
7730MT 5/166 MMX 32MB 2.1GB 12.1" active 4999.00
7750MT 5/166 MMX 32MB 2.1GB 12.1" active 5799.00
LTE 5000 Notebooks
5300 5/133 16MB 1.35GB 12.1" active. 3399.00
5380 5/133 16MB 2.16GB 12.1" active. 3699.00
5400 5/150 32MB 2.16GB 12.1" active. 3899.00

COMPUTERS

COMPAQ

Deskpro 2000 Desktops
5133/1200 5/133 16MB 1 2GB .. 1089.00
5133/2500 5/133 16MB 2.5GB .. 1169.00
5166/1200 5/166 16MB 1 2GB ... 1209.00
5166/2500 5/166 16MB 2.5GB ... 1289.00
5200/2500 5/200 32MB 2.5GB ... 1709.00
6180/1200/CD 6/180 16MB 1.2GB 8X CD 1739.00
6180/2500/CD 6/180 32MB 2.5GB 8X CD 1929.00
6200/2500/CD 6/200 16MB 2.5GB 8X CD 2209.00
Deskpro 2000 Mini-towers
5133/2500/CD 5/133 16MB 2.5GB 8X CD 1309.00
5166/2500/CD 5/166 32MB 2.5GB 8X CD 1549.00
6200/2500/CD 6/200 32MB 2.5GB 8X CD .. 2329.00
Deskpro 4000 Desktops
5133/1620 5/133 16MB 1.62GB 1269.00
5166/1620 5/166 16MB 1.62GB .. 1399.00
5166/2500/LS 5/166 16MB 2.5GB 1479.00
5200/2500/LS 5/200 32MB 2.5GB . 1899.00
6180/1620/CDS 6/180 32MB 1.62GB 8X CD 2039.00
6180/2500/CDS/LS 6/180 32MB 2 5GB 8X CD 2109.00
6200/2500/LS/CDS 6/200 32MB 2.5GB 8X CD 2419.00
6233X/2500/CDS 233MHz Pentium II 32MB 2.5GB 2619.00
Deskpro 4000 Mini-towers
5133/1620/LS 5/133 32MB 1.62GB 1279.00
5166/2500/CDS 5/166 32MB 2.5GB 8X CD .. 1789.00
Deskpro 6000 Desktops
5166/1080/CDS 5/166 16MB 1.08GB 8X CD 1419.00
5200/2150/PDS 5/200 32MB 2.15GB PD-CD 1889.00
6180/2150/CDS 6/180 32MB 2.15GB 8X CD 2509.00
6200/2150/CDS 6/200 32MB 2.15GB 8X CD 2699.00
6200/4200/CDS 6/200 32MB 4 2GB PD-CD 2879.00
6266X/4200/CDS 266MHz Pentium II 32MB 4.2GB 3529.00
Deskpro 6000 Mini-towers
5166/2150/CDS 5/166 32MB 2.15GB 8X CD 2019.00
5166X/2150/PDS 5/166 MMX 32MB 2.1GB PD-CD..... 1909.00
5200X/4200/PDS 5/200 MMX 32MB 4.2GB PD-CD..... 3139.00
6200/4200/PDS 6/200 64MB 4.2GB PD-CD 3169.00
Presario Desktops
2100 133 24MB 2GB 8X CD..... 947.63
4160 5/150 24MB 2.1GB 8X CD..... 1099.00
Presario Mini-towers
4764 5/166 MMX 24MB 2 5GB 16X CD . 1499.00
4770 5/200 MMX 32MB 3 8GB 16X CD . 1799.00
4784 5/200 MMX 32MB 4.3GB 16X CD . 1999.00
8772 5/200 MMX 48MB 6.5GB 16X CD . 2299.00

IBM

ThinkPad Notebooks
365X 5/133 8MB 1.08GB 11.3" dual ... 1099.00
365XD 5/133 8MB 1.35GB 11.3" dual 6X CD 1795.69
365XD 5/133 8MB 1.35GB 11.3" active 6X CD 2569.92
380 5/150 16MB 1.08GB 12.1" dual 2169.96
380D 5/150 16MB 1.35GB 12.1" dual 8X CD 2468.38
380D 5/150 MMX 16MB 2.1GB 12.1" active 8X CD 3846.33
560 5/100 8MB 810MB 11.3" dual 1599.98
560 5/133 8MB 2.1GB 11.3" dual 2429.56
560 5/133 8MB 2.1GB 12.1" active. 3869.45
760ED 5/133 16MB 2.1GB 12.1" active 6X CD 4359.88

COMPUTERS

IBM

ThinkPad Notebooks
760E 5/150 16MB 2 1GB 12.1" active 3799.86
760EL 5/120 8MB 1.35GB 11.3" dual 2189.79
760XL 5/166 MMX 16MB 2.1GB 12.1" active 4679.63
760XL 5/166 MMX 32MB 2 1GB 12.1" active 4899.63
760XD 5/166 MMX 32MB 3GB 12.1" active 8X CD 5895.63
Aptiva Desktops
C8E 5/166 MMX 32MB 3.1GB 16X CD 1876.57
S8C 5/166 MMX 32MB 3 1GB 16X ... 1999.00
S9C 5/200 MMX 32MB 4 2GB 16X . 2499.00
PC300 Series Desktops
PC350 5/166 16MB 1.6GB 5 bays . 1659.63
PC350 5/166 MMX 16MB 2.5GB 5 bays 1868.69
PC350 5/200 MMX 32MB 2.5GB 5 bays . 2157.74
PC300GL Series Desktops
5/133 16MB 1 2GB 1119.22
5/166 16MB 1 2GB 1257.06
5/166 16MB 2.5GB 1339.76
5/166 16MB 2.5GB 16X CD 1576.84
5/166 MMX 32MB 2.5GB 1699.48
PC300XL Series Desktops
233MHz Pentium II 32MB 2.5GB 16X CD 2639.89
233MHz Pentium II 32MB 2 5GB 2366.39
266MHz Pentium II 32MB 4 2GB 16X CD 3049.52
266MHz Pentium II 32MB 4 3GB 16X CD 3379.75

NEC

Versa Notebooks
2530 5/133 16MB 1 08GB 12.1" dual . 1699.00
2630CD 5/133 16MB 1 44GB 12.1" dual 10X CD 1999.00
2650CD 5/150 MMX 16MB 1 44GB 12.1" dual 10X CD 2499.00
2650CDT 5/150 MMX 16MB 1.44GB 12.1" active 10X CD. 3499.00
6050MH 5/150 MMX 16MB 1.4GB 12 1" active 10X CD 3799.00
6050MX 5/150 MMX 16MB 2.1GB 12.1" active 10X CD. 4399.00
6050NT 5/150 MMX 16MB 2.1GB 12.1" active 10X CD .. 4599.00
6200MX 5/166 MMX 32MB 2.1GB 13.3" active 10X CD 5699.00
6200NT 5/166 MMX 32MB 2.1GB 13.3" active 10X CD 5899.00
PowerMate Value Series Desktops
V133e 5/133 16MB 1.2GB 1058.00
V2133 5/133 16MB 1.6GB 1175.00
V2133 5/133 16MB 2GB 8X CD 1352.00
PowerMate Value Mini-towers
V2133 5/133 16MB 1.6GB 1175.00
V2133 5/133 16MB 2GB 8X CD 1352.00
PowerMate Performance Desktops
P2166M 5/166MMX 16MB 2GB 1528.00
P2166M 5/166 MMX 32MB 3GB 12X CD... 1940.00
P2200M 5/200 MMX 32MB 3GB 12X CD .. 2293.00
PowerMate Performance Mini-towers
P2166M 5/166 MMX 16MB 2GB.. ..... 1528.00
P2200M 5/200 MMX 16MB 2GB..... 1940.00
P2200M 5/200 MMX 32MB 3GB 12X CD... 2293.00

TEXAS INSTRUMENTS

Extensa Notebooks
610CD 5/150 16MB 1.4GB 11.3" dual 10X CD 1964.67
610CDT 5/150 16MB 1.4GB 11.3" active 10X CD 2549.84
660CD 5/166 MMX 16MB 1.35GB 12.1" dual 10X CD 2699.55
660CDT 5/166 MMX 16MB 2.1GB 11.3" active 10X CD 3179.04
TravelMate Notebooks
TM6160 5/166 MMX 32MB 2.1GB 12.1" active 10X CD 4699.26
TM7060 5/166 MMX 32MB 2GB 12.1" active 10X CD 4289.59
TM7062NT 5/166 MMX 32MB 3GB 12.1" active 10X CD 4949.69

COMPUTERS

HEWLETT-PACKARD

HP OmniBook 800 Series Notebooks
800CT 5/166 MMX 16MB 2GB 10.4" active... 4145.18
HP OmniBook 5700 Series Notebooks
5/150 MMX 16MB 1.86GB 12.1" active ... 4496.09
5/166 MMX 16MB 1.86GB 12.1" active... 4749.42
5/166 MMX 16MB 1.86GB 12.1" active... 5139.51
5/166 MMX 32MB 2.79GB 12.1" active... 5759.35
HP Vectra 520 Series Desktops
520 5/133 16MB 1.2GB. 1037.26
520CD 5/133 16MB 1.2GB 8X CD 1189.42
520MCx 5/133 16MB 1.2GB 8X CD 1329.13
520 5/166 16MB 1.2GB 1157.70
520MCx 5/166 16MB 1.6GB 16X CD . 1558.06
HP Vectra 525 Series Mini-towers
525MCx 5/133 16MB 1.6GB 16X CD ... 1475.60
525CD 5/166 16MB 1.6GB 16X CD ... 1465.84
525CDT 5/166 MMX 16MB 2.5GB 16X CD... 1819.72
525MCx 5/166 MMX 24MB 2.5GB 16X CD .. 1829.48
525CD 5/200 MMX 24MB 2.5GB 16X CD... 2088.63
525MCx 5/200 MMX 32MB 2.5GB 16X CD .. 2459.78

SONY

PCV-100 5/166 MMX 32MB 2.5GB 16X CD... 1999.99
PCV-120 5/200 MMX 32MB 3.8GB 16X CD... 2199.99

FUJITSU

LifeBook 400 Notebooks
420D 5/120 8MB 1GB 10X CD 11.3" dual 1599.00
LifeBook 500 Notebooks
531T 5/133 16MB 1.3GB 10X CD 11.3" active 2499.00
535T 5/133 16MB 2GB 10X CD 12.1" active 2999.00
555Tx 5/150 MMX 16MB 2GB 10X CD 12.1" active 3799.00
LifeBook 600 Notebooks
635T 5/133 16MB 1.3GB 12.1" active... 3499.00
655Tx 5/150 MMX 16MB 1.3GB 12.1" active 3999.00

HITACHI

Mx133T 5/133 16MB 1.35GB 12.1" active 8X CD. 2799.00
Mx150T 5/150 16MB 2 1GB 12.1" dual 8X CD 4399.00
Mx166T 5/166 16MB 2.1GB 12.1" active 8X CD 4399.00

SAMSUNG ELECTRONICS

5/120 16MB 1.44GB 12.1" active ... 2699.00
5/150 16MB 2.1GB 12.1" active 6X CD 3799.00

CDW® TELEPHONE HOURS
Sales
Monday-Friday 7 a.m.-9 p.m. CT• Saturday 9 a.m.-5 p.m. CT
Tech Support for Customers
Monday-Friday 9 a.m.-9 p.m. CT• Saturday 9 a.m.-5 p.m. CT

BUY WITH CONFIDENCE
CDW® IS A NASDAQ TRADED COMPANY
TICKER SYMBOL CDWC D & B rated 5A1 Duns 10-762-7952

VISA MasterCard

Credit card charges are not submitted until time of shipment. For your protection we ship only to your credit card's verified billing address. Freight is calculated as the carrier's actual freight charge plus insurance and packaging material. The cost of insurance is 0.35% (0.0035) of the order total. Packaging materials will not exceed $4.00 for single package shipments or $6.00 for multi-package shipments. Before returning any product, you must obtain an RMA number. Non-defective returns are subject to a restocking fee. Software, chips and other electronic components are not returnable. Allow 10 business days for shipping when paying by personal check. All pricing subject to change. For all prices, products and offers, CDW reserves the right to make adjustments due to changing market conditions, product discontinuation, manufacturer price changes, errors in advertisements or other extenuating circumstances. All trademarks and registered trademarks are the sole property of their respective owners.

COMPUTER DISCOUNT WAREHOUSE™

CDW® offers toll-free technical support!

800-865-4239

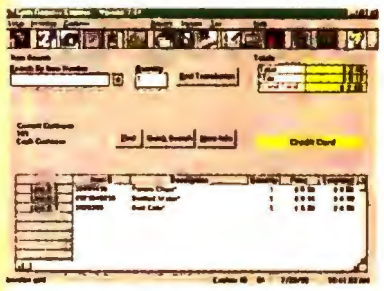
www.cdw.com/pwl

200 N. Milwaukee Avenue, Vernon Hills, IL 60061

Circle 63 on reader service card.

Cash Register Express Software
for Windows...$495

Computerize any type of retail store using Cash Register Express for Windows. Computerization pays for itself, saving you thousands of dollars, giving you peace of mind, and making the best use of your time. Cash Register Express



has more than 250 of the most desired point of sale features to help you leapfrog past your competition by controlling costs, reducing errors and increasing efficiency.

More Software for Your Retail Store

- Video Express
- Salon Express
- Auto Express
- RestaurantPro Express
- Barcode Express
- Label Works
- Inventory Track Express
- Credit Card Software
- All Single or Multiuser

All PC America Software requires Microsoft Windows. The software was written in Visual Basic using Microsoft Access Files. The source code is available.

CASH REGISTER EXPRESS™

More Profit!

More Sales!

More Customers!

Save Time, Reduce Theft, Speed Checkout, Increase Accuracy, Reduce Costs, Make Better Business Decisions by computerizing your Retail Store.

Barcode Scanners ~~$495*~~
Metrologic, Symbol, NJCR, Percon, PSC

Receipt Printers ~~$299*~~
Star, Ithaca, Citizen, Epson

Barcode Printers ~~$799*~~
Cognitive Solutions Barcode Blaster

Pole Displays ~~$289*~~
Logic Controls

Cash Drawers ~~$189*~~
MMF, Logic Controls, Indiana, APG

Programmable Keypads ~~$495*~~
Logic Controls, Cherry, Genovation

Credit Card Readers ~~$189*~~
Unitech, Mag-Tek

*All prices depend on make and model.

Portable Data Collectors ~~$695*~~
American Microsystems AMS3000

Dealers Wanted!

Join our dealer program. It's **FREE**. It's the fastest way to make money...**AND** we make it **EASY**.

MORE INFO?

- Call Toll Free 1-800-722-6374
- www.pcamerica.com
- Fax on Demand 1-914-267-3551

1-800-PC-AMERICA

Call Toll Free 1-800-722-6374
PH: 914-267-3500
FX: 914-267-3550

PC America
60 N. Harrison Ave.
Congers, NY 10920

Circle 195 on reader service card

MIDWEST COMPUTER WORKS

Where Corporate America Shops!

✓ Knowledgeable Sales Staff ✓ Fast Delivery ✓ Quality Top Name Brands ✓ Technical Support

MEMORY $6.50 per MB

TAKE ADVANTAGE OF THESE "HOT" SUMMER SAVINGS BEFORE THEY ARE GONE!

YOUR COMPLETE COMPUTER SOURCE!

NEW Lightweight Notebooks!

TOSHIBA Portege 300CT

MMX NEW!

- MMX Pentium® 133MHz
- 10.4" Active Color Display, 800x600
- 32MB EDO RAM exp. 64, 1.6GB HDD
- 64-bit HiQVideo Graphics Controller
- 33.6Kbps V.34 Voice/Data/FAX Modem, Full-Duplex Speakerphone, Weighs 3.8 lbs.
- PC Card Slots, 2 Type II or 1 Type III
- Sound Blaster Pro Audio, IrDA Port
- AccuPoint integrated pointing device
- Lithium Ion Battery, 3 Year Warranty

$3389

Only 3.8 lbs!

TOSHIBA Libretto 50CT Mini-Notebook

- 8.1" TFT Display 600x480 Resolution
- 75MHz Pentium, 16MB EDO RAM (exp. 32MB)
- 722MB IDE HD, External 3.5" Type II PC Card
- Graphics Controller with 1MB EDO DRAM
- SoundBlaster Pro Audio, Lith-Ion Battery, 1.5-2 hrs
- Preinstalled Software: Windows 95, Puma TranXit, Microsoft Internet Explorer, Toshiba Utilities and Accessories, Hypertext On-line Documentation, and Run-time Video for Windows
- FULL-FUNCTION WINDOWS 95 MINI-NOTEBOOK!

$1949

Only 1.85 lbs!

TOSHIBA Satellite Pro 440CDX

NEW!

- MMX Pentium® 133MHz
- 12.1" TFT FastScan (800x600)
- 16MB exp.144, 1.4GB HD, 10xCD
- 33.6 Kbps voice/data/fax Modem
- Li-Ion Battery, 256 L2 Cache
- 3 Yr. Warranty, 16-bit Audio

Lease It! $111 a month

MMX Zoomed Video Support!

$3299

New & Improved Toshiba Releases!

Satellite 220CDS - 12.1" DS, P-133 16MB 1.4GB 10X...$1919

Tecra 740CDT - 13.3" TFT, P-166MMX 16MB 3.0GB 120X 33.6.. $6379

AMS Tech TravelPro 2030CX

NEW!

- Pentium 200MHz MMX
- 13.3" XGA TFT Color
- 48MB EDO RAM, 2MB VRAM
- 3.1GB IDE HDD, Fast Infrared Port
- 33.6Kbps Voice/Data/Fax Modem
- 16X CD-ROM Drive
- 16-bit "REAL SOUND" Wave Table Synthesis
- Built-In Video Capture, Zoomed Video Support
- Type III PC Card Slot
- 3 Year Limited Warranty

MMX **$4929**

AMS Introduces 13.3" XGA TFT Display loaded with 48MB RAM, 3.1GB Hard Drive and a 16X CD Drive!

THE NOTEBOOKS YOU WANT AT THE PRICES YOU NEED!

US Robotics

2 56Kbps modem

56Kbps x2 XJACK PC CARD MODEM (XJ1560)

$259

- x2 Technology for up to 56K download capability, plus 28.8 & 33.6Kbps S/R capability
- Built-in Megahertz XJACK connector to connect to standard phone line
- Caller ID/Telephone Answering Machine Features
- Hot-Swappable Auto Install
- Digital Line Guard for power protection
- FREE Data & Fax Software

NEC Versa 2650CD

NEW!

$2399

- MMX Pentium® 150MHz Processor
- 12.1" DS Display, 16MB RAM
- 1.4GB HD, 10X CD, 33.6Kbps Modem
- 16-bit Sound Blaster Pro Audio
- Type II/Type III PC Card Slots
- NiMH Battery, 2 Year Warranty

MMX

IBM ThinkPad 380D

$2439

- Pentium® 150MHz Processor
- 12.1" DS Display
- 16MB RAM, 1MB VRAM
- 1.35GB HD, 8X CD
- 16-bit Sound Blaster Pro Audio
- Type II/Type III PC Card Slots
- NiMH Battery, Full-size Keyboard
- 1 Year Warranty

NEW!

AST COMPUTER Bravo LC 6233 Mini-Tower (Pentium® II 233MHz)

NEW!

- MMX Pentium® II 233MHz, 32MB RAM exp. 384, 2MB VRAM
- 2.0GB IDE HD, 7 drive bays for expansion
- PCI-based S3 Virge DX 3D Graphics, 1600x1200 @ 256 Colors
- AST CommandCenter Utilities (McAfee VirusScan, Intel LANDesk Client Manager 3.0, Hot Metal Light, McAfee WebScan

Lease It! $80 a month

intel inside pentium II

$2259

SHARP PC-9800T

MMX

- Pentium® MMX 166MHz Processor
- 12.1" TFT Display (1024x768 Res.)
- 32MB EDO RAM, 2MB VRAM
- Removable EIDE 2.1GB HD
- Removable 10X CD-ROM Drive
- 16-bit Sound
- Type II or III PC Card Slot
- IrDA Infrared Communication
- 33.6Kbps Voice/Fax Modem
- 3 Yr. Parts/Labor Warranty, 1 Yr. SharpFast Instant Exchange Warranty

1 Year INSTANT SHARPFAST Exchange Warranty

$3999

Lease a MMX Notebook Starting at $92 a Month!!

ADI America Duo Multimedia Display

- 17" (16" Viewable) Flat Square Tube, Dark-tinted Display
- 1280x1024 @ 60Hz Resolution
- .28 Trio Dot Pitch, Anti-glare/Anti-static Coating
- DuoSurround DuoDome Stereo Speaker System
- Video, Audio and Headphone Input Ports
- On-Screen Controls, Energy Compliant

FREE Duo Keyboard, EroPad and Mouse!

$595 New!

UMAX Astra 600S Scanner

- 300x600dpi Optical, 4800x4800dpi Interpolated
- Presto PageManager, VistaScan Color Software
- 1-pass Cold Cathode Lamp Technology
- SCSI II interface

30-Bit Colort

$245

Graphics for Professionals!

APC Back-UPS Office

UPS + ALL IN ONE!
$25,000 Guarantee

$199 CALL for best price!

YOUR APC HEADQUARTERS!

MAIL-IN REBATE Order Now & SAVE $30. Expires 8/30/97

- Full-time Surge Suppression, Site-wiring Protection
- Internet Ready Fax/Modem Protection
- 1D Min. of Battery Backup

US Robotics 2 56Kbps modem

Sportster 56K Ext. Faxmodem

Sportster 56K allows Internet/Online users to download information from x2-capable service providers at up to 56Kbps while uploading information (like web addresses) at up to 33.6 Kbps.

- x2 Technology for up to 56Kbps Internet download capability, plus 28.8 and 33.6 Kbps send and receive
- Fax: V.17 Group III 14,400 & 9600bps send/receive fax
- Maximum Throughput 115.2Kbps with compression
- Automatically selects x2 or V.34/33.6Kbps
- Universal Compatibility down to 300bps
- 5 Year Limited Warranty

$249

CALL for best price!

NOTEBOOKS

AMS

5CS P-150 1.3G 16M 12.1" DS 12X 33.6	1999
5CT P-150 1.3GB 16M 12.1" TFT 12X 33.6	2592
5CT P-120 1.0G 16M 12.1" TFT	2525
8CT P-133 1.3G 16M 12.1" TFT	2999
8CS MMX-P166 2.1G 16M 12.1" DS	2599
8CT MMX-P166 2.1G 16M 12.1" TFT	2999
55CT MMX-P166 1.3G 16M 12.1" TFT 10X	3189
65CT MMX-P166 1.3G 16M 12.1" TFT 10X	3496
2000CX P-150 2.1G 16M 13.3" TFT 33.6	3799
2010CX MMX P166 2.1G 32M 13.3" TFT 33.6	4399
2020CX MMX-P200 2.5G 32M 13.3" TFT 33.6	4699
2030CX MMX-P200 3.1G 48M 13.3" TFT 33.6 16x	4929

AST

0 P-133 1G 24M 12.1" TFT 28.8 4xCD	3582
0 P-133 3G 32M 12.1" TFT 28.8 10xCD	4489

COMPAQ

ada 4131T P-133 1.4G 16M 12.1" TFT	2956
ada 1510DM P-120 11.3" DS 1.08G 10x	1399
ada 1550DMT P-133 12.1" TFT 1.4G 16M 10x	3451
5380 P-133 2.1GB 16M 12.1" TFT	3649
5400 P-150 2.1G 32M 12.1" TFT	3839

DPS

CDT P-150 2.1G 16M 12.1" TFT 10X	3399
CDTX MMXP-166 2.1G 16M 12.1" TFT 10X	3739

HITACHI

3DN P-133 1G 16M 11.3" DS	1269
P133T 1.35G 16M 12.1" TFT 8xCD 33.6	2589
P166T 2.1G 16M 12.1" TFT 8xCD 33.6	4099

IBM

X P-120 810M 8M 10.4" TFT	1269
XD P-133 1.08G 8M 11.3" DS	1379
760EL P-133 2.1GB 32M 12.1" TFT	5249
760ED P-133 2.1GB 16M 12.1" TFT CD	4469
760XD MMXP-166 3GB 32M 12.1" XGA 8X	6299

NEC

OCDT MMXP150 1.4G 16M 12.1" DS	2399
OMX P-150 2.1GB 16M 12.1" TFT 10X 33.6	4489
OMX MMXP166 2.1GB 32M 13.3" XGA 10X 33.6	5419

SHARP

9300D P-150 1.44G 16M 12.1" DS 10xCD	2199
9300T P-150 1.44G 11.3" TFT 10xCD 33.6	2979
9800T MMX-P166 2G 32M 12.1" TFT 10X 33.6	3999

TEXAS INSTRUMENTS

TP-133 1.35G 16M 11.3" TFT	2492
900CDT P-133 1.35G 16M 11.3" TFT 8X	2999
660CDT MMX-P166 2.1G 16M 11.3" TFT 10X	3178

TOSHIBA

500CS P-120 1.2G 16M 12.1" DS	1789
500CDT P-120 1.2G 16M 12.1" TFT 8xCD	2589
510CDT P-133 2.0G 16M 12.1" TFT 10X 28.8	3349
650CT P-133 1.2G 16M 11.3" TFT	3579
660CD MMX-P166 1.3G 16M 12.1" TFT 10X	2699
660CDT P-150 1.3G 16M 11.3" TFT	4369
730XCDT MMX-P 150 2.0G 16M 12.1" TFT 10X 28.8	4694
740CDT MMX P166 2G 16M 13.3" TFT 10X 33.8	5699
New! 740CDT MMX-P166 3G 16M 13.3" TFT 10X 33.6	6379
New! 220CDS P-133 1.4G 16M 12.1" DS 10X	1919
New! 300CT MMX-P133 2.1G 32M 10.4" TFT 33.6	3388
New! 440CDT MMX P133 1.4G 16M 12.1" TFT 10X 33.6	2419
New! 440CDX MMX-P133 1.4G 16M 12.1" TFT 10X 33.6	3299
New! 460CDT MMX-P166 2.1G 16M 12.1" TFT 10X 33.6	4169
New! 520CT MMX-P166 2.1G 32M 12.1" TFT 10X 33.6	4549
New! 530CDT MMX-P166 2.1G 32M 12.1" TFT 10X 33.6	4929

NETWORKING

3COM Etherlink IIIB ISA 10BT TPO	66
3COM 3C905TX PCI / 5-pack	89/421
3COMSuperstack II 12-pt Hub/24-pt Hub	248/379
Antisoft Lantastic V7.0 1-user/5-user	86/319
Drg ALL MODELS IN STOCK	CALL TODAY!
Intel EtherExpress Pro 10+	89
Intel EtherExpress Pro 10/100TX PCI	83
Linksys EtherFast 10/100BT TX LAN	74
Linksys Workgroup Hub 10-port/20-port	105/186
Netgear EN104 4-port 10BT Hub	68
Netgear EN116 E-net 16-port 10BT Hub	178
Netgear FE508 100B-TX 8 PORT	649
Novell NetWare 4.1	Call
Novell INTRANETWARE 10-user	1399
Novell IntranetWare for Small Business 5-user	223
Pacific Data 10BT Print Server for HP LJ 4	279
SMC EtherEZ 8416T / 5-pack	86/399
SMC EtherEZ PCMCIA	129
Trendware TE 16PnP Plug-n-Play Combo ISA	35
Trendware TE-200CT PCMCIA II Combo RJ45	99
Xircom NextGeneration E-net 10/100 Ready	143
Xircom 10BT/33.6 Combo	274

VIDEO CAPTURE

AITech Pro PC TV Plus / Wavewatcher nTV-2	139/268
ATI All-in-Wonder (TV Tuner Video Capture, & TV set display)	269
Creative Sharevision PC3000	389
Intel SmartVideo III	172
TrueVision Targa 1000	1979
Sigma Real Magic Ultra MPEG	294

POWER PROTECTION

APC Back-UPS 250/500/650	89/145/189/237
APC Back-UPS 900/1250	339/449
APC Back-UPS Pro 280/420/650	140/230/280
APC Smart-UPS 420 VS, 650 VS / 1000 VS	259/295/435
APC Smart-UPS 450/700/1400/2200	275/338/594/1029
APC Back-UPS Office 250 $30 Rebate	Call

SCANNERS

HEWLETT PACKARD

ScanJet 4S / ScanJet 4SI	192/2359
New! ScanJet 5P/ ScanJet 4C	369/749
New! ScanJet Office 3000dpi Printing, 24-bit Clr	659

MICROTEK

New! PageWiz Color (scan fax copy in color)	149
ScanMaker E3 w/Imagestar Price Drop!	185
ScanMaker III 36-bit w/Full Photoshop	1319

POLAROID FILM SCANNERS

Sprint Scan 35/LE Best Buy!	729

UMAX

New! PageOffice Color IIC (detachable head)	199
Astra 300P 3000dpi 24-bit w/Photodeluxe	199
Astra 600S 3000dpi 30-bit w/Photodeluxe	245
Astra 1200S 600x1200dpi w/imaging software	Call
New! PowerLook II PS w/Photoshop Full	1299

MONITORS

ADI

ProVista 14" SVGA 1024x768 28mm	193
MicroScan 4V 15" 1280x1024 28mm	279
MicroScan 5V 17" 1280x1024 25mm	479

