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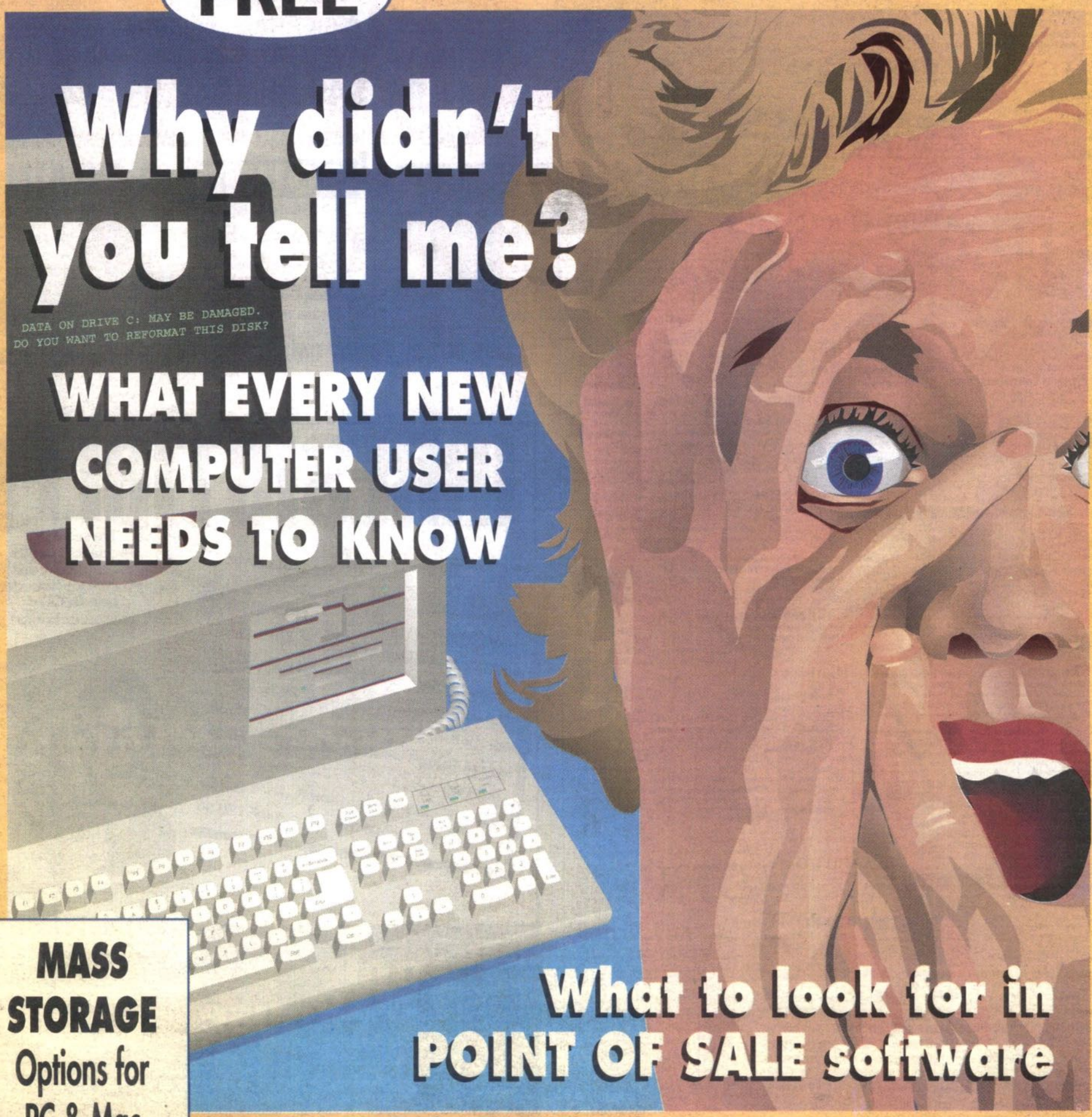

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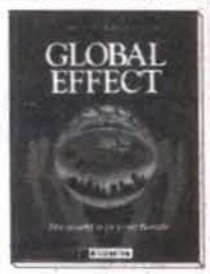

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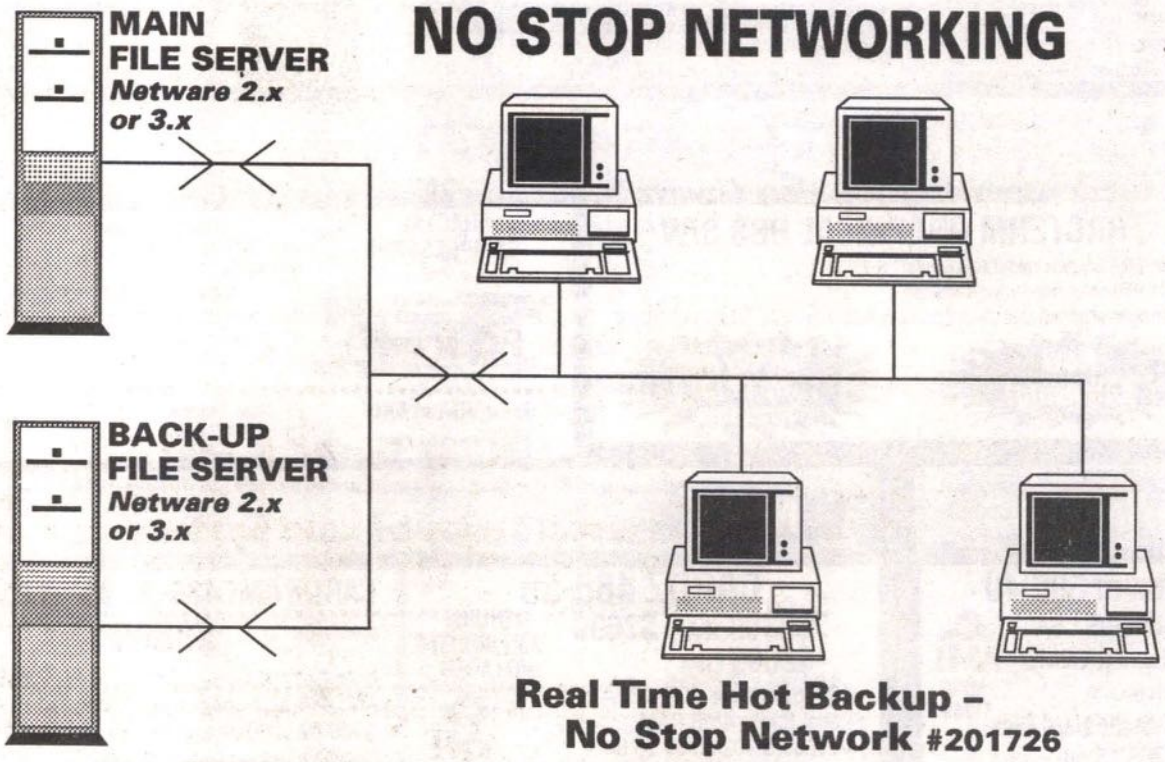

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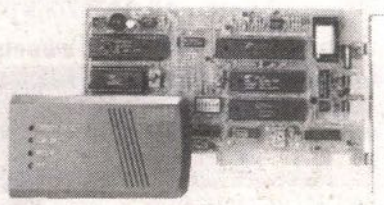

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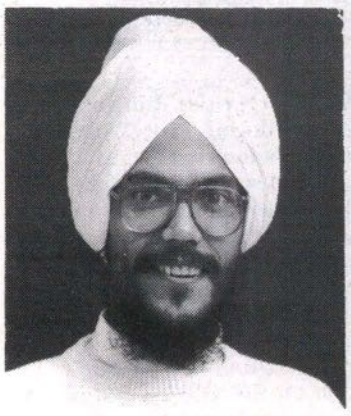
Letter From The **Editor**



A New View of Accounting?

Phil Quackenbush is not a happy man. He feels misunderstood by the public and he blames it on short-sighted accountants. Phil is president of Q.W. Page, the Canadian company that developed NewViews accounting software. I met with him recently on the occasion of the release of a new version of the software. When it first came out in 1986, it was hailed as revolutionary by *PC Magazine*. Sales went ballistic on Phil and his crew, but they hung on and survived that first sales surge. Then a prestigious accounting firm did a review of the product, where they slammed it for a lack of "controls." Another computer publication picked up the review and reprinted it verbatim. Sales flattened and even fell off. But Q.W. Page weathered the storm, because of a solid and growing base of users, largely built on word of mouth. When I asked him how sales were now, he held his arm at about 15% above horizontal. Still, NewViews has in his estimation sold over 50,000 copies and maintains close to 40,000 registered users around the world.

NewViews is a bit like a spreadsheet. It is a place to store your accounting numbers and the program acts like a window on those numbers. It has a Lotus-like, character-based front end. Zooming in on your numbers is a matter of selecting a row at the top level, then a couple of keystrokes will take you deeper down into a report. Select an account, then repeat your "drill-down" keystrokes and you are down at the item level. The accountants at Price Waterhouse criticized NewViews because it is possible to select a row and delete it. Worse still, according to them, it is possible to edit descriptions, dates and numbers at any time. Phil's side of the story is that when he came at designing NewViews, he looked at it from the perspective of the engineer that he is. He was looking for something that was flexible and used the powers of a computer to their best advantage. As he saw it, the 400-year-old practices of accounting were built to fit the limitations of paper. In his vision, computers could free people from the drudgery of accounting. They are also fast enough to give us real-time numbers. Every time you enter new information into NewViews, your income statement and balance sheet are updated. No batches, no waiting.

According to Quackenbush, most changes that end up getting done in accounting systems are simply data entry mistakes, not attempts to defraud the company. The best-selling packages such as ACCPAC and Bedford—the ones accountants seem to prefer—are menu-driven batch systems. In these systems, every time a minor mistake is made, a new entry must be made to reverse the mistake and then another correct entry must be made.

Quackenbush tells the story of an accountant who asked, "Is it true that in NewViews I could enter a cheque, print that cheque, delete the entry and walk out of the office with the cheque in my pocket and leave no record of the event?" Skilled salesman that he is, he had to admit that this was true, but he was quick to respond that he could do the exact same thing with ACCPAC. In Quackenbush's story, the same person could walk in, make a backup of his ACCPAC accounting files, make the entry, print the cheque and then restore the files from the backup. His point is that it is not accounting software that keeps people from fudging the numbers, it is systems and honesty.

Quackenbush says that the lack of controls was always overstated about NewViews anyway. If you enter a set of numbers, and then quit the program, anyone re-entering the program and editing it will have these changes written to an external audit file. It is now possible to designate numbers as "closed," causing the program to beep a warning. Determined users can still alter the numbers, but it is often enough to prevent accidental errors.

Personal experience tells me Quackenbush is right on at least one count: traditional-style accounting systems suffer from lengthy learning curves. I have known companies that became married to their consultant once they took on one of the larger accounting systems. According to Quackenbush, once it is set up correctly NewViews is quick to learn and maintain because mistakes can be easily corrected. With traditional computer accounting systems, everything is done in extensive menu heirarchies. It is as if they are designed by programmers who purposely want to keep people in the dark (the theory being that if the data-input person doesn't know what they are doing, they are less likely to attempt to cheat). NewViews, because of its spreadsheet-like interface, is a much quicker study.

Is he right? Are the accountants a bunch of fuddy-duddies? Only time will tell. At the same time that Q.W. Page has been tightening up the controls on NewViews, the traditional accounting systems have been making moves towards some of the flexibility that NewViews has long offered. Great Plains Accounting, for one, now offers the ability to enter data for four periods ahead, avoiding the month-end processing panic to get a statement out. More "real-time" systems are becoming available, but still, Quackenbush says, six years after its release, NewViews remains unique.

Enjoy the issue.

Kirtan Singh Khalsa
Editor/Publisher

Table of **Contents**

B.C. EDITION • JULY 1992

FEATURES

Why didn't you tell me? 20
What every computer user needs to know. *By Roedy Green.*

Data Recovery 22
Strategies you'll need sooner or later. *By Pete Rogers.*

Bring Back the Operator 16
A tale of descent into Voice-mail Hell. *By Dana Blankenhorn.*

PC Security 17
Protecting your data. *By Geof Wheelwright.*

Protecting Your PC from Hi-tech Thieves 19
A car alarm for your PC? *By Cathalynn Labonté-Smith.*

Mass Storage Options for PC & Mac 18
CD ROMs, WORM drives, floptical disks and the future of storage. *By Michael Arthur.*

How to Select a Point-of-sale System 45
A guide to choosing a point-of-sale system. *By Tom Waters.*

Clock Doubling 54
Intel announces more zip for your chip. *By Geof Wheelwright.*

Upgrades 60
The need to "future-proof" personal computers has never been greater. *By Geof Wheelwright.*

Are Paper Manuals Obsolete? 41
Is hypertext documentation the wave of the future? *By Peter Talbot.*

The Telecom Zone 51
...a world between nightfall and daybreak, where time and distance lose all meaning. *By Graeme Bennett.*

REVIEWS

CorelDRAW 3.0 10
It's always been hard not to like CorelDRAW. *By Geof Wheelwright.*

CorelDRAW Counterpoint 13
It's always been easy to find *something* wrong. *By Graeme Bennett.*

Immunity Plus 25
PC anti-virus program. *By Geof Wheelwright.*

Aldus PageAhead 49
PC database publishing with PageMaker. *By Geof Wheelwright.*

Hard Drive:
Bill Gates & The Making of the Microsoft Empire 14
An unauthorized biography. *Book review by Jim Mallory.*

Database 101 25
A database primer by an evangelist? *Book review by Naor Wallach.*

Alfa Systems Diskfax 47
A simple and relatively fast way of transferring files from point to point. *By Geof Wheelwright.*

DEPARTMENTS

Mailbox 6
Masthead 7
What's New 8
Q & A 80
Newsbytes 62
Amiga News 67
Apple News 62
CAD News 67
Canadian News 68
PC News 73, 84
Mass Storage News 36-40
Network News 83
Portable Computers 75, 90
Windows & OS/2 World 77
Telecom 66
Trends 79
Unix World 83
Techniques: About The Cover 82
Computer Calendar 92
Upcoming Events 92
User Groups 92
Training 95
Classifieds 97
Index of Advertisers 98

Editorial Schedule

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Unbundle that software

I am writing to you in regards to a growing and very annoying practice of computer retailers or their suppliers selling computer systems with unwanted bundled software packages installed. This is especially annoying when the retailers make little effort in making alternative arrangements (i.e., credit towards more RAM or a hard drive upgrade).

I wanted to purchase a particularly reliable 386 system, but DOS 5.0 and Windows were bundled in the two systems that I liked. This put me off the potential purchase. This has lost possibly two North Shore retailers about $1500 of possible computer sales. It is not usually their fault—it is the distributors' insistence on providing the software (DOS 5 and Windows 3.0) that is the problem!

I already have the software upgrades—obtained as a registered user—so why should I have to pay another $200 for unwanted, duplicated software. The retail computer business is already cut-throat, so why lose sales through continuing the implementation of this practice?

R. Tarplett
North Vancouver, B.C.

Ed's reply: Your letter raises a number of vital issues, not the least of which is that of how software houses do deals to bundle their software and what they mean by it. To start with, it is just not reasonable to assume that because Windows and DOS 5 sell for around $150 as a retail product that they are worth anything like that when sold to a manufacturer as part of a bundle. Microsoft is seeding the market with DOS and Windows to sell new applications that support those standards, so it sells "OEM" (original equipment manufacturer) versions of DOS and Windows to distributors and manufacturers at only a tiny fraction of the retail price in order to gain market share.

Flatbed scanners arise!

I am interested in purchasing a flatbed scanner and can't seem to find much in the way of information with respect to what is available and what is needed to operate them. My purpose for the scanner is to work with text for educational purposes. Maybe someone out there has used flatbeds in the past and can point me in the right direction. Information on cost would also be helpful.

Guy L'heureux
Valemount, B.C.

Ed's reply: If you are going to be working with scanned text, it sounds like you could also do with some information about optical character recognition (OCR) software. Keep an eye out our for upcoming reviews of Caere Typist and OmniPage Professional, as well as the HP ScanJet flatbed scanner.

Learning a lesson

I have heard on a number of occasions that the price of a replacement printer head often exceeded the price of the printer. But I never believed it.

Well, needless to say, I have learned my lesson. I have a Brother M1724L that has a problem with the head. So I go to replace it and learn that a new head will cost me $475. I notice in your paper a printer for $348.88 that is similar to the one is question.

Do the manufacturers of printers expect me to believe that a new head is to cost 35 percent more than the retail price of a brand new printer—or is there something else I should know?

I guess that I will have to buy a new printer, but I sure don't like the idea of throwing out a printer that otherwise is perfectly good—what about the green revolution? Sort of brings new meaning to the disposable economy....

I would be interested in your views on this.

J. Peter Mackay
North Vancouver, B.C.

Ed's reply: It's all a matter of supply and demand. There are lots of people who want cheap dot matrix printers—thus the price goes through the floor—and only a few who need replacement print heads for a Brother M-1724L (and thus the price is high). But we agree, it is absurd.

Be Fair to OS/2

Why is it necessary in articles such as Geof Wheelwright's "Windows NT coming soon (*The Computer Paper*, May '92)" to make inflammatory remarks aimed at dismissing OS/2 as nothing more than a failed experiment. I'm getting a little tired of it. All of the significant points attributed to NT have been available under OS/2 for four years. He says (NT) is a complete operating system in its own right. So is OS/2, which NT started out as. If problems occur with one DOS application, it won't hang up the whole system (or even any other instance of DOS).

Sadly, Mr. Wheelwright did not get a chance to see this during his NT demo at MS, but if he takes a look at OS/2 2.0, he'll get a really good idea how this might look under NT. He is also impressed by a demo of CorelDRAW, where the hourglass was onscreen showing that CorelDRAW was still opening the graphics document...we could move to another application in NT and start work with it. Again, anyone with OS/2 2.0 running CorelDRAW for Windows in seamless mode on the OS/2 2.0 desktop will be able to duplicate what he has described.

He boldly states that nine million copies of Windows 3.0 have been sold, while we all know that a large share of those copies were shipped with OEM machines. This does not translate into nine million Windows users. Sales of commercial Windows applications only account for two to three million users, while the meager 1.2 million copies of OS/2 (1.x) were actually purchased by users.

There is no mention of the fact that IBM direct sales lines are swamped for orders of OS/2.0 with various retail outlets running out of stocks of 2.0, while boxes of Windows 3.1 upgrades sit idle on the floor.

Mr.Wheelwright fails to point out the most significant fact about NT, one which even MS makes no attempt to conceal. NT is aimed at high-end platforms. A more-than-adequate platform for OS/2 2.0, a 386-20MHz with 8 megs of RAM and 100 megs or more of hard disk, would choke on NT; therefore, how can NT be positioned as a complete, comprehensive and superior

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alternative to OS/2 2.0?

NT may very well prove to be a superior operating system for high-end platforms when it gets here. We shall have to wait and see, but when Mr. Wheelwright says mid-'92, I'd like to remind him that we are almost at that point now, with NT having nowhere near the visibility that OS/2 2.0 had six months prior to its debut May 1st.

If someone wants to write about a future technology, let them do so without taking cheap shots. If Mr. Wheelwright would care to do a point-by-point comparison between NT and OS/2, let him do so in a fair and unbiased manner. It would also help if he truly knew his facts before stating them. He mentions the one feature of NT that I think is quite laudable: its support for "symmetric multiprocessing." He incorrectly interprets this to mean that NT will run on different machine architectures, while what it really means is that NT will support machines (like DEC's Alpha series) with multiple processors.

Windows NT may be "coming soon," but 32-bit OS/2 2.0 is available now and does one thing NT won't. It runs OS/2 applications and has the "Workplace Shell," which I think is the more interesting aspect of 2.0.

Claude Biron
Systems Analyst
Vancouver

Geof Wheelwright replies: *I appreciate your close reading of my article, but I feel that I must take issue with a number of your comments and observations. I do not dispute that there are many good and worthy features in OS/2 2.0—I have used it myself—but at the moment I cannot envision any circumstance that would cause me to want to switch from Windows. I simply don't need the power of OS/2.*

As to the sales of Windows versus OS/2 2.0, I accept that a significant number of the nine million sold as of the publication of my article (it has risen even higher since then) are OEM sales. It may also well be that a number of those users who get Windows bundled with their machines don't actually use it. But I would suggest that the huge take-off in sales of Windows applications software such as Excel, Word for Windows and Quicken demonstrates that people are not only getting Windows for free, but are actually using it and spending money on Windows applications.

I am also unsure about where you get your information about copies of Windows 3.1 lying around unpurchased. Whatever the truth of the matter, Windows 3.1 is a very worthwhile upgrade for anyone already using—and committed to—the Windows 3.0 platform. And as for OS/2 2.0 sales, it is worth remembering that OS/2 2.0 now comes bundled with a number of machines in the PS/2 range and there is no guarantee that users will use OS/2 on them.

As to the question of symmetric multiprocessing, the point I was trying to get across is exactly as you stated. While symmetric multiprocessing is of no use on a portable, the fact that it is a feature of NT means that you can consider standardizing on NT in everything from a portable to a large multi-processor machine (such as those which will use the Alpha chip).

Despite all this, it is fair to say that OS/2 is a well-designed and attractive alternative to Windows 3. The jury is still out on Windows NT, because it doesn't really exist as a finished product yet. Although OS/2 2.0 does require more memory and hard disk space than Windows, the price of memory, fast processors and hard disks is coming down fast and all those have got to work in favor of OS/2. I intend to keep an open mind and appreciate your thoughts. ■

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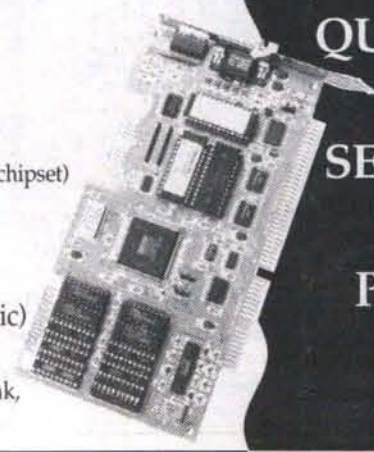

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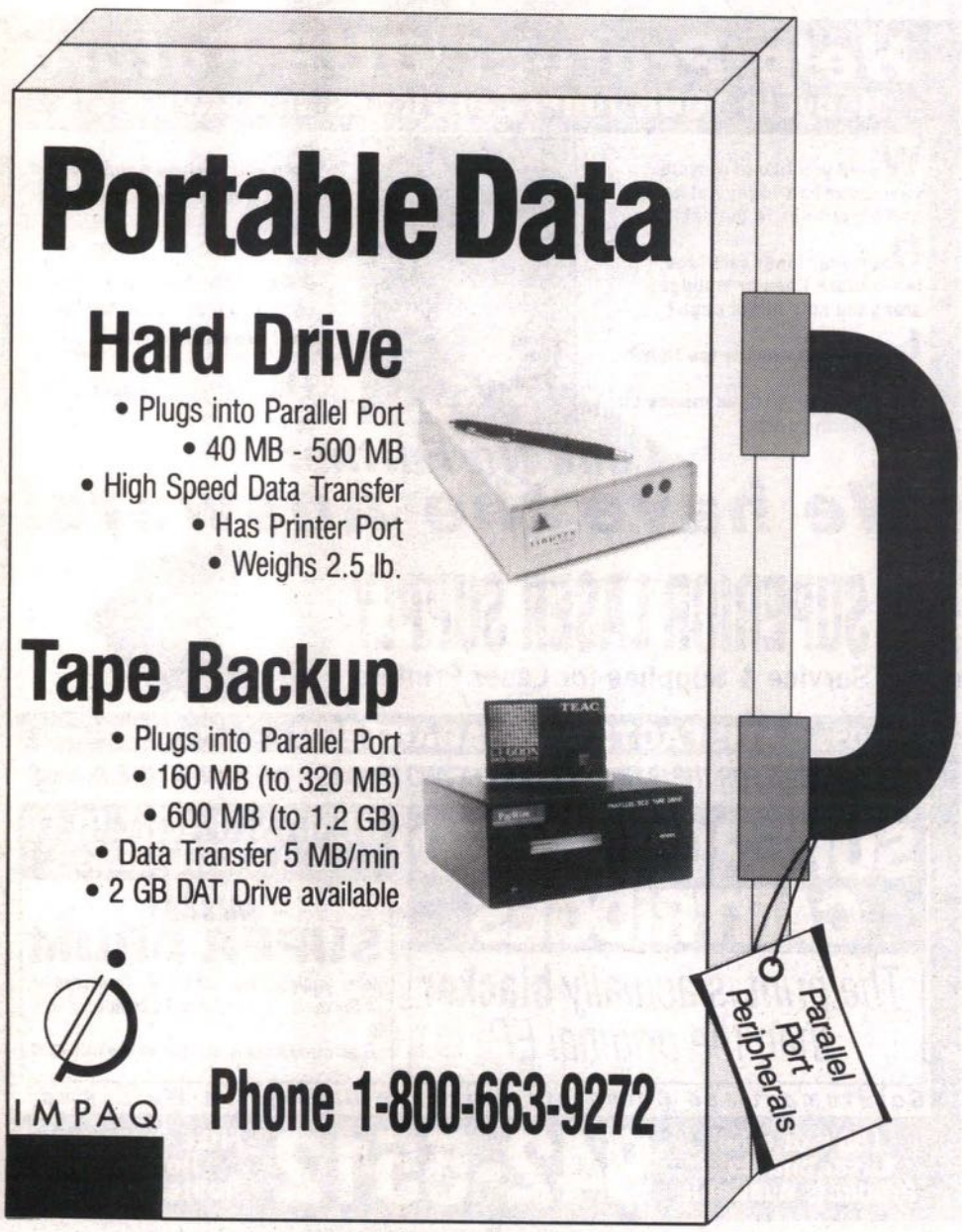


What's New

Toshiba ships color 486-based notebook

Toshiba of Canada announced last month the long-awaited color version of its high-end T4400SX 486-based notebook computer. Using the crispest and brightest of color flat screen technologies—thin film transistor (TFT) active matrix display—the new T4400SXC displays up to 256 colors in high-resolution 640 x 480 VGA mode. This color display chooses from a palette of 185,193 different colors, and an external monitor can be connected to the computer to display screen information simultaneously.

The new T4400SXC features additional upgrades from the existing gas plasma and page white LCD models, including a 120MB hard drive with 17ms access time and 4MB RAM standard expandable to 20MB with Toshiba's new 16MB "credit card" memory. Total weight of the unit is still only 7.7 lbs and overall dimensions of the new color version remain unchanged from existing models.

Toshiba claims that operating life from its much-touted nickel cadmium battery remains a 2.5 full hours when in continuous use, and says that this may be extended significantly depending upon specific use (i.e., whether or not you use the color screen and access the hard disk a lot).

Like its black-and-white siblings, the T4400SXC uses a 25MHz i486SX-based microprocessor—which can be upgraded to a full 486DX chip. In order to allow the notebook to act like a desktop—and take plug-in network cards—it can connect to Toshiba's optional Desk Station IV expansion unit. Canadian Suggested List Price for the T4400SXC is $10,099.

For more information, contact Toshiba direct at 416-470-3478 or call the company's product support line at 1-800-663-0378.

OmniPage paired with BitFax Windows to produce new fax/OCR system

OCR experts Caere Corporation—producers of OmniPage and Typist—have teamed up with California-based BIT Software to produce a new package that combines PC-based faxing capabilities with optical character recognition.

omniPAGE®

Known as BitFax/OCR for Windows, it matches Caere's well-regarded AnyFont OCR technology with the BitFax/SR fax software—which allows IBM personal computers and compatibles to receive, store and convert incoming faxes into text. Text can then be accessed and edited as files from within word processing, spreadsheet or other text-based applications, enabling office users to easily incorporate faxed images in documents.

With BitFax/OCR for Windows, users can convert incoming faxes into text. For example, a lawyer can now receive an incoming faxed contract from a client in a fraction of the time it takes to retype the original. The contract can then be loaded into a word processing program, edited and re-sent. Sales managers can receive updated sales figures from the field directly into spreadsheet applications for analysis and presentation.

With BitFax/OCR for Windows, a "receive fax" program is loaded automatically when Windows is started. The "receive fax" program will then continue to receive faxes in the background while any other application program is being used.

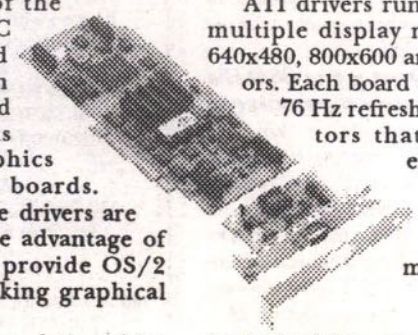
BitFax/OCR for Windows requires MS-DOS, version 3.1 or above; Windows, version 3.0 and above; and a Windows-compatible 80386 system with 4 megabytes of RAM. A facsimile board with EIA TR-29 Class 2 or EIA 578 Class 1 standards is recommended. In addition, BitFax/OCR for Windows supports a variety of modems that use EXAR, OmniTel, Rockwell and Sierra modem chipsets.

The suggested U.S. retail price of BitFax/OCR for Windows is $199.

For more information, contact Caere at 408-395-7000.

ATI ships OS/2 2.0 screen drivers for Graphics Accelerator Series

A number of hardware companies appear to be hopping on the OS/2 bandwagon. Scarborough-based ATI Technologies—makers of the popular Ultra range of PC graphics cards—announced at Windows World '92 in April that it had developed OS/2 2.0 drivers for its Graphics Ultra, Graphics Vantage and 8514 Ultra boards. Available this month, these drivers are supposed to take complete advantage of the boards' hardware to provide OS/2 users with a fast, multitasking graphical environment.



ATI says that OS/2 2.0 was designed for fast, responsive graphics and that it has has enabled ATI to fully utilize the extended feature set of the ATI Graphics Accelerators' 8514/A-compatible, Mach 8 chipset.

ATI drivers run these applications in multiple display resolutions including 640x480, 800x600 and 1024x768 in 256 colors. Each board supports 60, 70, 72 and 76 Hz refresh rates. Users with monitors that support the 76 Hz ergonomic refresh rate now have the ability to work in a relatively flicker-free environment.

For further information, call ATI at 416-756-0718.

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What's **New**

Here's the scoop–now get typing!

So you want to be a journalist, huh? Well, don't think it's going to be easy. A California company, however, says it has ways of making the process more painless.

Davidson & Associates has developed a new multimedia-style adventure game for the Macintosh called Headline Harry and the Great Paper Race. The players are supposed to act like (sober) journalists in helping fictional U.S. Daily Star editor Headline Harry battle the yellow journalistic excesses of arch-rival Marvin Muckraker's Diabolical Daily.

As ace reporters for the Star, players will unjournalistically enrich their knowledge (whoever lets facts get in the way of a good story?) by learning U.S. history and geography as they research their stories—covering sports, politics, arts, entertainment and science.

Apple QuickTime full-motion color video clips from the NBC news archives are supposed to make the whole experience more real. Headline Harry, the editor at the U.S. Daily Star, knows and values the importance of ethical reporting. He assigns his reporters to find and report the real story before one of the Diabolical Daily's dubious reporters files it in an inaccurate, sensational, and poorly written manner.

Harry is counting on his ace journalist players to find the prize-winning stories he needs to ultimately put the Diabolical Daily out of business. The best reporters may even be honored with the coveted "Reporter of the Year" award.

Headline Harry runs on most color Macs, requires 3 MB of memory under System 6.07 or 4 MB under System 7—and needs a hard disk and 8-bit color support. QuickTime is required, but is shipped with the software. It sells for $59.95 (US).

Call Davidson & Associates at (310) 793-0600 for more information.

Tech Data to distribute IBM RS/6000 desktop systems

Ontario-based Tech Data Canada has reached agreement with IBM to sell its desktop RISC System/6000 products to resellers across Canada. It is now in a position to deliver RISC System/6000, 220 to 350 desktop models and software to qualified resellers.

For details, call Tech Data at (416) 795-2365.

So how does my PC work?

It seems hard to believe, but not everyone completely understands the inner workings of their PC by reading *The Computer Paper* every month. Leading Canadian PC supplier DataTrain have just published a new booklet that explains how modern personal computers work—and outlines what businesspeople should consider when looking for a new computer.

Titled "*Personal Computer Purchasing Solutions,*" the booklet is available free-of-charge to any businessperson who wants help to understand the sometimes complex world of personal computers.

The company says that purpose of this book is to help businesspeople understand the major technical features of today's computers.

To simplify computer jargon, the booklet likens the personal computer to an information factory. It examines the three major components of personal computers—the processor, memory, and the bus—in order to explain their different characteristics, specifications, and quality issues. To get a free copy of *Personal Computer Purchasing Solutions,* call DataTrain at (604) 273-4453.

GDT Ships New Printer Drivers for Macs

GDT Software has a new version of their Macintosh printer drivers software for dot matrix printers and laser printers.

PowerPrint, the new driver collection, supports over 850 non-Apple printers and offers LaserWriter-like features for a variety of dot matrix, inkjet and non-PostScript laser printers. PowerPrint includes everything needed to hook a Macintosh up to a wide variety of printers, including the cable. The Canadian price is $169. A network version which enables users to share their printers across an AppleTalk network sells for US$239.

BetterWriters offer better printing from your ImageWriter, StyleWriter or HP DeskWriter.The Chooser-level printer drivers replace the standard drivers for the Apple ImageWriter I, II and LQ. Improvements include more flexibility (10-400% scaling in 1% increments), custom paper sizes, grayscale graphics, labels, and forms printing and communications options. BetterWriters are $75 Canadian.

Contact: GDT Softworks Inc., (604) 291-9689.

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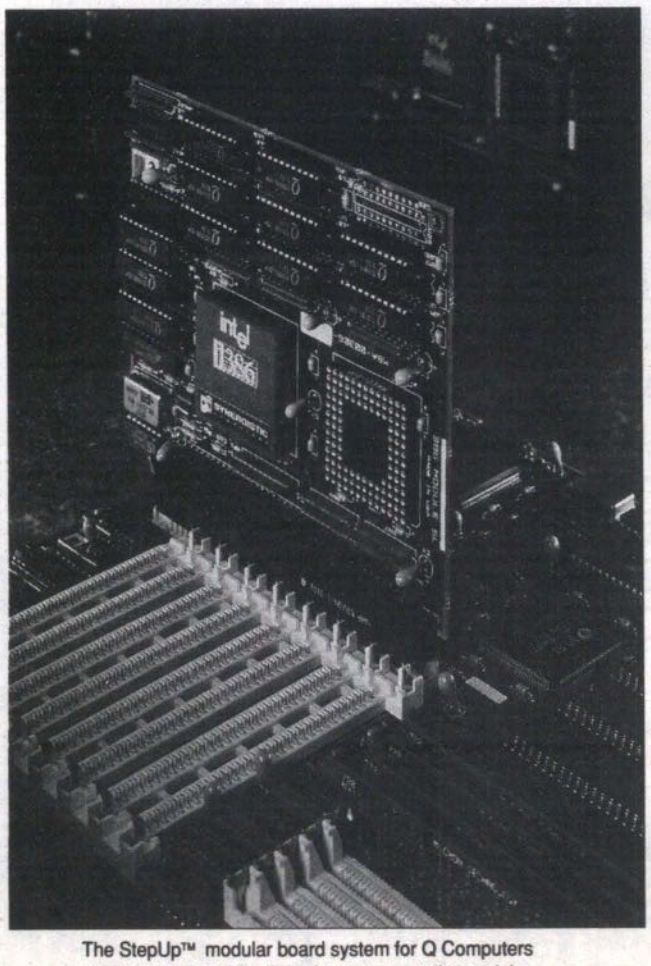

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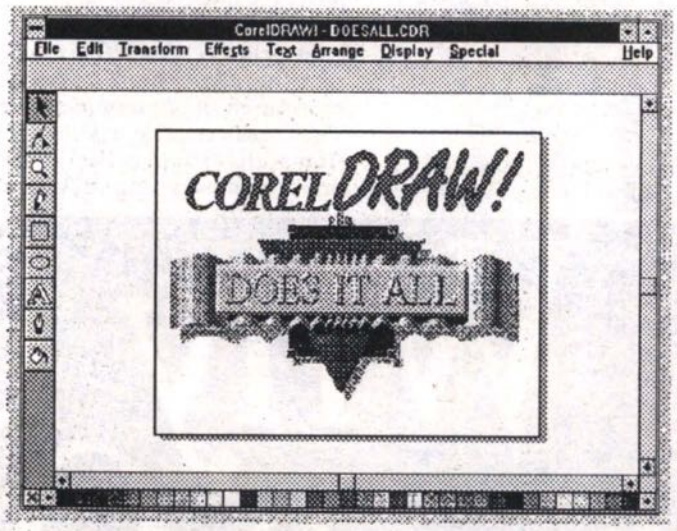
REVIEW

Corel Draw 3.0

BY GEOF WHEELWRIGHT

Product: CorelDRAW 3.0
Price: $695 (CDN), $595 (US)
Price of upgrade from previous version: $169 (CDN), $149 (US)
Publisher: Corel Corporation, Telephone (613) 728-8200
Hardware requirements: IBM-compatible 386, 386SX, 486, 486SX and PS/2 systems—or 286-based system running in standard mode with 4 MB of RAM or more. VGA or better Windows-supported display, mouse, trackball or graphics tablet.
Software requirements: Windows 3.1 or Windows 3.0 with Adobe Type Manager



It's always been hard not to like CorelDRAW. From the start, it has been innovative, packed with features—and one of the best users of the Windows interface of any vector-based drawing package.

This is largely due to the fact that it was designed from the outset as a Windows application—unlike Adobe Illustrator or Aldus FreeHand, which both started life on the Apple Macintosh. In addition, CorelDRAW is produced by a Canadian company. Staying Canadian is a major achievement in itself, especially when you consider the rate at which other software start-ups have recently been gobbled up by the likes of Microsoft, Borland, Lotus and Computer Associates.

At any rate, you'll be happy to hear that Corel's latest release, CorelDRAW 3.0, is also not likely to disappoint. It offers far more features than any previous version of the product—yet is simpler to use and even more competitively priced. *The Computer Paper's* contributing editor Geof Wheelwright came to this opinion recently after looking at a near-final "beta" version of the product following a sneak preview given to the Winnipeg PC User's Group.

Getting easier to use

When products have been as successful as CorelDRAW, the temptation by many manufacturers is to make them top-heavy—pack them with as many features as possible to win the "tick-box shoot-out" in product reviews. This way, they can be assured of having at least as many features as the competition—and usually more.

While it has packed lots more into CorelDRAW 3.0, Corel has not done so by just blindly tacking on extras. It is clear from the start that an intelligent plan has been behind it. To start with, a number of new "ease of use" factors have been added.

There is, for example, an editable preview mode—making it much easier to act on ideas for changes as soon as you see a need for them. This mode is now the "default mode"—with objects displayed in full color and complete detail.

CorelDRAW does, of course, still offer the option of working in "wire frame" mode. Meanwhile, Corel has now made the number of layers in a drawing theoretically infinite (although you'll run out of memory eventually if you add too many). These layers can still be locked, hidden, printed and assigned colors.

Anybody doing detailed work with large numbers of objects will be grateful to see the improved precision in CorelDRAW 3.0, which incorporates the idea of "flexible" guidelines. These allow you to issue a "snap-to-object" command for any object—thus allowing you to align any object to any shape. Guidelines can even be assigned colors, displayed, hidden and customized by free-form shapes.

Corel has also realized that although a picture may be worth 1000 words, the words you do put in a drawing are still important. New text-handling features include color control over individual characters, a spell-checker, thesaurus and a hyphenation option. All these features make it more likely that anyone producing drawings with a moderate quantity of text can now consider doing the whole thing in CorelDRAW, rather than just doing the drawing work in CorelDRAW and then adding text in a DTP

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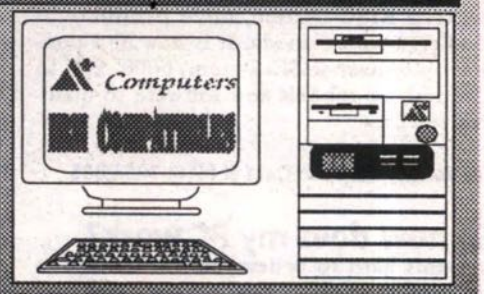

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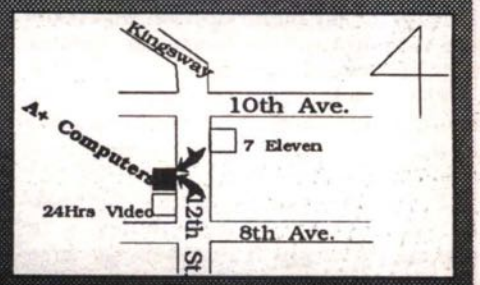

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package such as PageMaker or Ventura Publisher for Windows.

While all these features are welcome, they might detract from the usefulness of CorelDRAW if they hadn't been added so creatively. Many of them—such as some of the new blend control options—are accessed via 'roll-up' windows that are still on-screen, but neatly tucked out of the way when you're not using them. This makes the interface less cluttered and keeps the product easier to use.

The final point worth making on these overall design improvements lies in Corel's support for OLE (Object Linking and Embedding). To get the best out of this support, however, you really should run CorelDRAW 3.0 under Windows 3.1—rather than Windows 3.0—as only the former includes the final OLE client/server system software. You can run CorelDRAW 3.0 under Windows 3.0, but you won't get the most out of it.

Making special effects more special

CorelDRAW has long had one of the best set of special-effect functions in the Windows drawing application market and with CorelDRAW 3.0 it gets even better. For example, when you have text that is bound to a curved object along a path, and then you change the path, the text will automatically be bound to the changed path. And, if you like, you can set things up so that you'll be automatically prompted when this happens.

Rotating and moving 3-D objects through space has always been difficult in drawing packages. With the new Extrusion commands in CorelDRAW 3.0, however, it should make sense even to the novice. The extrusion command is accessed through a roll-up window and shows a sphere with arrows in four directions, as well as diagonal rotation arrows at the bottom and top of the globe. When you select an object and use this extrusion command to rotate it, the rotation is shown in animation, and only fixed in place when you use the Apply command.

The Extrusion command can also be used to exert control over the object's shape, color, placement in space and lighting. And it allows you to make these changes either "manually" using the mouse or by inputting precise values.

Blending functions in CorelDRAW have also become more flexible—a rainbow blend is now offered and blending can now be applied to groups of objects and to objects along a path. The path itself can even be edited interactively with the Shape tool.

More modules

When you install CorelDRAW 3.0, you notice immediately that there are six program icons in the Corel folder. In addition to CorelDRAW, you'll see the CorelChart, CorelShow, Corel PhotoPaint, CorelTrace and CorelMosaic icons shown.

These add a raft of new functions to CorelDRAW—but by being added as modules, they don't clutter up the main application too much. Each of these applications (perhaps with the exception of CorelMosaic) is almost worth a review in itself, but given the limited space we have here, we'll have to run through them briefly.

CorelChart, as the name suggests, is a new data-driven charting application. When you load it up, you select a chart type and are then presented with a spreadsheet-style grid into which you can either enter or import data. If you choose, you can also use the OLE and DDE (Dynamic Data Exchange) capabilities of Windows 3.1 to create a permanent link to any OLE-supporting Windows spreadsheet (such as Excel or Lotus 1-2-3 for Windows). CorelChart offers more than 100 different chart types—including bar, pie, histogram and three-dimensional charts. You can also use "pictographs" (e.g., showing new-car sales in a bar chart with bars made up of cars stacked on top of each other) to make your charts easier to understand.

Corel PhotoPaint, meanwhile, incorporates the image-processing portion of ZSoft's popular PhotoFinish retouching product with new facilities added by Corel. The resulting collaborative effort provides paint tools such as brushes, pens, smear paintbrushes, a smudge spray can—and a library of special-effects filters—for use in retouching both black-and-white and 24-bit color images. This part of the package also allows you to automatically apply retouching filters to scanned images.

In an attempt to perhaps grab some business from presentation packages such as Aldus Persuasion, Microsoft PowerPoint and AutoDesk Animator, Corel has made its presentation module—CorelShow—highly flexible. It can pull in elements from CorelDRAW, CorelChart, Corel PhotoPaint—as well as read Animator .FLI animation files—to create multipage presentations and slide shows. Like most of the competition, CorelShow includes a library of professionally created backgrounds and animation "flics." And like all parts of CorelDRAW 3.0, it supports both OLE and DDE links to other Windows 3.1-aware applications.

Mosaic is a useful, but unexciting, module designed to help you manage your graphics files, as well as carry out searches, batch printing, importing and exporting in a variety of file formats. The supported file formats now include .CDR (Corel), BMP, Windows DIB, EPS, GIF, PCX and TIFF.

Finally, there is the tracing module, CorelTrace, always an extremely useful tool when you need to convert black-and-white bit mapped images into smooth, vector form graphics.

Quite a bundle

Corel is selling this package heavily on "added value." In addition to all the extra features in the package itself—and the new modules—Corel has added 153 hinted TrueType fonts and some 4600 professionally-drawn symbol and clip-art images. Further to this, the package includes complimentary TRUMATCH and Pantone system licenses that give users access to industry-standard color printing systems.

Anybody who buys CorelDRAW 3.0 will also get a CD-ROM version of the software, which includes Corel's entire library of 14,000 images, a range of on-line tutorials, more than 100 animation files in .FLI format, another 100 TrueType fonts and Corel's complete type library in Adobe PostScript Type 1 format.

Conclusion

With a price tag of $695 CDN ($595 US), CorelDRAW 3.0 is certainly not the cheapest drawing package on the market, but it appears to be by far the most fully-featured and comprehensive. If you already use Corel, the upgrade fee of only $169 ($149 US) has to make this an offer you can't refuse. If you do drawing and illustration work in Windows and don't already use Corel, CorelDRAW 3.0 is going to make you ask why. If you come up with an answer, write and let us know. Otherwise, we suspect, you'll be rushing out to buy this package. And you won't be able to use the lack of a Macintosh or Unix version as an excuse for much longer—Corel has promised implementations on both of these platforms very soon. Watch this space for details. ■

See page 13 for more on **CorelDRAW.**

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CorelDRAW Counterpoint

BY GRAEME BENNETT

Corel has acknowledged some bugs in CorelDRAW version 3.0, including problems with OLE, certain video drivers (such as those for ATI's Graphics Ultra and Western Digital's Paradise Windows Accelerator), and memory conflicts. Corel technicians said patches to the software would be uploaded to Corel's CompuServe forum as soon as they are available.

We also noted bugs in Corel's PhotoPaint module, including an inability to save compressed TIFF files.

Other problems we observed include:

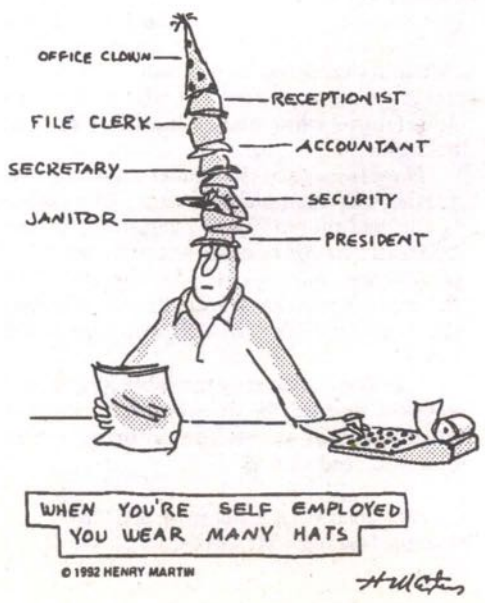
1) Importing LZH-compressed TIFFs into PhotoPaint causes a weird "&ABORT" or "Unable to read TIFF strip" error message, however, there is a work-around. Placing these files in PageMaker 4.0 (PC version) while holding down CTRL key produces an uncompressed version that PhotoPaint can import successfully. (The same trick is possible in PageMaker for the Mac by pressing the Command key while placing a compressed TIFF image.)

