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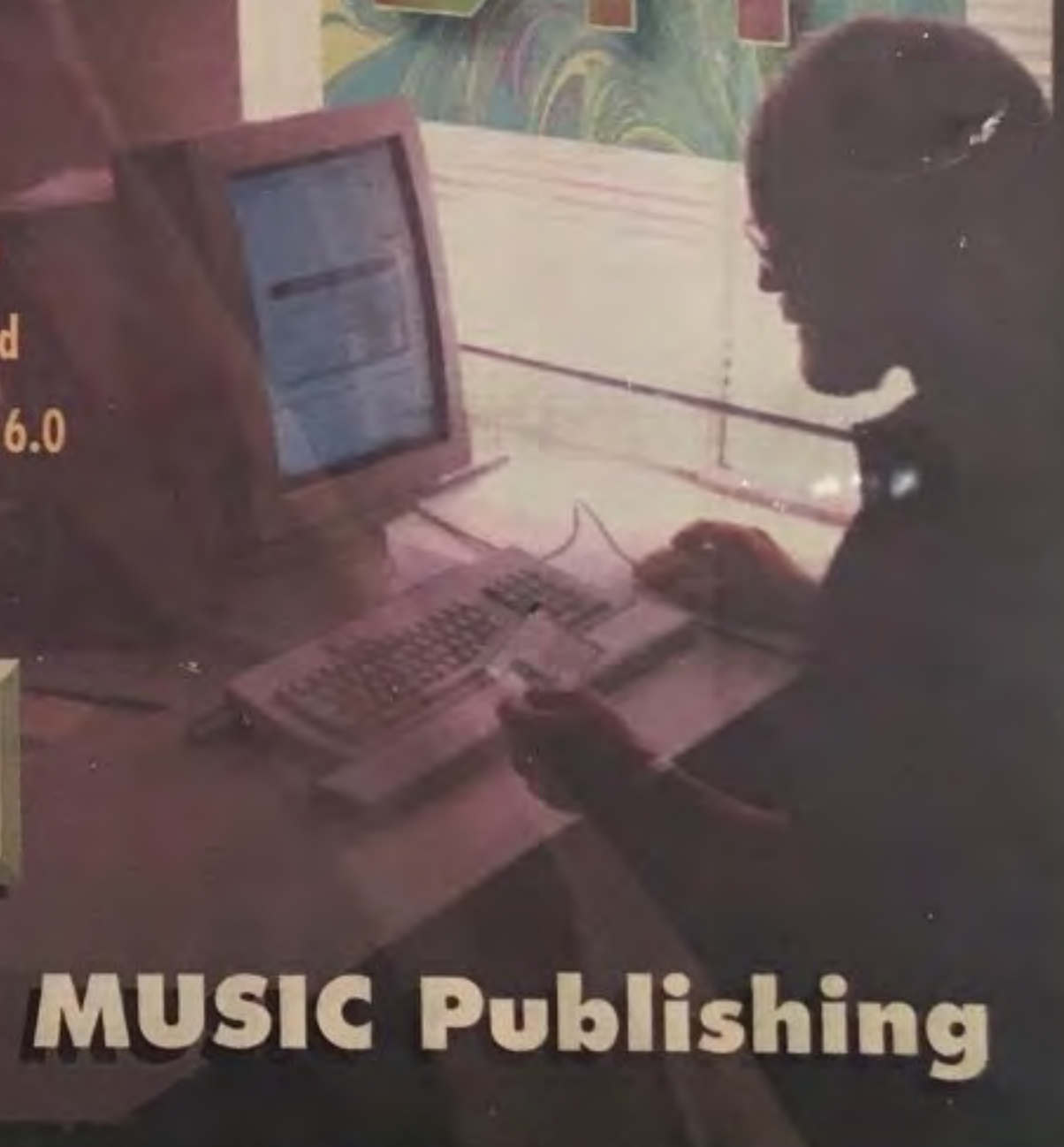
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From the Editor



Contentedly Computing

Recently, I visited a computer show in San Francisco. The big trend I noted was the invasion of content into computing.

What do you mean by "content"?

For years, the software industry has been dominated by application software. Applications are the programs that you buy computers for: spreadsheets, databases, word processors, personal information managers, etc.

At the show, I witnessed an invasion of a different type of

software vendor this year. Companies like Sony, Voyageur and Educorp were on hand (in big, lavish booths) to demonstrate their growing collections of everything you can think of on CD-ROM. When Sony gets interested, you know there must be big bucks involved. (these are the same folks who signed Madonna and Michael Jackson for mega-million-dollar deals). Voyageur had discs ranging from Alex Haley's *Autobiography of Malcolm X*, to the Beatles' *A Hard Day's Night* movie in QuickTime — a digital movie format for Macintoshes.

Changing the way books are used

The books were interesting because you can add your own notes to annotate the text and do searches on words. If, for example, you wanted to verify the authenticity of the recent movie, using the *Autobiography of Malcolm X* CD-ROM, you could search on particular word references. This kind of usage would be invaluable for scholarly research into topics. Given that many of the "Dead White Male" classics have passed into the public domain, we are seeing many of their collected works showing up on CD-ROM (William Shakespeare, Mark Twain and Lewis Carroll, to name a few).

Solving the world's problems—in high school

This move towards content is not just dominated by the big guys. There was a fellow tucked away in the Educorp booth selling a disc with all the data in the world. Well, almost. He said that the FEMD Discovery disc contained the same data that George Bush and Brian Mulroney were ignoring at the recent Rio summit on the Environment. With a couple of clicks, he was exporting population growth figures for Japan and Canada and comparing it to gasoline consumption in those two countries. There was historic data, but more interestingly, it included projections from the U.N. for the next 20 years (when everything gets interesting). This disc is targeted at the high school market. The aim is to get kids doing their own analysis (much like Buckminster Fuller's World Game did a generation before). It's an exciting time for students and teachers alike — incredibly hot data and easy tools to work with.

If there is any question that the future of education is firmly wrapped up in computers, it was answered by the existence of this CD-ROM. (Available from FEMD Education Group, 707/894-3668.)

CD-ROMs for the Masses

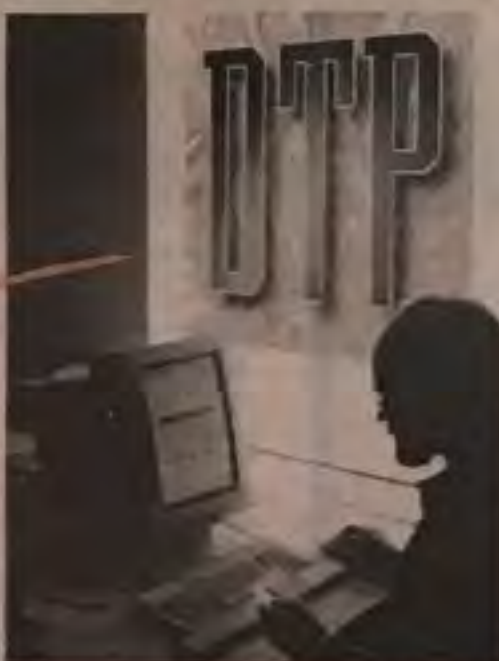
If you don't have a CD-ROM yet, consider getting one. The prices have come down substantially and there is a massive amount of data becoming available in very user-friendly formats. Check it out.

Enjoy the issue.

Kirtan Singh Khalsa
Editor/Publisher

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TOPICS Mass Storage Options • Hard Drives & Optical Drives • Databases

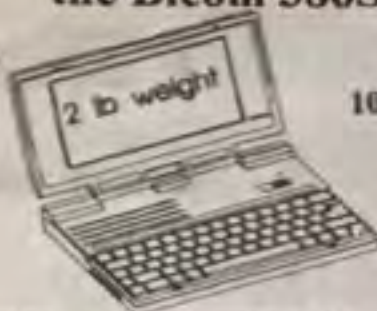
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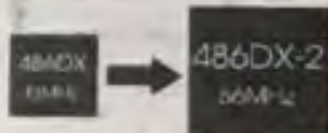
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Our fifth year in business. Computer dealers come and go. Comet will be around for many more orbits! So, if you're looking for a quality IBM-PC compatible system, check our unbeatable prices. Talk to us about your requirements - no hard sell - we will only assist you in determining your system needs and explaining what various components will do for you. Comet systems are completely assembled and thoroughly tested. All Comet systems use the same high quality components as most larger brand name manufacturers. All bundles include 3.5" floppy drive, minitower case (midi or desktop also available), 200 watt power supply, LED speed display, 101-enhanced keyboard, 2 serial ports, parallel port, game port and clock and 2 years parts and labour warranty. Prices shown reflect cash or cheque discount. VISA or Mastercard 3% additional.

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386DX-33 120/4	\$2395.00	Math coprocessor, add	\$100.00
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Unnecessary comparisons: Mac vs PC

I would like to point out an annoying trend in *The Computer Paper* - a trap which many other publications have fallen into. That trend is the promotion of the Mac vs PC 'battle'. For quite a number of us, it is not only annoying but a definite turn off. The reasons are: (a) The Mac and PC are fundamentally different machines - even with the advent of DOS/Windows; (b) A Mac vs PC 'battle' fought on the pages of computer magazines/papers is really counter-productive to the computer industry; (c) How many people have actually been influenced by such 'battles'? (d) There are other platforms in the industry apart from those of the Mac and PC.

The latest episode is the article "Adobe Illustrator 4.0 for Windows" by Nelson Ruest. It may be unintentional, but the tone of his article suggests the overall superiority of the Illustrator 4.0 and the Windows environment. I wish he'd review his article, and in the process ask himself if the integrity of the article would suffer by leaving out all references to the Macintosh.

My suggestion to him (and all your other contributors) is to review the product they want to, without reference to cross-platform products. If I own a Mac, the article would not make me go and buy a DOS/Windows machine; or the absence of certain features in the Mac's version would not make me dump my Mac. Criticize the product and leave the rest to the reader. If, as a Mac owner, I think the version available for the Mac lacks too many features, I would simply turn to competing products in the Mac world. The PC's Illustrator is not competing with the Mac's Illustrator.

Thus, the 'battles' that some of us want to see in your paper (if at all necessary) are those between competing products on a platform and not cross-platform. The latter are simply a waste of valuable resources. If only *The Computer Paper* can resist this temptation, I believe it will truly be an authoritative publication in the near future.

Anthony Adesanya
 University of Manitoba,
 Winnipeg, MB

Editor's Response: I agree that the vast majority of people aren't going to switch platforms. But consider this: the last version of Illustrator for Windows was much weaker than the Mac version. It lacked numerous features its Mac counterpart had (color controls, etc.). The latest PC version, on the other hand, is indisputably superior to the current Mac version 3.2; a forthcoming 5.0 release for the Mac promises to leapfrog the Windows version yet again. So, cross-platform comparisons are inevitable. Indeed, cross-platform development is a major trend these days, but few (if any) products are identical on PC, Mac, Amiga or whatever. Therefore, we will continue to point out these differences. For one thing, it helps people decide which is the best platform to run a particular piece of software on. Choosing the right software is at least as important as which hardware it runs on. — gb

More than time on his hands

Just a note to say I enjoy your paper. But this recent issue (Mar '93) was terrible. In that the cover was printed with a black pigment that came off very easily and dirtied your hands and whatever else touched the cover. I think it was a bad choice to choose such a dark cover photo, which might explain why this problem occurred. Or on the other hand your printing process may be flawed. Probably a combination of these two factors caused this problem. The only solution, I found, was to rip off the cover page and throw it away. This problem was not localized to just the paper I picked up, I noticed this problem on three different copies.

On a different note, I would ask that you run an article on explaining and optimizing the system.ini and win.ini files to get the best performance out of Windows 3.1. This information would be useful to a lot of your readers, including myself.

Gordon Chung
 via Mind Link!

Editor's Comment: Thanks for your comment. We, too, are distressed by the ink quality problems. We are working on a solution. As for optimizing Windows, see page 20 in this issue. — gb

English Tutor

I have a problem. I have been looking for a good English tutor for foreigners and so far, I have not found one. Each vendor I approach says that such a program is not available in Canada or the U.S. and I should look for one abroad. Is this the truth? If not, could you give me some advice on where to look? My system is a 386 PC with DOS 5 and Windows 3.1.

Wilhelm Giromacili
 Vancouver, B.C.

Editor's Response: The HyperGlot Software Company (615-558-8270 or 800-726-5087) offers a US\$99 package called *Parlons Anglais!* that, as you might expect, teaches English to Francophones. Other packages teach English from Japanese and Spanish. The company also offers *Learn to Speak* packages (each comes on two CDs) that promise to teach French or Spanish to Anglophones. All are available for the Macintosh and the PC. One nifty feature allows a user with a microphone-equipped Mac or MPC to record his or her own voice into the program and compare it to the native speakers' voice.

Each package includes two CD discs and, as such, requires a CD-ROM drive. HyperGlot has a 16-page catalog with a large number of reasonably priced offerings. All come with a 30-day money-back guarantee.

Berlitz Publishing, a highly regarded publisher of language courses, has licensed some of HyperGlot's language tutors. Berlitz now offers US\$199 Think & Talk courses in Spanish, French, German and Italian on CD-ROM in addition to its "Berlitz Method" courses, self-teaching tapes and books.

These interactive tutorials are only part of a swelling wave of CD-ROM-based material that is just hitting the market. We'll take a closer look at the topic of CD-ROM in our June "multimedia" issue. — gb

More letters

Continued on page 81

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what's new

Handeze Gloves

Paltron International has released a product that may help people who have carpal-tunnel syndrome, a painful affliction of the fingers, which can be caused by repetitive typing.



Using non-allergenic material, Paltron's Handeze gloves are designed to provide heat

and to support to the hand when typing.

They are designed not only as a remedy for those who have carpal tunnel syndrome, but are being touted as helping to prevent the condition from happening. Unlike many other remedies, the gloves can be used out of the office environment for other tasks.

Contact: Paltron International, (416) 787-1325.

11 x 17 Printer from Genicom



We missed this one when it came out in Sept. '92, but it still seems like a

good deal. Genicom announced the Genicom 7150, a multi-user, large format 400 dpi 15-page-per-minute printer. The printer features built-in PCL5, IBM Proprinter and DEC LN03 emulations. The cartridge is good for 12,000 pages. Standard interfaces include serial, parallel and Appletalk. The printer is targeted at CAD users and low-end DTP applications.

Contact: Genicom Canada Inc., (416) 625-0770.

Packard Bell Announces 40 New Products

In its largest ever single product launch, Packard Bell Electronics of Canada has announced the availability of over 40 new models of 486-based computers both desktop and mini-tower. The new offerings feature local bus video, Windows accelerator circuitry, Zero Insertion Force processor upgrade slots, improved RAM expandability,

external cache and video RAM. Packard Bell has also launched a support BBS as well as its existing tech support available on CompuServe. Products are available from leading Canadian retailers including Sears, Majestic Sound, Price Club and Costco.

Contact: Packard Bell (416) 587-5700.

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what's new



Second award given to Jim Allan at Granville Book Co. for "Computer Bookselling Excellence."

Compulit celebrates tenth year

Frank Olsen, president of Compulit Distributors, a B.C.-based computer book distributor, recently gave "10th Anniversary" awards to two Vancouver area merchants.

The first award went to Greg Harder of Conti Computer Systems for being Compulit's first ever customer — on Oct. 22, 1982.

The second award was given to Jim Allan at Granville Book Company for "Computer Bookselling Excellence."

New computer distributor group forms

The Western Canada Computer Distributor Society has recently formed in the Vancouver area. The goals of the group are to encourage communication and business development between members, exchange credit information to reduce credit risk and enrich the social activities amongst computer distributors in Western Canada. Members must be Western Canadian computer distributors.

Contact: Johnny Tong (604) 273-8086.

Siliconconnections moves to new location

After ten years at its 10th & Alma location, which the proprietor describes as "humble," Siliconconnections Computer Books has moved up the street to 3785 West 10th Ave., in Vancouver. Siliconconnections is one of the few stores dedicated almost exclusively to computer books. (Owner Hank Wool still stocks the odd historical and business title to flesh out the line). The new store is much larger and can no longer be characterized as humble. The bigger store has enough room to expand an already extensive collection of computer books. In addition to many of the more mainstream self-help books for specific programs such as WordPerfect and Lotus 1-2-3, Siliconconnections has a broad selection of titles dealing with OS/2, Macintosh, networking, programming and Unix. It also maintains a free bulletin board system (BBS) that allows you to log on and search a database of available computer book titles. (604) 222-4483.

Contact: Siliconconnections Computer Books (604)222-2221.

Seanix announces 3-year warranty

Seanix Technology Inc., of Richmond, recently announced that a 3-year limited warranty is now available on its ASI 9000 personal computers. Seanix has branches in Vancouver, Calgary, Edmonton, Toronto and Montreal. It designs and assembles computers in its Richmond facility. The warranty applies to all ASI 9000 systems shipped since January 1, 1993.

Contact: Seanix Technology Inc. (604) 273-3692.

From Socred to Software

Mel Couveller the former Social Credit minister of finance has landed on the management team of New Era Software in Victoria. The company is the developer of LOIS—Lot Oriented Information System, a lot development software package designed for municipalities. Couveller has apparently had experience in this area, as he is also the former mayor of Saanich, as well as having been the president of the union of BC Municipalities.

The package will run under Windows and promises to combine a number of functions currently done by separate programs into one package. As an example, LOIS 2.0 is able to target an individual piece of property, draw a map of the area, show the name of the registered owner, pull up the assessment, zoning and building permit information and include photos, original letters and other information. LOIS is currently in use in a variety of municipalities in BC, Ontario and Nova Scotia.

Contact: New Era Software (604) 380-0821.

Dr Tomorrow on CD-ROM

Frank Ogden, better known as Dr Tomorrow, a syndicated newspaper columnist who's writings focus on coming technological and social change, has joined with Polar 7 Enterprises to put more than 450 of his articles (dating back to 1988), onto a CD-ROM. The company plans to produce only 777 discs and each will be signed and numbered by the author — they think they may have a world's first — a collectable CD-ROM. They also include "clip text" — a variety of articles that newsletter publishers can use royalty free for newsletters under 2,000 copies. Suggested retail price is \$250.

Contact: Polar 7 Enterprises. (604) 944-8001.

BCIT offers diploma in Technology Management

According to BCIT, more than half the engineers and technologists in Canada are no longer employed in a technical capacity within five years of graduation. Many move on to supervisory, management and marketing positions — fields in which they have no formal training. The school's new diploma course aims to fill the void. It is offered part-time during the evenings so it is accessible to those who are already working. The diploma and advanced diploma can lead to a Bachelor of technology degree through the Open Learning University.

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what's new

Commodore intros network server, color notebook, cuts prices on Amigas

Commodore has recently launched its most powerful DOS-based system to date, the Commodore T486-50c. Based on a 50 MHz Intel 486, it hopes to sell lots of them as small to medium network servers. SRP is \$3,299, which includes a 250 Watt power supply, five drive bays, eight 16-bit ISA slots and an OverDrive socket to accommodate the future 100 MHz 486DX2 CPUs from Intel. At the same time, the company announced the 486SX-LTC notebook, a 5.7lb color notebook for \$4,295.

Commodore also announced major cost savings on its new Amiga 4000 and 1200 — effective only until March 31, 1993. Their flagship 4000 can be had for as low as \$3,499 bundled with two graphics packages (a savings of \$1,695). The 1200 will be bundled with a Final Copy and Deluxe Paint IV for \$699 (a \$435 savings).

Also now available is AmigaVision Professional, the latest implementation of its icon-based authoring tool.

Contact: Commodore Business Machines Ltd. (416) 499-4292.

Notebook computer offers removable hard drive



Designed for the computer user who finds it tiresome to transfer files from their portable computer to desktop computers, the new DataTrain DPC 4925 notebook has a removable hard drive. The hard drive can then be plugged into a specially equipped desktop unit. It features a 25 MHz 486SX microprocessor and weighs 4.9 lbs.

Contact: ServiceWorks Distribution Inc., Toronto (416) 624-5944, Vancouver (604) 273-4453.

Wyse launches new monitors

Wyse Technology (Canada) Ltd., recently added a number of new monitors to its current family of color and monochrome monitors.



New are the 17" WY-870, the 15" WY-850 in both standard and low-emission ES versions and low-emission ES versions of their popular WY-655 and WY-670 monitors.

Contact Wyse Technology (Canada) Ltd., (416) 866-9973.

Yet Another Tax Program

La Motte Enterprises Inc. of Victoria, has upgraded its Tax Made Easy Canadian Tax software package for the 1992 tax year. It runs on IBM-PC or compatibles with 512k and one floppy disk. The menu-driven tax return program is in its seventh year of production according to the company's press release.

Contact: La Motte Enterprises Inc., (604) 399-0428.

Don't Toss those Inkjet cartridges — Refill them!



Image Control Corp., of Erobicuke, wants you to reuse your spent

inkjet cartridges. It offers a series of refill packets for the Deskjet, Bubblejet, Stylewriter, Thinkjet, Quietjet, Diconix and various compatible printers and fax machines; they come in black, red, green, blue, brown and violet (for those with garish tastes) with a suggested retail price of two for \$25.

Contact: Image Control Corp., (416) 251-4950.

Acer Announces New Server, Service and Support Programs

Acer Canada recently announced the AcerFrame 500, an entry-level server using an EISA bus and a 66 MHz 486DX2. Prices start at \$2,295 US.