EIZO

FlexScan TXC7S 17"	989

MAG INNOVISION

DJ530 15" 1280x1024 .28mm	319
DX700T 17" 1280x1024 .25mm	639

MAGNAVOX

7BM749 14" Mono 720x400	109
CM2099 14" 1024x768 .24mm	219
MV5011 15" 1024x768 .24mm (digital)	289
MB7000 17" 1280x1024 .24mm	519
CM5600 20" 1600x1280 .24mm (digital)	1029

MITSUBISHI

Diamond Pro 91TXM 21" 1600x1200 .28	1429
Diamond Scan 20H 20" 1280x1024 .28	1199

NEC

P750 17" 1600x1280 .25mm	839
E71U0 21" 1600x1280 .26mm	1519
New! Courier V Everything 56K int.	255
Sportster 28.8 Winmodem Internal	89
Sportster Voice x2 56K Faxmodem int. ext.	219/239
Sportster 33.6 V.34 int./ext.	125/145
Sportster PCMCIA 2.1 28.8 w/fax V.34	199
Sportster x2 56K Faxmodem int.	199
Sportster x2 56K Faxmodem ext.	219

NOKIA

445X/1258 21" 1600x1280 .25mm	1669

PANASONIC

Panasync S17 17" 1024x768 .27mm	577
Panasync E21 21" 1600x1200 .25mm	1299

SONY

CPD-100SX 15" 1280x1024 .25mm	367
CPD-100SF 15" 1280x1024 .25 (digital)	389
CPD-100VS 15" 1280x1024 w/Speakers	479
CPD-220VS 15" 1280x1024 w/Speakers	829
CPD-200SX 17" 1280x1024 .25mm	639
CPD-200SF 17" 1280x1024 .25mm (digital)	739
GDM-17SE2T 17" 1600x1200 .25mm*	829
CPD-300SFT 20" 1280x1024 .30mm TCO	1549
GDM-W900 24" 1920x1200 .25mm	4349

VIEWSONIC

New! VP140* 14" ViewPanel 1024x768	2379
17EA 17" 1280x1024 .28mm w/speakers	589

VISIONMASTER by HYAMA

MT 9017E 17" 1600x1200 .25mm	695
MT-9021E 21" 1600x1200 .28mm	1415

MULTIMEDIA

Creative Labs Awe 64 Gold, 4MB	223
Creative Labs Discovery 12X Kit w/SB 32	283
Altec Lansing ACS500 5-Channel Dolby Speakers	299
Labtec 3210 20-watt Speakers	82
Sony SRS-PC51 5W / SRS-PC91 10-w	63/126
Creative Sound Blaster 16 Value (DE Card	89
Creative Labs Goldstar 16X	58
Creative Sound Blaster 64 AWE PnP Card	189
Media Wavjammer PCMCIA 16-bit	199

DIGITIZERS

Altek XGT 12X12 16button 12x18	249 / 429
Wacom Artpad II 4x5 w/ Dabbler / 12x12 cordless	149 /409

PLOTTERS

Calcomp

TecJET Designer 720C 24" Color Inkjet	2019
ALL HP MODELS IN STOCK	CALL

MODEMS

Boca Express 14.4 int. w/Fax / Voice	49/77
Simple Tech communicator Simplejack 33.6	165

U.S. ROBOTICS

Megahertz XJ4336 33.6 V.34 (cellular capable)	228
Megahertz XJ4288 XJack 28.8 PC Card V.34	229
New! Courier V Everything 56K int.	255
Sportster 28.8 Winmodem Internal	89
Sportster Voice x2 56K Faxmodem int. ext.	219/239
Sportster 33.6 V.34 int./ext.	125/145
Sportster PCMCIA 2.1 28.8 w/fax V.34	199
Sportster x2 56K Faxmodem int.	199
Sportster x2 56K Faxmodem ext.	219

DRIVES

CD-ROM DRIVES

Microsolutions Parallel Port 4X/8X	189/269
Toshiba Internal 15X SCSI-2	199
Panasonic KXL-783A PCMCIA Kit w/sound	369
Plextor 20/12Plex ext/int. SCSI	223/319

CD RECORDABLES

HP Surestore 6020 6X2 int./ext.	449/539
Pinnacle Micro RCD 4x4 int./ext.	839/929
Smart & Friendly 4006 6x4 int./ext.	819/929

REMOVABLE STORAGE

IOMega Ditto 2G int. (*After $50 Mail-in Rebate, exp. 7/31)	99*
IOMega Ditto 2G par. (*After $50 Mail-in Rebate, exp. 7/31)	143*
IOMega Ditto 3.2G int. (*After $50 Mail-in Rebate, exp. 7/31)	165*
IOMega Zip / JAZ 1 GB int.	159/286
Pinnacle Micro Apex 4 6GB	1459
Syquest EZ-Flyer 230 Par /Syet 1.5GB int.	189/359
Seagate 4mm DAT 8GB int./ext.	849/949
Seagate Tapestor 3.2G ext. parallel	192
Seagate Tapestor 4G ext. SCSI	445
Sony Stor Station 2G (w/Navigator Software)	129*
Sony Nice 5200 int./ext.	689/799

HARD/FLOPPY DRIVES

Teac 3.5" Floppy Drive	39
Micropolis 4.5GB Ultra 4345NS	759
Quantum Firebail 2.1GB FATA / TM 3.6G	179
Quantum Firebail TM 3200 3.2G	239
Maxtor EIDE 3GB	229
Seagate Hawk ST32151W 2.1GB SCSI-2	499
Western Digital Caviar AC22100 2.1G / 3.1G	209/269

CONTROLLERS

Adaptec AHA-1520B/AHA-1540CP	62/179
Adaptec AHA-2742 SCSI-2 EISA w/Flop Kit	279
Adaptec AHA-2940UW PCI SCSI-3 Master Kit	281
Boca IDE 2-HDD, 2-FDD IDE002	29
GSI Model 18 Ide Controller / 2C 4-IDE	39/49

VIDEO BOARDS

ATI 3D Graphics XPression + PC2TV 2MB	119
Diamond Stealth 3D 2200XL / Monster 3D	79/179
Matrox Millennium 3D PCI 2MB/4MB	159/197
Matrox Mystique PCI 2M & 4M	114/135

PRINTERS

ALPS

MD-2010 Color / MD-4000 Clr + Scanner	339/537

CANON

BJC-240/BJ-30 /BJC-70	163/255/289
BJC-4200/4550 / BJC-620	239/451/315

EPSON

New! Stylus Color 400 / 600 / 800	225 / 288 / 419

FARGO

Primera Pro 600x300 dye-sub	1289
Primera Pro Postscript w/ Photoshop	1799

HEWLETT PACKARD

DeskJet 1000CXI, 6ppm, 600dpi	469
DeskJet 820CXI, 8ppm, 600dpi 870CXI	279/379
DeskJet 1600C/DeskJet 1600CM	1299/1899
LaserJet 4V/4MV 16ppm 600dpi 11x17	1759/2539
LaserJet 6LXI 6ppm 600dpi IN STOCK!	385
LaserJet 5,12ppm 4MB	999
LaserJet 5M, 12ppm 6MB 600dpi	1529
LaserJet 5N, 12ppm 600dpi, e-net	1289
LaserJet 5Si/LaserJet 5Si MX 24ppm	2649/3399
Sysquest EZ-Flyer 230 Par /Syet 1.5GB int.	729
LaserJet 6MP 8ppm 600dpi Postscript	879
Color LaserJet 5, 10ppm 20MB 300dpi	3859
Copyjet Color Inkjet	1391

LEXMARK

Call For Pricing On Lexmark INKJET Printers!	
Optra R+ 12ppm 2MB 1200dpi	999
Optra RN+ 16ppm 4MB 1200dpi	1209
Optra 1650 16ppm 4MB 1200dpi	1119

OKIDATA

Turbo 184/320/321/520/521	225/315/442/379/489
600e/610e/610ePS/OL1200	397/489/699/984

PANASONIC

KXP-4440, 10ppm parallel	1019
KXP-6100 300dpi / KXP-8500 600dpi	286/329

OMS

Magicolor CX Laser, 20M, 12ppm 600dpi	4999

DESKTOPS

AST

Bravo LC 6233 Pentium-2 233MHz 2.0G 32M	2292
Bravo MS P-166 2G 16M 8x	1263
Bravo 5166M P166MMX 32M 2G 16X	1719
Bravo MS-T, PPro-200, 2.5G 32M 8X Win NT	1999

COMPAQ

Deskpro 2000 P-120 1.2G 8MP-133, 1.2G 16M	1036/1379
Deskpro 2000 P-166 1.2G 16M	1389
Deskpro 4000 P-133, 1.6G 16M 8x-net	1619
Deskpro 4000 P-166, 2.5G 16M	2052
Deskpro 4000 Pentium-2 266MHz 2.5G 32M 8X	2549
Deskpro 6000 P-166 1.08G 16M 8x e-net	2090
Deskpro 6000 Pentium-2 266MHz 4.2G 32M 6X	3399

HEWLETT PACKARD

Vectra VL5 DT P-166 MMX 16M 1.6GB	1469
Vectra XA DT PP 200 2G 32M 16X 10/100BT	3589
Vectra 525 MCX MT P-166MMX 24M 2.5GB 16X	1989
Vectra 525 MCX MT P-200MMX 32M 3.8GB 16X	2679

IBM

PC350 P-166MMX 2.5G 16M	1499
PC330 P-200MMX 2.5GB 32M	1978
New! PC300XL Pentium-2 233MHz 2.5G 32M 16X NT	2629

SERVERS

AST Servers

Manhatten D, P-200MHz, 4G 32M	3479
Manhattan CP PP200 64M 10BT 2G 4X	6798

Compaq Servers

Prolinal 800 PPro-180 4 3G 32M	3479
Prolianl 2500 P Pro200 4 3G 32M	4799

Hewlett Packard Servers

New! Netserver E-40 PP-180 2.1G 16M 8X	2596
New! Proserva SH PP200 NoHD 128M 4X	11,099

IBM Servers

New! PC Server PPro200 128M NoHD 4X	1299
PC Server 720 P-166 128M NoHD 4X	11,999

MULTIMEDIA PC'S

AST Adventure P-133 16MB 1GB 8X 33.6	999
New! AST Advantage 9404 MMX P200 3G 32M 16X	1879
AST Advantage 9406 MMX-P200 4.0G 64M 16X	2333
Compaq Presario 4784 MMX-P200 4.3G16M+zip	2299
IBM Aptiva S78 P-166, 3.2G 16M 6xCD	2289

SONY

Vaio PCV-100 MMX-P166, 2.5G 32M, 28.8 16xCD	1699
Vaio PCV-120 MMX P200, 3.8G 32M, 28.8 16xCD	1999

TOSHIBA

Equium 5160d P-166MMX 2.1GB 12X 32M	1749
Equium 5200D P-200MMX 2.5GB 12X 32M	1949
Equium 6200M PP-200 4.3GB 32MB 12X WIN NT	3199

Easy Payment Methods! • Leasing Available • Purchase orders accepted from educational institutions, federal & state agencies and approved corporations. • C.O.D's welcome.

Visit Us On The Web! http://www.mcworks.com

800-65-WORKS 9 6 7 5 7

Office Hours Monday-Friday 8am-7pm CST

24-HOUR FAX 847-367-8540

International Line 847-367-6519

MasterCard VISA DISCOVER NOVUS

Policy Information

• No surcharge for credit cards • All prices subject to change • Orders outside the USA require payment by wire transfer or American Express • We check for stolen credit cards • All returns for credit, repair or exchange must have a "RA" number issued by our customer service department. • Returned merchandise may depend on manufacturer policy • Returned merchandise must be in good condition and shipped to our main warehouse located at: 600 Bunker Court, Vernon Hills, IL 60061

Circle 169 on reader service card

DIRT CHEAP DRIVES

1-800-637-4743

Celebrating our 10th year!
Low Low Prices!
We stock what we sell!

Smart STORAGE

BEST BUY CD RECORDERS
TOLL FREE SUPPORT
5 FREE DISKS

2x6 SCSI CD ROM RECORDER	
• Packet write compatible, tray loading Drive Kit	$379
Complete Kit with ISA controller	$419
Complete Kit with PCI controller	$489
4x6 SCSI CD ROM RECORDER	
• Packet write compatible, tray Loading Drive Kit	$699
Complete Kit with ISA controller	$739
Complete Kit with PCI controller	$809
2x8 IDE CD ROM RECORDER	
• Packet write compatible, tray Loading Drive Kit	$439
Complete Kit with ISA controller	$469
NEW 2x6 SCSI CD ReWritable!	
• CD-R and CD-RW compatible	
• Includes 5 rewritable disks	
Drive Kit	$699
Complete Kit with ISA controller	$739
Complete Kit with PCI controller	$809

(Drive kit - requires controller)

We will not be undersold on CD media!

	Alone	with CDR
CDR-74 (with jewel case)		
5 pack (CDR74-5)	$32	$29
20 pack (CDR74-20)	$95	$91
50 pack (CDR74-50)	$222	$217
100 pack (CDR74-100)	$424	$415
CDR-74 (no jewel case)		
50 disk spindle (CDR74S-50)	$225	$220
CDR-74W (ReWritable)		
5 pack (CDR74W-5)	$140	$130
20 pack (CDR74W-20)	$480	$470
50 pack (CDR74W-50)	$1150	$1130

Call for larger quantity pricing.

Converts any 3 1/2" hard drive into a removable drive. Great for transportability, data interchange, or security needs. Mount any 3.5" IDE or SCSI drive in the supplied cartridge, and the frame in a 5.25" drive bay in your computer and you are ready for transportability. Extremely high quality construction. Features built in cooling fan, SCSI ID switch.

		Extra frame	Extra cartridge
IDE	**$79**	**$49**	**$39**
SCSI	**$85**	**$54**	**$40**
WIDE SCSI	**$129**	**$75**	**$64**
Weather resistant cartridge carrying case			**$30**

High quality external storage solutions available in parallel or PCMCIA (type 2) interface.

Hard Drive	Parallel	PCMCIA
1.6GB	$319	$419
2.5GB	$369	$469
3GB	$419	$519
4GB	$519	$619
5GB	$599	$699
CD ROM		
16X	$189	$289
24X	$209	$309

iomega 1Gig JAZ SALE

Internal SCSI with 1 disk $288
External SCSI in our case with 1 disk $348
External SCSI in Iomega case with 1 disk $388
Disks Qty 2-4/5-9/10+ $87/$85/$82

IDE HARD DRIVES

IDE	RPM	Brand	Model	Price
1200MB	5400	Fujitsu	M1636T	$169
1275MB	4500	Seagate	ST31277A	$179
1281MB	5200	Western Digital	AC11200	$175
1300MB	4200	JTS	JTS1300	$169
1624MB	5200	Western Digital	AC21600	$186
1670MB	4480	Maxtor	MB1750A	$195
1700MB	**5400**	**Fujitsu**	**M1623T**	**$179**
1700MB	4500	Seagate	ST31720A	$185
1750MB	4480	Maxtor	MB1750A	$190
1750MB	5400	Fujitsu	MPA3017A	$185
2000MB	4500	JTS	JTS2000	$180
2100MB	5400	Fujitsu	M1624T	$199
2000MB	5200	Western Digital	AC22000	$203
2100MB	4480	Maxtor	MB2100A	$200
2132MB	4500	Seagate	ST32132A	$197
2151MB	5400	Quantum	FB32160A	$199
2187MB	4480	Maxtor	MB2187A	$218
2500MB	**5400**	**Fujitsu**	**M1638T**	**$199**
2500MB	5200	Micropolis	MC4525A	$199
2559MB	5200	Western Digital	AC22500	$217
2560MB	5400	Seagate	ST52520A	$217
2560MB	5400	Maxtor	MB2560A	$216
2620MB	5400	Fujitsu	MPA3026A	$209
3000MB	4500	JTS	JTS3000	$229
3166MB	5200	Western Digital	AC33100	$243
3228MB	5400	Quantum	FB33240A	$259
3245MB	4500	Seagate	ST33240A	$247
3500MB	4480	Maxtor	MB3500A	$265
3500MB	5400	Fujitsu	MPA3035A	$249
4000MB	5200	Western Digital	AC34000	$312
4000MB	**5200**	**Micropolis**	**MC4540A**	**$309**
4310MB	5400	Quantum	FB34320A	$325
4326MB	4500	Seagate	ST34340A	$310
4335MB	3600	Quantum	BF4335A	$230
4370MB	5400	Fujitsu	MPA3043A	$355
5000MB	**5200**	**Micropolis**	**MC4550A**	**$385**
5120MB	5400	Maxtor	MB5120A	$395
5250MB	5400	Fujitsu	MPA3052A	$395
6448MB	5400	Quantum	FB36480A	$455
6450MB	5400	Seagate	ST56450A	$475
6480MB	3600	Quantum	BF6480A	$372

SCSI HARD DRIVES

Add a DPT 2044U Ultra SCSI controller $249

SCSI	RPM	Brand	Model	Price
1050MB	5400	Seagate	ST31055N	$269
2150MB	5400	Seagate	ST52160N	$305
2150MB	7200	Seagate	ST32171N	$509
2151MB	5400	Quantum	FB32160S	$287
3228MB	5400	Quantum	FB33240S	$355
4100MB	**7200**	**Micropolis**	**MC4341**	**$599**
4300MB	5400	Micropolis	MC4743	$449
4310MB	5400	Quantum	FB34320S	$417
4350MB	7200	Seagate	ST34371N	$759
4400MB	7200	Fujitsu	M2954S	$629
4550MB	7200	Micropolis	MC4345	$629
4550MB	7200	Micropolis	MC4345AV	$779
4550MB	7200	Quantum	XP34550S	$755
4550MB	10,000	Seagate	ST34501N	$929
6448MB	5400	Quantum	FB36480S	$565
9100MB	**7200**	**Micropolis**	**MC3391**	**$1050**
9100MB	7200	Fujitsu	M2949S	$1050
9100MB	7200	Quantum	XP39100S	$1215
9100MB	7200	Micropolis	MC3391AV	$1200
9100MB	7200	Seagate	ST19171N	$1295
9100MB	10,000	Seagate	ST19101N	$1599
23300MB	5400	Seagate	ST423451N	$2799

WIDE HARD DRIVES

Add a DPT 2044UW Ultra Wide SCSI controller for $279

WIDE	RPM	Brand	Model	Price
1050MB	5411	Seagate	ST31055W	$349
2150MB	7200	Seagate	ST32171W	$539
4294MB	**7200**	**Micropolis**	**MC3243W**	**$629**
4294MB	7200	Micropolis	MC3243WAV	$789
4350MB	7200	Seagate	ST34371W	$789
4400MB	7200	Fujitsu	M2954W	$659
4550MB	7200	Micropolis	MC4345W	$659
4550MB	7200	Micropolis	MC4345WAV	$829
4550MB	7200	Quantum	XP34550W	$775
4550MB	10,000	Seagate	ST34501W	$979
9091MB	**5400**	**Micropolis**	**MC3391W**	**$1080**
9091MB	5400	Micropolis	MC3391WAV	$1250
9100MB	7200	Fujitsu	M2949W	$1089
9100MB	7200	Quantum	XP39100W	$1239
9100MB	7200	Seagate	ST19171W	$1349
9100MB	10,000	Seagate	ST19101W	$1599
23300MB	5400	Seagate	ST423451W	$2799

Hard Drive Cooling Fan Mounts in a 5 1/4 half height drive bay. Compatible with any 3 1/2" hard drive. Features twin cooling fans and a washable air filter. A must for 7200 and 10,000 RPM drives. (CHDFAN) $30

CD ROM DRIVES

IDE CD ROM

Speed	Brand	Model	ms	Int
12X	Toshiba	XM5702B	115	$100
16X	Delta	DELTA16X	120	$88
16X	Lite On	LTN262A	120	$92
16X	Mitsumi	CRMCFX16X	120	$104
16X	NEC	CDR1600	100	$99
16X	Toshiba	XM6002B	90	$105
18X	Acer	AC616A	120	$105
20X	Lite On	LTN202A	120	$105
24X	Delta	DELTA24X	99	$99
24X	Panasonic	CR5B5	B5	$125

IDE CD CHANGERS

Speed	Brand	Model	# Disks	Int
6X	NEC	CDR4X6	4	$89
8X	NEC	CDR4X8	4	$129

ACCESSORIES

Buy a CD drive & sound card & get a FREE audio cable.
Creative Labs Sound Blaster 16 Value PnP (SBIDE) $83
Creative Labs Sound Blaster AWE64 (SB64AWE) $100
Creative Labs Sound Blaster AWE64 (SB64AWEGOLD) $180
Professional speakers with Bose style swivel speakers and separate subwoofer.
25 Watt (SPEAKERJR) $99 35 Watt (SPEAKERPRO) $129
Universal sound cable(AUDIOMIX) $9
Turn any IDE CD ROM into an external for parallel printer port (PPCASECD) $99
Turn any IDE CD ROM into an external for PCMCIA port (PCMCIACASECD) $189

SCSI CD ROM

Speed	Brand	Model	ms	Int
12X	Toshiba	XM5701B	115	$149
12X	Plextor	PX12TS(tray)	105	$219
12X	Plextor	PX12CS(caddy)	105	$259
15X	Toshiba	XM3801B	99	$179
16X	NEC	CDR1610	100	$179
20X	Plextor	PX20TS	95	$239

SCSI CD CHANGERS

Speed	Brand	Model	# Disks	
4X	Pioneer	DRM624X	6 (ext)	$399
16X	Nakamichi	MJS16	4	$259

SCSI CD TOWERS

			4 Drive	7 Drive
12X	Toshiba	115ms	$899	$1579
15X	Toshiba	99ms	$1129	$2039
16X	NEC	100ms	$929	$1659
20X	Plextor	95ms	$1399	$2499

SCSI CD TOWERS w/ 4 Disc Changers

Nakamichi	16X	150ms	$1299	$2275

CD RECORDERS

Sony 2x6
Internal SCSI drive (CDU926S) $339
Yamaha 4x6
Internal SCSI drive tray load (YCDR400T) $639
Internal SCSI drive caddy load (YCDR400) $649
Phillips 2x6 ($200 Philips rebate until 6/30/97)
Complete kit includes software, controller, and 1 disk
Internal SCSI (CDD2600) $665
Hewlett Packard SureStor 6020i
SureStor 6020i includes software, and 1 disk
Internal SCSI (C4343CDR) $440
Complete internal kit w/ controller (C4343CDR-1) $495
External for parallel printer port (C4345A) $545
Sony 2x8
Internal IDE (CDU928S) $399
Kit w/ 1 disk, and software compatible with Win 95 & Win NT 3.51 & up. Req IDE controller. (CDU928SKIT) $429
Mitsumi 2x6
IDE Kit includes 3 disks, and software compatible with Win 95 & Win NT 3.51 and up. Requires IDE controller.
Internal (CRMC2600TE) $460

OTHER HARD DRIVES

2 1/2" IDE

1080MB	4200	Toshiba	MK1002MAV	$239
1400MB	4200	Toshiba	MK1401MAV	$269
2160MB	4200	Toshiba	MK2103MAV	$369
3080MB	4200	Toshiba	MK3303MAV	$629

SCA *Single Connector Attachment*

2150MB	7200	Seagate	ST32171WC	$619
4350MB	7200	Seagate	ST34371WC	$889
4550MB	10,000	Seagate	ST34501WC	$999
9100MB	7200	Seagate	ST19171WC	$1399
9100MB	10,000	Seagate	ST19101WC	$1699

FC-AL *Fibre Channel - Arbitrated Loop*

4550MB	7200	Seagate	ST34572FC	$Call
4550MB	10,000	Seagate	ST34501FC	$1059
9100MB	7200	Seagate	ST19171FC	$1569
9100MB	10,000	Seagate	ST19101FC	$1699

We also stock: IDE and SCSI controllers, Media for all drives, Backup software, CDR mastering and encription software, CD Duplicators, CD Towers, Jukeboxes (CD, CDR, tape, optical), RAID controllers and cases, Drive Cases, CD Labeling systems, plus much more.
We also: Install any of these drives in external enclosures, and custom configure to your specifications.

TAPE DRIVES

EXABYTE

3.5-7Gig	8mm, 32MB/min, EXB8205XL	$1189
7-14Gig	8mm, 120MB/min, ELIANT820	$1549
7-14Gig	8mm, 60MB/min, EXB8700LT	$729
7-14Gig	8mm, 60MB/min, EXB8700	$1069
(EXB8700 includes: 1 tape, 1 cleaning tape, and backup software)		
20-40Gig	8mm, 360MB/min, EXB8900	$4329
70-140Gig	8mm, 60MB/min, EXB10H	$4259

HEWLETT PACKARD

2Gig	DAT, 11MB/min, C1534AI	$579
2-4Gig	DAT-DC, 42MB/min, C1536AI	$619
4-8Gig	DDS-2 DAT, 60MB/min, C1599AI	$939
12-24Gig	DDS-3 DAT, 120MB/min, C1554AI	$1379
72-144GB	DDS-3 DAT, 120MB/min, C564BA	$2779

SEAGATE

2-4Gig	DAT-DC, 4BMB/min, C4324RP	$629
4Gig	Mini, 29MB/min, TST8000	$339
4-8Gig	DDS-2 DAT, 4BMB/min, C4326NP	$739
48-96Gig	DDS-2 DAT, 4BMB/min, C4586NP	$1849

SEAGATE MINI CART

Prices include Dos/Win backup software & 1 tape

800MB	TR1, TSTB00R $99	Parallel ver	$125
3.2Gig	TR3, TST3200 $169	Parallel ver	$185
4-8Gig	TR4, TSTB000 IDE or SCSI		$339

SONY

4-8Gig	DDS-2 DAT, 44MB/min, SDT5000AI	$789
4-8Gig	DDS-2 DAT, 90MB/min, SDT7000AI	$849
12-24Gig	DDS-3 DAT, 144MB/min, SDT9000AI	$1069
32-64Gig	DDS-2 DAT, 90MB/min, TSL7000X	$2159

QUANTUM

15-30Gig	DLT, 150MB/min, DLT2000XT	$2679
20-40Gig	DLT, 180MB/min, DLT4000	$4099
75-150Gig	DLT loader, 150MB/min, DLT2500XT	$4949
100-200Gig	DLT loader, 180MB/min, DLT4500	$6819
105-210Gig	DLT loader, 150MB/min, DLT2700XT	$6879
140-280Gig	DLT loader, 180MB/min, DLT4700	$8629

REMOVABLE DRIVES

IOMEGA 100MB ZIP

Internal SCSI for PC (ZIP100I)	$148
Internal IDE for PC (ZIP100A)	$148
External SCSI for PC or Mac (ZIP100)	$148
External for PC parallel port (PPZIP100)	$148
100MB disks (ZIP100C) Qty 2-9/Qty 10+	$18/$14

IOMEGA 1Gig JAZ

Internal SCSI with 1 disk (JAZI)	$288
External SCSI in our case with 1 disk (JAZEX)	$348
External SCSI in Iomega case with 1 disk (JAZX)	$388
Disks Qty 2-4/5-9/10+ 1Gig	$87/$85/$82

SYQUEST 230MB Flyer

Ext. SCSI (EZ230S)	$199
Ext Parallel(EZ230PP)	$199
Extra Disks Qty 2-4/5-9/10+	$30/$26/$24

SYQUEST 1.5GB Sylet

Int. SCSI (SYJET1.5PCI)	$389
Ext SCSI (SYJET1.5PCX)	$489
Extra Disks Qty 2-4/5-9/10+	$99/$95/$92
NEW HOT DRIVE NOMAI 750MB	***$CALL***

OPTICAL DRIVES

FUJITSU
230MB •128MB compatible, 30ms, 3600rpm
Internal IDE w/ 1 free disk (M2541AC) $299
640MB • 230MB r/w & 128MB read compatible, 2MB buffer
Internal SCSI w/ 1 free disk (M2513A2WC) $439
MAXOPTIX
2.6Gig • (1.3Gig, 650MB r/w compatible) , 1MB buffer
Internal SCSI (TAHITI2.6) $1529
TORAY
650MB • PO drive 650MB rewritable and 4X CD ROM in one.
SCSI Kit w/ controller & 1 disk Int (PWK650) $349
SMART STORAGE SOLUTIONS
4.6Gig •2.6Gig compatible, 19ms,
Internal SCSI & 1 disk (SSS4.6WC) $1449

Optical Disks (LIFETIME WARRANTY)

			2-4/5-9/10+	
128MB	[TJ128]	$20	$16	$14
230MB	[TJ230]	$20	$16	$14
540MB 3 1/2"	[TJ540]	$37	$33	$31
640MB 3 1/2"	[TJ640]	$38	$34	$32
1.2GB 512K	[TJ1.2]	$51	$47	$45
1.3GB 1024K	[TJ1.3]	$51	$47	$45
2.3GB 512K	[TJ2.3]	$69	$65	$63
2.6GB 1024K	[TJ2.6]	$69	$65	$63

M- F 8am - 8pm, Sat 9am - 3pm CST
24hr ordering at www.dirtcheapdrives.com

VISA MasterCard NOVUS

We are a major supplier to Government, Educational, Fortune 1000, and Institutions. PO's and Bids accepted.

DIRT CHEAP DRIVES
3716 Timber Drive, Dickinson, Texas 77539
Local (281) 534-4140 - Fax (281) 534-6452

Prices & specifications subject to change without notice. Shipping charges are nonrefundable. Returns must be in new condition and in original packaging. Defaced items may not be returnable. All returns are subject to a restocking fee. No refunds on software or special orders (items not listed in ad.) We reserve the right to refuse any sale. Personal checks held for clearance.