2) Exporting in Illustrator format with "export text as curves" works correctly; exporting "text as text blocks" produces an identical file to the curves option. (In previous incarnations of the program, this feature worked correctly.)

3) Importing non-Adobe EPSF format files (i.e., Aldus FreeHand) crashes CorelDRAW 3.0; the program must be restarted. Again, this function worked perfectly in version 2.01.

Moreover, some users complain that Corel spoiled the user interface of the Extrude function.

Some users have gone so far as to switch back to the relatively bug-free version 2.01, citing too many problems and system crashes with version 3. We hope that Corel quickly addresses these bugs, because the additional features are well worth upgrading for.



No longer is CorelDRAW a poor choice for a desktop publishing stand-in; the company has obviously been listening to its users. Although the 250-odd fonts included with the program are of varying quality, it is great to have them available in standard TrueType and Type 1 formats for use in other Windows 3.1 applications.

Virtually all of our complaints with version 2.0 have been addressed. CorelDRAW 3.0 is faster (especially in conjunction with Windows 3.1), allows editing in Preview mode, has vastly improved import and export capabilities—at least in theory. As noted above, some import/export options which used to work are now broken.

Another minor complaint remains regarding CorelDRAW's inability to open more than one file at a time. One would think that Corel would have noticed the nearly universal disdain that users of other DTP programs have for Aldus PageMaker's similar affliction. Perhaps in the next version?

Overall, it's an upgrade with fabulous features but too many bugs. Reportedly, Corel predicts that 30% of the users of version 2.0x will upgrade. We think that will prove to be a low estimate—once the bugs are squashed. ■

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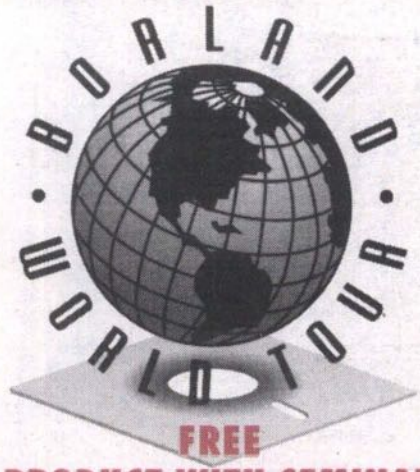

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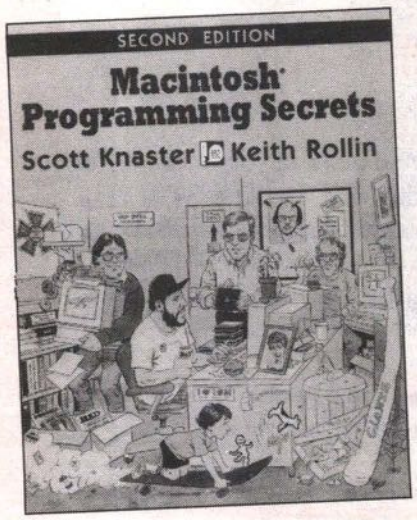

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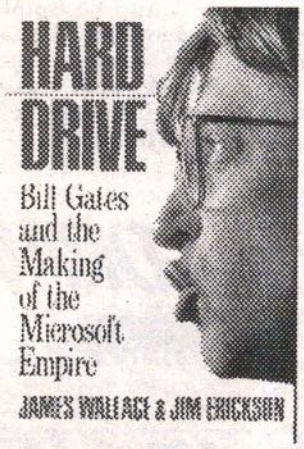
BOOK REVIEW

Hard Drive

Bill Gates & The Making of the Microsoft Empire

BY JIM MALLORY

Review of: Hard Drive: Bill Gates & The Making of the Microsoft Empire
Publisher: John Wiley & Sons, Publisher; James Wallace and Jim Erickson, authors
Price: US$22.95 in hardback
Rating: 4.0 (on a scale of 1=lowest to 4=highest)
Summary: Regardless of whether you agree with the authors or not, this is one book that should be read by computerists and non-computerists alike.



Authors Wallace and Erickson are reporters for the *Seattle Post Intelligencer* newspaper. The book was born out of a series of stories published in the *Post-Intelligencer* in May of 1991. As the authors say in the acknowledgements, it's not a book about computers or technology. Rather, they say, "Its a book about people, a remarkable collection of individuals led by one man, Bill Gates, whose drive, genius, vision, and entrepreneurial spirit created one of the greatest success stories in the history of American business."

Wallace and Erickson say the book is based on their interviews, and other books, national magazines, newspapers, and trade publications. What it's not based on, said Microsoft, is fact.

Several specific points are contested as to accuracy. One of those points is the book's allegation that Microsoft hired its first two female executives to meet federal affirmative action guidelines, and then treated the women badly. The women referred to are Jean Richardson, hired in 1985 as vice president of corporate communications; and Ida Cole, who was hired as vice president of applications marketing.

According to Microsoft spokesperson Marty Taucher, that's not accurate. Taucher told Newsbytes Cole was hired because "she was a good tech person," not because of EEO requirements. She moved to another position about one year later, said Taucher, and in 1990 retired. Taucher said Richardson left Microsoft because of a disagreement with her superior, and is now at Sun Microsystems.

While Taucher admitted that Microsoft didn't like the book, you will. It's a mixture of praise and statements about Gates that could be considered derogatory. In one breath, the authors quote friends' and associates' positive remarks: "Everything Bill did, he did to the max. What he did always went well, well beyond everyone else," a childhood friend reportedly said. A few pages later, the book talks about Gates' feet (reportedly size 13) compared to his small frame ("the smallest boy in the seventh grade").

Hard Drive paints a picture of a driven, perhaps sometimes obsessive, genius who... revolutionized the computer industry as we know it.

James Wallace told Newsbytes, "They (Microsoft) made it very difficult to write the book." Wallace said Microsoft was not happy with the newspaper series, claiming it dealt too much with his personal life. "They didn't want me calling ex-girlfriends, and trying to find out how he spent his money," said Wallace. He said not only would Microsoft not help him and his co-author, but they went out of their way to be "unhelpful." Microsoft at the time was cooperating on an authorized biography to be published by Doubleday & Co.

Hard Drive paints a picture of a driven, perhaps sometimes obsessive, genius who, no matter what Microsoft thinks of the book, revolutionized the computer industry as we know it. It's excellent reading, and it won't leave you hating Gates. Rather, it will make you understand what makes people like him tick.

Hard Drive gives the reader an insight on a true American success story, Bill Gates. While you may not like everything in the book, and find it appears to put Gates down part of the time, it could be the prodding the next American genius needs to invent the better mouse trap. It's well worth the price.

The book is already available in selected markets, and will be in general distribution in bookstores across the country by the time you read this. ■

Contact: John Wiley & Sons Inc, 605 3rd Avenue, New York, NY 10158.

NEW FOR MAC

Microsoft Releases Excel 4.0

REDMOND, WASHINGTON, JUN 4 (NB) — Microsoft has announced that it is now shipping version 4.0 of Excel, its spreadsheet program for the Macintosh.

Microsoft said it focused on two primary areas in developing the latest version of the program. They said they wanted to make everyday spreadsheet tasks easier, and provide functionality not previously available in a spreadsheet.

Included in the new features are "drag and drop," "autoformat," and "autofill." The program also supports "Apple events," a way to communicate by allowing one program to use the features of another without having to re-implement those features.

Drag and drop, now available in a number of programs, makes it easier to select items then drag them to a new location.

To use Excel 4.0, you need a Mac with at least one megabyte (MB) of RAM and a hard drive. Excel 4.0 carries a US$495 price tag. Registered owners can upgrade from any earlier version for US$99 through the end of September. If you bought Excel 3.0 after February 15th, you can get a free upgrade, but you will have to pay the shipping costs.

Microsoft said it will publish Excel 4.0 for the Macintosh in about a dozen languages, with the French and German versions scheduled to ship next month.

Contact: Microsoft, 604-688-9811.

NEW FOR PC

Motion Works licenses technology to Corel Corp.

VANCOUVER B.C., JUN 16 (TCP)—Corel Corporation and Motion Works International Inc., have announced a software licensing agreement that allows Corel to include portions of Motion Work's multimedia technology in future CorelDRAW products. Motion Works hopes this agreement will set the stage for standardization in the animation industry based on their product.

According to Motion Works co-founder and CEO, Randy McCallum, "Standardization is (the) key to success in the software market. By licensing Corel portions of our multimedia technology, we take a large step towards establishing Motion Works as the animation standard in the multimedia industry. Motion Works also benefits by establishing a strong relationship with the most successful company in the Microsoft Windows graphics arena."

Dr. Michael Cowpland, President and CEO of Corel Corporation says, "Motion Works animation software is the best we have seen for power and ease-of-use, and will be a key addition to our future product line."

Corel has sold over 300,000 copies of CorelDRAW, its award winning Windows-base graphics software. Motion Works PROmotion is a professional multimedia tool for creating and combining animation and sound for the Macintosh and Windows.

Contact: Corel Corp., 613-728-8200; Motion Works International, 604-685-9975.

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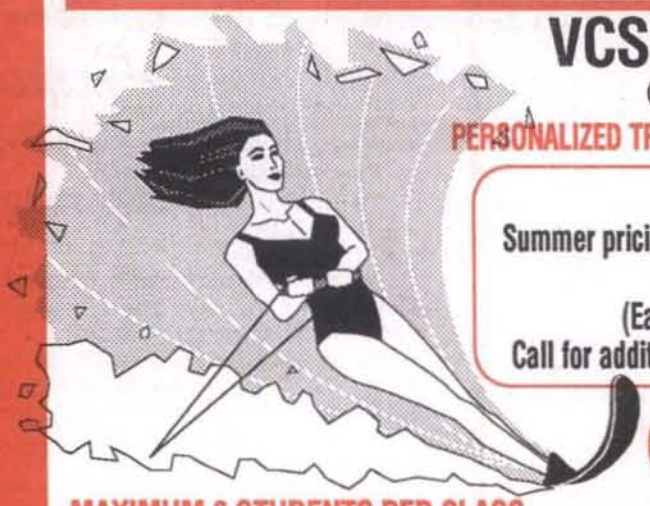

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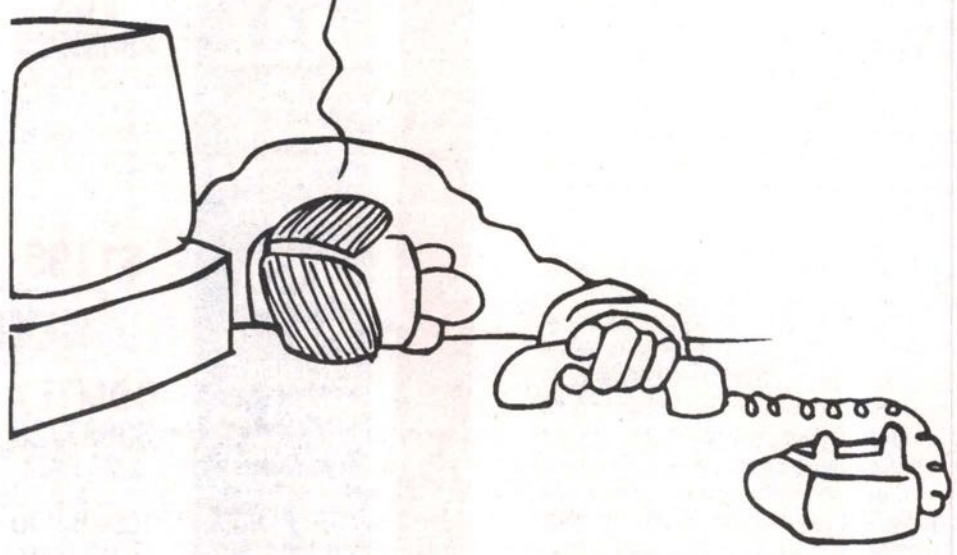
Bring Back the Operator

A tale of descent into Voice Mail Hell

BY DANA BLANKENHORN



ATLANTA, GEORGIA, MAY 29 (NB)—For the last few years, you and I have been descending into Voice Mail-Hell.

You know the drill. You want to reach Person X in a real big hurry, so you call their direct line. You get their voice mail, and maybe (when they get around to it) they call back. By which time you have forgotten why you called.

It's even worse when you're calling a company for information and don't know exactly who you need to talk with. The main number's recording simply tells you to enter the 4-digit code of the person you want to talk with, or 0 for an operator. After an interminable wait, you get someone in a back-room somewhere who passes you to the wrong department, and their voice mail box. After returning to the operator, you get the right department, and another voice mail box. When that person finally returns your call, they say, oh, you need someone else, and you get yet another voice mail box. This can go on for weeks. No fun if you're on a deadline.

The telephone system is your company's front door.... Eventually, they'll go to another shop where they're treated like a human being, by human beings.

And it's going to get worse before it gets better. AT&T is planning to replace many of its operators with automated systems, and the regional Bell companies are expected to follow suit.

Oddly, the voice mail industry which started this mess didn't intend it. Voice mail was created as an adjunct, or aid, to experienced operators and secretaries. The trouble was, corporate leaders saw this as a good excuse to get rid of those valued people and we've all been suffering as a result.

I learned this anew recently when, working on a book project, I hired someone to come in and straighten up my files. Not only did I get my files organized, but I also got my mind straightened out, my messages taken, and important calls made. Every top executive has a secretary, or administrative aide, whether they're running IBM or the Joint Chiefs of Staff. I wonder how many of them could keep their heads screwed-on without these people to take care of them.

Secretaries make sure their bosses return important calls. Operators make sure calls are directed to the right people, and that messages are received and responded to. Without such handlers, executives lose accounts. And their companies lose respect.

Look, the telephone system is your company's front door. What sense would it make for a customer to walk into your shop's door, be led to a robot who kicked them out, to dust themselves off and get the same treatment again and again. Eventually, they'll go to another shop where they're treated like a human being, by human beings.

And that's the lesson. Technology should help people, not replace them. Only when top management learns this lesson, and brings back those operators (maybe with a nice raise) will we coming out of Voice Mail Hell. ■

PC Security

BY GEOF WHEELWRIGHT

PC technology has dramatically impacted the responsibilities and activities of the DP, MIS or IT managers at corporate computing sites.

As PCs began to flow in volume, Management Information System managers lost control of many aspects of their company's information processing systems. Departmental managers went out and purchased PCs in the same way as they would typewriters, calculators or any other form of standard office equipment.

And why not? Users were frustrated by a perceived lack of service from their Data Processing departments—who seemed to have an "old world" mainframe-oriented attitude to problem solving.

So PCs arrived in huge numbers on the desks of office workers everywhere. However, there were no policies, no price advantages; there was no connectivity to existing systems—no systems integration—and absolutely no security for valuable corporate information and data.

But PC technology is now a serious platform for information processing—with corporations spending a major proportion of the Information Technology budget on this class of equipment. Greater discipline amongst PC users has become essential and many DP departments have been forced to take back control of this important aspect of the company's affairs to instill this discipline and inject the professionalism they had historically applied to mainframe environments.

Times Change

Of course, this change has been gradual. Up until five years ago, the personal computer was little more than an over-grown desktop calculator and was not treated as part of the serious corporate computing environment.

Any software tools or applications which were critical to the operation of the company's business ran on minicomputers or mainframes. The procurement and development of these systems was overseen by a skilled team of DP professionals who could rely on extensive and comprehensive support from computer industry suppliers during implementation. And inherent in the very nature of both the mini and mainframe computer systems used for these "mission-critical" applications was the fact that IT managers had control of security.

Security Is: Data Backup, Limited Access, Virus Protection And Proper Procedures

Losing Control

But as the use of PCs grew—and these machines were, by their very nature, "personal" computers—the control exerted by IT and MIS departments over hardware purchasing and applications development began to evaporate.

When departmental heads bought individual stand-alone PCs as part of their discretionary office-equipment budget they did not consult the DP or MIS department about these purchases—or about the applications they would develop with them.

This situation has a serious impact on the life of the corporate computer manager. PCs began to be considered as minicomputer and mainframe replacement systems as part of "down-sizing" programmes.

Who Buys The PCs?

While it seemed to many users and department heads that they had slain the dragon of centralized control and been liberated to do what they liked in buying PCs, this was something of a false dawn. Because department heads were not computer experts—and were not working as a team on PC procurement—PC buying became fragmented, the opportunity to negotiate volume discounts was missed and many departments ended up buying the wrong technology for their needs. Meanwhile, lack of compatibility often inhibited systems integration and connectivity.

The PC Is Now A Commodity

A number of corporate computer users now see the absurdity of this situation. They have recognized that all IBM-compatible computers are merely collections of standard components—with only half a dozen major suppliers in the world actually supplying each type of PC component.

Only a few firms in the world make hard disk drives, another selection of suppliers make memory chips, only Intel and one or two other lesser players make microprocessors, Microsoft is the sole supplier of the MS-DOS operating system and so on. So ready-built PCs are very much commodity items these days—with price, service, support and reputation of manufacturer really being the only differentiator between one type of PC and another.

Mainframe Power On Your Desk

Having said that, the modern PC is a hugely powerful beast—and deserving of the respect it has started getting. The raw power offered by PCs today exceeds that of minicomputers and some mainframes of just a few years ago.

Alongside this dramatic increase in raw power, however, has been a rise in the complexity of PC technology. Assessing this technology is a complex business and now demands equal expertise to that involved in selecting mainframes.

For example, although network operating system products such as Novell NetWare and Microsoft's LAN Manager have been around for a few years, it is only in the last 12 months that they have started ➤

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really making use of the power offered by even the five-year-old 32-bit Intel 80386 processor—let alone the three-year-old 80486.

Naturally enough, systems development and control tools for PC networks are now about as flexible and comprehensive as those traditionally found in the mini or mainframe sector.

An Increasing Awareness of the Value of Information

One key development which has grown out of this evolution of PC technology has been an increasing awareness—throughout companies from top to bottom—of the value of information. Being able to quickly, effectively and accurately access key corporate information can make a big difference to a company's bottom line.

So in a growing number of large companies, the PC is now treated with a new respect and IT managers have aggressively regained control of corporate PC planning and purchasing. In fact, more than 60 per cent of what most large companies spend on computers these days goes towards buying PC technology and equipment.

But you can buy all the right PCs, implement the right networking strategy, develop comprehensive security systems and use all the right software and still have problems if users continue with the same poor working habits which have characterized the stand-alone PC user.

And that is a major problem, especially when companies are being advised to now use PCs as the core of their "mission-critical, enterprise-wide" applications and when the overall annual performance of the company depends on how well those PCs are being used.

PC Security Typically Lax

Typically, security has been non-existent or low, at best, in PC environments—and this has left PC users and their companies open to loss of productivity through industrial espionage, virus infection and the disappearance of critical company data through the lack of proper procedures. There are a number of common-sense solutions.

Diskless workstations, for example, can make a critical contribution to network security. They offer all the advantages of the traditional PC, yet provide a simple physical impediment to employees taking away information they shouldn't or introducing unauthorized programs or data to the office network—not least the introduction of viruses.

Companies are realising just how dependent they are upon their data and there is an increasing awareness of just how exposed that data is on a technology platform which provides little security. The result is that security is now a major issue in the industry.

Security Is: Data Backup, Limited Access, Virus Protection And Proper Procedures

PC users need to have a proper understanding of just what is meant by true data security. It comes in a number of forms—including the process of making back-up copies of data, controlling access to the company's PCs, implementing a comprehensive virus-protection programme and adopting proper user procedures.

In this, there are two main levels of security: privacy and corporate data security. The first is fundamentally a low-level function and can be something as simple as the password protection in a word-processing program or other application. Such password systems are easy to break by a determined hacker, but not by the average person.

Don't, however, confuse privacy with real corporate data security. The first is what you might call expressing a preference that other people don't look at your data. The second is pulling out all the stops to prevent even the most experienced hacker from doing so.

There are lots of products around which purport to be corporate data security applications, but are actually just privacy systems and can be easily broken. Serious data protection requires sophisticated encryption technology.

Building Security With Security Contracts

Companies need to ensure that employees take a pro-active role in protecting the company's data. Proper procedures and responsible attitudes are key aspects of data security. This also has implications for a company's training policies. Company-wide data security policies and procedures should be defined and communicated effectively to all employees.

People should be trained in what the policies are, what provisions there are for back-up and the procedures for limiting access to PCs—using a combination of software or hardware-based security products.

A manual on corporate data security should be produced, setting out details from top to bottom—explaining things such as how to define passwords (i.e., use upper and lower case letters, mix in numbers, etc), how to avoid getting viruses (i.e., don't insert any application disk into your PC which you haven't first checked with the network administrator), and how to carefully control and consistently implement data security.

The firm's personnel or human resources department should be involved in the implementation of data security. Employment contracts should be drafted to ensure that aggrieved staff cannot leave the company and prevent access to data by marching out without leaving their passwords. Ideally, a network or security administrator should have "master key" access to all passwords on the network—but that doesn't always happen.

So, ideally, an integral part of a firm's employment contract should cover provisions for proper protection of the company's information. It should specify what you can and can't do with disks brought in from outside the company and lay down what happens where there isn't a master key-holder to all passwords—so that employees have to hand over their passwords along with the company Amex card, company car and office door keys if they should leave the company.

The Portable Problem

Employees should also be given instruction in and encouragement to make their portable computers more secure. There are few lessons about the dangers of leaving valuable data on unprotected portable computers more painful than the one experienced by a British RAF wing commander during the Gulf War—when his portable computer containing top-security war plans was stolen from the seat of his car.

While the data contained on most portable computers is not likely to be a matter of life or death, it could have serious commercial implications. So it only makes sense that any portable or handheld computers used by a company be included in the implementation of any corporate data security system. Otherwise they could provide a large and problematic security loophole.

Finally, and probably most importantly, security products need to be simple to use—so that people can easily work them into their daily routine. If they are too difficult, they will waste time, frustrate users and end up being ineffective because no-one will use them. They should be "fit and forget" systems that users only see when they are starting or finishing their work on the PC, and operate with a minimum of fuss. As to which specific systems they should buy, that's another story. ■

Protecting Your PC From

Hi-tech Thieves

BY CATHALYNN LABONTÉ-SMITH

Imagine a fate worse than a crashed hard drive. Imagine that you get to work and your computers are all gone—stolen away by high-tech thieves in the night who have already fenced them in the streets. The electronic memory of your company has disappeared off the desktop: no more accounts receivables, and work in progress has vanished. Personal computer theft, especially theft of the all-too-portable laptop computers, is on a sharp incline. According to Constable Elias, Community Relations Department of the Vancouver City Police, "It [personal computer] is one of the items of choice of thieves."

Constable Elias suggests that owners engrave their driver's licence number onto the computer equipment, so that equipment can be cross-referenced to the owner, or at the very least have a record of the equipment serial numbers.

Shirley Harvey, of St. Paul Fire & Marine Insurance, suggests that businesses and those with home computers install a burglar alarm to protect their valuable machines. St. Paul Fire & Marine Insurance is an insurance brokerage that offers a small package policy for PC owners for $350/year that covers the loss of equipment and 20% of the value of the equipment towards re-entering lost data. Harvey said that even high-security buildings are prone to computer theft. She gave a scenario where in large companies, someone in a suit enters the office and walks off with a computer and is not stopped because it is assumed that the person is a repair person.

The insurance companies also lose out in cases of fraudulent computer theft. Dan Lemieux of the Insurance Crime Prevention Bureau said that he sees cases of computer insurance fraud, where a PC owner arranges to have obsolete computers stolen, so that they can replace them with insurance money that was fraudulently gained.

Besides insuring your computer, engraving your driver's licence number on it, installing an expensive burglar alarm, or securing the unit by drilling holes in your desk and wrapping cables and locks around it, what else can a PC user do? A Vancouver company has come up with an alarm for desktop IBM PC-compatible computers for a reasonable price ($129). Mindflight Technology Inc. has developed the Safetec Alarm Card, which is a combination of an internal card that is installed into the internal bus of a computer, a 9VDC battery to power the card, and software that gives the user password protection.

Here's how it works: you have finished computing for the day and you turn off your computer, which puts the alarm on standby mode. If the computer is not disturbed, you boot it up in the morning, type in your password and the alarm is disabled again. But if your computer had been lifted off the desk during the night, a 90-decibel alarm that sounds much like a car alarm would have sounded. If the computer stopped moving when the thief realized their mistake, then the alarm would have stopped after ten seconds. It's simple—the alarm will sound as long as the computer is in motion.

Price Waterhouse is currently evaluating twenty Alarm Cards. Pieter Jongeneel, Manager of Micro Computer Services at Price Waterhouse, commented: "Security is becoming a greater issue as the data of systems' value is increasing and we're more and more reliant on computers."

Contact: Bruce White, VP Marketing, Mindflight Technology Inc., can be reached at his Vancouver office: tel. (604) 434-6463. ■

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	830, 840	n/a	$295	n/a
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WHY DIDN'T YOU TELL ME?

BY

ROEDY GREEN

WHAT EVERY NEW COMPUTER USER NEEDS TO KNOW

When I send a customer home with his new MS-DOS computer, I am a bit like a Mom sending her son off to his first day of school. "Remember to do your backups; watch out for viruses; be careful about picking up strange software!" I tend to overwhelm with scores of perils. However, the new user is so excited with his new toy that he only remembers 1% of what I tell him.

A few months later, the new user may phone to tell me a story of woe. I say "Not to worry! Just get out your backup and we'll have you going in a jiffy." He responds, "What backup? You never told me I had to do backups. What is a backup?" "Oh oh!" I reply. "Why didn't you tell me?" he wails.

It is not just backups. There are many "obvious" things every new user must know. This article will cover these basics. Not surprisingly, many of them revolve around backups. I will also tell you how to keep your machine clean, your AC power smooth, your hard disk tidy, and your computer virus-free.

Hammers

Never turn your machine off when a program is running. Only power off at the DOS C:\> prompt. When a program is running, part of the data are in RAM and part on disk. Only when the program terminates normally does DOS write everything properly to disk.

At times, you will be at war with your computer. You will want it to stop, but you cannot figure out how to make it stand still. Powering the computer off is equivalent to nuclear war. The big red power switch will stop it, but using it will have distressing side effects. You should do everything possible to avoid powering off—including phoning for help.

To stop a computer, you first must get its attention. The gentlest, smallest "hammer" is the <Esc> key.

If that does not work, you can try <Ctrl-C>. Hold down <Ctrl> and tap <C>. If that does not work, escalate to a bigger hammer and hit <Ctrl-Break>. This means hold down the <Ctrl> key and tap the <Break> key. Most novices have a tough time finding the elusive <Break> key. Look on the right hand side of the keyboard near the top. The labeling is often on the side of the <Pause> keycap.

If that does not work, call for help. Often a knowledgeable person can bail you out. Resist the temptation to turn off the power. Powering off will nearly always make matters much worse. Only turn the power off if you see smoke.

However, if there is no help available, you can escalate into all-out war. If <Ctrl-Break> does not work, try <Ctrl-Alt-Del>. Simultaneously, hold down the left <Ctrl> and <Alt> and tap <Del>. If that does not work, hit the <Reset> button on the front panel of the computer. If that does not work, try powering off, waiting ten seconds, and powering on again.

The Sorcerer's Apprentice

The first time you try to stop a printer, you may feel like Mickey Mouse in The Sorcerer's Apprentice trying to stop the brooms from carrying water.

If you are trying to stop a printer, first get the computer to stop sending more information to the printer by first trying any instructions displayed on the screen. As we computerists say, "When all else fails, read the directions!"

If that does not work, try <Esc>, then <Ctrl-Break>. After you have succeeded, the printer will *still* keep printing for several minutes, finishing off the material sent before you cut off the flow. The printer has a storage buffer. If you are impatient, you can clear the printer's buffer by turning printer off then on again. Do not turn the computer itself off! Remember, this procedure will do no good until you have first stopped the flow of information from the computer to the printer. Otherwise, the printer will come right back to life again like the villain in Terminator II.

If you have Windows, stopping the printer is even more complicated. You must persuade a background printing dæmon, called the Print Manager, to stop sending information to the printer.

If you wish to temporarily pause the printer, for example to adjust the paper, hit the printer's OFF-LINE button (sometimes labelled ON-LINE, SELECT or READY). Don't use this button if you want to abort the printout entirely. OFF-LINE will usually put both the computer and the printer on hold. When the computer is on hold, it will ignore your keystrokes. When you have adjusted the paper, hit the button again to put the printer back ON-LINE, and resume printing.

Hint: *if ever your computer appears frozen, check that the printer is ON-LINE, ready to print.*

Hint: *Every printer and printing program has its own quirks. If you do much printing with a particular program, beg your computer sorcerer to give you a magic spell or recipe to stop your particular printer.*

Diskettes

Diskettes back up your hard disk or transfer information from one computer to another. Floppy drives are Rube Goldberg contraptions that will give you trouble unless you treat them with care.

The Four Kinds of Diskette

There are four kinds of floppy diskette. Unfortunately it is hard to tell the two kinds of 5.25" diskettes apart. What is worse, even computers cannot always tell them apart. I suggest that you label each diskette with a colored dot when you buy it to avoid confusion.

Green Dot: 1.44 MB, AT style 3.5", hard shell, high density. Has two square holes, one in each bottom corner. The hole in the bottom left is usually plugged. When it is open, you cannot write to the diskette.

Red Dot: 1.2 MB, AT style 5.25" floppy, high density. Usually has no hub ring. When the notch on the upper right side is covered over, you cannot write to the diskette.

Blue Dot: 720 KB, XT style 3.5" hard shell, double density. Has one square hole in the bottom left corner, usually plugged with a sliding switch. When the hole is open, you cannot write to the diskette.

Yellow Dot: 360 KB, XT style 5.25" floppy, double density. Usually has a hub ring. When the notch on the upper right side is covered over, you cannot write to the diskette.

Formatting Diskettes

Unless you buy pre-formatted diskettes, you must format the diskettes when you first buy them to prepare them for use. You must use the appropriate format command for each type of diskette. If you accidentally choose the wrong command, your data will later tend to disappear a week or so after you write it to that floppy. If you make such a mistake, you must use a machine called a bulk eraser to clear the diskette before you try the format again.

Here are the commands you would use in DOS 5.0 to format diskettes:

Format A: /u /v /f:1.2MB
Format A: /u /v /f:360KB
Format B: /u /v /f:1.44MB
Format B: /u /v /f:720KB

To avoid confusion, it is best to use green dot and red dot AT style diskettes only, and avoid the blue and yellow dot XT style diskettes.

Diskettes are Fragile

5.25" floppy diskettes are delicate and can be easily damaged. If ever you touch the exposed magnetic surface, the diskette may be ruined. Handle a diskette only by its top edge.

3.5" diskettes are much more rugged, but you still should treat them with care.

If dust gets inside the jacket, the diskette may be ruined. Floppy diskettes should always be kept in their protective envelopes when not inside the diskette drive.

Continued on page 21

Equipment that emits strong magnetic fields can corrupt the data on a diskette—although it does not destroy the diskette permanently. Never place a diskette on the computer, display screen, power supply, magnetic tape cassette drive or near a telephone.

Pressure will damage a diskette. Type sticky labels first, then apply them to the diskette. After you have applied a label to a diskette, never write on that label. In an emergency, when you absolutely must cheat, use a soft felt pen or old fashioned fountain pen and press very lightly. Never use ball point or pencil.

Removing a Diskette

If you take time to learn these ridiculously detailed instructions on how to remove a diskette from the diskette drive, you will be blessed with good diskette luck all the rest of your days:

1. First find the empty envelope, sometimes called a sleeve. Normally the envelope will be sitting at the front of the storage box. If you don't find the sleeve first, you will likely unconsciously put the diskette down on the desk while you search for the envelope. Invisible fingerprint oils or minuscule amounts of dust on a desk surface can contaminate a diskette.
2. Pick up the empty envelope in your left hand holding it face-up with the thumb on top and the forefinger underneath gripping it lightly at the centre of the bottom edge of the envelope.
3. Open the diskette drive door with your right hand.
4. Grasp the diskette in the centre with your thumb on top.
5. **Gently** pull the diskette out of the drive, and slide it in one motion immediately into the envelope.
6. File the envelope containing the diskette into a storage box.

Inserting a Diskette

Here is how to insert a diskette into the diskette drive:

1. First remove the old diskette using the procedure described above.
2. Find the new diskette. Pick up the envelope containing the new diskette in your left hand holding it face-up with your thumb on top and your forefinger underneath gripping it lightly at the centre of the bottom edge of the envelope.
3. Open the diskette drive door with your right hand.
4. Grasp the diskette at the centre top edge with your thumb on top.
5. Pull the diskette out of the envelope, and slide it gently into the diskette drive face-up with the top edge out. If you hold the diskette in the recommended way, it is almost impossible to put the diskette in the wrong way.
6. Put the empty envelope into the front of the storage box so you will be able to find it easily when it comes time to remove the diskette. Do not file the envelope back it its usual position.

Warning: You may violate any of these rules, and usually the diskette will not be ruined. Don't fall into sloppy habits because you were lucky once!

I am not kidding about the importance of keeping diskettes in their sleeves. If you don't make it a habit, floppy problems will plague you.

Backups

"Real men don't do backups." "Backups are too boring." "I'm too busy to do backups." "I cannot afford a backup program or tape just now." "I've been running for two years without any trouble, why should I waste time doing backups?" "I don't have anything on my hard disk other than programs, so I'll just reinstall if I have a crash."

Continued on page 23

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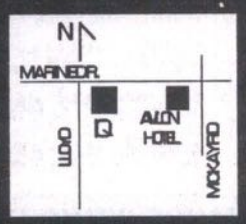

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DATA RECOVERY

BY PETE ROGERS

The data stored on a hard drive is much more valuable than the drive itself. A crucial fact to realize is all hard disk drives will fail! The only question is when will this occur. It may be in a few months or after many years. The failure will almost always happen at the worst time only because there is never a good time.

There are three distinct ways in which data becomes inaccessible. For each way there are multiple causes.

Firstly, a hard disk can fail from a number of hardware causes. Drives are mechanical devices with moving parts that are subject to wear, heat and vibrations. Read/write heads do fail to function. The centre spindle can seize. Sticktion (static friction) prevents a drive from overcoming inertia in starting to spin. The printed circuit board mounted to the drive can have a component fail. The controller board (for older drives) or host adapter (for IDE drives) can similarly have component failure. Of course, loose cables are another cause.

Secondly, software programs including DOS do run amuck and produce errors while updating files stored on disk drives. Of the trillions of bits being shuffled around it is not unusual to have one lost or changed. The critical FAT (file allocation table), which is an index to the data storage units, can become corrupted. Virus damage is very rare.

Thirdly, humans make mistakes. We delete the wrong files and copy old versions of files onto good files.

When there are problems such as "sector not found," your disk is pronounced "dead," or other catastrophic data/file problems, do not conclude that the data is gone. It is almost impossible to eliminate your data. It is highly likely the data is still on your disk. The real problem is that you can't get to it. Only by extreme hardware damage or by overwriting files can you lose data.

Three necessities of recovering data are 1) a collection of specialized software programs; 2) an intimate knowledge of computer technical operations (including hard drive function), and an understanding of DOS file structures; and 3) experience in reconstructing data. Once these are mastered, it is just a matters of hours. Data recovery can take from 1 to 50 hours (typically 5 to 10 hours). The costs can vary from $200 to $2,000 (typically $400 to $800). Compare this cost with the alternatives of re-entering the data from hard copy, or doing without the data.

Unfortunately, the vast majority of users do not have adequate backups. Even when a backup exists, there are many cases of inability to restore the data; typically, the diskette drive can't read the diskette.

It must be determined whether the primary cause is hardware or software or both. Error messages and symptoms can be misleading.

There are some programs available that can recover files. Be aware that these programs work by a generalized approach. Sometimes they will recover, more often they make the problem worse. Every data-loss problem is unique. You can't put all jigsaw puzzles together with the same instructions.

Your hard disk will fail. Know your options.

Pete Rogers is a technician with Data Recovery Services Inc., a Toronto company specializing in hard disk drive recovery. Telephone: (416) 652-2603.

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cont. from page 21

"My machine is guaranteed. If something goes wrong the dealer will fix it. I don't need to do backups." "I don't need to do backups. I have PC-Tools to recover."

Recognize yourself? Please read on. It will save you many thousands of dollars and untold hours of grief.

Why Back Up?

In July 1990 I did a whole article, just on backups. If you cannot find the article, I have it available on diskette. When you do backups, almost any mistake you make with your computer can be undone. If you delete all your files by mistake, no problem. If you get a virus, not to worry. If your computer catches fire, if a thief steals your computer, if your accountant corrupts your books, relax—if you have done your backups.

However, without backups, very ordinary events can sometimes destroy everything. The computer will completely forget every keystroke you ever told it. It does not take much. Sometimes just a surge on the AC power line, a power failure, or a mechanical failure in the hard disk can wipe out the crucial parts of your hard disk and you lose it all! Sometimes a caching or defragging program like PC Tools can hiccough and scramble everything. A nasty virus piggybacking on a computer game can wipe you out totally.

Computers commonly have such fits of amnesia. Expect a crash at least once every five years. Your only way to protect yourself is to have backups.

A backup is a duplicate copy of all the files on your hard disk that you store on a cassette tape or floppies. Nowadays, hard disks are so big it is impractical to back them up to floppies. Tape drives are now inexpensive. If you share one between several computers, the per-user cost is negligible. The tape drives look like floppy drives with a bigger-than-usual slot. The tape cassettes look like stereo cassettes that have been working out at Fitness World.

I repeat, if you don't have any backups, after a crash, you lose everything. Buying and using a backup program after the crash won't do you any good. Pleading and promising to be good in future will not bring your files back.

True, it is sometimes possible to salvage some files from the wreckage—but it is a bit like looking for survivors after a plane crash. This scavenging is time-consuming and very expensive. Even then your consultant will only be able to recover some of your files. Some of those recovered files will be "maimed" for life.

Multiple Backups

You must keep at least three backups. There is always a possibility one of the backups may fail itself, or that you will not notice hard disk trouble in time. If you do a backup after your files become corrupt, all you will have on the backup are useless corrupt files.

However, if you are fortunate enough also to have some older backups, you will then have a copy of the files before they were corrupted.

If there is a fire or theft, all your backups will be gone along with your computer. Only if you take an "offsite" backup home, from time to time, will you be protected.

Regular Backups

If you have a tape, you should backup everything, every day. If you backup only on the first of each month, and your hard disk crashes on the 30th, the backup will restore you to the way things were on the 1st. Everything you keyed during the month will be lost.

If you have a floppy backup, you should backup everything at least once a month. You should also backup just your daily keying at the end of each day.

When you install a new version of some software, you should take a "BEFORE" backup of everything just before you install, and an "AFTER" backup of everything just after. Keep the "BEFORE" backup for at least a month in case there is any trouble with the new software.

When *Not* to Back Up

As you might guess, I have a bee in my bonnet about backups. If I catch people failing to make them, I give them stern lectures. This has backfired more than once.

A customer did something foolish that destroyed his files. He looked at the backup log and discovered he had not done a backup for 30 days. "What will Roedy say when he finds out? Oh no!" So he immediately did a new backup over top of that backup, hoping I would never find out.

When I came to straighten up the mess, I found the recent backup containing only the useless corrupted files. The only other backup was six months old. He had to rekey six months work!

When you have a crash, do not backup! You will only make matters worse.

Firedrills

Backup software is notoriously unreliable. You can be religiously using FastBack or PC Tools, for years. Then one day you go to restore, and discover your infernal restore program thinks all the backups are unreadable.

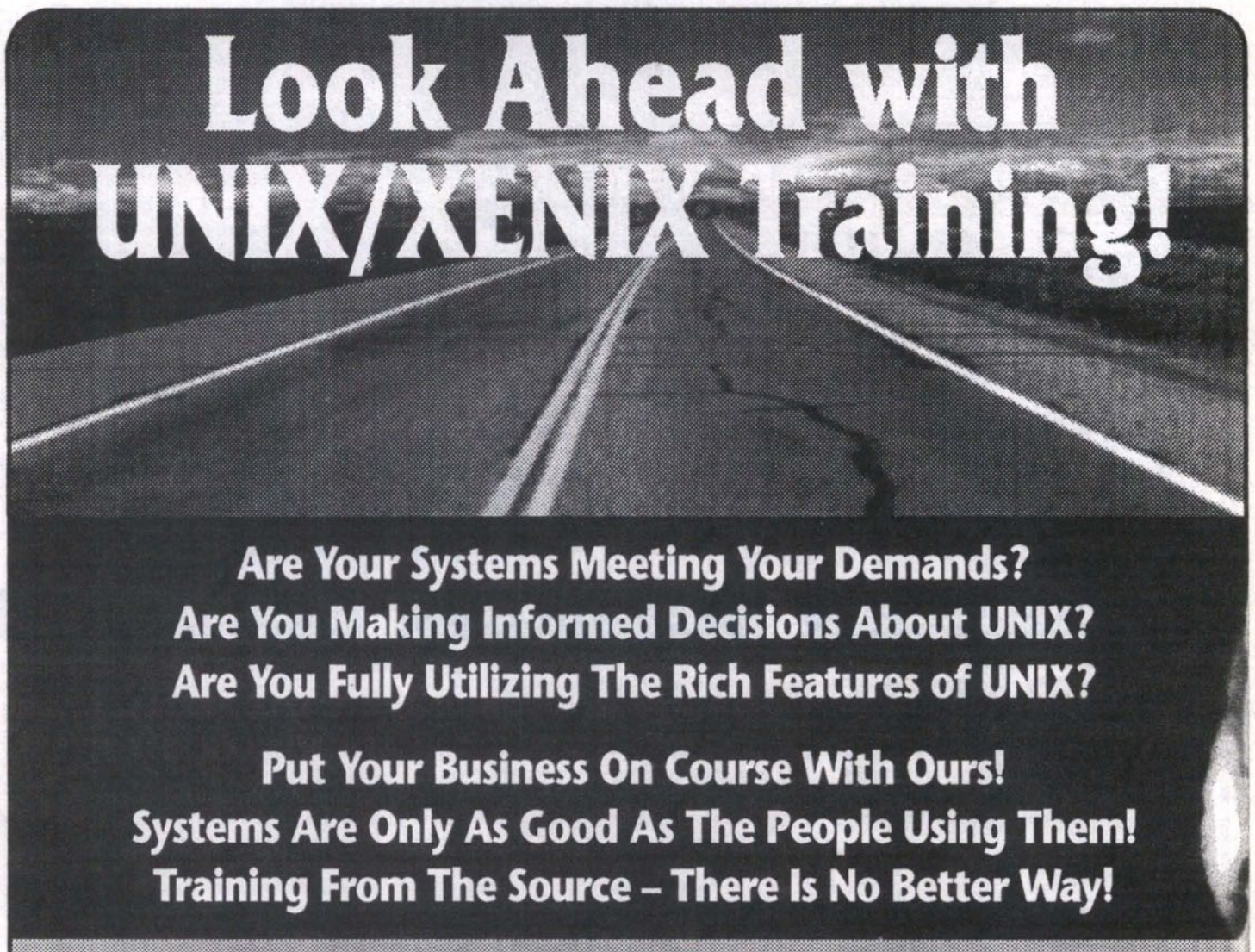
To avoid this, turn on the verify option so the program tests the backups as it writes them. Further, from time to time do a firedrill, i.e., try restoring a non-critical file just to make sure it works.

FastBack Plus and Norton Backup both force you to do a firedrill as part of the installation. I wish other such programs would follow suit.

Rotate Your Backups

If you keep three backup sets—A, B and C—and only normally use only set A, what happens if backup set A becomes corrupted? You would fall back to B and C which

Continued on page 26



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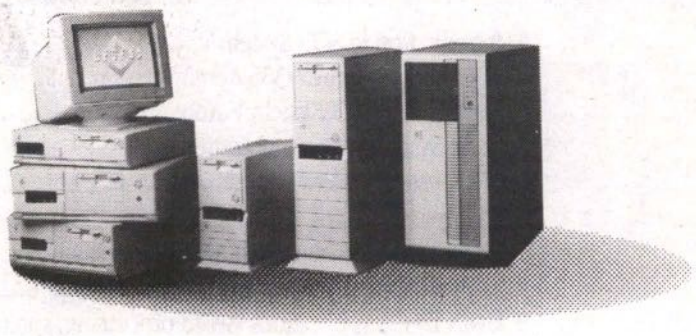

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REVIEW

Immunity Plus

BY GEOF WHEELWRIGHT

Publisher: Unitrol Data Protection Systems Inc., 604-815 Hornby Street, Vancouver, BC V6Z 2E6 (604) 681-3611

Minimum hardware requirement:: XT-compatible or better with at least two hard disk drives; memory-resident software takes up only 5K

Minimum software requirements: MS-DOS 3.2 or higher

List price: $249

Backing up your PC's hard disk has never been easy, In fact, for many, it has been an odious chore, sitting in front of the PC popping floppy disks in and out of it for a half hour or so every night (or every week, depending on how keen you were).

Then came tape back-up systems and overnight back-up programs, which were designed to make the whole tedious process of back-up "transparent" to us. We didn't have to think about it and we didn't have to do anything expect type the command to run the tape back-up software before we left for the day.

The only problem with this was when your hard disk went down near the end of the day and you hadn't backed up any of that day's work yet. Life was even worse for those who chose to back up only once a week.

For those using higher-end systems, the PC industry then came along with another solution to combat this difficulty. Using either "mirroring" or "data striping" technologies, this solution relied on running PCs with multiple hard disks–so that the data on one hard disk could be dynamically backed up onto the other as it was created. In this way, users would never lose more than a few minutes work at once.

This was fine for users of PC networks–and those with the money for large tower-based systems–but it didn't do much for the average desktop PC user. Enter a new product from a small, Canadian software start-up company. The company is Unitrol and the software is known as Immunity Plus.

Using Immunity Plus

Immunity Plus is designed to work on an IBM PC/XT, PC/AT, PS/2, 386 or compatible computer with two hard disks. It will function with any two hard disks provided they reside in one machine–even if they are removable systems such as the Syquest drive system.

In fact, Unitrol actually sells a kit to turn a standard Seagate hard disk into a removable unit on a standard desktop PC. Separate controllers and different size disks may be used provided that no special software is required to run them. Unfortunately, with higher-capacity drives (such as SCSI-based systems) this is often the case, so you have to pick and choose carefully which hardware you run with Immunity Plus.

In terms of how it looks when you are using it, Immunity Plus is a device driver that remains transparent to you most of the time. It only makes itself visible in the event of a hard disk failure or when the Immunity Plus utilities are being used. Nevertheless, the idea is that Immunity Plus is always working in the background. To run Immunity Plus, your system requires two hard disks. Immunity Plus uses the terms "primary" and "secondary" to refer to the disks, as opposed to the more conventional drive C: and drive D:. This reflects the relationship between the two disks when Immunity Plus is running.

With Immunity Plus installed and running, the secondary disk becomes dedicated to either partially or entirely mirroring the primary disk. When a primary disk has been partitioned into more than one logical drive, each drive can be mirrored by logical drives of at least the same size on the secondary disk.

When you install this software, you have to remember that DOS will automatically reassign your drive identifiers (e.g., C: D: E:) when a second hard disk is added to your system. We found that if you had multiple logical drives (partitions) before the second disk was added, then you would have to alter the path statements in your C:\AUTOEXEC.BAT file and possibly some application programs.

Performance

The one real issue we faced in using Immunity Plus was the degradation in performance it caused. This was partially due to the fact that we were mirroring from one relatively slow 40 MB drive onto another–but the design of Immunity Plus doesn't help in this respect.

Every time there is a Save made to your hard disk – whether it is you actually using the Save command in your software or automatic updates made by your software to back up files, configuration files or what have you, saving to the hard disk takes twice as long as usual. We suspect that if we had been using a system with two high-performance drives, this would not have been a significant issue.

Unfortunately, most of the removable drive systems on the market at the moment are – by their very nature–a little slower than conventional hard disks. And if your PC is constantly having to Save to fixed and removable devices, your storage system is only going to be as fast as its slowest storage component.

We also encountered some problems in running Immunity Plus with Windows 3.0. It took us a while to get the SMARTDRV.SYS file placed in the correct spot within our CONFIG.SYS file before Immunity Plus was happy enough to stop periodically crashing.