Following a trend set by Dell Computers and recently emulated by Compaq and IBM among others, Acer has decided that manu-

facturer-provided end-user support is a must for its business as well. The company began the process in October 1992 and is now broadening the scope to include all products marketed under the Acer product lines to allow direct service and support.

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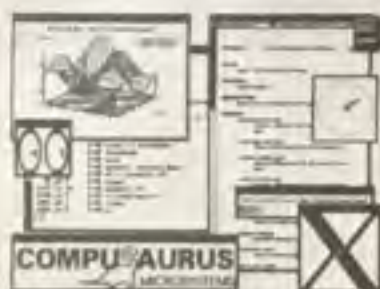
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Publish Like a Pro

BY GRAEME BENNETT



It goes without saying that the capabilities of desktop publishing programs have grown since the release of the first incarnation of PageMaker in the mid-'80s. Indeed, traditional desktop publishing programs like PageMaker and Ventura Publisher now face considerable pressure from Windows-based word processors, whose graphical abilities encompass many of the features required in DTP applications.

Features aren't everything when you are looking for the right DTP application, but there are several key areas to consider.

Choosing a Computer

There are compelling reasons to use a PC, just as there are great reasons to use a Mac, Amiga, Unix workstation or what-have-you.

Long-time readers will recognize my familiar refrain: choose your software first.

These days, most DTP and graphics programs are available on both the PC and Mac. Either of these platforms represents a good choice for DTP applications. Despite Apple's recent emphasis on low-cost Macs, IBM compatibles are — and will probably remain — the least expensive hardware

choice. Nearly all of the software Mac users covet for publishing is now — or soon will be — available on the PC. Hardware is, in most cases, cheaper and more plentiful, and so on. So what's not to like?

PCs are not as simple to use, with or without Windows. Especially tricky are extended and expanded memory configuration problems, which the Mac doesn't have. A PC is much trickier to set up and maintain. Software installation and (especially) un-installation are dramatically easier on the Mac.

Next issue, in our feature story *Picking The Right Operating System*, we'll examine some of the tradeoffs that this ease-of-use necessitates, but one fact remains: the Mac is ideally suited for publishing.

Thankfully, once you are actually in a program and using it, be it PageMaker, Excel, or any one of dozens of other multi-platform titles, the PC vs. Mac debate loses steam. With few exceptions, the performance and functions add up to a comparable experience on either platform. And the part that really matters — the output from a printer or imagesetter — is virtually indistinguishable and can be quite spectacular. We'll look at output a little later. Right now, I'll discuss a few other issues of relevance to PC owners. Mac users can skip ahead to the section titled "Printer Considerations."

PC Users

If you are already using Windows/GEM/Geoworks, etc., look for a DTP application that works in your chosen environment. For one thing, you'll save a considerable amount of disk space by not having to duplicate fonts, printer drivers and the other accoutrements of two separate graphical shells. For example, version 3.0 of Ventura Publisher for Windows comes on two disks — one of which contains nothing but examples. The GEM version, on the other hand requires more than a dozen disks.

As well, of course, you'll have less to learn, as most applications for Windows (etc.) have a similar look and feel. A secondary reason to stick with one graphical environment is that it causes less problems. During the course of researching this article, I spoke to several users who had memory-related difficulties when trying to use both GEM- and Windows-based applications on the same PC. DOS machines have enough memory constraints as it is without

600. This is not double the resolution of a 300-dpi unit — it's actually four times the number of dots.

- 2) Enhanced gray scales for better printouts of scanned photos. HP's LaserJet IV has this feature (Yes, I like this printer!), Apple's new models have it, Xante's Accel-a-Writer models have it, as do those from LaserMaster. Any printer that doesn't have beefed-up gray scales is going to look like old news pretty fast.
- 3) PostScript or at least the option to add it. I have been quite adamant in the past about insisting on "true" Adobe

PostScript. Recent tests, however, have left me satisfied with the performance and compatibility of TrueImage and PhoenixPage PostScript clones from LaserMaster, Xante and other vendors. The LaserMaster units of a few years ago had some fairly major compatibility problems. Today, they are amazingly good — the LaserMaster Unity 1200XL's TrueImage interpreter I tested passed all my toughest PostScript emulation tests with flying colors (it even passed a few tests that QMS printers with real Adobe interpreters failed). There is always a

danger, however, that a PostScript clone will have a problem with a program that expects a genuine Adobe PostScript interpreter. Adobe's Multiple Master fonts, for example, cause some errors on some PostScript clones (and even some older "genuine" Adobe models, like Apple's LaserWriter IINT. These printers need to have their ROMs upgraded to be able to use these new fonts). The latest generation of PostScript is known as PostScript Level 2. If possible, get a printer with PostScript Level 2 as an option.

Xante now offers early purchasers of its

Accel-a-Writer 8100 printer a free upgrade to PhoenixPage Level 2, its PostScript-compatible interpreter. Other vendors may have similar upgrade options.

- 4) If you work in an office environment where both PCs and Macs will be using the printer, look for one that has simultaneously active ports and automatic port switching.
- 5) Look for a printer with recyclable toner cartridges. Hewlett-Packard printers and most Apple models use Canon printer engines, which have toner cartridges that may be easily refilled and recycled.
- 6) Bear in mind that, unlike ink-jet printers, laser printers must have enough RAM to hold an entire graphics page in memory. Some laser printers come standard with only 512K of RAM. You will have to expand the RAM of these units to use them for desktop publishing.

Other Hardware

No matter which type of computer you end up using for DTP, there are a few other hardware components it should have.

- 1) If you regularly work on full pages, a full-page display is a good investment. Large gray-scale monitors are not that expensive.
- 2) A color or gray-scale scanner is incredibly useful. I've been very pleased with Hewlett-Packard's ScanJet IIc. The Microtek ScanMaker II and Umax UC630 models are popular, too. One caveat: the Macintosh version of the ScanMaker software has a bug that causes it to freeze up occasionally when scanning large areas in black and white. A Microtek technician verified the existence of this bug, but said the company doesn't plan on fixing it until "next year." Go figure. As I mentioned in my August 1992 article Scanning for Scanners, I do not recommend a hand-held scanner, no matter how tight your budget is. Keep saving.
- 3) Right after you get a color scanner, you'll be very interested in a large, fast hard drive. I've had rather a lot of bad experiences with SyQuest removable drives; I can't recommend them. If you need reliable removable mass-storage, look into tape backup, magneto-optical or Bernoulli drives. In an upcoming issue, I'll be evaluating the new 21MB "floptical" technology, too. Stay tuned.
- 4) If you use a scanner, you'll find optical character recognition (OCR) software a real boon. There are several packages out there, but my favorite is one of the least expensive: OmniPage Direct. This \$295 title for the PC and Mac is small and fast. It's too bad it does such a lousy job with reading faxes. To do that, you'll need one of the full-featured OCR applications available.

Another useful hardware accessory is a modem. With a modem, you can send files to your local service bureau, obtain fonts, clip art and program updates from your favorite BBS or information service, get answers to technical support questions and more.

- 4) An alternative to a scanner is to get a CD-ROM drive and a few discs of clip art or scanned imagery. I recommend a drive that is compatible with multisession Photo CD discs. Read my March '93 article Photo CD for details.

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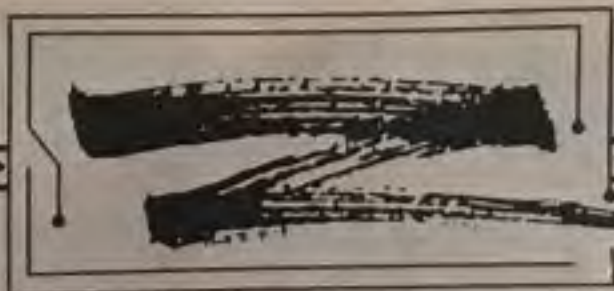
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Better Performance

from

Windows 3.1

BY GRAEME BENNETT

The Computer Paper ran an article detailing the steps to optimize a PC running Windows, but that was back in Oct. 1991. Since the release of Windows 3.1, a few of the settings have changed. Here, then, is an updated list of things you do to get better performance from Windows 3.1.

- Enhanced Mode or Standard Mode? If you run a lot of non-Windows applications while in Windows, you'll get better performance and some additional capabilities if you run in 386 Enhanced Mode. In this mode, DOS applications will multitask and can run in a window (as opposed to full-screen). Enhanced-mode Windows can use disk space as virtual memory, too. The cost for these advantages is speed. You'll find that Windows runs 10 to 15 percent faster if you start Windows in Standard Mode with the command "WIN /S." On slower 386SX systems, that 10 or 15 percent can really count. 286-based computers only run in Standard Mode.

- Add more RAM. If you've got two megabytes of RAM, you definitely need more. Consider expanding your computer's memory to 8MB. You'll be surprised at the performance gain. By the way, what was said above about your hard drive acting as virtual memory does not apply here. You need real RAM to get real speed.

Increasing Performance with SMARTDrive

SMARTDrive is a disk-caching program that sets aside an area of RAM to use as temporary storage for frequently accessed pieces of information. Getting this information from RAM is much faster than retrieving it from the hard disk every time you need it. Here are some suggestions for specific machine configurations; use these

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examples as a starting point:

(You can edit CONFIG.SYS, AUTOEXEC.BAT or any of Windows' .INI files with the editor included with DOS. To load AUTOEXEC.BAT into the editor, for example, you'd type EDIT AUTOEXEC.BAT at the C> prompt.)

1) 286 with 1MB RAM. Although Windows 3.1 won't run on this machine, Windows 3.0 will — in Real Mode (a mode not included in Windows 3.1). Standard Mode provides better performance and memory management, but it requires 2MB of RAM.

On a one-megabyte system, you won't have enough RAM to run SMARTDrive. Instead, set BUFFERS=32. This does essentially the same thing as SMARTDrive, albeit less efficiently. It probably goes without saying that a 286 is not an ideal machine on which to run Windows. Walk, maybe. 286 users should consider a less power-hungry graphical environment (Geoworks, for example), or stick to character-based DOS applications.

2) 386SX with 2MB RAM. Start Windows in Standard Mode (WIN /S) for the best speed. Try setting up SMARTDrive like this: C:\WINDOWS\SMARTDRV.EXE 256 128

3) 386DX with 4MB RAM. Run Windows in Standard Mode or Enhanced mode, depending on your needs. Set up SMARTDrive like this: C:\WINDOWS\SMARTDRV.EXE 1024 512

4) 386DX or 486SX with 4MB RAM. Either Standard Mode or Enhanced mode will work here; you won't notice much slowdown from Enhanced Mode. Set up SMARTDrive like this: C:\WINDOWS\SMARTDRV.EXE 1024 512

5) 386DX-33MHz, 486SX or 486DX (etc.) with 8MB RAM. It's worth running Enhanced mode if you've got the RAM and CPU speed to pull it off. Set up SMARTDrive with: C:\WINDOWS\SMARTDRV.EXE 2048 1024

General Optimization Tips

- 1) If you are still using Windows 3.0 (or, heaven forbid, an earlier version), upgrade to Windows 3.1. It is faster and much more stable.
- 2) In your CONFIG.SYS file (load it into the editor by typing EDIT CONFIG.SYS at the C> prompt), you'll find a line that starts with the word FILES. Set FILES=30. Less can lead to problems opening some applications; additional FILES waste conventional memory.
- 3) If you are using SMARTDrive, reduce the number of BUFFERS in CONFIG.SYS to 10.
- 4) If you are running DOS 3.3 or higher, set the STACKS command in CONFIG.SYS to STACKS=0,0. This

allows applications to dynamically allocate STACKS as needed, saving some conventional memory.

5) Specifying LASTDRIVE=E (etc., depending on your hard drive configuration) saves a small amount of conventional memory.

6) Use a memory manager program. Windows installs a file called HIMEM.SYS in your CONFIG.SYS file.

For 386 and 486 machines, third-party memory managers (QEMM, 386MAX, Memory Commander) can free up additional RAM, as can MS-DOS 6.0's MemMaker.

7) In Windows' 386 Enhanced mode Control Panel is an option for setting a permanent swap file. Theoretically, if you used an optimization utility on a regular basis, a temporary swap file would be just as fast as a permanent

one. In most cases, though, a temporary swap file degrades performance. A disk optimization utility such as Symantec's Norton Speed Disk or Central Point Software's PC Tools Optimize is a worthwhile investment anyway. Defragmented disks are always faster than ones where data and program files are scattered across the disk surface. ■

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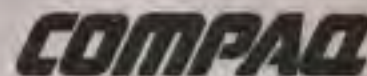
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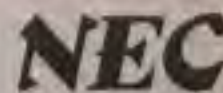
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Publish Like a Pro

Continued from page 18

A well-equipped DTP software toolkit should include one of each of the following: a word processor, drawing program, publishing application, plus a selection of fonts and clip art. Many software titles incorporate two or more of these areas. Microsoft Word for Windows 2.0, for example, includes a drawing module and reasonably sophisticated layout capabilities (though easily surpassed by most entry-level DTP programs). In addition to its obligatory word processing functionality. Add to this the selection of scalable TrueType fonts included with Windows 3.1 (or Windows for Workgroups) and you have a reasonably complete DTP solution.

Word Processing and DTP

One problem with trying to use a word processor as a page-layout program is that it is relatively tough to set up headlines, multiple columns and graphics on a page and move them around as you refine your layout. PageMaker and other leading DTP titles have what is known as a "pasteboard metaphor" that makes it easy to drag items onto and off of a page. Any designer who has done paste-up job by hand will immediately see the value in this way of doing things. I don't recommend using a word processor as a page-layout program unless your document conforms to a typical letter or book format. The more graphics, headlines and other fancy extras you put on each page, the more of a hassle it becomes to do it with a word processor.

What's wrong with this picture?

On the other hand, some people use a drawing application (CorelDRAW is a popular choice) as a page-layout program. If your document has more than one page, a drawing program is usually not a good choice, as most cannot handle multiple-page documents. CorelDRAW is better for general DTP tasks than many of its competitors (Aldus FreeHand, for example, doesn't even support tabs in text), but all of them suffer from one primary drawback. They are painfully slow when more than a few objects are displayed on the screen. A screen full of filled-and-stroked graphics is punishingly slow to work with. Worse, all the fancy effects today's graphics program are capable of make it extremely easy to assemble a page that simply won't print. For all of its merits, CorelDRAW is one of the worst offenders.

That said, there is definitely a place for a drawing program in your DTP arsenal. CorelDRAW 3.0 comes with such an array of clip art and fonts that it is a nearly irresistible bargain. When you look closely, though, CorelDRAW's fonts are pretty bad. The owner of local service bureau I spoke to said, "Rule number one: no CorelDRAW fonts."

What makes WYSIWYG?

Windows 3.1 brought TrueType fonts to the PC, as System 7 brought them to the Mac. TrueType is the most popular font format for publishing under Windows, while PostScript type 1 fonts are the dominant standard on the Macintosh. You can use fonts in TrueType, PostScript or both formats on either type of computer. Most service bureaus (companies where you can

take files created with DTP programs to have pages printed out on high-quality imagesetters) use Type 1 fonts, therefore I recommend that you purchase fonts in this format if you are serious about desktop publishing.

TrueType and PostScript Type 1 fonts are both scalable outline fonts that allow you to display and print text at any point size without "jaggies." There are subtle differences, but most users won't notice a difference between the print quality of a TrueType font and a Type 1 version of the same typeface.

As mentioned above, TrueType support is built into both the PC and Mac. To use Type 1 PostScript fonts on non-PostScript printers, both systems require a program called Adobe Type Manager (ATM). This utility comes bundled with some applications (PageMaker and WordPerfect 5.2, for example). Mac owners can call Adobe Systems (415-962-2100) and get a copy of ATM for US\$7.50 as a result of a special deal Apple made with Adobe.

A point, incidentally, is 1/72nd of an inch (a PostScript point, that is. There are 72.27 "traditional" points per inch.) Therefore, the closer your screen is to 72 dots per inch, the more WYSIWYG (What you see...) your system is.

Top DTP Tips

- 1) Output is everything. Print out a document on your laser, ink-jet or dot-matrix printer and then have it printed out at 2450 dots per inch at your local service bureau. Compare the two. Now guess which one your client will pay more for.
- 2) Less is more. If four fonts on a page is good, will forty be better? No. Although

experienced designers can break rules and still look good, try to stick to a maximum of four different typefaces per page. As a general rule, a black or extra bold sans serif font (Helvetica Black, for example) makes a good headline font, while a serif font (Times, etc.) makes a better font for body text.

- 3) Keep headlines short — six words or less.
- 4) It's All About Communication. If your headline font is so fancy or your layout so cluttered that your page is hard to read, you've failed in your primary goal. Simple, powerful designs are better than busy, fussy ones. Remember, too, that graphics are a powerful communicator. Use charts, photographs and/or appropriate clip art to keep your readers interested.
- 5) What! — You're not a designer? Try the venerable technique of Borrowing From The Best (A.K.A. Copping Great Layouts From Famous Designers). Briefly, it works like this: you see something you like the look of in a magazine, book or (best of all) one of those expensive design annuals. You make a page that looks very similar, but uses your words and images. You sell it to your clients. They love it. Is it entirely ethical? I doubt it. Legal? Probably. Common? Absolutely. If nothing else, you will learn what makes a great layout. And before you know it, your own style will start to take form, and all that borrowing will start to seem like what is really is: a class with the Masters. ■

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PageMaker 5.0

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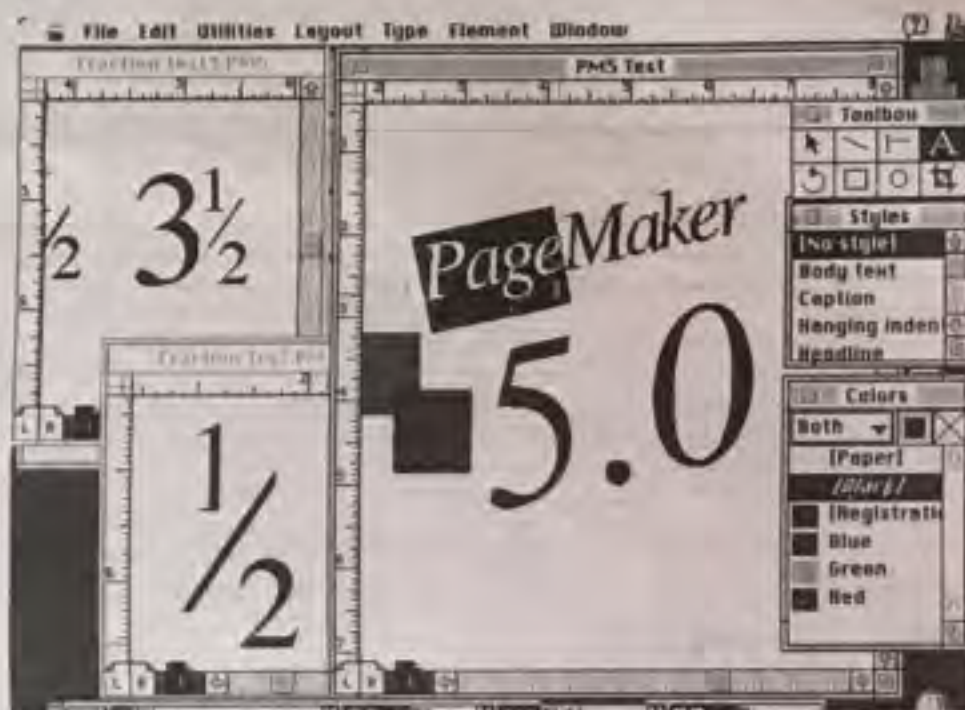


Perhaps the most impressive upgrade I saw at Macworld was Aldus PageMaker 5.0. On the whole, PageMaker's enhancements fall in the category of "It's about time," but it's not worth complain-

ing now that they're here. I'm sure some people will write to tell me that Quark XPress has had such-and-such feature for nigh on 39 years and why is it a big deal that PageMaker has finally caught up. The simple answer is that as far as I know, PageMaker is still the most popular desktop publishing program around.

I'm not going to go through these new features in any order, and similarly, I'm not going to talk about the standard things that haven't changed. PageMaker has too many features to do that, and some would say that PageMaker has too many features period.

The main new features I noticed in PageMaker 5.0 are its capabilities in moving objects between documents and rotating and skewing text and graphics. PageMaker 5.0 can finally open multiple documents at the same time (welcome to the 1980s, Aldus!), but not content to catch up to programs from the last decade, Aldus added a feature I've only seen in a few other programs — the capability to drag an object from one document to another without copying and pasting. The copy-paste metaphor works best in the UniFinder metaphor of the Mac Plus era; in today's world of multiple megabyte machines, large and multiple screens, and constant MultiFinder, there's no reason why we shouldn't be able to drag data between documents, if not applications. I'd like to see



this in more applications.

PageMaker 4.2 added the ability to rotate text in 90 degree increments, but this feature was generally greeted with derision — 90 degree rotation is unimpressive. PageMaker 5.0 should silence those criticisms with its free rotation of text and graphics in .01 degree increments. You can skew text and graphics with similar precision. Oh, and by the way, you can edit text or graphics after transforming it, something that wasn't easy even with 4.2's limited rotation. This news will be welcome to anyone who does single-page layout of posters and the like.