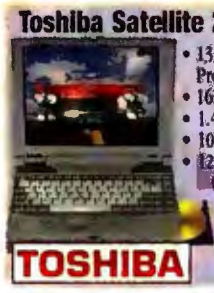
8/97 PC World

USA FLEX

Winner of 34 Best Buy Awards — Since 1984 — Winner of 34 Best Buy Awards

The Best Prices on Over 20,000 Computer Products

Toshiba Satellite 220CDS



- 133MHz Pentium® Processor
- 16MB RAM
- 1.4GB HDD
- 10X CD-ROM
- 12.1" SVGA DSTN Color Display

TOSHIBA

Only $1989

CP5166

HP LaserJet 6Lse Printer

NEW!

- 6ppm
- 600dpi black laser printing

$399.95

PR12310

US Robotics x2™ 56K Modem

US Robotics

$197.99 Internal Model

External Model $217**

Microsoft Office 97 Standard

Only $179.95

Includes the following titles: Excel '97, Word '97, PowerPoint '97, and Outlook '97.

Price reflects Microsoft $40 version upgrade rebate. Price before rebate is $219.95.

Iomega Zip Drive

NEW LOW PRICE! $149.95

- Small, light and portable
- Store 100MB on each 3.5" disk

MONITORS/GRAPHICS CARDS

NEC

M500 Multimedia (15"/13.7" VIS) $369**
M700 Multimedia (17"/15.7" VIS) $769**
MultiSync XV15+ (15"/13.7" VIS) $379**
MultiSync XV17+ (17"/15.7" VIS) $679**

VIEWSONIC

VS-15ES (15"/13.7" VIS) $334**
VS-15GA (15"/13.7" VIS) $549**
VS-17GS (17"/15.7" VIS) $599**
Sonictron VS-PT770 (17"/15.7" VIS) $789**
VS-20G (20"/18.6" VIS) $1114**
20G (20"/18.6" VIS) $1199**
VS-G810 (21"/19.5" VIS) $1429**

MAG INNOVISION

DX1595 (15"/13.7" VIS) $289**
DX1795 (17"/15.7" VIS) $619**
DX700T (17"/15.7" VIS) $749**

Monitor size refers to CRT/viewable image size

PRINCETON GRAPHICS

E040 (14"/13.4" VIS*) .28dp $229**
E050 (15"/13.8" VIS*) .28dp $289**
E070 (17"/15.8" VIS*) .28dp $499**
E075 (17"/15.8" VIS*) .26dp $619**

SONY

100SX (15"/13.7" VIS) $379**
100SF (17"/15.9" VIS) $429**
200SF (15"/13.7" VIS) $799**
300SF (20"/19" VIS) $1699**

PANASONIC

PanaSync S15 (15"/13.7" VIS) $329**
PanaSync S17 (17"/15.7" VIS) $619**
PanaSync P17 (17"/15.7" VIS) $749**
PanaSync E21 (21"/19.5" VIS) $1429**

HERCULES

T2312EDO Terminator 3D PCI, 2MB $99**
T2314EDO Terminator 3D PCI, 4MB $129**
T2212EDO Terminator 64 PCI, 2MB $79**

PLAY

Snappy Video Capture $189**

ATI

Video Xpression+ 2MB $99**
3D Xpression+ PC2TV, 2MB $139**
3D Pro Turbo PC2TV, 4MB $199**
GPROTURBOPCI4 3D Pro Turbo PC2TV 8MB $299**

CREATIVE LABS

GBMA202 Graphics Blaster MA202 $49**
GBMA302 Graphics Blaster MA302 $79**
GBMA334 Graphics Blaster MA334 $99**

PC CARDS

MEGAHERTZ

56K x2 with XJack (XJ1560) $239**
33.6 with XJack, Cellular capable $229**
33.6 Modem 10Base-T with XJack $289**
10Base-T with XJack (XJ 10 BT) $109**
10Base-T (cc 10 BT) $109**

HAYES PC CARD

Optima 33.6 Fax Modem w/EZ Jack HAY-02690 $189**

PRACTICAL PERIPHERALS

V56K PC-Card, K56Flex $199**
33.6 PC-Card EZ-Jack $135**
After $20 mail-in rebate. Expires 9/30/97

Practical 56K modems available in either x2 or K56Flex version. Must specify.

Internal 56K x2 $145**
Internal 56K K56Flex $145**
External 56K x2 $195**
External 56K K56Flex Call.

BOCA

Boca M56 (External) K56Flex $165**
Boca M56 (Internal) K56Flex $145**

HAYES

Accura 33.6 HAY-02902 External $119**
Hayes 56K K56Flex $169**
Hayes 56K K56Flex Internal $139**

US ROBOTICS

Sportster 33.6 Internal $89**
Sportster 33.6 External $119**
Sportster 56K Internal $197**
Sportster x2 56K External $217**
Courier V. Everything CR-001223 Internal $229**†
Courier V. Everything CR-001224 External $249**

Price after manufacturers $40 rebate
†Internal Modem

MULTIMEDIA/CD-ROM

NEC

MultiSpin 8XI/8Xe $299**/$399**

PANASONIC

Portable 4X CD-ROM Drive $299**
Portable 4X CD-ROM Drive w/Speakers $399**

PHILIPS

2X/6X CD-Writer Internal from $499**
2X/6X CD-Writer External $599**
8X CD-ROM Drive Internal $199**
8X CD-ROM Drive External $299**

CREATIVE LABS

Sound Blaster AWE64 PnP $149**
Sound Blaster AWE64 Gold $199**
Sound Blaster 16 Value PnP $74**
Blaster CD 1800 $139**
Sound Blaster Discovery AWE64/2400 $269**
Sound Blaster Performance AWE64 Gold $349**

PINNACLE MICRO

Apex 4.6GB Optical External $1899
4X4 CD-Writer - Internal $759
4X4 CD-Writer - External $859

PLEXTOR

8Plex Internal w/o interface $349
8Plex External w/o Interface $449
8Plex External w/ISA Card $499
8Plex External w/PCI Card $629

ALTEC LANSING SPEAKERS

ACS45 6W Speakers $79**
D1-ACS51 6W Power cubes $54**
D1-ACS53 27W $149**
D1-ACS500 80W $299**

HEWLETT-PACKARD

HP SureStore CD-Writer 2X/6X External Parallel $569**
HP SureStore CD-Writer 2X/6X Internal $479**

PRINTERS...LASER/INK JET/DOT MATRIX

HP PRINTERS

DeskJet 340 $279**
DeskJet 672C $199**
DeskJet 694C $299**
DeskJet 820Cse/870Cse $299**/$399**
DeskJet 1600C /CM Printer $1349**/$1949
LaserJet 5se $1049**
LaserJet 6Lse $399**
LaserJet 6Pse/6MP $799**/999
OfficeJet 570 color 4-in-1 $599**

EPSON

DFX-5000+/8000 $1579**/$2499**
Stylus Color 400 $229**
Stylus Color 600 $299**
Stylus Color 800 $449**
Stylus 1500 (up to 11"x22") $799**
Stylus Pro XL ("20dpi Microdot, up to 13x19) $1499**

Postscript Interpreter avail. for Stylus Pro & Pro XL color printers

BROTHER

HL-720 (Windows Only) $299**
HL-730DX (Window & DOS) $399**
HL-760 (1200x600) $399**
HL-1060 (10ppm, 1200x600, dual bins) $699**
MFC-690 (thermal) $269**
MFC-1950+ (ribbon) $449**
MFC-4550 (laser) $799**
MFC-6550MC (laser) $999**

OKIDATA PRINTERS

OkiPage 4W (Windows Only) $299**
OL600e/OL610e/OL810e $399**/$499**/$629**
ML320/ML321 Turbo $319**/$459**
ML590/ML591 $439**/$589**

CANON

BJC-240 $169**
BJC-4200 $249**
BJC-4550 (up to 11x17") $499**
BJC-620 $329**
C2500 (Fax, Scanner, Printer, Copier) $499**

After $50 rebate direct form Canon. Price before rebate is $249.95. While supplies last

LEXMARK

Color Jetprinter 2070 $399**
Color Jetprinter 2050 $199**
2380/2381 Plus Dot Matrix Printer $319**/$429**
2390/2391 Plus Dot Matrix Printer $369**/$469**
4079 Plus $2699
4039 10 Plus $899**
Optra Plus $999**
Optra R+/OptraRt+ $999**/$1249**
Optra Lx+/Optra Lxn+ $1599**/$1999**
Optra C $4299**
Optra S 1250 12ppm $1089**
Optra S 2450 24ppm $2179**
Optra 240 N/Optra 245 N w/16MB RAM $2799**/$3299**

NEC

SuperScript 860 (laser) $399**

While supplies last.

Price after manufacturer's mail in rebate. Ask your sales person for details.

DESKTOP SYSTEMS

IBM APTIVA S SERIES

S64, P166, 16MB, 2.5GB, 8X CD-ROM, 33.6MDM. $1299
S66, P166, 16MB, 3.2GB, 8X CD-ROM, 33.6MDM $1399
S80, P166MMX 32MB, 3.2GB, 8X CD-ROM, 33.6MDM $1999
S9C, P200MMX 32MB, 4.2GB, 16X CD-ROM, 33.6MDM $2199

Full Line of IBM Monitors Available!

COMPAQ DESKPRO SERIES

DeskPro 2000, P133, 16MB, 1.26GB $1089
DeskPro 2000, P166, 16MB, 1.26GB $1199
DeskPro 4000, P166, 16MB, 1.62GB $1399
DeskPro 4000, P166, 32MB, 2.5GB, 8X CD-ROM $1789
DeskPro 6000, P166, 32MB, 2.18GB, 8X CD-ROM $2019
DeskPro 6000, Pentium® Pro 200, 32MB, 2.1GB, 8X CD-ROM $2819

USA FLEX SYSTEMS

PR-166 Special-MT PR166, 512K, 16MB, 2GB, 2MB 3D,16X CD, Sound $999
Performer-MT, 6x86MX PR-200, 512K, 32MB, 4GB, 4MB 3D, 16X CD, Sound $1499
CyberNet2 P166w/MMX, 16MB, 2GB, 2MB 3D, 16X CD,Sound, 15", BJC-240 $1999
Multimedia Classic P166 w/MMX, 32MB, 4GB, 4MB 3D, 16X CD, Sound, 17", DeskJet 693C $2599
Basic Workstation P133, 512K, 16MB, 2GB, 16X CD, Sound, 14" $1199
Business Workstation P200, 512K, 32MB, 4GB, 2MB, 16X, Sound, 17" $1899
Ultimate Workstation- PII-233, 64MB, 6GB, Zip Drive, 4MB WRAM, 16X CD, Sound, 17" $3299

Other preconfigured models available. Monitors listed as CRT size. Visible size is smaller.

HP VECTRA 500 SERIES

320 5/133 PR133, 16MB, 1 2GB $999
320 CD 5/166, PR166, 16MB, 1.6GB, 8X. $1259
320MCx 5/166, PR166, 16MB, 1 2GB, 16X $1399

Compaq & HP models do not include monitor unless otherwise stated.

SCANNERS

EPSON

PhotoPlus Scanner $199**
Action Scanner II (PC) $279**
ES1000C (PC) $499**
Flatbed Scanner 636 (Pro) $1399**
Flatbed Scanner 636 (Artists) $999**
Flatbed Scanner 636 (Exec) $799**

MICROTEK

PageWiz $99**
Scanmaker E3 $199**
Scanmaker E6 $329**
Scanmaker E6 Pro $529**

HEWLETT-PACKARD

HP ScanJet 5S Color Scanner $249**
HP ScanJet 5Pse Color Scanner $399**
HP ScanJet 4Cse Color Scanner $799**

IBM LAPTOP 380D

IBM.

- 150MHz Pentium Processor
- 1.3GB Hard Drive
- 16MB RAM
- 12.1" DSTN SVGA Color Display
- 8X CD-ROM

$2499

HEWLETT PACKARD PALMTOP 320LX

- 640 x 240 Backlit Screen
- 4MB

NEW!

$659

300LX w/ 2MB

$469

COMPAQ DESKPRO 2000

While supplies last.

- 133MHz Pentium Processor
- 1.2GB Hard Drive
- 16MB RAM/128MB max.

$1199

Canon BJC-4200

With Photo Kit

- Up to 7200dpi
- Up to 5ppm

$279.95

NOTEBOOK COMPUTERS

TOSHIBA

Satellite 220CDS, P133, 12.1"DSTN, 1.4GB $1989
Satellite Pro 420CDT, P100, 11.3" Act., 1.28GB $1779
Satellite Pro 430CDT, P120, 11.3" TFT, 1.2GB $2199
Tecra 500CDT, P120, 12.1" Act., 1.3GB $2899
Tecra 510CDT, P133, 12.1" Act., 2.0GB $3379
Tecra 730CDT, P150, 12.1" Act., 2.0GB $4299
Tecra 740CDT, P166 w/MMX,13.3" Act., 2.0GB $5499
Portege 650CT, P133, 1.3GB $3399
Portege 660CDT 11.3 Act P150, 1.35GB, 10X CD $4229

HITACHI Mx Series

MX133T, P133, 1.3GB, 8X CD-ROM, 33.6 $2799
MX166TMMX, P166 MMX, 2.1GB, 8X CD-ROM, 33.6, 12.1" TFT $4199

HEWLETT-PACKARD Omnibook 5700

5700CT, P150 MMX, 2GB, 12.1" TFT $4299
5700CTX, P166 MMX, 3GB, 12.1" TFT $5199
800CT, P166 MMX, 16MB, 2.1GB $4199

IBM ThinkPad

365XD, P120, 10.4" ACT, 810MB, 4XCD $1399
365X, P133, 11.3" DS 1.0GB $1379
365X, P120, 10.4" Act., 810MB $1299
760EL, P133, 12.1" Act., 2.8GB $4199
760E, P150, 12.1" Act., 2.1GB $3999
760ED, P133, 12.1" Act., 2.8GB, 6XCD $4399

TEXAS INSTRUMENTS

610CD, P150, 1.4GB, 16MB, 10X CD $1949
610CDT, P150, 1.4GB, 16MB, 10X CD, 11.3" TFT $2549
660CD, P166MMX, 16MB, 1.35GB, 10X CD, 12.1" DSTN $2699
660CDT, P166MMX, 11.3" TFT, 16MB, 2.1GB, 10X CD $3179
TM6160 P166MMX, 12.1" TFT, 32MB, 2GB, 10X CD $4999
TM7060, P166MMX, 12.1" TFT, 32MB, 2GB, 10X CD $4499

COMPAQ Armada & LTE Series

Armada 4131T, P133, 1.4GB, 12.1" TFT $2999
LTE 5380, P133, 2.1GB, 16MB, 12.1" TFT $3699
LTE 5400, P150, 2.1GB, 32MB, 12.1" TFT $3899

TARGUS

CLN1-P

INSTANT $20 off this Targus leather bag with purchase of any notebook computer

USA FLEX

471 Brighton Drive
Bloomingdale, IL 60108
Phone: 630-893-0345
Fax: 630-351-7204
6AM-11PM(CT) Mon.-Fri.
9AM-4PM(CT) Sat. & Sun.

1-800-876-5606

Code # PC0897 Please reference this code when ordering.

Visit our Internet site at: http://www.USAFLEX.com

Airborne Express Delivery Service Available

Circle 241 on reader service card

PC WORLD MARKETPLACE

For Advertising Sales

Eastern & Central Regions
(203) 857-5101
Pacific & Mountain Regions
(203) 857-5102

Add COLORFUL Music To Your Desktop

You already have the music within you. Edirol can help you ***express*** it through the PC or Mac you already own!

Enjoy new levels of music with a Sound Canvas, made by Roland, leaders in quality sound for 25 years.

For more information on the new Edirol **SC-88Pro** (made by Roland) and our complete line of computer music products, call or visit us on-line today to request your free buyer's guide.

▶ **Download software demos and enter our sweepstakes at http://www.edirol.com**

▶ **Call 1-800-380-2580 to request your free Edirol computer music buyer's guide**

EDIROL
Member of the Roland Group

808 Harrison Ave.
P.O. Box 4919
Blaine, WA 98231-4919

CIRCLE 489 ON READER SERVICE CARD

Keep your PCs up & running with the 100% accurate fix...

BYTE
PCUPGRADE
SERVICE NEWS
Windows 95 COMPATIBLE
GSA Approved

Micro-Scope is a universal PC diagnostic that runs a proprietary O/S which eliminates DOS limitations and inaccuracies. Version 6.16 adds 25 enhancements and includes: IDE low-level format, accurate IRQ conflict display, cache memory test, 64 meg video memory test, data recovery capabilities, virus capabilities and super-fast hard drive testing.

Post-Probe is a universal P.O.S.T. (Power-On Self-Test) reader card for the "dead" PC. Post-Probe includes: MCA adapter, tri-state logic probe, 13 LED pre-POST test, 2-digit POST code display and a manual with a full explanation of the manufacturer POST codes down to the exact device or chip failure.

Micro 2000, Inc.
1100 E. Broadway, 3rd Floor
Glendale, CA 91205
Toll Free 1 (800) 864-8008
Fax (818) 547-0397
http://www.micro2000.com

Professional Diagnostics from
Award Winning
MICRO 2000™

CIRCLE 457 ON READER SERVICE CARD

The Power to be Efficient

AMERICAN MICROSYSTEMS, LTD

800 648 4452
FAX 817 685 6232 • WWW.AMLTD.COM
2190 Regal Parkway • Euless, Texas 76040

Call Now for a Free Catalog!
Lifetime toll-free support • 13 years in business
Thorough quality control
Same-day shipping • Made in the USA

SPECIAL DEALER PRICING AVAILABLE!
WE ALSO OFFER SPECIAL VOLUME PRICING, CALL FOR DETAILS

MEMORY
1-800-457-6937
WEB SITE: http://www.worldwidetechnologies.com
OVER 10,000 COMPUTER PRODUCTS TO ORDER FROM

IBM MEMORY

MODEL	MEMORY	PRICE
Aptive 300,500 Series	4Meg-8Meg-32Meg	30-80-120-220
Aptive 700 Series (pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Aptive A Series (pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Aptive C Series (EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Aptive M Series	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 330 Models 6571-6578	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 330 Models 8577 (EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 340 (EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 350 Models 6581-6585	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 350 Model 6586 (pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 350 Model 8567 (EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 360	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 730 Models 8875-6876 (pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 730 Model 6877 (EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC 750 Models 6885-6886 (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
PC 750 Model 6887 (EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
PC Server 310 (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
PC server 500 (ECC,pairs)	4Meg-8Meg-16Meg-32Meg	55-75-125-245
P-S 1,30 Pin Simms	1-Meg-4Meg	18-35
P-S 1,72 Pin Simms	4Meg-8Meg-16Meg-32Meg	38-70-125-245
P-S 2,566X,65SX	4Meg	45
P-S 2,53,53L,6,56,57	4Meg-8Meg	45-75
P-S 2,95XP (ECC,pairs)	4Meg-8Meg-16Meg-32Meg	55-75-125-245
P-S Server,95,195 205 (ECC,pairs)	4Meg-8Meg-16Meg-32Meg	55-76-125-245

IBM NOTEBOOK MEMORY

MODEL	MEMORY	PRICE
Thinkpad 340 345,355,C,CE	4 Meg-6Meg-16Meg	40-80-160
Thinkpad 365C,CS,CD,E,ED	4Meg-16Meg	40-160
Thinkpad 365X,365XD	6Meg-16Meg-32Meg	80-160-295
Thinkpad 500,510CS	4Meg-8Meg-16Meg	40-80-160
Thinkpad 560	8Meg-16Meg-32Meg	80-160-295
Thinkpad 700,720,750,CL57SX	4Meg-8Meg-16Meg-32Meg	40-80-160-295
Thinkpad 701,701C	4Meg-8Meg-16Meg-32Meg	40-80-160
Thinkpad 730T,TE	4Meg-6Meg-16Meg	40-80-160
Thinkpad 755C,CE,CD,CS	4Meg-8Meg-16Meg-32Meg	40-80-160-295
Thinkpad 760C,CD,XD	4Meg-8Meg-16Meg-32Meg	40-80-160-295
Thinkpad 760E,ED,EL,ELD	8Meg-16Meg-32Meg	80-160-295

COMPAQ MEMORY

MODEL	MEMORY	PRICE
Deskpro 486-25,33L,80L	2Meg-6Meg-32Meg	30-05-245
Deskpro 3-25/L,33/L-25/S 66/	2Meg-4Meg-6Meg	30-66-95
Deskpro 386,486 M Series	2Meg-4Meg-8Meg	30-66-95
Deskpro M Series Expansion Board	0K (No memory)	110
Deskpro 450,4100,590,5100,5133	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Deskpro 575,5120,5133,5150 5180 (EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Deskpro 2000,4000,6000 Series EOO,pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Deskpro 8-80M,8-86M,XE560 (quads)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Deskpro XL (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Deskpro XL 6150 6200 (ECC,pairs) 8Meg-16-Meg-32Meg-64Meg-128Meg		CALL
Deskpro 2000, Presario 4112, 4122 4712 4716, 5528, 5526	1 Meg Video	80
Presario 5536, 9232, 9240, 9250, 9642, 9660	1 Meg Video	80
Presario 510,520,524 660,720 724,860	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Presario 920,924,954,974,978 992	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Presario 833,850,860,866	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Presario 5526,7110,7152	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Presario 7170,7180,9536 9548,9646 9664 (pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Presario 9232,9234,9240,9250,9642,9660 (pairs)	4Meg-8Meg-16Meg-32Meg	30-80-120-220
Prolient 1000 5-60,2000,R,4000,R (quads)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prolient 1500 1500R (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prolient 4500 4500R (quads) 4Meg-8Meg-16Meg-32Meg-64Meg-128Meg-256Meg		35-70-125-245-CALL
Prolient 5000,5000R (pairs)	32Meg-64Meg-128Meg-256Meg	CALL
Prolinea 4-25S 4-33,4-66	2Meg-4Meg-8Meg	30-45-70
Prolinea (enhanced) MT	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prolinea 575,590,5100,5120,5133 (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prolinea 5100,5120,5133 5150,5166 (EOO pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prolinea 575E 100E,120E,575MX (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prolinea 590MX,5120MX (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prolinea 8150E,6180E (pairs)	8Meg-16Meg-32Meg	70-125-245
Prosignia 300,5 75,5-90,5-120,5-150 (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245
Prosignia 600 5-90,5-120,5-150 (pairs)	4Meg-8Meg-16Meg-32Meg	35-70-125-245

COMPAQ NOTEBOOK MEMORY

MODEL	MEMORY	PRICE
Armada 1120,T	6Meg-16Meg-32Meg-64Meg	115-105-Call-Call
Armada 4100,4110,4120,4130	8Meg-16Meg-32Meg Kit	Call
Concerto 4-25,433	4Meg-8Meg-16Meg	75-95-165
Contura 4-25,C,CX	4Meg-8Meg-16Meg	75-95-165
Contura 400C,400CX,410C,410CX	4Meg-8Meg-16Meg	75-95-165
Contura 420C,420CX,430C,430CX	4Meg-6Meg-16Meg-24Meg	45-75-165-235
Contura Aero 4-25,4-33	4Meg-6Meg-16Meg	75-95-165
LTE 5000,5100,5200,5300	6Meg-16Meg-32Meg-64Meg Kit	95-145-255-495
LTE Elite 4140C,CX,4-75CX	4Meg-6Meg-16Meg-24Meg	45-75-165-235
LTE Elite 4140C,CX,4-75CX	4Meg-6Meg-16Meg-24Meg	75-165
LTE Elite 4/25	4Meg-6Meg-15Meg	55-90-135
Presario 1000 1010, 1020 1030	8Meg-15Meg-24Meg	85-115-190

NOTEBOOK MEMORY

ACERNote 730C, 735C, 760C, 760CX, 780CX	2Meg-4Meg-8Meg	45-85-95
ACERNote 783, 765, 782 784 786	4Meg-8Meg-16Meg	55-75-155

NOTEBOOK MEMORY

ACERNote Light 350, 352, 355	4Meg-8Meg-16Meg	65-95-185
ACERNote Light 358, 358, 359, 381(pairs)	4Meg-8Meg-16Meg	65-95-185
ACERNote Pro 950, 954, 956, 957, 959(pairs)	4Meg-8Meg-16Meg	85-95-185
ACERNote Nuovo 971, 972	8Meg-16Meg-32Meg	75-130-245
Ambra N Series	4Meg-8Meg-12Meg-16Meg	85-105-135-185
Ambra SN Series	4Meg16Meg	75-175
Ambra N-75, N-100	4Meg-8Meg-16Meg	45-85-165
AST Ascentia A Series	8Meg-18Meg-32Meg-64Meg	85-145-315-680
AST Ascentia 950	8Meg-16Meg	85-140
AST Ascentia P30, P50	8Meg-16Meg-32Meg	85-185-305
AST Ascentia J10, J30, J50	8Meg-16Meg-32Meg-40Meg	95-185-CALL-CALL
AST Ascentia 900N, 800N, 810, 910	8Meg 16Meg	95-185
AST Ascentia J10, J30, J50	8Meg-16Meg-32Meg-40Meg	95-185-CALL-CALL
AST Bravo & Explorar	4Meg-8Meg	75-215
AST Pram Exec 386SX-20,25,25L	4Meg	65
AST Power Exec 3-25, 425EL, 425SL	4Meg-16Meg	75-185
AST Power Exec 433SL	8Meg-16Meg	75-185
AT & T Globalvst 130, 200, 250	4Meg-8Meg-16Meg	65-95-145
Austin Edge	8Meg-16Meg	96-130
Austin Edge Duel	16Meg-32Meg	130-135
Austin Vista	4Meg-8Meg-16Meg-24Meg	55-85-135-199
Cannon Innovs Book 150, 175	4Meg-16Meg	65-165
Cannon Innovs Book 200LS	4Meg-8Meg-16Meg-20Meg	65-95-215-345
Cannon Innovs Book 350CD, 360, 475	4Meg-16Meg	85-185
Cennon Innovs 486-10	4Meg-16Meg	75-215
CTX EZ Book 5x86 Pent Series	CALL	
DELL HiNote Ultra, Ultra II	4Meg-8Meg-16Meg	55-75-125
DELL HiNote VP 520, 525, 535	8Meg 16Meg-32Meg	95 145-275
DELL HiNote VP 5100, 5120	8Meg-16Meg-32Meg-64Meg	85-145-225-699
DELL HiNote XP	8Meg 16Meg-32Meg	65-85-135
DELL Lattitude LM (pairs)	4Meg-8Meg-16Meg	55-95-185
DELL Lattitude 433, C, CX	4Meg-16Meg	75 195
DELL Lattitude 5MP (pairs)	4Meg-8Meg-16Meg	75-115-195
DELLL Lattitude LX, M	4Meg-8Meg-16Meg	75-115-195
DELL Lattitude XP, XPi	4Meg-8Meg-16Meg	75 115 195
Epson ActionNote 650, 650C, 660C, 660CX	4Meg-8Meg-16Meg	69-109-189
Epson ActionNote 700, 700C, 700CX	4Meg-16Meg	75-185
Epson ActionNote 880, 866C, 890	4Meg-8Meg-16Meg-20Meg	55-65-155-195
Epson ActionNote 4LC-25, 4LC-33, 4SLC-2-50, 400	6Meg	75
Everex Tempo LX, LX/u Carrier	2Meg	85
Fujitsu Monte Carlo, Milan, Montego	6Meg-16Meg-32Meg	75-145-275
Gateway 2000 Colorbook 4 33	4Meg-16Meg	65-155
Gateway 2000 Nomad 425 OXL-SXL	4Meg-16Meg	155-755
Gateway 2000 486 Handbook or Liberty	4Meg-16Meg	55-165
Gateway 2000 Solo Series	4Meg-8Meg-16Meg	75-95-165
Gateway 2100 Solo Series	8Meg-16Meg-32Meg	CALL CALL CALL
Hitachi C-Series	8Meg-16Meg-32Meg	65-135-235
Hitachi E-Series	8Meg-16Meg-32Meg	85-275
Hitachi M-Series	8Meg-16Meg-32Meg	75-125-255
HP Omnibook 300, 480, 425	2Meg-4Meg	80-125
HP Omnibook 530, 600	4Meg-8Meg-12Meg	65-85-245
HP Omnibook 4000	4Meg-8Meg-16Meg	65-95-145
HP Omnibook 5000	8Meg-16Meg-32Meg	85 165-315
HP Omnibook 6000	4Meg-8Meg	65-110
Leading Edge Axiva 2000	4Meg-16Meg	65-175
Leaxmark SE10	4Meg 8Meg	75-115
Magnavox Metalfi	4Meg	115
Micron Transport Pentium	8Meg	115-215-395
Midwest Micro Elite or Soundbook	4Meg-8Meg-16Meg	75 115-195
Midwest Micro Elite or Soundbook Plus or Soundbook II IP	4Meg-8Meg-16Meg	75 115 195
Midwest Micro Elite or Soundbook CD	4Meg-8Meg-16Meg	75-115-195
NCR Safari 3180, 3181	4Meg-8Meg	75-115
NEC Ultralite Versa E,V, MP	4Meg-8Meg-16Meg-20Meg	60-95-105-295
NEC Versa S, Versa 2000,& 2000D 600	4Meg-8Meg-16Meg-32Meg	65-95-185
NEC Versa 4000, 4050-4080	4Meg-8Meg-16Meg-32Meg	65-95-165-295
NEC Versa 6000, 6050	8Meg-16Meg-32Meg-64Meg	75-145-235-CALL
Olivetti Echos P75 P133S (pairs)	4Meg-8Meg-16Meg	85-125-215
Packard Bell 386SX, 286	4Meg	85
Packard Bell Statesman	2Meg 8Meg	45-95
Panasonic CF V21P CF 560	4Meg-16Meg	85-165
Panasonic CF-V341	4Meg-8Meg-16Meg-32Meg	75-115-275-365
Sager Midem, all models	4Meg-8Meg-16Meg-32Meg	75-99 175-399
Samsung Semi 610	8Meg-16Meg	CALL
Sanyo 17-18 NB	4Meg	85
Scentre Soundx, all models	4Meg-8Meg-16Meg	55-95 155
Sharp 3030, 3040, 3070	8Meg-16Meg-32Meg	95 135 275
Sharp 6781, 6881, 6785, 8700, 6800, 6741	2Meg-4Meg	75-125
Sharp 6150, 6650, 6660, 7700, 7760	4Meg-16Meg	65-165
[illegible]	[illegible]	[illegible]
Sharp 3010 3020 3050 3060	4Meg-8Meg-16Meg	65-105-185
Sharp 9000, 9030	8Meg-16Meg-32Meg	75-185-395
Sharp 9040, 9070 (pairs)	4Meg-8Meg-16Meg-32Meg	65-125-255-525
Sharp 9080 (pairs)	4Meg-8Meg-16Meg	55-85-135
Sharp Widenote 100T	8Meg-16Meg-32Meg	95 185-295
TI 4000, 4000e, 4000M	4Meg-16Meg	140-215
TI 5000, 5100, 5200 5300	8Meg-16Meg	95-185
TI 8020, 8030	8Meg-16Meg-32Meg	215-395-CALL
TI Extensa, 450, 450T, 455, 455T 570	4Meg-8Meg-16Meg	55-95-165
TI Extensa, 550, 553, 580, 580 (pairs)	4Meg-8Meg-16Meg	55-95 185
Twinhead, Altima, Compudyne 486SX, DX, Tandy 4860	4Meg-16Meg	85-145
Ultra 486 TS38	4Meg-8Meg-16Meg	75-95-175
Winbook FX 133	8Meg-16Meg-32Meg	135-275
Winbook XP	16Meg-32Meg	135-265
Winbook XPS	32Meg	265