Conclusion

When all is said and done, Immunity Plus offers great potential for changing the way users handle backup on low-end and medium-priced PC systems. As Unitrol starts to expand the number of storage devices supported and produces a Windows version of the product, that potential will be even more fully realized.

It has all the components necessary to become a classic utility product–in the mold of Fastback or PC Tools–and with a few improvements to robustness and performance, it probably will be. ■

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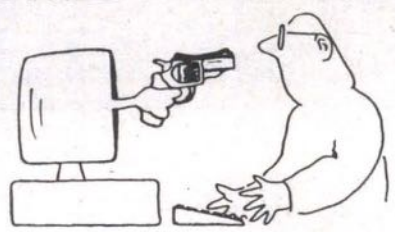

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Continued from page 23

are perhaps a year or two old! You would lose two years' keying!

You must rotate—backup first to A then the next day to B then the next to C then back to A again. This way you maintain more than one recent backup.

Installing Software

Installing software requires a fair bit of computer knowledge. Even the most automatic install programs need some manual tuning to prevent the newly installed program from interfering with existing programs.

If you want to try it yourself, there is a very good chance your computer will stop working entirely after the install. Make sure you do a backup first.

The Rescue Diskette

Ask a computer wizard to make you a "Rescue Diskette." If ever your hard disk fails to boot, you can boot from this floppy instead. It will restore your CMOS, hard disk boot track, DOS boot files, crucial DOS files, AUTOEXEC.BAT and CONFIG.SYS. It might include copies of the crucial Norton recovery utilities. I have written two freeware programs called BOOTSAVE and CMOSSAVE that help in the construction of rescue disks.

Keep it Clean

Computers still have many mechanical parts in them, e.g., the cooling fans, the floppy drives, the printer motors and the keyboard switches. Mechanical parts need to be clean to work properly.

The fan in your computer sucks cooling air in the slot in the front of the floppy drive and blows it out the back of the computer. This drags dust and lint inside.

You have to clean both your floppy drives and your tape drives specially. You can clean most everything else just by blowing the dust out and wiping with a cloth.

Cleaning Diskette Drives

I suggest cleaning your diskettes drives once a month. The easiest way to clean a floppy drive is with a liquid cleaning kit. I have written a freeware program called SCRUB that rubs the read heads over the entire surface of the cleaning diskette. Do not poke around inside with a swab or you will knock your drive out of alignment.

Cleaning Tape Drives

I suggest cleaning your tape drive once a week. The easiest way to clean a tape drive is with a foam-tip swab and some 99% pure isopropanol. You can get this at most pharmacies. It might be labelled "99% isopropyl alcohol." Make sure you also clean the photocell that detects the end of tape. If this gets dirty, tapes will run right off the end and be destroyed.

Hint: *If ever your tape drive destroys a tape, do not put in yet another tape for it to eat. Clean the drive first or have it serviced.*

Mousewash

Your mouse ball will gradually pick up lint and the mouse will behave erratically. Take the ball out and clean it with 99% isopropanol. Use a foam-tip swab and gently clean the rollers inside the mouse.

Printer Ribbons

You may pride yourself on your frugality if you wear your printer ribbons to the quick, but this is false economy. Part of the function of the ink is to lubricate the tiny pins in the print head. If the pins seize up, you may find yourself facing a $300 bill for new print head.

Hardware Care

The electrical parts of computers require very little care. However, you need to know a few facts to avoid damaging them.

Power

Your computer will last longer if you leave it always powered on. However, you should turn off the monitor or turn down the brightness to avoid burning-in the screen. If you will not be using your computer for more than 24 hours, it is okay to turn it off. Because of the small risk of fire, you should turn your computer off when you leave your house.

Always turn off all the power to everything if you disconnect or reconnect cables; this includes printer, keyboard, screen and mouse. All the power must be off if you meddle about inside the computer removing or inserting cards.

AC Power

Computers are fussy eaters. They need clean smooth AC power to function properly. Borrow a Leviton AC circuit tester to check that your electrician properly connected the three wires in your AC wall outlets.

Computers need the third grounding prong. Don't use a cheater plug and a two-hole outlet.

Depending on how smooth the power is in your home, you may need an AC power filter to clean out spikes and surges. These will cost $75 to $135. Filters have two functions—filtering out really big surges that would damage your computer, and also filtering out smaller surges that would just make it "flinch" and make an error. A little $25 power bar does not help much with either problem.

You may also require a high-quality power supply designed to handle brownouts (long-term undervoltages) or that has extra capacitance to store up power to ride though sags (short term undervoltages). These cost $150 to $500. The faster a computer is, the more susceptible it is to irregularities in the AC power. If the AC power is bad, you may find your computer rebooting mysteriously, or freezing up randomly.

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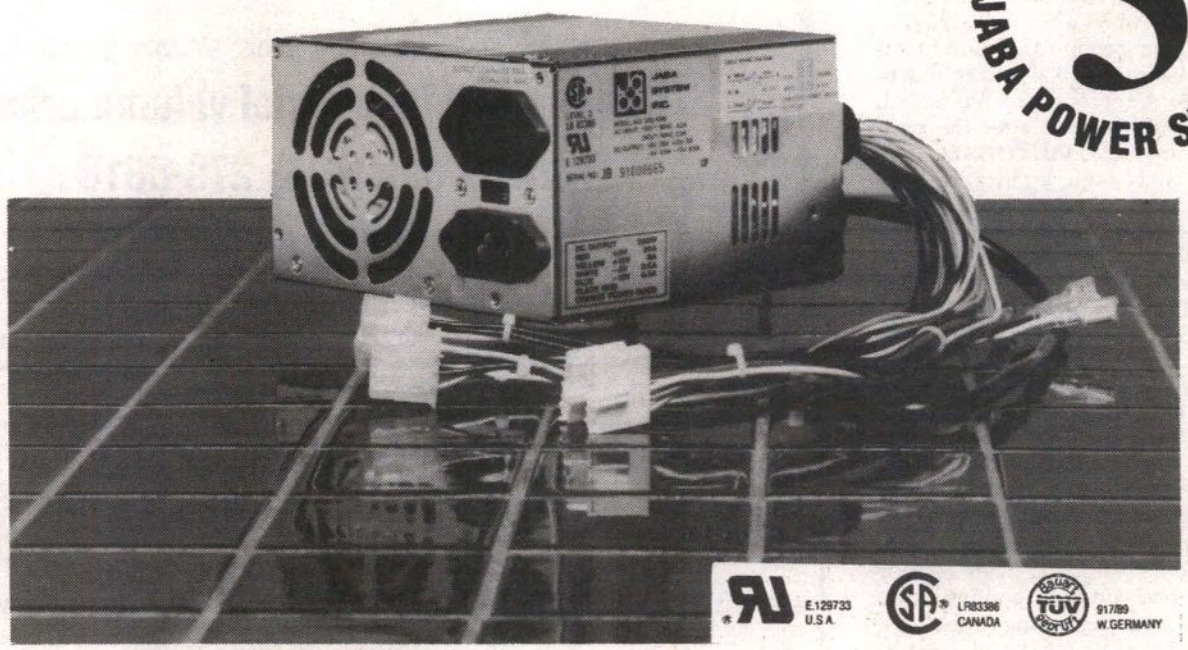

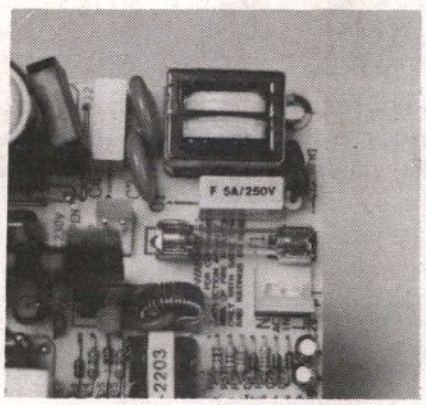

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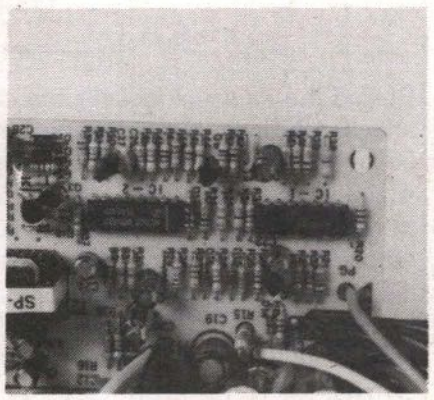

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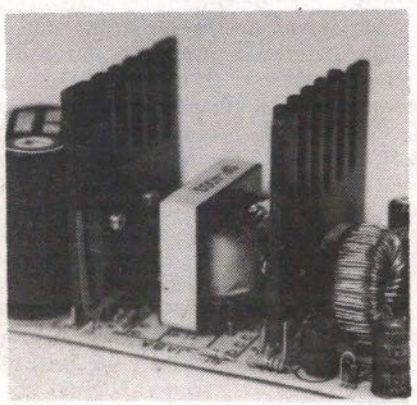

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Do Not Discard
Your new computer will come with some technical manuals. You might have a look at them and decide they are way over your head and throw them in the garbage. Don't do that!

If ever your computer needs service, the technician will need those manuals.

Learn Your Printer
Your printer bristles with levers, knobs and buttons. Read the manual to learn how to use them. Take a permanent marker and place a small dot beside the standard position for each control. Learn how to thread and align the paper. If you don't do it exactly right, the printer might appear to work, but it will keep jamming. Especially pay attention to the tractor/friction control.

Eventually, someone will be using your printer, and they will have trouble making it work. In frustration, that person will randomly start fiddling controls. You will then come back to your printer, and may fail to notice the strange settings.

You may then wonder why the paper keeps going off the rails, or why the printer insists on printing everything in italic. If you know how the controls are supposed to be set, you will save a needless "repair" bill.

Have Trouble Attended to Promptly
If your computer behaves strangely, have it attended to quickly. If you procrastinate, the problem will only get worse. More and more of your files (and backups) could be corrupted.

If You Must Fiddle
You might get the mad notion to change some jumpers or DIP switches inside your computer. Any changes may make matters worse. Therefore, write down the old settings before you start any experiments. Make sure you power off everything before making any changes.

Keep Your Disk Tidy
Novices often put up with hard disks ten times slower than they need be simply because they don't know the basics of keeping their hard disks tidy. I love to watch the expression on someone's face when they see the results after I tidy up their hard disk. "I never knew my old clunker had it in her!"

Defragging
DOS is a messy housekeeper. It stores files all higgledy-piggledy. Gradually your machine becomes slower and slower as the disk arms chase hither and yon to find the various bits of each file.

Once a week, you should run a defragging utility to tidy up the disk and pull all the pieces for each file into one contiguous piece. The fastest defragger is called ORG, a shareware program from Switzerland. The safest is Peter Norton's SpeedDisk.

Stay out of the Root
There is a place on the hard disk called the root directory, e.g. C:\ or D:\. This is something like the air-traffic control tower at an airport. Keep your files out of here. The root should contain only subdirectory entries, AUTOEXEC.BAT, CONFIG.SYS, IO.SYS, MSDOS.SYS and a few utility control files. All other files belong in a subdirectory.

Use Subdirectories
Imagine a bachelor who stored his socks and forks in the same drawer. This is how most novices keep house on their hard disks. They put their data files in the same subdirectories as their programs. They might lump together spreadsheets, word processing files and game programs.

Learn to create subdirectories, and keep each kind of file in its own subdirectory. Put your data files only in subdirectories you personally create. For example, never put data files in the C:\WORD55 directory that MS Word creates for its files.

When you create a subdirectory, ensure that it will be backed up regularly. Often backup programs do not back up new directories until explicitly told to do so.

Keep Subdirectories Small
A customer brought his computer back to me complaining it was running too slowly. I discovered the problem. He had created a subdirectory with over 3000 files in it. Every time DOS went to look for a file, it started at the top of the list, and one by one, searched the entire 3000 for the requested file. On average it had to wade through 1500 entries before it found the file.

By breaking his directory up into 10 smaller directories, each with only about 300 files in it, DOS on average would only have to wade through 150 files to find the one it wanted. This would make DOS ten times faster!

Try to keep each subdirectory to 200 files or less.

Installing Software
If a program package contains more than one file, always create a subdirectory just for that package. If you later decide to upgrade or remove a package, it will all be in a tidy bundle. Finally, when that program is running, DOS will not have to wade through extraneous files to find the ones that program needs.

Viruses
The Michelangelo virus made everyone aware of the virus problem, and generated outlandish rumors about how dangerous computer viruses are. If you take some simple precautions, it is unlikely a virus will ever harm you.

Defending Against Viruses
Your #1 virus cure is having several backups. To recover, you need clean copies of your programs before the infection.

Continued on page 28

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Continued from page 27

Your #1 virus prevention is running only clean software, e.g., commercial programs and shareware programs direct from a reputable BBS or shareware dealer.

A reputable BBS (Bulletin Board System) knows the identities of all subscribers and knows the source of every file. Any virus infection can be traced back. Further, the reputable BBS sysop (system operator) scans every file for viruses before allowing it to be presented for distribution.

Be especially wary of any bootleg software you are offered or any diskette that has been within 50 feet of a school. Some BBSes take no precautions and effectively invite anonymous vandals to submit booby-trapped software for distribution.

You can check your machine for known viruses using the McAfee shareware SCAN program. Unfortunately the brats who invent these things can create them much faster than we can catalog them. One estimate I read said there are over 1000 unknown viruses.

If ever you discover a virus attack, get help. If you don't know what you are doing, you can end up spreading the virus rather than killing it.

It Is Probably Not a Virus

When anything goes wrong, the novice first thinks he has a virus. The actual problem is usually more mundane. Failure to R.T.F.M. (Read The Fantastic Manual) is nearly always the cause.

Surprisingly, a virus cannot hurt you, even when you do the following "dangerous" things:

1. Make a directory listing of an infected diskette.
2. Copy word processing files from an infected disk.
3. Copy an infected program to your hard disk (if you never execute it.)
4. Put an infected diskette next to one of your diskettes in a box.
5. Run a virus-scanning program on an infected diskette.
6. Use a computer that has a virus, then come home and sit at your computer. "Virus" is a figure of speech. Computer viruses have nothing do to with germs. A virus is just a computer program written by an obnoxious child.

There are only two ways a virus can hurt you:

1. When you run any infected program. Keep in mind viruses spread, so once an infected program runs, it can infect other programs. Also it can corrupt the operating system so that it effectively starts itself every time you turn on the machine.
2. If you boot from an infected floppy.

I don't mean to suggest that novices should play with viruses. I simply want to stop the scare stories.

Boot Track Viruses

If you deal with a service bureau, e.g. a typesetter, you must exchange floppies back and forth. Both you and the typesetter should presume that these floppies are infected with viruses. You should label them with something distinctive to warn users of the potential infection.

Happily, there is not much cause for alarm. You are sending only data files back and forth, not programs, so there is never any need to run a potentially infected program.

However, boot track viruses can hurt you if you leave a floppy in the machine by accident when you boot, or power on. Even if you were scrupulous, you could still get hammered during a short power failure. When the power came back on, the infected floppy would boot and infect your hard disk. Even when there is no virus present, it is best to remove a floppy and put it back in its envelope immediately after you have finished with it.

I wrote a generic boot track virus killer called SCAT. It can kill any boot track virus, known or unknown. It takes only a second to treat a floppy. It does not disturb the data; it just wipes out any virus. If you simply treat every incoming floppy with SCAT, you will be okay. I have written a suite of simple generic freeware antivirals. I will send you a copy anywhere in the world for $6 including shipping and handling. You are free to make as many copies as you want and pass them on.

Summary

My friends on BIX and I have distilled the suffering of hundreds of novices to produce this advice. If only we could learn from others' mistakes! Many people already know what I just told you, and still do not follow the advice. Only after they have been badly stung do they become true believers. Fortunate people are stung early, and lose only a year's work. The least fortunate never have any troubles at all, until the big one, then lose decades of work. ■

Roedy Green, president of Canadian Mind Products in Vancouver (604-684-6529), builds custom computers. He also writes custom computer software, primarily for non-profit organizations and charities, and offers training and consulting.

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Networks!

THE PLAN OF ATTACK - NETWORKING 1992

Contrary to the popular belief, networking personal computers in an office is not that difficult. Only when not-so-qualified personnel get involved do true network screw-ups occur.

This month, ANO presents a ten point plan to assist you in developing a network strategy. The list is based on our experiences with our in-house network and the many installation we have performed for our customers. No two networks are ever the same, but the basic rules apply in the majority of situations.

#1 GET HELP

Avoid doing an entire network installation on your own. Bring in an expert who can give you a different perspective on the direction you should go. Getting a second opinion is never a bad idea.

#2 CHECK WITH THE TROOPS

Too often network administrators neglect to find out what the people using the network want or need. By approaching them, you will get a clearer picture of your networking needs, and dowse any flames of insecurity they may have about networking.

As well, you will be instilling a sense of pride by making them feel that they were at least partly involved in the network decision. Holding a group rap session is usually an effective method.

#3 GO WITH EXPERIENCE

If you decide to let a dealer or VAR (Value Added Reseller) do the installation for you, be sure to make your selection wisely. There is no substitute for experience. Going with an untested vendor could end in disaster. If possible, see if you can visit two of their installations, and talk to as many reference sites as possible.

#4 CABLING

Although cabling is the umbilical cord of any network, it is, in most cases, also given the least attention.

Avoid falling into this trap! Planning out a cabling scheme which allows for clean expansion is vital. Also be sure it is done by a qualified organization that deals strictly with data and telecommunications. Even if you are only hooking up two or three systems, it should be done properly and to building standards.

An improper cabling job can lead to headaches and lost productivity.

5 TRAINING

Two rules of thumb on training in a network environment:

1. If you have your own network specialist in the office, individual user training on network functions is not absolutely necessary. It never hurts for people to have adequate working knowledge, however.

2. If you don't have a network specialist in-house, and rely on your vendor heavily for support, be sure to have everyone trained on the basics, and at least one or two people trained on more advanced trouble-shooting and administrative techniques.

One way in which you can streamline the network process and reduce training time is through a well co-ordinated menuing system or by adopting a GUI such as Windows as your primary operating environment.

By relieving the user from learning network jargon and complex commands, you are also reducing their stress levels.

#6 HARDWARE SELECTION

Avoid being lured in by price. A killer deal could be just that; a killer. Base your buying decision on the merits of the product and how well it fits into your strategy.

Some hardware you should seriously consider include a tape back-up unit (with tapes, of course), an uninterruptable power supply for the Fileserver, and a fast modem for on-line support.

#7 SOFTWARE SELECTION

Even though most of today's networks look and feel like DOS, that doesn't mean that any DOS application will function correctly (if at all) in the network. Be sure that the programs you need to use are compatible with the network you are going to install.

8 WHAT IF...

Waiting for disaster to strike isn't good business, and certainly isn't good for networks. Be sure to cover as many "What Ifs" as possible, and document your plan of attack.

9 SUPPORT

Going it alone could end up costing you in lost time and money. Arrange for a service and support agreement with your vendor.

#10 PLAN FOR TOMORROW

As the needs of the users on the network will no doubt change, so should your network be able to adapt. Future factors such as the expected number of users, hard disk space, and cabling should be addressed before installation.

IN SUMMARY

Networking in the '90's is an integral part of the evolution of the computer. Be aware that like all things a business it must be done right.

If you have any question please fell free to contact a network specialist at the ANO Location nearest you,

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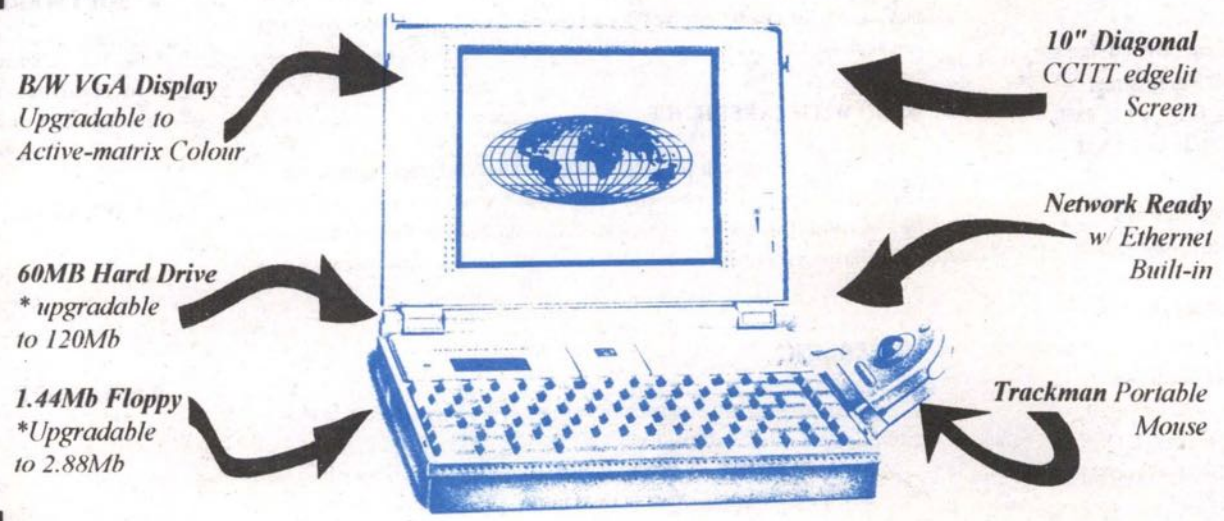

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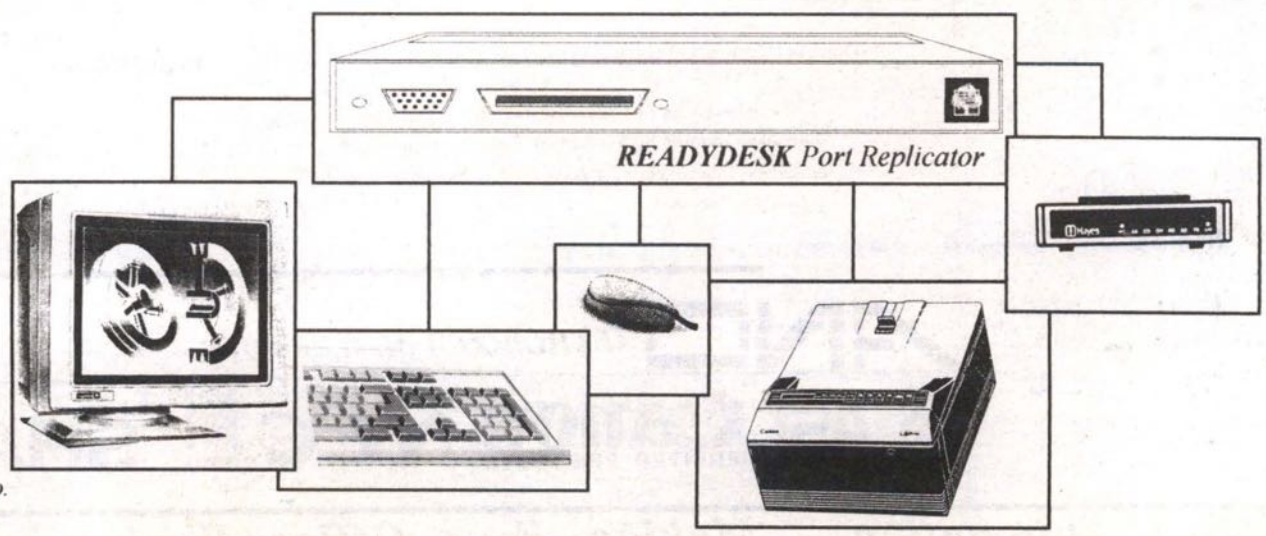

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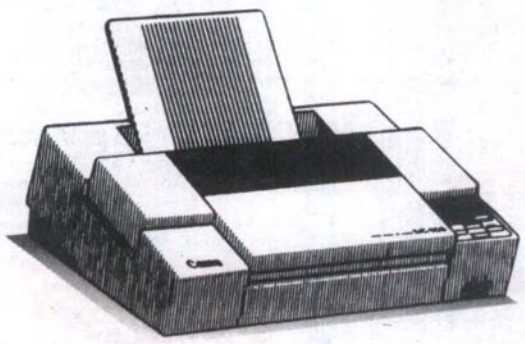

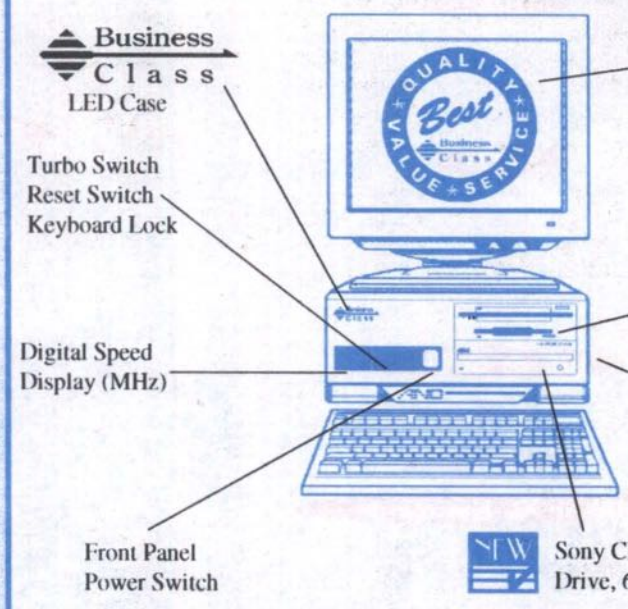

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Mass Storage

Options for Mac & PC

CD-ROMS, WORM Drives, Floptical Disks and The Future of Storage

BY MICHAEL ARTHUR

In the short lifespan of the computer industry, advances in chip technology, graphics, and RAM / ROMs have occurred at an incredible rate. While these areas are very important, one field which (although it is just as vital to computers) has not achieved the level of recognition as areas such as microprocessors is the matter of storing all the information that computers handle.

As computers became more powerful, operating systems gained in capabilities, and applications had more features, the need for ways to store the data generated by all these computers grew exponentially. While five-megabyte hard disks were reserved for power users as late as 1985, now 20-40 meg hard drives are the norm, with 150-300 meg hard drives being the Power User's dream. But as computers improve even more, it is a certainty that even more storage will be needed. In the past few years, four new technologies have emerged to fill the present and future need for information storage: CD-ROMs, WORMs, Bernoulli Drives, and most recently, magneto-optical disks.

CD-ROM

CD-ROMs (Compact Disk—Read Only Memory) read data from compact disks. First, a laser emits a beam of light which is reflected by a mirror into an objective lens, which focuses it onto the optical disk. Embedded into the disk are tiny pits (or dots), and when the disk is rotated under the lens, the raised pits reflect a greater intensity of light back to the lens than the rest of the disk. This increase in intensity is then detected by the read head, to denote the digital data stored on the disk. Laser technology is used to pack an enormous number of "dots" onto the disk, thus vast amounts of data are densely compressed in compact disks. CD-ROMs are made in an unconventional manner, with disks being formed by stamping them, or cutting them out of a smooth sheet of plastic film. This, by the way, is exactly how phonograph records are made in the music industry....

CD-ROMs are perfect for storing large databases of general info that doesn't require revision often (such as encyclopedias, digitized sounds, and dictionaries). However, there is often a need to store huge amounts of one's own data (such as a series of AutoCAD 3-D files with full schematics of the space shuttle, or a complete catalog of all the source code produced by a programming team from the program's inception) for archiving or personal reference. In this case, WORM (or Write Once, Read Many) drives may be the only option.

WORM Drives

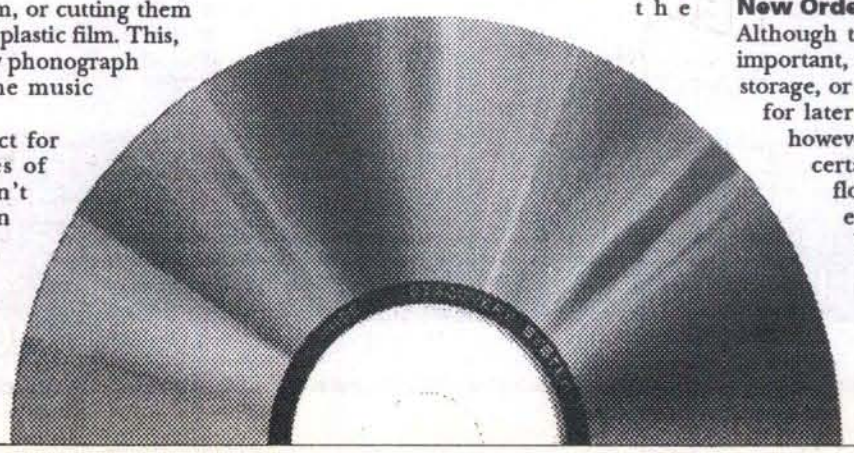
WORM drives read data in a fashion similar to CD-ROM drives, but they can also write data to disk (though this writing is permanent; hence the term, "Write Once Read Many"). This is done by using a laser to burn holes directly onto the surface of the disk. Since these holes reflect much less light than intact disk areas, the decrease in beam intensity which is caused is used to denote the data stored on the disk. As with CD-ROMs, the lasers are used to mark a great number of tiny holes in the relatively small area of the disk, causing great information density, and greater data storage capabilities (most WORM drives can store 800 megs of data per cartridge, while CD-ROM drives have 640 megs of storage space).

Bernoulli Drives

Most of us identify Bernoulli drives with the 20 megabyte removable cartridges made by Iomega Corporation. This technology, though, is based on a principle of physics that is used every day. Bernoulli's Principle states that an increase in the flow of a fluid on one side of a surface produces less pressure on the other side, and a decrease in fluid flow on one side results in an increase in pressure on the other side. For example, a plane's wings are made so the speed of the airflow above the wing is greater than the speed below it, the result being that the pressure below the wing is greater than the pressure above it, producing a lift that helps the plane take off.

Iomega used this principle in the Bernoulli Box by having a flexible magnetic disk rotate very closely to a circular plate which contains the magnetic read/write heads. When the disk is spinning, the circular plate draws in and manipulates air flow, lifting the disk up towards the plate close enough that the head-to-disk spacing is very small (50 microns for the Bernoulli Box).

Since the magnetic head does not actually touch the disk (doing so would create pressure that would push the disk away from it, and nullify the Bernoulli effect), head crashes are practically impossible. Also, since the disk is closely (but safely) aligned with the magnetic head, more data can be stored and accessed, since the head can accurately read/write from more tracks than otherwise possible. Also, given the general basis of this method, Bernoulli technology can be used with other storage methods, in order to achieve even more reliable ways of storing far more data than before.



Magneto-Optical Drives: The Next Generation, and New Order

Although these three technologies will be important, most of them deal with archival storage, or storing massive amounts of data for later retrieval. Recently introduced, however, magneto-optical drives seem certain to revolutionize the area of floppy disk storage. Most computer users know of this technology because of NeXT Inc.'s pioneering efforts in using magneto-optical drives in its high-end computers.

The disks for the NeXT drive use the same material as CD-ROM disks, with a reflec-

Continued on page 35

The Evolution of Removable Mass Storage

BY GEOF WHEELWRIGHT

While producers of hard disk and optical storage systems race one another to offer the fastest and highest-capacity mass storage media, floppy disk makers are also working slowly to bring greater mass storage capacities to the humble floppy disk. There are three new sizes of floppy disk which have recently emerged from development labs: the 4 megabyte, 12 megabyte and the aforementioned 20 megabyte floppy disk.

Of these, only the 4 MB is the most well-known commercial product today–being used, for example, on selected IBM PS/2 systems and NeXT workstations. This is firstly because it is technically one of the easiest to develop–and also one on which broad agreement among floppy disk media and disk drive producers could be reached relatively quickly.

The 4 megabyte floppy disk comes in the 3.5 inch size and should thus put a further nail in the coffin of the 5.25 inch floppy disk (used in IBM's original Personal Computer and most subsequently-produced "clones" of that machine). It has a "formatted" capacity of 2.88 megabytes–twice the size of the 1.44 megabyte floppy disks which dominate the high-end PC market.

The 12 MB floppy disk, meanwhile, will need to use "servo tracking" technology. Tracks–the concentric rings used to set out the path along which data on a floppy disk is recorded–have proved a limitation to storage capacity.

In order to effectively add more capacity to a floppy disk, a greater number of tracks need to be set out on the disk. In conventional "linear" floppy disk drives, track density is currently said to be reaching its limits. As tracks are moved closer together on the same physical surface, they need to become much thinner.

Unfortunately, the tracks then become much more difficult to reproduce accurately—so that disk drive "read and write" heads can follow the tracks properly. A servo-tracking system conquers this problem through the use of a single track written to the outside of the disk and two heads on the disk drive—one to follow the previously written servo "guide" track. This head will then adjust its position to follow that servo track and can then drag the main read/write head into position to follow the main data tracks.

This, however, is an evolutionary—not revolutionary—floppy disk technology. The release breakthroughs in floppy disk storage are likely to come from drives which use vertical recording techniques—and it is this technology which is being employed in the development of existing experimental 20 MBfloppy disks.

Vertical recording, however, is still the "Holy Grail" of magnetic floppy disk storage. And even with the capacities that it makes possible, they will still look meager compared to what optical storage systems can currently offer.

With a capacity of 600 MB or more, existing optical WORM (Write Once Read Many) storage systems might make vertical recording systems look a little under-powered. But in order to do so, optical systems will have to become a lot cheaper, provide truly erasable media and decrease the time it takes to access data. ■

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Continued from page 33

tive "mirror" layer on top of a plastic film. NeXT disks use a single laser to both read and write data.

To write data to the disk, first the drive applies a magnetic field to the disk. This field is oriented to write the binary digit 0 on the disk. Then, a laser is used to heat a sector on the mirror layer to its Curie point, or the temperature at which the crystals in the mirror layer change their polarity to match that of the magnetic field. This makes all binary data in the sector consist of 0s. The drive then orients the magnetic field to write the binary digit 1 on the drive. The laser then heats all the sector's areas where a bit must be set to a 1, to the mirror layer's Curie point.

To read data onto the disk, the drive first removes the magnetic field. When it uses the laser to aim a beam of light at the mirror layer, a phenomenon known as the Kerr effect causes the crystal alignment to alter the polarization of the reflected beam. The amount of beam polarization determines its intensity, and a polarizing filter in the read head then determines whether a 0 or a 1 was read on the disk by the level of beam intensity. As in CD-ROMs, lasers enable a large amount of data to be written in a very small space. Several magneto-optical disk drives have been introduced, most providing 512 - 640 megabytes of storage per cartridge. However, Maxtor has introduced a $6000 drive capable of storing more than 870 megs of data on a cartridge, with the potential to store 1 Gigabyte (or 1024 megs).

While magneto-optical drives hold great potential, several factors have contributed to their relative obscurity in the computer industry. For example, while the NeXT computer shows many of the potential uses for Magneto-optical technology, the price of such technology ($3000 per disk drive, and at least $150 for one cartridge) forced NeXT to abandon their use in their low-end NeXTstation computers. Also, the slow access rate of magneto-optical disk drives (60 milliseconds, as compared to the < 20 ms speeds found in conventional hard drives) have caused potential users to use WORM drives (or very big hard drives) instead. Currently, price/performance issues make magneto-optical drives too expensive for conventional microcomputer use. However, as this technology is further developed, it has the potential to seize many of the markets now dominated by WORM drives and large hard drives.

In fact, since NeXT started using the 600MB-plus optical storage technology in its machines, a whole new class of 128MB magneto-optical devices have become popular. These devices are now on offer from a wide variety of manufacturers for connection to most PCs.

A noteworthy effort to "commercialize" magneto-optical technology has appeared from Insite Peripherals. Founded by Jim Shugart, one of the engineers behind the original 5 1/4 inch floppy disk drive, Insite Peripherals has developed the Insite I235VM Drive, which provides an innovative new twist on magneto-optical technology. Unlike CD-ROMs, WORMs, or "NeXT-type" drives, the I235 uses removable 3 1/2 inch disks called "flopticals." Capable of storing up to 25 MB of data, floptical drives are very similar to high-density floppy disks in design. The I235 can read/write to both types of floppy disks, and can be used by any computer with a SCSI interface. (Floptical drives currently sell for about US$650.—*Ed.*)

One serious problem with current floppy disks is that they tend to wobble, making it difficult for the magnetic read/write heads to scan the data on the disk accurately. To make it easier for the drive's magnetic heads, floppy disks have always had a very limited number of tracks (or grooves) per inch. While this solution improves reliability, it reduces drastically the amount of data that can be stored on floppy disks. Insite Peripherals solved this problem by embedding an optical servo track (using lasers to precisely etch the track markers) onto the surface of conventional high-density disks. An infrared LED is used to follow the tracks, so magnetic heads can be aligned to be more precise. Since the read/write heads are made more accurate, lasers can etch tracks on the disk more densely, and the LED can easily follow the tracks. This allows many more tracks (15,000 per inch, as compared to the 135 tracks per inch found on regular 3 1/2 inch disks) to be used on floptical disks. Roughly translated, this means that much more data can be quickly stored and accessed from disk. However, the slow seek time of Insite's drive (65 ms) and its relatively high cost (around $350 for OEM/VARs and computer manufacturers) has prevented it from going head to head with current hard disks now on the market.

Most of us take disk storage technology for granted. While the newest Graphical User Interface, powerhouse microchip, or the latest and greatest in multimedia technology all inspire a sense of wonder, we seldom take more than a passing interest in the storage devices used to handle the most important aspect of any computer: data.

It seems that computer users take their trusty hard drives for granted. Except, of course, when the trusty hard drives run out of space or when the ancient technology used in their trusty hard drives fails, causing an interesting phenomenon known as a hard disk crash. Many new mass-storage technologies have the capability to provide more storage space while protecting our systems from the flaws of current hard disk drives. While hard drives are currently useful, alternative methods of data storage will become a vital part of the computer industry's future. ■

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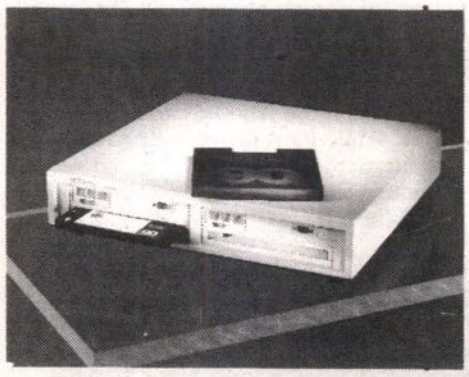
Iomega announces Pro line of removable drives



Iomega has released the Benoulli 90 Pro line of removable drives.

The company says the new family of products store 90 megabytes (MB) of data per removable disk, but are available with a special version of Stac Electronics' Stacker that can boost the average storage capacity per disk to 180 MB. The new product, called Stacker for Iomega, is available for PCs with ISA bus (US$349); Microchannel bus ($549); and parallel port interface ($415).

The drives sport a new mechanism that is said to improve access time to 18 milliseconds (ms). Iomega claims that disk caching software included with the new products reduces the effective access time to 9 ms. The company maintains that the new mechanism is quieter and runs cooler than previous Bernoulli drives, for even longer life.

Bernoulli drives are available for a wide range of computers, including PC, Macintosh, NeXT, Sun, SGI and others. Prices start at US$849 for a host-powered external drive for AT-bus PCs.

Contact: Iomega, 800-777-6179.

NEW FOR MAC

Rodime Offers Ricoh Rewritable Optical Drives

BOCA RATON, FLORIDA, MAR 30 (NB)—Rodime Systems is about to introduce two rewritable optical drives for Macintosh systems based on Ricoh drives. The new drives will be compatible with all Macintosh system software from 6.07 up, including System 7.0.

The Condor 650e is a 650 megabyte (MB)-capacity, 5.25-inch drive based on the Ricoh HyperSpace drive which turns at 3,600 revolutions-per-minute (rpm) to achieve 37 millisecond (ms) average access times with a sustained one MB-per-second data transfer rate. This would compare to CD-ROM drives which have access times from 350 ms to well over 600 ms.

The second drive is the Condor 130e (128 MB), based on the Ricoh 3.5-inch Transporter Drive which turns at a slower 3,000 rpm rate and offers a data transfer rate of only 640 kilobytes-per-second with an average access time of 43 ms.

These are both magneto-optical rewritable drives, but the Condor 130e can also read discs mass produced (published) under the new 3.5-inch O-ROM standard, which is very like a small CD-ROM but stores only 120 MB of data instead of the 550 MB carried on a larger CD-ROM disc.

Ricoh builds optical drives but sells them to manufacturers who integrate them into computer systems or configure them as add-on systems for existing computers.

Contact: John Dean, Ricoh, 408-432-8800.

Maynard Intros Transportable Tape Backup Systems

LAKE MARY, FLORIDA, APR 14 (NB)—Maynard Electronics has introduced the Irwin EzPort transportable tape backup systems. EzPort connects to the parallel port of desktop, laptop, or notebook PC, or PS/2 systems.

Maynard said the unit does not require a separate controller card, and shares the PCs parallel port with a printer, eliminating the need to connect and disconnect either of the peripherals to use them. According to Maynard spokesperson Anne Lardner, the special cable connects the tape drive to the computer. A port in the tape drive accepts a cable from the printer. Only one of the devices can be used at a time, Lardner said.

Maynard said they will start shipping EzPort with its EzTape DOS software in May. EzPort will have a suggested retail price of $699 for the 120 megabyte (MB) version and $799 for the 250MB drive. The company says EzPort can backup a 40MB hard drive in less than 10 minutes. EzPort is compatible with the installed base of Irwin AccuTrak systems.

EzTape is a menu driven program, and offers unattended backup as well as the ability to select full backup or only selected files. Maynard also offers EzTape software for Windows as an option.

The Windows version includes multitasking capability, allowing the backup to be done while other tasks are being performed. Data compression, automatic scheduled backup, network support and an integrated tape librarian are also included in the Windows version.

Present EzTape users can upgrade to the Windows version for $59. If you do not already use EzTape, the Windows version has a $169 price tag.

Network support is provided for Novell, LANtastic, IBM's PC LAN (local area network), and TOPS.

The AccuTrak system provides for the exchange of data between minicartridge tape drives marketed by IBM, Compaq, NCR, Hewlett-Packard, NEC, Data General, Zenith, and other distributors. The EzPort drive can also interchange data with tapes written by EzTape for OS/2 software.

Contact: Anne Lardner, Maynard Electronics, 407-262-4268.

New Faster Quantum HDs Geared Toward Workstations

MILPITAS, CALIFORNIA, MAR 16 (NB)—Quantum says it is offering 426 megabyte (MB) 3.5-inch hard disk drives called the Prodrive 425i beginning next month.

The new drives are small computer systems interface (SCSI)-based or Integrated Drive Electronics (IDE)-based models and offer 256 kilobytes of random access memory (RAM) as a cache buffer for improved performance, the company said.

Quantum says the new drives are geared toward the workstation market. The company said its previous hard disk drives have been well received and in 1991 about 20 percent of workstation hard disk drives were Quantums.

The SCSI versions will offer an optional Fast SCSI, also known as Differential SCSI. Fast SCSI is a mode of data transfer which allows twice as much data to be transferred, up to 10 MB per second as opposed to the older 5 MB/second limit imposed by the SCSI-1 protocol. Fast SCSI also allows for longer cable lengths with increased integrity of the transferred data, Quantum said.

Read/Write Multiple firmware is available on the new IDE-based AT models and allows data transfer in block sizes larger than one sector, which also improves the data throughput speeds, the company added.

The cache buffer on the new drives is segmented, allowing for lower seek times by increasing the number of read requests the drive can fulfill from the data it has already read into the cache buffer. Both read and write caching is supported via the company's proprietary Discache and Writecache firmware. Speed increases of up to 50 percent are possible with the Discache, while Writecache can increase the data throughput by as much as 250 percent, Quantum maintains.

Quantum says it manufactures 3.5-inch and 2.5-inch hard disk drives in its Milpitas, California manufacturing facility in capacities from 42 MB to one gigabyte.

Contact: Quantum, tel 408-894-4000.

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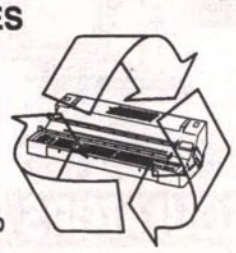

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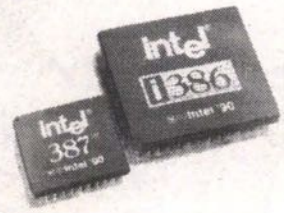

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Emulex Says Its $57K Rewritable Optical Drive Is Cheapest

COSTA MESA, CALIFORNIA (NB)—Emulex has announced its Palomar family of rewritable optical storage systems which the company says are designed to offer a faster alternative to tape back-up and storage on large systems at a lower cost per megabyte.

Emulex says it offers turn-key optical storage in sizes from 15 to 85 gigabytes (GB) for small computer systems interface (SCSI), Q-Bus, Unibus, and HSC interface-based VAX systems or clusters. Full systems come with a host adapter, optical jukebox, and jukebox management software, Emulex said.

Teri Blackledge, director of product marketing for Emulex, added that the Palomar system eliminates the need to patch device drivers and accept data stored in non-standard formats. The Palomar is the only rewritable system that offers the user of both file system standards and native VMS device drivers. "The system will plug-and-play with VAX systems or clusters and will write data that's interchangeable with DEC's WZ104 rewritable drive," stated Blackledge.

In the storage of such a large amount of data the file and volume management becomes more important. Emulex says it handles those issues with its Lasermaster product, which includes operator utilities, catalog functions, and a database containing all the file and volume information. Lasermaster has a graphical user interface (GUI) that can be used on character-based terminals or workstations, the company added.

Laseraccess, a utility for backup and random access file restoration from the optical discs, is also available from Emulex. The company says the product has caching techniques incorporated into it that allow the copy of data to the optical discs to be three to five times faster than the VMS backup. Also, access for restoration, which could take from minutes to hours with the VMS file restores, can now be accomplished instantly with the random access provided by Laseraccess, Emulex maintains.

Emulex says prices start at $57,385 for 15 GB jukeboxes and go to $205,000 for the 85 GB jukeboxes. More information is available from Emulex at 3545 Harbor Blvd., P.O. Box 6725, Costa Mesa, CA 92626, or by calling 800-854-7112.

Contact: Emulex, tel 714-668-5499.

Hong Kong: CSSL Pioneers Laser, Imaging for Banks

NORTH POINT, HONG KONG (NB)—Hong Kong based reseller CSSL is to become one of the first Hong Kong distributors to bring laser technology and imaging applications to its IBM AS/400 banking customers.

The company has announced Archive/2, an optical disk storage and retrieval system from UK-based financial software house Kapiti Systems, together with support for IBM's forthcoming AS/400 Optical Disk system which will incorporate an imaging capability.

The products will both be incorporated into Kapiti's Equation banking system, for which CSSL is the exclusive Hong Kong distributor. Equation will be one of the first IBM AS/400 banking systems to integrate laser and imaging technology.

IBM's AS/400 Optical Disk system will provide laser-based storage and retrieval for both text and images. It will enable documents such as checks, customer mandates, loan agreements, trade finance documents or photographs to be scanned and stored electronically or transmitted over Electronic Data Interchange (EDI) networks.

"Image processing opens a wealth of opportunities for banking customers to improve their service," said Patrick Lam, division manager at CSSL. "In particular, the ability to use EDI in departments such as trade finance will enable documents and their associated messages to be transmitted simultaneously. Trade departments can then focus on the physical movement of goods rather than on paperwork."

Lam added that optical storage of photographs may even become essential as pictures are increasingly used on check guarantee and credit cards to prevent fraud.

Kapiti's Archive/2 system is designed to store all reports and customer documents produced by the Equation banking system, with designated data being passed directly from the AS/400 to the optical disk. The system also includes facilities for automatic updating of the index which can be defined by the user for ease of access and retrieval of stored data.

"Archive/2 will enable users to reduce the quantity of historical data held on their main system, and so speed up the processing of their normal workload," said Lam. He added that Archive/2 will be available to existing and prospective users of Equation to provide storage and retrieval for vast amounts of data contained in banking reports and customer documents.