I appreciate PageMaker's new capability of printing non-contiguous pages. If you wish to print pages 1, 5, 8 and 23 of a pub-

lication, you just type the page numbers into the page range box, separated by commas. Any application that prints should have that feature. Aldus finally implemented grouping, an extremely common command in graphics programs, though only as an Addition. Those were by far the most impressive features I noted, but Aldus has a list of more — I'll reproduce some of it here.

I don't wish to imply that Aldus fixed everything that might be construed as a problem in PageMaker. For instance, although Aldus completely redesigned the awkward modal print dialogs for the better, I found PageMaker still extremely modal, especially in defining a text rule in a paragraph style. This process can require a ludicrous traverse of as many as four modal dialog boxes. We have the screen space these days — there's no reason these dialogs must be modal except for design laziness.

My other problem with PageMaker is that even after high-end word processors like Nisus, low-end word processors like WriteNow, and integrated programs like WordPerfect Works (the ex-BeagleWorks) have implemented character styles, PageMaker lags behind. I'm sure it's partly related to PageMaker's close relationship with Microsoft Word, another notable laggard, but surely the functionality of character styles is clear — whenever you want to assign a specific style to one or more words, but not an entire paragraph, you can do so on a consistent simple level. Consider the words you might want to do this with: program names, book titles, commands in a manual, and the list goes on. I'll hop off my interface horse now, but we should praise and condemn Aldus on interface. Overall, I think the praise wins out; PageMaker 5.0 seems like a solid upgrade to a popular program.

Contact: Aldus, 206/626-2320.

New PageMaker Features

- Horizontal and vertical reflection of objects
- Enhanced Control Palette
- Numerically exact positioning and rotation of any object, from its center or any handle
- Specific "nudge" amounts for exact positioning
- Incrementally rotated inline graphics
- Cropping of rotated graphics
- Text mode of the palette visible in layout or story editor views
- Numeric kerning
- Baseline shift
- Process-color separations of PageMaker text and graphics, as well as imported CMYK, TIFF, DCS, and EPS images — all without leaving PageMaker
- Printing scalable up to 1600%
- Automatic centering of the page on whatever paper you use
- Overprinting for any spot or process color or tint
- Spot-to-process conversion at printing
- Choice of printing individual inks of process-color separations
- Automatic scaling of the page to the paper size
- Separate line and fill attributes
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PC Festival Canceled

Anyone who has lived in Toronto and is interested in computers will know that it is the computer trade show capital of Canada. Rarely a month goes by without at least one computer show. Show organizers have been seeking new venues and have targeted other major cities for their events. Vancouver, it has been noted, has only one large computer show, the *Pacific Rim Computer Show*, held annually in January. Recently two Toronto-based companies took a run at the Vancouver market. Industrial Trade and Consumer Shows (ITCS) and ShowFest Productions announced shows within two weeks of each other in March. ITCS approached *The Computer Paper* to act as co-sponsor for its show. Vancouver-based, J.

Cook Group (responsible for the regular Computer Swap Meets in the McPherson Centre) and ShowFest Productions put on the *Computer Fest Show*. ITCS's PC festival was to be held March 26-28th and ShowFest Production's *Computer Fest* was held March 12-14. Both shows were targeted at the low-end of the market commonly known as a consumer show. Traditionally, computer shows have been more about new technology display and information gathering than about buying actual product. Consumer shows, as defined by *Computer Fest* and various swap meets, are more about hardware and software resellers providing actual product that show attendees can buy. The shows are often widely pro-

moted in the mass media and draw many first-time purchasers. The atmosphere of these shows is often like Middle Eastern bazaars.

Computer Fest went ahead with some success; show organizers claim they had 47 booths, and approximately 8,700 attendees. According to show organizer Jack Cook, there were a few disgruntled customers, particularly people looking for Macintosh and Amiga computers — none of which were to be found anywhere on the show floor. At least a few people looking for PC hardware were also disappointed by the limited selection — particularly when they paid the full retail price of \$8 a ticket.

The Toronto organizers may have over-shot their predictions for the show. In their advance literature, they had predicted up to 14,000 attendees. Tentative plans for the

next show are for Dec 5 at the PNE grounds.

The *PC Festival*, however, was canceled about three weeks prior to the show dates. Show organizers cited a poor response to their efforts as the main reason for canceling the show. Their published cancellation notice from Show Manager, Bruce Guerin, states: "Unfortunately, given the time and support available to us, the Spring PC Festival fell short of these standards. Rather than proceed with an event that might not meet your expectations we have chosen to postpone the event until this fall." Full refunds were sent out to exhibitors who had booked up until that time.

Contact: ITCS, Bruce Guerin (604) 683-4766 or ShowFest Productions (604) 531-0829.

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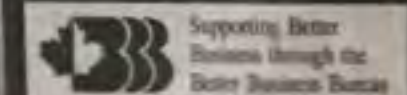
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Personal DTPing

BY DON WILKES

For many budding desktop publishers, a lot of the extras that arrive with the likes of PageMaker or Ventura are overkill. Mouse in hand and eager to dabble, they don't want oodles of fonts and clipart, or complexity — not to mention the extra cost. They merely wish — at least at the outset — to produce a decent newsletter, some letterhead, a flyer, a brochure or a better-looking form. What they seek is something straightforward and easy to use.

Demanding an HGA-VGA video adapter, most mid-range DOS packages include some form of tutorial, onscreen help and a selection of clipart. Ample printer support can be expected. And, even though to this mouse-avoider it somehow seems inappropriate, some function without a mouse.

Menu bars with pull-down submenus are common. Most of these packages don't require extended expanded memory, but you'll need at least 640K of onboard RAM and a couple of megabytes of disk space or more.

Since in a competitive marketplace new versions appear with ever increasing system demands, contact the company or check software outlets regarding Windows versions or what's required by the latest release of whichever one arouses your interest.

In exploring more-modest desktop publishers I tried to find something about each

that differed from others. Since they all to one extent or another dress up text, just how different can they be? Yet, there's usually something, be it significant or at least appealing.

For example, although everyone may not get excited about it, one provides kerning to adjust character spacing; another doesn't. Some working screens are simpler than others. Possibly what else is in the box is intriguing. Or the program is easier to use. Maybe the user guide and onscreen help are better organized.

Geoworks Pro

One such DTPer—albeit more modest in scope—that seeks less than 640KBs accompanies a GUI distributed in Canada by IBM. GeoWorks Pro requires a mouse and it bundles a banner maker, 'Sidekick'-like tools so relished by some, communications, a drawing facility and a couple of games.

Welcoming PCX and TIF graphic images, it imports and exports ASCII/DOS files and, adding value, throws in a Quattro Pro spreadsheet version and a bonus font/clipart offer.

Beyond its DTP aspirations, GeoWorks is a laudable first-machine choice for someone GUI-inclined but daunted by Windows. Although external programs added to the DOS-button screen can't access internal multi-tasking, they can take advantage of the task-swapping capability of onboard DOS 5 or DB DOS 6.

Publish It!

While GeoWorks offers a menuing function and its word processor better deals with more standard text needs (such as letters and memos), PII is a dedicated DTPer. Its users are encouraged to create initial text in their favorite word-basher, be it WordPerfect, Word, WordStar, a few others

or one issuing ASCII-format text. Imported into PII, clipart or fonts can be added, adjusted or scaled. Several graphic images (IMG, EPS, PCX, GEM, PIC) supplement a drawing toolbox.

Accompanying the program is a Bitstream offer and the included 'Design Ideas' produces common document layouts (stationery, coupons, newsletters, ads). Typografica, found on another disk, creates tailor-made fonts.

When the working screen appears it has a main menu bar across the top (file, edit, options, page, style, text, graphics, help, undo), a tool box in the upper-left corner (frame, paragraph, text, graphics), a library window (shows what's in progress) and a page icon (identifies page in use) lower left. The user guide outlines memory-use, offers helpful tips and describes some common pitfalls. A PII Lite version is available.

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Although not a full-fledged publishing package, GeoWorks Pro offers scalable fonts, graphics and word processing functions.

Express Publisher

While XP accepts the range of graphics adapters, it didn't like my HGA-clone card; prospective purchasers may wish to clarify their adapter situation before purchasing it. Beyond the basics expected, XP offers editable zoom in/out pages, rotating and scalable fonts and graphics, text curving and shadowing, overheads creation and automatic kerning (character spacing).

The output of popular word processors and ASCII-format can be imported. With clipart provided, the program handles TIF, EPS, CGM, GIF, PCX, IMG, ART, MacPaint, Microsoft Paint, Print Shop and First Publisher graphic images. Laser printer accommodation includes PostScript support.

The working screen is topped by a menu bar to the left with the in-use file name indicated in the upper right corner. Just below, toolbox icons deal with such items as text input and wrapping, framing, drawing, text linking, image alignment and typesetting effects. Rulers edge the boxed working window top and left while scroll bars appear below and to the right. At the base of the screen, a message line provides information about what's in progress.

PFS: First Publisher

This DTP'er is a member of a DOS/Windows software family. Accompanying the desktop program in the box is DeluxePaint II from Electronic Art. After using its graphic tools to create a desired image, a conversion utility (handles a few formats) shifts the file-for-

mat to PCX for importing into FP and combining with intended text.

While the user guide suggests the program will run within 512KBs, I wouldn't count on it. Nor would I operate the program from floppy-disks or without a mouse. Potentially hindering speed of operation, extended or expanded memory isn't put to work by FP.

Graphic formats accepted are TIF, PIC, MSP, MAC and PCX, and a utility called Snapshot will capture onscreen images. Documents created in a number of word processors can be imported and can be up to ninety-nine pages long. Bitstream typefaces and assorted fonts are included; as are sample page layouts. One font, Cairo, is a collection of tiny graphic images that can be used to dress up text, create borders or serve as a point-highlighting bullet.

The user guide includes a quick-start section with another segment providing more getting-started detail. Installation is better described and prompted than many I've faced. Surprisingly, however, after installing the program, the user is instructed to access the root DOS prompt to create a work file directory: I ended up removing it and creating one under the program directory.

Underway, the initial working screen is uncluttered (simplest one found). Across the top, the main menu bar: file, page, text, font, style, baselines, art, help. To the right, an 'elevator' bar to scroll onscreen content and a tool kit for creating and editing artwork.

Continued on page 31



PFS: Publisher allows you to browse through and visually select from over 200 clip art images in the art gallery, as well as any commercial clip art you add yourself.



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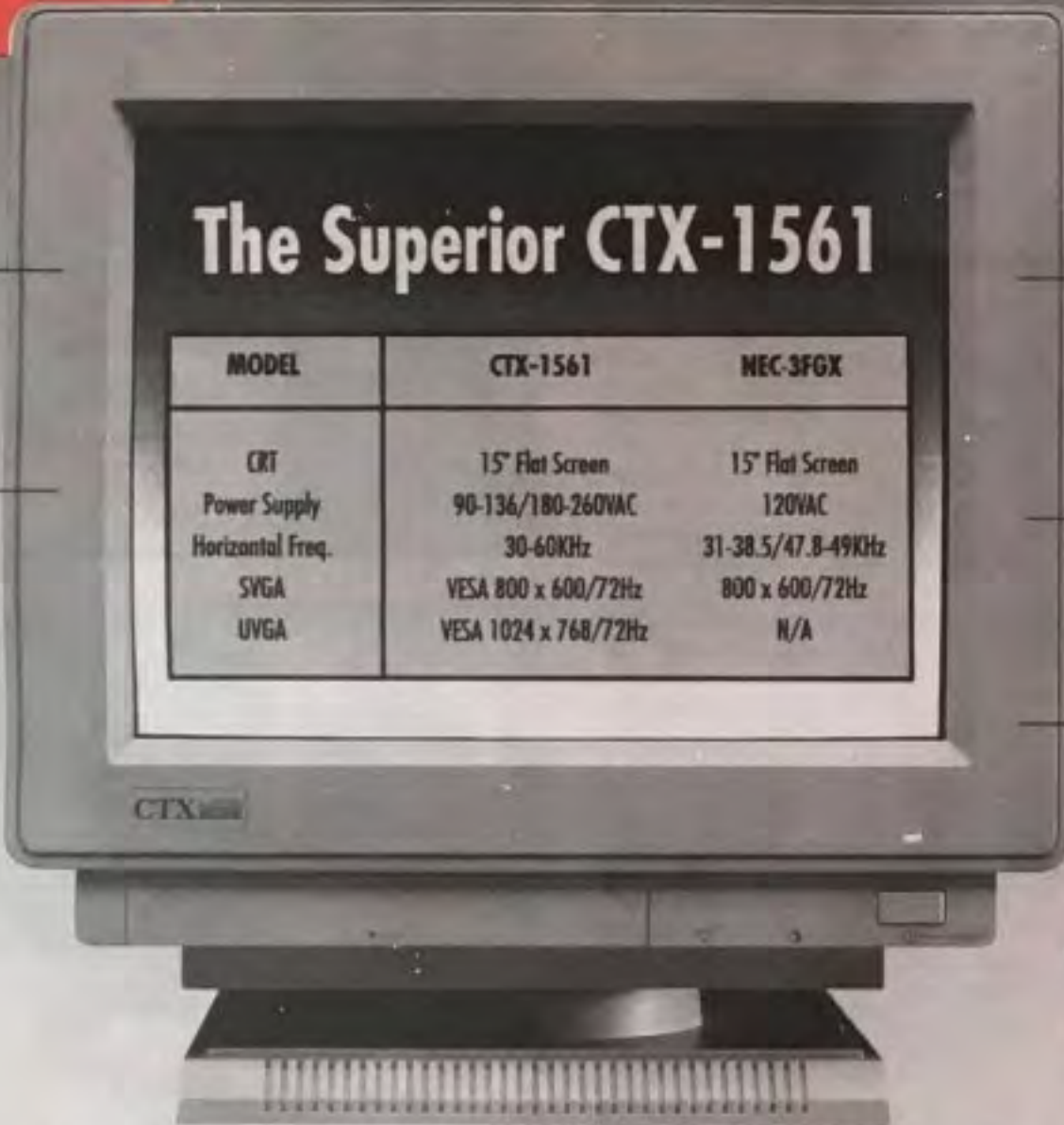
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Personal DTPing*Continued from page 29*

Within the File submenu, the printing options screen deals with number of copies, page to start with and end on, output quality, scaled or unscaled printing and for those like me who often use single pages, pausing at the end of each (default set during installation). For those not blessed with a laser, FP will print to a file formatted for a copied to that printer from the DOS prompt.

For those unprepared to cough up any more dollars than absolutely necessary, Softkey's Key Publisher can be found in software outlets in the thirty-five dollar range.

Envision Publisher

No doubt a budding commercial product, Envision Publisher (EP) is shareware. This means that you can get it from BBSes and shareware suppliers for next to nothing. EP has pull-down menus, dialog boxes, icons, push and radio buttons, pick lists, check boxes, and scroll bars. It provides [F1] or 'click on help icon' context-sensitive help. Being able to try the program before paying for it should appealing to many. A tutorial accompanies the manual diskfile.

EP displays and prints scalable and ratable fonts in sizes ranging from a tiny 4 points (0.055 inch) to a huge 108 points (1.5 inches) that can be filled with several patterns. It promises PostScript-like print quality on laser, dot-matrix, inkjet or PostScript printers. WYSIWYG editing is available at four magnification levels (View all, 100%, 200%, 400%). Drawn objects can use fill and line styles in 16 colors or gray-scale levels.

Seeking 450KBs of RAM, and exploiting onboard expanded memory, those without a mouse aren't excluded. [Shift][Tab] toggles the keyboard simulated mouse ON or OFF. Cursor arrow keys are used to move around the working screen. [F7] toggles cursor moves between 1 pixel or 20 pixel increments. [F8] provides a 'double-click'. [F9] toggles Click-Lock ON or OFF. [F10] provides a 'single-click'.

By registering the program, users get the latest version, several scalable fonts, a printed user guide, free technical support, a collection of clipart, a number of publication templates and a quarterly newsletter.

Imageprint

For those with minimal needs, lesser help-mates can also be found on computer bulletin boards (as can oodles of clipart). For example, Imageprint, despite its restriction, enhances a printed page. It doesn't handle graphic images or non-Epson-compatible dot-matrix printers. Embedded codes in an ASCII/DO5 file use the backslash. For example, '-02' provides elite characters (12 pitch); '-B' delivers bold print; '-G' selects draft quality printing while 'L', causes the printer to take six passes. For other formatting, dot commands (as in WordStar) are used. Or, for page-coding, they can be added on the command line in loading the program. Pitches: 5 to 17. Fonts: 24.

Conclusion

For those intrigued by DTPing but unprepared to cough up any more dollars than absolutely necessary, Softkey's Key Publisher can be found in software outlets in the thirty-five dollar range. Since their products are often repackaged well-known branded items, many purchasers have been more than satisfied with what they acquired for the dollars invested.

Having explored the programs as a DTP-neophyte and based upon my more modest intentions, apparent ease-of-use and general

capability, I favored PFS:First Publisher and, despite it rejecting my video card, Express Publisher. Both cost around one hundred dollars and have Windows versions. ■

Sources

Most products are available at computer outlets. For more information contact:
EnVision Publisher (BdS shareware)
Express Publisher
GeoWorks Pro
PFS: First Publisher
Publish It!
Software Vision PO Box 1734, Pinellas park, FL 34664-1734, U.S.A. by phone: 813-545-4354

Shareware registration: 1-800-388-0474
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IBM Canada, 3500 Steeles Ave E, Markham ON L3R 2Z1, 1-800-465-1234.
Spinnaker Software 201 Broadway, Cambridge MA 02139 USA. By phone: (617)494-1200. By fax: (617)494-1219.
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Don Wilkes is a chartered accountant with a corporate background and a Toronto-based computer consultant

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Common Grammatical Errors

BY GRAEME BENNETT

While you are shaping up your DTP stylings, be sure to avoid the most common grammatical errors.

- **Use "e.g.," and "i.e.," correctly.** The former is correctly used in place of the words "for example;" the latter means "in other words." In both cases, be sure to follow the second period with a comma.

- **Proper use of punctuation.** Single quotes are often used where double quotes should be. Always use double quotes, unless you are using quotes-within-quotes, as you might if you are quoting someone who is, in turn, quoting a third party. In general, always put periods, commas, question marks and exclamation points inside quotation marks. The only exception to this rule is if the word or phrase in quotes contains its own punctuation.

Use typographer's quotes "like these" instead of plain quotes "like these." If you are not sure how to create them, check your word processor's manual. Windows and the Macintosh have Key Caps accessories that make it easy to see "hidden" key symbols.

If you use a program that automatically types "smart quotes," be aware that in cases like "Remember the '70s," the single quote before the seven will be facing the wrong way. The correct orientation is an apostrophe, as shown above. This also applies to words like "o'clock" and "till."

- **Apostrophe-S** denotes ownership. Another mistake many people make is to put apostrophes after pluralized words. ("We sell IBM's" is wrong.) Note that the "s" in the "'70s" example above is not preceded by an apostrophe. Remember that if a word ending with an "s" requires an apostrophe it is correct to put the apostrophe after the "s" (e.g., Mr. Jones' car).

Also, "it's" is a contraction of "it is" or "it has"—it's not the plural of "it," nor does it belong to it.

- **Use hyphens and dashes correctly.** A hyphen is correctly used to hyphenate. It is also commonly used in telephone numbers. Don't hyphenate word-pairs in which the first word ends with "ly" (e.g., highly-toxic is wrong.)

An "en dash" (so called because it is the width of the letter "n") is slightly wider than a hyphen. An en dash is correctly used between two numbers, dates, or times.

- **Wider still is the "em dash."** It is used for in-sentence emphasis.
- **It is better to use a bullet** (a dot like the one at the beginning of this sentence) than a dash or an asterisk to illustrate a point. Windows has a font called WingDings that contains numerous interesting bullet shapes. The Mac has a similar font called Zapf Dingbats. Most fonts have at least one bullet character. (On the Mac, option-8 produces the characteristic "bullet" dot.)

- **Italics are properly used to highlight** publication or book names, editorial comments, foreign language quotations or occasional words of emphasis. You should also use italics when a product name is used in a headline (e.g., "Will the new version of GrammarMaster work?").

An error in your grammar or spelling will sabotage all the effort you put into design and layout. Correct grammar is of paramount importance.

- **Don't use two spaces after a period.** One will do. Never use underlines.
- **Capitalization.** All caps is only appropriate for acronyms (e.g., SCSI, IBM, DOS). Do not use all caps for emphasis. Use italics instead. Do not capitalize words unless they are proper nouns (names, titles, business names, etc.—even when spelling out acronyms).
- **And the number one grammatical error? Spelling mistakes.** Even one typographical error in a document is one too many. Remember, your word processor's spelling checker cannot tell if the word *now* is misspelled *nor*. Let the computer check the spelling first, then read it over and look up any suspect words in a good paper dictionary. Be especially careful with names, which won't be in the dictionary.

Remember, desktop publishing is all about communication. An error in your grammar or spelling will sabotage all the effort you put into design and layout. Correct grammar is of paramount importance.

These grammatical conventions are only the tip of the iceberg. There are dozens — hundreds! — of other common grammatical errors. *Strunk & White's Elements of Style*, *The Chicago Manual of Style* and *Fowler's Modern English Usage* are good books on the subject. It is worth picking up one if you are interested in creating documents that work. ■

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TECHNIQUES About the Cover

BY GRAEME BENNETT

This issue's cover was created using a 35mm camera, Adobe Photoshop 2.5, Fractal Painter 2.0 and Aldus FreeHand 3.11. Here's how.