SIMMS

LIFETIME WARRANTY

30 PIN NON-PARITY/8 BIT	
1MB X 8-60NS SIMM	$15
1MB X 8-70NS SIMM	
4MB X 8-80NS SIMM	
4MB X 8-70NS SIMM	
4MB X 8-60NS SIMM	
30 PIN 9 BIT SIPPS	
1MB X 9-100NS SIPP	
1MB X 9-80NS SIPP	
1MB X 9-70NS SIPP	
1MB X 9-60NS SIPP	
256K X 9-70NS SIPP	
30 PIN PARITY/9-BIT	
4MB X 9-70NS SIMM 3 CHIP	
4MB X 9-60NS SIMM 3 CHIP	
4MB X9-60NS SIMM 3 CHIP LOGIC	30
4MB X9-70NS SIMM 3 CHIP LOGIC	30
4MB X 9-80NS SIMM 9 CHIP	35
4MB X 9-70NS SIMM 9 CHIP	
4MB X 9-60NS SIMM 9 CHIP	
1MB X 9-100NS 9 CHIP SIMM	
1MB X 9-80NS 3 CHIP SIMM	
1MB X 9-80NS 9 CHIP SIMM	
1MB X 9-70NS 3 CHIP SIMM	
1MB X 9-70NS 9 CHIP SIMM	0
1MB X 9-60NS 3 CHIP SIMM	
1MB X 9-60NS 9 CHIP SIMM	0
16MB X 9-70NS/60NS SIMM	160
256K X 9-80NS/70NS SIMM	0
72 PIN MEMORY	
256 X 36-1MB-70NS	0
512 X 36-2MB-80NS	30
1X36-4MB-70NS/60NS LOGIC	30
1X36-4MB-70NS/60NS MAJOR	35
2X36-8MB-70NS/60NS LOGIC	49
2X36-8MB-70NS/60NS MAJOR	59
4X36-16MB-70NS/60NS LOGIC	85
4X36-16MB-70NS/60NS MAJOR	105
8X36-32MB-70NS LOGIC	180
8X36-32MB-60NS LOGIC	180
8X36-32MB-70NS MAJOR	210
8X36-32MB-60NS MAJOR	230
16X36-64MB-70NS/60NS	210
1 X 32-4MB-70NS/60NS	
2 X 32-8MB-70NS/60NS	4
4 X 32-16MB-70NS/60NS	8
8 X 32-32MB-70NS/60NS	185
16 X 32-64MB-70NS/60NS	495
EDO MEMORY	
4MB/8MB EDO	25/47
16MB/32MB EDO	85/165
PIPELINE CACHE	
256K/512K	25/50

NOTEBOOK MEMORY

Zenith Master Sport SL, SLE, 600, 620, 625NL	2Meg	65
Zenith Z-Note 425LN, LNC, LNP	4Meg	85
Zenith Z-Note MX	4Meg-8Meg-16Meg	65-95-175
Zenith Z-Ster 4-33	2Meg,8Meg	45-95
Zenith Z-Ster EX	4Meg-8Meg-16Meg	55-105-165

TOSHIBA NOTEBOOK MEMORY

MODEL	MEMORY	PRICE
Tecra 500,P850	8Meg-16Meg-32Meg	80-160-295
Tecra 700 (SDRAM)	8Meg-16Meg-32Meg	80-160-295
Tecra 710, 720	8Meg-16Meg-32Meg	80-160-295
Tecra 730 COT ,730X COT	8Meg-16Meg-32Meg-64Meg	85-135-235-855-1699
T2000SX,T2000SX T1800, 1850, C	8Meg	80
T2100, 2105, 2155, 2110, 2115	4Meg-8Meg-18Meg-24Meg	60-80-160-295
T4500, C T4600 T4700,T1900, T1910, T1950 (3.3v)	4Meg	60
T4500, C T4600, T4700,T1900, T1910, T1950 (3.3v)	8Meg	80
T4500, C T4600, T4700,T1900, T1910, T1950 (3.3v)	18Meg-24Meg	160-295
T3400CT, T2400, T3600	4Meg-8Meg-16Meg-24Meg	60-80-160-245
T100, 105, 110, 115	8Meg-16Meg-32Meg	80-160-295
T400, 405, 405CS, 420, 425	8Meg-16Meg-32Meg	80-160-295
T400CS, 400COT, T100, 105EDO	8Meg-16Meg-32Meg	80-160-295
T600, 810, CT EOO	8Meg 16Meg 32Meg	80-160-295

LASER PRINTER MEMORY

AMOUNT UPGRADED	OKB4 256k	1	2	3	3.5	4	5	6	8	18	32
Brother 830, 631,641,645	— —	85	85	—	—	—	—	—	—	—	—
Cannon L8P 430	— —	35	—	—	—	45	—	—	—	—	—
Cannon L8P 860, 1260	— —	—	35	—	—	59	—	—	90	140	305
Cannon L8P4, 4Lite, 4plus	— —	125	175	—	—	—	—	—	—	—	—
Epson 6000, Action Laser	— —	—	125	—	225	—	—	—	—	—	—
Epson Action Laser 1100,1600	— —	85	70	—	—	95	—	—	195	355	—
Epson Action Laser II	— —	70	—	170	—	—	270	—	—	—	—
Epson 8000,1800, 4000, 4100, 4300	— —	85	—	170	—	—	270	—	—	—	—
Epson 1000, 1500, 5000, 5200	— —	—	65	—	—	175	—	—	—	—	—
HP 2, 2D	— —	—	65	—	—	95	—	—	—	—	—
HP3, 3D, 3P, 2P, 2P+	— —	—	65	—	—	95	—	—	—	—	—
HP 4, 4M, 4Si, 4SiMX	— —	—	95	—	—	55	—	—	95	—	—
HP 4P, 4PLUS, 4MPM 1600, 1800CM	— —	15	25	—	—	45	—	—	85	—	—
HP4L	— —	30	—	—	—	—	—	—	—	—	—
HP 3SI	— —	35	—	—	—	65	—	—	95	—	—
HP 5L	— —	65	70	—	—	85	—	—	195	—	—
HP 5P, 5MP, 4V, 4MV, 6P, 6MP	— —	15	35	—	—	45	—	—	85	120	—
HP Design Jet 600, 650, 200	— —	—	35	—	—	45	—	—	85	135	235
HP DeskJet 500,500C,510,550,560	30 —	—	—	—	—	—	—	—	—	—	—
HP Oasjkjet 1200C, 1200C-P	— —	—	35	—	—	45	—	—	85	—	—
HP Paintjet XL 300	50 —	—	—	—	—	85	—	—	140	295	—
IBM Lasar 4019 4019E	— —	—	—	—	135	—	—	—	—	—	—
IBM Laser 4029 4037	— —	—	—	—	—	85	—	—	—	—	—
IBM Laser 4039 4079	— —	—	85	—	—	85	—	—	350	—	—
Konica L P-3110, 3115	— —	115	185	235	—	—	55	—	—	350	—
Lexmark Medley 4C, 4X, 4Sx	— —	Call	Call	Call	—	—	—	—	—	—	—
Lexmark Optra L, LX, R, RX	— —	—	—	—	—	—	—	—	90	135	255
Lexmark Valuewriter 300, 800	— —	25	35	—	—	—	85	—	—	—	—
Lexmark Valuewriter 200, 400, 600	— —	25	35	—	—	—	85	—	—	—	—
NEC 90, 290	— —	—	95	—	—	—	—	—	—	—	—
NEC 95, 97	— —	—	75	—	—	—	—	—	—	—	—
NEC Silentwriter 95 95fx, 97, 97fx	— —	—	70	—	—	—	—	—	—	—	—
Oki 400	— —	—	75	—	—	—	—	—	—	—	—
Oki 400E, 400EX, 410E 410EX	— —	85	105	165	—	185	—	—	—	—	—
Oki 610E EX, 600E EX, 610E, EX	— —	25	35	—	—	75	—	—	115	175	—
Oki 830, 840	— —	—	85	—	—	—	—	—	—	—	—
Oki 2350, 2450	— —	Call	Call	—	—	—	—	—	—	—	—
Packard Bell PB 9500	— —	—	135	—	—	225	—	—	—	—	—
Packard Bell 9815	— —	—	95	—	—	225	—	—	—	—	—
Panasonic 4420, 4450I	— —	—	85	—	—	185	—	—	—	—	—
Panasonic 4410, 4430	— —	—	85	—	—	125	—	—	—	—	—
Panesonic 4450	— —	85	—	—	—	—	—	—	—	—	—
Panasonic 4400, 5400	— —	85	95	—	—	185	—	—	—	—	—
Panasonic 4440, 5410, 6500	— —	—	75	95	—	155	—	—	—	—	—
Sharp 9400 9440, 9600 9700E	— —	—	85	95	—	145	—	—	—	—	—
Sharp 9500 E, H, 9700, H	— —	—	75	—	—	255	—	—	—	—	—
TI XL PS17-PS35	— —	—	45	—	—	—	—	—	—	—	—
TI Microlaser Pro E, Powerpro 600	— —	—	85	125	—	—	185	—	—	325	—
TI Microwriter	— —	—	75	115	—	—	—	—	—	—	—

NOTEBOOK BATTERIES

NOTEBOOK	PRICE
ARC 386SX NB	$96
ARC NB486SLC/25	110
Acer Acerlite 350, 350C	110
Acer AcerNote 730, 760 & 760 series	190
Acer AcerNote 730, 760 & 780 series	138
Acer AcerNote 750 series	158
Acer AcerNote 750 series	178
Acer AcerNote Lite	176
Acer Anywhere 386	158
Acer Anywhere 1100LX 386SX, 1120NB	138
Acer LX 386S Notebook	170
Acer 386SX/25NB	170
Acrobat 386SX/25	75
Acros 325SE	170
AGI Travel Pro	90
Altur 386SX NB	90
ALR NB	214
ALR Venture	150
Altech 386SX/20	130
Altech NB	170
Altez 3300SX	130
Altima 325SL, 486SLC, 420, 433D	150
Altima 486DX/33	168
Altima LSX, LSX 386SX/20	130
Altima NSX, 386SX/16 NB	130
Alton NB	99
Amza EZ Lite 16	98
Ambra SN433, SN433C, SN8660C	150
Ambra SN425, SN433C, SN8660C	150
Ambra NC425, NC425SL	190
Ambra NC425, NC425SL	138
American Megatron	99
AMS 5300NB	158
AMS 350C	199
AMS SoundPro P54	190
Amrel 486DX/33, 486SLC	99
Amrel 486SX/25, MLT3865XE	96
Amstrad AN8386SX	105
Apple Duo 200-270+, 2300 series	138
Apple Mac Powerbook 140-180	99
Apple Mac Powerbook 190 & 5300 series	225
Apple Mac Powerbook 520 & 540 series	199
Apple Mac Powerbook 1400	190
Apple Stylewriter Portable Printer	36
Arche 486NB	158
Arche Tech NP-101 NP-102 388NB	158
Aries NBL36X20	98
Arima ATC286/40, ATC 386SX	125
Arima NB	170
ARM Patriot, TS30M, TS30P	178
ASE Euphoria	178
AST A Series	178
AST Advantage NBSX20, NBSX/25C	105
AST Advantage Explorer 486SX/25	178
AST Advantage Explorer 486DX4/100	178
AST Advantage Explorer 486SX/33	150
AST Ascentia 700N	6178
AST Ascentia 800, 810N	159
AST Ascentia 900N	199
AST Ascentia 910N, 950N	269
AST Bravo NB	178
AST PremiumExec Series	199
AST PremiumExec Series	105
AT & T Globalist 130	178
AT & T Globalist 250	188
AT & T Safari NX20, 3170	158
AT & T Safari 3180, 3181, 3182	188
Attache BV-386	90
Aurora NB	110
Austin 386SX NB	98
Austin 486DX2/66	190
Austin NB	158
Avec TS35-25, 486SX/25 NB	90
Avec TS35-25, 486SX/25 NB	130
BCC Avanti SL386, 235C, 425C,	190
BCC Avanti 425M, 486STN	190
BCC Avanti SL386 325C, 425,	150
BCC Avant 425M, 486STN	150
Blackship 386SX/20	130
Bona SX-4000 NB	138
Bona 3800SX	105
Bona 386SX, 3300SX/20	130
Bondwell B310SL	90
Bondwell 386NB 486NC	90
Bondwell 486NC (old)	116
Bondwell B200/B210/B31010+/	98
Bondwell B310A, Pro B	98
Bondwell B310V, B-310SX	111
Brother HJ-100I Portable Printer	58
BSI PC3 386 VGA	90
BSR 386SX NB	98
CAF NB 5500	138
CAF SuperLite 396SX/16	130
CAF TS30AS NB	316
Canon InnovaBook 150, 150C	188
Canon InnovaBook 1000, 1100 series	199
Canon InnovaNote 450CS-340	158
Cannon Innovra 386	158
Cannon Innova 486 C25/120	190
Cannon Innova 486 C25/120	199
Cannon NB (K225/229)	199
Cannon Innova SubNote 10C	150
Cannon NoteJet 486,486C II	198
Cannon NoteJet III 200LC, 200LS	178
Carnation BJS, 10, 20 Portable Printer (K10068)	58
Chaplet LA 35, LA50 (Hailkan)	138
Chaplet LA 5340	138
Chaplet NBA 386SX	105
Chaplet NBC	105
Chicony 386	96
Chicony NB5620, NB5625, 386SX, 3201	99
Chicony NB 5600	130
Citizen PN 46 printer Notebook Printer II	114
CMS NB386SX/20	130
Commax NB386SX	150
Commax SmartBook	138
Commax Ultrathin 386SC	85
Commodore Notebook	158
Compaq BC320A	90
Compaq Armada 1100, 1120, 1125	158
Compaq Concerto	158
Compaq Contura Aero series	155
Compaq Contura 3/20, 3/25, 4/25, series	124
Compaq Contura 3/20 3/25, 4/25 series	178
Compaq Contura 400, 410	159
Compaq Contura 420 & 430 series	159
Compaq Elite	228
Compaq Lite series	191
Compaq LTE, LTE/286	104
Compaq LTE 386/S/20	208
Compaq LTE 5000, 5100, 5200	192
Compaq Presario	262
Compaq Presario	389
Compaq SLT/286, SLT386S/20	118
Compudyn 266	170
Compudyn 316NX, 320NX	105
Compudyn 316SL	138
Compudyn 325TFX, 425TFX, 425CXL	90
Compudyn 325TX	105
Compudyn 425C	90
Compudyn 425C	130
Compudyn 425CL N825XL, N825SXL	90
Compudyn Companion SX	105
Compudyn Express 425XL, 433	138
Compudyn NX320	105
Compudyne 3SL/25, 3SXL/25,	150
Compudyne 4DX33, 4DX2/86	150
Compudyne BC340, BC380A	90
Compudyne BC380B N386SXE	90
Compudyne SlimNote 486DX/33	184
Cumulus Jetbook 386SX	90
Cumulus NB5620	130
Data General WalkAbout 320	170
Data Point 486SL	85
Data World LP320 LP325	105
Data World NB325/SX, NB325SX, SX20	90
Data World NB3255L	90
Datadrive	96
Datavue Spark LT	135
Dauphin D1150 Notebook	116
DEC 2504 Color NB	178
DEC 320P NB	90
DEC 325	198
DEC 450MC	158
DEC HiNote CS433L	178
DEC HiNote CS450, CS475	158
DEC PC 325SI 325SI/C, 425SL, 425SL/C	191
Dell 316LT	138
Dell 320 SLi	130
Dell 320 SLi	99
Dell 320N+, 325NC, 325NL	190
Dell 320N, 320N, 325NC, 325NL	150
Dell Latitude 425, 433, 433C & 433CX	178
Dell Latitude 433M	158
Dell NL20 NL25	110
Dell NX20 NB	110
Dennow Notebook	99
DF-MediaBook 92001	99
Digimac 466	90
Digimac 486	130
Digisys 486SX	78
DTK DLT2000, 2500, 3300 NB386SX	78
DTK DLT2000, 2500,

Student - Teacher & School Discounts!

LATEST VERSIONS & FULL PACKAGES

Painter 5.0 $209

3 D MAX Apprentice $349

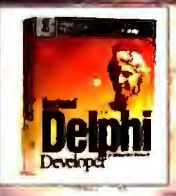
CorelDRAW 7.0 $169

3D AcuWorlds	$159	FastTrack Schedule 4.01	$129
3D Studio Release 4.0	$495	FileMaker Pro 3.0	$129
Antique Maps Of World Vol 1 or 2	$149	Final Draft 4.1	$125
Astound 4.0.1	$99	Flash 2.0	$149
Authorware 4.0	$749	Flo' 2.0.4	$69
AutaCAD LT 3.0	$329	Form Z 2.9	CALL
Bitstream Callection	$129	Fractal 3D Suite	$199
Baris Effects Pro 2.2	$199	Fractal Expression 1.0	$99
Borland C++ 5.0.2	$59	Fractal Poser 2.0	$79
Borland C++Builder 1.0 Pro	$99	HyperStudio 3.0	$119
Cakewalk Pro Audia Deluxe 6.0	$319	Illuminaire Paint	$749
Canvas 5.0	$179	Inspiration 5.0	$79
Character Studia	$275	Iamega Zip100 Ext Drive	$149
ClarisWorks 4.0 Intemet Edition	$89	Jamba 1.1	$125
Close-Up 6.5	$89	Jmp 3.2	$329
Coda Finale 3.7	$249	KPT Bryce 2.0	$119
Corel Click & Create 1.01	$149	Kai's Power Tools 3.0	$85
Corel Ventura 7.0	$149	Kadak DC50 Digital Camera	$649
Cubase 3.0	$199	LightWave 3D 5.0	CALL
DeBobelizer Pro	$319	Latus 1-2-3 97	$69
DeltaGraph 4.0	$89	M.Y.O.B 7.0	$49
Dramatica Pra 2.0	$199	Mathematica 3.0 Student	$149
EndNote Plus 2.1	$165	MiniCAD 7 0	$319
Epson Stylus 800 InkJet Printer	$419	NetObjects Fusion 2.0	$199
Eye Candy 3.01	$79		

OS/2 Warp 4.0	$99		
OmniPage Pro 7.0	$329		
PC MACLAN 6.0.1	$129		
Photo/Graphic Edges Vol 1,2 or 3	CALL		
PhotoTools 1.1	$69		
PosterWorks 4.0	$249		
ProComm Plus 4.0	$99		
QuickView Plus 4.0	$39		
Screen Caffeine Pro	$75		
SigmaPlot 4.0	$349		
SmartSuite 97	$99		
Sportster 56K Ext	$209		
Squizz! 2.0	$69		
StoryBoard Artist 1.5	$329		
Terra Forma Regional Vol 1,2, or 3.	$119		
Turbo C++ 4.5	$49		
Umax Astra 600S Scanner	$239		
VirusScan 3.0	$49		
Visio 4.0	$99		
Visual Objects Pro 2.0	$169		
Wacom Art Z II 12x12 Serial Tablet	$399		
Wacom Art Z II 6x8 Serial Tablet	$285		
Webtricity	$119		
Win Academy Tutorial Videos	$35		
WardPerfect Suite 7.0	$79		

Director 6 Multimedia Studio $649

FreeHand Studio 7.0 $199



Delphi 3.0 Pro $119

*SAME DAY SHIPPING ON MOST ITEMS.
*SCHOOL PURCHASE ORDERS WELCOME.
*NO SURCHARGE ON CREDIT CARDS.
*IBM & MAC PRODUCTS AVAILABLE.
*ADOBE, SYMANTEC & MICROSOFT PRODUCTS AVAILABLE TO QUALIFIED STUDENTS, TEACHERS AND SCHOOLS.

PHONE (800) 289-3275

**Prices and Availability Subject to Change
**Free AOL Starter Kit While Supplies Last

CALL FOR FREE CATALOG!! (800)289-3275

INCLUDES COMPLETE PRICE LIST & FREE PRODUCT LITERATURE

WE WILL BEAT ANY ADVERTISED PRICE !

The SOFTWARE Source

THE SOFTWARE SOURCE CO, INC.
1750 Brielle Ave, Unit A-2, Ocean NJ 07712
Phone (908) 695-2100 Fax (908) 695-9371

VISA MasterCard

CIRCLE 473 ON READER SERVICE CARD

BASON HARD DRIVE WAREHOUSE

3.5" Hard Drives

100MB	Conner CP3100	SCSI	$45
540MB	Seagate 5660N	SCSI	$129
840MB	Quantum 840S	SCSI	$185
1.0GB	IBM DFHS	SCSI	$219
1.0GB	Quantum 31070S	SCSI	$229
1.0GB	Samsung 310820	IDE	$175
1.0GB	Quantum 31080S	SCSI	$225
1.2GB	Quantum 31280S	SCSI	$229
1.6GB	WD 21600A	IDE	$189
1.7GB	Quantum 31700A	IDE	$189
2.0GB	IBM DCAS	SCSI	$329
2.0GB	NEC 2100S	SCSI	$275
2.0GB	Quantum 32150S	SCSI	$359
2.0GB	Quantum 32110S	Ultra	$289
2.0GB	Seagate 32132A	IDE	$189
2.0GB	Seagate 32107N	SCSI	$369
2.0GB	Seagate 32171N	Ultra	$539
2.0GB	Seagate 52160N	Ultra	$309
2.5GB	Seagate 52520A	IDE	$219
3.0GB	Quantum 33200S	SCSI	$319
3.5GB	Quantum 33840A	IDE	$289
4.0GB	Fujitsu 2954SY	SCSI	$629
4.0GB	IBM DCAS	Ultra	$479
4.0GB	Quantum 34550S	SCSI	$829
4.0GB	Seagate 15150N	SCSI	$799
4.0GB	Seagate 34371N	Ultra	$729
4.0GB	Seagate 14209N	Ultra	$759
9.0GB	Micropolis 1991	SCSI	$1199
9.0GB	Micropolis 1991AV	SCSI	$1299
9.0GB	Seagate 19171N	Ultra	$1359

Tape Drives

2.0GB	Conner 2004	DAT	$499
4.0GB	Conner 4324	DAT	$559
8.0GB	HP 1533	DAT	$829
8.0GB	Conner 8000	DAT	$659
14.0GB	ExaByte 8505XL	DAT	$1759
16.0GB	Conner 4584	DAT	$999

Wide SCSI Drives

1.0GB	Conner 1060W		$219
1.0GB	Quantum 31070W		$219
2.0GB	Quantum 32150W		$429
2.0GB	Seagate 32550W		$599
2.0GB	Seagate 32171W		$559
4.0GB	IBM DCAS-W Ultra		$559
4.0GB	Quantum 34300W		$759
4.0GB	Quantum 34550W		$789
4.0GB	Seagate 34371-UW		$799
4.0GB	Seagate 15150W		$839
9.0GB	IBM 39100W		$1259
9.0GB	Micropolis 1991W		$1259
9.0GB	Micropolis 1991WAV		$1259
9.0GB	Micropolis 3391W		$1299
9.0GB	Seagate 19171-UW		$1399

2.5" Notebook Drives

520MB	Seagate 9655AG	IDE	$189
810MB	Seagate 9816AG	IDE	$229
810MB	Toshiba MK1926FCV	IDE	$229
810MB	Toshiba MK1926FB	SCSI	$379
1.0GB	IBM Sanada-21080	IDE	$249
1.3GB	Seagate 91350A	IDE	$279
1.3GB	Toshiba 1401MAV	IDE	$279
1.7GB	Toshiba MK1701	IDE	$299
2.1GB	Toshiba MK2101MAN	IDE	$379
2.1GB	IBM DCRA-22160	IDE	$379
2.1GB	Toshiba MK2103	IDE	$399
3.0GB	Toshiba 3003MAN	IDE	$529

Memory

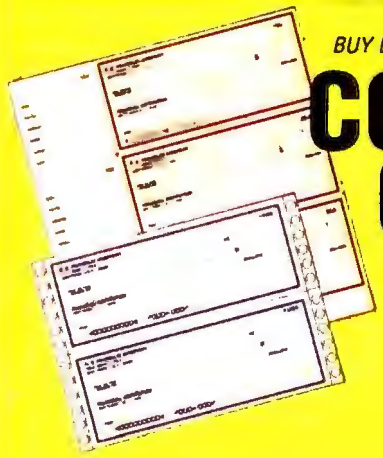
Standard 72-Pin SIMM		
8MB	2x32/36	$43/ $54
16MB	4x32/36	$75/ $95
32MB	8x32/36	$155/$185
EDO 72-Pin SIMM		
8MB	2x32	$43
16MB	4x32	$75
32MB	8x32	$155

Other Brands & Models Available
Call Us! 800-238-4453
Or, Visit our Web Page for Everyday New Low Prices!
www.basoncomputer.com

- 30 day money back guarantee
- Same day shipping on most orders
- No surcharge for credit cards
- Please add $69 for external drives
- Prices are subject to change without notice

Call (818)727-9054 • Fax (818)727-9066

CIRCLE 401 ON READER SERVICE CARD



BUY DESIGNER DIRECT FOR LOWEST PRICES!

COMPUTER CHECKS

AS LOW AS $29.95

Plus One FREE "Check Saver" With Every Order
(For Partial Check Sheets or Aligning Continuous Feed Checks)

www.hotnew.com/checks
CALL: 1-800-239-4087
FAX ORDERS: 1-800-774-1118 (PLEASE CALL FOR A FAX ORDER FORM)
E-MAIL: INFO@CHECKS.HOTNEW.COM
MC, VISA & AMERICAN EXPRESS ACCEPTED

LASER AND CONTINUOUS FEED CHECKS AVAILABLE IN:
- BUSINESS SIZE
- BUSINESS SIZE WITH VOUCHER
- WALLET SIZE

Available in Quantities of 250, 500, 1000 and 2000. Choose From 4 Stylish Colors!

Classic Green Prestige Tan Classic Blue

QUICKEN
SIMPLY MONEY
MICROSOFT MONEY
MANAGING YOUR MONEY
QUICKBOOKS
& MANY MORE

Designer CHECKS
P.O. Box 9100 • Anniston • AL 36202-9100

P05P04C6 • PC WORLD

CIRCLE 474 ON READER SERVICE CARD

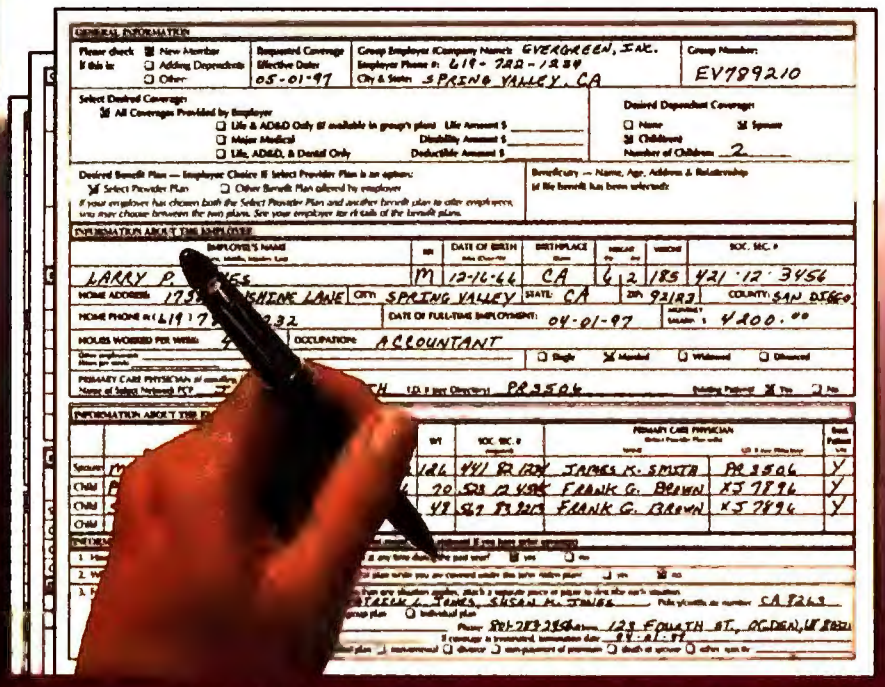
SURVEYS • SALES ORDERS • TIME CARDS • REGISTRATIONS • INSURANCE CLAIMS • PATIENT HISTORY • CREDIT APPLICATIONS

AUTOMATED DATA ENTRY

Any Form...Every Format!