"Laser technology will be of great interest to the Hong Kong market," said Lam. "By cutting down on the huge volumes of paper generated by most banking operations, customers will be able to make substantial saving in storage space and expense. This is a vital consideration to companies here and in other regional centers where rents are high."

A cost benefit analysis for Archive/2 demonstrated payback to be less than two years in paper savings alone, Lam said. The system is already running on two sites in the UK and a further three are being implemented.

Each optical disk has a storage capacity of 940 MB, roughly the equivalent of a million pieces of A4 paper. At around US$150 for each disk, the cost is cheaper than more traditional methods of archiving. To store the same volume of paper, 142 rolls of microfilm or 1,900 pieces of microfiche would be required.

As an integral part of Equation, flexibility is a key element of the application. Access and retrieval of stored data is available through a WORM (write once, read many) optical disk reader, connected to a PC and printer, which may be local to the master optical disk system or remotely linked via a local area network.

Archived reports can be received via dumb terminals linked directly to the host AS/400 processor. These options will allow branch offices to retrieve reports held on the master system for printing locally or centrally, as dictated by security requirements, providing a common, global system.

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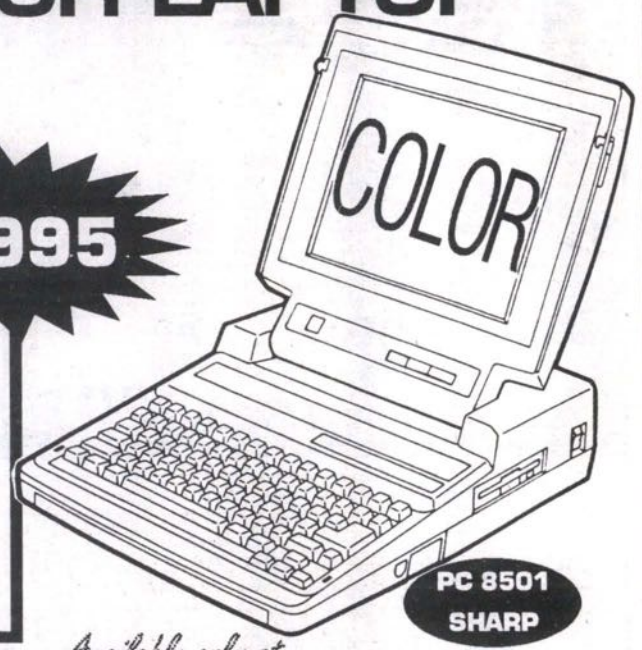

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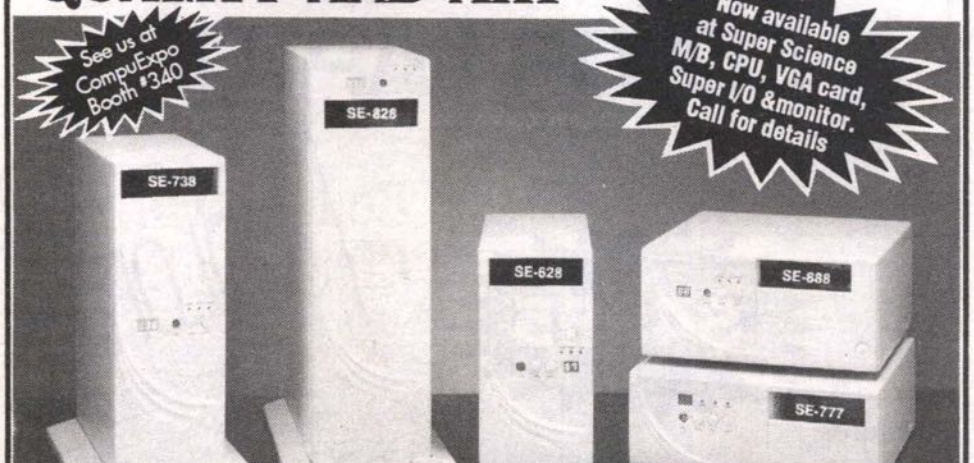

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SE-777	145×395×400	1.3	4.5	5.5	\	2		1	1		BABY	\	PS2	DESK TOP
SE-628	330×180×420	1.7	6.5	7.5	\	2		2	1		BABY	\	PS2	MINI TOWER
SE-738	490×170×400	2.6	10.0	11	\	3		2	3	\	\	\	PS2	MIDDLE TOWER
SE-828	620×190×405	3.7	13.8	15.3	\	5	1	2	3	\	\	\	BIG AT	BIG TOWER
SE-AT-29A	665×265×640	8.2	27.0	33.0		6	6			\	\		BIG AT	SUPER TOWER
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Mass Storage Battle:

Micro Drives vs. Flash Memory Cards

MOUNTAIN VIEW, CALIFORNIA, MAY 14 (NB)—The lower cost and increased storage capacity of flash memory cards is expected to give microdisk drive mass storage technology a run for its money. But a new study says the microdisk drives are expected to still dominate mass storage technology by a ratio of 2:3 by 1998.

Until recently, flash memory, or memory that can maintain the information stored in it even when the power source is off, was too small in storage capacity to be considered. However the new moves in increased storage for flash memory and miniaturization have brought credit-card sized flash memory cards into serious contention with microdisk drives.

Market Intelligence, in its recently released study, predicts both technologies will grow substantially from the $1 billion market in 1991 to more than $12 million by 1998.

Both Intel and AT&T have introduced flash memory devices for personal computers. While the Intel cards are less expensive they require a special interface and special software. The AT&T cards, however, boast the advantage of an standard IDE (Integrated Drive Electronics) hard disk interface, so they look to the computer just like a hard disk drive.

Flash memory currently has the advantage of being removeable, more rugged, more reliable, lighter, faster, and saves on power consumption, MI said. But the fact that it is more expensive and was only recently introduced will hold it back from dominance in the future as a standard technology, MI added.

MI says the price gap between flash memory and microdisk drives should narrow dramatically, which would make flash memory more attractive. But rumblings of advances in microdisk or spin-drives that are cheaper, more rugged, easy on power consumption, and as lightweight as flash memory cards will hurt flash memory in the race for dominance, MI added.

MI is predicting that flash memory cards will hold 40 percent of the combined total mass storage market by 1995. Even though the cards are more expensive now, specialized applications such as hardware for harsh industrial environments, supermarket point-of-sale terminals, medical monitoring, avionics, and digital camera are expected to be dominated by flash memory cards, MI said.

Microdisk drives 2.5-inches and smaller are now dominant in data collection devices like hand-held terminals and portable medical diagnostic equipment, according to MI. The smaller "form-factor" 1.8-inch and smaller drives are used for the smallest hand-held computers including palm-top, pen-based, and sub-notebook sizes, MI added. Even smaller 1.3 and 1-inch drives are expected by the mid 1990s, MI maintains.

Profit margins might be higher in flash memory, MI hinted. In the microdisk market the product life cycle is only 2 to 3 years as smaller drives are replaced for consumer demand by larger capacity drives. Further, profit margins are low due to the heavy competition, the company said.

Not a surprise, MI said the Japanese are likely to move into the U.S. market share in the '90s. Price competition is expected to increasingly move U.S. companies "off-shore" to the Far East to cut labor costs, MI added.

Mountain View, California based MI describes itself as specializing in research in high-technology markets. The company says it gets its information from interviews with marketing and technical experts in each market segment.

Contact: Amy Arnell, Market Intelligence, tel 415-961-9000, fax 415-961-5042.

Survey Claims Gov't Imaging Will Triple In Five Years

WASHINGTON, DC, MAR 31 (NB)—A recent survey by Vienna, Virginia-based Input, Inc., a market research firm which focuses on the needs of federal users, says that the federal government will increase its use of imaging software and hardware by nearly 30 percent each year for the next five years.

The present size of the federal imaging market is about $430 million, but the Input survey says that is going to grow to $1.42 billion per year by 1996.

Those numbers include a lot of items, but the vast bulk of imaging hardware and software will involve things like optical storage devices such as WORM (write-once, read-many) drives, rewritable drives, and CD-ROMs, as well as computers to manage the data, software to index, search, and retrieve data, and optical scanners attached to computers. Also included will be high-resolution monitors and graphics cards, and laser printers.

Swamped with paper, the federal government has striven for years to come up with viable storage systems which would eliminate both the bulk, and inefficiency, of paper storage of documents which range from memos to maps, diagrams, and even collections of images.

The FBI, IRS, and Postal Service are already making use of imaging systems and in the near future these agencies will increase the amount they spend on such systems, but other agencies will also move to this technology.

Nearly 70 percent of agencies now use either mainframe- or minicomputer-based image storage and retrieval systems, with about 20 percent using microcomputers to record and access images.

A survey last year by *Government Computer News* revealed that 42 percent of 211 responding federal, state, and local government agencies interested in imaging technology expect to have a system in place by 1994.

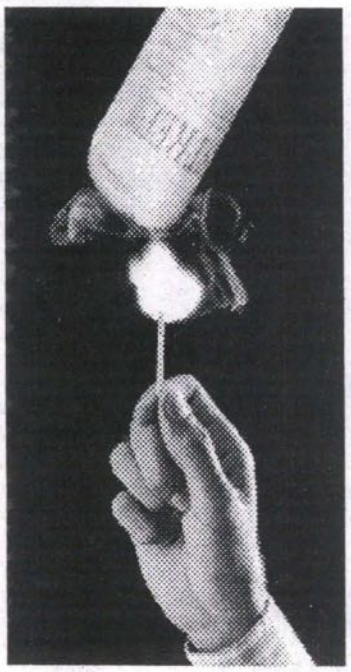
The most important reason cited for moving from paper to electronic storage is space savings.

Electronic Documents:

Are Paper Manuals Obsolete?

BY PETER TALBOT

Recently I was lured into accompanying a friend to a writing course in Toronto called "Designing Student Manuals." What I didn't know at the time was that the course wasn't really for writers at all. It was actually designed for performance artists who had teaching aspirations. The instructor's theory was that by combining their performance skills with reasonable writing abilities, the result would be instructional documents fit for an exhibit. But she got more than she bargained for.



One project was submitted on a floppy disk and contained detailed documentation on the use of computers and sound synthesizers in electronic music, complete with flow charts explaining how they communicated with one another using the MIDI system. As the musician writing the manual utilized a computer in his performances, and since anyone wanting to study this type of music would have to be computer-literate, the decision to submit the project in electronic (disk) form was perfectly natural.

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Continued on page 42

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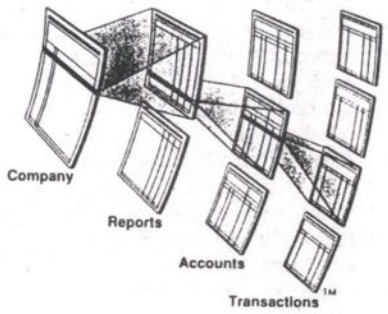

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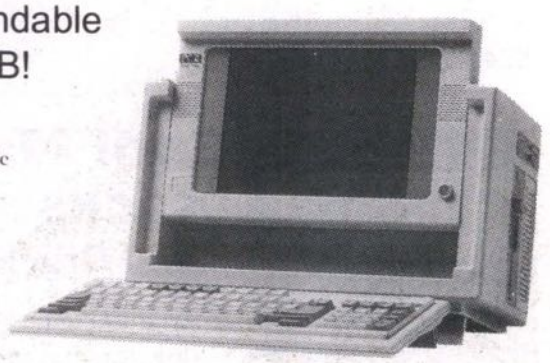

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Dealers Welcome

Continued from page 41

a performer, the author piqued his readers' curiosity in the more complicated chapters with humorous phrases such as "Bach the Electrician." Clicking a mouse pointer on the Bach icon or phrase immediately called up a graphic of the famous musician sporting a tool belt and holding a pair of linesman's pliers. The text that followed was equally interesting.

Apparently the instructor of the course was less impressed. She failed him for not producing a paper copy of the project.

Paper Copies Die Hard

As a guest in the course, I kept my opinions to myself. But I was glad to see the majority of the students in the class plead this person's case. Those of us new or unaccustomed to a computer environment often need some convincing that electronic documentation is just as valid as the hard-copy version. In fact, many computer professionals still place more credibility in something spelled out on paper than its electronic counterpart.

This is to be expected. Public relations specialists learned years ago that if you place a person in front of a set of bookshelves for a television interview, that person's credibility immediately rises in the eyes of many viewers. This is because most of us associate books with knowledge. The image of a person surrounded by hundreds of floppy disks just doesn't command the same respect, at least not yet.

But the idea that lack of paper means lack of information couldn't be further from the truth. Online documentation is big business, although the technology—and the way we use it—have a long way to go. Training manuals on diskette or mainframe systems offer many benefits, especially when we consider that the find/search facility available on most software virtually eliminates the frustration of looking for words or concepts. Unfortunately they also require some degree of computer literacy. And this is where the musician's manual hit a sour note.

...many computer professionals still place more credibility in something spelled out on paper than its electronic counterpart.

Some General Guidelines

Today there are electronic manuals on topics ranging from American Sign Language to foot care. Whether or not they succeed depends largely on the planning that goes into them; knowing that your manual is destined to be circulated electronically means a different approach is required in writing it. Expect some compromises, and remember that many of the rules that apply to paper manuals apply to online manuals as well:

1. **Consider Your Audience**
   Is your audience comfortable enough with computers (PC or mainframe), or will the idea intimidate them? Ease them into the new medium gradually. Be prepared for, and encourage, criticism.
2. **Consider Access**
   If you've already promoted the idea of a central location for office or system manuals, designate a terminal or PC as communal, for those who don't have their own.
3. **Pay Particular Attention To The Front End Of The System**
   An opening screen is like the cover of a book; if your readers don't like it, they won't open the book. If you're still unconvinced that "user-friendly" is a critical design feature, consider one viewer's description of a system's front end: he referred to it as a "Tylenol 3 Screen." You just know that's a user-hostile system.
4. **Avoid "Pixel Packing"**
   This is the electronic equivalent of not enough white space. A cluttered screen, like a cluttered page, is bound to scare off your readers.
5. **Consider The Format**
   Be prepared to edit/rewrite the document as the hard-copy format rarely works well in the electronic version.
6. **Be Sensitive To The Presentation**
   Remember that readers may not visualize the document on corporate letterhead, which may affect its credibility somewhat.

These last two points deserve special consideration. Traditionally the dream application tried to overcome the "database" look by imitating the physical appearance of a book. Today's high-end systems even go so far as to provide the user with an interactive touch screen that simulates the turning pages of a book.

More recently writers, rather than programmers, have become involved with the actual design of the systems and are abandoning this approach as impractical. Just as no one was comfortable with the simple textual approach of yesterday, no one today is fooled by the simulated book that appears on screen. Future online documents will probably be a hybrid of these two attempts, with increasing emphasis on graphics and cross-referencing.

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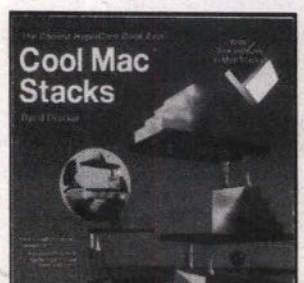

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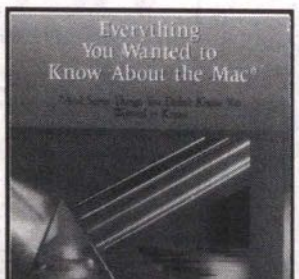

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Point Of Reference

This effort to look like a book does, however, illustrate a rather serious obstacle online documentation will have to overcome: point of reference. Most manuals, especially those that rely heavily on illustration, overwhelm us with reference points. Page numbers, scribbled users' notes, graphics and multi-colored tabs all serve to guide us through the manual without getting lost. When we find exactly what we are looking for, we often fold down the corner of the page—just in case. Floppy disks react rather poorly to this type of treatment.

Maintaining your point of reference in an electronic document can be a formidable task. Thankfully, writers sensitive to the problem are coming up with some creative solutions. Microsoft's Excel, for example, comes with a hypertext manual that includes a "Here-You-Are" map to tell the user exactly which topic he or she is in. From the map users can jump into any of twelve different chapters for specific information. The amount of information in this Excel "hypermanual" is relatively small, but the concept is interesting.

There is one advantage to this reference problem that technical writers can capitalize on. The next time you purchase a software package, for example, consider the reason the manufacturer produces a small "Getting Started" manual to accompany the large, detailed one: most people are impatient. After spending several hundred dollars on software, getting at the information relevant to their specific needs is very important. Documentation that outweighs *War and Peace* is far more likely to end up as a text holder than a user's guide. I can recall being in a software store once, and overhearing a fellow say, "Don't you have a simpler package? Look at the size of the instructions!"

Yet the majority of this information needs to be there. Certainly not on the first day, and probably not on the second. But eventually, as a user's proficiency improves, all those obscure little tricks become important. Fortunately electronic manuals look pretty much the same to the first-time user. There is no intimidation factor (due to size), and Find/Search commands rarely gasp for air after paging through all that material.

Ask The Reader

Despite the benefits, electronic manuals are still in their infancy. In many ways the situation is not unlike that surrounding the desktop publishing industry in the early '80s. People embraced the technology but lacked the experience to make it work effectively. Recognizing that these manuals are a different medium means adapting our skills as writers once again. And, as always, our readers will judge us best.

Watch for that look of confusion on their faces as they navigate through your help screens. It means that your job isn't done yet. Either that, or they're shocked to find out Bach was an electrician. ■

Peter Talbot **is an editor with the City of Calgary in the Data Processing Services Dept., and a freelance writer for several local magazines. Contact him at 403-268-5321.**

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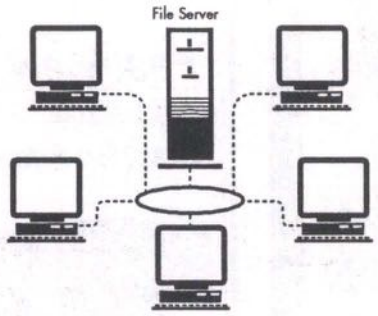

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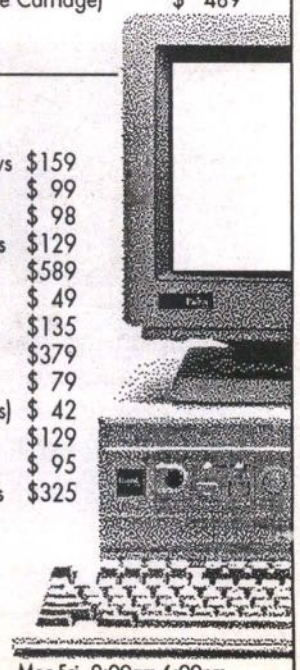

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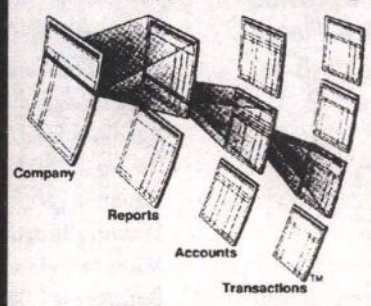

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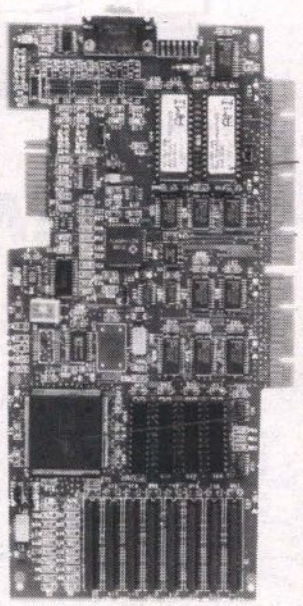

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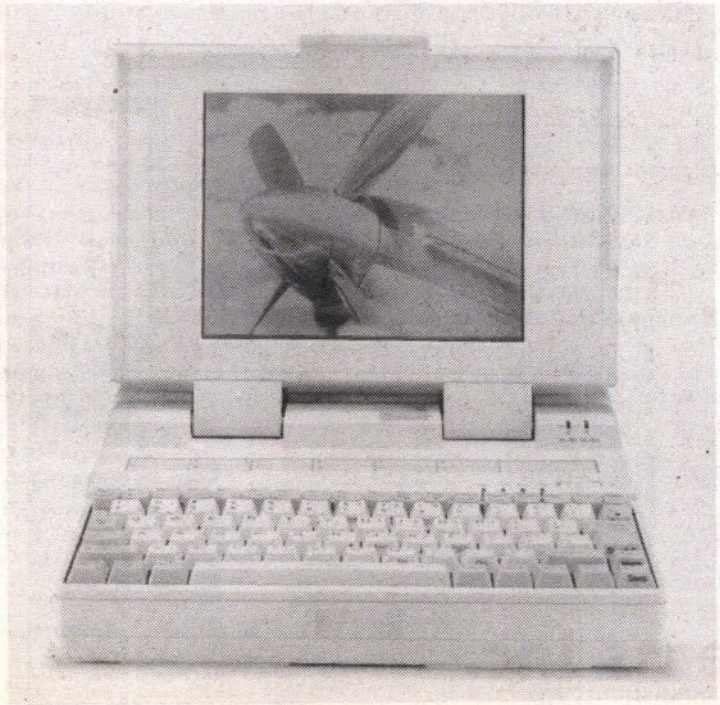

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How To Select A *Point-of-sale System*

BY TOM WATERS

There are a number of point-of-sale (POS) software systems on the market today. The vast majority manage inventory, customer, and transaction databases. This means that if a customer purchases an article of inventory, the computer automatically updates the inventory database by removing one item, updates the customer database with a record of what the customer has purchased, when they purchased it. It then records what they paid for it, updates the transaction database with total sales and payment type information to be transferred to the general ledger. Other transaction types such as layaways are handled in a similar manner, as are returns and voids.

Be prepared to make the right choice

To pick the right software package you must first be prepared. Preparing yourself can be a time-consuming, but eventually rewarding experience.

You may also want to consider the use of a consultant. There are many retail consultants who will sit with you, discuss your business, help you determine your needs, interview prospective software candidates, set up demonstrations, and make recommendations.

If you decide to do the job yourself, start by determining your needs. First consider whether there are industry factors that make your business unique.

What do you need?

If, for instance, you are in the softgoods industry, a size matrix is a requirement. Alternatively, you may be in the hardware business—where small-item tracking and weighed items become a factor. In the grocery business, interfaces to other hardware such as scales, gas pumps, and external displays become a must.

As well, the system must be able to accept UPCs (Universal Product Codes—the ubiquitous black bars you see printed on every manufactured product these days). In the gift business, meanwhile, you may want to sell items individually or as a set (such as cutlery or dishes). The term for this in computer software is assemblies.

Make room for the new system

Next, do you have the necessary space requirements? You then need to think about where you are going to put the system—the sales counter is a popular choice. When you've decided where you want it, you need to make sure there is room for a computer, monitor, keyboard, and full-size printer—or should smaller, more compact equipment be ordered? POS systems can be made to look and operate almost exactly like a cash register. You can save some money by accommodating the full-size computer—even if you have to hide it under the counter.

Do your have budget restraints? What can you afford? There is POS software on the market ranging from $149 to $3000 plus.

Accounting for your investment

Do you want an accounting-based system—or a POS system that can be linked to your present accounting system (or any of the other very good accounting systems that exist today)? Approximately half of the systems currently on the market were designed with the accountant in mind. Others were developed for sales clerks, but with the ability to compile information to be fed into a good accounting software package. If you are presently using an accounting package, why change? Changing to an accounting-based system would necessitate more expense retraining on the new accounting system as well as the POS package.

Do you carry accounts receivable? If so, it would be best to have at least this subledger account handled by the POS system for speed and ease of use.

Do you have layaways? This is a special feature, so if you do a lot of layaways, it should be a strong point in deciding which POS software to buy.

Check out the references and make sure that the technical support promised was given...ask about weaknesses, technical support, training and reliability.

Is it easy to use?

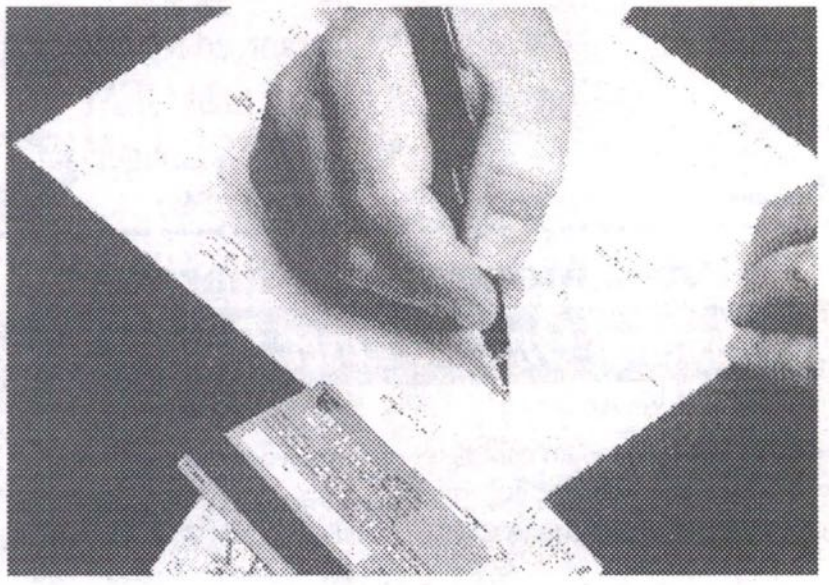
Ease of use is one of the most important factors to be pondered. Who is going to use the system? If the system will be operated by a sales clerk with little computer keyboard experience the system should accommodate that. The process of completing a sale should be so easy that a manual is not required.

Do you require the use of multiple terminals (registers) due to volume or departmentalization? If so, the system should be network compatible. Multiuser versions of software require the ability to lock the use of one customer or inventory item record on one terminal so that the same customer or inventory item cannot be updated at the same instant on the other terminal, thereby causing erroneous information to be saved to the database.

Is the system to be used by multiple stores reporting to a head office? This feature adds a magnitude of difficulty and probably requires the inclusion of telecommunications between operations to transfer data.

FIFO, LIFO and Revenue Canada

If one of the reasons you are considering a POS package is inventory control, contemplate the method of inventory valuation used by the system. The four most used methods are average cost, actual cost, LIFO (last in first out), and FIFO (first in first out). The only two methods acceptable to Revenue Canada presently are actual cost and fifo.



Another consideration with inventory is how easy it is to enter. Does the method of inventory entry require the typing of the same information over and over again? Does a new size matrix have to be designed with each new inventory item? The average retail user may have very little keyboard experience and as such the entry of inventory must be simple and accurate.

A good customer-management system can pay for itself over the short term. Ask if the system has some type of form-letter generator. Bulk mail-outs with the personal touch to your best customers are one way to compete with the big guys!

Don't be afraid to ask

Ask for demonstrations of the software. Be prepared to spend from two to four hours per demonstration to get a feel for the product. During the demo, try to determine whether you will have any trouble communicating with this vendor. Trouble at the first meeting could mean future problems.

Don't be afraid to ask other people in your industry what they are using. Ask them if they had it to do over again, would they still purchase the same software?

Does the vendor seem flexible? Can they accommodate the time constraints you may have in your business? Can they train after-hours or in slow periods? Do they seem willing to repeat training if refreshers are needed?

Can modifications be made to the software? If you run a gift business, a bridal registry program might be one of your main concerns. Will the vendor add this to your program or at least modify it to link to a third-party program?

Ask for references. Any reliable software vendor will have a list of references that may be called to verify the claims made by them.

Check out the references and make sure that the technical support promised was given and that all was delivered as contracted. Don't stop there—ask about weaknesses, technical support, training or reliability.

What is included? Does the system include training in the purchase price or is it additional? Some systems are sold with a minimal number of hours of training and then an hourly rate is charged for subsequent instruction. What is the technical support policy of the vendor? Is the technical support included for a limited time? What is the fee for subsequent technical support? What is included in the technical support fee? Is it only telephone support—or is fax and personal support given as well? How often is the program updated? Will program updates cost additional money?

You should consider buying the complete solution from one vendor. Although you may save money in the short term by buying your own equipment from a discount house, you will leave yourself open to arguments about whose fault a system failure may be! The hardware salesperson could claim the software is at fault and vice versa. If you buy both the hardware and software from the same vendor, they are responsible to make sure it operates correctly.

On-site service contracts are generally more expensive than standard arrangements. Consider whether the loss of your machine for a day or two will be disastrous.

Is the company established? How long has the company been in business? Remember when you ask this question that the IBM Personal Computer only came on the market in 1981. Ask if the company should become insolvent—or cease to support the product you are purchasing—whether there is some plan in place to maintain your system, or at the very least make the source code available so you can continue to support yourself. Some companies have their software in escrow for just such an event.

Selecting the right point-of-sale software and the right vendor can be a very hard decision. Correctly made, however, it will reap invaluable rewards for you and your business. Incorrectly made, it will cost you time, money, and confidence. ■

Tom Waters is a longtime vendor and developer of POS systems at Sand Dollar System Design in White Rock, British Columbia. He can be reached at (604) 538-4654.

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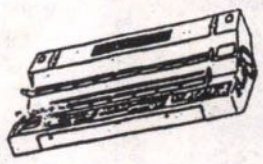

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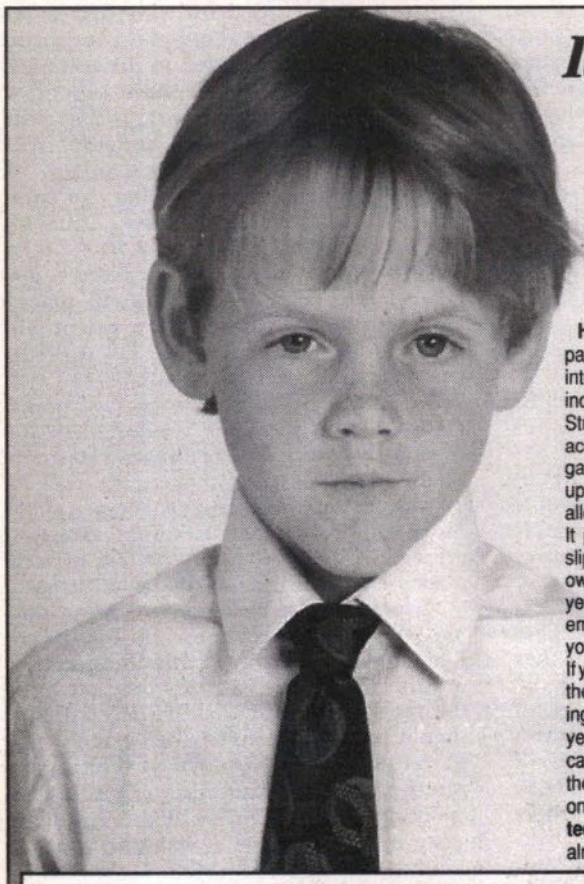

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Is the Mainframe Dying? Maybe Yes, Maybe No

CAMBRIDGE, MASSACHUSETTS, JUN 12 (NB)—"How much longer before the mainframe becomes obsolete?" asked a panel moderator at this week's "Software & Systems Outlook" conference—and the answers he got from software vendors ranged all the way from "Never" to "It's obsolete already."

Elaborating on his initial question, moderator Richard Sherlund, vice president of the Goldman Sachs, probed the panel: "Are the days of the mainframe numbered? How many years would you give it?"

One panelist responded with a question of his own, and answered it immediately. "Who in this room—or what MIS manager, anywhere —would buy a mainframe? I claim, 'Nobody,'" asserted Joseph Alsop, president of Progress Software.

"The economics of downsizing—either to a low-cost, high-performance VAX or to the client server layer—are so compelling that the only reason to have a mainframe is that you've already got the thing in the first place," remarked the top official of the relational database company.

But Umang Gupta, president and CEO of Gupta Technologies, gave a response diametrically opposed. "I take exception to the notion of the mainframe becoming obsolete," stated Gupta. Systems such as IBM's MVS mainframe stand a good chance of lasting at least another 20 years, because customers appreciate the high level of support being supplied by current mainframe vendors, he predicted.

And even when the current mainframes do die out, new computers with similar capabilities will arise to take their place, he added. Neither Gupta nor the other panelists brought up the name of the supercomputer. But Gupta did speculate that, in the future, there will be different gradations of servers—large ones for central records storage, and smaller ones at departmental levels—playing host to desktop clients.

Some large servers will be roughly equivalent to the mainframes of today, suggested Gupta, whose company builds applications, database servers, and connectivity software that runs on PC LANs in client/server as well as cooperative processing environments.

Dennis McEvoy, president and CEO of Cooperative Solutions, concurred with Gupta to some extent. "The MVS mainframe will stay around because of its capacity," said McEvoy, noting that "capacity" should be measured in terms of "the ability to manage large databases" as well as in number of MIPS.

Mainframe-equivalent capacity is still absent from LAN-based systems, although Unix will probably grow up to the same level eventually, said McEvoy.

According to McEvoy, most customers for Cooperative's client/server transaction processing software need mainframe solutions as well, since their applications tend to include databases requiring five gigabytes or more in storage.

Another speaker, Mitchell Kertzman, steered the middle course. Mainframes are still alive, but probably not forever, said Kertzman, president of PowerSoft, the maker of a client/server development environment for large commercial and government applications.

"Nobody's building new applications for the mainframe any more," commented Kertzman. As a result, the lifetime of a mainframe is being defined by the life-cycle of its applications, together with the cost of maintaining the hardware and software.

"Mainframes will be around for as long as the economics of keeping applications running on them makes sense," he concluded.

Survey Says People Like PCs, Especially Women

FREMONT, CALIFORNIA, JUN 17 (NB)—Logitech's newly released "PCs and People" survey says results show personal computers (PCs) are not something people are afraid of. In fact, Logitech says people like their PCs and women outnumber men 2 to 1 as PC users. The statistics appear geared toward promoting women PC users.

While Logitech admits most of the previous market research has shown 84 percent of PC users are men, it says its survey done by ADF Research of 300 computer users shows different figures. Serge Timacheff, of public relations for Logitech maintains the management information systems (MIS) people and those making the buying decisions are still mostly men, but the majority of computer users surveyed were women.

The report says PCs may be removing the "glass ceiling" or offering women parity with men in work situations, and also mentioned people are decorating their PCs and giving them names.

The survey, polling exclusively people who already use PCs, said three out of four people see PCs as work companions, 98 percent think of PCs as a valuable aid when it comes to getting work done, and four out of five said PCs are fun to use. "People don't harbor hidden desires to rid themselves of their PCs," the survey added.

Timacheff said Logitech did the survey in an effort to validate the company's direction for development and introduction of sensory devices for PCs. "We see the video input as the eyes, the trackball or mouse as the hands of the computer," Timacheff said.

Logitech also entered the dangerous and sensitive ground of differences between men and women PC users by saying the survey showed dramatic gender differences. The company's survey said men and women who use PCs equally share the responsibility for clerical and administrative functions, and women perceive greater utilitarian benefits from PCs while men tend to focus on touch-and-feel improvements. The survey also said 84 percent of the women think computers are fun, yet 44 percent of the women surveyed said they view computers as a necessary evil in business today.

On the other hand, the survey said men were more likely to use sensory type computer input products (like a mouse), more men than women wanted computers they could talk with, more men said they'd like computers that are a more natural or intuitive extension of their own senses, and more men than women thought PCs with further human ways of communicating would encourage greater numbers of people to use computers.

The survey was performed via telephone interviews with 301 computer users, 68 percent who were women. Companies were randomly selected by size (between 50 and 350 employees) and specific inclusion was made of branch offices of Fortune 1000 companies so there would be easier access to qualified respondents, according to ADF Research.

Logitech makes trackballs, hand scanners, and mice and is headquartered in Fremont, California.

REVIEW

Alfa Systems **Diskfax**

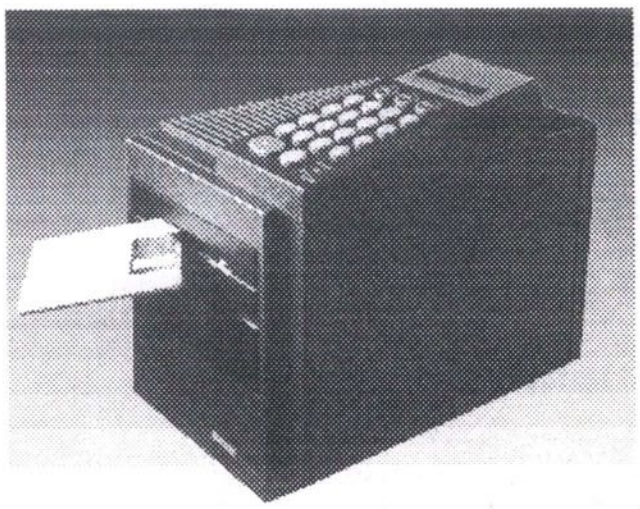
BY GEOF WHEELWRIGHT

Manufacturer: Alfa Systems
011-44-81-555-5022
Canadian Distributor: The Diverse Business Group 604-596-6088
Price: $3299 for floppy disk model
Storage: 3.5" 720K/1440K drive and 5.25" 360K/1200K drive,
20 MB hard disk option
Interfaces: Telephone line cord with plug,
Serial port for communication
Central processing unit: 8MHz 8088
Display: 2 x 16 character LCD
Diskette controller: PC/AT standard
Modem: Rockwell multi-standard FAX modem capable of half-duplex operation at 300, 2400, 4800, 7200 and 9600 baud

It seems like the fax machine is everywhere these days. Sending documents by phone saves a great deal of time and, for international information interchange, it is often essential. If a diagram in Japan is needed in Vancouver, faxing it across is the obvious answer. Unfortunately, though, it isn't always this easy when dealing with other types of information.

If you opt for using one of the many "remote control" packages available these days—such as PC Anywhere III for PC-compatibles and Carbon Copy or Timbuktu Remote on the Mac—you need to keep the remote control package running all the time and really dedicate that PC and modem to the job. You also need to ensure that whomever you are sending your data to at the other end has the same remote control package, has enough disk space for the files you are sending and so on. In short, PC-based file transfer over the telephone line can be cumbersome, complicated and expensive.

Alfa Systems' Diskfax offers an intriguing alternative to direct transfer or e-mail. Rather than forcing you to set aside a PC at either end for the job, Diskfax incorporates disk drive controller, modem and communications software as a single device. Instead of paper, it uses disks and will transmit the contents of a disk to another via Diskfax by telephone. The receiving device contains a blank floppy or internal hard disk—and makes an instantly usable copy. All Diskfaxes use the same software and can communicate at identical speeds.



Alfa Systems' Diskfax hopes to do for remote file transferring what the paper fax machine has done for paper-based remote communications.

Hardware

At first glance, the Diskfax looks like a tall fax machine—with a matt grey finish and a series of simple plastic buttons on the top. Measuring 239mm tall by 198mm wide by 298mm deep, it resembles an external disk drive unit, but has a large, colored, keypad stuck to the top.

The front of the unit sports two floppy disk drives—both 3-inch and 5-inch types are fitted as standard. The mechanics of these drives are the same as those found in PCs and offer 1.44 and 1.2 MB capacity, respectively.

These drives are controlled by a standard IBM PC AT-style disk controller—and the whole Diskfax unit itself is run on a good old 8 MHz Intel 8088 processor. The hard disk model features an IBM XT-compatible hard disk controller and both versions of the product employ the Z8530 dual serial communications channel—with one channel used for control over the modem and the other for the serial port.The serial port is wired so that it can be used with a printer.

The rear of the unit is a bit more intriguing, with a 9-pin serial port and an auxiliary socket. The former can be used to talk to PCs, while the latter allows connection to a telephone or fax. Using special "companion" software, several PCs can share a single Diskfax over a network and send files to a remote Diskfax without leaving their desks. The keypad is by far the most interesting part, though, with 21 buttons and three LEDs. It also houses a 2x16 character LCD screen, used to display prompts and information. The actual keys are set in a rectangle, with numeric in the middle and functions outside. Starting from the top the first is Send, used, naturally enough, when sending information.

Pressing this and inserting a disk causes the Diskfax to examine its contents, after which it prompts you to dial. Numbers are entered via the keypad and once this is done, the rest is automatic. Next in line is a button marked Receive, which also has an obvious job. Striking it sets the machine to receive data, and this is the default mode on power up.

Continued on page 48

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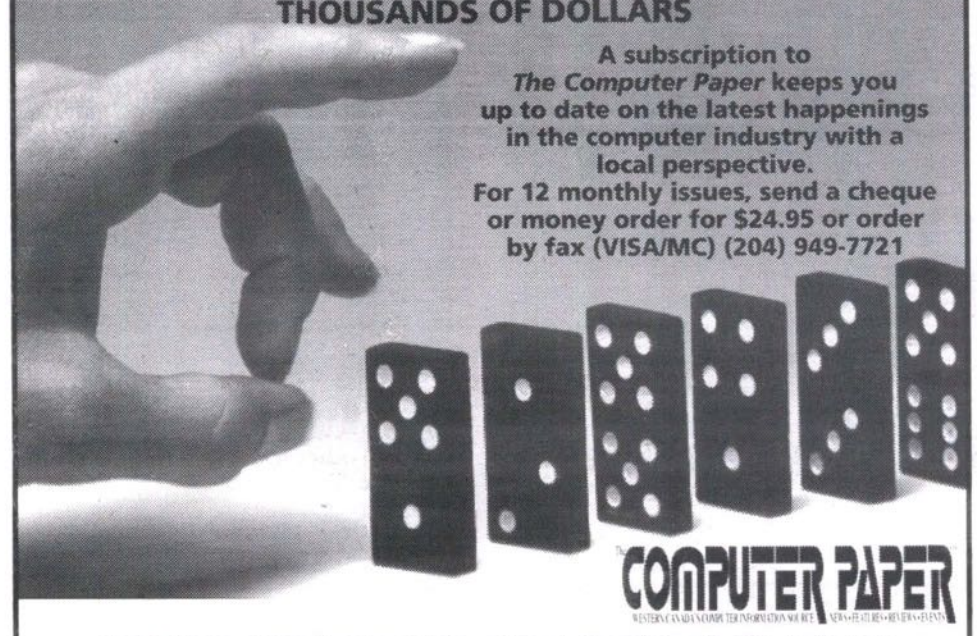

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ABERDEEN CENTRE MALL

Continued from page 47

Last in the top row is Unload. Used in conjunction with an internal hard disk, it copies any stored messages to a floppy disk. The hard disk model contains a 20MB device, capable of holding a great deal of data. The cheapest Diskfax model is a floppy disk only version.

The Diskfax holds out the hope of vastly broadening the number of potential users of PC-based data communications.

Who needs it?

Interesting question. The answer is probably people in large companies who could send data around branches of their company without having to set up complex e-mail systems and WANs.

It would also be useful for international trade and for companies with lots of PCs, but few modems to send information in original format to each other. The Diskfax offers the potential of becoming a given department's data communications outlet—thereby eliminating the need to buy individual modems for lots of PCs.

In addition, it could replace the need for expensive multi-page faxes. Sending a 30-page fax in the conventional manner can take up to half an hour. "Diskfaxing" the word-processed file containing that same 30 pages of information would take you less than a minute—a huge potential savings for those who send lots of computer-generated faxes to people capable of reading the same document on-screen.

Typesetters could welcome it too, as some of them accept PostScript files via modem—and the 9600 baud transmission speed of the Diskfax makes this attractive.

Pricing

The price of the Diskfax is its biggest problem, although North American distributors The Diverse Business Group promise that prices will drop as volume increases. You will currently pay $3299 for the basic floppy-disk version and several hundred dollars more for the hard disk model.

These prices are comparable to what you would expect to pay for a high-end fax machine and they are also almost exactly what you would have to pay for a copy of PC Anywhere III, a 9600-baud modem and a good 386SX PC.

Alfa Systems, developers of the Diskfax, claim price is not a problem. Diskfax is without doubt more convenient and easier to use than a dedicated PC tucked away in a corner running a remote-access package. And there are significant cost savings to be made by not having to waste valuable company resources on establishing PC-based communications systems in your company or by sending long faxes and racking up long-distance charges.

The best thing about high pricing, however, is that it's often one of the simplest elements of the package to fix. No redesign is required—just some long hours slaving over a spreadsheet to figure out whether increased volumes will make up for loss of potential profit on the current high price.

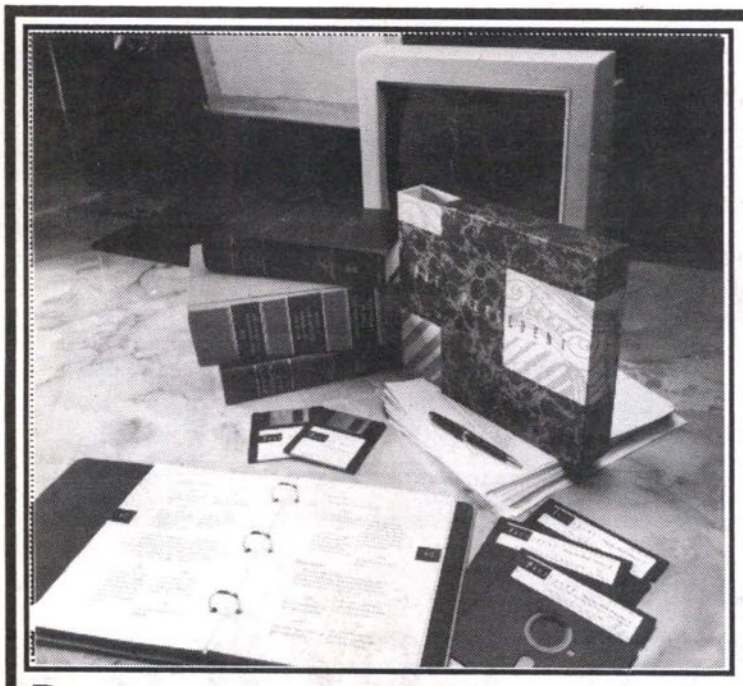
And the company is willing to lease the machines for around $100 a month. So if you save at least that in telephone costs by being able to Diskfax your long documents instead of faxing them, then it may be worth using a Diskfax now, rather than waiting for the price to drop. I could also see strong arguments in favor of using Diskfax in corporate environments where secure fax and simple data-transfer systems are essential.

Conclusion

The Diskfax is an interesting concept and holds out the hope of vastly broadening the number of potential users of PC-based data communications. If it succeeds, it could do for the computer world what fax machines have done for the document-processing world. That's a tall order, but Alfa Systems has made a good start and now needs to follow through with adjustments to the price.

If you need a simple and relatively fast way of transferring files from point to point, then Diskfax is worth a look—just be aware that, at least for the moment, you will pay a premium for doing so. ■

"According to the voice-stress analyser, he's **not** going to lower taxes."



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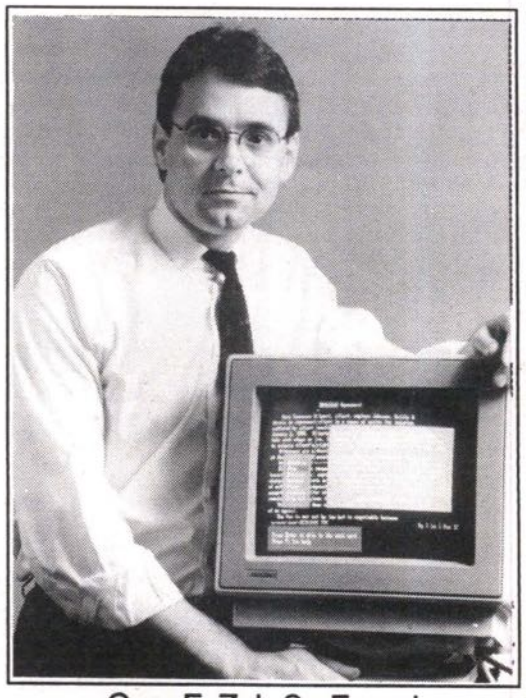

Gary F. Zak-Co Founder

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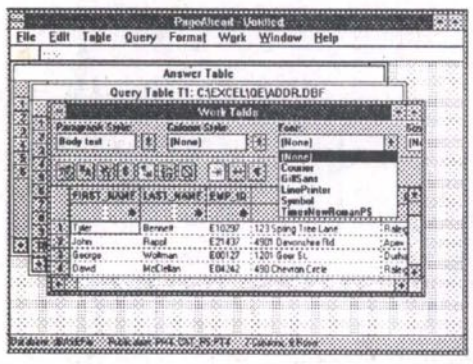
R E V I E W

Aldus PageAhead

Database extension for PageMaker 4.0

BY GEOF WHEELWRIGHT

Publisher: Aldus Corporation
Distributor: Aldus, 411 First Avenue South, Seattle, Washington, 98104-2871 Phone: (206) 628-2320
Minimum hardware requirement: 286, 386 or 486-based PC capable of running Windows (at least 386SX) 2 MB of RAM (4 MB recommended), 20 MB hard disk (40 MB recommended), mouse
Minimum software requirements: MS-DOS 3.1, Windows 3.0
List price: $199 (US) or $995 when purchased with PageMaker 4 for Windows



Database publishing has always been something of a poor relation to desktop publishing. Yet there is actually a huge potential market for database publishing.