The original photo (that's *The Computer Paper's* own production manager Kit Griffin, hard at work) was scanned on one of our Microtek color scanners, yielding a 24-bit color TIFF, which was then loaded into Photoshop, where the image was cropped and its brightness, saturation and contrast adjusted. Using Photoshop's selection and feathering tools, pieces of the wall,

floating paint on water in a shallow tray. In Fractal Painter's simulation, it behaves exactly like the real thing — it's just less messy to work with. So convincing is Painter's simulation, in fact, that I used all the traditional techniques just as they are described in craft books. One such book is called *Marbling Step by Step*. You can find it, and others like it, in craft stores.

Another source of marbling information comes from the makers of Liquitex acrylic paints. Birney & Smith Inc. publishes a free brochure called *Technique Sheet: Marbling with Liquitex Acrylic Paints*. You can get it by calling the company at 215-253-6271.

Although the Painter manual contains very little info on marbling, I had a look at a prerelease copy of a booklet written by one of the authors of Painter, called *Painter 2.0 Companion*. The booklet, which will come with a disk of macros recorded using Painter's new "Playback Session..." function, contains a marbling tutorial section with all the settings you need to generate first-rate "nonpareils," "get gels," "peacocks," "bouquets" and other quasi-psychedelic images.

The booklet and disk will ship to all registered 2.0 customers as soon as it's ready. I heartily recommend Painter 2.0 to Windows and Mac users with an artistic flair. The company is offering the program for just US\$299 (upgrades are US\$79) until April 30.

The font used for the letters "DTP" is called Teknik. It's from Letraset's Fontek series. Faces from the Futura family were used for the rest of the headlines and other cover text.

Color separations were generated directly from Aldus FreeHand and output to film at 1260 dots per inch.

Contact: Fractal Design Corp., 1-800-647-7443; Adobe, 1-800-64-ADOBE; Aldus, 1-800-333-2538; Letraset, 416-475-TYPE.



windowshade and desk were copied and pasted to extend their dimensions, to better fit the page. This new version of Photoshop, incidentally, is great—much faster than versions that preceded it, with a bevy of slick new features. Although the version I've been using is a beta release, it is rock-solid. Upgrades are US\$129 (US\$199 for a CD-ROM version with extra goodies). I have a feeling I'll be writing more about it in coming issues.

The "DTP" sign was created in Fractal Painter 2.0 using that program's great new "liquid media" and text-handling features.

The technique used to achieve the effects used for the border and behind the letters "DTP" is called marbling. It has been around since the 12th century.

Traditionally, marbling is the process of

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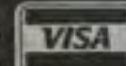
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what's new CONT. FROM PAGE 15

Lexmark brings 600 dpi printing to Windows and OS/2 Users

Since the recent introductions of printers by Hewlett Packard, 600 dpi is being hailed as the new corporate standard. Lexmark has been producing affordable 600 dpi printers since 1991. Now it is seeking to regain some of its thunder by introducing a new Windows print accelerator that pumps out pages up to eight times as fast with less memory. By using the processing power of

your 386 or 486 computer, you can substantially improve print speeds with these new boards.

In a twist of fate that characterizes today's computer industry, Lexmark has recently inked a deal with Dell Canada to distribute IBM-brand printers.

Contact: Lexmark (416) 477-2311

Byte Magazine chooses Actix Systems GraphicsEngine 32 as best of the bunch

The January 1993 edition of *Byte Magazine*, has named the Actix Systems GraphicsEngine 32 the best of the bunch. The card uses the S3 86C801 chip, displays resolutions up to 1280 x 1024 noninter-

laced, and retails for \$400. It is being distributed in Canada by Forefront Graphics.

Contact: Forefront Graphics



what's new for Macintosh

Inmac launches MacOnly mail order catalogue in Canada



February was the first mailing of MacOnly, a new all-Canadian catalogue dedicated exclusively to Mac users across the country. The catalogue comes from Inmac, a five-year-old mail order market-

ing company. A casual flip through the catalogue revealed a wide selection of software and hardware peripherals for the Macintosh user.

Contact: 1-800-567-5992

MacVONK ships TeamAgenda — Multi-User Schedule Management

MacVONK Inc. last month shipped a multi-user schedule management package for the Macintosh. A client-server application, the program allows up to 100 users to view and modify personal and work-group schedules. Contact: MacVONK Inc., (403) 232-6545.

Turn on your Mac

Adam Peripherals Inc., has begun distribution of PowerKey Remote, from Sophisticated Circuits. PowerKey Remote electronically presses the Power On key on any Mac II line computer when it receives a ring signal on a standard phone line. For earlier models you have to pair it with their PowerKey circuit, which allows you to turn on Mac Pluses, SEs etc as well as modems

and other peripherals. Turning on a computer late at night with a phone call allows users to access files, retrieve E-Mail or transfer data.

Contact: Adam Peripherals (416) 886-2326.

Radius Software on Pivot, eliminates need for video card on newer Macs

Radius Inc. recently announced the availability of SoftPivot 2.0, a software program that allows a Radius Pivot displays to be used on the new Apple Macintosh computers supporting built-in video without the cost of a \$739 display card.

Contact: Radius Inc., Canada (416) 777-9900.

First Desktop Software for Tracking and Estimating Menstrual Cycles

Software publishers are often accused of ignoring the needs of women in their product lines. Sudona, an Austin Texas company hopes to change that with their Menstat 2.0, a program designed to track and estimate female menstrual cycles. The program sells for US\$99 and runs on a Macintosh computer. (DOS and Windows versions are in the works) Features include: calendar-oriented database for tracking menstrual cycle events including bleeding, basal body temperature and cervical/vulvar mucus, estimation of future cycles and ovulation, daily diary, lunar calendar, birth planning and password security are included. The program requires HyperCard 2.1, and employs fuzzy logic to predict fertility cycles. Included with the software is Menstack, a virtual book for collecting and distributing information pertaining to the reproductive cycle. Users are encouraged to add entries based on personal research, family traditions and experience.

Contact: Sudona, 2118 Guadalupe, Suite 195, Austin, Texas, 78705 USA (512) 444-9775.

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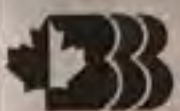
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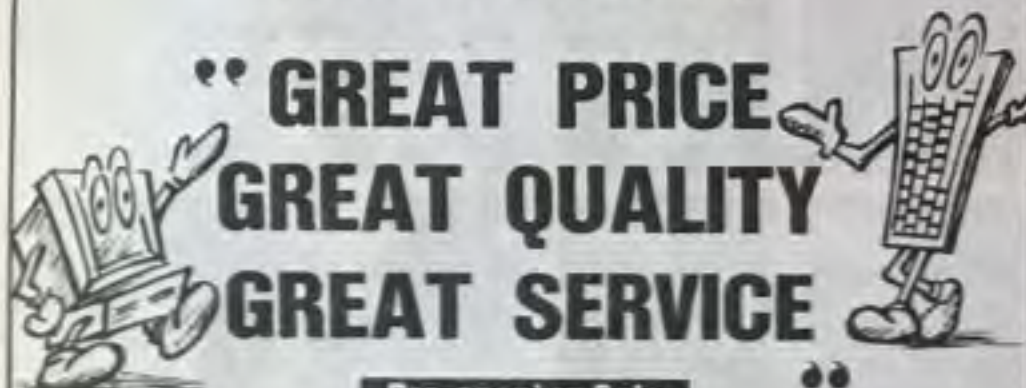
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MS-DOS 6.0

BY GEOFF WHEELWRIGHT

Microsoft Windows has been wildly successful over the past two years — so much so that it has overshadowed MS-DOS as Microsoft's flagship operating environment. But don't count DOS out — it is not ready for the OS retirement home just yet.

MS-DOS is now in its twelfth glorious year and has more than 100 million users worldwide. Since its release in 1980, the computer industry has changed dramatically — but MS-DOS continues to evolve and be a thriving platform.

Microsoft says that three key user needs comprise its vision for the future of MS-DOS. To start with, Microsoft wants MS-DOS to be a superior platform for Windows now that Windows has become such an important PC industry standard.

More than half of all new PCs are shipped with Windows and the number is growing — the Windows application market is approaching the size of the MS-DOS applications market. Given the widespread use of Windows, Microsoft plans to evolve MS-DOS over time to provide the base technology for improvements to Windows as well as become more tightly integrated with Windows.

Notwithstanding the success of Windows, for a host of reasons Microsoft knows that many people will be using only MS-DOS long into the future. For example, many are comfortable with MS-DOS and their MS-DOS applications — or rely on certain specific applications that are not yet ported to Windows. Some will still use a computer that cannot run Windows.

Microsoft has made a public commitment to continue to improve MS-DOS to

provide more and better functionality for MS-DOS users while maintaining strict backwards compatibility.

All of which brings us to MS-DOS 6.0 — the new release of DOS. It contains a host of improvements, additions and refinements. There isn't room to list them completely here, but we will try to give a broad picture.

Setup and Installation

One of the major criticisms aimed at MS-DOS over the years has been that it was too hard to use. For that reason, Microsoft has gone to considerable lengths to address that from the outset with MS-DOS 6.

Building on the positive feedback from the MS-DOS 5 upgrade installation program, Microsoft has made the procedure in MS-DOS 6 even easier and safer. For example, MS-DOS 6 includes a great deal of "auto-detection" software built in — so that it can automatically detect what hardware a user has and thus does not have to ask the user stupid questions about what of type display, keyboard and memory the system has.

MS-DOS 6 is also more modular — you can "custom install" part of it and then add other features later when you have more hard disk space free. It is also "aware" of what other applications are doing — such as disk compression software, cache utilities

Microsoft's DoubleSpace Setup

Free space before compression	1.8 MB
Free space after compression	8.0 MB
Compression ratio	1.0 to 1
Total time to compress	25 minutes

DoubleSpace has created a new drive (E:) that contains 2.0 MB of compressed data. This space has now been added to the files that most users compress.

To exit from DoubleSpace and return your computer to normal operation:

ENTER=Continue F1=Help

Here, DoubleSpace has increased the available free space on a hard disk volume from 1.8MB to 8.0MB



Undelete can help you recover accidentally deleted files. However, unlike the Unerase utility found in Norton Utilities, Microsoft's Undelete has trouble with files whose directories have also been deleted.

(it will install SMARTDRV automatically for you if you want it) and OS/2 (which it will either deinstall for you or set itself up to run alongside).

Hard Disk Management

Hard disk management tools have become more and more sophisticated with each new release of MS-DOS — and this one is no different. Probably the single most important hard disk utility included this time is something called DoubleSpace.

DoubleSpace is a disk compression utility that doubles the amount of space on your hard disk by "crunching down" the existing data and being able to "uncrunch it" on the fly while you are working. Microsoft says it is safer than most third-party compression utilities (of which there are a growing number) because DoubleSpace is integrated right into the MS-DOS kernel.

DoubleSpace does, however, offer compatibility with the popular Stacker disk compression software — so that Stacker compressed drives can be converted to MS-DOS 6 compressed drives without having to expand and recompress that data on the drive in question.

Aware that perfor-

mance is often an issue where compression applications are concerned, Microsoft has included a defragmentation utility called Defrag (actually a simple subset of Norton Utilities' Speedisk, which rearranges files and free space on a hard disk so that data can be written and retrieved more quickly and efficiently).

It should be emphasized that all these are options. DoubleSpace does not need to be installed as part of the MS-DOS 6 upgrade — it is only one of the options.

Memory Management

Microsoft did include a number of new memory management features in MS-DOS 5 — but admits they were not as easy to use as the company would have liked. So MS-DOS 6 boasts what Microsoft calls an "ergonomic" memory management system that should take the pain out of optimizing memory usage on your PC.

Through a utility known as MemMaker, it is designed to provide up to 104K of extra upper memory over what was made available by MS-DOS 5. Safety is an important part of this optimization process.

If, for example,

Hard disk management tools have become more and more sophisticated with each new release of MS-DOS — and this one is no different.

MemMaker causes a memory conflict by the way it has set up your system's memory, it will give you the choice of defaulting back to previous settings after a cold or warm reboot.

MemMaker is also optimized for Windows — counting on the fact that Windows will use upper memory in order to create more room for DOS applications when they are run from Windows. MemMaker will also take advantage of the ability within MS-DOS 6 to load applications into specific blocks of upper memory.

MemMaker is not the only improved memory management utility in MS-DOS 6. A new EMM386 will automatically recover up to 200K of upper memory automatically, while its dynamic EMS/XMS allocation system will allocate EMS and XMS memory

from a shared pool so that users can run applications running either type of memory without having to know anything about either memory standard.

Finally, Microsoft has included the Microsoft Systems Diagnostic tool (which displays a memory map, among other information) and an enhanced MEM command (which shows details of unused memory blocks and information on the way a specific application uses memory).

Data Protection

These utilities make a first for Microsoft in providing both DOS and Windows versions in an OS upgrade. With MS-DOS 6 you get utilities that will backup your data, check your disk for viruses and undelete files — in both Windows and DOS versions.

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Rather than re-inventing the wheel completely, Microsoft has wisely licensed the best of the third-party utilities for doing these tasks and enhanced them. The backup utility, for example, is licensed from Symantec and is based on Norton Backup.

The anti-virus software, meanwhile, comes from Central Point Software and is based on Central Point Anti-Virus. It includes the ability to scan both memory and disks for known infected viruses.

To guard against the possibility of unknown viruses biting the system, the software includes a facility for checksumming files (i.e., checking that key files are of the size they should be) and a memory-resident utility called VSafe that can continuously guard against "virus-like" behavior.

The Undelete utility, meanwhile, is also licensed from Central Point and has been significantly enhanced from the previous version.



Microsoft's Anti-Virus includes the ability to scan both memory and disks for known viruses.

To start with, it now includes Windows version so that users don't have to exit Windows to undelete a file. A new level of protection (Delete Sentry) has been added that ensures recovery of deleted files even across network drives. Finally, and probably

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most importantly, a Directory Undelete has been added to recover deleted directories.

System startup.

This addresses probably one of the thorniest problems facing DOS users — those CONFIG.SYS and AUTOEXEC.BAT files. When installing new software or hardware, these files are often modified — and sometimes don't work when you reboot. At the moment, recovery from this is often a matter of rebooting from a DOS 5 system disk. All of which, to be quite blunt, is a pain.

With the new "clean start" feature in MS-DOS 6, however, you can boot up a "clean" system by just holding down the F5 key during reboot. This will bypass all CONFIG.SYS and AUTOEXEC.BAT commands and get you going again quickly.

There is also a new "interactive start" — which lets you choose which lines of your CONFIG.SYS and AUTOEXEC.BAT files you want to bypass during a problem reboot. This is particularly useful when debugging memory and interrupt conflicts.

If you want to choose from a variety of CONFIG.SYS combinations, you no longer have to reboot and rename. The "multi-config" facility within MS-DOS 6 lets you create menu items and corresponding menu blocks in CONFIG.SYS and choose from amongst a variety of boot combinations.

And lastly, Microsoft has added a "choice" utility — which is a batch command that accepts keyboard input and lets you build your own simple menu programs to make life easier at startup.

Workgroup Computing

In recognition of what is expected to be a huge move to PC network use through the attraction of Windows for Workgroups, Microsoft has included a built-in network and electronic mail "client" within MS-DOS 6.

This allows PCs running MS-DOS 6 to access shared files and printers from any PC running Windows for Workgroups, Windows NT, LAN Manager or compatible networks — as well as communicate over any network with Microsoft Mail or Windows for Workgroups "post offices."

This set of utilities also includes a "pop-up" network interface that can load as a memory-resident program and pop-up in other DOS applications so that you can make network connections without leaving your work, as well as an "interlink" utility that lets two computers share data, applications and printers over a parallel or serial port.

Conclusion

MS-DOS 6 represents a major step forward for DOS users. It will make working life easier in almost every respect for those running DOS applications, while also enhancing the operation of Windows. If you run DOS, then you'll want MS-DOS 6. ■

Geoff Wheelwright contributes regularly to *The Computer Paper*.

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BY GRAEME BENNETT

For many musicians, the dream of playing an instrument and having an attached computer instantly transcribe the performance as sheet music has been a quest comparable to that for the Holy Grail.

Today, with pitch-to-MIDI converters available for guitars, violins and wind instruments, keyboardists aren't the only ones able to create MIDI (musical instrument digital interface) music. In fact, some music lovers don't use any instrument other than a computer. They input notes directly from existing sheet music onto an on-screen staff and play the music back with their PC.

There are numerous products available

today that promise results, but performance and print quality varies widely.

MIDI Environmental issues

As I mentioned in my August '92 feature *Thoroughly Modern MIDI*, Windows 3.1 has added a level of MIDI support to the PC's operating system that's nothing short of superb. Because the details were spelled out in that issue, I won't repeat them all here, but briefly, Windows adds system-level support for sampled sound, MIDI mapping and MIDI playback. These features surpass those found in any other operating system, making Windows the best environment available for computer music enthusiasts.

Although, as we'll see a little later in this



Cakewalk Pro for Windows has excellent support for multiple audio cards or MIDI interface.

article, PC MIDI software still lags behind some of the other platforms in certain areas, there is more MIDI software currently in development for the PC than for any other platform.

Because a Windows PC equipped with a sound card can play MIDI files, Windows is the ideal environment for those who want to make music with their computer and non-musicians who just want to enjoy listening to music.

If you do decide to hook up a keyboard or other external gear to a PC, Mac or Amiga, you'll need a MIDI interface. There are numerous models on the market. For the PC, we've heard that the Music Quest MIDI interfaces have the best Windows drivers that permit proper multitasking and port-sharing. Music Quest MIDI interfaces are available in basic models, or with tape and SMPTE (the Society of Motion Picture and Television Engineers) synchronization options.

Many audio cards and MPC add-on kits also include a MIDI interface option.

Portable MIDI

Performing musicians might find a laptop or "lunchbox" computer a wise investment. Be sure that it has one or more standard PC slots capable of supporting a MIDI interface. **Sayson Technologies** (604-273-7305) sells the most impressive MIDI portable I've seen. It weighs about 20 pounds, but boy, is it packed with goodies. The model I tested was loaded with 32 MIDI channels, a Multisound card, a Roland Sound Canvas card, Windows 3.1 and a bevy of music applications. It's almost like having an orchestra in a box.

Macintosh fans-on-the-go have a wide choice of Powerbook and Duo models to choose from. All require an external MIDI interface.

Atari users may be able to find one of the discontinued Stacy portables around at a good price. Like all Atari ST models, it has

built-in MIDI ports.

There are, at this time, no portable Amiga models. Reportedly, Commodore nixed a recent attempt by a third party to repackage Amiga motherboards in a portable package.

PC Sound options

IBM compatibles usually require an add-on card to produce decent sound output, while Mac, Amiga and Atari computers have medium-fidelity audio capabilities built in.

All these platforms have high-quality sound options available. For the PC, the games software market has played a major role in defining the feature sets and compatibility of add-on audio cards. The current standard is the Soundblaster, which offers fairly low-quality 8-bit digitized sound input and output and a simple FM synthesizer. Most PC sound cards are "Soundblaster compatible," although some, such as Microsoft's Sound System, are not. An earlier audio card called the AdLib is now considered obsolete, although some games still support it.

Better audio cards are said to be "16-bit." When a manufacturer claims that its card is 16-bit, or "CD-quality," it usually means that the card plays back audio with



Opcode's Audioshop uses an unconventional but familiar interface that looks like a CD player to manage the playback of audio CDs and 8-bit samples.

greater fidelity than an 8-bit card is capable of. Some 16-bit cards, such as Advanced Gravis' UltraSound card, come with the ability to play back 16-bit audio, but require an option to record 16-bit sound.

I recently stopped into a computer store, where a couple of salesmen were struggling to configure an UltraSound card.

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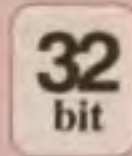
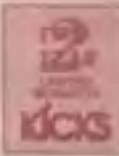
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Mac MIDI

Apple has a set of system-level utilities for the Macintosh known as MIDI Manager. This software allows the Mac to run multiple MIDI programs and route the MIDI input and output from program to program via a "patch bay" desk accessory. The MIDI Manager software comes bundled with surprisingly few MIDI applications. I've looked for it many times over the last few years and never once seen a copy in any of the on-line areas in which Apple typically distributes its system software updates. Many Mac MIDI applications I have seen refer to MIDI Manager in their documentation, and one trait they all mention is that MIDI Manager slows down the computer a lot. I finally found MIDI Manager on Passport's Trax disk and the rumors were true. MIDI Manager effectively reduces the performance of a Macintosh. No wonder the wags call it MIDI Mangler. Fortunately, you do not need to run MIDI Manager to run a single MIDI application. You'll want to use a fast Mac (with a 68030 processor or better) if you have to run MIDI Manager.

Mac MIDI interfaces all connect to one of the computer's two serial ports (one on the company's Duo models). This can lead to a problem if you have other devices connected to these ports on a regular basis. Other common devices that use these ports include modems, graphics tablets, AppleTalk network connectors and printers. Especially troublesome is the fact that some of these devices (graphics tablets, for example) have their own software drivers that conflict with MIDI. These must be disabled and disconnected before you can use MIDI.

Users of IIfx and Quadra computers have an additional problem. Their serial ports have two modes of operation: faster

and compatible. Guess which one doesn't work with MIDI.