If your company enters information into a database, you need **TELE***form*, the data collection solution. **TELE***form* reads hand print from any form. It reads any data type from faxed, scanned, or even Internet-based forms. The **TELE***form* family of products can handle your forms processing needs, whether its a hundred or tens of thousands of forms each day. Create a form, print it, fax it, post it on your Web site. One form in any format, paper or electronic. Thousands of companies use **TELE***form's* data collection server and robust recognition capabilities to reduce their dependence on manual data entry.

Find out more about TELE*form*, your Total Data Collection Solution.
Toll Free
888.254.8915
www.cardiffsw.com



Phone: 760-752-5244 • FAX: 760-752-5222

EMPLOYMENT APPLICATIONS • TESTS AND EVALUATIONS • WARRANTY CARDS • READER RESPONSE

CIRCLE 440 ON READER SERVICE CARD

Retail Accounting Solution!

PCW 8/97

MicroBiz AUTOMATE YOUR BUSINESS

The worlds best selling Point-of-Sale solution that gives you more money, more control and more flexibility.

See for yourself how effectively MicroBiz software can manage your retail business

- ✓ Accurate Inventory Control
- ✓ Defined Customer Tracking
- ✓ Complete Invoicing
- ✓ xBase File Structure
- ✓ Multiple Language Support
- ✓ Create Mailing Lists
- ✓ Detailed Receipt Generation
- ✓ Hardware Solutions Too
- ✓ Includes Report Builder Module

Special Versions For:

- ✓ Auto Repair
- ✓ Dry Cleaning
- ✓ Video Tape Rental
- ✓ Liquor Store
- ✓ Hair Salon
- ✓ All Retail & Service Businesses

FROM $695.00

MICROBIZ "Easiest to Use" ...Computer Reseller News November 7, 1994 SOFTWARE

MicroBiz offers the easiest to use Point-of-Sale software solutions for retail and service businesses. Over 100,000 Businesses have automated with our software. Our software is powerful, flexible and uses industry standard xbase files, so you can create your own reports. Our data can be merged with Excel, Word, and other industry standard products. Call for a demonstration copy of our software or download it from the web. Single or Multi-user or multi-store solutions.

Call for our ***FREE*** catalog... **800-637-8268**

Resellers Welcome!
Call **800-SELL-POS**

777 Corporote Drive ♦ Mahwah, NJ 07430
Phone: 201-512-0900 FAX: 201-512-1919
Visit our Home Page at: www.microbiz.com

CIRCLE 403 ON READER SERVICE

NO MORE pre-printed checks!

Save time and money printing your own checks with mips VersaCheck™!

Revolutionary mips VersaCheck™ is the inexpensive software that not only lets you print your own completely valid checks from scratch, but automatically keeps your account balances too! mips VersaCheck installs in MS Word for Windows and lets you create checks in minutes. Include addresses, logos, even your signature, all password protected. **mips VersaCheck even prints the MICR account number required by all banks for processing.** And, you can make changes to your checks at any time, instantly!

- ✔ **Save 50-80%** over pre-printed checks!
- ✔ Prints bank drafts and deposit slips
- ✔ Manage an unlimited number of password-protected accounts
- ✔ Compatible with inkjets and laser printers
- ✔ Compatible with Quicken, QuickBooks, PeachTree and more!

FREE! 300 Additional Blank Checks! Mail-in coupon inside box.
See our other check and electronic form products on the web!
http://www.mipsdla.com

mipsVersaCheck™ SRP $49.95

mips

Dataline America, Inc.
Tel: 619-679-4070 Fax: 619-679-4073
13240 Evening Creek Drive, Suite 311 San Diego, CA 92128

To order, call 800-898-8560

Also available through:

EGGHEAD	COMPUSA	Tiger Software	Electronics Boutique	COMPUTER CITY
800-EGGHEAD	800-COMPUSA	800-888-4437	800-800-0032	800-843-2489

CIRCLE 517 ON READER SERVICE CARD

CIRCLE 410 ON READER SERVICE CARD

For high performance web hosting, more people turn to Hiway than anyone else.

Serving more than 30,000 web sites for customers in over 80 countries, Hiway is the worldwide leader in web hosting. With so many choices, why does everyone pick Hiway?

The world leader in FrontPage™ hosting

- ✓ 3 T3 lines to diverse backbones
- ✓ Silicon Graphics WebFORCE Servers
- ✓ Industrial-strength Cisco routers
- ✓ 99.5% uptime—guaranteed!
- ✓ Uninterruptible power
- ✓ 24 x 7 network operation center
- ✓ 40 terrabyte tape archive system
- ✓ 24 x 7 multilingual support
- ✓ Accounts set up within a few hours
- ✓ Domains registered within 24 hours
- ✓ 30 day money back guarantee
- ✓ Serving over 30,000 domains

PLANS FROM **$24.95** PER MONTH

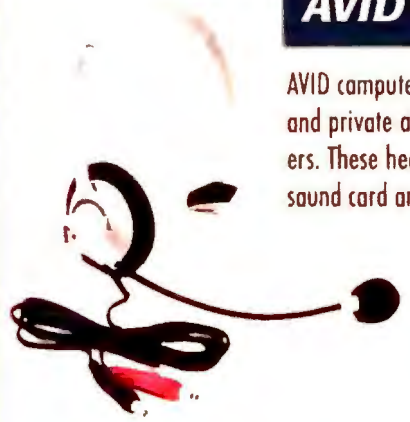
(800) 339-HWAY
www.hway.net
(561) 989-8574

Reseller Opportunities Available

Hiway Technologies
THE WORLDWIDE LEADER IN WEB HOSTING

CIRCLE 416 ON READER SERVICE CARD

AVID Computer Headsets



AVID computer headsets are an affordable, lightweight and private alternative to PC microphones and speakers. These headsets plug right into your computer's sound card and are ideal for:

- Computer Telephony Integration (CTI)
- Voice/Speech Recognition
- Personal Conferencing
- Internet Telephony
- Multimedia Applications

Only $24.95 – Dealers welcome

VISA, AMEX & MASTERCARD

Ahern Communications Corp.
1-800-451-5071

www.aherncorp.com

CIRCLE 484 ON READER SERVICE CARD

Custom ULTRA SCSI Cables - Terminators - Cases

If you want Ultra SCSI Performance use our Teflon Cables & Active Terminators. *Our knowledgeable SCSI Technicians will solve all your SCSI problems...guaranteed!*

SCSIVue™ Active Terminato

Optional

From: $59

Four models available with optional Remote LED Pak. These are the finest terminators available, they fix SCSI problems and improve reliability.

Benefits :
- Improves SCSI Bus Performance
- Less Errors; More Reliable Data Transfer
- Diagnoses Problems • Analyzes Signal Quality

Features :
- Active Regulation • *Fast 50 & Fast Wide 68*
- Status Indicators • Gold Contacts

Active 2-1 SCSI Switch / Repeater

Benefits :
- Up to 14 Devices to 1 Computer
- Share Devices Between 2 Computers

Features :
- 2-1 Active Digital Switch/Repeater
- Regenerates SCSI Signal for Long Runs

From: $599

Gold Diagnostic Adapters

Styles Gender Changers
- Both 50 pin and 68 pin (all combinations)

Gender Changer

Drive Bus Changer (run 68 pin on 50 pin bus

Styles . 68 pin Drive to 50 Bus
- 68 Pin Drive to 50 Pin IDC (runs wide drive as narrow)

Styles ; 68 Pin Adapter Wide to 50 Pin Narrow
- 68 Pin External Adapter to 50 Pin (converts Host Adapter)

From: $49

68 Pin to 50 Pin Centronics or 50 Pin MicroD Adapters

Styles : For Adaptec Ultra Wide C.
- Adapters with partial termination built in for 68 to 50 converters (converts Host Adapter

SCSIVue™ Gold Diagnostic Cables

Benefits
- No Loss Of Important Data
- Faster Performance
- Test Cable Integrity

Features :
- Diagnostic Indicators • Large Ferrite Filters
- Triple Shielding (Unique Design)
- Double Gold 20u" Plated Connectors
- Extra Heavy 26 Gauge Wire • 100 Styles in Stock

From: $39

Teflon 90 Ohm External Cables

Benefits :
- Ultra SCSI 40 MB/s operation
- Fixes Ultra SCSI Cable Problems

Features .
- Perfect 90 Ohm Impedance Match
- Triple Pronged Connector With Gold contacts

From: $159

Gold .8mm Ultra SCSI Cables

Benefits :
- Faster Performance
- Test Cable Integrity
- No Loss Of Important Data

Features :
- New .8mm Ultra SCSI Connector
- Triple Shielding (Unique Design)
- Double Gold 20u" Plated Connectors
- Diagnostic Indicators • Large Ferrite Filters

From: $109

External Ultra SCSI Cases

SCSI Custom Teflon Cable Available
Custom Enclosures in 1 Day for Raid & Arrays

From: $99

NEW! Temperature ALARM! Monitor & Control

SCSI 2+3 COMPATIBLE

The Vertical 3.5" Case Kit offers a small transportable package. Ideally suited for moving around, this durable case can take a beating. Universal 35 Watt power supply.

The Horizontal 3.5" or 5.25" Case Kit Offers a stackable solution for any desktop need. Shown with Optional Bay Cooler installed.

From: $59

Open Face and Closed Face Models Available.
Optional 50 or 68 Teflon® Cables Available.

NEW Accessories!

Dual Fan & Bracket $29

HOT Ultra SCSI Drives COLD as ICE!

HOT SWAP Pull Out Bays
Compatible with all 50 pin & 68 pin SCSI Buses up to Fast SCSI 2. From: $79.00

Custom Teflon® Internal Cables

Benefits :
- Less Errors, Ultimate Performance
- Silver Wire Improves Signal Quality

Features :
- Perfect 90 Ohm Impedance • Custom in 1 Day
- Triple Pronged Connector - Gold contacts Silver Wire

From: $39

50 Pin Replacement Cable for External Drive Cases

68 Pin Replacement Cable for External Drive Cases

68 Pin Internal Cables, custom or stock, from 1 to 15 SCSI devices per cable . We can also make Custom 68 pin and 50 pin Combination Cables that allow you to use narrow drives on a wide cable.

Active Digital SCSI Repeater

PS Included

From: $139

Benefits :
- Models for all SCSI types
- Fixes SCSI Cable Problems

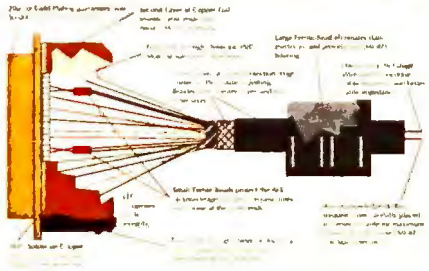
Features :
- Doubles Cable Length (up to 18')
- Active Termination and Signal Purification
- Ultra Fast Performance for Added Capabilities
- Diagnostic Capabilities • 30u" Gold Contacts

OEM SCSI Repeater

If you integrate SCSI Raids or Arrays and are having problems making it work, the Granite SCSI Repeater will make it work. Designed to fit inside any computer or external case.

Granite Cables Are The Best Because They're Engineered Right.

Granite Cables were designed by SCSI Engineers to be the Best Cables On The Market. Everything about them means better performance and higher reliability. Our design incorporates an exclusive shield that protects the Acknowledge and Request lines from noise. Large Ferrite beads are installed on all cables to protect them from static and noise. Every cable incorporates a LED indicator that lets you know it is operating properly. We also use more GOLD on every cable. Add to this our impedance matching techniques and you have most of what makes us THE BEST!



SCSI Cable Tester - LED Readout

This Digital SCSI Cable Tester can test all the popular cable styles for opens, shorts, and unreliable operation. Battery powered for easy use anywhere you need it.

Three models to choose from:
- 50 pin IDC
- 50 in Centronics
- 68 pin MicroD

From: $49

Granite

Online Catalog at... www.scsipro.com The SCSI Solution Company D•I•G•I•T•A•L 3101 Whipple Rd. Union City, CA. 94587 Ph: 510-471-6442 Fax 510-471-6267

CIRCLE 454 ON READER SERVICE CARD

GET MCSE, CNE OR A+ CERTIFIED... FAST!

The first *100%* Computer Based Training (CBT) programs on CD-ROM to fully prepare you for Novell's CNE, Microsoft's MCSE and the A+ Certification exams. ForeFront's Self-Study Courses give you flexibility and portability unmatched by traditional training methods. You'll study at your own pace using our easy to follow, step-by-step format. Study whenever and wherever it's convenient for you!

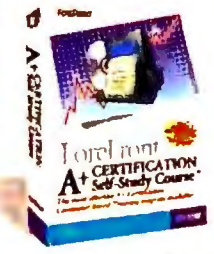
- **All on one CD**
- **Interactive simulations for hands-on exercises**
- **Study at your own pace**
- **Hundreds of practice questions**
- **Priced below competitive products**
- **Everything you need to prepare for the exams!**

Bonus!!!
Buy Any Two CBTs and get The Micro House Technical Library™ **FREE**

The ForeFront MCSE Self-Study Course™

Ensures the highest rate of retention so that when you complete your training you'll be fully prepared to pass your MCSE exams. You'll be ready and confident to go into the workplace to effectively plan, implement, maintain and support information systems in a wide range of computing environments, using Windows NT and other Microsoft Server products.

The ForeFront A+ CERTIFICATION Self-Study Course™



Getting A+ Certified will help open the way to further advancement in the corporate world. A+ Certification is the new required standard for PC Repair Technicians. This hands-on self-study course will give you all the technical material, knowledge, interactive exercises, and confidence you'll need to pass your exams and excel in today's competitive PC repair marketplace!

The ForeFront CNE Self-Study Course™

Provides fast, effective and convenient training to anyone wishing to become a Certified NetWare Engineer, even when hampered by a busy schedule. Our CNE CBT allows you to learn *everything* you'll need for full NetWare certification.

Call for Special Discount Pricing Today!

1-800-475-5831

(813) 724-8994 • FAX (813) 726-6922 PC

25400 U.S. Hwy. 19 N., #285 Clearwater, FL 33763

MasterCard VISA AMERICAN EXPRESS DISCOVER/NOVUS

- **Free Technical Support**
- **Next Day Shipping**
- **Performance Guaranteed**

FOREFRONT™ DIRECT

CIRCLE 477 ON READER SERVICE CARD

MANAGERS READ ONLY PC WORLD

Well, 617,000 of them read only PC WORLD. You can't reach them through any other major computer magazine. No kidding. Your four-color ad in Business Class hits them right between the eyes. For only $6020 an issue! (On a typical 12-time rate for a quarter-page ad.)

Call Now for Details
(203) 857-5101 or - 5102

Cyberseminars, Audio Lectures, Online Discussion Groups...

Education Has Evolved.

Now it's your turn. Find out about McGraw-Hill World University's innovative associate degree programs — the most convenient, effective, affordable way for working adults to continue their education.

Visit us on the Web! http://www.mhwu.edu
or call 1-888-649-8648, Ext. 2677

McGRAW-HILL WORLD UNIVERSITY
ONLINE AND IN TOUCH
4401 Connecticut Avenue, NW, Washington, DC 20008
A Division of The McGraw-Hill Companies

CIRCLE 499 ON READER SERVICE CARD

CD ROMS

Toshiba 5602B 8 Speed (IDE) 62
Toshiba 5702B 12x (IDE) 77
NEW! Toshiba 6002B 16x (IDE) 84
NEW! Toshiba 5701B 12x SCSI 119
NEW! Toshiba 3801B 15x SCSI 165
TEAC 12 Speed IDE (512E) 82
NEW! TEAC 516E 16 speed IDE 92
NEW! TEAC 516-S 16 speed SCSI 141
Plextor Twelveplex 12x Int SCSI 177
NEW! Plextor 20x SCSI CD-ROM 212
Samsung 12 Speed CD Rom 72
Mitsumi 8 Spd IDE (FX800) 62
Mitsumi 12x IDE (FX1200) 71
NEW! Mitsumi 16x IDE (FX1600) 79
NEW! Sony 611E 16x (IDE) 91
NEW! Acer 18x (IDE) CD-Rom 88
NEW! Hitachi 16x IDE 84
Nakamichi 8x SCSI 4-Disc Changer 177
NEW! Panasonic CR 585-B 24x IDE 105

SOUND CARDS

Creative Labs 16 IDE PNP 42
Creative Labs 32 IDE PNP .....*SPECIAL* 69
Diamond Tech. 16 IDE PNP Sound Card ...19
NEW! AWE 64 Value (Retail Box) 85
Special Creative Labs AWE 64 PNP Retail. 129
Special Creative Labs AWE 64 GOLD Retail 169

RECORDABLE CD-ROMS

NEW! Panasonic 8x4 Kit 499
Panasonic 4x2 Kit w/Adaptec SCSI card .369
NEW! Sony 926 6x2 Complete Kit 329

FAX MODEMS

US Robotics 33.6 Win Modem Int. 45*
US Robotics 33.6 Fax Mod Int (V.34) 69*
US Robotics 33.6 Fax Mod. Ext. (V.34) ..93*
US Robotics 33.6 Voice (Duplex) Int. ...85*
US Robotics 33.6 Voice (Duplx) Ext. 108*
US Robotics X2 Fax Modem (56k) Int. ..155

Visit our Web Site @ compuplus.com

- 30 day money back guarantee
- All items brand new factory fresh with complete manufacturers warranties
- Same day shipping
- Nationally advertised lowest on-line prices
- MC, VISA & AMEX – no extra charge

COMP-U-PLUS Direct

Your Friend in the Industry

CALL TOLL FREE **800-287-2323**

20 Robert Pitt Drive, Monsey, NY

NEW HOURS: MON-THURS 8:30- 9PM EST
SUN 10 AM-6 PM, MON-THURS 8:30 AM-9, FRI 8:30AM-5:30 PM EST

Friendly, Courteous and Knowledgeable salespeople always available to help you.
Look and Compare. We have the LOWEST PRICES and BEST SERVICE in PC WORLD MAGAZINE.

NEW! US Robotics X2 Fax Modem (56k) Ext. .172
NEW! US Robotics X2 F M (56k) Int. w/voice .171
NEW! US Robotics X2 F M (56k) Ext.. w/voice. 188
US Robotics 14.4 Fax Modem Int. only .. 41
NEW! LOWER PRICE! US Rob. 128K ISDN Int. .207
Cardinal 33.6 Fax Modem Int./Ext. .65*/105*
Supra 33.6 F/M Pn'P w/Voice Int. 55
Practical Periph. 33.6 F/M Int./Ext. ..74*/84*
Hayes Accura 33.6 F/M Int Ext 81*/99*

NETWORKING & PERIPHERALS

3 COM 3C 509 900 Combo ISA/PCI 72/93
Microsoft Mouse 2.0 Serial or PS2 21
LogiTech Trackman Marble .....*SPECIAL* 49
Mitsumi Windows 95 104 key keyboard 12
Microsoft Natural keyboard .....*SPECIAL* 48
Logitech Mouseman Combo (Ser./PS2) 22

ADAPTEC SCSI CARDS

1505 ISA/SCSI Kit 37
2940 SCSI Kit 161
2940 Ultra SCSI Kit (PCI) 171
2940 Ultra Wide SCSI Kit 207

PCI VIDEO CARDS

Diamond Stealth 3D 2000 2MB EDO Ram .51
Diamond Stealth 3D 2000 4MB EDO Ram ..76
Diamond Stealth 3D 3000 2MB V Ram 105
Diamond Stealth 3D 3000 4MB V Ram 139
NEW! Diamond Monster 3D 162
Matrox Mystique 2MB SG Ram 88
Matrox Mystique 4MB SG Ram 108
Matrox Millenium 2MB V Ram 127
Matrox Millenium 4MB V Ram 159
NEW! Matrox Millenium II .....$Call
ATI 3D Xpression PC2TV 2MB 107
ATI 3D Xpression PC2TV 4MB 132
ATI 3D Pro Turbo PC2TV 4MB 157
ATI 3D Pro Turbo PC2TV 8MB 198
NEW! ATI All-In-Wonder 2MB/4MB 216/239
NEW! ATI TV Tuner 94

ATTENTION: ALL CUSTOMERS:
ORDERS ARRIVE OVERNIGHT OR SECOND DAY
LOW, LOW $$$$$

TAPE BACKUPS

HP Colorado DJ-35 "350MB" Internal 55
HP Colorado T1000 "800MB" Int/Ext 89/133
HP Colorado T3000 3.2 GIG Int 162
NEW! HP T4000 SCSI 4/8 GIG Int/Ext 329/411
Seagate T*800MB Internal 65
Seagate T*800MB External 105
Seagate T3200 3.2 GIG IDE Int/Ext 135/159
Seagate T8000 8 GIG Int/Ext 323/403

IDE/SCSI HARD DRIVES

Seagate 3630A (635MB) 130
Seagate 31276A 161
Seagate 31720A (1.7 MB) 169
Seagate 32132A (2 GIG) IDE 175
Seagate 52520A (2.5 GIG) IDE 195
NEW! Seagate 33240A (3.2 GIG) IDE 229
NEW! Seagate 36450A (6.4 GIG) IDE 438
Seagate 51080N 1.1 GIG SCSI-2 229
Western Digital Caviar 2850 (850MB) IDE 145
Western Digital Caviar 21200 (1.2 GIG) 158
Western Digital Caviar 21600 (1.6 GIG) IDE 171
NEW! Western Digital Caviar 22100 (2.1 GIG) 188
NEW! Western Digital Caviar 32500 (2.5 GIG) 199
NEW! Western Digital Caviar 33100 3.1 GIG IDE 225
NEW! Western Digital Caviar 34000 4.1 GIG IDE 288
Fujitsu M 1636 (1.2 GIG) IDE (fast 10ms) 156
Fujitsu M 1623 (1.7 GIG) IDE (fast 10ms) 166
Fujitsu M 1624 (2.1 GIG) IDE (fast 10ms) 179
Fujitsu M 1638 (2.5 GIG) IDE (fast 10ms) 194
Maxtor 81280A (1.3 GIG) IDE (10ms) Diamond ..155
NEW! Maxtor 81750A (1.7 GIG) 171
Maxtor 72004AP (2.1 GIG) 179
NEW! Maxtor 82560A (2.5 GIG) DiamondMax . 191
NEW! Maxtor 83500AP (3.5 GIG) IDE 245
NEW! Maxtor 84000 (4.0 GIG) IDE 283
NEW! Maxtor 85120A (5.1 GIG) IDE Diamond .358
Mitsumi Floppy 1.4/1.2 .....19/39
TEAC 1.4/1.2 Floppies 20/39
SONY 1.4 Floppy 21

• CODs, m/o or cashier chk only. Sorry P.O.'s w/ pre-payment only • Shipping, handling & insurance additional • Friendly, courteous and knowledgeable salespeople • Alternate 800 number 800-287-8786 • Dealers and bulk orders please call 914-352-8100 • RMA with auth. only. No restocking fee first 30 days. Prices may fluctuate due to availability. • For tech support & customer service 10AM-5PM E.S.T. call 914-352-8100 * Price after rebate

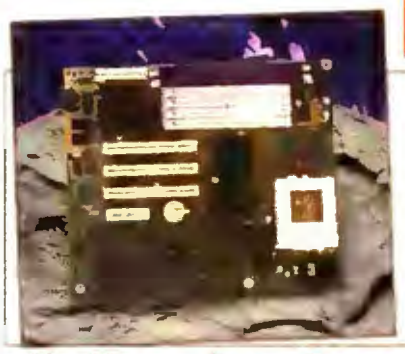
CIRCLE 464 ON READER SERVICE CARD

The Finest PC Circuit Boards!!!

HSB COMPUTER LABORATORIES

The nation's largest full-line PC circuit board specific manufacturer and distributor caters to individuals and businesses interested in only the finest hardware and service at the best price, provided by a long term, financially stable company. For over a decade we at HSB have earned our standing as the most reputable circuit board manufacturer and distributor in the industry. Don't make the mistake of buying 'Throw-Away' circuit boards from a company without any long term commitment to your satisfaction. If we sound like what you're looking for, please give us a call at...

(800) 497-0401



HSB 64-Bit AT and ATX MainBoards

Our MainBoards are the finest on the market, designed from the ground up to compete head-to-head with the most expensive and sophisticated designs available. Whether you're thinking of upgrading your existing system, or building a new one from scratch, you can't go wrong with HSB...

We Make Your Buying Decisions Easy!!!

With HSB you'll receive:

- ☑ Circuit boards proven to be the best in the business. No exceptions and no excuses. Our boards outperform and outlast all challengers...
- ☑ A full 2 to 5 year circuit board warranty paired with a limited lifetime warranty on all 'Turbo' SIMM's, DIMM's and CPU's. Furthermore, we've always provided our customers with a full 60 day 100% money-back guarantee and no restocking charges...
- ☑ Free technical support and a non-commissioned sales staff. No one makes it easier to buy and install your componentry than HSB. Even our owner's manuals are the best you'll find anywhere...

Please call 800-497-0401 for up to the minute pricing, or to receive your free color catalog!

IN OVER A DECADE, HSB HAS NEVER BEEN BEATEN ON PRICE. IF YOU HAPPEN TO COME ACROSS A BETTER PRICE ON A COMPARABLE PRODUCT, WE'LL BEAT IT. NO QUESTIONS ASKED...

34208 Aurora Road #297, Cleveland, OH 44139 216-498-1356 [Local] 216-498-1374 [Fax]

Visit Us Online or Call Us for Your Free Catalog!

Computer Furniture Direct will help you put everything in it's place. Create the ultimate personalized work space with sturdy, real wood furniture. We deliver and set up in your home or office. Enjoy factory direct savings on over 25 different desks priced delivered from $419.
Call us at 904.565.1163

c f - d i r e c t . c o m
Please Refer to Ad Code PCW897

Delivered Direct to Your Home or Office!

COMPUTER FURNITURE DIRECT

CIRCLE 423 ON READER SERVICE CARD

LOWEST PRICES ON THE NET!

35,000 PRODUCTS ON-LINE!

- Live auction - bids start at $5
- Product GIVEAWAYS - WIN!
- 20,000 spec sheets
- News and Announcements

GET IT ALL AT http://www.club-pc.com

END-OF-LIFE SAVINGS!

SONY
20SF2
20" Trinitron Color
$1299

LOW, LOW PRICES!

Quantum
Fireball Tempest 3.2GB IDE Hard Drive
$246

BRAND NAME SAVINGS!

TOSHIBA
220CDS
133 MHz
10X CD
12.1" DS
$1972

MONITORS

SONY.
100SX 15" Trinitron $354
200SX 17" Trinitron $648
300SFT 20" Trinitron $1572

NEC
M500 15" Chromaclear $364
M700 17" Chromaclear $745
E1100 21" Multisync $1479

HARD DRIVES

Quantum
2.1GB IDE Tempest 11ms ... $209
3.8GB IDE Tempest 11ms ... $293
3.2GB SCSI Stratus 10ms ... $338
4.3GB SCSI Stratus 10ms ... $446
6.4GB SCSI Stratus 10ms ... $558
4.3GB SCSI Atlas II 8ms $712
9.1GB SCSI Atlas II 8ms $1207

NOTEBOOKS

IBM.
ThinkPad 380 P150 DS $2128
ThinkPad 380D P150 8x DS . $2418

TOSHIBA
Portege 300CT MMX/133 .... $3423
Satellite Pro 440CDX MMX/133 $2448
Satellite Pro 460CDX MMX/166 $4199
Tecra 520COT MMX/166 ..... $4594

PRINTERS

HEWLETT PACKARD
HP LaserJet 6Pxi 6ppm NEW! $727
HP LaserJet 6Lxi ..... NEW! $389
HP DeskJet 870Cxi .. COLOR! $385

GRAPHIC CARDS

matrox
Mystique 3-D 4MB SGRAM . $117
Millennium II 4MB WRAM ... $247

simple TECHNOLOGY MEMORY UPGRADES 100% GUARANTEED

Toshiba 110/200/430/740	8MB	71,16MB	117,32MB 224
Toshiba T1900-T4900		16MB	117,32MB $219
IBM ThinkPad 355/360/755		8MB	$65,16MB $117
IBM ThinkPad 365X/380/560/760E/760X	8MB	$57	,16MB $108,32MB $254
NEC Versa E/V/M/P/4000	8MB	$68,16MB	$115,32MB $224
Compaq Contura 400	8MB	$68,16MB	$119
Compaq Presario 1010-1080	8MB	58,16MB	$112,32MB $214

FedEx WE SHIP OVERNIGHT • CALL FOR A FREE CATALOG

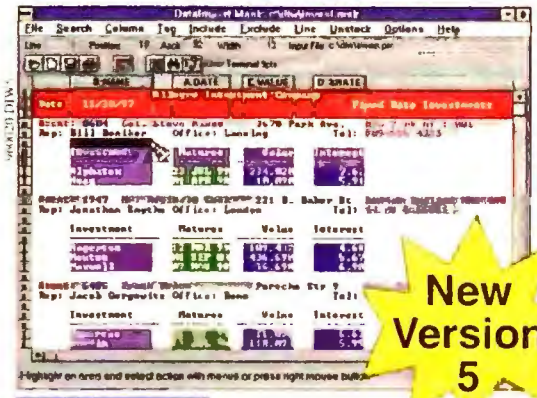
Local 714-707-3082
Fax 714-768-7307
Prices subject to change without notice
60 Parker, Irvine, CA 92618

1-800-216-2763
ORDER 6AM - 6PM PDT • MON - FRI

ClubPC
Source Code 83087

CIRCLE 502 ON READER SERVICE CARD

Garbage In... ...Data Out!