Producers of catalogues, telephone directories, product directories and direct mail marketing campaigns can all make real use of database publishing technology—but few of the producers of database publishing products have so far had much success in marketing them.

It should thus come as no surprise that the major players in the desktop publishing industry have now taken up the challenge by securing marketing rights for database publishing products to run alongside their own DTP offerings.

In the case of market leader Aldus Corporation, the company recently acquired the worldwide publishing and marketing rights to the Windows-based PageAhead desktop publishing product—originally developed and marketed by PageAhead Software of Seattle.

PageAhead allows you to query, retrieve and format data from ASCII and dBase files and arrange them in such a way that they can then easily be placed into PageMaker 4 for Windows. Within PageAhead, you can sort the data in the database, combine data from multiple database tables and create "calculated fields" from the data.

Using PageAhead

You start PageAhead as a separate application, rather than from within PageMaker. It has its own icon on the Windows desktop and operates entirely independently (which is fair enough, given that until recently it was sold separately from PageMaker).

You then have to tell PageAhead a few things about your work—starting with the type of database file (dBASE or ASCII are the only two formats on offer), the "target" PageMaker publication into which the database information will be placed and (if Windows hasn't aleady selected one for you), the target printer.

Then things start to get interesting. One of the first things you are likely to want to do is load up the database file (or files) containing the data you want to publish. To do that, you go to the Query menu and select the option to Create Query Table.

There are two modes you can use in preparing your query—either SQL (Structured Query Language) or QBE (Query By Example). For almost anyone except an SQL expert, the QBE system is likely to be by far the easiest.

Once you have selected Query By Example, you then need to select a database on which to carry out the query. If your default database type is dBase, PageAhead will show you a file list of all .DBF files from which you can choose to create your queries.

PageAhead then brings up a spreadsheet-style grid on the screen, with the name for each field in the database becoming the name of each column and the record in the database running from left to right across the screen.

If you want all the records in the database to be included in the final, database-published document, you can then just use the Query Now command—and PageAhead will go and retrieve all the data from the database. A more likely scenario, however, is that you will want to publish only some fields—such as names and addresses.

To select those, you tell PageAhead which fields you *don't* want to include in the final report by clicking on the tick-box beside the name of that field at the top of its column (e.g., to exclude the field Employee's Salary from the report, you click on the tick-box to the left of this field title).

Once again, the command Query Now will go off and create a table yielding those results. In fact, it creates two tables—an Answer Table showing the results of your query and a Work Table showing the same results, but allowing you to work on the appearance and formatting of the data while looking at them.

Within the work table, you can sort the data, change the fonts and typestyles used, adjust column widths and carry out all the same kinds of format adjustments you

Continued on page 56

UK Survey Shows Fax Usage And Costs Increasing

ARLOW, ESSEX, ENGLAND, JUN 16 (NB) — According to a survey from Gallup, usage of fax machines is skyrocketing. However, perhaps more worryingly, is that the survey indicates that the growth is being paralleled by a massive increase in costs, which Gallup claims is out of control.

The survey, carried out on behalf of Pitney Bowes' fax division, reveals that 31 percent of users have increased their usage of fax machines on the past year, despite the recession. Ninety-one percent of users believe that fax machines help increase their productivity.

The survey, which covered the Financial Times top 500 companies in the UK, showed that regular fax users in the US and UK now send an average of 40 documents a day, with UK users topping the league with an average of 61 documents a day.

Interestingly, almost half of the major users of fax machines are now using plain paper rather than expensive and "curly" thermal paper. Additionally, while only 29 percent of those who use a thermal paper machine said they wished they had plain paper, 59 percent said they needed to make copies of their thermal paper faxes for filing purposes all or some of the time. This is because thermal fax paper fades after a few months.

Meredith Fischer, vice president of marketing for Pitney Bowes fax division, said he believes that some of the findings will surprise senior management.

"While fax usage has increased considerably over the past 12 months, operational costs are not being controlled, given that the technology to do this is readily available, often on machines already installed. Thermal paper, for example, is relatively expensive, tends to fade and has to be copied if it needs to be kept. At 1.7 pence per copy, for paper and toner, that can add more than UKP 950 a year per machine," he said.

Perhaps more worryingly, only 20 percent of UK users said that their company had guidelines on fax usage, compared to 28 percent in the US and 32 percent in Canada. Only four percent of UK users had had any formal training on fax machine usage.

Fischer said that he knew that fax volumes were increasing, but the Gallup figures were beyond what anyone had expected. He also said that companies seem to be missing an opportunity to cut costs using the features of the latest fax machines.

"In many cases, for example, if they upgraded their fax networks with new 14.4 kilobits per second modem plain paper fax machines, the savings in transmission charges and supplies costs could actually pay for the machine," he said.

It also seems that fax machine users waste a lot of money on telephone charges. Only six percent of UK users said they used cheap rate phone periods to send their faxes — most of the latest fax machines can be programmed to send faxes during off-peak times, Newsbytes notes.

The overall theme of the report is that users are gaining an awareness of what fax machines are capable of, but that they are unaware of what fax machines cost to use.

Contact: Pitney Bowes, Tel: 0279-426731

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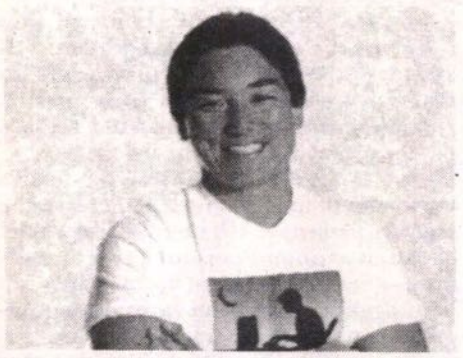
BOOK REVIEW

Database 101

A book by Guy Kawasaki

REVIEWED FOR NEWSBYTES BY NAOR WALLACH

Review of: Database 101, a book by Guy Kawasaki
Publisher: Peachpit Press, 2414 Sixth St., Berkeley, CA 94710 (510) 548-4393
Price: $18.95
PUMA Rating: 3.75 (on a scale of 1=lowest to 4=highest)
Summary: A book that purports to teach you the fundamentals of databases in an easy to learn format. Succeeds admirably, primarily due to the skills of the author, Guy Kawasaki.



Database 101 is a book that was written by Guy Kawasaki to serve as a very introductory tutorial to the art of database design and use on microcomputers. Guy Kawasaki is well-known to fans of Apple's Macintosh computer as the original Apple evangelist. After that, he resigned from Apple and assisted in starting a company called ACIUS whose flagship product—4th Dimension—is a multiuser relational database. In this book, Guy attempts to educate the masses of people who may be put off by the database guru's jargon in understanding at least a smattering of what is commonly discussed.

True to his roots, this book takes on a very breezy style right from the beginning. There are 154 pages in the book. Ordinarily, that might seem like a chunk of reading. However, I found that it took me about 3 hours to go through the book, cover to cover. The book's pages are divided into 16 chapters plus a Preface, Forward, Conclusion, and 2 appendices. Each chapter begins with a "cover page" that contains its name, the key concepts enclosed within it, and a quote (which may or may not have anything to do with the contents). At the end of each chapter there is a summary section and a "quiz."

Throughout the text of the chapter itself, you will notice that text comprises about three fifths of the page. The rest is given over to white space (presumably for writing notes?) and the constant gray square design that appears to be a stylistic theme of the book. Each chapter is also liberally strewn with cartoon graphics that attempt to apply humor to the discussion in the text.

As to the use of humor, be forewarned. Guy Kawasaki is known in the Macintosh world for his sometimes wacky humor. It is one of the features that endeared him to millions of Macintosh fans. In this book, he lets that notorious humor loose. There are many jokes and double entendres throughout the text that tend to enliven it considerably. This is particularly so in the aforementioned "quizzes." All of the quizzes employ a multiple guess answer. It is normally impossible to guess wrong. Here is a sample: "Merging is: (a) the process of entering a freeway; (b) an analog act to continue the human race; (c) combining data from different sources; (d) a Wall Street practice of combining two thriving companies to form a third that is less profitable."

To help in understanding the concepts presented, and to follow some of the examples that Guy gives, there are two demo versions of Macintosh databases included in a

Continued on page 52

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If you've never used a modem, you probably won't want to read this article—flip the page while you still can. Too late! Like so many others, you'll soon be engulfed in that shadowy world between nightfall and daybreak—a place where time and distance lose all meaning; a place known only as...

THE TELECOM ZONE

BY GRAEME BENNETT

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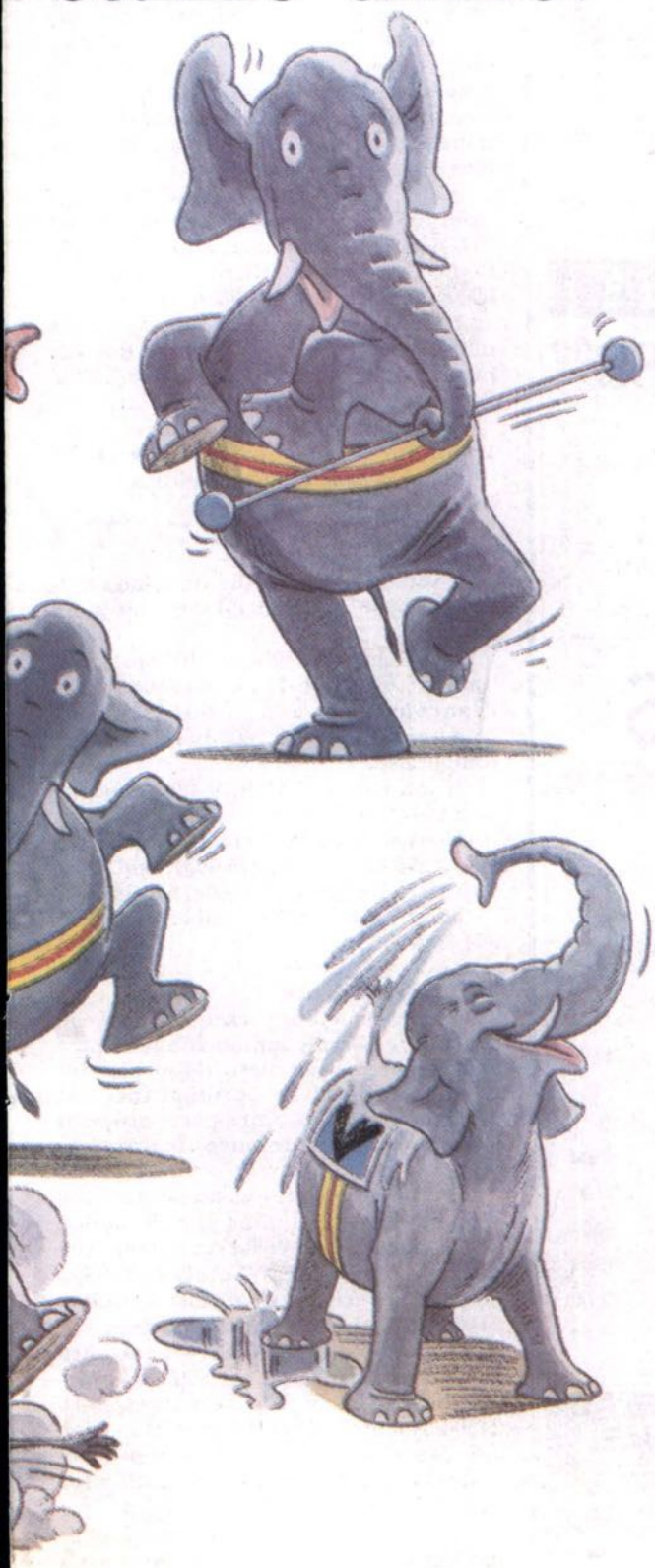

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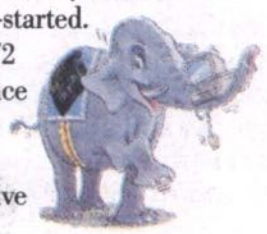

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Speed Zones

As every Zoner knows, modems come in a variety of speeds, from 300 bits per second (bps) to...well, how much do you want to spend?

Note that "bps" is sometimes incorrectly used synonymously with the word "baud." Because it is possible that certain modems may send more bits per second than the baud number they are rated at, it is clear that the terms are not always the same. We explained this complex topic in depth in the April 1991 and March 1992 issues of *The Computer Paper*.

Today's 9600- and 14,400-"baud" modems can, under ideal circumstances, reach data transfer rates of up to four times that rate using various data-compression and error-correction techniques. (V.32bis and V.42bis are only two of a plethora of strangely named standards.)

Like nearly everything else in the world of computers, prices are dropping steadily. Whereas in the early eighties, a 300-bps modem would set you back a couple of hundred dollars, today you can get a 2400-bps unit (with a sendfax option, if you shop around!) for half that price.

I recommend against getting any modem slower than 2400 bps when units of this speed or greater can now be had so inexpensively. Recently, 9600- and 14,400-bps modems have begun to drop in price, with several brands now resting comfortably below the $600 mark. When connected to another modem that supports the V.42b standard, these units can sustain data throughput rates as high as 57,600 bps. Zonin'!

High-speed modems from Practical Peripherals, Supra, Everex, U.S. Robotics and ATI are also highly regarded units. Prices range from about $500 to $800 and occasionally higher. External models tend to cost more than internal ones which plug into a PC slot. I prefer external models for their portability and front-panel displays of status lights.

If time is money, you might consider one of these internal or external units as a relatively better investment than the slower models. Even if you only venture into The Telecom Zone as a hobby, you can never, as Zoners say, have too much speed.

High Speed Not Yet the Standard

Despite the wonderfulness of having a hot-rod modem, you must have high-speed access numbers to dial to make it all worthwhile. There is little point to having a fast modem if you are connecting to a slow modem, because, just like spouses, the two units must communicate at the same rate. Thus, you should determine what telecommunications services you plan to use in order to decide which modem is ideal. (Remember, though, that fast modems can slow down to talk to slow modems—you just don't want them to.)

Generally, the best models are those with V.32bis/V.42bis compatibility. These are the fastest and most versatile units currently available.

Continued on page 52

Continued from page 50

disk that comes bound to the back cover of the book. The two are TouchBASE and FileMaker Pro (a Windows version of FileMaker Pro has recently been announced—*Ed*). Guy frequently refers to them as good examples of what your first database should be like since he considers them as just that: first databases that you will likely outgrow. Since he explains that you will be most likely dissatisfied with your first purchase, here's an opportunity to try these packages out before you plunk down some serious cash for a product.

The biggest question of all is whether Guy Kawasaki succeeds in explaining things well or not. And whether it is worthwhile spending the money for the book. My response is that it depends. If you are a complete computer neophyte who, quite naturally, are somewhat taken aback by the terminology and the technology, then this book is quite appropriate to your needs. It certainly does not assume that you know much of anything. If, on the other hand, you are somewhat computer knowledgable, and have dabbled in other programs, then the book's main intent would be to fill in some gaps in the database area. In such a case, it is still a worthwhile investment. However, if you've dabbled in databases to almost any extent, then the book's main appeal lies in reading Guy's writing. There is hardly anything in the text that you will not have already known.

As to the book's title, I find that what it covers would most likely fill one or two sessions of a university curriculum, hardly enough to justify even the "101" label. However, the name is perfectly acceptable and accurate in its intended marketing role.

Rating

PERFORMANCE: 4 This book is not turgid. I found myself laughing out loud several times. All of which were experiences that helped me in getting the most out of this book.

USEFULNESS: 4 I am assuming that the most likely audience for this book is the database neophyte. For you, this book is a godsend.

MANUAL: 4 The book has a great layout. There are a ton of graphics that are well done. And, I was only able to detect one typo in the whole book and that was in an illustration!

AVAILABILITY: 3 Peachpit Press is not one of the better known publishers, and therefore my local bookstore did not carry any of their titles. That is a shame. If they keep up with their current quality and breadth of titles, that is sure to change. For now, however, it took some digging to find the book. ■

Contact: Suzanne Ludlum,
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Telecom Zone *Continued from page 51*

I was disappointed that neither CompuServe nor America Online have local support for 9600-bps lines, although both support lower speeds. In a recent online editorial, the president of America Online promised 9600-bps access during the next twelve months. Call America Online, (voice) 703-448-8700 or 800-827-6364 for details.

CompuServe does have 9600-bps access from some areas, but not B.C. You can, however, get 9600-bps access from the U.S. by dialing 800-331-7166. An increasing number of Canadian businesses are using links to U.S. phone services like CamNet to take advantage of that country's much lower phone rates. For about $0.30 a minute, you can access U.S.-only 800 numbers via a CamNet line.

You can also get a list of 9600-bps CompuServe numbers by typing GO PHONES in CompuServe or by calling CompuServe customer support at (voice) 1-800-848-8199 or 614-457-8650.

GEnie does have a local 9600-bps access number. It is 604/683-6201. Note that this number differs from GEnie's 300/1200/2400-bps line at 604/683-6992.

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Mind Link has 300- to 2400-bps access lines at 604/576-1214, 604/685-1214 (Vancouver) and 604/856-3231 (Aldergrove). Above 2400-bps, things get complicated.

If you have a V.32bis, V.42bis modem, dial: 604/576-1683.

Users with an HST modem should call 604/576-6357 or 604/275-9081, and those with a Telebit Trailblazer: 604/576-9867.

Mind Link's office number is: (voice) 604/534-5663.

Portable Modems

There are numerous pocket-sized modems available, especially appropriate for laptop and notebook computers. (Most portable computers have an optional internal modem, but often, third-party products have better performance, features or prices).

Several companies make pocket-sized V.32 modems, including U.S. Robotics, which makes the WorldPort 9600. The company also makes WorldPort 2496, a portable fax/data modem, and WorldPort 2400/MNP, a portable MNP-5 modem.

Macronix (408/453-8088; we published an incorrect number in our Sept. '91 issue) makes the MaxLite portable modem, a tiny 2400-bps unit with MNP-7 error correction and data compression and 9600-bps send-and-receive fax capabilities. Listing for US$499, it comes with either PC or Mac software and cables. 9600- and 14.4-bps models were announced at this year's spring Comdex. ■

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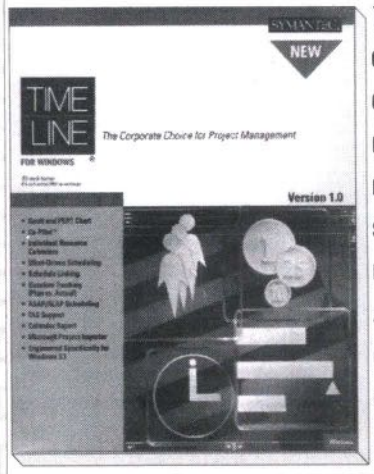

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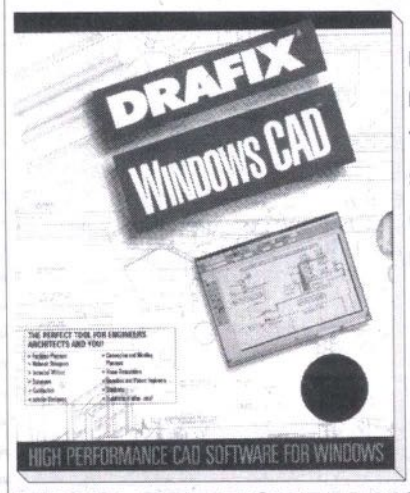

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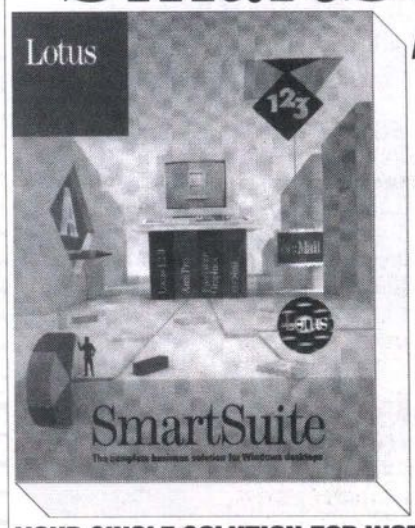

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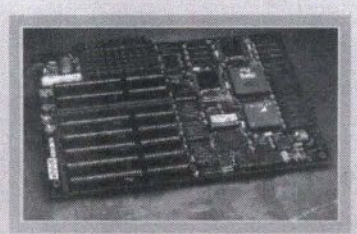

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Clock Doubling

BY GEOF WHEELWRIGHT

Life at Intel—the world's largest maker of personal computer processors—has become increasingly frenetic lately.

The company has moved into the networking market, has become a major mover and shaker in the design of handheld computers that use its "flash" memory technology and has kept the whole PC market guessing about what might be the impact of its upcoming 80586 (code-named 'P5') top-end microprocessor.

What has perhaps not had as much attention as all these events is Intel's commitments to a couple of "peripheral" areas to its mainstream desktop computer processor business. The first is Intel's pioneering work on "clock-doubling" technology—a basic explanation of which follows.

The idea behind clock-doubling is that the processor works in partnership with the system bus on the motherboard of the computer to achieve maximum system performance.

On older, 80386-based systems a 25 MHz 80386 chip is typically using some 75 per cent of the "bus bandwidth" available on the motherboard of your PC. Using any silicon technology to crank up the clock speed of the processor would overload the bus bandwidth. On a typical 25 MHz 80486 system, however, the chip is only using half the bus bandwidth available to achieve its performance. The lower demand on bus bandwidth is made possible by the inherent design of the 486—with its on-chip memory cache, built-in floating point co-processor, its "fast burst" bus, and a larger instruction "pre-fetch" queue so that commonly requested processor instructions are more easily available.

By building a clock doubler onto the motherboard of the machine, the effective clock speed of the processor is doubled by increasing bus bandwidth utilization to around 90 percent—without requiring any "external handshakes" for the system to concern itself with.

If all that sounds like technological mumbo-jumbo, the implications of it are not. Intel's aforementioned recent demonstration of it used an otherwise unremarkable Everex Tempo desktop PC with an 80486SX processor running at 20 MHz.

Three different tests were run on the machine. The first was a Microsoft Windows 3.0 applications test—which involved opening, running and closing a number of Windows documents in Excel and Microsoft Word for Windows, conducting a complex search-and-replace on the WP document, recalculations on a large spreadsheet and creation of business graphics. Without the clock doubler, the Everex machine carried out all these tasks in 96.78 seconds. Once the clock doubler was installed, that time reduced to only 65.58 seconds.

The second test involved using Omnipage's optical character recognition software on a previously scanned document saved as a .PCX file. Even when running at 20 MHz, the standard Everex Tempo zipped through the OCR process in a mere 19 seconds—but when the clock doubler was added, that figure improved to only 10 seconds.

Both of these tests, however, slightly skewed the effect of the clock doubler because they were both fairly disk intensive—and clock doubling technology does nothing to improve hard disk access times. So the final test conducted was a standard Norton Utilities processor benchmark. When running this test, the machine showed almost a "textbook" doubling of performance—from a rating of 43.4 without the clock doubler to 86.6 once it was installed.

By offering a single chip upgrade to processor performance, today's 486SX-based systems can sell cheaply, provide all the performance most people need at the moment—but when they start to lag behind, the installation of a clock doubler in the upgrade socket provids a "mid-life kicker" to these systems.

This upgrade technology is now on offer for all of the current variants of 486SX processors (running at 16, 20 and 25 MHz) and for both the 25 and 33 MHz 486DX processors. This will mean that you can now get a 33 MHz 486 to run at a blistering 66 MHz with the installation of a single extra chip.

You can now get a 33 MHz 486 to run at a blistering 66 MHz with the installation of a single extra chip.

Portable Power

Putting more power on the desktop, however, is not the only focus in Intel's chip labs. The company has over the past couple of

Continued on page 56

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Clock Doubling: How it Works

BY GEOF WHEELWRIGHT

Clock-doubling technology is exactly what it sounds like—technology which allows Intel to use an add-on chip to double the clock speed (and thus the processor-based performance) of any computer that uses an Intel 80486SX or 80486DX processor.

It works like this: a spare chip socket is designed onto the main board of new high-performance personal computer systems—a socket designed specifically to allow users to install a clock-doubling chip. The idea behind clock-doubling technology is that the processor works in partnership with the components on the main board of the computer to achieve maximum system performance.

By building this upgrade onto the main board of the machine, the effective clock speed of the processor is doubled—depending on how it is used. In a recent demonstration for the press of the kinds of performance improvements this technology offers Intel showed a deskop PC running a series of normal business-computer applications at improved performance rates of between 33 to 100 per cent.

Intel's idea about what this technology should be used for is not what you might imagine. It doesn't want every computer manufacturer to go out and immediately equip all their PCs with clock doublers. Instead, the clock-doubling technology is supposed to overcome the problem of obsolescence which faces PC users all too often.

Anybody who bought, for example, a 12 MHz 80286-based PC in 1987 will have had to face that many times over in the past few years—as the need for more RAM, higher processor speeds and better disk access times all put demands on their system that it could not meet. By offering a single-chip upgrade to processor performance, today's 486SX-based systems can sell cheaply, provide all the performance most people need at the moment—but when they start to lag behind, the installation of a clock doubler in the upgrade socket provides a mid-life kicker to these systems.

Intel says it expects the street price for the clock doublers to settle at around $500 US by the end of 1992, making it no more expensive than a word-processing or spreadsheet package. ■

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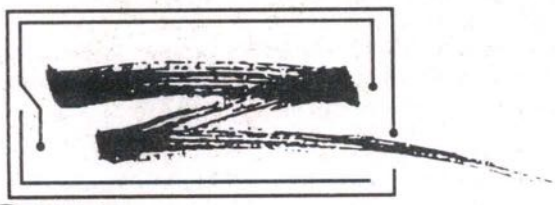

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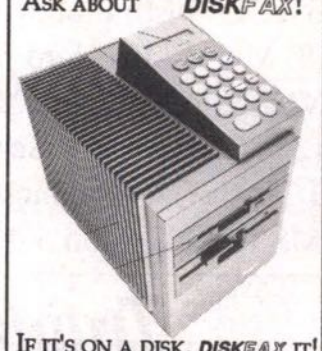

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Clock Doubling *continued from page 54*

years realized that there is a great deal of money to be made in the notebook portable computer sector—probably the fastest-growing in the PC hardware industry.

To meet the demands of that sector, it developed the 386SL—a low-powered, custom-designed version of its 80386 processor that combines high performance with low power consumption. While it is not yet by any means the standard offering in most notebook computers, the design of the SL makes so much sense that it really does point the way ahead for portable computer development.

The 386SL was first introduced in late 1990 and by the time of Fall Comdex '91 last November, some 46 companies were announcing new notebook computer products based on the chip—some of them claiming up to eight hours of battery life. The reason for this fast take-up is that it is priced and designed to take away much of the headache of portable computer design from manufacturers—while at the same time establish a number of important hardware standards.

Systems based on the 386SL now run at 20 and 25 MHz and offer the same general performance level as desktop 386SX systems. There's a lot more to the 386SL, however, than just a lower-powered version of the 386SX—a whole notebook computer power management sub-system is built into it.

According to John Davie, who heads up the SL division at Intel's U.S. headquarters, the SL is based around a static 386SX "core." Around that central core is built cache tag RAM, cache control logic, an onboard clock, an internal bus controller, memory controller and an AT bus controller.

Intel, however, is no longer the only chip company providing this kind of solution. Rivals such as AMD, Chips & Technologies provide comparable systems.

The most important difference between the SL and any previous Intel or Intel-compatible chips used on portables is the way it handles power management. All notebook systems like to include some form of "sleep", "idle" or "standby" mode—whereby your notebook "suspends" itself if you don't use it for a few minutes and will switch directly back into whatever you were doing as soon as you touch a key.

Before the 386SL, the problem was that there was no standard way of trying to provide "suspend" or "resume" modes on notebook systems. Each manufacturer had to figure out their own proprietary way of solving this problem—and quite often the solution introduced software incompatibilities. Many notebook systems, for example, could not use their Resume functions in conjunction with Microsoft Windows 3.0 when it was first shipped—and some still can't. Others had problems running OS/2.

To solve this problem, Intel developed what it calls "system management mode" in the 386SL. It is a new CPU operating mode that is entirely invisible to operating systems and applications, provides full ISA compatibility alongside power management memory, power management interrupts and resume instruction handling.

Intel claims that manufacturers who go with anything else but the 386SL will find themselves having to rewrite their BIOS code, wait around for new chip sets and will have to do a great deal of customization for their hardware and OS of choice.

The number of manufacturers hopping on the SL bandwagon at last fall's Comdex would indicate that the Intel message is winning through. Manufacturers of SL-based portables now include Acer, Dell, Epson, Everex, Grid, Librex, Mitac, NCR, NEC, Sharp, Toshiba and Zenith—with more expected to announce further new systems within the next few months.

Conclusion

Intel's message in designing both the clock-doubling upgrade for desktop systems and the 386SL for notebook computers is that they should yield a more diverse and rewarding future for computer users. By allowing manufacturers to more easily make their PCs upgradable, all kinds of desktop systems can be developed for different applications—without manufacturers worrying that processor technology improvements will make those systems obselote too quickly. Likewise, the advent of the SL has already encouraged a much greater divergence of notebook systems—with some now using a pen interface and yet others offering color flat screens. ■

PageAhead *continued from page 49*

would expect in something that works with a DTP package.

If your conditions for specifying the data you want from the database are more complex, PageAhead can help there as well. PageAhead also allows you to retrieve specific rows from a database table by entering conditions in either a Query table or a Condition table. PageAhead then retrieves only data meeting the conditions you specify.

In each row, you can enter a complex conditional statement, using any conditional operator, as well as "AND" and "OR." If you place conditional statements in different rows, the statements are combined by "OR"-ing them together, so PageAhead retrieves data matching either condition from the database.

If you type two or more conditions in the same row in the Query table, all the conditions in that row are "AND"-ed together and all the conditions must be met for the results to be retrieved. If you type two or more conditions in different rows, they are "OR"-ed together and PageAhead evaluates the condition in each row separately.

Finally, PageAhead allows you to combine information from two or more tables into a single Answer table by joining the desired database tables on columns that contain similar data, such as product serial numbers.

You can perform what Aldus calls "inner joins," which include only those rows existing in both tables, or "outer joins," which include all rows from the table identified as the inclusive table, even if there is no matching row in the other table.

You can join as many tables as allowed by your database package. Even joining two dissimilar tables is not that difficult—you just join each with a third table that has a column of data in common with the first table and a column of data in common with the second table.

Verdict

PageAhead is a highly professional, easy to use and well-designed piece of software. If you want to produce nicely-finished database documents using PageMaker, then you really should buy PageAhead.

Although you can do it without using PageAhead—or you could even opt for the Ventura DataBase Publisher System that outputs to Ventura files—you will, at some point, come up against something that it can't do.

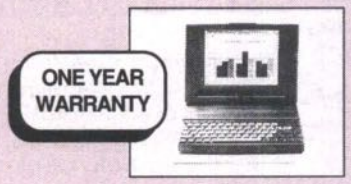
Using PageAhead, we were hard-pressed to think of a database publishing job you couldn't do with it—except perhaps one where the capabilities of PageMaker itself were reached. But that is another issue.... ■

KiCKS COMPUTER SYSTEMS INC

NOTEBOOK COMPUTER PRODUCTS

LIBRIX 386SX 20MHz Notebook

Specifications:



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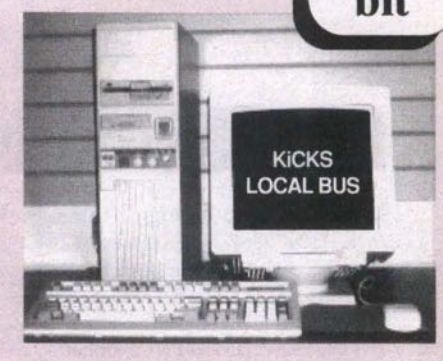

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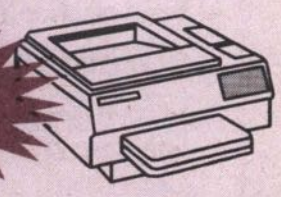

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Sharp Edge Technology	Smoother graphics and sharper text printing
Automatic Emulation Switching software	Supports Postscript &PCL software automatically
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Features:
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Features:
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Microsoft Windows 3.1 (OEM)	$ 65.00
Digital Research DR DOS 6.0 (OEM)	$ 59.00
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Cardinal 9600 S/R int. Fax-Modem (OEM)	$ 99.00
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14" Grayscale VGA monitor 640x480	$139.00
14" VGA monitor 640x480,.41 dp	$265.00
Hyundai 14" SVGA monitor 1024x768,.28 dp	$339.00
Hyundai 14" SVGA non-int. monitor 1024x768,.28dp	$399.00
Legend Premium 14" VGA monitor 1024x768,.28 dp	$355.00
Legend Premium 14" non-int. VGA monitor 1024x768,.28 dp	$429.00
NEC 3FGx 15" Multi-sync VGA monitor 1024x768,.28 dp	$839.00
NEC 4FG 15" Multi-sync VGA monitor 1024x768,.28 dp	$999.00
IDEK M5217 17" non-int. monitor 1024x768, .28 mm dp	$1169.00

Video Graphics Adaptor

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Trident 9000 SVGA adaptor 512K	$65.00
Trident 8900 SVGA adaptor 1MB	$89.00
ATI VGAWonder XL adaptor 1MB (OEM)	$155.00
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ATI Graphics Ultra Plus1MB VRAM w/ Mouse	$589.00
ATI Graphics Ultra Plus 1MB VRAM w/ mouse (OEM)	$459.00
ATI Vantage Graphics 1MB VRAM w/ mouse	$289.00
ATI Vantage Graphics 1MB VRAM w/ mouse (OEM)	$275.00
Cyclone XG S-3 Window Accelerator 1MB	$299.00
Diamond Stealth S-3 Windows Accelerator 1MB VRAM	$359.00

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Logitech serial or bus Mouse Man	$79.00
Logitech serial Mouse Man w/ Windows 3.1	$129.00
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Logitech Scanman 256	$325.00
Prolab 256 Grayscale Hand Scanner w/ OCR Software	$259.00

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Quantum 52MB (17 ms) V.C. IDE w/ 64K cache	$265.00
Western Digital 82 MB (17ms) V.C. IDE w/ 64K cache	$345.00
Quantum 105 MB (17ms) V.C. IDE w/ 64K cache	$415.00
Teac 105 MB (19ms) V.C. IDE w/64K cache	$375.00
Maxtor 125 MB (15ms) V.C. IDE w/ 64K cache	$429.00
Quantum Pro 125MB (15ms) V.C. IDE w/256K cache	$469.00
Quantum Pro 240MB (15ms) V.C. IDE w/256K cache	$799.00
Western Digital 212 MB (15ms) V.C. IDE w/ 64K cache	$709.00

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16-bit Intelligent IDE HD/FD controller	$49.00
16-bit IDE HD/FD Cache controller w/512K exp. to 8.5MB	$225.00

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Colorado DJ-20, 80/250MB capacity	$349.00
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Colorado FC-10 tape adaptor (4.4MB/min) for DJ20	$109.00
cable for connecting Colorado tape B/U for 2-floppy system	$19.00
Colorado External Kit w/ FC-10 for DJ-20	$195.00
Colorado External Kit w/ AB-10 for DJ-10 & DJ-20	$139.00
Backpack QIC-40 (40/120MB capacity)	$499.00
Backpack QIC-80 (80/240MB capacity)	$589.00
3M DC2120 Tape Cartridge	$27.50
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Cardinal (OEM) 2400 baud internal Modem w/ Bitcom	$65.00
Cardinal 2400 baud internal modem w/ Flashlink	$89.00
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Cardinal 9600 int. Fax-Modem w/ Bitfax	**$109.00**
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Upgrades

BY GEOF WHEELWRIGHT

If there was ever an industry where instant obsolescence appeared to be the order of the day, it would have to be the personal computer business. Prices of new models are constantly tumbling, while the resale value of last year's latest and greatest plummets with a frightening velocity.

But personal computer users can now take heart. All over the computer industry, manufacturers are working to slow the speed with which the specifications and performance of most personal computers are overtaken by technology.

The idea of building "future-proof" personal computers is not new—it dates back more than ten years—but the need has never been greater. Users are starting to become fed-up with being told that their systems are out of date from the moment they unpack them, while manufacturers are suffering under the huge weight of internecine competition throughout this crowded sector.

Today's future-proofing is carried out by making PC systems easier to upgrade. If you choose the right computer, you can now quite easily add more computer memory, improve the speed at which it operates, add considerably to the amount of information it can store—and make the screen even crisper and easier to read—all without replacing your existing system.

The ability to make performance improvements has always existed within the 1981 design of the IBM personal computer on which almost all popular PCs are now based. But it is only in recent times that it has become economically attractive and technologically sensible to do so.

Most PCs come standard with what are called "expansion slots." The traditional IBM PC design required you to install all performance-enhancing circuit boards in these slots—which were limited in the kind of performance and capacity improvements they could accommodate.

Today's PCs offer specially-designed plug-in sockets that optimize the performance of each upgrade that you carry out. Computer memory, for example, is generally added through SIMM (Single In-line Memory Modules) that are easier to insert and offer higher performance than memory held on ordinary PC expansion boards.

The most difficult area of personal computer performance to improve has long been the computer processor itself—the "engine" of the system. Just as you can't put a Jaguar engine in a VW Beetle, you could not sensibly use expansion cards to turn old PCs based on the Intel 8088 processor into ones using the latest 80486 processor.

There have been two solutions to this problem. The first came in the form of purpose-built "upgradable" personal computers. These were designed from the start to use a variety of different computer processors by swapping certain components.

Troubled leading PC maker Compaq, for example, last year introduced a whole new range of extensible PCs. Compaq called this design "intelligent modularity" and it goes beyond what most manufacturers mean when they say their PCs can be upgraded.

By swapping certain components in its systems, Compaq will let users upgrade its latest range of desktop machines (the Deskpro M series) from modestly powered machines using the 25 MHz version of the 80386 computer processor to those using the much faster 33 MHz 80486DX. The speed of computer processor used in desktop systems is commonly measured in Megahertz (MHz) and the faster it is, the higher the number of MHz it will be rated at. This figure is also known as the clock speed.

Like most manufacturers designing upgradable systems, Compaq has also equipped all of these new machines with high-powered 240-watt power supplies and made most of the non-performance-related parts fully interchangeable between one model and the next.

Finally, the fastest-growing new area for PC upgradability lies in a new "chip clock-doubling" technology developed by top computer processor manufacturer Intel, of Santa Clara, California.

(See Clock Doubling, page 54—*Ed.*) ■

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The Competition Strikes Back

Chip Wars

BY GEOF WHEELWRIGHT

Of course, it isn't all as easy a choice as Intel makes it sound. To start with, you have a choice–you don't have to buy a PC with an Intel processor in it. A number of high-performance competitive products–most notably those from Advanced Micro Devices (AMD)–have appeared on the market lately.

AMD, for example, does a range of plug-compatible 80386-style chips that outperform their Intel counterparts–at least in raw speed terms. AMD has also recently started shipping a clone of the Intel 486SX that is actually "plug-compatible" with the 80386. This opens the way for 80386 users–to whom Intel is not offering anything with its current OverDrive clock-doubling chips–to replace their 386 processors with 486SX-compatible ones.

AMD's ability to manufacture Intel-compatible chips dates back to a long-fought legal battle in which AMD claimed that a manufacturing license which started with the right to make 80286 clones could be extended to cover the 386 and 486 chips.

You can be sure, however, that Intel will not want AMD or anyone to be producing clones of its upcoming 586 (also known as P5) processor. It is much-anticipated, however. DEC has already announced that it will ship a PC that is plug-compatible with P5–although trying to "pin down" the layout of an Intel chip socket has never been an easy thing to do too far in advance.

The 486SX is a classic case in point. The idea of this chip was for Intel to produce something that would be lower in cost than the existing high-end 486DX, but would carry a performance penalty for doing so.

Stuck for a practical way of achieving this goal, Intel just "masked" off the high-performance built-in co-processor portion of the 486DX. Otherwise, the 486SX was exactly the same as its more expensive counterpart. And to start with, because Intel didn't have a cheaper way to package it, actually cost just as much to manufacture.

Intel eventually developed a plastic packaging–rather than the more traditional ceramic package–for the 486SX and actually brought the manufacturing costs in line with the pricing. But it is a clear demonstration of the hoops through which Intel is willing to jump in order to maintain market share. ■

Users Flock to Pen Expo, "Industry Best" Awards

SANTA CLARA, CA, JUN 5 (NB)—Some 50 exhibitors and 4000 attendees flocked to Santa Clara for Pen Expo—and when the four-day event ended, seven lucky vendors took home "Industry Best" awards.

Sponsored by *Pen Magazine* together with the Boston University (BU) Corporate Education Center, the fest featured keynote speeches by four top pen computing firm executives, as well as separate breakout sessions for developers and end users.

There was also on site balloting for the product prizes, conducted on—what else?—a pen computer.

"What was really most unusual about this event, though, was the high proportion of end users among the attendees, and the level of their interest. There's a very willing market out there," John Wagoner, publisher of *Pen Magazine*, told Newsbytes.

Users made up 60% of those present, he said. Outside of the structured conference activities, many of them got together into spontaneous SIGs (special interest groups), discussing the potential of pen computing in such disparate fields as medicine and utilities.

Keynote speakers at the event included Jerrold Kaplan, chairman and founder, Go Corporation; Vern Rayburn, chairman and CEO, Slate; Kathy Vieth, vice president of IBM's Tablet Systems Division; and Pradeep Singh, group products manager at Microsoft, said Bob Bevan, project manager at the Tyngsboro, MA-based BU Corporate Education Center.

During the breakout sessions, developers heard talks on such topics as software patents and intellectual property, while users learned about connectivity, handwriting recognition, and six other subjects.

And within the exhibition hall, users flocked to try out technology many had never seen before, stated Wagoner. Together with developers, the users voted for their favorite products in each of several pen categories.

The voting was performed on an application developed with PenApps, running on an NCR 3125 pen computer. "But we used paper as a backup," noted Wagoner, "just in case." When the votes were tallied, the 3125 and the IBM ThinkPad wound up in a tie for "Best Pen Tablet," according to Wagoner.

The other winners were: Best Pen Operating System: Go! PenPoint; Best Application Development Environment: Visual Basic; Best Industry Specific Vertical Application: PenMetrics' Field Notes; Best Financial Application: Numero, a pen spreadsheet from Pen Magic; Most Unique Pen Application: InkWare NoteTaker, a pen notepad with indexing capabilities.

TELECOM NEWS

America Online Introduces Internet Access

VIENNA, VIRGINIA, JUN 4 (NB)—America Online is now offering an Internet gateway to its subscribers, at no extra charge. The new gateway allows for the transfer of messages to CompuServe, MCI Mail, AT&T Mail, AppleLink, Sprint Mail and other Internet-connected systems, without requiring a separate account on those services.

Despite all the hoopla over the X.500 standard, which would offer an addressing scheme to link services over X.400, it seems that the Internet system is becoming a de facto standard for linking disparate systems. America Online's address on the Internet will be aol.com, and any Internet subscriber can request an AOL start-up kit with a note to info aol.com.

In addition to the major on-line services, a small number of bulletin boards, notably Canada Remote, now offer Internet access. Such access is usually lumped in with regular on-line charges for customers, making it far more cost-effective than X.400 services, which by agreement are pegged at 15 cents per 1,000 characters.

Contact: America Online, 703-883-1503.

Ziffnet Now Available On Prodigy

CAMBRIDGE, MASSACHUSETTS, JUN 4 (NB)—A special "kernel" of Ziffnet's service, already available on CompuServe, is now available on the Prodigy service.

Prodigy is pricing "Ziffnet for Prodigy" among its "custom choice" services at $14.95 per month. That price will give users three hours of service. Additional hours cost $6 per hour. Prodigy's regular price is $12.95 per month for unlimited hourly usage, with some messaging surcharges.

Perhaps most important, Prodigy spokesman Steve Hein told Newsbytes, is that this is the first time general-purpose downloads are being allowed on the service. "We have always had downloading of company financial charts on Custom Choice, and in March we downloaded the Symantec anti-Michelangelo virus for free," he said. The service also retains the Prodigy look-and-feel, with ads on each "page," and does not offer users the opportunity to upload files.

Bill Doyle of Ziffnet told Newsbytes that both the CompuServe and Prodigy Ziffnet offerings are "massaged" at the company's Cambridge, Massachusetts offices, and uploaded virtually simultaneously to the two networks. "What's available on Prodigy is the core set of what's on CompuServe," he added. "We've got the entire Public Brand Software library, 2,000 plus titles. We've got some *PC Magazine* utilities. We've got hundreds of buying-advice articles, Editors' Choices, Most Valuable Product listings, questions to ask when buying that can be found on CompuServe. We also have hundreds of technical tip articles from the tips and techniques section of Ziffnet.

"We do not have things like the full text database of Computer Library, the health database, or any uploading capability. Prodigy members won't be able to upload their own favorite shareware. And there's no shareware beyond PBS and some Ziffnet stuff." Newsbytes is also not included in the Ziffnet for Prodigy offering, Doyle said.

There is one offering that will be on Ziffnet for Prodigy that's not on the CompuServe service, Doyle added. That's Wolfenstein, a game program, which is available for downloading.

Contact: Ziffnet, 617-252-5265;
Prodigy, 914-993-8789.

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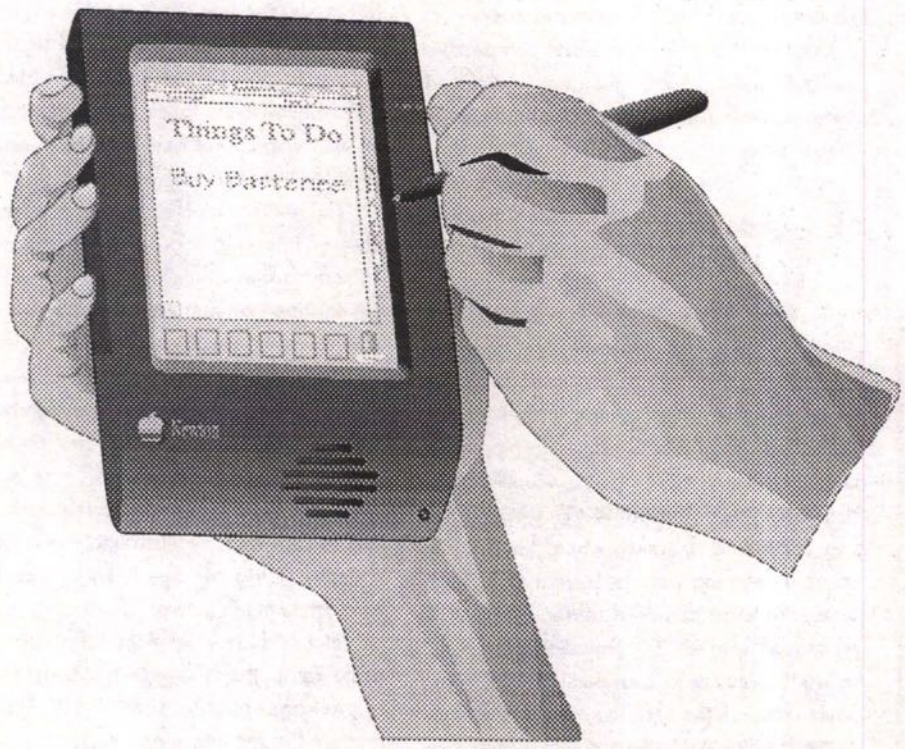
Newsbytes

APPLE

Apple Shows First Newton At CES



CHICAGO, ILLINOIS, MAY 29 (NB)—Apple is showing off Newton at the Summer Consumer Electronics Show (CES) in Chicago, a product Apple CEO John Sculley announced previously at the Winter CES in Las Vegas early this year.