You may have heard reports of MIDI glitches when running music applications on Mac Portable or PowerBook computers. These problems exist, but luckily, there are a variety of solutions. Some programs, such as EMAGIC's Logic sequencer, specifically address these problems in their documentation and work around them with programming tricks; Opcode avoided the problem by replacing the MIDI Manager routines with its own superior set called OMS. Passport uses a similar method to get around the MIDI Manager slowdown. Apple has acknowledged the problem and has uploaded a fix to its AppleLink on-line service. Reportedly, only the PowerBook 100 cannot use the patch.

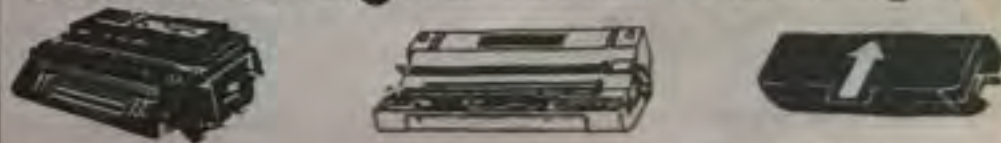
Mac internal audio support is limited to 8-bit sampling and playback. (External 16-bit audio cards, such as DigiDesign's AudioMedia, are available, but are not supported by many programs.) Some models have better audio fidelity than others. Older Macs had monophonic sound. Around 1987, Apple began producing models with dramatically improved audio fidelity. Mac II, IIx, IIcx, IIci, IIfx and SE/30 models have the best stereo sound chips. Since its recent emphasis on "low-cost" Macs, Apple has begun incorporating less-impressive sound circuitry. Even the Quadra models use a cheaper sound chip than previous-generation Macs.

Audio performance varies somewhat. The LC models, for example, sum the two stereo channels into a mono signal. The IIfx is generally agreed to have the worst sound of recent models. Recent IIfx, PowerBook and Duo models have fairly lame sound circuitry that completely discards one channel.

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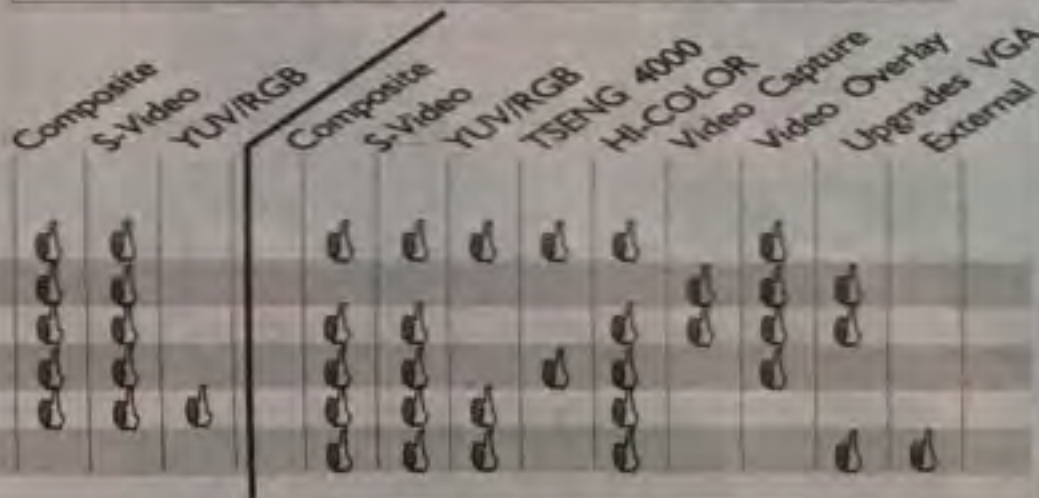
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Local Bus Video

BY ROEDY GREEN

This month I will explain the technical terms for computer buses: ISA, EISA, MCA, Local Bus, VESA, VL and PCI. I will also touch on the mysterious IRQs (Interrupt Requests), DMA channels and i/o ports. To understand these, you will first have to learn a little more than you wanted to know about how the computer works under the hood. I will try to make it painless.

Bottlenecks

By analogy, consider what happens when a large family cleans up after dinner. One person brings the dishes to the sink. Another washes them. Another dries them. Another puts them away. The speed of the whole operation depends on the bottleneck — the speed of the slowest person. If the dish washer is the slowest, it won't help to recruit a faster dish dryer.

In the dishwashing assembly line, all people can work at once. In the analogous DOS computer assembly line, usually only one component works at once. However, the bottleneck effect is still present. When you are upgrading, spend your money on the bottleneck. Putting it anywhere else won't buy you much.

Under OS/2, or other multi-tasking operating systems, both the CPU and hard disk can work at once. Slow devices like modems and tapes run overlapped in the background. Here it pays to buy smart

hardware that can run simultaneously with the CPU.

Balancing

Another analogy is a stereo system. Don't buy a \$3000 amplifier and hang on a pair of \$50 speakers. Balance both speed and quality to maximize your bang per buck.

The Components

Here are the main components, roughly in order of increasing cost, that you need to balance:

1. Power Supply. Fast machines need higher quality, better cooling fans and smoother output. The power supply takes the 115 volt AC mains and converts it to 12 and 5 volts DC for the components.

2. RAM. This is the fast, short-term memory the computer uses for holding temporary results of its calculations. If you were editing a file with your word processor, most of that file would be resident in

RAM. Typically, a PC has 4 to 16 MB of RAM. One megabyte is equivalent to 1,048,576 characters. RAM memory is volatile, i.e. when the power shuts off, all is forgotten.

3. Peripheral I/O Bus or bus for short. This is the set of wires on the motherboard that connects the CPU with the video card and the hard disk adapter. If you don't know what a video card or hard disk adapter is, hang on, I'm getting to that. If you look at a motherboard, you will see a set of eight slots for adapter cards. You can also see the parallel copper traces connecting all the slots with the CPU. These traces form the peripheral bus.

4. Video Card. This is the card of electronics inside your computer that generates the video signal to produce the picture on your monitor. It sweeps out the image about 60 times a second.

5. CPU. This is the chip on the motherboard that does arithmetic. A 50 MHz machine is faster than a 33 MHz machine by a ratio of 50/33. An 80486 is about 25% faster than a similarly rated 80386 DX for integer operations.

6. Hard Disk. This is a rotating set of magnetic platters used to store massive amounts of information, typically 80 to 500 MB. Here is where you store all your pro-

grams, every word processing document, spreadsheet and accounting entry. Hard disks are non-volatile. They continue to retain the information even when the power is off. IDE and SCSI are the most popular kinds of hard disk, but you may still find MFM, RLL and ESDI. Each type needs a different kind of adapter card or electronics to attach it into the computer.

Most people err in putting too much money into the CPU relative to the power supply, RAM and video card. The other common error is to put too much money into the bus without making a matching investment in the video card and hard disk controller.

History of the Bus

The original XT computer had only eight wires on the bus for communicating data. The rest were for housekeeping. This allowed the CPU to send one character (8 bits) at a time over the bus to the hard disk or to the video card.

The follow-on AT computer had 16 wires. This allowed the CPU to send data two characters (16 bits) at a time.

Since then the 80386 computers have learned to send data four characters at a time (32 bits), however, for backward compatibility, the ordinary bus still runs at 16 bits and at the same speed — 8 MHz as it did a decade ago.

The CPUs are now 150 times faster than they used to be, but the bus is the same old speed. Guess where the bottleneck is now!

Sneaking Around The Bottleneck

There are three approaches to fixing the bus bottleneck problem:

1. Invent a new faster general bus. MCA, EISA, VL and PCI are examples of this approach.

2. Invent auxiliary proprietary buses. Move some components onto them, taking the traffic off the main general purpose bus. Nearly all 80386 machines use this approach for RAM. RAM then can run at full tilt, almost as fast as the processor can go. Companies such as Dell also use proprietary buses for high speed video.

3. Be clever. Figure out ways to get the same job done sending less information over the bus. Co-processed video and software disk caching are examples of this approach.

The New Buses

The original IBM AT 16-bit bus is called the ISA (Industry Standard Architecture) bus. Most of the clones sold today use this bus. The standard version of the bus waddles along at 8 MHz, though rarely you can tweak it up as high as 16 MHz, if all the adapter cards can run that fast without tripping.

IBM, with its PS/2 line of microcomputers, invented a totally new bus, with a totally new connector called MCA, (Micro Channel

Architecture). MCA comes in several variants, but none of them are compatible with ISA. You need to use special MCA adapter cards. There is less choice in adapters and

Most people err in putting too much money into the CPU relative to the power supply, RAM and video card.

Continued on page 52

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Local Bus

Continued from page 50

the prices are higher for equivalent function. IBM has partly abandoned MCA, in favour of the cheaper ISA, for its low-end machines.

A group of IBM's competitors came up

with a bus called EISA (Extended Industry Standard Architecture). This bus allows you to use both the old ISA adapter cards and the new faster EISA adapter cards in the same machine.

A consortium of about 120 companies called VESA (Video Equipment Standard

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Bus Speeds in Megabytes Per Second

Association) came up with yet another bus called the VESA VL bus. VL slots look either like standard ISA or EISA slots with a 116-pin MCA-like extension. This means a VL slot could continue to be used for ordinary ISA or EISA adapter cards.

Intel, the people who invented the 80386 and 80486 chips, came up with yet another bus design called PCI. It won't be available until the summer of 1993. However, since Intel controls the heart of the computer — including the new 586 Pentium chip, they may be able to force everyone to play ball their way. There is an impressive group of companies behind PCI besides Intel, including AMD, ATI, Adaptec, Compaq, IBM, NEC, Tandy, Toshiba and Unisys.

Relative Speeds

Reading the comparative speed charts, you might think the matter was settled — QuickRing it is. However, factors other than raw speed determine the market-share winner.

The Politics

The bus is the hardest part of a computer to improve. When you change the bus, everything else has to change along with it. If a vendor designs a new bus, he must persuade thousands of other manufacturers to offer variants of their adapter cards to fit the new bus. Until adapter cards are available, no one will buy computers with the new bus. Gaining the necessary consensus is extremely difficult. That is why the old ISA bus still reigns supreme. Even a giant like IBM could not budge it with the technically superior MCA bus.

If you buy any of the improved designs, you are taking a gamble. It may turn out your choice flops in the marketplace, and, in future, you will not be able to buy adapter cards to fit the bus.

Crystal Ball

I will stick my neck out and guess the futures of various buses.

ISA Plain Jane will be around for decades.

Even if some new bus takes over, motherboards will still have an ISA compatibility slot or two to handle the old style adapter cards. ISA adapter cards are cheap to manufacture, which assures them a long life.

VESA-VL VL is a quick and cheap solution to the bus bottleneck problem. Unfortunately, it requires exceptionally careful adapter card design to be reliable. VL is catching on fastest. A large group of companies — VESA — supports VL. Multi-vendor support bodes well for the future. VL comes in two versions, 32-bit and the faster 64-bit, which makes it more forward-looking

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Co-Processed Video

Last year I advised my customers to stay away from local bus. Instead, I recommended people use co-processor video cards on the ordinary ISA bus. Co-processor video is still a good idea. For maximal speed, you might use a VL slot for your hard disk and co-processor video card. Make sure both adaptor cards are designed for VL, or you will receive no benefit.

Without a co-processor, consider what happens when Windows paints a large letter "A" on your screen while you are using the Word For Windows Word Processor. The letter might be 50 dots tall by 50 dots wide — 2500 dots in all. Each dot might be one of 256 colours needing 8 bits of information to specify the colour. It thus takes the equivalent of $2500 \times 8 = 20,000$ "bits" of information to fully describe that "A." In an ISA system, the CPU would calculate those 20,000 bits, then send them in 1250 chunks, 16 bits at a time to the video card.

You begin to see why Windows is so slow, even with a 486.

With a co-processor, the CPU would send the co-processor a very short command "Draw a cherry-red A." This command flies over the clunky old ISA bus. The CPU then carries on with its work while, in the background, the co-processor generates the 20,000 equivalent bits painting the "A" dot by dot. The co-processor is a specialist at painting dots — much better adapted to it than the main CPU.

Painting is five to ten times faster than if the CPU did it alone.

Where Co-Processors Fall Down

Co-processors don't always help. Consider what would happen if you were using Aldus Photostyler. You wanted to show a group portrait of all your friends on the screen. There is no way the CPU could compactly describe that image to the co-processor and still generate a life-like image. It has to resort to sending the image dot by dot, just as if there were no co-processor present.

Then, it really helps to have a fast bus to speed up such bulk transfers. When you are working with photo images, rather than text or line art, the VL bus struts its stuff.

How To Get Nothing For Your Money

I have seen people buy an expensive EISA motherboard, then refuse to buy any expensive EISA adapter cards to go with it. They populate it completely with the ISA adapter cards. They get zero speed benefit from this. Only when you start to add the EISA adapter cards does it go any faster than a cheap ISA.

The same applies to VL systems. When you use MCA, you have no choice but to buy MCA adapters.

Caveat emptor. There are VL cards and motherboards that run little faster than equivalent ISA cards. They are VL in name only. The best way to protect yourself is to insist that both the card and the motherboard support bus mastering. Unfortunately, bus mastering does little to improve DOS performance, but it greatly helps OS/2 and presumably future versions of DOS/Windows.

Where Should I Put My Money?

Motherboard prices have been dropping so rapidly over the last few years, most people write motherboards off after about two and a half years and start looking for a replacement.

Presumably this trend will continue. This means if you pick a motherboard with an unpopular bus, all is not lost. You will get a chance to change it again in three years.

You can buy a motherboard with one or two extra VL slots for less than \$100 extra. This gives you a hedge for the future. You might elect to buy an extra-cost VL hard disk or video card for the slot now, or you might just use ISA adapters now. VL adapter cards are new. Industry leaders and respected brands have not yet emerged.

A full EISA system is quite a bit more expensive, especially when you add in the cost of EISA adapter cards for video and hard disk. If you want a big, powerful system now, guaranteed to work without flakiness, EISA is the way to go. However, EISA's star is waning.

If I were using Windows for word processing, or line art I would get a co-processor video card. To hedge against the possibility of lack of video drivers for future versions of Windows, I would go for 8514 compatibility (e.g. the ATI Vantage and Ultra series). The other common type of video co-processor are the S3 cards. They don't have 8514 compatibility, but some S3 cards are so fast and so cheap, I might still be tempted.

Learning More

Trevor Marshall wrote a technical article comparing the various buses in the October 1992 *Byte Magazine*. Peter Ruber also wrote one in the February 1993 edition of *Computer Monthly*. For heavy duty technical information, see Michael Slater's article in the July 8, 1992 edition of *Microprocessor Report*. He did another article on PCI for the December 9, 1992 issue. If you want a copy of the VL spec, all you need do is join VESA for \$1000 to \$4000 per year depending on your company size. Intel sells the PCI spec for \$100.

Credits

As usual, my friends on BIX helped gather information and find errors in the draft. Thanks go to Harvey Fishman, L. D. Graham, Brian Hinkle, Karen Kenworthy, Julius Oklamcak and Jay Vanderbilt.

Summary

I see a parallel between the emergence of VL and the dominance of IDE disks. When IDE disks came out, they lacked standards, could not be properly tested and could not be reformatted in the field. These problems are still much with us; however, the drives are so *inexpensive* they have almost completely taken over the market.

VL is similarly crude but much faster and cheaper than its competitors. It is a temporary solution to a big problem. Because of the extreme difficulty of changing bus standards, the last thing I want is a temporary expedient that we will be stuck with for decades. A new bus should have auto-configuring. VL does not have this. However, like the dandelion, VESA VL local bus will prevail. However, I am rooting for PCI, presuming Intel gets its act together and standardizes the connector.

Roedy Green writes custom software and helps people with miscellaneous computer problems. His custom computer manufacturing company, Canadian Mind Products, had to close after massive, and mysterious, inventory disappearances. He will be on a computer-free retreat until May 3. After that, you can reach him at home (604) 685-8412. He will be personally honoring all CMP warranties.

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commtalk BY JAMES MACFARLANE



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In a knowledge economy information becomes both the raw material and the end

product. The cheaper and faster you can both obtain and distribute information the better off you are.

As far as data communication goes, Canada is treading along the cattle path, not cruising the super-highway.

The new economy

Take a look at any knowledge-based company and you'd be hard-pressed to find one that wouldn't benefit from being able to move large amounts of information from plate-to-plate cheaply and quickly. Here's a few examples:

1) Your doctor needs to send you to a hospital for magnetic resonance imaging. The images, which could easily take up hundreds of megabytes, are simply too large to be transmitted over normal telephone lines in any reasonable time.

Your doctor must book an appointment to visit the hospital and use their computer to view the images. Because this kind of equipment is in high demand you wait three months for an appointment. Meanwhile, a high-speed data link could deliver this to your doctor's office in a few seconds.

2) You run an audio production studio. The person you want on your next show as a narrator lives in another city. You fly this person in and put them up in a hotel for a week. It ends up costing you thousands of dollars.

A CD quality digital telephone link would have let this person stay at home. It would have saved you a bundle and would have made your narrator much happier.

3) You're a software developer and you're looking for information on a new data compression technique. You pore over all of the trade magazines but you find nothing. You waste a week of your time looking for an answer. Your customers are waiting.

You could have had the answer in hours if you had access to an online forum on the topic.

4) Your band has just made a new rock video. You're not that famous so none of the networks will play the video. You're lucky to get on campus radio stations.

Your band starts its own bulletin board system, but instead of messages and software, you have videos. You're instantly on the air.

5) You're a home builder and you're at a trade show. Instead of hanging up pictures of your model homes, you establish a live video link from your booth to the real thing. Visitors direct your camera operator around the house, looking at things that pictures could never show.

Electronic highways

The technology exists for every example I've shown. The problem is the infrastructure to provide these services to people like you and I just don't exist.

It's akin to trying to deliver water to our homes using a bunch of drinking straws taped together. Drinking straws were never designed to do that. Neither is this nation's telecommunications network.

In the 1950s both the Canadian and

U.S. governments launched giant initiatives to build highways to connect our towns and cities. This both aided and created entire industries. As our economy moves away from heavy industry and towards the information economy we require new highways — electronic highways.

Take a look at the traditional telecommunications industry: telephone companies provide a low-capacity on-demand link from individual to individual. Radio and TV provides a high-capacity one-way link from the broadcaster to the masses.

As our economy moves away from heavy industry and towards the information economy we require new highways — electronic highways.

What Canada needs is a high-capacity on-demand link that can join two people together as easily as a thousand. We need a multi-media-ready data network, one that will take us into the next century.

Without this ability Canada is doomed to become a country that does nothing but export low-value natural resources and other trade-barrier prone products. Welcome to the third world.

Dinosaur monopolies

How can Canada survive in the information age when we live under the rule of telephone companies that think a rotary-dial phone qualifies as "basic service"?

Where are we headed when the CRTC wants to spend years approving new telecommunications services when our southern neighbours and the Japanese are running circles around us?

Canada has traditionally been a leader in the telecommunications industry. Take a look at companies like Northern Telecom, Rogers Cable, Mitel and Norpak. We are one of the most cable-TV wired countries in the world. Where's the fibreoptic network?

If we sit around and let the bureaucrats create this kind of system for us, we'll end up missing the boat. The wake-up call has sounded and time is running out.

Is there hope?

I was recently invited to attend an announcement of the Ontario government. Ontario premier Bob Rae presented the findings of an advisory committee on Ontario's long term telecommunications strategy.

This report echoed many of my concerns about role of telecommunications in the future economic growth of the country. Unfortunately this was not a federal program but it did acknowledge many of the issues, both cultural and economic.

The entire report is explained in — Telecommunications: Enabling Ontario's Future. Order from (416)326-9625. If you are outside of Ontario, ask for an extra copy for your provincial government representative and make sure she or he reads it. There's no reason why the whole country shouldn't be part of this plan. ■



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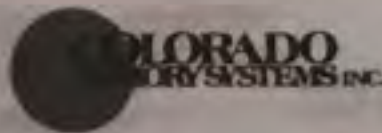
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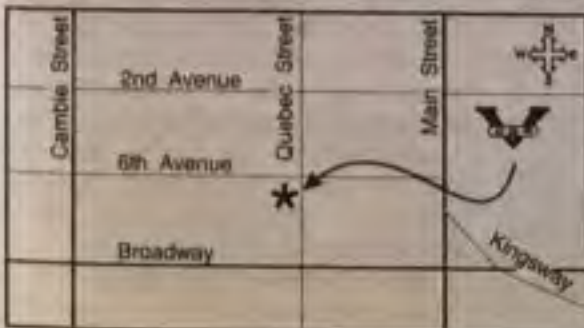
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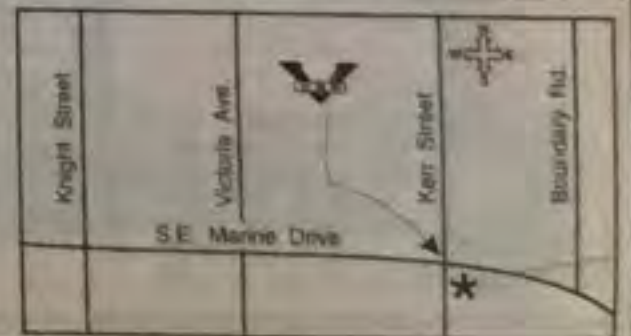


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Diamond's Sonic Pro. More than 22 software manufacturers, including Accolade, Electronic Arts, MicroProse and MidSoft are already offering or are expected to have titles that support wave-table synthesis by the end of the first quarter. According to Gravis, another 18 titles are expected before mid-year.