New Version 5

DataImport®
File Translation Utility for Windows

Pull data from any computer report into:

Access
Excel
dBase
HTML Tables
1-2-3
Paradox
Approach
Quattro
Clarion
and more!

Go far *beyond* the meager limitations of import wizards and parsers. Selectively **mine data** from even complex multi-level reports and forms printed-to-disk. DataImport makes it easy to dynamically clean-up reports, parse names and rearrange data. Instantly create new files or add data to existing files.
DataImport does it all!

$189 Single User **$495** 5-User LAN

SPALDING SOFTWARE

Free Demo & Test Drive:
www.spaldingsoft.com
Voice: (770) 449-0594
Fax: (770) 449-0052
Norcross, Georgia USA

MasterCard NOVUS VISA

CIRCLE 434 ON READER SERVICE CARD

Better Prices. Bigger Selection. Better Call Now!

WE SELL MORE LCD PROJECTORS TO MORE PEOPLE THAN ANYONE! HERE IS WHY.

- ✔ Over 50 models in stock
- ✔ 30-day money back guarantee
- ✔ FREE technical support
- ✔ Uptime assurance
- ✔ Trade In-Trade Up
- ✔ Boxlight Certified for quality, reliability & value
- ✔ Overnight shipping

http://www.boxlight.com/pcworld/

BOXLIGHT™ CORPORATION

PRESENTING A BETTER WAY™

BOXLIGHT 2020 NEW

The first projector rugged enough for "Road Warriors."

- True 800 x 600 SVGA
- "Fold-away" design
- Tough steel frame
- Only 11 lbs. Light!

$4099
Business Lease*
$129/Month

Certified Products

REVOLUTION 3700

The new standard for portable multimedia performance NEW

- 450 ANSI, True SVGA
- Lightweight – 12 lbs
- 3-LCD Polysilicon
- Zoom, Auto-Setup

Call For Price

FedEx UPS VISA MasterCard American Express

CALL 1-800-762-5757 TODAY!

International: (360) 779 7901 **Fax:** (360) 779 3299
Government: (800) 497 4009 **Education:** (800) 689 6676
Monday - Friday, 6am - 5pm PST. Purchase orders accepted w/O.A.C.
Prices subject to change. Quantities may be limited.
30-day money back guarantee does not apply to Resellers.

NUMBER ONE IN RENTALS 800•736•6954

* Business lease is 36 month FMV lease requiring first and last month's payments at lease inception. Price does not include sales tax. Call for complete details.

PCW 8/97

CIRCLE 511 ON READER SERVICE CARD

Bar Codes Direct

From The Manufacturer

Labeling Software

For Dot Matrix or LaserJet

WINDOWS AND DOS!

- Any Format, Any Label. WYSIWYG, Text Design
- **Formats for Sears, K-Mart, Penney's, WalMart, TCIF, Logmars, AIAG, etc.**
- UCC-128, UPC/EAN, 2 of 5, Codabar, & Code 39
- Big Text and PCX. Powerful, Versatile, Easy!
- Imports ASCII data files from dBase, etc.
- LabelRIGHT™ for **Windows™ – $295**
- LabelRIGHT™ for **DOS–$279**

Bar Codes for Windows™

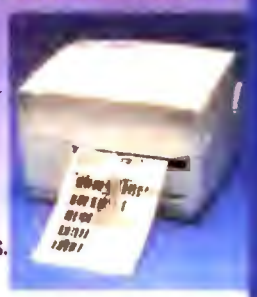
- Insert bar codes into any font based Windows program via "Hot Key"
- UPC/EAN, UCC-128,128, 2of5, Codabar, Code 39
- Fonts, Bitmaps and Metafiles, Complete – **$199**

Radio Frequency Terminal

- For IBM or Macintosh Computers

- 400 to 1000 foot Range
- 16 Selectable Frequencies
- 2 way RS-232 Communication
- Kybrd, Wand, Laser or CCD
- 1-16 Terminals/Base Station
- 6.3" x 3.3" x 1.25", 14 oz.
- Base Station – **$845**
- Complete Terminal – **$1090**
- With Integrated Laser – **$1790**

Thermal Transfer Printers



- 2"per second Thermal Transfer – Up to 4"wide
- Supports all Popular Bar Codes; 1 year Warranty
- Prints Bar Codes, Big Text, and PCX Graphics
- Small size, Weighs 20 lbs.
- Complete with labels, ribbon, cable, LabelRIGHT Windows or DOS software, and Datamax Ovation Printer – **$1095**

Portable Bar Code Readers

for PC, Mac and Serial

WITH VOICE!

- Battery Operated Reader 64K or 256K
- Attaches as 2nd Keyboard or Serial
- Display messages & voice messages prompt operator.
- Pick lists, tables.
- Wand, CCD or Laser Scanner
- UPC/EAN, 128, 2of5, MSI, Code 39, etc.
- Date/time stamps
- Built-in Inventory Programs -No Programming Necessary
- **Very Easy to Create Custom Prompts**
- Small Size-Weighs Only 12 oz.
- 64K Unit Complete with Wand & Voice – **$759**
- 64K Unit with Integrated Laser– **$1299**

Bar Code Readers

for PC, XT, AT, PS/2, Mac and RS-232 Terminals

- Attaches as 2nd Keyboard
- UPC/EAN, Code 128, 2of5, MSI, Code 39, etc.
- Wand, Magstripe, CCD, Slot Badge or Laser
- All European Keyboards Supported
- Superior Read Rates. Made in USA.
- **Top Rated by Independent Reviews**
- Complete Wand only Reader – **$299**
- Complete with Laser Scanner – **$649**

Cordless RF CCD Scanner

- Transmits up to 100 away from Base Station
- Base attaches as 2nd Keyboard to PC or Mac
- Complete Base Station and "Laser-like" RF CCD Scanner with 5" depth of field – **$899**

Ordering is Easy! 800-345-4220

Europe Phone: (353) 1 6614 566 • Europe Fax: (353) 1 6614 622 USA Phone: 408-458-9938 • USA Fax: 408-458-9964

- Same Day Shipping
- 30 Day Money Back Guarantee
- Direct from Manufacturer
- Free "800" Support
- Free UPS Blue in USA

In Europe call our Ireland Office:
353 1 6614 566 (Fax: 353 1 6614 622)

WORTHINGTON DATA SOLUTIONS

CALL FOR FREE CATALOG AND BAR CODE PRIMER!

ADDRESS FOR SUCCESS

http://www.aics.edu

Welcome to the AICS Virtual Campus

- Earn B.S. and M.S. in Computer Science
- DISTANCE EDUCATION
- Object oriented B.S. program
- New courses in Java, Networking, HTML, MIS
- Approved by more than 275 companies
- Follows ACM/IEEE guidelines
- Thousands of students throughout U.S.

AMERICAN INSTITUTE OF COMPUTER SCIENCES

Free catalogue
1-800-767-AICS
or ***http://www.aics.edu***

ACCREDITED MEMBER World Association of Universities and Colleges

EDUCATION

Be a PC repair expert!

CAREER-LEVEL HOME STUDY

Learn PC repair, upgrading, installation, and troubleshooting. Open your own business, or increase your value on the job. Our professional-level home study program lets you learn—and then earn—*without* a costly workshop or high-tech instruments. **Send or call 24 hours a day for your free literature.**

Call 800-223-4542

Name _____

Address _____

City/State _____ Zip _____

Age _____ Phone ( ) _____

The School of PC Repair
PCDI, 6065 Roswell Road
Dept. JJJ684, Atlanta, GA 30328

CIRCLE 451 ON READER SERVICE CARD

UPGRADES/MEMORY

Add 7- ISA Slots

With the DCS *SLOT BOX*®

For 286 Through Pentiums- $489

Upgrade Motherboards

Compaq, Dell, HP, IBM Gateway, Packard Bell

686-P166+..... $ 449
Pentium 166 MMX.... $ 599
Pentium 200 MMX.... $ 799

DCS Industries FAX 614-592-1527
800-537-3539 Local 614-594-4180
www.dcsindustries.com
Call for FREE Catalog

CIRCLE 465 ON READER SERVICE CARD

TANDY

UPGRADES

Hard Cards for 1000's

21meg $169 210meg $229

1000 EX & HX Hard Drives

Upgrade Motherboards

586-133 $349
686-P166+ $449

Upgrade Your TANDY Book $19.95
Keyboards $79, 360k or 720k FDs $49

We sell New and Used Hard Drives, Floppy Drives, Motherboards, Memory, Keyboards, VGA & CGA Monitors/Cards, and more for Tandy.
Call or write for our FREE catalog.
We buy used Tandy computer equipment.

DCS Industries Foreign 614-594-4180
5265 Hebbardsville Rd. FAX 614-592-1527
Athens, OH 45701 U.S. & Canada
800-537-3539
www.dcsindustries.com

CIRCLE 493 ON READER SERVICE CARD

SOFTWARE/GENERAL

SOFTWARE Liquidation

	Starting
Adobe Illustrator 7	$239
Adobe PageMaker 6.5	$259
Adobe Photoshop 4	$279
Adobe Premier 4.2	$279
MS Office Pro 97	$199
MS NT Workstation 4	$99
MS NT Server 4	$499
MS Visual J++ Pro	$39
MS Visual Basic 5 Pro	$129
MS Visual Basic 5 Ente	$229
MS Visual C++ 5 Pro	$129
MS Visual C++ 5 Ente	$229
MS Visual FoxPro 5 Pro	$129
MS Visual Studio 5 Pro	$399
Corel WordPefect Ste 7	$99
Corel Draw 7	$269

EZ Quest (800) 966-0188
VISA, MC, AMEX, prepaid cashier check

CIRCLE 476 ON READER SERVICE CARD

Software Blowout!!!

USA's #1 Software Provider

Microsoft Office 97 PRO ... $250
Microsoft Office 97 STD.... $199
Microsoft Office STD 4.2... $199
Microsoft Office PRO 4.3 .. $240
M.S Win Svr NT 4.0.....$475
M.S Win Wrkst NT 4.0 ..... $185
Microsoft Project 4.0 ..... $250
Autocad LT w/95 ..... $310
MS Word/Excell/Powerpt.....$149
Microsoft Frontpage 97.....$ 99
Adobe Photoshop 4.0 ..... $325
Adobe Pagemaker 6.5 ..... $299
Adobe Illustrator 7.0.....$225
Macromedia Freehand 7.0 ... $225

Call for other item not listed.

SOFTWAREMART +
(800) 785-0048
call 9 to 6 PST FAX (818) 346-1890
prices subject to change

CIRCLE 415 ON READER SERVICE CARD

SYSTEM

Rent Computers Printers

From Only **$75**/mo.

Lowest Rental Rates in the USA !

Compare • Switch • Save

Always Rent New Technology

Call: (213) 937-6700

AMCO Rents and Sales, Inc.

CIRCLE 445 ON READER SERVICE CARD

BUSINESS DIRECTORY

USED SOFTWARE

- Used IBM Compatible Software
- Most Popular Titles Available
- Save up to 50% on Current Versions
- Huge Savings on Prior Versions
- Includes Original Manuals & Disks
- Guaranteed Complete & Virus Free
- 30 Day Money Back Guarantee
- Amex, Discover, MC & VISA
- Call 7am–4pm PST M–F for Free Price List

Recycled Software, Inc.
PO Box 33999
Las Vegas, NV 89133-3999
800-851-2425 • Fax 702-655-5662

CIRCLE 441 ON READER SERVICE CARD

FACT: PC World subscribers who are involved in the buying process buy for an average of 320 PCs each.

UPGRADES/MEMORY

We'll *Pay YOU* for Your Computer Memory!

We BUY Back All Types of Memory...
30 pin, 72 pin, 168 pin, SIMMS, DIMMS, Notebook & Laser Memory

All Memory Has Value!

Call us and get a price for your memory.

LIFETIME WARRANTY **We Also SELL MEMORY** LOWEST PRICES!

72 PIN SIMMS

		NON PARITY	EDO	(36 BIT) PARITY
1x32	4MB	19 00	19 00	29 00
2x32	8MB	38 00	38 00	55 00
4x32	16MB	75 00	75 00	95 00
8x32	32MB	149 00	149 00	179 00
16x32	64MB	429 00	429 00	449 00

DIMMS

	SDRAM 168 PIN	Apple 168 PIN	168 PIN ECC/EDO
4MB	—	39 00	—
8MB	69 00	59 00	79 00
16MB	99 00	89 00	109 00
32MB	199 00	169 00	229 00
64MB	429 00	339 00	499 00

NOTEBOOK

	4	8	16	32
AST	49	—	129	229
Canon	49	69	129	229
Compaq	49	69	129	229
Dell	49	69	129	—
Epson	49	69	129	—
Fujitsu	—	69	129	229
Gateway	49	69	129	229
IBM	49	69	129	229
NEC	49	69	129	229
Sharp	49	69	129	229
Toshiba	49	69	129	229
Winbook XP	—	—	129	229
Zenith	49	69	129	—

Prices differ depending on model These are general prices.

30 PIN SIMMS

	3 CHIP	9 CHIP
1MB	6 00	12 00
4MB	25 00	32 00
256K	1 00	1 00

Laser Printer Memory

	1	2	4	8	16	32
HP	14	29	39	69	109	199
Epson	14	29	—	69	129	219
Pana	14	29		69	-	
Lexmark	14	29	39	69	119	219

We Carry a Complete Line of Desktop, Notebook, Laptop, Subnote, Credit Card (IC DRAM) Modules, Video, Cache and Macintosh Memory Upgrades. Call with your machine type!
Memory Modules New & Used have a Lifetime Warranty! Call for CPU Chip Pricing!

OVER 30 YEARS EXPERIENCE

The Memory Liquidators
(800) 718-7755

"The company that buys Memory back"

www.memoryliquidators.com *OR* e-mail: sales@mi.win.net
prices subject to change without notice
531 Main St., El Segundo, CA 90245 • Ph. 310-326-5656 • Fax 310-326-7790 • M-F: 8-5 pst

CIRCLE 520 ON READER SERVICE CARD

DIRECT PRICES TO THE PUBLIC

We Will Beat Any Advertised Price!

All memory is brand new & comes with a lifetime warranty!

MEMORY 72 pin EDO

1 x 32–60	$19
2 x 32–60	$31
4 x 32–60	$55
8 x 32–60	$119

CPU's (Intel Only)

P–100Mhz	$95
P–120Mhz	$105
P–133Mhz	$109
P–150Mhz	$149
P–166Mhz	$169
P–200Mhz	$199
P–Pro 180	$350
P–Pro 200	$329

HARD DRIVES

850MB	$129
1.2GB	$149
2.1GB	$179
2.5GB	$189
3.2GB	$219

MOTHER BOARDS

586–75–200Mhz	$74

Intel VX 430 Chipset, 256kpb cache, 2s2p on brd IDE/IO

MODEMS

33.6 int fax/data	$67
33.7 int voice/fax	$62
UpGradable 56K	$78

SOUND CARDS

VIBRA 16 PnP	$48
SB 32 Pnp	$79
AWE Gold	$209

VIDEO CARDS

Matrox Millenium	$139
Mystique 2MB	$99
Dia3d2MB	$77

CD ROMS

8x int	$69
12x int	$79
16x int	$95
24x int	$119

Over 1000 items in stock, check out our cool website www.memory-online.com

800-801-0087

714-488-0477 • Fax 714-488-0495

MEMORY ON-LINE

Office Hours M - F • 7 - 5 PST • SAT 8 - 12 PST

Prices and availability subject to change without notice.

CIRCLE 466 ON READER SERVICE CARD

SERVICES/SUPPLIES

Insures Your Computer

SAFEWARE's Computerowners insurance policy provides for repair or replacement of your computer hardware, media and purchased software. Annual premiums start at $49. Cover against theft, fire, power surge, natural disasters, and even accidental damage!

Call 1-800-800-1492

SAFEWARE, The Insurance Agency Inc.
5760 N. High Street
PO Box 656
Columbus, OH 43085
Local: 1-614-781-1492

CIRCLE 421 ON READER SERVICE CARD

SERVICES/SUPPLIES

1-800-8-GLOBAL

GLOBAL

FREE catalog

228 page guide to computer furniture, supplies & accessories

COMPUTER SUPPLIES
11 Harbor Park Dr.
Dept. 94 PCW
Port Washington, NY 11050

CIRCLE 508 ON READER SERVICE CARD

SERVICES/SUPPLIES

DATA RECOVERY: 800-440-1904

7 good reasons to choose DriveSavers:

DRIVESAVERS®

©1997 DRIVESAVERS, INC

1. We're the most trusted and respected data recovery specialists.
2. 24-hour, onsite, and weekend service available.
3. Proprietary techniques so advanced we retrieve data others might simply abandon.
4. Over 12 years of data recovery experience.
5. Certified to maintain most drive warranties.
6. Featured by CNN, NextStep, C-Net, Forbes.
7. All storage devices; DOS, Win95, WinNT, OS/2, Mac OS, UNIX, Sun, SGI, Novell.

Clip and save this ad. Visit DriveSavers at: www.drivesavers.com

DRIVESAVERS, INC 400 BEL MARIN KEYS BLVD, NOVATO, CA 94949, INTL 415-382-2000, FAX 415-883-0780

CIRCLE 431 ON READER SERVICE CARD

SERVICES/SUPPLIES

MIRROR IMAGES

DISKETTE DUPLICATION

Superior duplication . . .
Your reputation depends on it.
Our reputation assures you of it.

- ALL DISK FORMATS
- FAST 24 HOUR TURNAROUND
- EXCEPTIONAL PRICING AND SERVICE

Call for more information and quotation

800-322-0577
OHIO - NEW JERSEY

BUSINESS DIRECTORY

MAIL ORDER PROCESSING SOFTWARE

- Order Entry
- Credit Card Processing
- UPS Manifest
- Inventory
- Mail List Management
- Advertising Tracking
- Versions under $300

PC INNOVATIONS
1-800-774-6668

TOO BUSY FOR SEX?

Then you need our personal task organizer program. It's simple, fast, convenient and it works. Better organized = more time = . . . well, that's up to you. Introductory special $29.95.

Impatient Cow Enterprises Ltd.
1-613-966-7808 ext.47
www.Impatientcow.com/cy

CIRCLE 419 ON READER SERVICE CARD

FACT: PC WORLD

delivers the managers crucial to your marketing success. 78% of PC WORLD'S employed subscribers are managers -the key people your advertising must reach in today's highly competitive marketing environment.

Call Now for More Details

(203) 857-5101 or - 5102

SECURITY

Click. Drag. Drop.

It's that easy for *anyone* to steal your software products.

As a software developer, your product is vulnerable to piracy every time it is used. Just one copy in the wrong hands could result in unauthorized distribution worldwide via diskette, CD-ROM or the Internet.

Over 11 million Sentinels® ensure security and success for more than 22,000 developers. Receive your *FREE* guide: *How to stop piracy and increase your software sales.* Call **1-800-852-8569** or visit **www.rainbow.com**.

The threat is real. The piracy rate in many countries is over 90% – in the U.S. it exceeds 25%. Piracy costs you sales and revenue.

SENTINEL
Software Protection
The #1 solution to piracy

RAINBOW TECHNOLOGIES

TEL: (714) 450-7300 • FAX: (714) 450-7450 • EMAIL: sentinel@rainbow.com • FRANCE: (33) 1 41 43 29 00 • GERMANY: (49) 89 32 17 98 0 • U.K.: (44) 1932 579200

©1997 Rainbow Technologies, Inc Sentinel is a registered trademark of Rainbow Technologies. *Distributors located worldwide, call or visit our web site for a complete listing.*

CIRCLE 411 ON READER SERVICE CARD

FREE PRODUCT INFORMATION

PC WORLD

NAME

TITLE

COMPANY

ADDRESS

CITY STATE ZIP

PHONE ( ) FAX ( )

INFORMATION FROM ADVERTISERS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500
501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520

☐ Check here for a 1-year (12 issue) subscription (U.S. only). You will be billed $19.97.

Circle the number corresponding to the product or product category you need to know more about. Mail or fax the completed card today. Manufacturers will send product information directly to you. Fax to (503) 684-5370.

PRODUCTS FEATURED IN EDITORIAL

601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760
761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780
781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820
821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840
841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860
861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880
881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900

PRODUCT CATEGORY INFORMATION 8/97

For information on all of the products mentioned in an article or an entire category of advertised products, circle the appropriate number below.

Editorial Features (see article for numbers)

901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920

Advertised Products

951 Desktop computers
952 Notebook computers
953 Windows 95 software
954 Monitors and video boards
955 Accounting software
956 Graphics software
957 Network/sharing products
958 Printers
959 Multimedia products
960 Utilities
961 Mail order companies
962 Storage devices

August 1997 This card expires December 5, 1997 S1

FREE PRODUCT INFORMATION

For quicker response, fax to (503)684-5370

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 848 PORTLAND, OR

POSTAGE WILL BE PAID BY ADDRESSEE

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

PC WORLD

Reader Service Department
12950 SW Pacific Hwy Ste 7
Tigard, OR 97223-9750

FREE PRODUCT INFORMATION

PC WORLD

NAME

TITLE

COMPANY

ADDRESS

CITY STATE ZIP

PHONE ( ) FAX ( )

INFORMATION FROM ADVERTISERS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500
501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520

☐ Check here for a 1-year (12 issue) subscription (U.S. only). You will be billed $19.97.

Circle the number corresponding to the product or product category you need to know more about. Mail or fax the completed card today. Manufacturers will send product information directly to you. Fax to (503) 684-5370.

PRODUCTS FEATURED IN EDITORIAL

601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760
761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780
781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820
821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840
841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860
861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880
881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900

PRODUCT CATEGORY INFORMATION 8/97

For information on all of the products mentioned in an article or an entire category of advertised products, circle the appropriate number below.

Editorial Features (see article for numbers)

901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920

Advertised Products

951 Desktop computers
952 Notebook computers
953 Windows 95 software
954 Monitors and video boards
955 Accounting software
956 Graphics software
957 Network/sharing products
958 Printers
959 Multimedia products
960 Utilities
961 Mail order companies
962 Storage devices

August 1997 This card expires December 5, 1997 S3

FREE PRODUCT INFORMATION

For quicker response, fax to (503)684-5370

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 848 PORTLAND, OR

POSTAGE WILL BE PAID BY ADDRESSEE

PC WORLD

Reader Service Department
12950 SW Pacific Hwy Ste 7
Tigard, OR 97223-9750

FREE PRODUCT INFORMATION PC WORLD

NAME

TITLE

COMPANY

ADDRESS

CITY STATE ZIP

PHONE ( ) FAX ( )

INFORMATION FROM ADVERTISERS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500
501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520

☐ Check here for a 1-year (12 issue) subscription (U.S. only). You will be billed $19.97.

Circle the number corresponding to the product or product category you need to know more about. Mail or fax the completed card today. Manufacturers will send product information directly to you. Fax to (503) 684-5370.

PRODUCTS FEATURED IN EDITORIAL

601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760
761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780
781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820
821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840
841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860
861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880
881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900

PRODUCT CATEGORY INFORMATION 8/97

For information on all of the products mentioned in an article or an entire category of advertised products, circle the appropriate number below.

Editorial Features (see article for numbers)

901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920

Advertised Products

951 Desktop computers
952 Notebook computers
953 Windows 95 software
954 Monitors and video boards
955 Accounting software
956 Graphics software
957 Network/sharing products
958 Printers
959 Multimedia products
960 Utilities
961 Mail order companies
962 Storage devices

August 1997 This card expires December 5, 1997 S2

FREE PRODUCT INFORMATION

For quicker response, fax to (503)684-5370

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 848 PORTLAND, OR

POSTAGE WILL BE PAID BY ADDRESSEE

PC WORLD

Reader Service Department
12950 SW Pacific Hwy Ste 7
Tigard, OR 97223-9750

PC WORLD

PRESIDENT AND CEO Richard J. Marino
Assistant to the President and CEO Nancy L. Jacobs

PUBLISHER J. Samuel Huey
Assistant to the Publisher Alexis Meagher

ADVERTISING SALES

VICE PRESIDENT, ASSOCIATE PUBLISHER
Jeff Edman
BUSINESS MANAGER Patricia Owen
DIRECTOR OF ADVERTISING
Robert Carrigan
ASSISTANT TO THE DIRECTOR OF ADVERTISING
Christine McGovern

EAST
EASTERN ADVERTISING DIRECTOR
Bob Ostrow (508/370-0844)
ADMINISTRATIVE ASSISTANT/OFFICE MANAGER
Ellen Sanderson
Mid-Atlantic/Manhattan/Eastern Canada
Wayne Silverman, Senior Account Manager (201/587-0090)
Thalia M. Karakitsios, Account Manager (201/587-0090)
New England/Ohio
Michael Carroll, Senior Account Manager (508/370-0842)
East & Midwest
Greg Harney, Account Representative (508/370-0846)
Southeast/Pennsylvania
Judy Sutter, Senior Account Manager (770/394-0758)

MIDWEST/TEXAS
MIDWEST ADVERTISING DIRECTOR
Harvey Diamond (972/233-3492)
ADMINISTRATIVE ASSISTANT Janine Goble
Midwest
Kathy McKay, Senior Account Manager (847/827-4477)

WEST
Mid-S. F. Peninsula/Oregon/Washington
Roy Kops, Northwest Advertising Director (415/243-0500)
San Francisco Bay Area
Colleen Hirner, Account Manager (415/243-0500)
ADMINISTRATIVE ASSISTANT
Alison Fennings
Fremont, CA/South Bay (area code 408)
Kevin Normandeau, Account Manager (415/243-0500)
West
Duane Hampson, Account Representative (415/243-0500)
Los Angeles/Orange County/ Montana/Wyoming/Western Canada
Bill Hanck, Southwest Advertising Director (310/312-8008)
ADMINISTRATIVE ASSISTANT Joyce Clarke
Southern California (San Diego), Colorado/Idaho/Nevada/Utah/ New Mexico/Arizona
Lisa Zimmerer, Senior Account Manager (714/250-8081)

CONSUMER ADVERTISING SALES
Eastern U.S.
Edman & Company (212/551-1121)
Michigan/Pennsylvania/Ohio
Hartle & Heth (248/642-7273)
Western U.S.
Hutch Looney & Associates (213/931-3444 x227)
PC WORLD MARKETPLACE
PC WORLD ACTION CARDS
DIRECTOR
Pat Fales (203/857-5115)
EASTERN ACCOUNT MANAGER
Katherine Noto (203/857-5101)
WESTERN ACCOUNT MANAGER
Matthew Kurtz (203/857-5102)
PC WORLD REPRINTS
Michele Olk (612/582-3810)

MARKETING
SENIOR MARKETING MANAGER Sandy Wong
PRESENTATION SPECIALIST Peter Bloch
MARKETING COORDINATOR
Kecia Nordgren

CIRCULATION
VICE PRESIDENT, CIRCULATION
Shawne Burke Pecar
ASSISTANT TO THE VICE PRESIDENT
Ann Dempsey
SENIOR PROMOTION MANAGER
Ellen DiMatteo
CIRCULATION BUSINESS MANAGER
David Cobb
SINGLE COPY SALES MANAGER
Cheryl Stephenson
BILLING AND RENEWAL MANAGER
Lisa Radler
PROMOTION MANAGERS
Richard McCarthy, Shira Weisbach
SINGLE COPY SALES COORDINATOR
René Monday
CIRCULATION ASSISTANT Daniella Zucker
CUSTOMER SERVICE SPECIALIST
Shama Ali

RESEARCH
VICE PRESIDENT, RESEARCH Cheryl Brink
RESEARCH MANAGER Jocelyn Ritchie
RESEARCH ANALYSTS Sandra O'Boyle, Stephen Riddle

PRODUCTION
VICE PRESIDENT, MANUFACTURING
Linda Manes Goodwin
PRODUCTION DIRECTOR Nadia Maudsley
PRODUCTION MANAGER Jennifer Darnell
DESKTOP PUBLISHING COORDINATOR
Renée Denver
AD TRAFFIC COORDINATOR
Harry Topalian
ADVERTISING INFORMATION MANAGER
Dan Gordon
ADVERTISING INFORMATION ASSISTANT
Yuliya Korentsvit

PC WORLD ONLINE
EXECUTIVE DIRECTOR, OPERATIONS
Madeleine Buckingham
DIRECTOR, CIRCULATION
Noël McLaughlin
DIRECTOR, MARKETING Scott Danish
OPERATIONS MANAGER Carla Lieberman
DIRECTOR OF INSIDE SALES
Diane Templin
DIRECTOR OF MARKET DEVELOPMENT
Stephen Shore
NATIONAL ACCOUNTS, EAST COAST
Sandy Schackman
NATIONAL ACCOUNTS, TIPWORLD
Charley Hoeffer
ACCOUNT EXECUTIVE Melissa Gruber
ADVERTISING COORDINATOR Batel Libes
AUDIENCE DEVELOPMENT MANAGER
Declan Fox
APPLICATIONS DEVELOPER Matt Turner
PROJECT MANAGER Dave Harpe
MARKETING COORDINATOR Cheryl Allen
INTERACTIVE CUSTOMER SERVICE MANAGER
Paul O'Neil
BUSINESS DEVELOPMENT ANALYST
Angie Weber
FINANCIAL ANALYST Tobias Harting

ADMINISTRATION
HUMAN RESOURCES AND INFORMATION SYSTEMS
VICE PRESIDENT Richard Willoughby
MANAGER Thalia Ohara
REPRESENTATIVE Christine Selfridge
VICE PRESIDENT, CIO Henri Froissart
DIRECTOR INFORMATION SYSTEMS
Norman Noble
NETWORK MANAGER Rodney Barnes
INFORMATION SYSTEMS SPECIALISTS
Pearl Chan, Stan Erhart

FINANCE
SENIOR VICE PRESIDENT, CFO Vicki Peilen
ACCOUNTING/OPERATIONS MANAGER
Pat Murphy
ACCOUNTING/FACILITIES MANAGER
Michelle Reyes

Advertiser Index A-Z

Get more information–circle the appropriate number on the reader service card.