Newton is actually part of a product line that Apple terms Personal Digital Assistant (PDA) electronic devices. The first Newton is an electronic notepad which Apple boasts will allow users intelligent help in capturing, organizing, and communicating ideas and information.

Apple says its goal is to make the Newton as easy to use as a pencil and paper. Newton will use technology similar to handwriting recognition pen-based computing technology, but Apple says the difference is several different recognition technologies will come into play simultaneously, rather than one at a time. Apple gave the example of a business person who writes "lunch Jane Thursday" on the Newton, which the Newton would interpret to mean lunch is at 12:00 p.m.; Jane is Jane Green, who listed in the user's address book; and Thursday is this Thursday. The Newton would make those assumptions and ask for confirmation by opening a calendar and scheduling lunch from 12:00 to 1:00 with Jane Green.

So all those bits of information, phone numbers, business cards, directions, meetings, notes, birthdays, appointments, can all be handled by the Newton, Apple said. But more importantly, users can view the information for everything that relates to a specific client, week, or subject such as "Jane Green."

Also, wired and wireless communications ability will allow two Newton users to electronically exchange business cards or compare calendars, Apple said. Faxing a letter, checking electronic mail messages, or connecting to a satellite news service are also possibilities, the company added.

All this intelligent help will be brought to users in portable form via a reduced instruction set chip (RISC) from Advanced RISC Machines (ARM). The processor, the ARM 610 powering the Newton's capabilities, has the power of a desktop computer, but uses less battery power than a flashlight, Apple said. Intelligent cards will be the vehicle for users to get specific functions in the Newton, Apple added. Some electronic devices designed for portable functions use cards now, such as the Sharp Wizard, which has functions such as time and billing available on insertable cards.

Apple and Sharp announced earlier this year the agreement between the two companies to jointly design and produce the Newton devices. Also, Apple says it is licensing Newton technology to selected vendors, including Sharp, who are planning to produce their own versions of the PDAs.

Apple says a number of major companies have said they will support Newton and will develop complementary products. Apple named Motorola, Pacific Bell, Random House, Skytel, and Traveling Software. The general areas of third-party development are in communication for use of the Newton in a mobile environment; content products, or interesting and personal information products; and compatibility products for using Newton devices with existing computer systems, Apple added.

The first Newtons will be English-language oriented and are expected from both Apple and Sharp in early 1993, Apple said.

At the same time he announced the formation of a new division—Apple PIE (Personal Interactive Electronics)—to concentrate on new technologies and products in the fields of computers, telecommunications, entertainment, and consumer electronics

The PIE division already has 200 employees and has a research facility in Cambridge, Mass., according to Sculley. PIE is also working on a new programming language called Dylan, designed for use with portable electronic devices and software.

Contact: Apple Canada, 604-684-3113 or 416-513-5787.

New For Mac: Aldus PressWise 1.0

SEATTLE, WASHINGTON, MAY 27 (NB)—Aldus Corporation has released Aldus PressWise 1.0, a page imposition program for the Macintosh computer.

PressWise provides page-handling and page-adjustment tools for film strippers and production artists. With PressWise those professionals can impose almost any PageMaker or QuarkXpress file from the desktop, says Aldus. For example, you can merge the pages of multiple publications and sort them in a special page list palette.

PressWise is intended for organizations that utilize electronic page layout and imaging devices to create printed documents. Commercial printers, service bureaus, in-house printers and color prepress providers all fall into that category.

PressWise uses ready-made or custom imposition templates to automatically accommodate binding options and other parameters. The pages are then arranged in the correct order and orientation (vertical or horizontal) for printing. The user can also design their own library of templates to meet their particular needs. A reduced view of the imposition form provides visual feedback.

PressWise carries a price tag of $2,295, and is available directly from Aldus. It is also being bundled as part of a complete prepress system from some imagesetter manufacturers.

Aldus recommends an Apple Macintosh II series or a Quadra 700 or 900 running System 7, at least two megabytes of RAM, and a hard drive. The company says PressWise will run on a Mac Classic with the same memory and drive configuration.

Contact: Aldus Canada, 604-275-4140 or 1-800-333-2538.

Apple Unbundling Future System Features

SYDNEY, AUSTRALIA, JUN 1 (NB)—Apple Computer is introducing a new "modular" approach to its system software for the Macintosh which could see some users paying many times more than they pay at the moment.

For years, Macintosh operating system software upgrades were distributed free, but a change was made with the introduction of the current System 7. While the software itself can still be downloaded free of charge from bulletin board systems, a packaged set with manuals is sold through retail channels in most countries. In Australia, for instance, the price is approximately C$100.

Two weeks ago Apple launched two of what is to be a series of extension modules, each with a price greater than the operating system itself. Some of these modules may be built into future system software releases. These two modules are a Quicktime Starter kit and a PC Exchange desktop accessory.

A prior add-on was the AppleTalk Remote Access pack. An electronic mail module is believed to be in preparation.

An Apple spokesperson said the new modular system would mean faster delivery of new technologies. He also said that users would only have to pay for the components they needed, and would not have to load-up the system with unwanted software, minimizing the "memory footprint."

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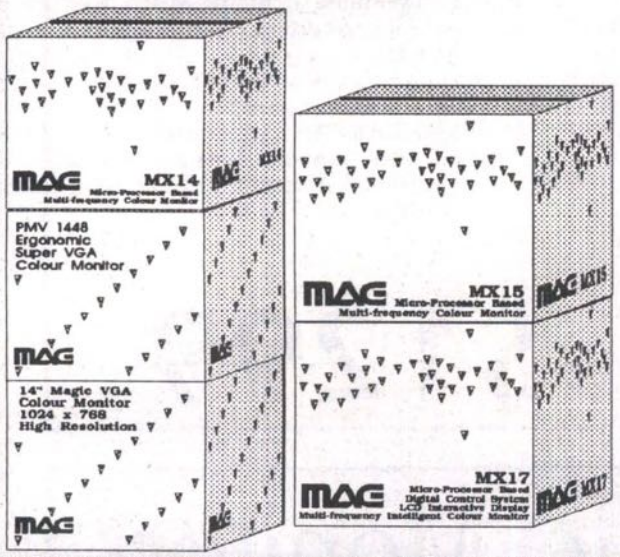

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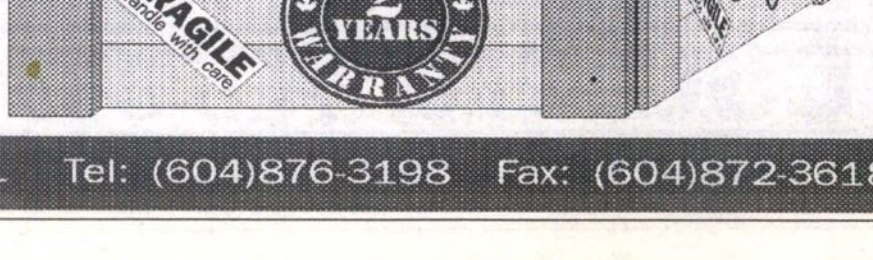

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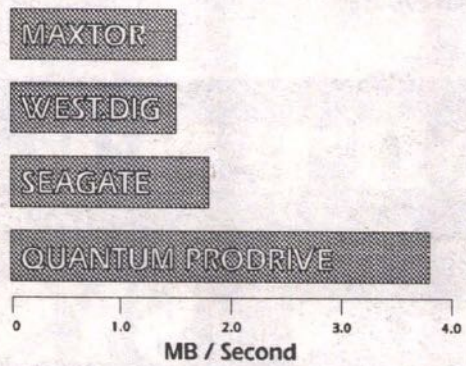

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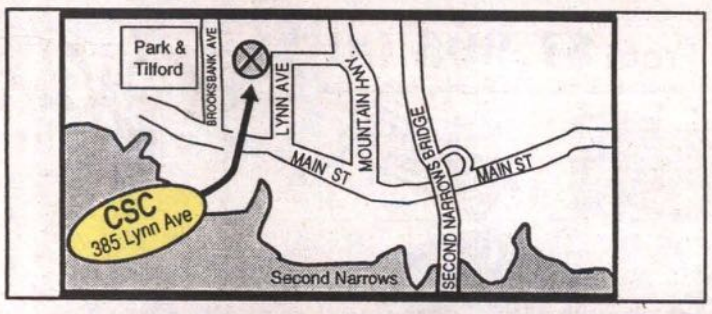

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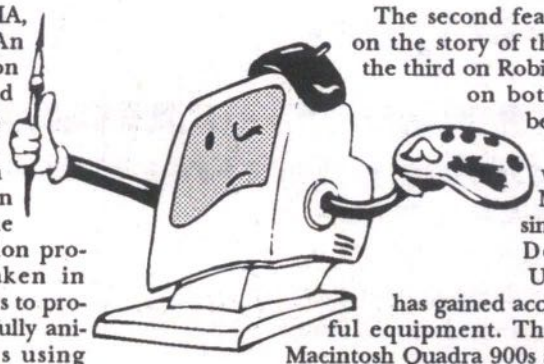

SYDNEY, AUSTRALIA, MAY 29 (NB)—An Australian animation company, Unlimited Energee, has received a $2.1M contract with Burbank Animation studios to complete the biggest animation project ever undertaken in Australia. The brief is to produce 13 one-hour fully animated TV features using only Apple Macintoshes, with the likelihood of a subsequent 13.

Each story is independent of the next and is based on a classic tale, but rewritten and modernized.

The first in the series is Frank Enstein, nineties style. A slight departure from the original tale of a monster brought to life in a storm-swept castle, this version still sees the creation of a monster, but the main focus is a water-powered car.

The deadline for the delivery of the first feature is June 8, and the entire series will be completed by mid-1994.

"Since signing the contract, literally every waking hour has been spent working on Frank Enstein. We're all exhausted but the results are worth it. Frank Enstein is exactly how we'd visualized it to look—and that's fantastic," said Robert Davidson, Unlimited Energee's founder.

The second feature will be based on the story of the Pied Piper and the third on Robin Hood, with work on both having already begun.

Frank Enstein was begun on the Macintosh IIfx, but since receiving Apple Developer status, Unlimited Energee has gained access to more powerful equipment. They now use three Macintosh Quadra 900s and five Macintosh Quadra 700s. Unlimited Energee uses eight optical disk drives which utilize phase-change technology. This provides them with one gigabyte of storage per disk.

Unlimited Energee use 16", 19" and 21" color monitors which provide them with screens large enough to focus on every finely crafted detail of the scene they are working on, without loss of focus anywhere on the screen.

Software used by Unlimited Energee includes Pixel Paint, PhotoShop, Swivel 3D, StrataVision, InfiniD, Adobe Illustrator, Publish It!, Quick Keys, Microsoft Word, MacroMind Director, Disk Express, and Disk Doubler.

The characters or "stars" of the features are hand drawn and then scanned into the scene, while the backgrounds are drawn directly on to pressure-sensitive Wacom boards.

Mac Version Of *Perform Pro Filler* Debuts

LONDON, ENGLAND, JUN 2 (NB)—Delrina Technology has announced the availability of an Apple Mac version of its Perform Pro Filler. The package enables Mac users to fill in electronic forms created in Perform Pro for Windows.

According to Delrina, the software is Mac System 6.0.5 and 7.0 compatible, supporting all color and monochrome screen resolutions plus font technologies. In use, the package needs a minimum Mac configuration of one megabyte (MB) of memory and a hard disk. A Superdrive and laser printer are recommended.

Announcing the software, Larry Levy, Delrina's sales and marketing director, said that Perform Pro allows WYSIWYG (what you see is what you get) "intelligent" forms. These and other features make the package unique in the electronic cross-platform form marketplace.

"We're the only vendor that offers companies the opportunity to introduce electronic forms throughout the organization regardless of platform for Windows, DOS, and Mac users alike," he claimed.

Contact: Delrina, 416-441-3676.

Report Sees Mac Software Growth, Lower Prices

FRAMINGHAM, MASSACHUSETTS, JUN 1 (NB)—Shipments of Macintosh productivity software will almost double from 1991 through 1996, according to a recent report from research firm International Data Corporation (IDC). IDC sees sales of Macintosh software climbing from 1.4 million units in 1991 to 2.7 million in 1996.

However, IDC also predicted that in almost every segment of the market—which includes all mainstream applications, such as database, word processing, and spreadsheet packages—prices will fall and dealer margins will shrink due to increased competition. The only exception will be the database market, IDC said.

Database software will represent the fastest growing Mac software segment, IDC forecast, growing from 185,700 units in 1990 to 638,600 by the end of 1996. That translates to a compound annual growth rate of 22.9 percent. At the same time, revenues will rise from US$67.4 million in 1990 to US$234.3 million in 1996.

Database software has historically been little used on Macintoshes, the IDC report said, largely because Mac users buy the machines mainly for their ease of use, and database software is seen as hard to use. However, the report said, "the Macintosh customer today is a closet database user." Most Mac users need database capabilities, even if today they are using a spreadsheet or other type of program to do the job. As database software becomes easier to use, IDC expects demand for the packages to grow rapidly.

According to IDC's report, Apple has a two-year window of opportunity in 1992 and 1993. Its growth plan calls for strong high-end system penetration into corporate accounts, increasing market share largely through mass marketing of low-end machines, international expansion, and a profitable codevelopment venture with IBM.

If Apple fails to accomplish at least some of these goals, IDC warned, it could share the fate of midrange computer vendors such as Wang and Prime Computer, now struggling to find new roles after their proprietary hardware businesses crumbled.

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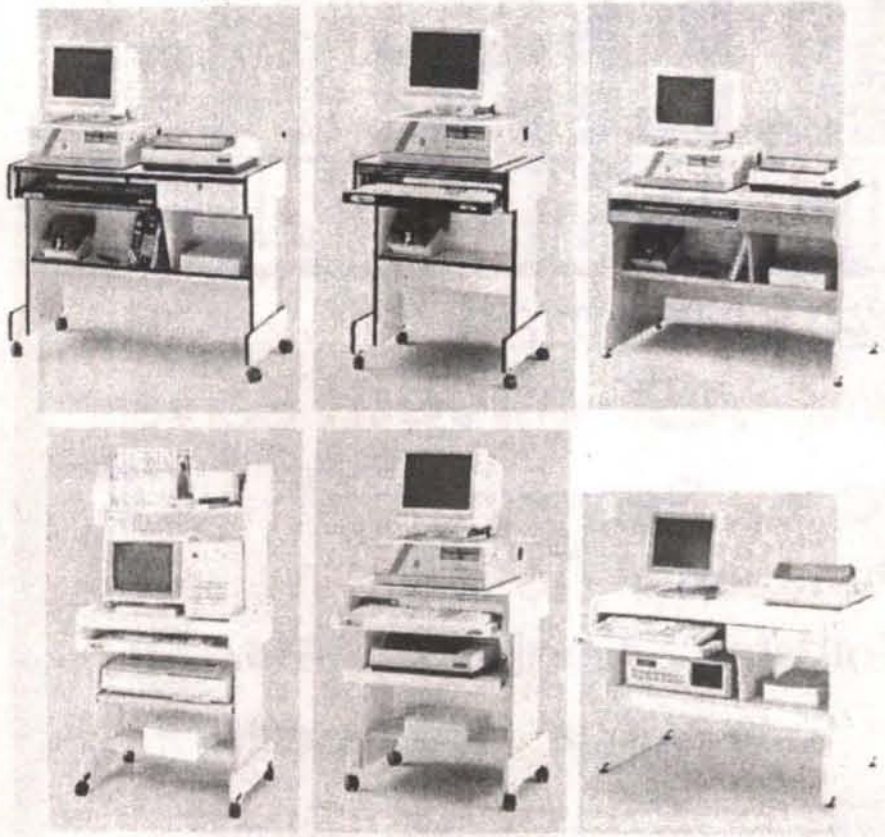

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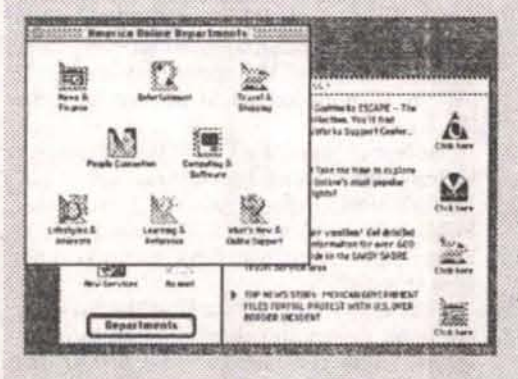
America Online Offers Free File Access

VIENNA, VIRGINIA, MAY 29 (NB)—As a summertime promotion, America Online is offering members free access to selected software files and computer industry news. The promotion is called Summer Software Madness.



America Online subscribers using PC-compatible computers will have unlimited online time to explore and download a selection of public domain and shareware programs—games, utilities, business templates, graphics files and more. The selections will change monthly from among the firm's 20,000-title library, so subscribers are encouraged to examine and experiment.

In addition, the service will offer monthly software conferences with guests and designers of top-selling software and hardware in "live" discussion settings. America Online offers an icon-based, windowing interface designed to make using the service hassle-free.

Contact: America Online, 703-883-1503.

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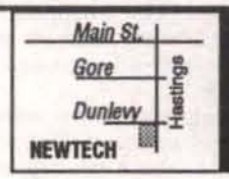

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CAD NEWS

Autodesk Announces AutoCAD 12, New Direction

DALLAS, TEXAS, JUN 09 (NB)—Autodesk says it is not only releasing a new performance upgrade to AutoCAD, version 12, but is also announcing a new direction including an open systems approach for the company. The announcements were made at the A/E/C Systems '92 show and Autodesk Expo in Dallas, Texas.

Autodesk is also developing a platform-independent dialog system for AutoCAD so no matter what hardware platform the product comes up in, it has a naive look and feel, Rand said. That's true of all platforms except DOS, where the company had to develop its own graphical user interface, Rand maintains. AutoCAD Release 12 is a DOS/Sparc release, however Rand says versions of Release 12 that accommodate the other platforms, such as Macintosh, are expected soon.

Release 12, in general, simplifies and speeds up the most frequently used CAD functions, the company said. One hundred and seventy-four enhancements, including improved plotting, and easier-to-use interface, support for structured query language (SQL) and Postscript data exchange, integrated rendering, enhanced drawing tools, and bi-directional file compatibility with AutoCAD Release 11 are in Release 12, Autodesk said.

The company says Release 12 has faster zoom and pan functions, drawing regenerations (regens) are virtually eliminated, entity selection, object snapping, and entity display and hidden line removal are quicker. New functions and commands allow a user to enter a new drawing and begin work immediately, and customers can work in noun-verb mode, by first selecting entities then specifying the operation to be performed.

A new AutoCAD SQL Extension has been added (ASE) so links can be created with external databases and database management systems such as dBASE, Paradox, Informix, and Oracle. Support for the read, write, and display of Postscript files is also included.

Rendering is integrated in Release 12, Autodesk said. With the functionality of Autoshade, and the appropriate hardware, users can create either 256-color or full True-color images of any AutoCAD 3-D entity, including Advanced Modeling Extension (AME) solid models, from within AutoCAD.

Release 12 for DOS 386 or the Sun Sparcstation is retail priced at C$4,500. AME is another $594, the company said.

Rand talked about the future of Autodesk, specifically in the use of the product for maintenance operations on large machinery. He said he envisions an engineer with a pen computer could call up a particular turbine and then request the disassembly of a certain portion be demonstrated on the display screen. Rand says there is no reason why video clips of equipment repair couldn't be made and stored for display later. Also, if a critical piece of equipment breaks down, Rand said that would be a good opportunity to do repair work on other related pieces of equipment that are dependent on the down unit, and the computer could display that information as well.

Contact: Autodesk Canada, tel 1-800-445-5415 or 416-946-0928.

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AMIGA

Digital Multimedia Takes Over X-CAD For The Amiga

BRUSSELS, BELGIUM, MAY 29 (NB)—X-CAD, the computer-aided design package for the Commodore Amiga, has been acquired by the UK-based company Digital Multimedia Inc. X-CAD was previously marketed by AVT, which has gone into bankruptcy.

Newsbytes spoke to Richard Nolan, the sales and marketing director of DMI, who said that two new versions of X-CAD would be available in the next two weeks: X-CAD 2000, the entry-level package which offers both 2-D and 3-D modelling and will sell for US$199, and X-CAD 3000, which has more options and will retail at US$599. Distribution in the United States will be handled by American Software (tel 1-800-225-7941).

Contact: Digital Multimedia Europe, 48 Beukenlaan 1560-Hoeilaart, Brussels, Belgium. Tel.: +32 2 657 5803 Fax.: +32 2 657 5652

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CANADIAN NEWS

Ad Lib Goes Out Of Business

QUEBEC, CANADA, JUN 10 (NB)—Canadian multimedia hardware company Ad Lib has gone out of business, but is now being purchased by unidentified sources, Newsbytes has learned.

Operators manning the phones at Ad Lib are telling callers the company has been bought by unnamed sources. Reportedly, the buyers will allow themselves to be identified when the deal is finalized.

Canadian Ad Lib was one of the top three major sound card manufacturers—the others being Creative Labs with its Sound Blaster products and Media Vision which offers Pro Audio Spectrum. The company was on the verge of introducing a new line of sound cards called the Ad Lib Gold 1000 and 2000 Stereo Sound Adapter when the doors closed on May 1, Ad Lib representatives said.

Newsbytes had a beta version of the Gold 1000. Ad Lib said the card included a new MMA Yamaha chip, and a surround sound module could also be added that created a pleasant, lingering echoing in the sounds when activated.

However, the card was extremely buggy and trouble-prone. The hardware card seemed to work well enough, but the software was riddled with bugs, such as the install program wasn't smart enough to install a 3.5-inch disk designated as the B: drive and it wouldn't work with Microsoft Windows 3.1.

A company spokesman did tell Newsbytes that Ad Lib had been purchased by a consortium of Canadian companies. The spokesman also said that an official announcement is imminent.

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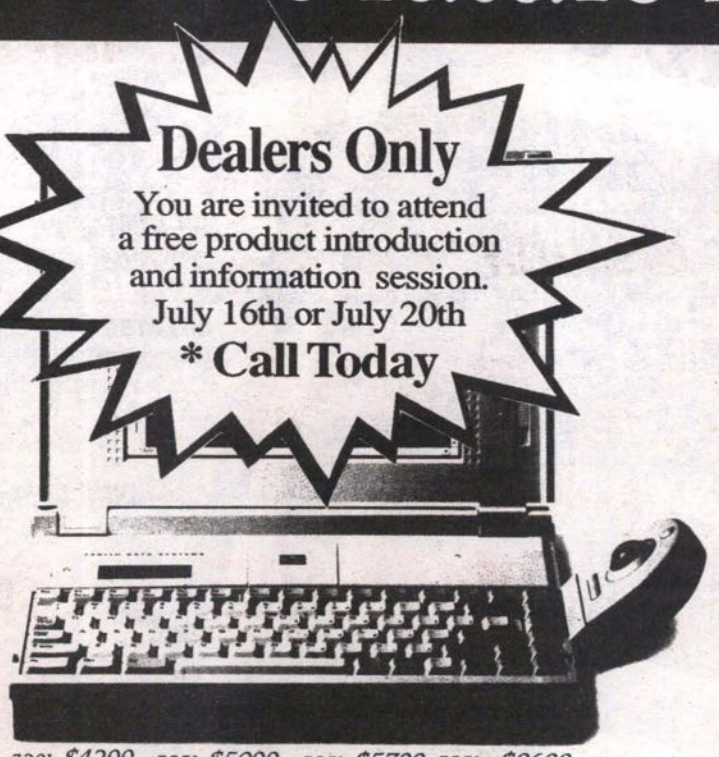

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Fujitsu Launches Products At Quiet Montreal Show

MONTREAL, QUEBEC, JUN 8 (NB)—The Montreal International Computer and Office Exhibition, or Salon International de l'Informatique et du Bureau de Montreal (SIIM), had about 120 exhibitors this year, compared to roughly 200 last year. Few new products were announced at the show, with Fujitsu topping the list of product introductions.

Fujitsu launched what it said is the world's first 3.5-inch magneto-optical disk drive in a one-inch-high enclosure. Fujitsu said the smaller drive is possible because of a spindle-loading technique that means the disk cartridge does not have to drop into position when loading. Fujitsu said the smaller size of the drive will make it easier to use as a replacement for conventional disk drives in personal computers and workstations. The drive holds 128 megabytes of data.

Fujitsu also announced a new eight-page-per-minute compact laser printer, the VM800. The company claimed the new unit offers faster image and font processing than other printers in its class, as well as superior print quality and a multilingual control panel. The VM800 is designed to print an average of 4,000 pages per month. It has a 150-sheet paper tray, with a second as an option, as well as seven bit-mapped fonts and eight scalable typefaces built in. Due to be available in Canada in July, it will carry a suggested list price of C$1,995.

Third, Fujitsu launched what it said will be an aggressive campaign to recruit resellers in the province of Quebec. Fujitsu wants the resellers to handle its line of image scanners, as well as Norick's image scanning software and the Dunord I2000 PC-to-scanner interface card.

Also at SIIM, Quarterdeck Canada launched the French-language version of its QEMM 386 6.0 memory management software. The new release has French manuals and French text in certain display screens.

Contact: SIIM, 514-288-8811, fax 514-288-9125; Fujitsu Canada, 416-602-5454 or 800-263-8716, fax 416-602-5457.

Quebec Info Tech Companies Receive Awards

MONTREAL, QUEBEC, JUN 9 (NB)—La Federation de l'Informatique du Quebec, a provincial information technology society, has honored six companies for information technology projects.

The big winner in the annual Octas awards, given at a gala ceremony in Montreal June 6, was Softimage, a Montreal-based maker of animation software. Softimage captured the Octas de l'Excellence, the SIQ's top award. The company also walked away with two other awards, one honoring its technology and one its success outside the Quebec market. Softimage's software, called Actor, is used to produce three-dimensional computer animation.

Honorable mentions for the top award went to Cedrom Technologies for its work in developing a database system for the Montreal newspaper *La Presse*, and to ATS Aerospatiale for its work in developing flight simulator systems.

La Confederation des Caisses Populaires et d'Economie Desjardins de Quebec won a technology award for the integration and management of its internal networks. Hydro-Quebec, the provincially-owned electrical utility, won an award for a program designed to analyze customers' energy consumption. Also, Le Groupe Videotron won an innovation award for its interactive television system, Videoway.

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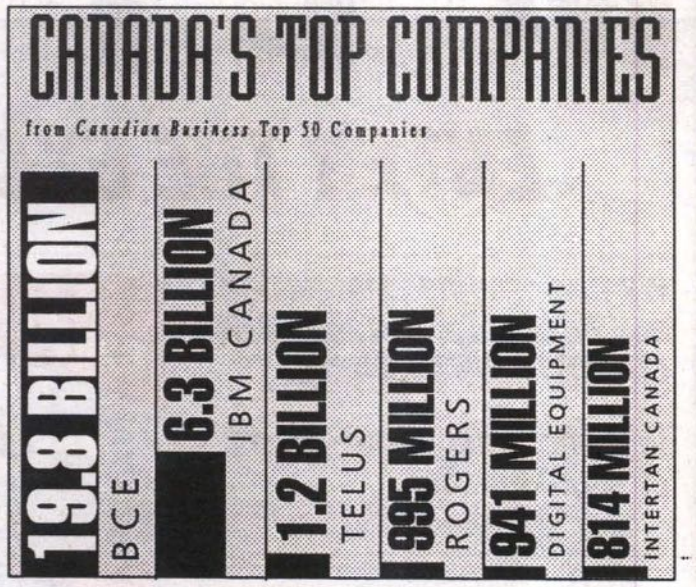

TORONTO, ONTARIO, JUN 1 (NB)—BCE Inc., the holding company behind Northern Telecom and Canada's largest regional telephone company, Bell Canada, has supplanted General Motors Canada as the country's largest company. So says *Canadian Business* magazine in its annual ranking of Canada's top 500 companies.

Canadian Business ranks companies by revenue. According to its figures, BCE edged into top spot with C$19.884 billion in revenues in 1991, topping GM Canada's C$19.304 billion. The 1991 figures represented an 8.2-percent revenue increase for BCE, while GM Canada' revenues climbed only 4.6 percent.

In an article accompanying the rankings, *Canadian Business* Editor Randall Litchfield wrote that the change "can only jolt some traditional preconceptions of the country's economy. The top company in the Canadian Business Corporate 500 neither fells trees, pumps oil, extracts minerals nor assembles a product as its primary way to earn money. It sells a service—telecommunications.

"Equally remarkable," Litchfield continued, "may be the fact that Canada's biggest company is no longer a subsidiary of a U.S. multinational. It is owned by Canadians, and a lot of us at that."

BCE has been making larger profits than GM Canada for several years, and 1991 was no exception, with BCE's $1.329-billion net income weighing in at more than four times GM Canada's C$323.31 million.

The only other information technology company in the top 50 is IBM Canada, ranked 16th with revenues of C$6.255 billion. IBM moved up from 23rd spot in 1990. Telus, the newly privatized company that provides telephone service in Alberta, ranked 90th—up from 103rd —with C$1.227 billion in revenues. Rogers Communications, which operates the data communications carrier and would-be long-distance competitor Unitel as well as cable television services, came 109th with C$995 million, 100th in revenues.

Digital Equipment Canada moved well up from 141st to 112th spot, recording C$941.4 million in 1991 revenues. InterTan Canada, which operates Radio Shack and Tandy stores worldwide, jumped from 172nd to 125th spot with C$814.9 million in revenues.

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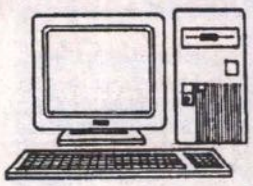

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Canadian IT Buyers Focus On Results: IDC Study

TORONTO, ONTARIO, MAY 26 (NB)—The big challenge for companies buying information technology in Canada in 1992 is controlling costs and better justifying their investment in the technology, according to a study by International Data Corp. (Canada), a market research firm.

The study, entitled "The 1992 Canadian IT Customer Directions and Spending Strategies," said Canadian companies continue investing in information technology despite the weak economy, but are focusing on strategic investments, upgrading older systems, and integrating existing technology.

About half the respondents favored an open systems strategy. Most commonly, IDC found this meant adopting a common operating system, but not necessarily Unix.

The study also forecast slow growth in information technology spending in the coming year. The industry will grow at less than three percent in 1992, said Valerie Dickson, an IDC researcher.

The study also looked at attitudes toward new technologies. Respondents showed the greatest interest in workstations, electronic data interchange (EDI), and image processing. Of the companies surveyed, 65 percent said they were using workstations, 43 percent EDI, and 22 percent image processing.

IDC also found increasing interest in computer-aided software engineering (CASE) and object-oriented programming. Twenty-eight percent of the respondents reported significant use of CASE, while another 36 percent said they were exploring it. For object-oriented programming, the figures were 17 percent and 49 percent.

Many organizations are looking into downsizing or otherwise adjusting their systems. Downsizing from large central systems to distributed hardware is the most popular direction, with 28 percent of those surveyed saying they are doing so. Four percent reported moving the other way by taking applications from distributed systems to a central host. About 45 percent said they expect to maintain their current mix of central and distributed systems.

About 22 percent of respondents said they have moved to client/server computing, and another 21 percent plan to do so. A further 30 percent said they would like to do so but were not sure they would. The remainder had no plans for client/server computing or considered the concept nothing more than a buzz word, IDC said.

Transportation and communication utilities showed the strongest interest in client/server computing, with 80 percent reacting positively to the idea. Financial services companies showed the lowest level of interest at 33 percent.

About half the respondents—51 percent—favored an open systems strategy. Most commonly, IDC found this meant adopting a common operating system, but not necessarily Unix, which is commonly identified with open systems. Common development tools, database software, and programming languages were also mentioned.

Respondents also showed growing acceptance of the idea of outsourcing—turning information systems operations over to an outside company—but more than two-thirds still said they had no plans to do so. More companies—about 36 percent—also showed interest in relying on systems' integrators to help them put together new systems.

Contact: IDC Canada, tel 416-369-0033.

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Canadian PC Sales Still Growing; Apple Strong

TORONTO, ONTARIO, MAY 26 (NB)—Unit sales of personal computers grew about nine percent to almost one million units in 1991, according to a recent study by Evans Research, a market research firm. However, revenues were up only two percent over 1990, thanks to rapidly dropping prices.

Apple Canada showed very strong performance in 1991, Evans said, gaining two percentage points of market share and moving into a dead heat with IBM for the title of market leader in Canada. Both had about 10.6 percent of the market in 1991, Evans Research reported.

Bill Fournier, senior market analyst at Evans Research, said Apple's increased market share came partly from sales to new accounts and partly from selling more machines to existing customers. The company shipped about 105,000 units in Canada in 1991, he said, up from 79,000 in 1990. Evans predicts Apple will ship about 120,000 units in 1992.

Evans also reported strong growth in the sales of portable computers, which accounted for more than 16 percent of the total market in 1991. Portables using Intel's 80386SX chip were most popular, accounting for just over 26 percent of the total.

For 1992, Evans is forecasting even better growth in unit sales, at about 13.5 percent. That would nearly match 1990's 15 percent figure. The market research firm also forecast a rebound in revenue growth to about 12 percent in 1992—again, just slightly below 1990's growth figure, which was about 12.5 percent by revenues.

Contact: Evans Research, tel 416-497-9562.

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MARKHAM, ONTARIO, JUN 4 (NB) — When is an IBM personal computer not an IBM personal computer? When it's an Ambra, sold by a wholly owned subsidiary of IBM Canada but bearing no IBM nameplate.

IBM Canada has announced the formation of ExperComp Services Ltd., a new, small company 100 -percent owned by IBM Canada. ExperComp will sell the Ambra personal computer line, which was also launched in the United Kingdom and is due to appear in France shortly, IBM Canada said.

It had been rumored for some time that IBM would launch a low- price line of personal computers under a different brand name. IBM officials in the United States had told Newsbytes earlier that the company planned such a move in Europe, though there was no advance warning from IBM that Canada was also being considered.

IBM Canada spokesman Stan Didzbalis said the first Ambra machines are being manufactured "offshore," but that manufacturing in North America and possibly even in Canada is being considered for the future.

To be sold with pre-loaded spreadsheet, word processing, and database software, the Ambra PCs will carry prices starting at C$1,600. ExperComp plans to offer free on-site service and support for one year, plus a toll-free telephone help line. The first Ambra machines are to be available in Canada late in August, the company said.

Although earlier rumors suggested IBM might sell its low-price line by mail-order, ExperComp has instead signed up two national distributors, Merisel Canada of Concord, Ontario, and Hartco Enterprises of Montreal.

ExperComp will start off with five employees at its offices in Markham, Ontario, a Toronto suburb where IBM Canada is also based. Andre Turgeon of IBM Canada is serving as acting chief operating officer while the company searches for a president and chief executive.

Vijay Singh

Contact: IBM Canada, 416-474-3900.

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Globe Information To Market *NewsEdge* In Canada

TORONTO, ONTARIO, MAY 26 (NB)—Globe Information Services, the electronic publishing division of the Toronto newspaper *The Globe and Mail*, will market NewsEdge, a news-feed filtering package for PCs running Microsoft Windows, in Canada.

Globe Information announced a marketing agreement with Desktop Data of Waltham, Massachusetts, the developer of NewsEdge. NewsEdge is available in Canada now through Globe Information Services, and the first customer is John Labatt, the Toronto brewery, which is due to install the product within days, according to Douglas Hobbs, manager of marketing and business development at Globe Information.

NewsEdge captures news from an electronic news feed such as that provided by Globe Information Services Info Globe or Dow-Jones News Retrieval. Each user can define as many as 16 profiles that select the news items of interest to them. NewsEdge can then display headlines of relevant news stories on the computer screen, and can be set up to sound an alerting beep when an important story is received.

NewsEdge also creates a database of news stories on the user's computer, making it possible to search the full text of the stories for key words and phrases, company officials said.

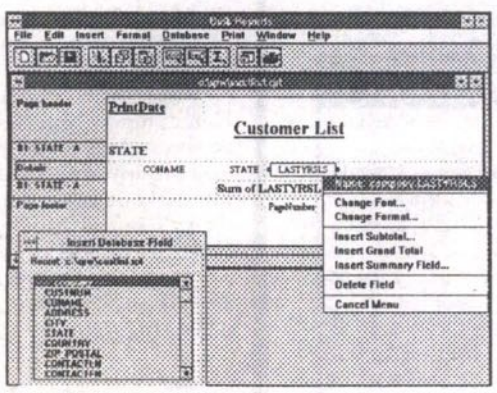
NewsEdge will work with a variety of news services provided by Globe Information Services or with other services available from third parties, Hobbs said.

The software can run in the background under Microsoft Windows while a user is doing other work on the PC, he said.

Contact: Globe Information Services, tel 416-585-5674. Desktop Data, tel 617-890-0042.

Crystal Offers Report Writer For ObjectVision

VANCOUVER, BC, MAY 28 (NB)—Crystal Services has launched Quik Reports for Windows, a database report writer and print engine that works with Borland International's ObjectVision. Both Crystal Services and Borland are selling the product, a company spokeswoman said.



According to Crystal Services, Quik Reports links to existing database files created by packages such as Borland's dBase and Paradox, and produces reports, forms, and letters. Users design reports in an interactive report generator by placing fields on a template. Quik Reports can insert totals and calculated fields, the company said, and it will set Sort and Selection criteria on records and groups. A preview facility lets users view their reports before printing them.

When users select an ObjectVision application file, Quik Reports will automatically recognize all of that application's databases and build links between them, the company said. Once designed, reports can be called from within an ObjectVision application.

The Quik Reports Print Engine dynamic link library (DLL) lets application developers link Quik Reports dynamically to their applications, officials said, and the print engine can be called from any Windows development tool.

Quik Reports 1.0 is available now, company spokeswoman Shannon McDonald said, at an introductory price of C$99.95. The suggested retail price will be C$195 after the introductory period, she added. Network packages are available at C$395 for five users and C$2,995 for 50.

Eight-year-old Crystal Services is best known as a developer of accounting software products that work with Computer Associates International's Accpac accounting line. Its products include Quik Reports for Accpac, a report writer for the CA accounting software.

Contact: Crystal Services, 604-681-3435, 416-842-7404.

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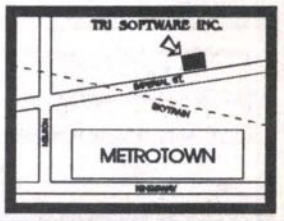

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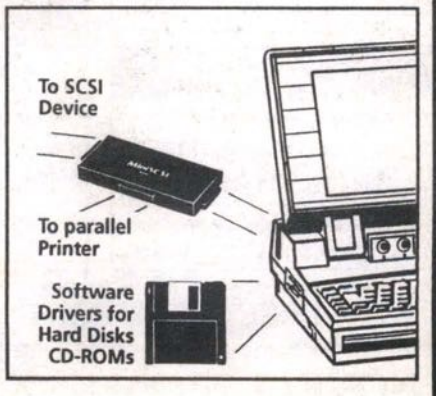

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Delrina Shipping *DOSFax Pro*

TORONTO, ONTARIO, JUN 3 (NB)— Delrina Technology has begun shipping DOSFax-Pro, the plain-DOS version of its WinFax Pro facsimile software for Windows.

DOSFax Pro is fax communication software that runs on the DOS operating system. Company spokesman Josef Zancowicz said it is essentially a DOS version of WinFax Pro, Delrina's popular fax communications software that requires the Microsoft Windows operating environment.

DOSFax Pro includes scheduling and fax broadcasting features and the ability to attach documents from various DOS applications. It works with any Sendfax, Class I, or Class II fax modem, Delrina officials said.

According to Delrina, the software provides pop-up menus and graphic dialog boxes. It works like a printer driver, so that sending a fax is essentially like printing a document. HP LaserJet Series II and Epson printer emulations make faxes sent to any Group III fax machine look as if they were laser printed, the manufacturer said.

Files from different DOS applications can be combined into a multi-page document for distribution to one or more people, with a personalized cover sheet for each addressee, according to Delrina. The software can also add company logos and other graphics to cover sheets. Faxes can be sent immediately or scheduled for later transmission to save on long-distance charges.

The suggested list price for DOSFax Pro is C$89. Delrina is also offering a scaled-down version called DOSFax Lite for manufacturers of fax boards to bundle with their hardware. Users who get the Lite version with a fax board will be able to upgrade to DOSFax Pro for C$48, Delrina said.

Contact: Delrina, 416-441-3676.

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Compaq To Place "Business Audio" Sound Chip In PCs

HOUSTON, TEXAS, JUN 1 (NB)— Business Audio is the new name computer manufacturer Compaq, software developer Microsoft, and sound chip developer Analog Devices have given the joint hardware and software technology development effort the three companies have agreed to pursue geared toward sound for business. The move is centered around a new sound chip developed by Analog Devices that Compaq is using in new products.

Analog Devices introduced the specification for the new chip which it calls the Soundport. Bill Schweber of Analog Devices told Newsbytes the Soundport has all the capability of a sound card, but can be placed on the motherboard of a computer. The advantages to the chip are its lower cost and space savings, Schweber maintains.

Compaq has the first opportunity to incorporate the Soundport chips, however Schweber assured Newsbytes the chips will be available on the open market to other manufacturers this year.

The Soundport chip can understand the various types of audio data, also known as sound files, and is capable of recording or playing PC-quality sound (8-bit linear 11 KHz), telephone/workstation-quality sound (8-bit a-law and 8-bit u-law), and CD-quality sound (16-bit linear 44.1 kilohertz), in mono or stereo, Compaq said.

The most obvious first application for Business Audio is voice annotation within Windows 3.1 for spreadsheets, word processing documents, and electronic mail, the companies said.

Microsoft representative Collins Hemmingway told Newsbytes its support of Business Audio and the Soundport won't exclude anyone else, but it appears the chip will make it easier for users to take advantage of sound capability in Windows 3.1. However, developers will still have to incorporate the audio functionality that is already built into Windows 3.1 into applications, Hemmingway added.

Contact: Analog Devices, tel 617-461-3821; Microsoft, 206-882-8080; Compaq, 713-374-8316.

IBM Adds Multi-processor PS/2 Server

WHITE PLAINS, NEW YORK, JUN 3 (NB)— Playing catch-up to arch-rival Compaq and a handful of other PC manufacturers, IBM has extended its line of personal computer servers with the PS/2 Server 295, the first PS/2 model to allow for multiple processors. The Server 295 will be offered with a choice of one or two Intel 486DX processors, running at 33 or 50 megahertz (MHz).

A design that places the processors on plug-in modules will make it possible to use even more powerful chips in the Server 295 as they become available, IBM spokeswoman Tara Sexton told Newsbytes.

Sexton said the Server 295 is meant for client-server computing, in which users at desktop workstations request not only data but processing services from the central server. In contrast, other IBM servers such as the PS/2 Model 57, Model 90, and Model 95 are meant mainly to be used as file servers whose job is to store data, or as print servers.

Equipped with a single 33 MHz 486 processor, the Server 295 will sell for $29,060. A version with a 50 MHz 486 chip will cost $34,060.

Contact: Contact: IBM Canada, 604-664-6000.

PORTABLE COMPUTERS

Tandy, Casio Collaborate On New Personal Info Processors

FORT WORTH, TEXAS, MAY 28 (NB)—In a move that the two companies claim signals a major advance in the next generation of personal, portable information devices, Tandy has announced that it has agreed in principle with Casio Computer Company Ltd. of Tokyo, Japan to work together to design, develop, manufacture, market, and distribute a new family of "Personal Information Processors."

Tandy and Casio say they expect to set the pace for the emerging market of handheld portable information devices, by combining their extensive technology and distribution systems.

The two companies will be joined by GeoWorks and Palm Computing in the project. GeoWorks will supply its GEOS operating system and Palm Computing, Inc., will supply applications software. GEOS is an open-architecture, object-oriented, graphical operating system which supports a wide range of input devices, including the pen.

Tandy said that GEOS is an ideal operating environment for this new family of devices, while Palm Computing has extensive expertise in easy-to-use, pen-based systems. The PalmPrint handwriting recognizer, developed for GRiD Systems' GRiDPAD computer, will be used for this project.

Grid's Bob Goligoski told Newsbytes the PalmPad system is immediately available.

Contact: Tandy Corp., 817-390-3549.

Fujitsu Renames Poqet Computer

SANTA CLARA, CALIFORNIA, JUN 2 (NB)—Poqet Computer is no more. Fujitsu, which helped bankroll the palmtop computer start-up, then slowly bought out the remaining equity, officially re-launched the company as Fujitsu Personal Systems, part of its $2 billion personal systems group.

From the beginning, the Poqet was a controversial machine. Its light weight turned heads, but its high price—about US$2,000—turned off buyers. The computer's keyboard, which was hard to use, and its limited expandability hurt it among buyers.

Recently, the company has tried to redirect its efforts toward field computing applications, adding wireless modems and calling it the Poqet Communicating Computer. But its market share remains low.

Fujitsu said that will remain its strategy, leveraging the company's patented power-management technology for systems used in field automation and mobile worker applications, such as data collection, sales force automation, field service, and electronic messaging.

Contact: Fujitsu Canada, 416-602-5454 or 1-800-263-8716.

Zenith Intros Two PC-compatible Pocket Organizers

CHICAGO, ILLINOIS, MAY 29 (NB)—Zenith Data Systems (ZDS) introduced its first electronic pocket organizers at the Consumer Electronics Show in Chicago this week.

ZDS said the ZDS-106 and the ZDS-112 will be sold through mass merchandisers and specialty retailers. The 106 has 64K of memory, while the 112 has 128K. The two units can store telephone lists, business card files, memos, appointment schedules, expense reports, and other miscellaneous items a traveler might want to track. Once you return to your office, you can use the included cable to upload the information to your PC.

ZDS said the machines both have a built-in calculator, calendar, and an alarm clock that shows both local and world time. They can also do metric, currency and clothing-size conversions.

Powered by three AAA batteries, the organizers weigh just under 16 ounces, and measure 3-1/4 by 6 by 3/4 inches. The black-and-white LCD display is 26 characters wide by 8 lines high. A 50-key QWERTY-style keyboard also has four arrow keys, up and down search keys, and eight function keys. A button-type battery similar to the one in your watch provides memory back-up while the three AAA batteries are being changed.

ZDS spokesperson John Bace told Newsbytes that the function keys activate program icons to select various functions. For example, one function key would activate the icon to launch the calendar, while another would launch the text processor. There's also a menu key, said Bace, that causes a different set of icons to be displayed.

ZDS said the 106 will sell for $199, while the 112 has a price tag of $299. Both units are scheduled to ship in September.

Contact: Zenith Data Systems, 604-683-8387.