Recommendations

If you have a business audio requirement, such as embedding voice messages, the Windows Sound System is easy to install, easy to use and, with Voice Pilot, very advanced.

If you're a home computer user, and you like to play games, the UltraSound board will push your computer to new levels of realism.

And there's even good news if you're really excited about Voice Pilot but still want wave table sound. Dragon Systems, Inc. is bringing out a device-independent version called "Talk To Plus" that will list for US\$149 and will include a microphone. According to the company, it will have more than 400 built-in voice commands and will be able to edit and add a total of 1,050 commands.

Frank Hilliard is a Victoria-based writer. Contact him at (604) 384-1849.

promise of direct Midi keyboard access, makes the UltraSound board a very desirable upgrade for any computer user.

There's one exception. If you love games, you should know that despite Gravis's best efforts, the board's FM-synthesis emulator, SBOS, still can't handle F-15 Strike Eagle II from MicroProse.

The Market

The market, says Advanced Gravis, is right about wave-table synthesis.

A second wave of general MIDI-compatible wave-table boards is now coming out based on the Aria chipset produced by Sierra Semiconductors. Among Aria-based boards are Genoa's Audiolbahn and

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REVIEW

Art Expression on the Amiga

BY KEN BENNETT



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Requires: Amiga computer with 2MB memory with two floppies, AmigaDOS 1.3, 2.x or 3.x. Hard drive and 1 MB of Chip RAM recommended.
Price: US\$249; special pricing may be available through "Power Up" promotion.

CAD-like features
Using similar toolbox icons to those found in PageStream, one feels immediately at home except for the page layout when using rulers. It seems a little strange at first being reversed, that is the top of the page is the 0" mark and works down. The manual goes on to say this is the standard way for professional illustration and CAD programs. The one feature of CAD-like drawing layout that stands out is the top command-line display of an object or line giving: Horiz./Vert. startpoint, Horiz./Vert. endpoint and the total distance (length of line, or size of circle). This, along with adjustable snap-to grids, zoom-in and -out from 30 to 3:00%, Undo and Redo, make for great accuracy on layouts such as business cards or business graphics.

As a PageStream user for some time, making posters, newsletters, etc., I wanted to get away from boring, straight-line print — it seemed evident that something was needed to make my documents a little more appealing. The answer turned out to be a new offering called Art Expression from PageStream publisher Soft-Logik.

Text Manipulation
As shown in the accompanying illustration, text can be "warped" and made to fit inside, follow, or fill any sort of shape. Using PostScript Type 1 outline fonts (the desktop-publishing standard on the PC and Macintosh), text can be made to follow any curve and can also be filled with any tint or color. These fonts can be scaled from .01-70,000 points, although the manual laughably promises such a minuscule minimum size "without loss of definition." Uh huh.

Art Expression is a stand-alone PageStream-compatible drawing program. It allows the creation of structured drawings as opposed to pixel-oriented bitmap pictures. These drawings — including text — can be stretched, distorted and printed at any size without loss of resolution. Art Expression is similar to programs like CorelDRAW, Adobe Illustrator or Aldus FreeHand on other platforms.

Ten PostScript Type 1 outline fonts are provided with the package, each with the usual italic/bold variations (totaling "35 fonts"). A disk containing seven more fonts (and clip art) is promised free upon returning the registration card.

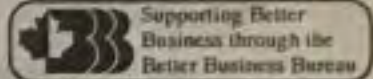
Import and Export
Graphics can be loaded and saved from Art Expression EPS files, Adobe Illustrator 88 EPS, and IFF DR2D format. Aegis Draw files can be imported. One of the included pro-

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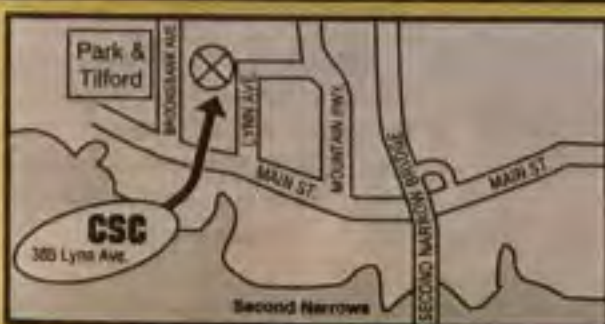
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Art Expression

Continued from page 66

grams, called "Convert" converts (Gold Disk's) Pro Draw Clip files into IFF DR2D, a newer IFF (interchange file format) filetype which is usable by Art Expression. An Adobe Illustrator Import module is also included for PageStream users for use in that program.

Autotracing

The package also includes a separate program called BME, which stands for Bitmap Editor. With this program you can retouch

scanned or digitized photographs, or modify other pics from paint programs. With its simplified tools you can crop, edit or touchup with relative ease. It is also HotLinks compatible, which automatically connects back into PageStream (If, of course, you have the HotLinks program, also from Soft-Logik).

BME's main use with Art Expression is the conversion of bitmapped pics to structured drawings with a function called AutoTrace. A requester gadget for the Trace option has sliders that control Sample Rate, Curve fit, and Noise Filter. The Sample Rate determines the number of points used; the

Curve Fit decides the smoothness of curves and the Noise Filter compensates for background noise (stray pixels). Completed tracings be saved as a .DR2D pic for use in PageStream and of course can be picked up by Art Expression.

Manual

Two well-laid-out manuals are provided. One is a lesson manual with different layouts and follow-along instructions for creating them. The other is the main manual, which goes over all the functions. The program's built-in help and a quick reference card provide fast look-ups without going

2MB memory with two floppies is suggested, but Art Expression (like everything else!) is much better on a hard drive.

through the manual.

Art Expression is compatible with AmigaDOS 1.3, 2.x and 3.x, on interlaced or non-interlaced Workbench screens. It also works on Amigas with the new AGA chipset (A4000, A1200) but these are limited to 16 colors. 1 MB of Chip RAM is recommended but it will work on older machines with only 512K of this valuable commodity.

2MB memory with two floppies is suggested, but Art Expression (like everything else!) is much better on a hard drive. Installation onto hard disk is simple with the new requesters, you have installation choices for beginner, intermediate or advanced users. Choosing "beginner" would do everything but if you have hard-drive partitions you need to go to "intermediate" to locate it in the partition needed. The "advanced" option allows complete customization of the installation process.

Printing is supported to any Preferences or PostScript-compatible printer. Art Expression can print directly to color printers with four-color (RGB or CMYK) and mechanical separation options — well, theoretically, at least. I must mention here that I am having trouble with the Preferences printing, but the readily accessible (and free!) technical support group tells me that a revision .03 is coming out "next week" to correct this known problem. ■

Ken Bennett characterizes himself as "a PageStream user from way back."

Sightings Steven M. Johnson



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bookreview

BY KEITH SCHENGILI-ROBERTS

Gates

How Microsoft's Mogul Reinvented an Industry — and Made Himself the Richest Man in America.

Authors: Stephen Manes and Paul Andrews.
 Publisher: Doubleday, 1993. 534 pages.
 Price: \$30.00.

While many large computer companies are cutting back just to keep in business, Microsoft is thriving with record profits. This is the stuff that business biographies are built on, and Gates is no different. In fact Gates follows hard on the heels of last year's Bill Gate's biography Hard Drive.

In this exhaustively researched book, authors Manes and Andrews interviewed Bill Gates, many of his associates and had access to the Microsoft archives. This is not an authorized biography however, and Gates offers a critical look at the way Microsoft was built. The story of Microsoft is also the story of the personal computing industry.

Computer-literate since his 'teens, Bill Gates and Microsoft co-founder Paul Allen wrote a version of the BASIC programming language for the first popular personal computer, the Altair, back in 1975. By this time Bill Gates had already started his first information-based company Traf-O-Data, which made machines that could automatically count how many cars passed by a road over a given amount of time. To get the software right for their little car-counting boxes, Gates and associates made a program on a larger PDP-10 computer that mimicked its functions. The Altair was based on a similar processor and when Gates and asso-

ciates realized this, they set about building a program to its functions. With that in hand, they created a BASIC that could run on it, and got Altair to sell it. Thus Microsoft was born, thanks to some smart programming on a borrowed computer.

From this point on in the biography Bill Gates and Microsoft essentially become the same thing.

One of the more interesting sections of the book looks at Microsoft's long and often stormy relationship with IBM. It begins with Microsoft coming up with an operating system for the launch of the IBM PC back in 1981. When Microsoft was approached by IBM for an operating system for the IBM PC, Microsoft didn't have one. Realizing the potential of selling an operating system to IBM, Bill Gates bought out Seattle Computer's QDOS ("Quick and Dirty Operating System"), made some minor changes to its code, and then sold licensing rights for the new Microsoft DOS to IBM. This near-legendary story in the computer industry is wonderfully portrayed by the authors, and makes for some of the

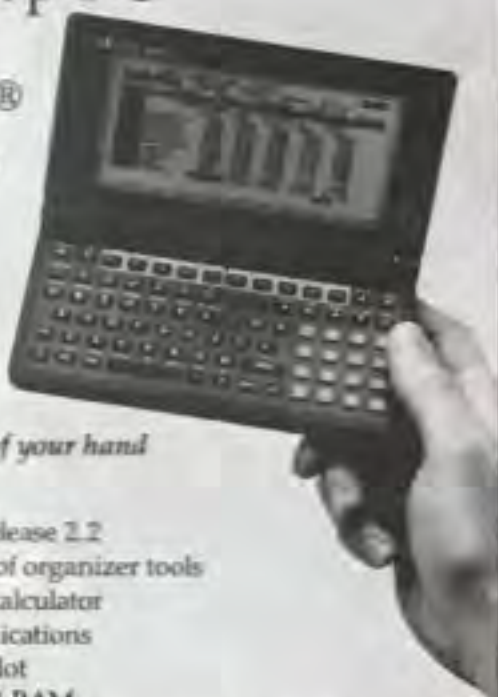
best reading in the book. It also looks at the increasingly strained relationship between Microsoft and IBM that stretched to breaking point over the development stages of Windows and the OS/2.0.

The book offers a real insight into how Microsoft operates, and what it is like to work for the company. It is a corporation that thrives on hiring highly intelligent, competitive people who are willing to put in long hours — in other words, just like Bill Gates. The down side of this is the many cases of employees "burning-out" by the demands placed on them.

In the end this is not so much a biography of Bill Gates but of Microsoft. It is an often fascinating read, but Bill Gates the CEO is rarely separated from just plain old Bill Gates. Then again, after reading this book you'll probably agree (along with most of his competitors) that there is nothing "plain" about Bill Gates. In short, while we do not find out much about the private Bill Gates, this is a great "biography" of Microsoft. ■



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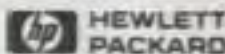
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R E V I E W

PCs, DOS, Windows For Dummies

REVIEWED FOR NEWSBYTES BY T. BASS

From: Andy Rathbone, author, *Windows For Dummies*, Dan Gookin, author of *DOS for Dummies*, and both co-authored *PCs for Dummies*.

IDG Books Worldwide Inc.,
155 Bovet Rd, Suite 610,
San Mateo CA 94402,
415-358-1250.

Price: \$16.95, \$21.95 Canada

Rating: 4.0 (on a scale of 1=lowest to 4=highest)

Summary: IDG's Dummies series of books are informative and helpful for those with little or no computer experience.

Dan Gookin is considered a DOS expert and has a couple of other books out on the subject. He's got a great sense of humor, which helps to lighten the mood while imparting information. The three books reviewed here, *Windows for Dummies*, *DOS for Dummies*, and *PCs for Dummies*, also feature cartoons by Rich Tennant, a nationally syndicated computer cartoonist. Andy Rathbone is a Windows expert who also specializes in MIDI-related music computing.

PCs for Dummies by both authors is designed to give the novice computer user the basics, from organizing one's workspace to troubleshooting a PC problem. *PCs for Dummies* is divided into parts such as, *Introducing Your Computer*; *Working with a Computer*; and *The Parts of Tens*.

The various chapters walk one through the components and external parts. The descriptions show you how to turn the machine on, use the keyboard, load the drives and other basic operations and concepts. There are also important tips, such as "your keyboard is not a coffee filter," which addresses a common problem with having drinks and food around your computer. There are very readable explanations of DOS, software, LANs, Windows and acronyms normally used. Finally as in all the "Dummies" series, there is a list of ten do's and don'ts on various PC-related subjects.

The second book in the IDG's Books for Dummies series is *DOS for Dummies* by Dan Gookin, which targets beginners afraid of DOS and computers. The book, approaching the subject of DOS with humor, starts with the basics and moves into more complex areas, breaking down ideas into simple elements. There is also a list of DOS 5 commands, including those that are used frequently, those used infrequently and those which are never used and are best eliminated. Very few books give much advice as to what command files you are better off without. This book will be a great help if you are afraid of DOS 5, yet you wish to experience unencumbered DOS speed. DOS programs run faster than the Windows-oriented versions.

The third book, *Windows for Dummies* by Andy Rathbone, is sliced into six sections as was the DOS 5 book of the series. It introduces Windows basics, including

one of the little-known functions of Windows called "Dr. Watson." Windows has a utility that will log the errors made

between Windows and the programs interacting with it. This helps to determine the problem one may experience in the Windows environment. The log may not make sense to you, but the information is important to anyone in technical support.

If you are comfortable with computers and your friends ask you "how to" questions all the time, suggest these books. ■

Rating

USEFULNESS (4) These books cut through the jargon to approach complex basics with directness and good humor. If you need to work with a computer that has DOS 5 for a disk operating

system and/or MS-Windows, but do not know what questions to ask for fear of looking dumb get one or all of this series. The \$16.95 suggested retail price is very reasonable for what you're getting.

AVAILABILITY: (4) IDG Books are well distributed in bookstores such as B Daltons Waldenbooks and most any store that carries computer books. CompUSA, 800-451-7638, has the series for \$13.95 each.

Contact: IDG, 415-312-0614.

Brady

BOOKS BY THE EXPERTS

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the Road
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M A C S O F T W A R E

Now Up-to-Date Ver. 2.0

BY GRAEME BENNETT

Now Software Inc. has responded to criticisms and addressed virtually all shortcomings of version 1.0 of its calendar program. As a result, Now Up-to-date 2.0 is the most advanced calendar and scheduling application available for the Mac.

Program: Now Up-to-Date™ 2.0
From: Now Software Inc.
For: Macintosh
Street Price: C\$80

For most users, the main benefit of the program will be its Reminder function. This feature automatically notifies you of any current to-do items in your calendar, popping up a dialog or flashing a message in the menu bar, depending on your configuration settings. Reminder is a Control Panel that, among other things, can be configured to display a digital clock in the menu bar. Like the well-known Mac shareware title SuperClock,

clicking on the time display in the menu bar momentarily displays the date. Clicking again reveals a stopwatch extension. But Reminder has other tricks up its sleeve. By holding down the mouse button, a drop-down menu appears that contains two options: "New Event..." and "Edit Events...". Thus, from within any program at any time, you can enter or be informed of calendar events.

Reminder communicates with the main program, automatically sending and receiving schedule entries to your selected calendar. Like virtually every other aspect of the program, it may be summoned with a keyboard shortcut. For example, if you were in

a word processor and received a phone call for a luncheon appointment, you could press a key combination (I use Command-Shift-R, but the choice is customizable) to call up the Reminder dialog. From there, you can enter the date, time, a title and a paragraph detailing your message. When you Click OK or press Enter, Reminder adds your entry to the current calendar and the dialog closes. You may then continue your work.

When the appointed time rolls around, Reminder will display the message. If you open up the main Now Up-to-Date program, you can watch Reminder's messages appear like magic in your personal calen-

dar. It's a nifty feature and it works well.

Myriad of Options

Numerous enhancements have been added since version 1.0 of this program. Most fall into the category of "configuration options." You can, for example, now specify that only "Done" or "Not Done" To-Dos will be displayed in Views. You can create Events that will appear only in the Multi-Day, Day and List Views but which will not clutter the Month and Week Views. A sample calendar included with the program uses this feature to display moon phases. Version 2.0 is smarter, too, about how it is we actually use a program like this. When



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Apple's Color PowerBook, New Products At Macworld

TOKYO, JAPAN (NB) — Apple Computer says it has shipped its 10 millionth Macintosh computer. At the enormous Macworld Exposition held this week in Tokyo, the company also introduced eight new products, including the long-awaited color PowerBook notebook computer, five new desktop systems and two new laser printers.

A new Macintosh LC, the LC III, is an improved model of the popular Macintosh LC II, which Apple says was its best seller in 1992. The III, priced at C\$1,695 has a 25 MHz Motorola 68030 microprocessor, a 32-bit bus architecture and comes standard with 4 megabytes (MB) of dynamic random access memory (DRAM) — expandable to 36 MB; as opposed to the LC II which was

only expandable to 10 MB.

An 80 MB or 160 MB hard drive is available for the LC III and an LC processor direct slot (PDS) is included for specialized expansion capabilities such as Ethernet networking,

Apple IIe emulation and NTSC video-out and video capture. On-board sound input and output is also included, as is a small computer systems interface (SCSI) port.

A Macintosh LC III Upgrade Kit is available for C\$649 to Macintosh LC and LC II customers who wish to upgrade, Apple said.

The new Macintosh Centris line is described as midrange computers geared toward mainstream business and professional users. The Centris line offers two systems — the Macintosh Centris 610 and Macintosh Centris 650 — both equipped with the Motorola 68040. The Centris 610 is retail priced at C\$2,560 while the Centris 650 carries a C\$3,690 price tag.

The Quadra 800, a new addition to the company's top of the line computers, is the most affordable Quadra, with a retail price of C\$6,310. The 800 has a mini-tower design and offers a 30 percent increase in performance over the current entry-level Quadra system.

At last, Apple has introduced the promised color PowerBook, the PowerBook 165c, with a passive matrix display. Apple says it has the all-in-one design of the PowerBook 145, 160 and 180, and is retail priced at \$4,790.

Apple has added two new configurations to its PowerBook Duo System. The PowerBook Duo 230 offers 4MB of RAM, a 120MB hard disk drive, and comes with an internal fax/modem capable of data transfer speeds of up to 14,400 bits-per-second (bps), and send and receive fax speed of 9600 bps. The internal Express Modem with V.42bis data compression capabilities of up to 4:1 can achieve data throughput of up to 57,600 bps. Retail price is C\$4,170.

The new Macintosh Duo Dock station offers a 230 MB hard disk drive, a Motorola 68882 math co-processor and 1 MB of

video random access memory (VRAM) for faster video and support for up to 32,000 colors on Apple displays up to and including the Macintosh 16" Color Display. The new Duo Dock is \$1,975 and requires a PowerBook Duo notebook at additional cost.

The Duo Dock configuration will also include the file reconciliation software package Powermerge by Leader Technologies, so users can automatically update files contained on the PowerBook Duo, the Duo Dock hard drive or a network server to the latest version.

The company's laser printer line added the Laserwriter Select 300 and the Laserwriter Select 310. The new printers are aimed at affordability and offer Apple Photograde and Fineprint, and Adobe Postscript imaging technologies. The Laserwriter Select 300 is C\$1,109 and the LaserWriter Select 310 is C\$1,459.

Apple is upgrading the standard configuration of the Apple Laserwriter Pro 600 to include 8MB of RAM. Users who purchased Laserwriter Pro 600 printers got 8MB but it was a special offer. The 600 also now has as standard features 600 dot-per-inch (dpi) resolution and the company's Photograde technology standard.

Contact: Apple Canada, 1-800-665-2775.



Apple says this is the first time it has launched new products outside the United States and over 100,000 visitors are on hand in Tokyo attending the Macworld show. This is also the 10th anniversary of the company's Japanese subsidiary, Apple Japan.

Now Up-To-Date

Continued from page 72

you are modifying repeating Events, a dialog box appears asking if you want to change One, All or Future occurrences in the repeating series. You can now move an event (a missed appointment, for example), from one day or time to another simply by dragging it there.

Another great new feature is the addition of To Do Items and a List view of all calendar and To Do items. In the first version of the program, each item had a date associated with it. This meant that anything not completed on a particular day had to be manually dragged forward. Now the program allows, through the use of a check box, a To Do item to be carried forward automatically as the date changes.

It is possible to create up to 10 categories to classify items. The default settings are High, Medium and Low. You might add Urgent, for your really pressing commitments, then throw in categories like Personal, Long Term Projects etc., to help sort out your To Do list a little more.

The List view can be sorted by double-clicking the titles at the top, (Shift-clicking allows sorting by multiple criteria) and the titles can be "dragged and dropped" into new locations, so the things that are important to you are front and center. Using this technique, you can create a variety of views of your To Do and Calendar items.

Hot Help

The program has many shortcut key-commands. Luckily, you don't need to memorize them. When you place the pointer over each of the available options, a feature the company calls "Hot Help" indicates the key-

board shortcuts that you can use to accomplish the desired action in the future and avoid the dialog box.

Manual

The manual is inaccurate in several places, but correct information is contained in a READ ME file. Most of the inaccuracies are minor. For example, the manual states that you can find an Unreconciled Event by choosing "Find..." from the Event menu and typing "=." In fact, you must type "?." to find an Unreconciled Event; "=." is the Mark for an unread Public Event. Unfortunately, this READ ME addendum file is, for some reason, installed into the system folder where few users will think to look for it.