Reader service number		Page
-	Acer America	82
-	Acer Components	35
-	Adaptec Inc.	16
3	ADI Systems	46
32	Adobe Systems Inc.	167
12	Adobe Systems Inc.	248
14	AEC	291
19	AIMS Labs Inc.	297D
202	allCLEAR	297
9	ALR	15
-	Anthro Corporation	26
45	APC	104-105
17	APC	153
-	Apple Computer	32
20	ArtMedia USA- Pacific Technology	199
-	AST Computers	45
-	AST Computers	78-79
6	AST Servers	27
-	AT&T	177
5	ATI Technologies	109
25	ATI Technologies	252
-	AverMedia	179
-	Banner Blue	255
91	Caere Corporation	271
-	Canon Computer Systems	2-3
-	Compaq Direct Plus	256-257
44	Computer Discount Warehouse	154-155
46	Computer Discount Warehouse	156-157
68	Computer Discount Warehouse	315
65	Computer Discount Warehouse	316-317
-	Corel Corporation	4-5
56	Crucial Technology	63
64	CTX Int'l	42

PC World is a publication of International Data Group, the world's leading information technology media, research and exposition company. International Data Group publishes over 275 computer publications in over 75 countries. Sixty million people read one or more International Data Group publications each month. International Data Group's publications include: **Argentina:** Annuário de Informática, Computerworld Argentina, PC World Argentina; **Australia:** Australian Macworld, Australian PC World, Australian Reseller News, Computerworld, Computerworld IDD Australia, Digital News Australia, IT Casebook, Network World, Publish, Webmaster; **Austria:** Computerwelt Österreich, Networks Austria, PC Tip Austria; **Bangladesh:** PC World Bangladesh; **Belarus:** PC World Belarus; **Brazil:** Annuário de Informática, Computerworld, Macworld, Network World Brazil, PC Player, PC World, Publish, Reseller News Brazil, Supergamepower; **Bulgaria:** Computerworld Bulgaria, Macworld Bulgaria, Network World Bulgaria, PC World Bulgaria; **Canada:** CIO Canada, Client/Server World, ComputerWorld Canada, InfoWorld Canada, NetworkWorld Canada, WebWorld; **Chile:** Computerworld Chile, PC World Chile; **Colombia:** Computerworld Colombia, PC World Colombia; **Costa Rica:** PC World Centro America; **The Czech and Slovak Republics:** Computerworld Czechoslovakia, Internet 4U Czech, Macworld Czech Republic, PC World Czechoslovakia; **Denmark:** Client Server Denmark, Communications World Danmark, Computerworld Danmark, Macworld Danmark, PC World Danmark, Windows Special Denmark, Techworld Denmark; **Dominican Republic:** PC World Republica Dominicana; **Ecuador:** PC World Ecuador; **Egypt:** Computerworld Middle East, PC World Middle East; **El Salvador:** PC World Centro America; **Finland:** MikroPC, Tietoverkko, Tietoviikko; **France:** Distributique, Hebdo, Info PC, Le Monde Informatique, L M I Magazine, Macworld, Reseaux & Telecoms, VAR & SSII Magazine, WebMaster France; **Germany:** Computer Partner, Computerwoche, Computerwoche Extra, Computerwoche FOCUS, Global Online, Macwelt, PC Welt, PC Welt Special Issue; **Greece:** Amiga Computing, GamePro Greece; **Guatemala:** PC World Centro America; **Honduras:** PC World Centro America; **Hong Kong:** Computerworld Hong Kong, PC World Hong Kong, Publish in Asia; **Hungary:** ABCD CD-ROM, Computerworld Szamitastechnika, INTERNETTO Hungary, PC World Hungary, PC-X Magazin Hungary; **Iceland:** Tölvuheimur PC World Island; **India:** CW Premier 200 Year Book India, Information Communications World, Information Systems Computerworld, Macworld India, PC World India, Publish in Asia; **Indonesia:** InfoKomputer PC World, Komputek Computerworld, Publish in Asia; **Ireland:** ComputerScope, InfoLive Ireland, PC Live!; **Israel:** Macworld Israel, People & Computers/Computerworld; **Italy:** Computerworld Italia, Macworld Italia, Networking Italia, PC World Italia; **Japan:** DTP World, HP Open World Japan, Macworld Japan, Nikkei Personal Computing, OS/2 World Japan, SunWorld Japan, Windows NT World, Windows World Japan; **Kenya:** PC World East African; **Korea:** Hi-Tech Information, Macworld Korea, PC World Korea; **Latvia:** PC World DatorPasaule Latvia; **Macedonia:** PC World Macedonia; **Malaysia:** Computerworld Malaysia, PC World Malaysia, Publish in Asia; **Malta:** PC World Malta; **Mexico:** Computerworld Mexico, Macworld Mexico, PC World Mexico; **Myanmar:** PC World Myanmar; **Netherlands:** Computer! Totaal, InfoWorld Netherlands, LAN Magazine, LAN World Buyers Guide, Net, Macworld Netherlands, Totaal! Beurskrant Netherlands, WebWereld; **New Zealand:** Absolute Beginners Guide and Plain & Simple Series, Computer Buyer, Computer Industry Directory, Computerworld New Zealand, MTB, Network World, PC World New Zealand; **Nicaragua:** PC World Centro America; **Norway:** CAD/CAM World Norge, Computerworld Norge, CW Rapport, Datamagasinet, Financial Rapport, Kursguide Norge, Macworld Norge, Multimediaworld World Norway, PC World Ekspress Norge, PC World Nettverk, PC World Norge, PC World ProduktGuide Norge; **Pakistan:** Computerworld Pakistan; **Panama:** PC World Panama; **People's Republic of China:** China Computer Users, China Computerworld, China Computerworld Daily, China InfoWorld, China Telecom World Weekly, Computer & Communication, Electronic Design China, Electronics Today, Electronics Weekly, Electronics Weekly, Game Software, Network World China, PC World China, Popular Computer Week, Software Weekly, Software World, Telecom World; **Peru:** Computerworld Peru, PC World Profesional Peru, PC World SoHo Peru; **Philippines:** Click!, Computerworld Philippines, PC World Philippines, Publish in Asia; **Poland:** Computerworld Poland, Computerworld Special Report Poland, Cyber, Macworld Poland, Network Poland, PC World Komputer; **Portugal:** Cerebro/PC World, Computerworld/Correio Informático, Dealer World Portugal, Mac*In/PC*In Portugal, Multimedia World; **Puerto Rico:** PC World Puerto Rico; **Romania:** Computerworld Romania, PC World Romania, Telecom Romania; **Russia:** CIO Russia, Computerworld Russia, Mir PK, Publish, Seti; **Singapore:** Computerworld Singapore, PC World Singapore, Publish in Asia; **Slovenia:** Monitor; **South Africa:** Computing SA, Network World SA, PC World South Africa; **Spain:** Communicaciones World España, Computerworld España, Dealer World España, Macworld España, PC World España; **Sri Lanka:** InfoLink PC World; **Sweden:** CAP&Design, Computer Sweden, Corporate Computing Sweden, Internetworld Sweden, it.branschen, Macworld Sweden, MaxiData Sweden, MikroDatorn, Nätverk & Kommunikation, PCaktiv, PC World Sweden, PC Windows World Sweden; **Switzerland:** Computerworld Schweiz, Macworld Schweiz, PCtip; **Taiwan:** Computerworld Taiwan, Macworld Taiwan, NEW VISION/Publish, PC World Taiwan, Windows World Taiwan; **Thailand:** Publish in Asia, Thai Computerworld; **Turkey:** Computerworld Turkiye, Macworld Turkiye, Network World Turkiye, PC World Turkiye; **Ukraine:** Computerworld Kiev, Multimedia World Ukraine, PC World Ukraine; **United Kingdom:** Acorn User UK, Amiga Action UK, Amiga Computing UK, Apple Talk UK, Macworld, Parents and Computers UK, PC Advisor, PC Home, PowerPC Business, PSX Pro, The WEB; **United States:** Cable in the Classroom, CIO Magazine, Computerworld, Computerworld Client/Server Journal, DOS World, Federal Computer Week, GamePro Magazine, InfoWorld, JavaWorld, Macworld, NetscapeWorld, Network World, PC Games, PC World, Publish, Video Event, SunWorld Online, THE WEB Magazine, WebMaster and WEBNOW; **Uruguay:** InfoWorld Uruguay; **Venezuela:** Computerworld Venezuela, PC World Venezuela; and **Vietnam:** PC World Vietnam.

Reader service number		Page
74	Cybermax	106-107
80	Dataviz, Inc.	269
-	Dell	C5-C8
-	Dell	20-21
-	Dell	57
-	Dell	175
-	Dell Direct	60-61
-	Dell Direct	132-133
-	Dell Direct	180-181
-	Dell Direct	262-263
37	DeLorme	287
147	Dirt Cheap Drives	320
84	DTK	149
-	EPS Technologies	168A-F
-	European IT Forum	286
-	Fujitsu Computer Products of America	216-217
103	Fujitsu PC Corp.	48-49
72	Futuro Health Supports	44
-	Gateway 2000	65-74
-	Gateway 2000	75
-	Gateway 2000	185-188
-	Gateway 2000	189
-	Hewlett-Packard	99
-	Hewlett-Packard	101
-	Hewlett-Packard	103
109	Hitachi	10-11
110	Hyundai Electronics America	215
-	Imation	195
-	Intel	76-77
116	Intergraph Computer Systems	116-117
-	Iomega Corporation	114
-	Iomega Corporation	115
-	Iomega Corporation	115
170	KDS	239
118	Keystone Learning Systems	339
128	Kingston Technology Corp.	289
-	LA TRADE	314
176	LA Vision	304-305
141	Lexmark	275
96	LG ELectronics U.S.A., Inc.	38
132	Lincoln Navigator	127-129
-	LucasArts Entertainment Co.	264-265
143	Matrox Graphics, Inc.	40-41
135	Mega Image	302
145	Micron Electronics	9
-	Micron Electronics	135-144
149	Micron Electronics	220-221
-	Microsoft Explorer	37
-	Microsoft Office	12-13
-	Microwarehouse	312-313
169	Midwest Computer Works	319
153	Minolta Peripheral Products	229

Reader service number		Page
150	Miro Computer Products	298
-	Mita	85
223	NEC Laptop	29
201	NEC LCD Display	246-247
205	NEC Monitors	C2-P1
180	NEC PowerMate	30-31
174	Newcom	261
-	Nomai	303
-	NRI Schools	273
247	Optiquest	295
171	Palm Computing	165
195	PC America	318
165	PC Connection	306-307
172	PC World Online	341
129	PCs Compleat/Comp USA Direct	308-311
212	PKWARE	34
196	PowerQuest	299
192	Premio Computers	197
178	Princeton Graphic Systems	111
152	Princeton Graphic Systems	113
184	ProGen Systems	59
225	QMS	259
-	Quantex	91-96
204	Ricoh Corporation	131
194	Rose Electronics	250
-	Samsung Electronics America	243
213	Sceptre Technologies, Inc.	297A-B
-	Seiko Instruments	28
207	Shinho	201
208	State of the Art	110
210	STB Systems	244
217	Symantec PC Anywhere	22
232	Syncronys SoftCorp	279
214	Sys Technology, Inc.	301
222	Televideo Inc.	183
234	Toshiba America	86-87
233	Toshiba America	88-89
240	Twinhead Corporation	277
-	Umax PC	203-206
250	UMAX Technologies	227
237	Union Camp	240
-	US Robotics	172-173
-	US Robotics	281-284
238	US Robotics Mobile Communications Corp.	235
232	US Robotics Mobile Communications Corp.	237
241	USA Flex	321
255	V Communications, Inc.	297C
260	ValueWeb	340
239	ViaGrafix	300
224	ViewSonic	24-25
246	ViewSonic	83
251	Western Digital	219

Reader service number		Page
254	WinBook	18-19
257	Xerox Corporation	151
-	Xerox Corporation	293

Advertiser Index by Product Category

Get more information–circle the appropriate number on the reader service card.

HARDWARE

Boards/Cards/Chips

5	ATI Technologies	109
25	ATI Technologies	252
56	Crucial Technology	63
-	Intel	76-77
128	Kingston Technology Corp.	289
143	Matrox Graphics, Inc.	40-41
174	Newcom	261
210	STB Systems	244

Communication

-	US Robotics	172-173
-	US Robotics	281-284
238	US Robotics Mobile Communications Corp.	235
232	US Robotics Mobile Communications Corp.	237

Desktop Computers

9	ALR	15
-	AST Computers	78-79
-	Dell	C5-C8
-	Dell	20-21
-	Dell Direct	60-61
-	Dell Direct	132-133
-	Dell Direct	180-181
-	Dell Direct	262-263
84	DTK	149
-	EPS Technologies	168A-F
-	Gateway 2000	65-74
-	Gateway 2000	75
-	Hewlett-Packard	99
-	Hewlett-Packard	101
116	Intergraph Computer Systems	116-117
-	Micron Electronics	135-144
149	Micron Electronics	220-221
-	Microwarehouse	312-313
180	NEC PowerMate	30-31
192	Premio Computers	197
184	ProGen Systems	59
-	Quantex	91-96
214	Sys Technology, Inc.	301
234	Toshiba America	86-87
-	Umax PC	203-206
241	USA Flex	321

Desktop Publishing

74	Cybermax	106-107
-	Umax PC	203-206

File Servers

6	AST Servers	27
-	Dell	175
149	Micron Electronics	220-221

Laptops/Notebooks

-	Acer America	82
-	AST Computers	45
-	Compaq Direct Plus	256-257
64	CTX Int'l	42
-	Dell	57
-	EPS Technologies	168A-F
103	Fujitsu PC Corp.	48-49
-	Gateway 2000	65-74
-	Gateway 2000	75
-	Gateway 2000	185-188
-	Gateway 2000	189
-	Hewlett-Packard	103
109	Hitachi	10-11
135	Mega Image	302
-	Micron Electronics	135-144
223	NEC Laptop	29
171	Palm Computing	165
-	Samsung Electronics America	243
213	Sceptre Technologies, Inc.	297A-B
233	Toshiba America	88-89
240	Twinhead Corporation	277
254	WinBook	18-19

Local Area Networks

194	Rose Electronics	250

Monitors/Displays

-	Acer Components	35
3	ADI Systems	46
20	ArtMedia USA- Pacific Technology	199
110	Hyundai Electronics America	215
170	KDS	239
96	LG ELectronics U.S.A., Inc.	38
201	NEC LCD Display	246-247
205	NEC Monitors	C2-P1
247	Optiquest	295
178	Princeton Graphic Systems	111
152	Princeton Graphic Systems	113
213	Sceptre Technologies, Inc.	297A-B
207	Shinho	201
222	Televideo Inc.	183
224	ViewSonic	24-25

Multimedia

176	LA Vision	304-305
150	Miro Computer Products	298
246	ViewSonic	83

Reader service number		Page
	Other	
-	AverMedia	179
	Peripherals/Sharing Devices	
-	Adaptec Inc.	16
194	Rose Electronics	250
	Power/Protection	
45	APC	104-105
17	APC	153
	Printers/Plotters	
-	Canon Computer Systems	2-3
-	Fujitsu Computer Products of America	216-217
141	Lexmark	275
153	Minolta Peripheral Products	229
-	Mita	85
225	QMS	259
204	Ricoh Corporation	131
-	Seiko Instruments	28
257	Xerox Corporation	151
	Scanners/Digitizers	
250	UMAX Technologies	227
	Storage/Backup Devices	
147	Dirt Cheap Drives	320
-	Imation	195
-	Iomega Corporation	114
-	Iomega Corporation	115
-	Iomega Corporation	115
-	Nomai	303
251	Western Digital	219

SOFTWARE

	Accounting/Financial	
208	State of the Art	110
	CAD/CAM	
239	ViaGrafix	300
	Communications/Fax/Modems	
260	ValueWeb	340
	Dataconversion	
80	Dataviz, Inc.	269
	Desktop Mapping	
37	DeLorme	287
	Desktop Publishing	
32	Adobe Systems Inc.	167
12	Adobe Systems Inc.	248
	Entertainment	
-	LucasArts Entertainment Co.	264-265
	Graphics	
202	allCLEAR	297
	Management	
195	PC America	318
	Multimedia	
176	LA Vision	304-305
	Operating Systems	
-	Apple Computer	32
255	V Communications, Inc.	297C
	Optical Character Recognition	
-	Xerox Corporation	293
	Other	
-	Banner Blue	255
	Schedule Software	
14	AEC	291
	Software Suites	
-	Corel Corporation	4-5
-	Microsoft Office	12-13
	Spreadsheets/Templates/Forms	
202	allCLEAR	297
91	Caere Corporation	271
	Utilities	
14	AEC	291
212	PKWARE	34
196	PowerQuest	299
217	Symantec PC Anywhere	22
232	Syncronys SoftCorp	279
255	V Communications, Inc.	297C
	Video	
19	AIMS Labs Inc.	297D
118	Keystone Learning Systems	339
	Web Authoring Tools	
260	ValueWeb	340
	Windows	
212	PKWARE	34
	Word Processing/Aids	
-	Corel Corporation	4-5

MISCELLANEOUS

	Automobiles	
132	Lincoln Navigator	127-129
	Computer Accessories	
72	Futuro Health Supports	44
237	Union Camp	240
	Internet Services	
-	Microsoft Explorer	37
	Mail Order	
44	Computer Discount Warehouse	154-155
46	Computer Discount Warehouse	156-157
68	Computer Discount Warehouse	315
65	Computer Discount Warehouse	316-317
147	Dirt Cheap Drives	320
116	Intergraph Computer Systems	116-117
-	LA TRADE	314
169	Midwest Computer Works	319
-	NRI Schools	273
165	PC Connection	306-307
129	PCs Compleat/Comp USA Direct	308-311
	Online Services	
-	AT&T	177
172	PC World Online	341
	Other	
-	Anthro Corporation	26
	Supplies	
237	Union Camp	240
	Trade Shows	
-	European IT Forum	286
	Training	
118	Keystone Learning Systems	339
-	NRI Schools	273

Products Featured in Editorial

Get more information—circle the appropriate number on the reader service card.

Reader service number		Page
	Accounting/Financial	
772	Simply Accounting 5.0, Accpac International	111
776	Time and Profit 2.0, BytePro	115
	CAD	
769	AutoCAD 14, Autodesk	108
	CD-ROM Drives	
755	Backpack Bantam, Micro Solutions	97
764	Compro LMD-585, ACS Innovations, Inc.	102
765	Panasonic LK-MC686BP IDE/ATAPI	102
766	Plextor 12/20PleX	102
767	Toshiba XM-6102 24X Max	102
	Compression Utility	
774	WinZip 6.3, Nico Mak Computing	112
773	ZipMagic 1.0, Mijenix Corporation	112
	Desktop Computer	
672	Acma MXP Multimedia Express Series	210
671	CLR Infinity P-200 MMX	210
686	CyberMax Cryix MAX C3 P166+	222
692	CyberMax Max 16/P200MMX	222
676	Dell Dimension M200a	222
656	Dell Dimension XPS H266	210
657	Dell Dimension XPS M-200s	210
675	Dell Dimension XPS M166s	222
601	Dell Dimension XPS M166s	258
658	Dell Dimension XPS Pro200n	210
678	Dell Optiplex GS+200L	222
662	Dell OptiPlex GX Pro 200	210
660	Dell OptiPlex Gxi 5200M	210
693	DirectWave MVP P133	222
659	Gateway 2000 G5-233 M	210
665	Gateway 2000 G6-266	210
677	Gateway 2000 P5-166 M	222
680	HP Pavilion 5320	222
602	HP Pavilion 5320	258
605	HP Pavilion 7350P	258
603	HP Pavilion 7370V	258
667	HP Pavilion 7370V	210
666	HP Vectra VA 6/200 MT	210
685	HP Vectra VE 5/133	222
	IBM PC 350	222
	IBM PC 365	210
746	Intergraph TD 320, 325 and 425	64
688	Kingdom 6x86 P166+ Super Value	222
690	Kingdom Pentium MMX 200 Home & Office	222
681	Micro Express MicroFlex-K5/5166	222
683	Micro Express MicroFlex-PCI/5166	222
663	Micron Home MPC P200	210
604	Micron Home MPC	258
661	Micron Millennia Pro2 200 B	210
682	Midwest Micro MWH-200	222
687	Polywell Poly 500 QX	222
691	ProGen Atlas X 200	222
679	Quantex QP5/166 SM-3	222
689	Quantex QP5-/200P p200MMX	222
684	Quantex QP6/200 PD-4	222
668	Quantex QP6/200 SM-4	210

INDEX

Reader service number		Page
664	Quantex QP6/266 SM-4X	210
670	Sys Technology Sys Performance P200T2M	210
673	Sys Technology Sys Performance Pro 200	210
674	Sys Technology Sys Performance Pro 266	210
669	Xi Computer Xi K200 Mtower	210
	Digital Camera	
761	Hitachi MPEG1A	100
763	Kodak DVC 300 Digital Video Camera	100
	Digital Image Enhancer	
770	Before & After, Polaroid Corp.	108
771	PhotoMate, Connectix	108
	Email	
626	Email Connection 3.1a, ConnectSoft	176
627	Eudora Pro 3.0, Qualcomm	176
628	Juno 1.23	178
629	Microsoft Outlook Express	178
630	Netscape Messenger 4.0	182
631	Pegasus Mail 2.53, David Harris	184
	Email Tools	
632	OzWin II 2.12.2, Ozarks West Software	174
633	PowerMail 1.3, BPS Software	174
	Entertainment/Game	
718	Life in the Universe, MetaTools	254
720	Highlights Hidden Pictures Workshop, Palladium Interactive	254
719	The Space Bar, SegaSoft	254
	Game Input Device	
717	SpaceOrb 360, Spacetec IMC	253
	Graphics Application	
768	Painter 5.0, MetaCreations	108
	Graphics Boards	
640	ATI 3D Xpression+ PC2TV	249
644	Diamond Stealth 3D 2000 Pro	249
641	Diamond Stealth 3D 3000XL	249
638	Hercules Terminator 3D/DX	249
645	Matrox Millennium	249
639	Matrox Mystique 220 Business	249
643	STB Lightspeed 128	249
637	STB Nitro 3D	249
642	STB Velocity 3D	249
646	VideoLogic GrafixStar 600	249
	Hard Drive	
757	Fireball ST, Quantum	97
	HTML Editor	
606	Microsoft FrontPage 97	43
	Input Device	
762	Cirque Power Cat, Cirque Corp	100
	Internet Utility	
634	GetRight, HeadLight Software	260
	Mail Spy, SaberQuest	260
635	Net.Medic, VitalSigns	260
	ISDN Terminal Adapters	
737	3Com Impact IQ	162
738	Adtran Express XRT	162
731	Diamond Supra NetCommander ISDN Modem	162
735	Hayes Accura ISDN	162
740	Motorola BitSurfr Pro	162
733	TigerJet PCI ISDN	162
736	US Robotics Courier I-Modem	162
739	US Robotics DataBurst ISDN 128K	162
732	US Robotics Sportster ISDN 128K	162
734	Zyxel omni.net	162
	Legal Reference	
714	Quicken Family Lawyer Deluxe, Parsons Technology	253
	Medical Reference	
715	Home Medical Advisor, The Learning Company	253
716	Mosby's Medical Encyclopedia, The Learning Company	253
	Mobile Phone	
760	MobileAccess 110, Mitsubishi Wireless Communications Inc.	98
	Modems	
617	Diamond Multimedia SupraSonic 33.6 V+	251
624	Megahertz US Robotics Sportster 33.6 Faxmodem, U.S. Robotics	251
623	Megahertz US Robotics XJ 1336, U.S. Robotics	251
620	Motorola ISG Premier 33.6	251
622	Motorola Montana 33.6	251
618	Practical Peripherals PC288LCD V.34	251
621	Practical Peripherals ProClass 336 V.34 Data/Fax Modem with EZ-Port	251
625	TDK CyberExpress 3000	251
616	U.S. Robotics Courier V.Everything 56k	251
619	Zoom V.34X PLUS	251
	Monitors	
26	CLR VisionPro 15	245
721	Dell UltraScan 800HS	245
727	Gateway CrystalScan 500	245
724	Hitachi SuperScan Pro 500	245
729	MAG InnoVision DX15T	245
730	Mitsubishi Diamond Scan 15VX	245
722	Nokia 449Xa Multigraph	245
750	Panasonic PanaFlat PF70	84
725	Panasonic PanaMedia PM15	245
723	Panasonic Panasync/Pro P15	245
728	ViewSonic 15GS	245
	Multifunction Device	
753	HP LaserJet Companion	90
	Notebook Computers	
741	5D Technology ChemBook 9750	56
713	AcerNote Light 382	230
742	ARM Computer ARMNote TS9750	56
712	ARM TS753CD-113D	230
704	Compaq Armada 1130T	230
705	Compaq Armada 1520DM	230
701	Compaq Presario 1080	230
707	CTX EZBook 750MS	230
694	Dell Latitude LM M166ST	230
700	Dell Latitude XPI CD M166ST	230
702	Digital HiNote VP 575	230
743	EPS Technologies Apex M-200	56
711	Gateway 2000 Solo 2100 S5-120	230
698	Gateway 2000 Solo 2100 S5-150	230
699	Gateway 2000 Solo 2200 S5-166	230
710	Mega Image MegaBook 911	230
744	NEC Versa 6200 MX	56
709	Toshiba Satellite 200 CDS	230
706	Toshiba Satellite Pro 430CDS	230
703	Toshiba Tecra 740CDT PA1229U-XCD	230
745	Toshiba Tecra 740CDT	56
696	Transmonde Vibrant 133T	230
697	WinBook FX	230
695	Winbook LM	230
708	Winbook XP5 Pro P150	230
	Palmtop PC	
758	Psion Series 5	98
	Palmtop Peripheral	
759	Intellisync, Puma Technologies	98
	PC-TV	
757	PC Theatre 9000 CPU, Compaq and RCA	97
	Printers	
648	Brother HL-720	241
653	Canon BJC-4200 Photo	241
	Epson Stylus Color 600	241
	Epson's Stylus Color 1520	84
655	HP DeskJet 672C	241
652	HP DeskJet 694C	241
654	HP DeskJet 820Cse	241
647	HP LaserJet 6Lse	241
749	Minolta Color PageWorks	81
752	NEC SuperScript 1260	84
650	NEC SuperScript 660plus	241
649	NEC SuperScript 860	241
651	Panasonic KX-P6500	241
748	Xerox DocuPrint C55	81
	Security/Signature Software	
775	ApproveIT, Silanis Technology Inc.	112
	Software Suite	
607	Corel WordPerfect Suite for DOS	280
	Speaker System	
608	Altec Lansing ACS55 Power Gaming Speaker System with Dolby Multimedia Surround Sound	298
	Video Card	
754	Matrox Rainbow Runner Studio	90
	Voice Recognition Software	
747	NaturallySpeaking, Dragon Systems	80
	Web Graphics	
615	LView Pro, MMedia Research	615

Training Videos for Windows Software

KeyStone Learning Systems

Microsoft SOLUTION PROVIDER

Alison Balter
Microsoft Certified
& Access Instructor

Robert MacHale
Professional Trainer
& Internet Instructor

Dawn Bjork
Microsoft Certified
& Word Instructor

NEW Access 97*

Beg/Int/Adv	(ea) $49.95
Special-All Three	$129.95
Develop. Lev 1/2/3	(ea) $89.95
Develop. Lev 4/5/6	(ea) $89.95
ODE Tools	$89.95
Access & the Internet	$89.95
Access Enterprise	$89.95
Special-All Nine	$649.95

NEW Windows NT 4.0*

Server Admn. Lev 1	$89.95
Server Admn. Lev 2	$89.95
Covers Exam 70-67	
Enterp. Admn. Lev 1	$89.95
Enterp. Admn. Lev 2	$89.95
Covers Exam 70-68	
Special All Four	$329.95
Serv. & Wrk. Install	$89.95
Covers Exam 70-63 & 70-73	
Workstn. Admn. Lev 1	$89.95
Workstn. Admn. Lev 2	$89.95
Workstn. Admn. Lev 3	$89.95
Covers Exam 70-73	
Special All Four	$329.95
Workstn. User Level 1	$49.95
Workstn. User Level 2	$49.95
Both Videos	$89.95
Special All Ten	$699.95

NEW IIS 3.x

Level 1/2/3	(ea) $89.95
Special-All Three	$249.95
Covers Exam 70-77	

NEW TCP/IP

Level 1/2	(ea) $89.95
Special-Both Videos	$169.95
Covers Exam 70-53	

NEW Internet Explorer 3.x*

Internet Explorer 3.x	$49.95

NEW Front Page 97

Level 1	$89.95
Level 2	$89.95
Level 3	$89.95
Special-All Three	$249.95

Java

Level 1/2/3	(ea) $89.95
Level 4/5/6	(ea) $89.95
Special-All Six	$449.95

NEW Visual J++ 1.x

Level 1/2/3	(ea) $89.95
Level 4/5/6	(ea) $89.95
Special-All Six	$449.95

HTML

Level 1	$89.95
Level 2	$89.95
Level 3	$89.95
Special-All Three	$249.95

NEW ActiveX/Automation

Level 1/2/3	(ea) $89.95
Level 4/5/6	(ea) $89.95
Special-All Six	$449.95

NEW Visual Basic 5.0*

Level 1/2/3	(ea) $89.95
Level 4/5/6	(ea) $89.95
Client/Server Dev.	$89.95
Multi-Tier Develop.	$89.95
ActiveX Controls	$89.95
ActiveX Automation	$89.95
Special-Any Three	$249.95
Special-All Ten	$699.95

NEW Word 97*

Beg/Int/Adv	(ea) $49.95
Mail Merge	$49.95
Forms/DTP	(ea) $49.95
Internet	$49.95
Special-All Seven	$279.95

NEW Outlook 97*

Basics	$49.95
Power Features	$49.95
Special-Both Videos	$89.95

NEW Excel 97*

Beg/Int/Adv	(ea) $49.95
Power Features	$49.95
Pivot Tables	$49.95
Shortcuts & Ideas	$49.95
Special-All Six	$239.95

Windows 95*

Beg/Int/Adv	(ea) $49.95
Network/Install	(ea) $49.95
Special Features	$49.95
Special-Any Three	$129.95
Special-All Six	$239.95

NEW PowerPoint 97*

Beg/Int/Adv	(ea) $49.95
Special-All Three	$129.95

Project 4.1*

Level 1/2/3/4	(ea) $89.95
All Four Videos	$299.95

Over 450 Titles

Average: 2 hours of training per video

Domestic Shipping 2-3 Days: $5.00 for the first two videos; plus $1.50 for each additional video tape. International Orders: Shipping cost will vary, call for details.