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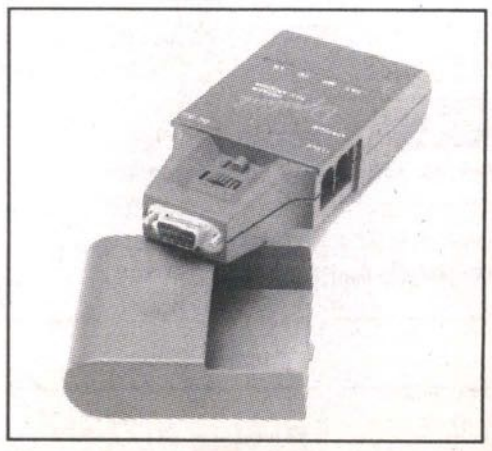

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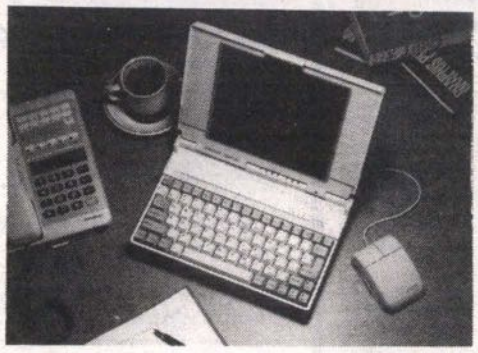

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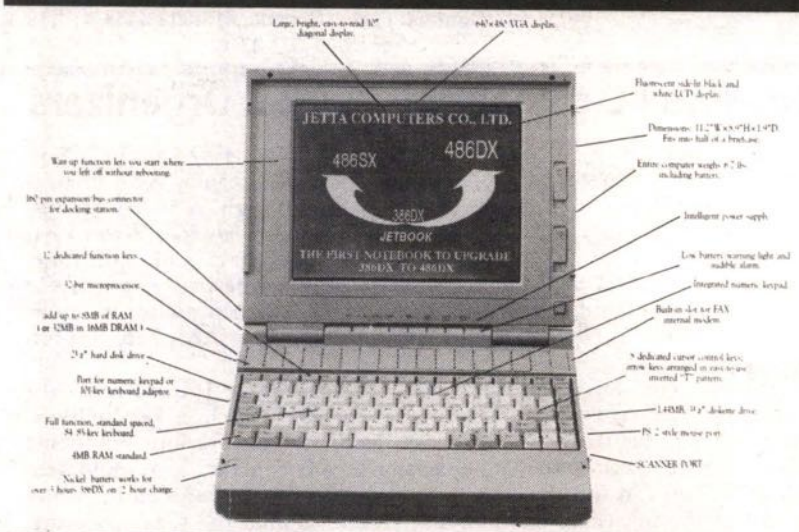

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New Spreadsheet For Psion Series 3 Pocket Computer

MONTREAL, QUEBEC, JUN 3 (NB)—A new spreadsheet package for the Psion Series 3 pocket computer reads and writes Lotus 1-2-3 spreadsheet files, according to Compulys, Canadian distributor for Psion.

Psion developed the software, described as "fully compatible" with 1-2-3. Patrick Taylor, vice-president of sales and marketing at Compulys, said the package can work with Lotus 1-2-3 files downloaded to the pocket computer through its serial port from a DOS PC or from an Apple Macintosh. However, he admitted, some commands are different.

The software includes financial, mathematical, logical, range, string, statistical, database, and table functions, according to the manufacturer. It also produces graphs and charts, which can be saved for inclusion in files created with other applications packages, such as word processors.

Taking advantage of the Series 3's multitasking capabilities, the spreadsheet can run at the same time as other applications, Compulys said.

Worksheets can be as large as 256 rows by 8,192 columns, with the additional limitation that files cannot take up more than 45 kilobytes (KB) of memory. The Series 3 spreadsheet will not operate on the version of the Series 3 computer with only 128 KB of memory.

The software has a list price of C$199.

Contact: Compulys, 514-333-0609.

WINDOWS & OS/2

MPC Starter, Upgrade Kits From Creative Labs

MILPITAS, CALIFORNIA, JUN 1 (NB)—Creative Labs, makers of the Sound Blaster and Sound Blaster Pro sound cards, has announced a new, low-priced Multimedia Starter Kit, and a lower price and additional software titles for its original Multimedia Upgrade Kit. Both kits are for the upgrade of an IBM or compatible personal computer (PC) to a multimedia personal computer (MPC).

The new Starter Kit contains everything that is in the more expensive Creative Labs Multimedia Upgrade Kit except the musical instrument digital interface (MIDI) and the larger library of compact disc-read only memory (CD-ROM) titles, and is retail-priced at US$650, Creative Labs said.

The Sound Blaster Pro stereo sound system, an internal CD-ROM drive, the Microsoft Bookshelf Reference Library, and the Sound Blaster Pro collection of software are all included in the Starter Kit, Creative Labs said.

The CD-ROM drive in the starter kit has a volume control and phone jack on the front panel. The drive connects to an interface on the Sound Blaster Pro card for data transfer with the PC and audio connections with the sound card, so both the card and the CD-ROM only require one expansion slot in the PC. The CD-ROM drive meets the MPC standard for performance with a 64 kilobyte (K) buffer and a 150 K per second direct data transfer rate, Creative Labs said.

The company said the Sound Blaster Pro includes a stereo digital/analog mixer, a four-operator FM synthesizer chip for 20 voices, recording sampling rates from 4 kilohertz (KHz) to 44.1 KHz, a built-in amplifier, a volume control, and microphone and stereo line-in jacks. Software included with the Sound Blaster Pro allows for text-to-voice applications, voice or music recording and editing, integration of sound with graphic animation, and control of standard audio CDs, Creative Labs added.

The Upgrade Kit has been reduced in price $50 from the suggested retail of $849 to $799. An additional four multimedia titles have been added as well. Macromind, a multimedia presentation package; Authorware Star, an authoring tool; Multimedia Works for Windows from Microsoft; and Tempra, a professional graphics and presentation system are all included now in the lower-priced Upgrade Kit. Already included is Microsoft Windows 3.1, Microsoft Bookshelf, the Sherlock Holmes Consulting Detective multimedia game, Creative Sounds professional audio clips, and a collection of sound clips with musical instrument digital interface (MIDI) files called Creative Music Clips 400.

Creative Labs also has the distinction of having the software drivers for the Sound Blaster Pro and Sound Blaster cards built-in to Microsoft Windows 3.1. The new Starter Kit is expected to be available June 1st, Creative Labs said.

Contact: Creative Labs, tel 408-428-6600.

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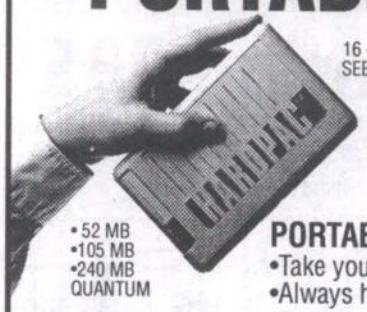

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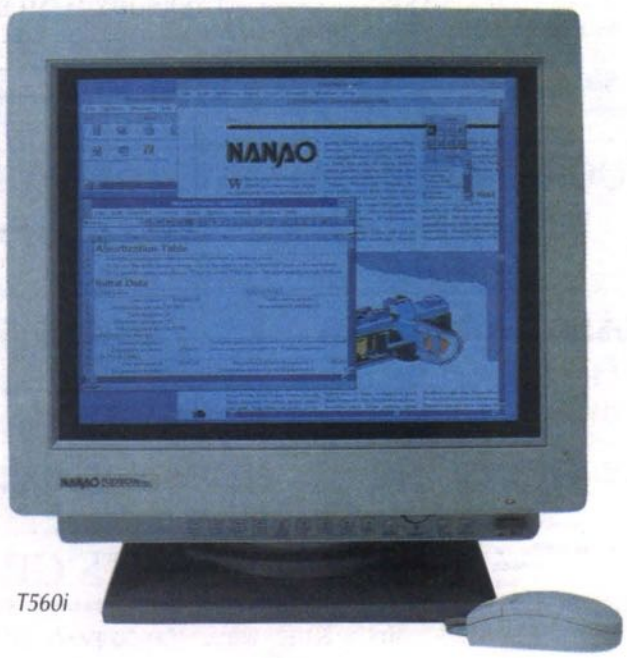

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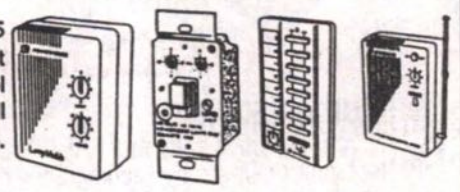

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IBM To Resell Datalus' OS/2 *MultiMedia DeskTop*

ATLANTA, GEORGIA, JUN 1 (NB)—IBM has begun remarketing MultiMedia DeskTop, an interactive software presentation and development tool from Datalus, Inc., of Okemus, Michigan, through its Multimedia Information Center.

MultiMedia DeskTop is designed for creating training and education courses, presentations, and multimedia kiosk systems. Written in Asymetrix ToolBook's OpenScript language, it is designed to look like an electronic book. Interactive presentations are created entirely in Asymetrix ToolBook, and MultiMedia DeskTop also includes materials for completing the preproduction stages of the presentation.

Every piece of an interactive presentation resides in the system's hard drive and the video, audio, stills, graphics and text can be modified in real time, IBM said.

MultiMedia DeskTop also provides dynamic linking for the ActionMedia II Digital Video Interactive (DVI) card developed by IBM and Intel.

IBM said MultiMedia DeskTop allows developers to use three screen types typically found in interactive videos: menus; questions; and video with optional text, graphics, or audio. It can also collect still pictures from motion video, pause and change the video source while capturing video, and set a timer to end a recording automatically.

MultiMedia DeskTop runs on the OS/2 operating system. It sells for $395, and requires Asymetrix Toolbook for OS/2, which sells separately for $299.95.

Contact: IBM Canada, 604-664-6000; Datalus, 517-347-1333.

TRENDS

New NTT Fax Machine Sends Fax In 3 Seconds

TOKYO, JAPAN, JUN 1 (NB)—NTT has developed a digital fax machine with a super-fast data transmission rate and a cipher and decipher capability to protect data from unauthorized snooping.

NTT's latest G4-type fax machine is said to be able to send an A4-sized page in only 3 seconds. It is also equipped with a laser printer instead of a conventional thermal printer. Called the "D5000" it works both on ISDN-based (integrated services digital network) INS networks and regular public phone lines.)

The pictures and text, NTT says, are extremely clear with 64 gradation mode. With an "instant memory" feature, a document can be read into the machine's memory at a very fast speed. The multitasking feature of this fax machine also enables the user to input a document to the machine even as it is receiving a fax message. The fax paper is loaded on A4 and B4-size cartridges.

The major advantage of this fax machine is its data cryptographic feature. The data can be ciphered as it is sent to the recipient. Then it is deciphered at the recipient's fax machine. The only problem is that the recipient needs the same fax machine.

The retail price of this fax machine is 1.5 million yen ($11,500).

Contact: NTT, +81-3-3509-3101.

AT&T Offers 3-Megabit Speeds On Copper Wire

LARGO, FLORIDA, MAY 27 (NB)—AT&T's Paradyne unit said it can run three megabits of data per second on a four-wire copper cable, meaning phone companies will be able to offer multimedia services on existing telephone networks. The news is a big blow to fiber cable makers, who had been expecting the nation's phone companies to replace their existing copper plant before offering TV pictures and other services.

The company calls its technology Carrierless, Amplitude/Phase modulation, or CAP. CAP transceivers use programmable computer chips and thus can be adapted to a wide range of transmission media, distances and data rates.

Paradyne said in a press statement its CAP systems are designed to complement fiber while accelerating the provision of new services in the local phone network.

In addition, Paradyne said, CAP technology can provide T1 data rates of 1.544 million bits-per-second on ordinary two-wire copper cable, the same type of cable found in most homes. The technology emerged from Bell Labs.

Contact: AT&T Paradyne, 813-530-8221.

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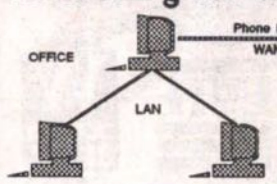

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"Big Fish" Borland Threatening dBASE Pond

VALLEY, CALIFORNIA, JUN 1 (NB)— Borland was wide and generous to the dBASE community when it was the biggest fish in the dBASE pond after its purchase of Ashton-Tate, but now the company's tone has changed with the official drop of suits AshtonTate was pursuing. The change appears to be directed at Microsoft, which recently announced it is entering the dBASE arena with the purchase of Fox Software.

Borland announced it has finally officially dropped the copyright suits it promised to stop upon its purchase of Ashton-Tate, the company credited with the development of the business software product dBASE. Ashton-Tate was pursuing Fox Software and the Santa Cruz Operation in roller coaster legal battles that appeared would continue for years.

Under the terms of the Borland purchase of the dBASE giant, the U.S. government required Borland drop any suits Ashton-Tate was pursuing over copyright infringement. Borland's President Philippe Kahn had already publicly announced his intention to do just that before the government requirements to do so.

Borland may be trying to walk a tightrope between fending off a suit filed against it by Lotus and keeping Microsoft at bay.

But threatening undertones exist in the most recent Borland announcement. Kahn specifically goes out of his way to congratulate Microsoft on its recognition of the dBASE standard by its purchase of Fox Software. However, in the next paragraph of the announcement, Borland claims nothing in the U.S. government requirement that it drop the Ashton-Tate suits affects its copyrights in the dBASE products.

Further, Borland says the decree specifically confirms that nothing in it precludes it from asserting copyright infringement actions with respect to all other aspects of those programs. Borland also is reminding everyone that the consent decree will expire on the 10th anniversary of its date of entry.

Borland inherited those copyrights, which some speculate might be unenforceable because of the fact that the parent of dBASE, Vulcan, was originally developed at Jet Propulsion Labs in Pasadena.

Borland also went out of its way to say that published reports that the decree puts aspects of the dBASE products in the public domain were incorrect.

Borland may be trying to walk a tightrope between fending off a suit filed against it by Lotus and keeping Microsoft at bay. Kahn said last year the Ashton-Tate/Fox Software suit is very similar to the Lotus suit against Borland.

In its announcement, Borland took the opportunity to restate its position that menu names and command structures are functional systems that are not protectable under copyright law. This is significant in the light of the company's long-standing legal fight with Lotus, expected to go to trial this year, under which Lotus is claiming Borland's Quattro Pro infringes on its Lotus 1-2-3 product.

While many agree with Borland, Lotus has already won a similar suit against tiny Brown Bag Software, which paid up and dropped its 1-2-3 look-alike product.

Contact: Borland, tel 408-439-1659.

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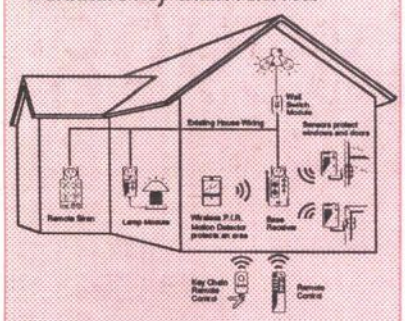

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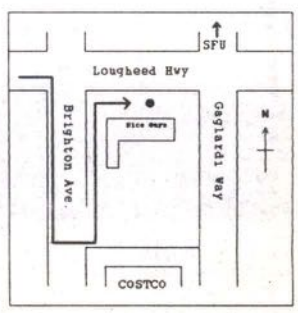

Macintosh Q&A

BY GRAEME BENNETT

Solving System 7 Font Failures

Q. I recently upgraded my Macintosh to System 7. Now it complains "This font suitcase is damaged and cannot be opened" when I double-click on any of my bitmapped font suitcases. What's wrong, and how do I fix it?

A. This is exactly what happens if you are using screen fonts that were compressed using Suitcase II by Fifth Generation Systems. Luckily, the newest version of the program can fix this problem, which, by the way, doesn't affect System 7's ability to access the fonts—it just can't display them with a double-click. All applications (including the supposedly-obsolete "Font/DA.Mover 4.1") can still open the fonts normally. If you elect to update your suitcases, you will need to use Suitcase 2.0 or newer (2.1 is the latest version) to de-install your screen fonts so that you can run the new improved "packing" routine. Suitcase allows to you to open or close font suitcases at any time and access fonts in any folder. Remember to keep font suitcases in the same folder as any Type 1 printer fonts you might have.

Doubling Disks

Q. My hard disk is full. I've heard about utilities that can double my disk space. Are they any good? What happens if I copy from that drive over a network? Does it uncompress before copying?

A. There are several utilities that can automatically compress your files without having to tell them to. For the PC, titles include Stacker, SuperStor, DoubleDisk and DR DOS 6.0. The Mac has AutoDoubler, MoreDiskSpace and SpaceSaver; the Atari has DC Data Diet. There are similar utilities for other computers.

There are clear advantages: Your free disk space will approximately double "like magic." You do not have to do anything. All files on your hard disk will be transparently decompressed whenever you use them, and recompressed again afterwards.

There are also disadvantages. There may be some unforeseen incompatibilities. Any of these utilities will cause a slight slowdown in the speed at which files open (while they decompress), and other system functions may also be adversely affected. Salient Software's AutoDoubler, for example, greatly increases the amount of time it takes to perform a file copy to floppy disk because it automatically decompresses all copied files. Worse, it is impossible—at least in the current version (1.07)—to copy a file to a floppy in a compressed form while AutoDoubler is active unless you also own Salient's DiskDoubler, and use that product's Copy To... command.

Although I can vouch for their safety (I have tested DoubleDisk and AutoDoubler extensively with no loss of data), the downside of these compression schemes is that they slow loading and unloading down. I would advocate not using these utilities unless you are willing to pay penalties in performance, convenience, and possibly the stability of your system. I think disk management is more the key. I would advocate the selective use of a compression utility (such as PKZIP or LHARC for the PC, or DiskDoubler, Compactor Pro or StuffIt for the Mac) to "consciously" compress large files for backup and/or occasional use. Transparent "disk-doubling" utilities are a little like black magic and there is no such thing as a free lunch, or free hard drives.

SUMMARY: My tests suggest that these products will not wreck your data, or cause irreversible problems. If you don't mind the slowdown, compression utilities can help relieve the "disk space crunch" that most of us are feeling.

Q. A new software package I want to run requires an FPU. My Mac LC doesn't have one. What do I do?

A. Mac LC, LCII, Classic II, Powerbook 140 and IIsi users might want to have a copy of SoftwareFPU 2.2, which is available from GEnie, CompuServe, America Online, BBSes and Mac user groups.

SoftFPU allows you to run certain programs which would not otherwise run on these machines because they do not have a floating point unit (FPU). Known "problem programs" include: Studio/8, ColorStudio 1.0, FontStudio 1.x, and Excel 2.2 or earlier.

If you are not experiencing compatibility problems, I would not recommend installing it. Every system extension (INIT) you throw at your system adds the potential for crashes or other problems.

Users of SE/30, SE, Mac Plus, IIcx, IIci, IIfx, Quadra do *not* need this program.

CPU and/or FPU upgrades are also available for all Macs from various third parties. A real FPU will greatly outperform a software FPU emulation—an important consideration for math-intensive applications such as CAD and number-crunching programs.

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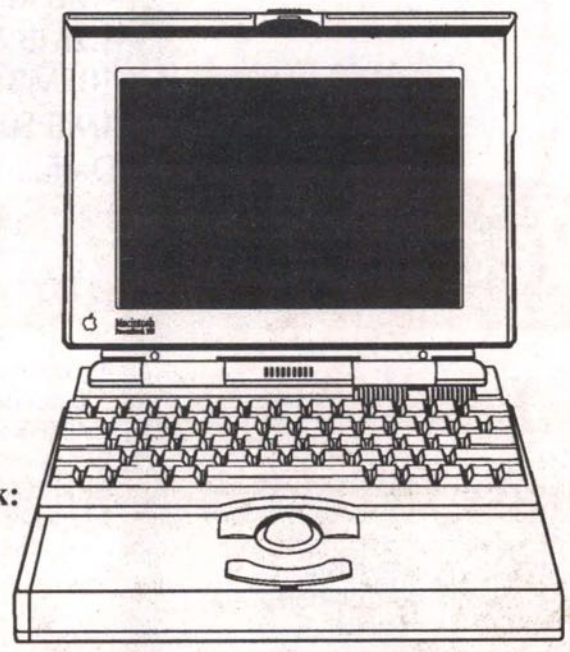

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Q&A Mystery of the Missing Colors

Q. I recently printed color separations from my DTP program and, although the background and text colors printed correctly, all of the scanned color pictures came out in black and white. However, I printed a color laser print of it, and everything looked fine. Why?

A. Your color scans printed in color but didn't separate because most page-layout programs (including PageMaker, Quark XPress and the standard release of Ventura Publisher) cannot do their own separations of RGB color TIFFs. This explains why everything but the photos separated, and why the photos looked fine on-screen.

PageMaker 4.2 for the Mac now includes PrePrint, a separation utility. Quark users can use an add-on called SpectreSeps, or Adobe Photoshop to produce the CMYK (cyan/magenta/yellow/black) TIFFs or DCS (desktop color separation) EPS files capable of being separated from within that program.

To further complicate the issue, because a color printer outputs a composite image (i.e., not separated), it prints the colors correctly (well, probably not, but that's another story!)

The best way to accurately proof color separations is to have have a color key made. There are several different color proofing technologies, including 3M's Matchprint and Du Pont's Cromalin. We use one called Cromacheck; there are others.

Making a Cromacheck involves printing each separation layer on clear acetate in the actual ink color it is supposed to be, then sandwiching the four layers together. When you place this color proof on a sample of the paper stock you will be printing on, you get a reasonably close approximation of how the final printing will look.

Q. What does it mean when a microprocessor is said to be 33 MHz or 25 MHz? Why is a 33 MHz 386 faster than a 25 MHz 486?

A. MHz (megahertz) means "millions of cycles per second," and refers to the speed of the clock in the central processing unit (CPU).

The faster the clock, the more computational instructions the CPU can process per second. However, a 486 has more functions (i.e., a math co-processor, etc.) built into the chip, and as such, can perform computational instructions more efficiently. So, a 25 MHz 486 will almost always outperform a 33MHz 386. See *Clock Doubling* in this issue for more details.

Q. What is I/O?
What is a multi I/O card?

A. I/O (pronounced "eye-oh") stands for input/output. A keyboard or mouse is an input device; a printer or screen is an output device. A "multi I/O card" usually means a PC circuit board with parallel, serial and joystick port(s) on it. Parallel is a common method of connecting a printer to a PC (the Mac uses serial ports for connecting printers); a multi I/O card's serial port can be used to connect a modem, mouse, etc.

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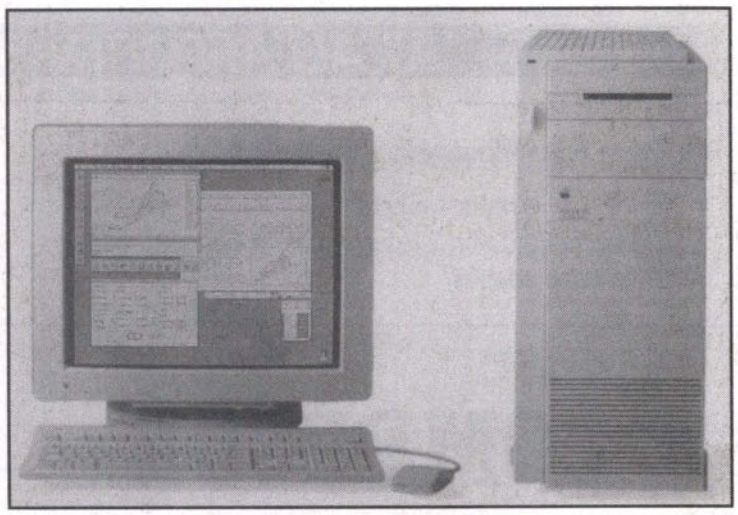

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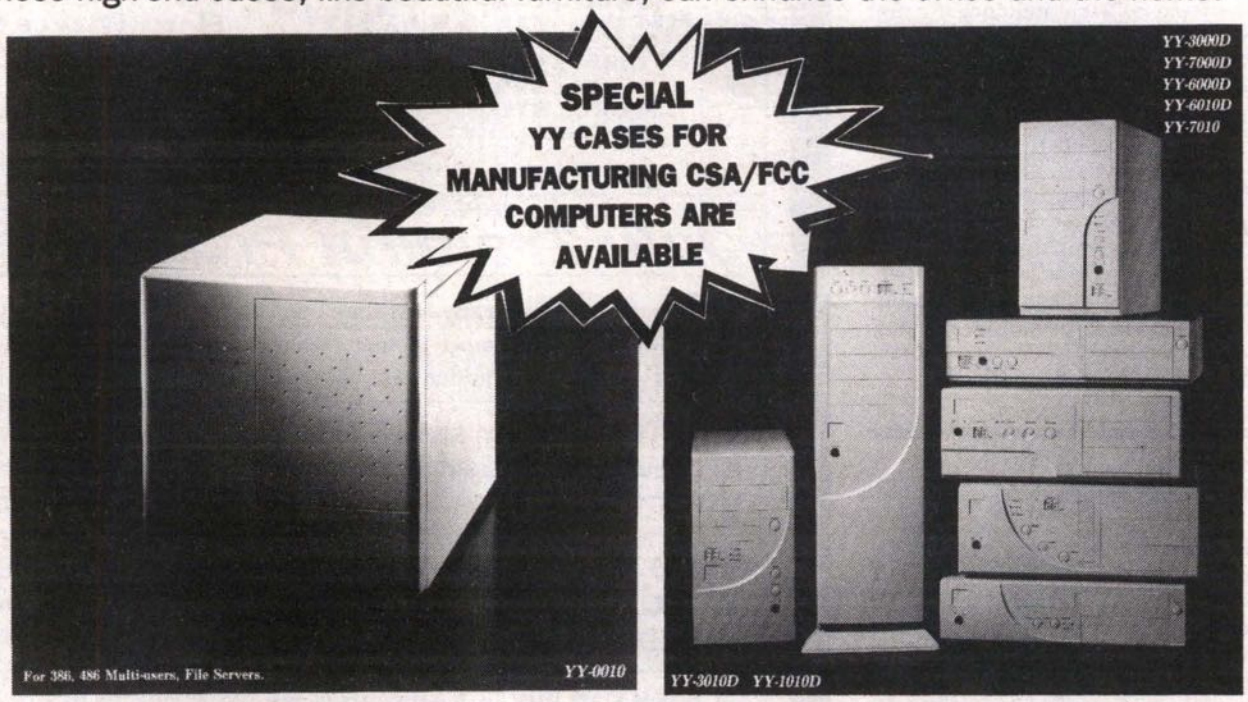

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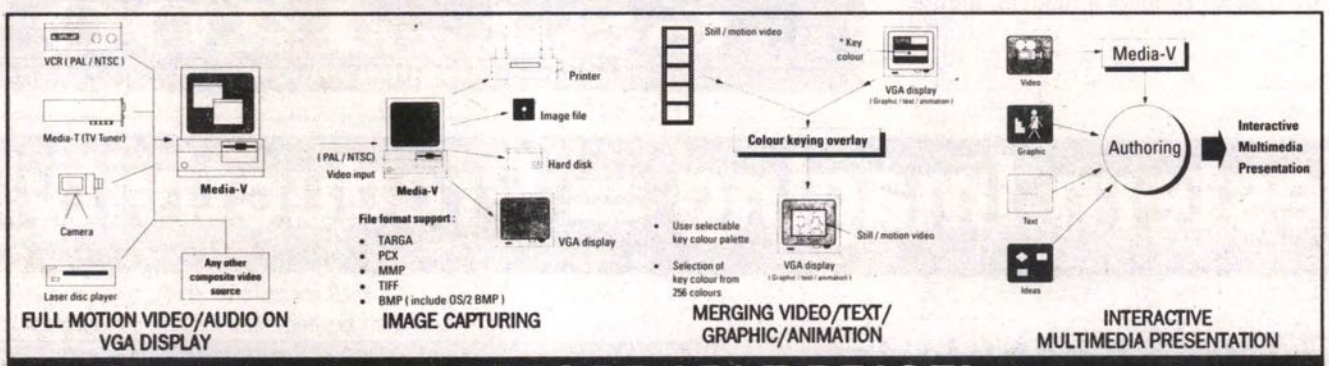

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ABOUT THE COVER

Techniques

BY GRAEME BENNETT

This issue's cover was created using a Macintosh IIfx and Aldus FreeHand 3.1. The face was inspired by a picture from an old horror movie poster; the computer was based on an illustration I created for a previous issue.

The logo got a unique treatment this issue. I first selected all of the letter outlines of the logo (by clicking each one while dpressing the the Shift key), and then used FreeHand's Join Paths command to create a composite path. When I first did this, I noticed that the area where the composited "h" and the "e" overlapped created a hole in the "e." To solve this, I used FreeHand's Knife tool to cut and re-join the letters so that no areas overlapped. (It may interest longtime readers to examine the word "The" on the May 1991 cover to see what it looks like when such an obscure problem occurs.)

Overlapping composite paths are often desirable. In this case, joining all of the logo elements together as a composite path allows the "holes" in the letters to be transparent, so that it is unnecessary to fill each one with the background color. An additional benefit—and the main reason for my efforts—is that once a composite path has been defined, an object or pattern may be pasted into it using FreeHand's Paste Inside command.

To create the diagonal crossfade (light/dark/light), I drew a right angle just outside the upper-left corner of the logo and made a "closed path." An easy way to do this is to press Command-I and click the check-box labelled "Closed" in the Path dialog that appears. This produced a triangle which was then filled with white. Parallel to the diagonal side of the triangle, I drew a four-sided parallelogram which was filled with a dark blue. (Colors were easily created and selected via the on-screen Colors palette.) Then, again using the Shift key to select both objects, I clicked on a control point for each object. Just as I was about to invoke FreeHand's Blend... function, I realized that blending a three-sided object with a four-sided one was not going to give me the smooth fade from white to blue I intended. I clicked on the triangle and used the Pen tool to make a fourth control point. After this was done, it blended smoothly—FreeHand's automatic blend calculation function suggests the optimum amount of steps to produce a smooth blend. Then, using the Clone Function (Command-=), I duplicated the now-grouped white-to-blue object, rotated it 180 degrees using the Rotate tool and positioned it in the lower-right corner of the logo. With minor size adjustments, the two opposing triangles fit together to form a white/blue/white square. I grouped it and cut it to the Clipboard. I then selected one of the outlines of the logo and used FreeHand's Paste Inside command to fill the letters with the blended colors of the object on the Clipboard.

The face and computer were mostly created using gradient fills and blends. I left areas unfilled until all of the important sections had been drawn. I defined about 50 colors—mostly minute variations in fleshtone, pink and beige.

The picture grew to be a 424K file—big for a FreeHand file, but a far cry from scanned photos, which could be 20 megabytes or more for the same size image.

I modemed the file to our service bureau, WYSIWYG Graphics, which maintains a BBS for this purpose. After printing a color proof and making some minor changes, a revised version was output as color separations at 1270 dpi on a Linotronic 330 imagesetter. ■

UNIX WORLD

HP Offers New Color Workstations Priced Under $10,000

PALO ALTO, CALIFORNIA, MAY 13 (NB) — Hewlett-Packard (HP) is introducing two new color workstations, priced under $10,000 and geared directly at competing systems from Sun Microsystems and IBM.

The new models, the Model 705 and 710, are additions to the Apollo 9000 Series 700 family of PA-RISC (reduced instruction-set computer) workstations. HP is going directly after both Sun and IBM with price/performance comparisons and upgradability.

HP says the Model 705 is entry-level priced at less than $1,000 less Sun's Sparcstation IPX. However, the company maintains that a typical configuration with a 420 megabyte (MB) hard disk and 16 MB of RAM offers 70 percent greater graphics performance and nearly 40 percent more performance for the price than the Sun IPX.

HP added that the same configuration compared to the IBM RS/6000 offers 30 percent greater performance, 400 percent greater graphics performance, and is priced at $500 less.

The Model 705 can be board upgraded to the Model 710, something Sun and IBM cannot do with their comparable workstation systems, HP maintains.

Competition in the workstation market is heating up, as Sun recently announced price reductions on its workstations. According to market research company Dataquest, Sun has three of the top five selling workstations, but both IBM and HP hold a ranking in the top five. HP's 9000 Model 425 is its member of the top five selling workstations, Dataquest said.

Contact: Hewlett-Packard (Canada) Ltd., 604-270-2277.

NETWORK NEWS

VIM—Cross-platform Mail, Messaging Standard Available

CUPERTINO, CALIFORNIA, JUN 11 (NB)—Software developers can now get a tool to help them with cross-platform development of mail and messaging software. Version 1.0 of the Vendor-Independent Messaging (VIM) Interface specification is available, according to Apple, Borland, Microsoft, and Novell.

The companies say the purpose of the specification is to eliminate the need for software developers to write a different software module to accommodate each computer system and messaging platform the software is to run on.

Each company is now offering the specification at no charge to anyone who requests it. Each of the companies is providing technical support for its developers implementing the VIM specification, however developers will need to get the specification document itself to get the instructions for support, the companies said.

The companies said they hope to promote a proliferation of commercial and in-house applications that incorporate interpersonal and interprogram communications for computer users.

Apple, Borland, Lotus, Novell, and IBM have all announced their intentions to support the VIM Interface standard in future products.

Specifically, Apple says it will support VIM into System 7, and Borland says VIM support will go into its Object Exchange (OBEX) technology. Lotus plans to place support VIM into future cc:Mail and Lotus Notes versions, and Novell says VIM support will be incorporated into Netware Global Messaging and Netware MHS. IBM, meanwhile, says it will support VIM in its Office product strategy.

Contact: Apple Canada, 416-513-5787; Borland, 416-229-6000; Lotus Canada, 416-979-8000; Novell Canada Ltd., 604-684-0344.

CANADIAN NEWS

3D Micro opens Montréal Office

Not all businesses are on the run from Quebec, 3D Micro, a leading supplier of IBM-PC compatibles in Canada, according a recent Evans Data Research report, has opened an office and warehouse in Montreal. According to company officers, their new 4100 square foot facility enables 3D Micro to feature under 24-hour delivery throughout Québec and offer better service to their dealers in the Atlantic provinces.

The new office is located at 5703 chemin St. François close to the Dorval airport and in the midst of St. Laurent's high technology sector.

Chuck Yeung, 3D Micro's Vice President of Marketing, sees the St. Laurent office as a key in the companies expansion plans. "We have been active in the Québec marketplace for several years through associated companies. By opening a Montréal office, we hope to raise the profile of 3D Micro in the francophone areas of Canada. The French Canadian market represents a very significant segment that we would like to focus on more."

Contact: 3D Micro, Montréal, 514-333-3922.

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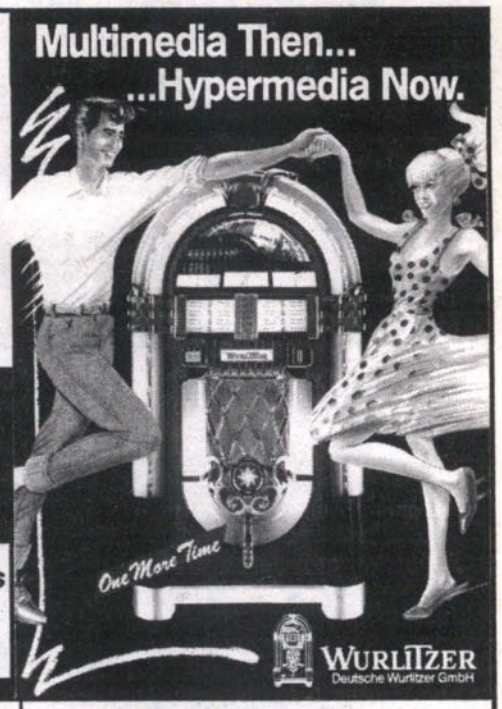

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R E V I E W

Apple Macintosh PowerBook 140 4/40

REVIEWED FOR NEWSBYTES BY SEAN MCNAMARA

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Price: C$3,999

Rating: 3.6 on a scale of
1=lowest to 4=highest

Summary: The PowerBooks represent the first offerings from Apple which truly are in the laptop class. Incorporating many of the design features of the Mac Portable, but with true laptop size and weight, Apple is set to reap the benefits of giving users what they want from a laptop.

There was a time when portable Mac computing meant either having a concrete block on your lap, or using a third-party solution. Many users preferred to stay with Apple and cried out for a light, powerful and reliable machine which would let them run their Mac software when on the road. Despite its battery-saving features, good screen and long-lasting battery, the original Portable was doomed to failure, and Apple was late to bring out realistic replacements.

Enter the PowerBook range. With the same battery-saving features as the Portable, the PowerBooks have a good start. But there's a lot more to these Macs. Apple has learned its mistakes from the Portable, and the PowerBooks come across as a generally well- thought-out line of laptop computers. This review will concentrate on the PowerBook 140.

The PowerBook 140 is as compatible with normal Mac software as any other Mac. There are some programs which won't work (notably, some MIDI software and applications which require an FPU or System 6), but these will dwindle in number as upgrades are released.

Using the 140 is really very much like having a full-blown Mac: the keyboard is full size; the 40MB hard disk drive is adequate for most users. It has normal modem and printer ports and reset/interrupt switches as well as sound input and output sockets. A mouse can be connected; there is also an external hard disk drive interface. Internal modems are available. Surprisingly, the 140 does not support the connection of external monitors, nor does its Supertwist LCD display support gray-scales; it is black-and-white only. It does, however, include Color QuickDraw in ROM.

Most of the time, I tended to use the trackball on the PowerBook, rather than carry around a mouse. Although use of the trackball takes a bit of getting used to, it does become as easy to use as the mouse, and I found no trouble switching between the two.

Users may consider three types of utilities which may make the transition to the PowerBook easier. The first is one which allows the user to "tear-off" the menus and just click on the options in a little "menu window." (One such utility is TOMINIT II by MindVision Software. This shareware title is available on America Online, CompuServe and other on-line sources—*Ed.*) One of the hardest things to get used to with a trackball is accessing the menu, and tear-off menus can help a lot.

An alternative to this is a utility which allows you to click on a menu and have it stay open without needing to drag (menus operate like this in Microsoft Windows). Options are then selected by just clicking on them (almost like a temporary stationary tear-off menu). Several utilities can add this feature to the Mac, including the shareware title "EZ Menus."

The third is a utility which allows keyboard navigation of dialog buttons and marks. One such title is DialogKeys (a commercial utility included with CE Software's QuicKeys.) There are shareware versions of this type of utility available, too. All are well worth the registration for the increased ease of use they afford the PowerBook user (and in many cases, "normal" Mac users).

Performance

The PowerBook is no slouch, operating as a whole at about four times the speed of a Mac Classic (the PowerBook 140's processor is a 16MHz 68030). It is worthwhile to have a minimum of 4MB of RAM. Not only is System 7 a bit of a RAM-hog, but virtual memory chews up battery life and slows performance. With more RAM, the user can set up a RAM disk, which not only speeds performance, but also cuts battery use. The investment in memory is well worth it considering the cost of memory.

Although Apple claims the system has been designed to give the maximum possible battery life from the nickel-cadmium battery, battery life is not as impressive as it was with the Mac Portable. Incorporating the useful "sleep" feature saves battery power and the sleep settings are user-adjustable (and can be turned off if desired). As the battery level reaches "reserve" power, the system gives a warning dialog and automatically dims the screen slightly.

Putting the computer to sleep manually at this time until AC power can be connected is a handy feature, as the state of the computer is maintained. When it is awakened, the system is just as it was left. One minor hitch comes when plugging the power pack into AC power. The pack is at a size where it cannot sit in a double socket with another power cord plugged in next to it, and on some single sockets the socket switch hampers the pack sitting in the socket neatly.Some ways around this are: to use a short extension lead; to use a 4-socket powerboard and lose a socket; or use the external charger.

Rating

PERFORMANCE: 2.5. While the PowerBook 140 runs at 16MHz, its "real-world" performance does not match that of Apple's 16MHz desktop models such as the IIcx or SE/30. It does, however, run just about all Mac software. With System 7 taking up 1MB of RAM at its leanest, and most programs requiring 2MB clear these days, 4MB should be considered the minimum entry-level, especially with the price of memory these days.

USEFULNESS: 4. Mac users have been dreaming of a Mac laptop for years now, and the wait was worth it. With the three models covering most people's needs (and the 6.8-pound PowerBook 140 being a nice middle-ground machine), and with Apple using realistic pricing structures for what it delivers, most users will be satisfied with what they receive. It is unfortunate that neither the PowerBook 140 or 170 directly support a gray-scale display or the connection of external monitors, but third-par video adaptors are available to overcon the latter problem.

MANUAL: 4. Apple is renowned for manuals, and the PowerBook is a gre example of why. With a clear layou numerous screen shots and illustratio and System 7's Balloon Help, users shou have no trouble working out the ins a outs of the PowerBook. ■

Dell Announces 3.6 Pound Notebook PC

AUSTIN, TEXAS, JUN 11 (NB)—Dell Computer has announced what it describes as the industry's first full-function 386SL-based notebook computer weighing under four pounds.

Weighing 3.6 pounds including the battery, the slim unit is powered by an Intel 386SL microprocessor running at 20 megahertz (MHz). Called the 320SLi, the unit has a footprint of 7.75 by 11 inches, just slightly smaller than a piece of office stationery. Only 1.25 inches high, it would fit into some of the slim briefcases that other, fatter models might not go in.

Dell said the unit will ship with two megabytes (MB) of RAM, a 3.5-inch high density external floppy drive, and a 60MB internal hard disk. RAM can be expanded to 10MB, and 80 and 120MB hard drives can be substituted for the 60MB unit. Base price for the 320SLi is $2,149. The 80MB drive system adds $200, while the 120MB drive adds $500 to the base price. MS-DOS 5.0 and Windows 3.1 are pre-installed.

Dell told Newsbytes that its engineers were able to reduce the weight through several engineering accomplishments and design innovations. The company said the 320SLi uses a new high-contrast non-edgelit LCD (liquid crystal display), and using an external floppy drive helped cut both weight and size. The video display is 640 by 480 resolution and supports up to 64 gray scales. Because the LCD display requires less power, Dell said it was able to use lighter, smaller batteries.

The 320SLi also incorporates a PCMCIA 2.0 slot, an industry standard expansion capability that will allow the user to add options such as fax and networking from third-party suppliers.

Another nice feature is the use of the "Fn" key and the cursor keys to emulate a mouse. Users could use programs that require a mouse, such as Windows applications, without having a mouse attached. This is especially convenient if you use your notebook on an airplane.

The external disk drive connects through the parallel/diskette drive port, weighs 12 ounces, and measures 4.2 by 5.8 by 4.7 inches. The 320SLi is powered by a Nickel Metal Hydride battery which Dell says will power the unit for about three hours without the use of its power management system. An optional 2400 baud modem about the size of a credit card is available, as is an optional dual battery charger. The system comes with a slipcase that has a pocket for the external drive and other accessories.

The system also has an external VGA connection as well as a mouse connection if you want to use a conventional mouse rather than the Fn key-arrow combination to control the cursor.

The 320SLi uses a flash ROM (read-only memory) which allows the system's BIOS (basic input/output system) to be upgraded from Dell's 24-hour bulletin board or from a floppy diskette.

Contact: Dell Computer Corp., 1-800-387-5752 or 416-764-4200, fax 416-764-4209.

Lotus Emphasizes Work Groups, Communications

BOSTON, MASSACHUSETTS, JUN 10 (NB)—There is no denying that Lotus Development is a spreadsheet company—various versions of the 1-2-3 spreadsheet software remain its biggest seller, and at the company's annual meeting, Chairman and Chief Executive Jim Manzi noted that Lotus' share of the DOS spreadsheet market rose in the fourth quarter of 1991. But Lotus is not thinking only about spreadsheets.

Communication and cooperation among workers, not more raw information, is what is really needed.
—Jim Manzi, Lotus CEO

In his speech at the Lotus annual meeting, Manzi concentrated on the importance of communications and of software to help people work together. The latter is the function of Notes, an ambitious work-group software package that Lotus—along with at least some outside observers—sees as the company's next really big product.

Manzi contrasted the approach taken in Notes with what he called the traditional data processing view, which is that more and more information is the answer to every problem. Manzi contended that communication and cooperation among workers, not more raw information, is what is really needed.

Communications is the underpinning o Lotus' product strategy, Manzi said, and i goes beyond Notes and cc:Mail, the elec tronic-mail produc Lotus acquired i 1991, to communica tions features in othe software. "Only ou Windows application are mail-enabled, Manzi pointed ou referring to the abilit of applications pack ages to work closel with electronic-ma systems.

Jeffrey Tarter, ed tor and publisher o the Watertow Massachusetts-base Softletter, tol Newsbytes that Notes a visionary produ that will have as muc impact as 1-2-3 has had. "I've said that th is going to be 1-2-3 for networks," he sai "It will change organizations as much as 1- 3 has changed them."

However, Tarter said, that does n mean Notes sales will boom in the next fe months. "We're probably talking 10 years get to where 1-2-3 is now," he said (1-2-3 itself about 10 years old). Tarter said No may even be a bit ahead of its time.

Contact: Lotus Canada, 416-979-8000.

Zenith Announces 40 New PCs And Monitors

PARIS, FRANCE, JUN 10 (NB)—After wining and dining its dealers and major clients at the new Euro Disney complex, Zenith Data Systems flew into Paris this week to launch no less than 40 new machines. The company says the machines form the basis of a revitalized range of products, majoring on the portable PC front, that will confirm Zenith's position in the European marketplace.

"This is the biggest product launch in the 13-year history of Zenith Data Systems," said Enrico Pesatori, the company's president and chief executive officer.

The products will feature built-in networking capabilities and upgradable microprocessors and hard drives.

Zenith Data Systems was the computer division of Zenith Electronics until 1989, when it was purchased by France's Group Bull. Zenith Electronics is a competitor in the emerging high-definition competition presently being tested.

According to Pesatori, the launch of the new machines signals a split for the company, which is dividing its activities into two specific market sectors—the professional high-end user and the mainstream desktop and portable PC user.

Among the new products, Zenith unveiled 19 "Z station" desktop PCs, five monitors, eight deskside/tower systems, eight portables. The portables include four "Z-note" notebooks and four portables with networking facilities.

The Z station systems feature a modular Intel-based architecture starting from a 25 megahertz (MHz) 80386SX microprocessor and rising to the Intel double-speed 80486DX2 technology. A key feature of all 19 Z station machines, which range from $1,899 to $3,599, is the inclusion of a proprietary Windows accelerator board, which boosts graphics imaging under Microsoft Windows by as much as 500 percent, the company claims.

To make way for the new machines in the retail channel, Zenith has cut pricing on most of its existing machines. The new machines should be available by the time you read this.

Contact: Zenith Data Systems, 604-683-8387.

New For PC: Lotus SmartPak For Windows 1-2-3

CAMBRIDGE, MASSACHUSETTS, JUN 10 (NB)—Microsoft has been scoring competitive points over Lotus with some of the features of its new Excel 3.0 spreadsheet software for Windows, and Lotus doesn't plan to sit still for much more. The maker of 1-2-3 has struck back with a companion product to its own Windows spreadsheet that adds many of the features found in Excel 3.0.

Speaking to reporters and analysts in Boston recently, Jeffrey Beir, vice-president of Lotus' spreadsheet division, admitted: "the competition" (he didn't specifically mention Microsoft) had been "making hay" out of some features Excel has and 1-2-3 hasn't. He called SmartPak for Windows "a quick, aggressive response."

Among the features of SmartPak is SmartFill, which fills in a spreadsheet range with commonly used data series such as months, days, numbers, and letters. For instance, if you enter "January" in a cell, you can then use SmartFill to fill in the next 11 cells of the row automatically with the names of the other 11 months.

A CrossTabs feature is used to create a summary table from database information. SmartFormat lets users cycle through as many as 10 predefined formats for dressing up a table of data with borders, fonts, and the like. SmartPak also provides SmartIcons for summing three-dimensional ranges, zooming in and out to display more or less data on the screen, centering text across a range of columns, and other functions.

The software also adds application development tools to help 1-2-3 users create custom applications.

Lotus plans to "slipstream" SmartPak into new packages of 1-2-3 for Windows Release 1.1, meaning it will be shipped with all new copies sold at no extra charge. Users who already have Release 1.1 can get SmartPak from Lotus at no charge.

Contact: Lotus Canada, 416-979-8000.

Lotus Licenses Windows Database Technology

CAMBRIDGE, MASSACHUSETTS, JUN 4 (NB)—Lotus Development has licensed AceFile for Windows, a flat-file database product from Ace Software of San Jose, California. Lotus intends to use the AceFile technology in future products.

A statement from Lotus described the AceFile technology as a "technical foundation for certain of our future entry-level products."