There are a host of other Macintosh-based calendar applications, including Alarming Events, Datebook, DayMaker, Easy Alarms, First Things First and LapTrack & Timeslips III. Now Up-to-Date can import data from all of them. Import Templates are included as part of a Sample Calendar for this purpose and the procedure is documented in an addendum at the back of the manual.

Clearly, Now wants to give users of these other programs the ability to easily switch to Up-to-Date. And with version 2.0, it's a worthwhile endeavor. This program may not be as sophisticated as a dedicated organizer like DayMaker, but because of its strong orientation to sharing the information over a network with other members of your work team, it is well worth looking at. Now Up-to-Date is the most usable calendar and scheduling application available for the Mac. ■

Apple News from TidBITS

New LaserWriters

You've heard about the new LaserWriter Pro 610 and 630, and the latest news is that Apple will ship the 610 with 8MB of RAM all the time, which allows the 610 to print at 600 dpi. Check this before you buy one, though, just in case. The 610 and 630 expand Apple's printer offerings on

the high end; Apple's new LaserWriter Select 300 and the LaserWriter Select 310 fit into the low end of Apple's printer offerings.

LaserWriter Select 300

This serially-connected 300 dpi LaserWriter replaces the LaserWriter LS. Unlike previous LaserWriters, it uses a Fuji Xerox engine that prints at five pages per minute, and it holds three optional paper trays for a grand total of 800 sheets. The LaserWriter Select 300 includes FinePrint and GrayShare and can be upgraded to PostScript and PhotoGrade, but its main feature is its dirt-cheap price — \$819. This might be a good printer in a limited number of specific cases, but we still feel that it makes more sense to either buy a cheaper inkjet printer or to ante up the dollars for a more versatile, normally networkable, PostScript printer.

LC III News Reports Wrong

News reports that the LC III could take a single NuBus card are wrong. The Centris 610 can take a single NuBus card as long as it's short enough, but the LC III is limited to an LC-style PDS slot.

StyleWriter Owners Beware

Don't try the head cleaning option from the StyleWriter II driver on a StyleWriter I. The process ruins the ink cartridge. This is probably why Apple isn't making the new StyleWriter II driver readily available and doesn't recommend that you use it with the StyleWriter I.

Canadian System 7.1 Upgrade

Canadian users will be pleased to hear that they can buy the System 7.1 Update Kit for \$49 direct from Apple Canada. Call Apple Canada at 800/665-2775 ext. 700 to order.

Contact: Apple Canada, 800/665-2775 ext. 700.

M A C R E V I E W

Beating the System

BY GRAEME BENNETT

You've probably seen the ads in PC and Mac magazines, on the cover of the business section of *The Globe and Mail* and elsewhere.

"Why your next IBM Computer Should be A Macintosh," the pitch begins, accompanied by a picture of a familiar Lotus 1-2-3 screen running on a PowerBook portable.

"...Run a whole world of MS-DOS software," it promises.

At first glance, it is an attractive proposition. "It's like having two computers in

Products: SoftPC with Windows
Universal SoftPC
SoftPC Professional

Summary: performance is only fair, even on high-end Macs, but this program may be all it takes to get a Macintosh computer past corporate PC-only purchasing requirements.

one." Upon closer inspection, though, we discovered the crippling weakness of this two-headed beast. You can't buy a PC this slow.

Indeed, it seems a bit strange — turning a \$6000 Quadra into a very slow 286 clone. Since performance is clearly not the main issue here, let's look at the reasons why Mac users might want to run DOS or Windows applications.

- 1) A required application is only available for DOS or Windows.
- 2) The user wishes to learn (or teach) one or more DOS or Windows applications.
- 3) The user wishes to access data on a PC-only floppy disk or CD-ROM.
- 4) The user wishes to access data on a Novell network.
- 5) Corporate purchase requirements stipulate that all computers must be IBM compatible and/or be capable of running Microsoft Windows.
- 6) The user has switched from a PC to a Macintosh, but has a considerable investment in DOS or Windows software and wishes to make the most of that investment.

There are undoubtedly other reasons, but these, I suspect, are the main ones. All are worthwhile, although performance considerations make "non-mission-critical" uses the most viable ones.

Here are some uses that SoftPC is not appropriate for:

- 1) Demonstrations of applications — especially graphics-intensive ones
- 2) Applications where processing or display speed is a prime concern.
- 3) Because of its running on obviously nonstandard hardware, SoftPC is not an ideal choice for testing PC software, although SoftPC appears to be remarkably compatible. Certainly, it is inappropriate for any PC applications that depend upon hardware add-ons (MIDI, audio cards, Hicolor or 24-bit video, joysticks, etc.), with the exception of floppy diskettes, CD-ROMs, modems and printers.

Installation

I tested SoftPC Professional and SoftPC with Windows. The manuals for both programs suffer from a slight vagueness of installation procedures, but only the latter contains completely wrong information. The manual instructs the user to copy a file called "SoftPCData" to the hard drive as part of the installation process. As it turned out, I had to copy "SoftPCData" and "SoftPCData2" to the drive in order to get the installation process to work as outlined in the documentation. During installation, the system builds a file that simulates a PC hard-disk partition. This file needs to be 15 MB or larger. SoftPC does not actually partition your Mac hard drive.

Configuration

As shipped, SoftPC with Windows is configured to emulate a 286 with one



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Continued on page 89

newsbytes EXCLUSIVE

New Prepress Tool

Aldus TrapWise For Windows

SEATTLE, WASHINGTON (NB) — Aldus Corporation says it is now shipping software for Windows that will allow prepress professionals to spot and process color trapping on color conforming encapsulated PostScript files.

Aldus spokesperson Brad Stevens explained to Newsbytes that Color trapping is the process that keeps adjacent colors from overlapping or separating. Traditionally performed by a person called a stripper in manual printing operations, the program called TrapWise performs the necessary adjustments automatically for computer-generated work.

Trapwise is designed for use by service bureaus, prepress houses, commercial print shops, in-plant production departments and publishing operations. The program was formerly marketed under the name Rip!Prep by Graphic Edge. Aldus acquired the rights to the program last year.

The company says TrapWise traps almost any object within a color-conforming EPS file, producing precision traps for both process and spot color printing by handling all three color ink scenarios — spot to spot, spot to process and process to process. It will also handle complex trapping situations such as graduated fills, very small text and several intersecting colors. TrapWise can be used on jobs using up to

eight inks and also manages the prepress workflow. Operators can create predefined, customized sets of trapping configurations for use on particular jobs and paper stocks, much like a word processing operator creating a standard document format and re-using it.

Aldus says TrapWise can trap files produced from any computer platform that creates color-conforming EPS files, including Macintosh, Windows and Unix. Once processed, the resulting EPS pages can be output to any Postscript-compatible device including imagesetters, platesetters and printing presses. Trapped files can also be passed to other Macintosh or Windows applications for further processing.

The program is currently shipping in the U.S. and Canada and carries a suggested retail price of US\$4,995. Registered owners of Rip!Prep will automatically receive a free copy of the program. Aldus says it expects to ship a Macintosh version in mid-1993.

Recommended system configuration includes Windows 3.1 or later, a 66 megahertz (MHz) 486-based personal computer with 24 megabytes (MB) of system memory, a 200MB hard drive, a color monitor and a mouse. However, TrapWise will run on a 33 MHz 486-based system with 12MB of RAM.

Contact: Aldus Corporation, 206-628-5739.

NeXT Out Of Hardware Business

REDWOOD CITY, CALIFORNIA (NB) — It's official — NeXT has announced it is dropping out of the hardware game and will only market NeXTstep, its graphical, object-oriented software environment. What is

cal user interface of the same name, has announced it will double its work force by this summer and is on a tight production schedule with product expected "in the mid 1990's."

Jobs, who co-founded Apple Computer, said neither Taligent or Cairo will ship until the end of 1994 and that NeXT can beat both companies to the punch.

In dropping the workstation hardware line introduced in 1988, NeXT is reorganizing and laying off 280 employees, leaving a work force of 200. Canon, which owns 17.9 percent of NeXT, has reportedly invested US\$165 million and will take over manufacture of the NeXTstep hardware. NeXT said it will fill the orders it has until release of the Intel version of the NeXTstep operating system.

NeXT says it has a 50,000 user lead over Taligent, which has yet to release any product, but Microsoft Windows has literally millions of users. The Intel version of the NeXTstep operating system will be released in conjunction with NeXTworld Expo, which is set for May 25-27 in San Francisco. The new product will run on Intel 486- and Pentium-based personal computers (PCs). Intel has not yet released its next generation Pentium chip, but is expected to do so this year.

Contact: Allison Thomas Associates, 816-981-1520, fax 816-981-4230.



NeXTSTEP for Intel Processors delivers the premier graphical user interface, and the powerful object-oriented NeXTSTEP architecture to Intel-based PCs.

new is that founder Steve Jobs claims the company is racing Taligent — the joint venture of Apple and IBM — and Microsoft for dominance of the next-generation graphical user interface market.

NeXT says it will release an Intel processor version of the NeXTstep operating system on May 25, 1993. Microsoft's next generation graphical user interface, or Windows 4.0 as some call it, is code named "Cairo" and is expected within a year.

Taligent, which is developing a graphi-

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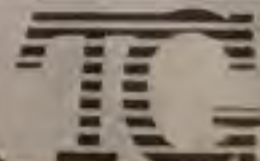
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Fractal Design Painter 2.0

APTOS, CALIFORNIA (48) — Fractal Design is ready to release a major upgrade to the Painter program in both the Macintosh and the Windows versions. Version 2.0 of Painter will incorporate more than 70 new features.

"In 1991, our primary goal was to make Painter emulate the natural tools found in traditional painting. But with Painter 2.0 we have taken painting into the next century by merging natural media with tricks that only the computer can do — creative techniques that traditional artists and photo retouchers could only dream of until now," said Mark Zimmer, president of Fractal Design.

An example of this is Fractal's Liquid Media. These tools simulate the visual effects of viewing pictures through some sort of liquid. For instance, you can view your work as if it is behind a pane of frosted glass. There are a total of nine different "liquid" brushes in this new version.

Another new feature is the ability to save brush textures a user creates.

Fractal Design has created a brush called "fire" which adds yellow and orange highlights to a picture and also creates a wavy



look above the colored area. The effect looks like fire poking its head into the drawing, and the area above the fire seems to have heat waves on it.

Another enhancement is the addition of a set of image manipulation features. Color separations, photo compositing and magic wand allow the user to add photo images into the artwork and get the final work ready for printing.

Fractal Design has also added the capacity for a user to tear off a brush or a texture and place them somewhere on the screen. Then the user can dispose of the entire tool palette to save screen space. Many users have requested additional text and straight edge tools — Fractal Design has added those as well.

The Macintosh version of Painter 2.0 was demonstrated at the MacWorld show in San Francisco and is being shipped. The Windows version will be shipped sometime this month. Anyone who purchased the program

after November 1, 1992 will receive a free upgrade. Those who purchased the program prior to that date will be able to upgrade to 2.0 for U.S.\$79.

Public Contact: Fractal Design, 408-688-5300.

Canadian Product Launch Update

TORONTO, ONTARIO (NB) — Recent Canadian launches by international companies include new products from Computer Associates, Acer and Toshiba, and a new Canadian office for Software Spectrum, a U.S.-based software reseller.

Computer Associates Canada Ltd. announced CA-Clipper 5.2 at the same time as its U.S. parent company (Newsbytes, February 25).

List priced at C\$795 in Canada, CA-Clipper 5.2 is available to registered CA-Clipper developers for a limited time at C\$179. The limited-time offer also provides the company's CA-dBase database development software for Windows, CA-Clipper Tools, or the CA-Clipper/Compiler Kit for dBase IV for an additional C\$50. CA has not set a date for the expiry of this offer, a spokesman said.

Users of other Xbase systems, such as Microsoft's FoxPro or Borland International's dBase, can receive the upgrade and one of the above products for C\$225 on registration.

CA-Clipper Tools, list priced at C\$850, is available to registered users of CA-Clipper Tools II (formerly Nantucket Tools) at a special price of \$179.

Acer Canada rolled out service and support programs announced earlier in the United States (Newsbytes, February 9). Acer will now provide service and support directly for its AcerPower 486e, Acer ACROS, AcerAnyWare K3865 and V3865L notebooks and its AcerPac product lines. The program includes a limited one-year, on-site warranty, plus telephone support for as long as the

customer owns the system (toll-free for the first year only).

Acer also offers facsimile- and bulletin-board support services and a 24-hour system replacement program for owners of its notebook computers. To support the new services, Acer Canada upgraded its telephone system, saying it can resolve 95 per cent of customer inquiries within 10 minutes.

The Information Systems Group of Toshiba of Canada Ltd., in Markham, Ont., began shipping a new version of its T6400 portable using a 50-megahertz Intel 486DX2 processor. The T6400/200 comes with a 200-megabyte hard disk and four megabytes of memory, and a color version, the T6400C/200, is also available. List prices are C\$7,149 for the T6400/200 and C\$10,649 for the T6400C/200.

Finally, Software Spectrum, the Dallas-based software reseller, opened its first Canadian office in Toronto. With annual sales of not quite US\$160 million, Software Spectrum has relationships with most of the major software publishers, including Microsoft, Lotus, IBM, Borland and WordPerfect.

Contact: Computer Associates Canada, 416-676-6700; Access Advertising for Acer Canada, 416-250-5885, fax 416-250-7990; Toshiba Canada, 416-470-3478, fax 416-470-3541; Software Spectrum, 214-864-5958, fax 214-864-7878.

Cost Of GUIs High, But Worth It, Survey Says

SEATTLE, WASHINGTON (NB) — A survey carried out by the Microcomputer Management Association (MMA) says that the real cost of moving to a graphical user interface (GUI) is high but is worth it in the long run.

In a survey of 402 corporate information technology managers, the MMA claims that it costs \$3,600 per user to move to Windows on average. However, of those surveyed, the majority said the move was a strategic one to make their company more competitive in the marketplace. Also, the survey results offered evidence that increased productivity is offsetting the cost of the move over time.

Of the various graphical user interfaces on the market, the MMA said that the usage of OS/2 2.0 is expected to increase. Apple Macintosh use is expected to decrease, however. Mac users surveyed said they were extremely satisfied with their operating system, but that they didn't see Macintoshes as playing an important part of their organization. However, the number of RISC (reduced instruction set computing) computers and Unix-based machines is expected to increase slightly.

Microsoft Windows is the predominant GUI implemented in corporate environ-

ments, despite the fact that most of those surveyed were IBM personal computer users. Corporate America is expected to implement faster, more powerful personal computers, replacing 286-based PCs. While 386-based PCs will remain in use, the survey said 486-based PCs are expected to become predominant within the next 12 months.

MS-DOS remains the most common operating system in use and there's no end to DOS in sight, however, the migration to Windows is expected to continue.

Investments in memory and larger hard disk storage is also expected to increase in the corporate environment. In 12 months the majority of PCs will have either 4 or 8 megabytes (MB) of RAM and the size of hard disks will increase from the 21MB to 120MB range up into 41MB to 360MB capacity.

Nearly all those surveyed used local area networks (LANs), but, only 61 percent of the PCs in use were networked, the MMA said.

MS-DOS remains the most common operating system in use and there's no end to DOS in sight, Priscilla Tate of the MMA told Newsbytes. However, the migration to Windows is expected to continue. Surprisingly, even though Windows NT hasn't shipped, one-fourth of those surveyed said they plan to use Windows NT in the future.

Contact: Microcomputer Management Association, 212-787-1122, fax 212-580-1976

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PARSIPPANY, NEW JERSEY (NB) — The following is a list of the top ten best selling CD-ROM titles according to The Bureau of Electronic Publishing. Since The Bureau carries a large number of independently published titles, this list is a good representation of the favorite consumer CD-ROM titles.

1. **Street Atlas**, DeLorme Mapping. Street-level maps for the U.S. (PC).
2. **Monarch Notes**, Bureau Development. The entire 200-plus Monarch Notes crib sheets of famous novels for PC and Mac, \$100.
3. **Microsoft Bookshelf**, Microsoft. Basic reference works including almanac, and dictionary for PC, Mac and Windows, \$169.
4. **Mammals**, National Geographic Society. Multimedia images and sounds of the animal kingdom, PC, \$130.
5. **Reference Library**, The Software Toolworks. General reference work for PCs.
6. **Grolier Encyclopedia**, Grolier Electronic Publishing. Full text, with maps, pictures and sound, PC and Mac, \$395.
7. **Great Literature**, Bureau Development. 1,806 works of famous writers from the past, PC and Mac, \$100.

8. **Sherlock Holmes Consulting Detective**, Icom Simulations. Interactive multimedia detective game, PC, Mac and Windows.
9. **Where in the World is Carmen Sandiego?** Geography lessons and adventure game for PCs.
10. **Kings Quest V**, Sierra On-Line. D&D-type adventure game for PCs.

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MVL 486 DX2 66	\$2549	19 inch Midi Tower w/LED
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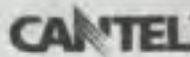
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Keynote Address: Concentrated PC Power A Concern

TORONTO, ONTARIO (NB) — The power of the personal computer industry's biggest players is becoming a worry, *PC World Magazine* Editor-in-Chief Phil Lemmons told a conference. In particular, Lemmons said in the Industry Keynote address at the PC World/Network World Canada, that Microsoft's power threatens smaller players and could lead to reduced choices for PC users.

The other major power that could be a cause for concern is chipmaker Intel Corp., Lemmons said.

Noting that Microsoft's profits exceed the revenues of many of its competitors, Lemmons said the software maker is the most powerful entity in the industry, especially with the imminent arrival of Windows NT, its portable operating system, which will increase Microsoft's influence over Intel because it can run on other vendors' chips.

Lemmons also said he would like to see Microsoft's three closest rivals in the applications software business offer their flagship products as a bundle to counter similar deals from Microsoft.

Lemmons acknowledged that both Microsoft and Intel give their customers good value for money and invest for the long term, something he noted is rare in the industry today. However, he said, "they're in such a strong position now that they can simply render their competitors incompatible by evolving the standards that they control."

Lemmons suggested some moves others in the industry could make to reduce Microsoft's and Intel's power, though he admitted he considers them unlikely to happen.

IBM should consider renaming its OS/2 operating system "IBM Windows," he said. A recent court ruling that Microsoft cannot copyright the Windows name, while still open to appeal, makes that appear possible. "I think it would change the psychology of the industry," Lemmons said. If people who ask for PCs with Windows must specify which one, he said, choices will be made more on the merits of the software.

Another possibility is that Apple Computer could port its Macintosh operating system to the PC architecture. If Apple did so, Lemmons said, it would gain "significant" market share within a year because the Macintosh's user interface is still superior to Windows or anything else available on the PC.

Lemmons also said he would like to see Microsoft's three closest rivals in the applications software business — Lotus Development, WordPerfect and Borland International — offer their flagship products as a bundle to counter similar deals from Microsoft.

However, he said, it probably will not happen because each vendor would want a second one of its own products in the bundle — Lotus would want to include the Ami Pro word processor, instead of WordPerfect, for instance.

On the chip side, Lemmons said it would take a major PC vendor such as Compaq Computer placing a bulk order with one of the makers of Intel-compatible processors to ensure the survival of a viable Intel competitor.

PC vendors need to ensure the survival of an alternate CPU (central processing unit), Lemmons said, but he was doubtful it will happen.

Touching on several other points, Lemmons was pessimistic about the future of Taligent, the operating-system joint venture between IBM and Apple. "The Windows installed base will be so large by the time Taligent appears in the market that it will be hard for Taligent, whatever merits it has, to become seriously competitive."

He said that while IBM may have something to fear from Microsoft's Windows NT, Apple does not in the short term, because the Macintosh's user interface still outshines that of Windows.

He also called for cooperation between personal computer users and information systems professionals. Effective use of technology can neither come spontaneously from below, nor be imposed autocratically from above, he warned.