All Videos Available in PAL (European Format)

* Other versions available
Prices and course may vary

Ask about KeyNotes $14.95 ea — KeyStone's Quick Reference

Office 97

Special MS Office 97 or 95* Video Combinations

MS Office Integration Video $19.95 with any Combo purchase

Microsoft SOLUTION PROVIDER

Microsoft Office Standard — $349.95
- 3 Word, 3 Excel, 2 PowerPoint, 1 Outlook
- 9 videos with over 17 hours of training

WITH KeyNotes $469.95

Microsoft Office Pro — $495.95
- 3 Word, 3 Excel, 3 Access (Beg/Int/Adv)
- 3 PowerPoint, (1 Outlook or 1 Mail)
- 13 videos with over 24 hours of training

WITH KeyNotes $639.95

Microsoft Office Plus — $579.95
- 3 Word, 3 Excel, 3 Access (Beg/Int/Adv)
- 3 PowerPoint, 3 Windows, (1 Outlook or 1 Mail)
- 16 videos with over 29 hours of training

WITH KeyNotes $749.95

Developer

Special Developer Pack Video Combinations

Developer Power Pack Standard — $649.95
- Any 9 videos (Save $108)

Developer Power Pack Pro — $799.95
- Any 12 videos (Save $129)

Developer Power Pack Plus — $1,139.95
- Any 18 videos (Save $219)

Choose From:
Visual Basic • SQL Server • Access 95 Developer
Visual C++ • Visual FoxPro • Delphi • Front Page • HTML
PowerBuilder • Java • JavaScript • Visual J++ • ActiveX

CORELOffice

Special Corel Office Video Combinations

Corel WordPerfect Suite Standard — $349.95
- 3 WordPerfect, 3 Quattro Pro, 3 Presentations
- 9 videos with over 17 hours of training

Corel WordPerfect Suite Professional — $495.95
- 3 WordPerfect, 3 Quattro Pro, 3 Presentations
- 1 Envoy, 3 Windows
- 13 videos with over 24 hours of training

Corel Office Professional — $579.95
- 3 WordPerfect, 3 Quattro Pro, 3 Presentations
- 3 Paradox, 1 Netscape Nav., 1 Envoy, 2 Groupwise
- 16 videos with over 29 hours of training

CORELOffice SOLUTION PARTNERS

4 Easy Ways to Order:

CALL ▶ 1-800-976-1040
801-375-8680

FAX ▶ 1-801-373-6872

WWW ▶ www.klscorp.com

MAIL ▶ KeyStone Learning Systems Corp.
2241 Larsen Parkway • Provo, UT 84606

AD# PW87

RISK FREE 30 DAY Money Back Guarantee

We accept C.O.D., Company P.O. or check +

Circle 118 on reader service card

Surprised at your web hosting rates?!

Then call ValueWeb today, the world's most affordable web hosting service!

$19.95 Mo

No Minimum Contract!

- Domain name registration provided (http://www.your_name.com/)
- Access to our SSL secure server
- Your own CGI-bin directory
- Anonymous Virtual FTP
- E-mail forwarding
- Your own FTP account
- T3 connection to the Internet
- 1000 Mb of data transfer per month
- Daily tape backup
- Choice of UNIX and Microsoft® Front Page
- Detailed web usage statistics
- Auto E-mail responders
- 25 Mb of disk space
- Truespeech® server support included (real time audio)
- Same day setup
- POP3 E-mail accounts

30 Day Money Back Guarantee!

ValueWeb℠

Ask about our reseller program!

1-888-W$_9$E$_3$-H$_4$O$_6$S$_7$T$_8$-U$_8$

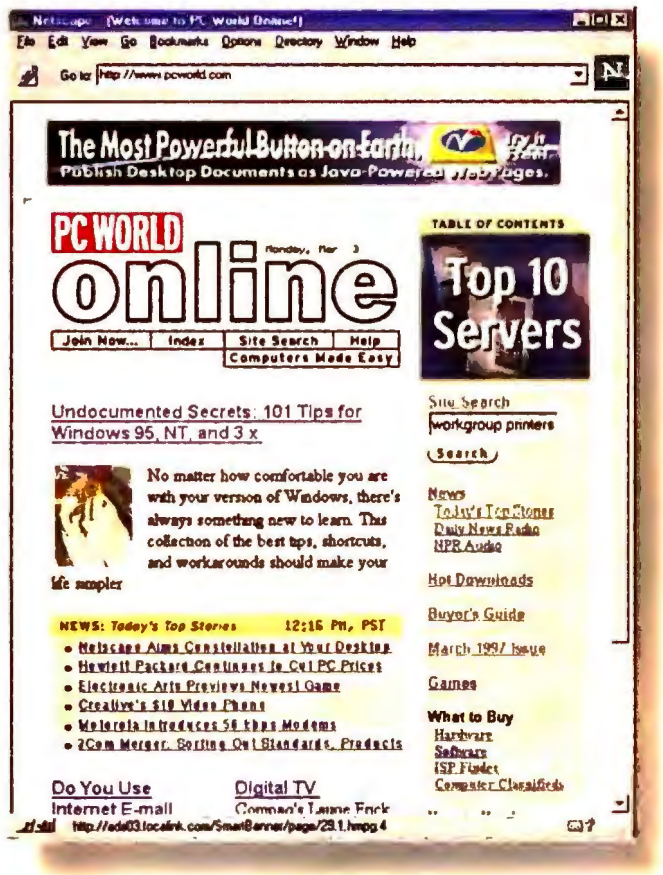
Save $10 When You Register Online! • www.valueweb.net • E-mail: sales@valueweb.net

Circle 260 on reader service card

At 9:37am, he'll check PC World Online for expert advice on buying workgroup printers for his new division.

By noon, he'll fax the P.O.

Where did you get *your* information?



www.pcworld.com

PC WORLD online

the leading online resource for PC buyers and users

Circle 172 on reader service card

When Push Comes to Shovel

BLATHER ABOUT PUSH IS the latest Internet frenzy. The buzzword has come to mean several very different things, but it usually refers to data that's "pushed" to you automatically, as opposed to data you "pull" from the Web when you want it. Since that data can include news, stock quotes, mailing lists, software updates, and generous helpings of spam, you can bet push isn't all it's cracked up to be.

It's also not exactly a new concept. This magazine's a good example: It pushes plenty of information at you—some you wanted, some you didn't know you wanted until you read it, and some you couldn't care less about—plus lots of advertising of greater or lesser interest. PointCast, generally recognized as a pioneer of Internet push, does something similar by displaying information and ads in the guise of a screen saver. So would you rather get *PC World* in your physical mailbox every month or have it (or a specially customized version) delivered to your electronic in-box?

That's not merely a rhetorical question. The future of print media may well depend on the success or failure of the push metaphor. But the world is hardly short on ways to deliver information, so the question is whether push can do a better job than traditional models. There's undoubtedly a market for time-critical items delivered in timely fashion, but once you get beyond stock quotes, breaking news, traffic reports, and tornado warnings, there are few things most of us absolutely must know this very minute.

The world is hardly short on ways to deliver information. Can push do a better job than traditional media?

AGENTS: INTELLIGENT?

MANY PUSH SCHEMES assume the existence of so-called intelligent agents that magically deliver just the information you need. Maybe someday such wizardry will be possible, but for now customization is essentially limited to brute-force text-string searches, or to collaborative filtering, which matches your likes to those of other people. And as anyone who's used a search engine knows, striking a balance between too much information and not enough is a delicate task that computers are not particularly good at. Your choice: Wade through a flood of irrelevant garbage, or miss information you really want.

Push is also promoted as a way to deliver software, including fixes and upgrades. The idea sounds attractive to those of us whose hardware always seems to be two drivers behind the curve. But it could easily worsen the problem of companies blithely shipping software that doesn't quite work, with the intention of sending out fixes later. And if an upgrade suddenly exhibits bizarre behavior on your machine, there'd better be some way to restore things to the way they were before you installed it.

The nature of the network connection is crucial to push. If your PC is always wired to the Net, push can deliver time-critical information now and assemble less-urgent data in the background. If you dial in intermittently, those options become less feasible. Until we all get high-speed 24-hour digital hookups, one stopgap may be data broadcasting, a scheme that Microsoft and satellite broadcasters like DirecTV are working on. Leave your machine on all night, and your hard disk might have the entire newspaper ready for you to read over breakfast. Nice, but you could just as easily leave the machine off, grab the paper off the porch, and listen to the latest headlines on radio or TV.

SURF 'N' TURF

CLAIMS ABOUT PUSH'S potential are often based on dubious assumptions. Push pushers often pretend bandwidth is free, which it isn't. Replacing bandwidth with data broadcasts assumes mass storage is free, which isn't true either. And virtually no one will discuss what happens if today's all-you-can-eat Internet pricing goes away.

Besides, push has lots of competition from traditional media, which are not about to let their turf go undefended. In the end, one of the Net's greatest advantages may be its vast searchability: Unlike other media, it's a great place to find specific information when you need it. In other words, the Net's got pull.

PC World *contributing editor Stephen Manes is a columnist for the* New York Times *and coauthor of* Gates: How Microsoft's Mogul Reinvented an Industry *(Touchstone/Simon & Schuster, 1994, 800/223-2348).* ■

IDG INTERNATIONAL DATA GROUP *PC World*™ (ISSN 0737-8939) is published monthly at $29.90 for one year (12 issues), $59.80 for two years (24 issues), $89.70 for three years (36 issues) by PC World Communications, Inc., 501 Second St. #600, San Francisco, CA 94107. Foreign orders must be prepaid in U.S. funds with additional postage. Add $20 per year for Canada and Mexico; add $46 per year for airmail for all other countries. Canadian GST Registration #R124669680. Periodicals postage paid at San Francisco and additional mailing offices. Canada Post International Publications Mail Product, (Canadian Distribution) Sales Agreement No. 0463566. POSTMASTER: Send address changes to *PC World*, Subscription Dept., P.O. Box 55029, Boulder, CO 80328-5029. Editorial and business offices: 501 Second St. #600, San Francisco, CA 94107, 415/243-0500. Copyright © 1997, PC World Communications, Inc. All rights reserved. The trademark *PC World* is owned by International Data Group and used under license by PC World Communications, Inc. *PC World Top 20*™, *Top 20*™, *PC World Top 10*™, *Top 10*™, *PC World Top 100*™, *Top 100*™, and *Consumer Watch*™ are trademarks of International Data Group, Inc., and used under license by PC World Communications, Inc. Printed in the United States.

PHOTOGRAPH: ERIK BUTLER

WE'VE JUST WON THE RACE. WANT TO HOLD THE TROPHY?

NEW DELL® LATITUDE® LM M166ST
166MHz PENTIUM® PROCESSOR WITH MMX™ TECHNOLOGY

- ★ **12.1" SVGA Active Matrix Display**
- ★ **16MB RAM (72MB Max.)**
- 256KB L2 Pipeline Burst Cache
- ★ ***NEW* 1.6GB Hard Drive**
- Options Bay accepts 12X Variable CD-RDM, 3.5" Floppy Drive (both included) or Optional 2nd Lithium Ion Battery
- ★ **PCI Bus with 128-bit Graphics Accelerator with 64K Colors**
- Integrated 16-bit Stereo Sound
- Smart Lithium Ion Battery
- ★ **MS® Office 97 Small Business Edition**
- Microsoft® Windows® 95
- IrDA 1.0 Standard Compliant
- Touchpad/Under 7 Pounds*
- Extendable 1 Year Warranty†
- ★ *Upgrade to 40MB RAM, add $299.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *Motorola 33.6 Fax Modem, add $169.*

$2999

Business Lease◊: $111/Mo.
Order Code #800140

"THE FASTEST NOTEBOOK WE'VE EVER TESTED."
–WINDOWS MAGAZINE, MAY AND JUNE 1997

Introducing the astoundingly fast Dell Latitude LM M166ST notebook – built for speed from the ground up. Not only earning it rave reviews from *Windows Magazine* two months in a row, but also garnering the "Best Buy" designation for notebooks in June's *PC World* Magazine. Beneath the hood of this speed demon, you'll find Intel's® new 166MHz Mobile Pentium® processor with MMX™ technology. And a new NeoMagic 128-bit graphics accelerator, with 64,000 colors and a super bright 12.1" Super VGA active matrix display. And of course we souped it up with the kind of feature set you'd want on any hot rod notebook – up to 72MB of RAM, a modular bay for the 12X Variable CD-ROM, floppy drive, or an optional 2nd Lithium Ion battery, 16-bit stereo sound and MS Office 97 Small Business Edition. So if you want to live life in the fast lane, give us a call. And we'll put you in the driver's seat of one of the fastest notebooks out there.

DELL®

TO ORDER TOLL-FREE
800-627-4653
TO ORDER ONLINE
www.dell.com/buydell

Mon-Fri 7am-9pm CT • Sat 10am-6pm CT
Sun 12pm-5pm CT In Canada*, call 800-232-6978
GSA Contract #GS-35F-4076D

Keycode #03272

DELL DIMENSION DESKTOPS FOR BUSINESS

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ Microsoft® Office 97 Small Business Edition plus Bookshelf ◆ MS® ◆ MS Mouse (MS IntelliMouse on XPS System) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty[1] with 1 Year On-site[A] Service
Upgrades: ◆ 3Com® 3C905 Fast EtherLink® XL 10/100 PCI Card, add $109. ◆ 4/8GB EIDE TR4 TBU, add $199. ◆ HP LaserJet 6Pse Printer, add $799. ◆ 3-Pak of Zip 100MB

NEW DELL DIMENSION® XPS H266
266MHz PENTIUM® II PROCESSOR FEATURING MMX™ TECHNOLOGY

Common features listed above plus:
- 64MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- *NEW* 1000TX Trinitron® Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

$3399

Business Lease^: $126/Mo.
Order Code #500709

NEW DELL DIMENSION XPS H233
233MHz PENTIUM II PROCESSOR FEATURING MMX TECHNOLOGY

Common features listed above plus:
- 32MB EDO Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-90 Speakers
- Iomega Zip 100MB IDE Internal Drive with One Cartridge

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2599

Business Lease : $96/Mo.
Order Code #500708

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM® PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to a 6.4GB Hard Drive with 512KB cache (9.5ms), add $85.*
★ *Upgrade to a Matrox Millennium II 4MB WRAM Video Card, add $99.*

$2399

Business Lease: $89/Mo.
Order Code #500707

DELL DIMENSION XPS M200s
200MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:
- 32MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-90 Speakers

★ *Upgrade to 64MB SDRAM, add $239.*
★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$2199

Business Lease: $81/Mo.
Order Code #500706

OUR NEW SYSTEMS AREN
THEY'RE INCRI

DELL DIMENSION DESKTOPS FOR HOME

Common features: ◆ Mini Tower Model ◆ 512KB L2 Cache ◆ *NEW* 24X Variable EIDE CD-ROM Drive ◆ *NEW* 56K Capable** U.S. Robotics x2 Telephony Modem ◆ MS Windows 95 ◆ MS Mouse (MS IntelliMouse on XPS Systems) ◆ 2 Universal Serial Bus (USB) Ports ◆ 3 Year Limited Warranty with 1 Year On-site Service
Upgrades: ◆ Iomega Zip 100MB IDE Internal Drive w/One Cartridge, add $99. ◆ HP DeskJet 820Cse Color Printer, add $299. ◆ 3 yrs. On-site Service, add $99.

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory with ECC
- *NEW* 7GB Hard Drive (10ms)
- 1000TX Trinitron Monitor (15.9" v.i.s., .26dp)
- *NEW* Matrox Millennium II 8MB WRAM Video Card
- Yamaha 32 Wave Table Sound
- Altec ACS-490 Full Dolby* Surround Sound Speakers with Subwoofer
- Iomega Zip 100MB IDE Internal Drive with One Cartridge
- MS Office 97 Small Business Edition plus Encarta

$3499

Order Code #500704

NEW DELL DIMENSION XPS H266
266MHz PENTIUM II PROCESSOR (MMX)

Common features listed above plus:
- 32MB EDO Memory
- 6.4GB Hard Drive with 512KB Cache (9.5ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* Matrox Millennium II 4MB WRAM Video Card
- Integrated Yamaha 16-bit Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 64MB EDO Memory with ECC, add $299.*

$2999

Order Code #500703

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 32MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- *NEW* 1000LS Monitor (15.9" v.i.s.)
- *NEW* 4MB EDO ViRGE 3D Video Card
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to a 4.3GB Hard Drive (10ms), add $65.*

$2499

Order Code #500702

DELL DIMENSION M166a
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 16MB SDRAM Memory
- 3.2GB Hard Drive (12ms)
- 800HS Trinitron Monitor (13.7" v.i.s., .26dp)
- 2MB EDO ViRGE 3D Video
- Sound Blaster 16 PnP Sound Card
- Altec Lansing ACS-90 Speakers
- MS Home Essentials plus Best of Entertainment Pack

★ *Upgrade to 32MB SDRAM, add $119.*
★ *Upgrade to a 1000LS Monitor (15.9" v.i.s.), add $119.*

$1899

Order Code #500701

Thousands of other custom configuration

MMX™ intel inside pentium PROCESSOR

‡Pricing is not discountable †For a complete copy of our Guarantees or Limited Warranties, please write Dell USA L P attn Warranty One Dell Way, Round Rock, TX 78682 ◊Leasing arranged by third-party leasing companies to qualified customers. *System weight with floppy drive or CD-ROM in options bay ^On-site service provided by an independent third-party provider May not be available in certain remote areas **x2 products are capable of 56Kbps downloads Due to FCC rules that restrict power output, however, current download speeds are limited to 53Kbps Upload speeds are limited to 33 6 Kbps Actual speeds may vary depending on line conditions *Prices and specifications valid in the U.S. only and subject to change without notice Intel, the Intel Inside logo, LANDesk and Pentium are registered trademarks and MMX and EtherExpress are trademarks of Intel Corporation. MS, Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation 3Com and EtherLink are registered trademarks of 3Com Corporation Trinitron is a registered trademark of Sony Corporation DirectLine is a service mark of Dell Computer Corporation ©1997 Dell Computer Corporation All rights reserved

GET FREE DELL NEWS, RIGHT AT YOUR DESKTOP!
With DirectNews, Dell's free priority email bulletin, you can get pricing, product announcements, and limited time offers emailed direct to your computer, as soon as they become available. This money and time saving bulletin is available exclusively by subscription. And it's easy to subscribe. Just email us at listserver@dell.com with the message "join ddn" And then watch your mailbox for the inside scoop on Dell's latest offers.

ıdows® 95

tridges, add $39.

ELL DIMENSION M166a
36MHz PENTIUM PROCESSOR
/ITH MMX TECHNOLOGY

ommon features listed above plus:
- 16MB SDRAM Memory
- 4.3GB Hard Drive (10ms)
- *NEW* 800LS Monitor (13.7" v.i.s.)
- 2MB EDO ViRGE 3D Video
- *Upgrade to 32MB SDRAM, add $119.*
- *Upgrade to an 800HS Trinitron Monitor (13.7" v.i.s., .26dp), add $49.*
- *Sound Blaster 16 PnP and Altec ACS-90 Speakers, add $89.*
- *Iomega Zip 100MB IDE Internal Drive with One Cartridge, add $99.*

1799

usiness Lease: $67/Mo.
der Code #500705

DESKTOP SOFTWARE DESCRIPTIONS

MS Office 97 Small Business Edition (SBE) includes:
- Word 97
- Excel 97
- Publisher 97
- Outlook 97
- Automap Streets Plus
- Small Business Financial Mgr 97
- Internet Explorer 3.0

MS Home Essentials plus Best of Entertainment Pack includes:
- Word 97
- Works 4.0
- Encarta 97
- Greetings Workshop
- Arcade
- Internet Explorer 3.0
- TETRIS, Taipei, SkiFree, Dr. BlackJack and more.

NEW DELL POWEREDGE SERVERS

Common features: ◆ 512KB L2 Cache ◆ Integrated Ultra-Wide SCSI-3 Controller ◆ Intel® EtherExpress™ Pro/100 NIC ◆ Intel LANDesk® Server Manager v2.5x ◆ Dell Server Assistant CD ◆ 3 Year Limited Warranty†

DELL® POWEREDGE® 2200 SERVER
266MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 96MB ECC EDO Memory
- 4GB Ultra-Wide SCSI-3 Hard Drive [7200 RPM, 8ms] (27GB Max.)
- 8X SCSI CD-ROM Drive
- MS Windows NT® Server 4.0
- ★ *Upgrade to 128MB ECC EDO Memory, add $220.*
- ★ *Upgrade to a 9GB Ultra-Wide SCSI-3 Hard Drive, add $450.*
- ★ *Upgrade to 3 Years On-site Service, add $99.*

$4999

Business Lease: $179/Mo.
Order Code #250072

DELL POWEREDGE 2200 SERVER
233MHz PENTIUM II PROCESSOR
Dual Processor Capable, RAID Capable

Common features listed above plus:
- 32MB ECC EDO Memory
- 2GB Ultra-Wide SCSI-3 Hard Drive [7200 RPM, 8ms] (27GB Max.)
- 8X SCSI CD-ROM Drive
- 3Com OfficeConnect Hub 8/TPC
- ★ *Upgrade to 64MB ECC EDO Memory, add $239.*
- ★ *Upgrade to a 4GB Ultra-Wide SCSI-3 Hard Drive, add $320.*
- ★ *4/8GB SCSI DAT Tape Backup, add $749.*

$3249

Business Lease: $119/Mo.
Order Code #250070

'T JUST INCREDIBLY FAST. DIBLY PRICED.

DELL LATITUDE NOTEBOOKS

Common features: ◆ 256KB L2 Pipeline Burst Cache ◆ Options Bay accepts 12X Variable CD-ROM, 3.5" Floppy Drive (both included), or Optional 2nd Li-Ion Battery ◆ PCI Bus with 128-bit Graphics Accelerator with 64K Colors ◆ Integrated 16-bit Stereo Sound ◆ Smart Lithium Ion Battery ◆ Microsoft Windows 95 ◆ IrDA 1.0 Standard Compliant ◆ Touchpad ◆ Under 7 Pounds* ◆ Extendable 1 Year Warranty†

NEW DELL LATITUDE® LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 72MB RAM
- 2.1GB Hard Drive
- 2nd Lithium Ion Battery
- MS Office 97 Small Business Edition
- ★ *Motorola 33.6 Fax Modem, add $169.*
- ★ *3Com LAN+ 33.6 Modem PC Card, add $349.*
- ★ *Dell Latitude LM Port Replicator, add $159.*
- ★ *Leather Carrying Case, add $129.*

$3949‡

Business Lease: $142/Mo.
Order Code #800143

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 40MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem
- MS Office 97 Small Business Edition
- ★ *Upgrade to 72MB RAM, add $299.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *3Com 10Base-T Network Card, add $139.*

$3499‡

Business Lease: $129/Mo.
Order Code #800144

NEW DELL LATITUDE LM M166ST
166MHz PENTIUM PROCESSOR W/MMX

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- MS Office 97 Small Business Edition
- ★ *Upgrade to 40MB RAM, add $299.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *Motorola 33.6 Fax Modem, add $169.*
- ★ *Dell Latitude LM Port Replicator, add $159.*
- ★ *Leather Carrying Case, add $129.*

$2999‡

Business Lease: $111/Mo.
Order Code #800140

DELL LATITUDE LM P133ST
133MHz PENTIUM® PROCESSOR

Common features listed above plus:
- 12.1" SVGA Active Matrix Display
- 16MB RAM (72MB Max.)
- *NEW* 1.6GB Hard Drive
- Motorola 33.6 Fax Modem
- ★ *Upgrade to 24MB RAM, add $99.*
- ★ *Upgrade to a 2.1GB Hard Drive, add $149.*
- ★ *2nd Lithium Ion Battery, add $199.*
- ★ *Nylon Carrying Case, add $69.*
- ★ *Dell Latitude LM Port Replicator, add $159.*

$2699‡

Business Lease: $100/Mo.
Order Code #800138

vailable. What can we build yours to do?

TO ORDER TOLL-FREE
800-678-7686
TO ORDER ONLINE
www.dell.com/buydell

Mon-Fri 7am-9pm CT
Sat 10am-6pm CT
Sun 12pm-5pm CT
In Canada, call 800-232-6978
GSA Contract #GS-35F-4076D
Keycode #03273

DELL®

WHEN IT COMES TO WINNING AWARDS, THERE SIMPLY IS NO COMPETITION.

NEW DELL DIMENSION XPS M233s
233MHz PENTIUM PROCESSOR
WITH MMX™ TECHNOLOGY

- Mini Tower Model
- ★ **32MB SDRAM Memory**
- 512KB Single Bank Pipeline Burst Cache
- 3.2GB Hard Drive (12ms)
- ★ ***NEW* 1000TX Trinitron® Monitor (15.9" v.i.s., .26dp)**
- 4MB EDO ViRGE 3D Video Card
- ★ ***NEW* 24X Variable EIDE CD-ROM Drive**
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec Lansing ACS-290 Speakers with Subwoofer
- ★ **MS® Office 97 Small Business Edition plus Bookshelf**
- MS Windows® 95/MS IntelliMouse
- 3 Year Limited Warranty† with 1 Year On-site^Δ Service
- ★ *Upgrade to 64MB SDRAM, add $239.*
- ★ *Upgrade to a 4.3GB Hard Drive (10ms), add $65.*

$2499

Business Lease^◊: $92/Mo.
Order Code #500710

156 AWARDS ACROSS THE ENTIRE DIMENSION LINE.

What do the awards given by *PC Magazine, PC Computing, PC World, Windows Magazine* and *Computer Shopper* (over 155 honors since 1/95!) have to do with you? It means you'll now be running dramatic multimedia presentations on the high-end systems that have earned designations such as *PC Magazine* Editors' Choice for Best Business PC. It means you'll be cruising the Internet on systems designated MVP and 5-Star Award winners by *PC Computing*. And it means a whole lot more since they're also awarding our great reliability and price. Which is what a firm commitment to cutting edge engineering will get you. Just take a look at this brand new Dell Dimension XPS system with a 233MHz Pentium® processor with MMX™ Technology – up to 12% more processor speed than its 200MHz counterpart! So give us a call and let us build you a winner. After all, if you're judged by the company you keep, shouldn't you hang with the champs?

DELL®

TO ORDER TOLL-FREE

800-433-5865

TO ORDER ONLINE

www.dell.com/buydell

Mon-Fri 7am-9pm CT • Sat 10am-6pm CT
Sun 12pm-5pm CT In Canada, call 800-232-6978
GSA Contract #GS-35F-4076D

Keycode #03271