The license is non-exclusive with worldwide distribution rights. Suneel Kelkar, vice-president of marketing at Ace Software, said his company will continue to sell AceFile and does not expect any conflict with Lotus' plans. Lotus plans to incorporate the technology into other products, not sell the current AceFile package, he said. No other terms of the pact were disclosed.

AceFile can read files created by dBASE, the widely used PC database program, as well as files created by other applications packages including Lotus' 1-2-3 spreadsheet package. However, AceFile is a simple file management package, not a programmable database management system meant for application development as dBASE is, a spokeswoman for the company said.

The announcement thus should not be seen as another in the direct line that includes Microsoft's purchase of Fox Software and Computer Associates' buyout of Nantucket Corp., both of which make database packages that are compatible with and direct competitors to dBASE. However, the move could play a role in Lotus' plans to enter the Windows database market, an area that is expected to boom in the coming year.

Contact: S & S Public Relations for Ace, 708-291-1616; Lotus Canada, 416-979-8000.

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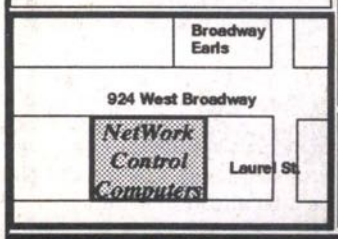

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Norton Backup 2.0 For Windows Offers Tape Backup

CUPERTINO, CALIFORNIA, JUN 9 (NB)—Tape backup software for Windows is being offered in the new version of Norton Backup for Windows.

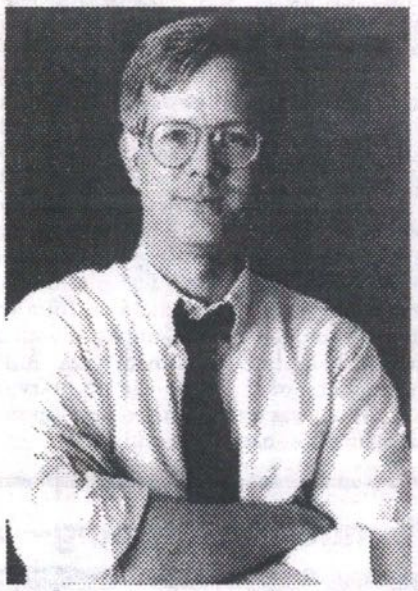
Symantec maintains that the Norton Backup version 2.0 for Windows supports industry standard quarter-inch (QIC 40/80) tape devices such as those made by Alloy, Core International, Tallgrass, Archive, Irwin SX, Tecmar, Colorado Memory, Mountain, and Wangtek. Automated capability for backups is included in the product, along with time and space estimates, Symantec said.

While most tape backups come with software, some of the software conflicts with Microsoft Windows. Colorado is such a manufacturer. While the company says it is working on software that will work with Windows, Colorado users are instructed to boot from a floppy disk in order to run the tape software under DOS.

However, Rod Turner, executive vice president of Symantec's Peter Norton Group, said in a prepared statement that backups can be made transparently and automatically under Windows with the new version of Norton Backup.

Backups can be performed to other devices as well, including hard disks, network drives, and floppy disks. Also, in case of an emergency, a restore can be done without reinstallation of Windows, Symantec said. Password protection to prevent overwriting and unauthorized use of backups is also provided.

Network backup problems, including dealing with retrying when files for backup are open on the local-network disk drives, are also built-in to version 2.0, Symantec said. The product creates reports which lists the backed-up files and identifies any problems during the backup, restore, or compare, the company added.



Recently, the Norton Backup was included as part of the Norton Desktop for Windows 2.0 product. Ana Shannon of public relations for Symantec said the 2.0 version of Desktop for Windows includes a coupon for the tape backup support, so users could get it when it became available. In addition, the tape backup support is being included in all copies of Norton Desktop for Windows that are currently shipping, Shannon added.

The Norton Backup 2.0 For Windows retails for $149. However, Symantec said previous users can upgrade for $50.29 including GST, shipping and handling.

Contact: Symantec, 604-737-0214 or 800-441-7234; upgrades 800-465-2266.

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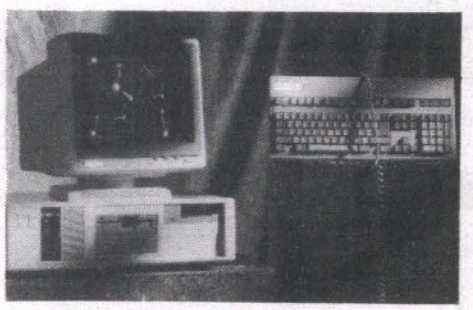

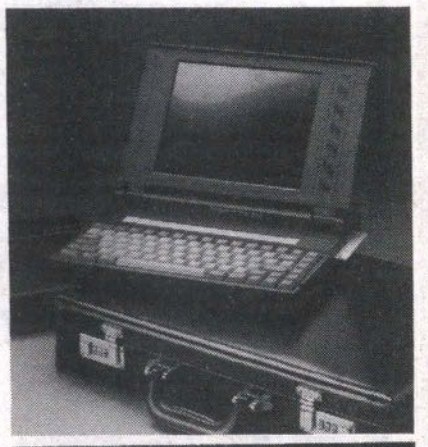

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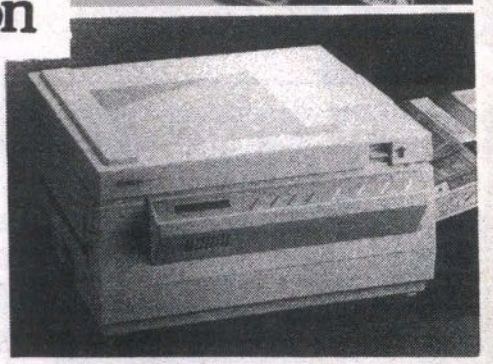

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Zenith Data Systems To Break Even, May Leave ACE

PARIS, FRANCE, JUN 10 (NB)—Speaking to reporters after a news conference announcing a new line of Zenith Data Systems high-end computers, Bull Chairman Francis Lorentz said Zenith Data Systems (ZDS) should break even this year. ZDS reported a loss on sales volume of $1 billion last year.

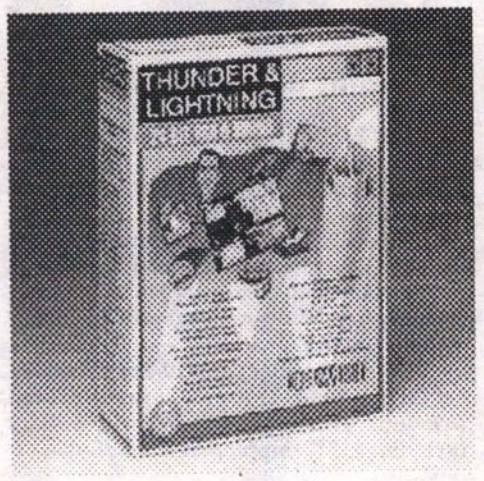
Lorentz and ZDS President Enrico Pesatori also said the company might quit the Advanced Computing Environment (ACE), an industry group set up to develop new computing standards. ACE founders Digital Equipment and Compaq Computer have already left the consortium. Bull's announcement could be the obituary for ACE, which was attempting to develop standards for RISC-based computing.

Pesatori also announced that IBM will soon announce products made in conjunction with ZDS. "You will see products of ZDS announced by IBM in the near future," he told reporters.

Pesatori said he could not discuss what the new products were yet, but that they are based on Zenith technology and made by Zenith. A previously announced deal between IBM and ZDS calls for more than 150,000 personal computers to go to IBM from Zenith. However, that volume will not be reached this year, since the deal was formally approved last week.

Contact: Zenith Data Systems, 604-683-8387.

Thunder & Lightning—VGA, Sound On Single Card



FREMONT, CALIFORNIA, JUN 5 (NB)—"Thunder and Lightning" is what Media Vision is calling its newest hardware card that incorporates high-quality video graphics array (VGA) support with sound.

The Thunder and Lightning card is capable of 24-bit VGA, and offers 16.8 million colors in 640 x 480 pixel resolution, 65,536 colors in 800 x 600 pixel resolution, or 256 colors with 1024 x 768 pixel resolution. It also supports ergonomic Video Electronics Standards Association (VESA)-compliant refresh rates up to 72 hertz (Hz), Media Vision said.

Media Vision says the sound capability of the Thunder and Lightning is compatible with Sound Blaster and Adlib. It is capable of 11-voice FM-synthesis and 8-bit digital audio recording and playback. While 8-bit sound will meet the multimedia personal computer (MPC) standard developed by the MPC Council, newer sound cards, such as the Creative Labs Sound Blaster Pro and the Adlib Gold 1000 or 2000, are offering higher quality 16-bit sound.

However, Media Vision says its strategy is to offer low-cost multimedia computing hardware. Media Vision's president and chief executive officer, Paul Jain, said in a prepared statement: "The introduction of Windows 3.1 has now raised the ante for base-level computing for the mainstream user; all computing from now on is 'multimedia computing.'"

Media Vision added that the Thunder family of sound chips, which are part of the Thunder and Lightning card, are also available separately to original equipment manufacturers.

The new card is expected to be available in late June via standard retail channels and is priced at US$349, however company representatives speculate the card will be discounted by retailers.

Media Vision recently came under fire from its competitor Creative Labs of Milpitas, California. On May 29 Creative Labs filed suit in federal district court in San Francisco charging Media Vision infringed upon Creative Lab's copyrights in software relating to its Sound Blaster line of audio products.

Contact: Abigail Johnson, tel 415-579-0700, fax 415-347-5238; Claire Merriam, Media Vision, tel 510-770-8600, fax 510-770-9592.

Multimedia Upgrade For Harvard Graphics For Windows

SANTA CLARA, CALIFORNIA, JUN 9 (NB)—The new release of Harvard Graphics for Windows, version 1.01, has multimedia capability for the addition of sound, musical instrument digital interface (MIDI), and animation to presentations, Software Publishing said.

The company says it has added a transparent multimedia player called "HGW Play" that works in conjunction with the product's "Launch Application" feature. A user associates a multimedia clip with a "button" by typing in the name of the file. Upon a press of the button with the mouse the new version of Harvard Graphics for Windows will play the file.

Support for import and export of WordPerfect graphics files (.WPG), Macintosh graphics files (PICT and PICT2), and import of Lotus (.WK3) spreadsheet files is included in the file filters in the new version, the company added.

A runtime option, called Screenshow, allows Harvard Graphics presentations to be played on Windows-based computers without Harvard Graphics installed. However, users don't need to upgrade to the multimedia version 1.01, but can simply send $15 for shipping and handling to Software Publishing to obtain the runtime Screenshow Projector, the company added. However, the $595 priced multimedia version 1.01 costs registered version 1.0 users the same $15 for shipping and handling, and includes the Screenshow Projector, Software Publishing said.

The new version requires an IBM or compatible personal computer 286-based system or higher, with a minimum of 10 megabytes (MB) of hard disk space, two MB of random access memory (RAM), extended graphics array (EGA) or higher display adapter, and a mouse. However, Software Publishing recommends a 386 or 386SX system, 18 MB of hard disk space, 4 MB of RAM, and a video graphics array (VGA) or Super VGA display.

Contact: Software Publishing, tel 408-988-7518.

Mac-in-DOS Supports Windows 3.1

MOUNTAIN VIEW, CALIFORNIA, JUN 9 (NB)—Pacific Micro maintains that its Mac-in-DOS 2.0 software is now compatible with Microsoft's new Windows 3.1 graphical user environment.

According to Pacific Micro President Wun Chiou, Mac-in-DOS, released first in May 1991, allows DOS computers to transfer files to and from Macintosh computers by means of a 1.44 megabyte floppy disk. The software also allows PC users to format Macintosh disks.

Chiou told Newsbytes that both text and binary files can be read using the Windows 3.1 version. The binary files can also include, graphics, he said.

The company claims that the Windows version of its software "takes advantage of the ease of use of the Windows environment to offer improved speed of installation, ease of use, and compatibility with other Windows applications."

The company also offers a standard DOS version of Mac-in-DOS (version 1.2), as well as Common-Link, a Mac/DOS to Unix file transfer utility. The company maintains that Common-Link and Mac-in-DOS transfer files through the floppy disk drive, and that all products require just host software and a "small" amount of disk space on the host system

According to Chiou, the 2.0 version differs from the 1.2 DOS version in that it runs "inside Windows." Chiou said that the list price of the 1.2 version is $199, while the 2.0 version retails at $249.

Contact: Pacific Micro, 415-948-6200.

Broderbund Expands Kid Pix Educational Game Line

NOVATO, CALIFORNIA, JUN 4 (NB)—Broderbund is expanding their line of award-winning children's drawing programs known as Kid Pix. The company has introduced a Windows-based version of Kid Pix, as well as started a new series of Kid Pix Companion programs with the introduction of a Macintosh version.

The Windows version of Kid Pix incorporates all of the features of the original Kid Pix that garnered it awards from some of the most distinguished educational bodies in the nation, including the 1991 Parents' Choice Award. The latest award is the High/Scope Award given out by the High/Scope Educational Research Foundation.

Kid Pix Companion is a follow-on module to Kid Pix. At this time, only the Macintosh version is being introduced although the company is planning on DOS and Windows versions in the future.

Kid Pix Companion adds more Rubber Stamps for the child's enjoyment as well as more hidden pictures. It also adds such features as DrawMe, ColorMe, and a SlideShow. With DrawMe the program prompts the child of a wacky scene to draw by talking to him! ColorMe is a computerized version of a coloring book. The SlideShow allows children to create complete stories right down to incorporating an audio track.

Kid Pix Companion is retailing for $39.95. No official word has been received on when the DOS and Windows versions will come out. However, Newsbytes has learned that August is the company's target date for the DOS version. Kid Pix for Windows retails for $59.95. Both products are shipping now.

Contact: Broderbund, 415-382-4639.

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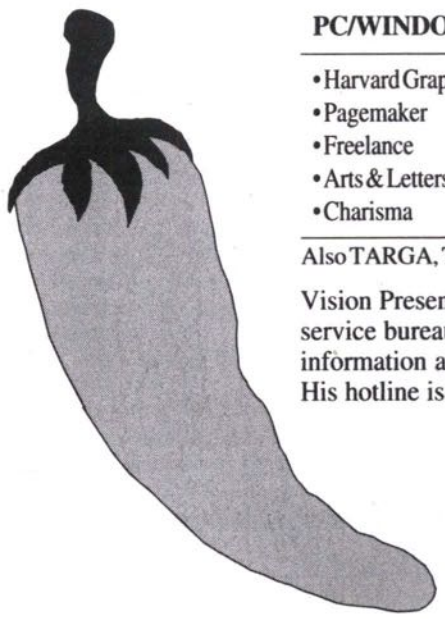

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PORTABLE COMPUTERS

$50 Billion Market For Portable Computers Projected

MOUNTAIN VIEW, CALIFORNIA, JUN 4 (NB)—Small computers, especially pen computers, will continue to be the rage if a new survey predicting whopping growth in the sub-laptop portable computers and peripherals market between now and 1988 is correct. The market has been more than doubling in size every year and is expected to reach over $50 billion in revenues by 1998, research firm Market Intelligence said, but coming changes may force a decline in some peripherals.

The market is currently at $3.5 billion, but is predicted to expand to $10 billion by 1993, MI said. The predicted compound annual growth rate of close to 50 percent is expected to push the market to the $50 billion mark in 1998, the survey said.

In regional predictions, the U.S. is expected to get a smaller piece of the small computer pie, with a decline from 64 percent in 1991, to 52 percent in 1998. But MI says even in declining market share the growth is expected to generate increased U.S. sales, going from $2 billion in 1991 to $25 billion in 1998. Europe, however, will get a slightly bigger piece, going from 10 to 18 percent in the same period, MI said.

Pen computers are expected to grow the fastest, to 85 percent of the compound annual growth rate (CAGR) worldwide by 1998, though now they have the smallest base, MI maintains. Notebook computers are also expected to show widespread future growth.

The MI survey says the selling point for the small machines is expected to shift from the current emphasis on size and battery life to the number of functions for multiple tasks and ease-of-use. Expected enhancements include paging, remote wireless networking, as well as modem and fax capability.

The forms the computer comes in are expected to change as well, ranging from pocket-sized consumer models to classroom blackboards.

Decreases in certain peripherals are expected as well. The incorporation of pointing devices, such as pens, are expected to drive down the current demand for portable pointers, which has been growing at triple-digit rates, MI said.

Hard drives are expected to also face slowing demand as memory cards catch up and overtake the mass storage demand and as data compression products that double disk capacity become more prevalent, MI maintains.

Contact: Market Research, tel 415-961-9000, fax 415-961-5042.

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Display	NEW VGA - 640 x 480, 10" diagonal, 64 gray scales, 512K Video RAM, Simultaneous, "Mouse Quick" display	NEW VGA - 640 x 480, 10" diagonal, 64 gray scales, 1MB Video RAM, Simultaneous, "Mouse Quick" display	NEW VGA - 640 x 480, 10" diagonal, 64 gray scales, 1MB Video RAM, Simultaneous, "Mouse Quick" display
Mass Storage HDD FDD	80MB (19 ms) 1.44MB	120MB (19 ms) 1.44MB	120MB (19 ms) 1.44MB
Interfaces	Serial Parallel VGA color monitor Supports: 640 x 480 (256 colors) 800 x 600 (256 colors) Mouse/Keyboard Numeric Keypad Expansion Bus	Serial Parallel VGA color monitor Supports: 640 x 480 (256 colors) 800 x 600 (256 colors) 1024 x 768 (16 colors) Mouse/Keyboard Numeric Keypad Expansion Bus	Serial Parallel VGA color monitor Supports: 640 x 480 (256 colors) 800 x 600 (256 colors) 1024 x 768 (16 colors) Mouse/Keyboard Numeric Keypad Expansion Bus
Weight	5.6 pounds (2.5 kg)	5.6 pounds (2.5 kg)	5.6 pounds (2.5 kg)
Size	8.5" x 11" x 1.8" (21.6 x 27.9 x 4.6 cm)	8.5" x 11" x 1.8" (21.6 x 27.9 x 4.6 cm)	8.5" x 11" x 1.8" (21.6 x 27.9 x 4.6 cm)
Software	Windows 3.1, MS-DOS 5.0, APM compatible, TI Utilities (Battery Pro, large cursor, Drop N' Go, power management)	Windows 3.1, MS-DOS 5.0, APM compatible, TI Utilities (Battery Pro, large cursor, Drop N' Go, power management)	Windows 3.1, MS-DOS 5.0, APM compatible, TI Utilities (Battery Pro, large cursor, Drop N' Go, power management)
Pointing Device	TravelPoint	TravelPoint	TravelPoint
Expansion Capabilities	Ethernet adapter, Token Ring adapter, SCSI adapter, 9600 bps modem, 2400 bps send/fax modem, numeric keypad, expansion station, external battery charger, carrying case and slipcover.	Ethernet adapter, Token Ring adapter, SCSI adapter, 9600 bps modem, 2400 bps send/fax modem, numeric keypad, expansion station, external battery charger, carrying case and slipcover.	Ethernet adapter, Token Ring adapter, SCSI adapter, 9600 bps modem, 2400 bps send/fax modem, numeric keypad, expansion station, external battery charger, carrying case and slipcover.
Power Requirements	Voltage: 100-240 Vac Frequency: 50-60Hz	Voltage: 100-240 Vac Frequency: 50-60Hz	Voltage: 100-240 Vac Frequency: 50-60Hz
Environmental Range Operating	Temp: 50° to 95° F (10° to 35° C) Shock: 5 G Vibration: 0.5 G peak, 5-400Hz	Temp: 50° to 95° F (10° to 35° C) Shock: 5 G Vibration: 0.5 G peak, 5-400Hz	Temp: 50° to 95° F (10° to 35° C) Shock: 5 G Vibration: 0.5 G peak, 5-400Hz
Non-operating	Temp: -4° to 124° F (-20° to 51° C) Shock: 60 G Vibration: 5 G peak, 5-400Hz	Temp: -4° to 124° F (-20° to 51° C) Shock: 60 G Vibration: 5 G peak, 5-400Hz	Temp: -4° to 124° F (-20° to 51° C) Shock: 60 G Vibration: 5 G peak, 5-400Hz

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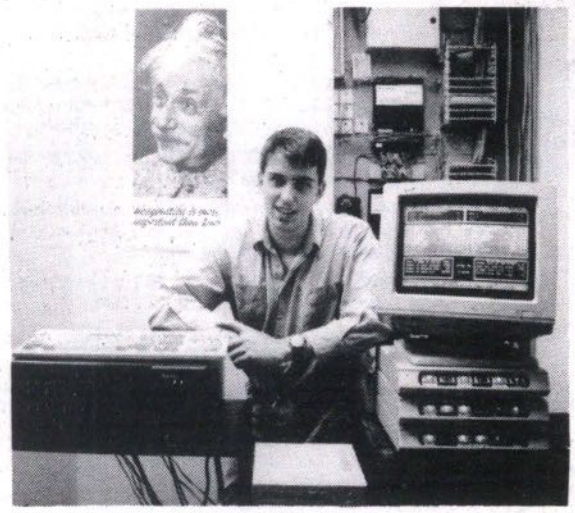

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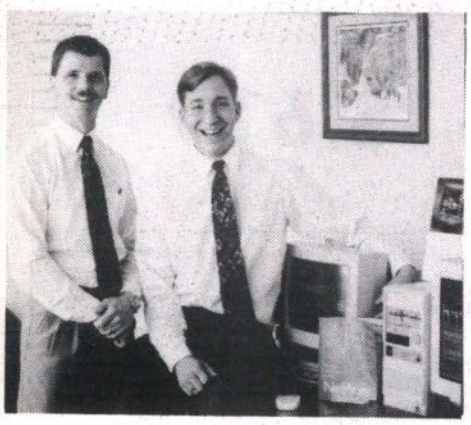
Cardz has added more lines, now 27 in all, and John Smith has installed the first rack of US Robotics Dual Standards. Paying customers say they are much gratified by the easier access to John's popular board, and we'll have even more lines soon.

John recently used his BCIT training to add device independent video support to FracTerm, the real time graphics program Cardz has developed. Everyone wants to know how he did it, but they'll have to wait until Fracterm's unveiling in August at the annual BBS convention in Denver. The new version featuring Kai Laurinolli's improved interface is awesome! Real estate VARs are drooling . . .



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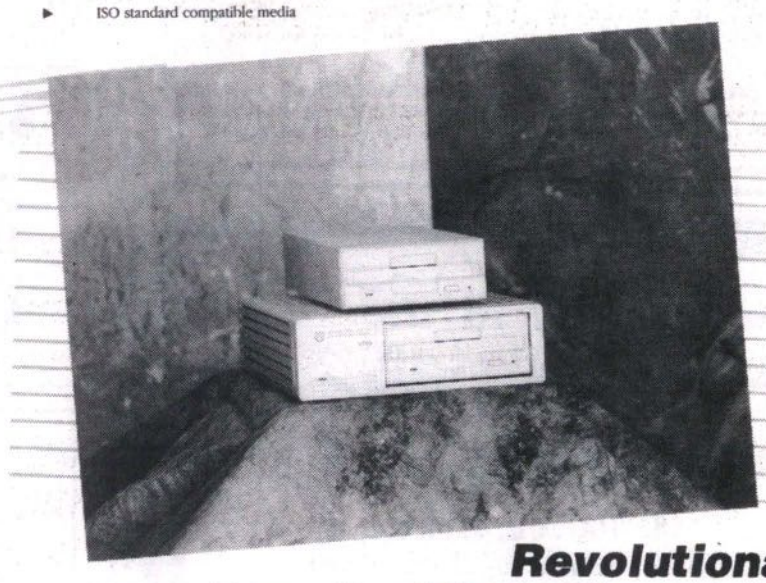

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Computer Calendar

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SIGGRAPH '92—July 26-31 in Chicago. Conference exploring new developments in interactive techniques and computer graphics. Call 312-321-6830.

PC CANADA—July 28-30. Canada's new desktop computing exposition and conference, 1992 Metro Convention Centre, Toronto, Ontario. Contact PC Canada 416-283-3334.

GROUPWARE 92—August 3–5, San Jose, CA. Contact: The Conference Group, 800-247-0262 or 602-661-0449, 9875 111th Place, Scottsdale, AZ 85259.

MACWORLD EXPO '92: September 15th-17th, Metro Toronto Convention Centre, Toronto, Ont. Tel: 817-361-8000.

FOXPRO DEVELOPER CONFERENCE—September 18-23, Phoenix, Arizona. Fox Software 1-800-927-6368.

COMPUEXPO—September 21-24, 1992 Las Vegas Convention Centre, Las Vegas, Nevada. tel. 800-822-1229, fax 510-657-3499, UNSC Investment Group, 39899 Balentine Drive, Suite 305, Newark, CA 94560, USA.

BC LAN MANAGER/CONNECTIVITY USERS GROUP, Chevron Canada Ltd., 1500–1050 W. Pender, Van., BC. Thurs. July 16th 5:30 pm. Admission $10 (Includes food & beverage). RSVP by fax Brian Zandvliet 663-3554 or for more info call Ian Dicken 432-6257.

DATA PROCESSING MANAGEMENT ASSOCIATION, DPMA dinner meetings, 4th Tues every month, Stanley Park Pavilion. Contact Brooke Allen 688-3902 for info.

ITAC-BC Meeting July 16th. Benedict's Pender Side Cafe, 1177 West Pender St. Doors open at 5:30 pm, buffet dinner at 6:15 pm, speaker at 7:00 pm. Contact Shirley Friesen-Nicol 682-2034. "Establishing a U.S. Presence," Brett Weaver, International Tax Manager for Arthur Anderson in Seattle, will discuss various ways to build a business presence in the U.S., from exporting software to establishing U.S. companies. He will discuss both business and tax ramifications.

User Groups

AMIGA USER GROUP (PaNorAmA), BCIT, Rm 129-1A. Gen. Meeting 2nd Wed 7:30; Programmers 4th Wed 7:30. Bill Wagstaff, 597-1746.

APPLES B.C. COMPUTER SOCIETY. A User Group for Macintosh, Apple II's. Macintosh meetings are the last Tuesday in each month at the Unitarian Church in Vancouver. Novice meetings and special interest meetings are held mid-month. Apple II meetings first Monday of each month. for further information call 263-2767.

ARCHITECT USER GROUP (Macintosh). Call Glen Schiller or Kal Gill, Byte Computers, 738-2181.

ASTUTE—ATARI ST. Meets 1st Tues., 7:30 Hastings Comm. Ctr. Dennis 420-8710.

ATARI USERS! Vantari, P.O. Box 3614 Main Post Office, Van., B.C., V6B 3Y6. Bill Sutherland 988-1450; Don Hatch 433-8055. Meets 2nd Wed., 7:30, Hastings Comm. Ctr., 3096 E. Hastings.

BEAVER VALLEY COMMODORE CLUB, 1st Tues., Montrose School Library. Call John Vink 367-6426.

B.C. INTERGRAPH USERS GROUP (BCIUG) Quarterly Meeting, B.C. Hydro Auditorium, 970 Burrard St., Vancouver, Contact Mike Barnes @ 663-3662 for information.

B.C. REGIONAL USERS GROUP SOCIETY of Hewlett-Packard Users. Contact Randy Cliff for information 661-8048.

B.C. UNIX USERS GROUP Dinner Meetings. 681-4473.

B.C. VAX/VMS Local Users Group (BCVAXLUG) meets on the second Wednesday of each month (except January, August and October) usually at Digital Education Services, 13110 Cambie Road, Richmond, B.C. at 7:30 p.m. Contact Lanore Wemyss 663-3995.

CHILLIWACK COMMODORE COMPUTER CLUB (C.C.C.C.) - 976, Supporting Commodore Amiga, P.O. Box 413, Sardis, B.C. V2R 1A7.

Data Processing Management Association, DPMA International joint dinner meeting. Contact Brooker Allen 688-3902 to register.

FORTH-BC meets 7:30, 1st Thurs/month, Rm 1A-324, BCIT main bldg. Discussions, demos and information for programming/applying FORTH (hardware and software).

GREATER VICTORIA PERSONAL COMPUTER USERS' ASSOC., PO Box 5309, Station B, Victoria V8R 6S4. General meeting last Wed. Also, special interest group meetings 382-3934.

INDEPENDENT COMPUTER CONSULTANTS ASSOCIATION, Box 820, Station A, Van., B.C. 682-2747. Fax 925-1336.

ITAC-BC Dinner Meeting, #500-1190 Melville St., Van., B.C. V6E 3W1. Ph. 682-2034; fax 888-0330. Meetings at Stanley Park Pavilion; doors open at 5:30 pm; buffet dinner at 6:15 pm; guest speakers at 7:00 pm. $25 for members, $40 for non-members. Contact: Shirley Friesen-Nicol, 682-2034.

KAYPRO USER GROUP/VANCOUVER PORTABLE COMP. CLUB, 3rd Mon., at Kwantlen College Richmond (DOS & CP/M) 271-1519.

LABORATORY PC USER GROUP, Rm 2J38, BC Children's Hospital, Vancouver. 7:00 pm, every 2nd Wed. (except July & August) - $10/year 266-7999.

MACWEST COMPUTER SOCIETY, 2 monthly meetings for members, plus PD copy session. General Meetings - 2nd Wed., Contact: Phil Beall 855-9274 or Edmund Hsiah 583-5799. 7:30 pm. MacWest New User Meeting - 3rd Wed., 7:30 pm, Guildford Pub. Lib., Surrey. PD Copy sessions.

POCO COMPUTER USER GROUP, 322-6198, 1379 Laurier, Hyele Creek Centre.

NeXT User Group Meeting, last Wed. every month, 7:00 pm at Science World. Bob Bajwa 590-1020.

ORACLE USERS GROUP, 1055 W. Hastings. Lawrence Clark 275-5902. Every 3rd Wed. of each alt. month.

PACIFIC INFORMATION EXCHANGE, P.O. Box 67366, Station O, Vancouver V5W 3T1.

PORT COQ. COMPUTER CLUB—Commodore, Amiga & IBM, 1st & 3rd Tues 7:30 pm, Rm. 104, George Pearkes Jr. Sec. School, 1390 Laurier Ave., Port Coquitlam, Mike Evans 942-4286.

Revelation Technical User Group (RTUG), 1st Wednesday of every month, c/o InfoTech Management, 360-885 Dunsmuir St., Vancouver, B.C. V6C 1N5. 684-4998

SMART USER GROUP, Brian Wiebe 588-8065.

T.I. 99/4A COMPUTER B.C. 99er Users Group, Every Thurs 7-10 pm, for information call Ron: 522-2598. 1st Thurs. Tutorials, 2nd Thurs. General, 3rd Thurs. Tutorials, 4th Thurs. Library night. Or call our T1 BBS "Dial A TI" 522-9830.

TARGA/3DS USER GROUP, First Image, #112-1020 Mainland St. Vancouver, 2nd Thurs. 7:30 p.m., 684-9588 or BBS 264-8101.

TRACE (Richmond Atari Club), Thompson Comm. Ctr., 272-5789 1st & 3rd Mon. 7:30-9:30.

Vancouver Enterprise Forum, 688-8464.

VANCOUVER ACM/SIGGRAPH Computer Graphics, 1st Wed. Call Susan Mair, 228-3938.

VANCOUVER ACCPAC USERS GROUP, 3rd Tues. Stanley Park Pavilion. For info: phone or fax 325-0353.

VANCOUVER AUTOCAD USERS SOCIETY, BCIT, Bldg. 3A, Room 110, 1st Wed of the month, 7:30 pm. Contact Robert Cheek, 684-9311 for info.

VANCOUVER CLIPPER DEVELOPERS ASSOC., 1st Tues., 7 pm, 800-1190 Hornby St., Van, 667-4100.

VANCOUVER COLOR COMPUTER CLUB, 3rd Tues, 7:30 pm, Century House, Moody Park Rec. Centre, 620-8th St, New Westminster. Contacts: Jordan Dobrikin 420-6081; Steven La Favor 467-0923.

VANCOUVER dBASE USERS GROUP, 2nd Wed., 7 pm. 800-1190 Hornby St., Van. 667-4100.

VANCOUVER ELECTRONIC PUBL. ASSOC., 1115 W. 11th, Vancouver V6H 1K4 (mail). For info, call 733-9080 (leave msg).

VANCOUVER EPSON QX-10 USER GROUP. No fee. For info call Mike McManus at 584-0276.

VANCOUVER FOXPRO USERS GROUP (VFUG). 2nd Tues., 1900 hours; 200-1177 W. Broadway. Info Dave 688-4142.

VANCOUVER NETWARE USERS GROUP,(VNUG)1st Monday (September through June). Information:733-0055.

VANCOUVER NeXT USERS SOCIETY (VNUS), last Wed. 7 pm at Science World. Lawrence Clark 275-5902.

VANCOUVER PORTABLE COMPUTER CLUB (VPCC), AMO 17, Jay Siegel, 4251 Lancelot Dr, Richmond, B.C., V7C 4S4, 271-1519.

Vancouver PC User's Society (VPCUS), 2nd Thursday, 6:30 pm–9:30 pm at Science World, 1455 Quebec St, Vancouver. $5 guest admission. There are usually two presentations of computer-related products or software, based broadly on serious and business computing needs. Question and answer session, Monthly newsletter, SIGs and seminars. Membership $30/year. Information: 732-9600.

Vancouver PC User's Society Special Interest Groups (sigs). Guests welcome. Please call to confirm.

C SIG: 2nd Wed., 7:30 pm at BCIT, SW3 room 2910 (Brian Comens 325-1877).

Clarion SIG: 2nd Wed., 7:30 pm, Stoney Creek School, Burnaby (Gwenda Ellwood 737-4946).

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Games SIG: 3rd Fri. (Shane Richardson 733-4193 evenings to 9 pm).

Lotus 1-2-3 SIG: Last Tues., Sept-May, 7:30 pm Langara Students' Union Building, 100 West 49th Ave., Vancouver (Dave Scrivener, 922-9242, evenings to 10 pm).

Paradox SIG: 2nd Tues., Sept-June, 7:30 pm-9:30 pm, Langara SUB (Brad Froese, 941-1966).

WordPerfect SIG: 3rd Thurs., 7:30 pm-9:30 pm, Langara SUB (Claire Toynbee, 733-9896, evenings to 9 pm).

For general info, page SIG Coordinator Randy Richardson at 844-8032.

VAN. SINCLAIR USERS GROUP, Timex-Sinclair, 2nd Fri, Killarney Comm. Ctr., Gerd Breunung 931-5509.

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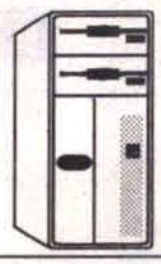

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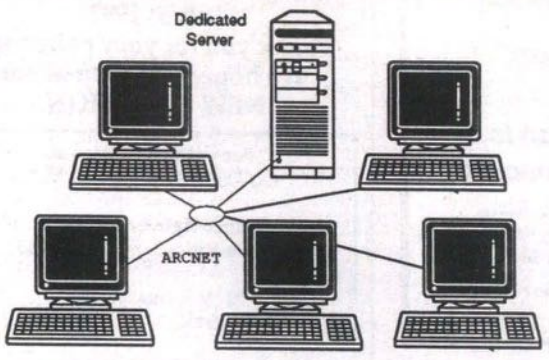

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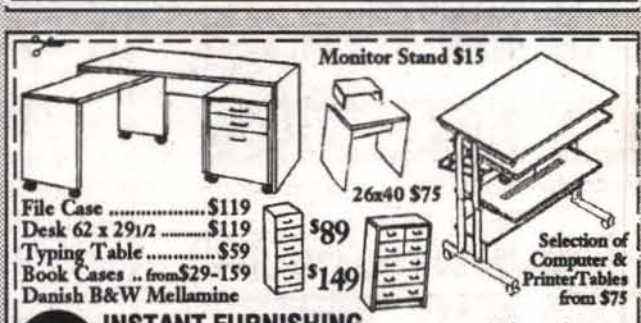

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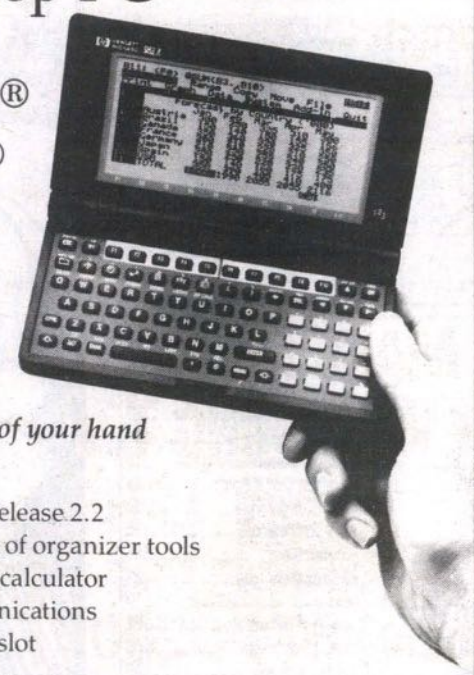

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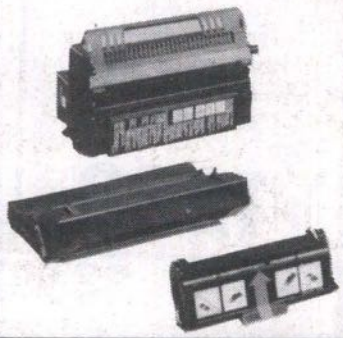

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Index of Advertisers

Accounting
Alsoft Systems 95
TXL Management 44

Books
Addison-Wesley Publishers Ltd. 14
Book Warehouse 2
Bookseller's Bestsellers List 94
Buying The Right PC 95
Cody Books 94
Prentice-Hall Canada Inc. 42
Siliconnections 40

Desktop Publishing
Lazer Set 28
Magic Press 70
Scan Master 73
Vision Presentations 90

Events
Vancouver Business Computer Show 88

Furniture
Excel Furniture 66
Instant Furnishing 96

Hardware & Software
3D Microsystems 12
A+ Computer 10
Acadia Distributors 95
ACS Advanced Communication Systems 93
Advance Medal Computer 7
AE Electronics 17
Alberta Computer Cable 73, 75
Alliance Business Computer 65
AMT Technologies 89
Animedia Vision 97
Ano Automation 29-31
Arete Computers 22
ATCO 26
ATECH Computers 87
ATIC Computer 34
Automatic Mansion BBS 78
B.B.E. 96
BCD Software Developers 94
Borland 13
Bramall Systems 87
Campus Computers 98
Canon 28
Cansel Survey Equipment 97
Cardz 96
CCL Vancouver Computer Centre 83
CE Outlet 74
Central Computer Source 87
Compu-saurus Microsystems 95
Compu-tel 95
Compuage 92
Computer Empire 6
Computer Exchange 99
Computer Mobile Repair 94
Compuwork 41
Comtex Micro Systems Inc. 67
CSC Computer Service Centre Ltd 64
David Black & Ass 96
Doppler Computer Centre 100
Fastech 82
First Image Group 14
Freedom Microtech 37
Friendlyware Computers 2
Future Shop 35
G R T I 41
Hardpac Portable Drives 77
Help Software 46
Hi Tek Electronics 87
Hyuen Canadian Enterprise Ltd 25
IBM 50-51
Impaq Technology 8
Infospec Systems 43
Intelaw 48
International PC Market 54
Intertech Hardware 70
John's Jukes 83
Kicks Computer Systems 57-59
Kiss Communications 16
Koyaan Computer Selvices 22
Labtop Computers 60
Magna Computers 62
Megatronics 71
Micro Drives Canada 32, 69
Minitronics 39, 95
Nantron Systems 78
Network Control 85
Neutral Computers 25
New Tech 66
New Wave Innovations 75
Nice Guys 79
Nu Age Computer Plus 52
Pacific Dataware Centers 95
Pacific Royal Ent. 76
PAL Systems 24
PC Computer 39
Phase 1 Systems 11
Polytech Communications 72
Print Connection 19
Q by Javell 9
Ram Enterprises 95
Rock Computers 62
Satelcomp Enterprises Ltd 47
Sayson Technologies 41
Smart Luck Software 90
Soanesco Products Inc. 94
Soft Connect 95
Software Alley 2, 53, 94
Sovo Computer Centre 22
STD Computer 38, 77
Strong Computers 16
Super Science Canada Co. Ltd. 40
Super Software 27
Symmetry Software & Consulting 95
Synergy Computer Consulting Ltd. 96
The Diverse Business Group 56
Tri Software 73
Tri Tech Computers 55
V-Com Computer Warehouse 63
Varsity Computers 86
Versatile Computer Products 15
American Circuit Board 44
Cardz Computers 3, 91
CCS Computer 75
Express Micro 44
IQ Computers 21
Unidac 70
Universal Technology 61
Wizard Computers 68
Zegna Electronic 55

Macintosh
Tomorrow's Graphics 78
Advantage Computers 80
Western Imaging 81
Whitecap Systems Inc. 81

Networks
DPE Electronics 4

Online
Cyberstore Online 49
Dial-A-File 95
Mind Link! 56

Service & Consulting
Abbott Integration 96

Services
Alternative Pers. Software 95
Amber Computer Systems 96
Arbutus Consulting 96
Business Mart 44
CMJ Consulting 96
Compumentor 94
Darrell May Consulting 96
DCCD Services 96
Digitizing 94
Holt Agencies 95
Infoplus 18
James Haslam 95
Pronto Data Systems 96
Software Information Service 94
Transamerica Microsearch Inc. 22
Vanco Credit Consultants 95

Service Bureau
Keyweet Dataswitch 36

Shareware
Edmat Enterprises 94
Sim Com Shareware 94

Subscriptions
NEWSBYTES 18
The Computer Paper Subscriptions 8

Supplies
Benndorf-Vester Ltd 97
QBS Computer Accessories 96
RTJ Office Products 96
Safeguard 88
Save On Laser Services Inc. 36
Superior Laser Supply 7

Telephone Systems
Superior Laser Supply 21

Toner Reconditioning
Alouette Recharge 46
Swiss Communications 96
Vista Laser 41

Training
API Computer Training 97
David Neises / Den Pac 95, 96
Drake 88, 94
Precision Design & Graphics 96
Standard International 23

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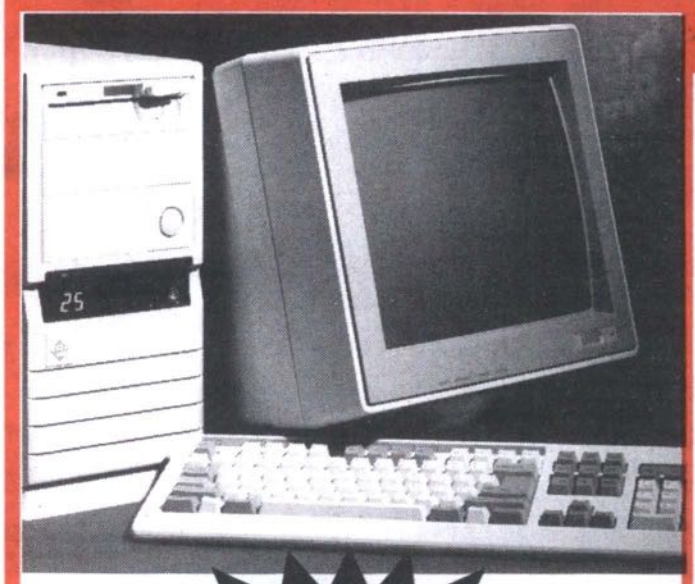

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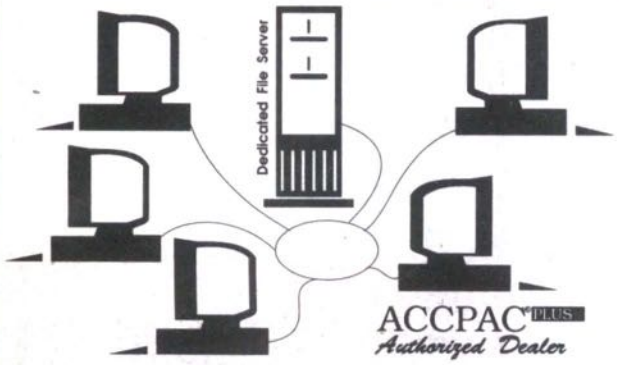

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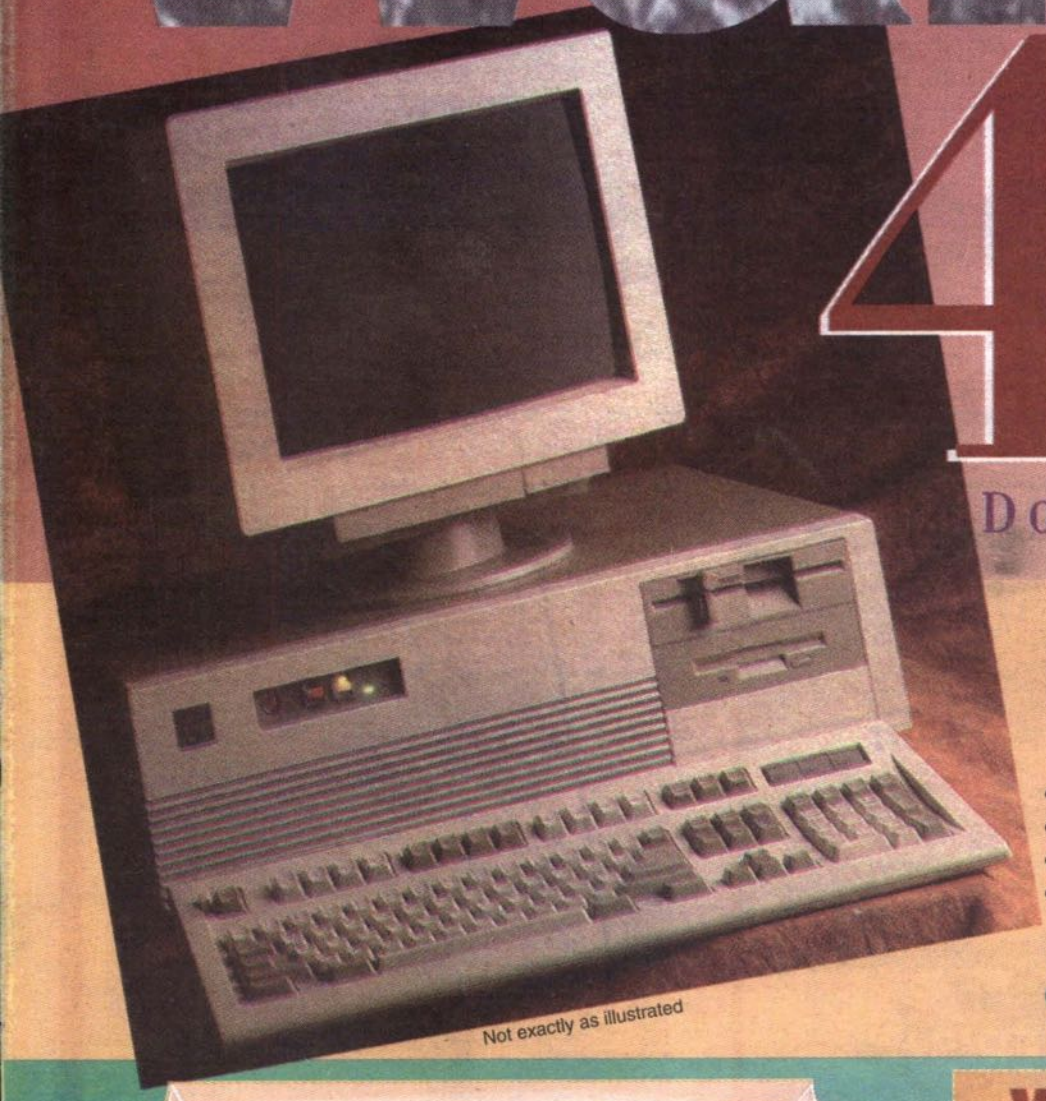

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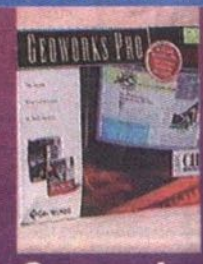

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