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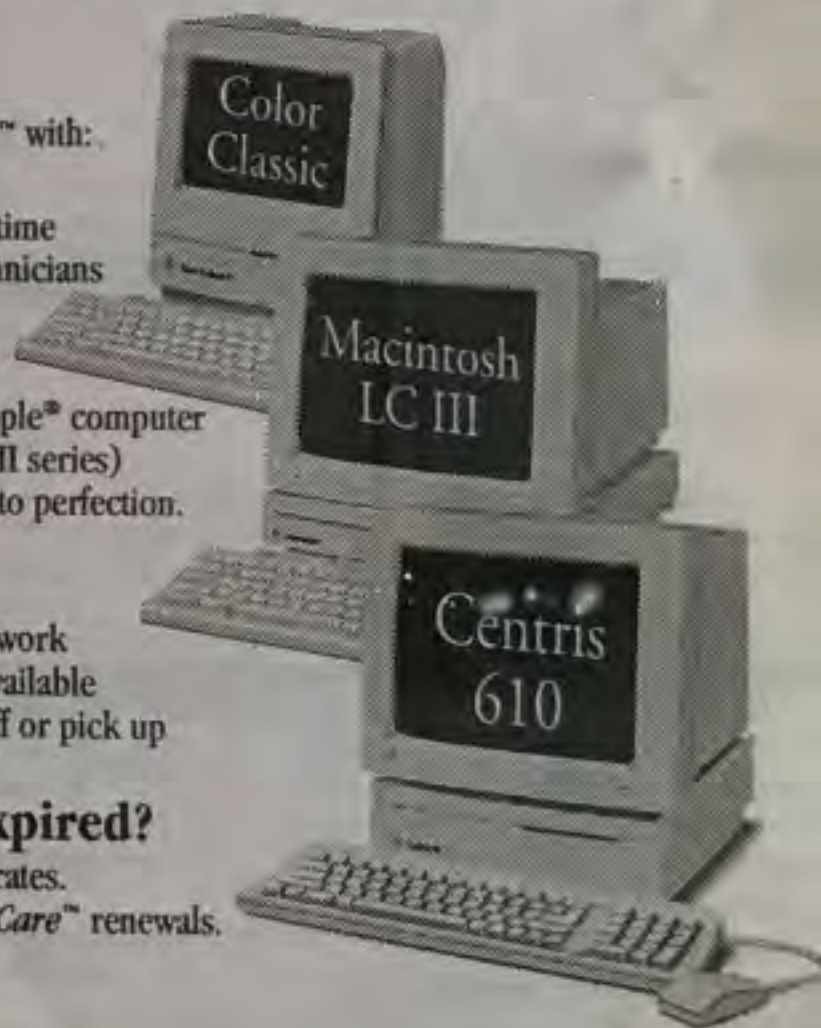
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Mailbox

Re: Radiation Risk, February 1993

I do not agree with the article published in the February issue. In 1989 I got hold of a Roentgen meter and tested the emission of two monographic and one CGA type colour monitor. The emissions of the monographic monitors were insignificant — no reading 5 inches from the screen. However the meter readings on the CGA monitor extended 3 1/2 feet in front of the screen. The average distance from the screen to the operator's face is about 2 1/2 feet. Many of these older monitors are probably 'handed' down to school children and should be tested. As I lost the records and am no expert in this field, I do not know if the radiation is significant or not. All I wish to point out is that there are detectable X-ray emissions around some normally working VDT's.

At the moment I am using a 386/40 with a 14" SVGA monitor. My emission testing equipment is rather primitive, using a cheap battery operated radio placed a foot from the screen. Under normal operating conditions (standard programs with no graphical interface) there are no detectable emissions. It took me some time to reconstruct the conditions under which emissions start. Apparently the video tube has to be hot (at least two hours in use) and the program uses a graphic interface. Depending on the program used — there are two to three detectable frequency bands of emissions, the emissions are detectable up to five feet in front of the screen. Again I don't know if the emissions are harmful or not — but they exist. As I have two com-

puters I transfer the work, I shut the one with high emission down. In addition I always shut down the video when not in use.

Horst Rother
Vancouver, B.C.

Editor's Response: *It is amazing to us that yours was the only letter we received disputing the claims made in that article — claims that we felt were both dubious and provocative. There are numerous other studies that dispute and contradict the seemingly conclusive findings presented in that issue. Several of these studies were mentioned in an article on the subject in the Feb. 26, 1993 issue of The Georgia Straight.*

Remember, though, that different VDTs will have different emission levels. The government study may have tested monochrome VDTs, just as you did, and detected no X-rays. As the disclaimer at the head of our article stated, we welcome readers' views on this controversial subject. — gb.

Frustrated and Angry

I am once again frustrated and angry. I continue to be appalled at the attitude I see in the computer industry. If the products were not so powerful and useful, I would have long ago forsaken it in disgust.

My list of incidents is too long to detail, but I will provide an outline. Six years ago I was intrigued by the idea of doing low-run, full-color printing and copying using a computer. I even had a printer identified that was, for its time, exceptional. Over the following two years I searched for any vendor who would put together a packaged scanner, printer, software and computer system. None would. I even have a few let-

ters of apology from major computer chains for totally ignoring my inquiries, but even then nothing! So the idea went on hold.

Since then I have struggled through acquiring two systems for my business (386/33) about two years ago. I again had to do all the work of putting the individual parts into a package system (Yes, the dealer put the hardware together.).

Most recently I bought a new hard drive. I got the unit in a bag — with no documentation. Further the dealer said he had none. I ended up phoning 3,000 miles to the manufactures rep. to get Jumper Setup data — incredible.

I still have the idea for low-run color printing floating around and have now seen a new printer that is a dream come true. I will be doing a system this fall to implement this, come hell or high water!

It appears, with some shining exceptions, that the attitudes of six years ago are still there. I get no, I mean absolutely no support on putting a package together. At least 90 per cent of the companies I call for information are so incapable of even dealing with brochure requests that I would not buy their product. To date I have called at least 50 companies, on my money, as the 800 numbers do not work in Canada for most of them. At least 45 of these companies I will never speak to again, much less actually buy from.

It still seems I must, with at best sketchy data, put together a system which is compatible and capable of doing what I want.

It is a great pity that the fine work of software and hardware designers is so poorly served by the people who purport to sell their products. Why is it so hard for someone to actually discuss system requirements

for compatibility?

I may be small potatoes to these companies, but will I always be? Can they afford to actively offend potential customers so casually?

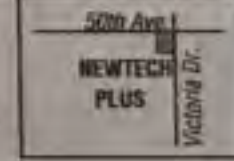
John Humphrey, Owner
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Editor's Response: *One reason some people experience problems with their computer is that they shop for lowest prices. This by necessity, leads them to pass over the so-called "first tier" and "second tier" vendors — international or national companies renowned for their service and support — in favor of third-tier regional "value brand" or fourth-tier local "no-name" suppliers. As the old saying goes, you usually get what you pay for. Caveat Emptor.*

One way to approach the situation is to deal with a specialist in your chosen field. These specialists, called VARs (value-added resellers) can assemble and install a complete system for you. They typically supply the hardware, software and training. You'll pay for a complete solution and that's what a good VAR will deliver. Many consultants are VARs; look through the smaller ads at the back of The Computer Paper for specialists in DTP and/or the printing trade. Some computer companies (IBM, for one) have "business partner" relationships with VARs. The company will recommend appropriate VARs and supply the information you need to contact them. Larger retailers sometimes work with VARs, too. In your case, a company might work with a specialist in the publishing trade. — gb.

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Small Office/Home Office Sales To Balloon

NORWELL, MASSACHUSETTS (NB) — Pushed by social, economic, distribution and product trends, the U.S. SOHO (Small Office/Home Office) advanced technology market will soar from a current level of US\$10.2 billion to US\$14.1 billion by 1996, says a new study by BIS Strategic Decisions.

The trend toward working at home and buying technology in retail stores took hold in the late 1980s, and since that time, products such as computers, printers and fax

machines have gotten increasingly inexpensive and easy to use, explained BIS' Raymond Boggs in an interview with Newsbytes.

Around 1987 or 1988, large discount and department stores began to adopt suggestions from vendors like Sharp and Canon to group technological and other office equipment together into a single store area, Boggs told Newsbytes.

Shortly afterward, the numbers of

home-based businesses started to skyrocket, rising from 13 million in 1989 to a current figure of 20 million, he added.

Movements toward product inexpensiveness and ease-of-use are manifested by now in fax machines that sell for under US\$300 and handheld computers like the Sharp Wizard and upcoming Apple Newton, the market analyst noted.

PCs now hold the largest share of SOHO product sales, with printers coming in at

number two, and these products will maintain the same respective ranks in 1996, the BIS study says. Also over this period, telephones will show the most dramatic growth, estimated at 14 percent per year. Cellular and other portable phones are predicted to be especially popular.

Among distribution channels, retail is expected to be the fastest growing by far, but the SOHO figures also represent some sales through VARs (value-added resellers), systems integrators and mail order, particularly of specialized products.

Before the retail stores were reorganized, advanced technology and other office equipment tended to be widely dispersed throughout the floor, he told Newsbytes.

The change took lots of convincing on the part of the vendors, but the stores found that sales picked up nicely when the office equipment was consolidated, he reported.

The new store layouts lent an increased visibility that also contributed to sales growth, he suggested. "The Lechmere (discount store) chain, for example, put IBM PS/Is on display at the end of an aisle. So even if you came to Lechmere to buy record albums, you'd still receive an advertising impression," he said.

The new BIS study also identifies several factors that influence users to buy SOHO products in retail stores. Along with low prices, effective merchandising programs and broad product and vendor selection, the list includes convenient hours and locations and attractive post-purchase support and return policies.

Contact: BIS Strategic Decisions, 617-982-9500.

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Autodesk OS/2 "Patch" For DOS AutoCAD

SAUSALITO, CALIFORNIA (NB) — Autodesk has announced that patches are now available to run AutoCAD Release 12 for DOS under IBM's OS/2 2.0 operating system. The patches enable users to run multiple versions of AutoCAD as well as running other applications with the popular computer-aided design (CAD) package.

The company is crediting a collaborative effort between Autodesk, IBM and Phar Lap Software for the development of the two patches now available. However, Autodesk says it has not officially supported OS/2 as an operating environment for AutoCAD. AutoCAD company officials are also warning users it has not extensively tested the patches, meaning users are on their own in

attempting to use the fix.

One patch, the Autodesk/Phar Lap Extender patch, OS2PCH.ZIP, enables AutoCAD to be run as a DOS application under OS/2 in the IBM DOS Protected Mode Interface (DPMI) and is available for download via modem on CompuServe in the AutoCAD forum (GO ACAD), Library 9.

An IBM DPMI patch for the same purpose is available on the IBM OS/2 CompuServe forum as well as in the OS/2 Servicepak, available by request by calling IBM's Helpware line.

Contact: Autodesk, 415-332-2344, fax 415-491-6005; IBM Helpware 800-772-2227.

Complete Scanning Package For General Office Use

SANTA CLARA, CALIFORNIA (NB) — UMAX Technologies is shipping ScanOffice, a complete scanning package for general-purpose office use. ScanOffice provides productivity tools for users so that they can create a broad array of documents such as invoices, invitations, fliers, certificates, pictures and newsletters, the company said.

ScanOffice users can also employ OCR (optical character recognition) to replace or reduce typing. ScanOffice includes Microsoft's Publisher for Windows for desktop publishing, Micrografx's Windows Draw LE version 3.0 (a graphics drawing

program) and Picture Publisher LE version 3.1 for image editing, also from Micrografx. Also included is TypeReader version 1.01 from Expevision for OCR text scanning.

Hardware for ScanOffice is the new OA-1, a UMAX 600x300dpi gray-scale image scanner. The OA-1 scanner can be enhanced through software to achieve a resolution of 1200x1200dpi and is upgradable to color. ScanOffice supports the full range of personal computers including IBM PC/AT and PS/2.

The ScanOffice package is suggested retail priced at US

Computer Trends

SAN FRANCISCO, CALIFORNIA (NB) — IBM and Motorola are attempting to reinvent the microcomputer industry. Their new CPU chip, the PowerPC, is currently being shipped in limited quantities for development purposes.

Large quantities are expected to be available within the next year.

The two companies jointly developed the new chip in hopes it will replace Intel's 486 and Pentium chips as an industry standard. IBM and Apple are reportedly ahead of schedule on the Taligent operating system for the new chip. It has been rumored that this operating system

will incorporate the best features of the Macintosh and OS/2 systems. If this is true, the new chip and operating system may be the first to run all Macintosh and Windows applications on a single platform. If all of this functions well in a powerful computer at a competitive price, Intel and Microsoft will be faced with substantial competition.

While the home computer market has never lived up to the expectations of the industry, it was a major contributor to the success of the Macintosh LC II last year. During 1992, more Macintosh LC II's were sold than any other single model of computer. According to Apple, more than half of these systems were purchased for home use. Fewer than one-fifth were used in business and less than one-quarter were used in

schools.

As expected, Apple unveiled its largest new product introduction last month. This timeframe was chosen to mark the month the 10 millionth Macintosh computer was sold. The new models provide more color and power at lower prices than ever before. The new Centris line of mid-range computers is expected to have the greatest impact on the value of used Macintoshes. The Centris 610 uses a 68040 chip and carries a list price of only US\$1,859. Resale values of used Macs may not fall immediately, however, due to limited availability of the new

machines. Component shortages have plagued most major manufacturers recently.

As profit margins have been squeezed in the computer industry, some manufacturers have turned to the laser printer market for greater margins. While Hewlett-Packard and Apple have been the leaders in this market, Compaq is increasing its market share. Until now, over 80 per cent of the engines in all of these printers were made by Canon. Xerox has now entered the printer-engine business. This competition should force prices lower. For example, the latest Apple printer will use the Xerox engine. Its list price is only \$819, or \$1,079 with PostScript.

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UBC offers course in Operating a Successful Software Business

Entrepreneurs, executives and managers of start-up or high-growth software or other high technology companies are often overwhelmed by the complexity of the problems facing them. They become stymied by lack of expertise in particular mission-critical areas. A new seminar being offered by UBC hopes to address this challenge. The course, Operating a Successful Software Business, is scheduled for May 28-29 at UBC. The course is aimed at individuals from both technical and business backgrounds who are thinking of starting their own software company. It will also be of relevance to managers and researchers in established high-tech companies seeking a more intrapreneurial approach. Current and

potential investors or bankers for the industry, or government employees involved in the high-tech sector can all benefit from the course.

The course begins with the structure of the software industry and marketplace. Students will then be taught how to search systematically for innovative opportunities with information technology and how to evaluate them as entrepreneurial ventures. Other features of the course are innovation management, financing methods, software R&D, strategic alliances and joint ventures. Cost is \$495 per person, or \$445 for two or more people from the same organization.

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Novell Netware 4.0 Arrives

WASHINGTON, D.C. (NB) — Novell has made its long-awaited announcement of NetWare 4.0, which will ship March 31. A beta tester tells Newsbytes that users of older versions of the product "should be prepared for an adventure."

NetWare has become the standard network operating system in the last few years, almost as secure in its niche as MS-DOS, and Novell has sought to extend its operating system reach by purchasing AT&T's Unix Systems Labs and Digital Research's DR-DOS in recent years.

The new version is a huge upgrade in capabilities and will require hours of work for system administrators, according to Newsbytes sources, who are experienced NetWare users and have been beta-testing the product. But the effort will be worth it, they say, because of a host of new features, which are implemented in an object-oriented manner, making other network improvements easier to implement. The new software is so large and complex that Novell has begun distributing it to beta testers on a CD-ROM disc.

The most important function of the new NetWare, however, is its integration with Unix, which Novell says makes it a complete "enterprise solution" for its customers. Novell says this means the product can now provide network services regardless of time, distance, location and network diversity, combining multi-server, multi-platform, multi-lingual networks into a single secure system.

A key new capability is called NetWare Directory Services, or NDS. This provides a single view of the network, reducing administrative costs. There are new security and auditing capabilities using public key cryptography, improvements in the use of bandwidth to reduce the costs of wide area networking, new management capabilities and support for multiple computer languages.

Novell is using this version of NetWare to get its arms around every other operating system, and new target service agents in this release allow customers to backup DOS, Windows and OS/2 clients, as well as NetWare 3.11 and NetWare 4.0 servers. NetWare 4.0 can also run in a non-dedicated mode under OS/2 2.0. NetWare 4.0 for

OS/2 will be available as an add-on product shortly after the release of NetWare 4.0. Upgrades could be made easier by utilities that automate the transfer of information from older NetWare binderies to the new NetWare 4.0 directory.

A raft of third-party company announcements are expected in the wake of Novell's statement that it is working closely with developers on what it calls NetWare Loadable Modules, or NLMs. Some will start under NetWare 3.11 NLMs and be compatible with 4.0, others will be designed around new 4.0 capabilities like NetWare Directory Services.

Novell, aware of how much work it will be for customers to upgrade and use the new capabilities, said it will have Certified NetWare Instructors, trained through authorized education centers, ready to help with 4.0 on the day the product ships. They'll be ready with a three-day update for experienced network administrators, a two-day workshop on configuring a NetWare 4.0 server and a four-day network administrator course. French, Italian, German and Spanish versions will be available shortly after the main product ships, and a Japanese version should be announced later this year. Prices start at US\$1,395 for five users and rise to \$47,995 for the 1,000 user configuration.

Novell also introduced its NFS Gateway, a server-based system to extend the NetWare environment into the Unix world. This means users can access Network File System servers on remote Unix systems as easily as they now access NetWare servers, Novell said. All of this is done using tools provided by the user's native operating system, even Microsoft Windows and MS-DOS. The gateway also allows for centralized administration, and security is handled through NetWare. The gateway consists of NetWare Loadable Modules, or NLMs, written for NetWare v3.11. A version for NetWare 4.0 is under development. Prices range from \$1,500 for five users to \$12,495 for 250 users, and it becomes available April 5.

Contact: Novell, 801/429-5808.



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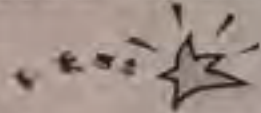
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Corel, Motion Works In Marketing Pact

VANCOUVER, BRITISH COLUMBIA (NB) — Motion Works, a developer of multimedia tools and CD-ROM titles, has announced a marketing agreement with Ottawa software developer Corel.

Under the agreement, Corel will take over the marketing of Motion Works' products, leaving the Vancouver firm free to concentrate on development.

PRÖMOTION



"It's a marriage of two companies with individual strengths," said Bob Lunde, a spokesman for Motion Works.

Randall McCallum, chief executive of Motion Works, said that Corel will use its strong marketing organization to sell his company's existing products, which include animation software for the Apple

Macintosh and Microsoft Windows as well as one compact disc read-only memory (CD-ROM) title, the PrimeTime CD.

Motion Works will focus on developing new products, particularly further CD-ROM titles, he said.

"Building a marketing channel for small companies is one of the biggest challenges after development," McCallum said. By piggybacking on Corel's established presence, he hopes Motion Works will be able to avoid some of the problems small companies often face in bringing products to market.

Motion Works had revenues of about C\$1 million in 1992, McCallum said. Thanks to the Corel deal, the company hopes to "meet or exceed" revenue projections of C\$4.5 million to C\$5.7 million in 1993, he added.

Motion Works had earlier licensed animation software and other multimedia technology (about which the company will not release details) to Corel. "We're solidifying our relationship with Corel more and more," McCallum said.

While the deal essentially removes Motion Works from the day-to-day selling of its products, McCallum said it will not mean any of the company's present marketing staff lose their jobs. With a view to just such a deal, he said, Motion Works has been careful to hire marketing people who could step into a market research role in a development-oriented company.

The deal gives Corel the right of first refusal on all future Motion Works products.

Contact: Motion Works, 604-685-9975

Ambra Enterprise PCs From IBM Canada Unit

MARKHAM, ONTARIO (NB) — ExperComp Services Ltd., the clone-making subsidiary of IBM Canada Ltd., is broadening its horizons to include mid-sized corporate buyers as well as the home and small business market.

ExperComp has launched the Ambra Enterprise and Enterprise Max lines of personal computers, which have hardware specifications similar to those of its existing models but are aimed at corporate buyers. ExperComp has also chosen a different distribution approach for the new models: rather than selling through dealers as it does with its Hurdla and Sprinia desktops and Treka portables, it will market the Enterprise and Enterprise Max machines through a toll-free telephone order line.

While home buyers like to look at PCs before they buy, said Andre Turgeon, chief operating officer of ExperComp, corporate buyers usually know just what they want. "What they're looking for is a convenient way to acquire the product."

Turgeon said that while the new models cover about the same range of processors as other Ambra models, they tend to have more features than the machines aimed at home and small-business buyers. For instance, he said, the Enterprise and Enterprise Max PCs have full PS/2 keyboards and are generally shipped with larger hard disks and more memory as standard equipment.

The Ambra Enterprise line consists of six models, ranging from a 33-megahertz 386SX-based computer to a 66-megahertz 486DX2 machine. Prices range from C\$1,699 to C\$3,399, Turgeon said. Machines in this line come with three bays for hard drives and other storage devices and three expansion slots. Four megabytes of memory is standard, and 100- or 200-megabyte hard disk drives are included, depending on the model.

All Ambra Enterprise models are supplied with DOS 5.0 and Microsoft Windows 3.1.

The Enterprise Max line has six models, based on various 486 processors ranging from a 25-megahertz 486SX to a 66-megahertz 486DX2. Six expansion slots and six drive bays are standard. Depending on the model, the Enterprise Max machines come with four or eight megabytes and a 100- or 200-megabyte hard drive. Prices range from C\$2,149 to C\$3,799.

The Enterprise Max models are sold with either DOS 5.0 and Windows 3.1 or, optionally on some models, IBM's OS/2 2.0.

All the models include an Ultra VGA display monitor, a mouse and a 3.5-inch, 1.44-megabyte diskette drive.

Contact: ExperComp, 1-800-AMBRA-05 (800-262-7205).

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New For Unix - cc:Mail X.400 Gateway

VANCOUVER, BRITISH COLUMBIA (NB) — OSIware has announced Messenger 400 Gateway to cc:Mail, a gateway from Lotus Development Corp.'s cc:Mail electronic mail software to the X.400 standard for SCO Unix, Sun SPARC and Tandem Integrity fault-tolerant Unix platforms.

While cc:Mail X.400 gateway software exists for DOS machines, said Janie Chang, product manager for the maker of X.400 software, customers have complained that DOS machines cannot handle the message traffic of larger heterogenous networks.

Based on OSIware's Messenger 400 X.400 transport, M400 Gateway to cc:Mail can be configured to run as a dedicated gateway node, in conjunction with other OSIware gateway products, or as an optional add-on to existing Messenger 400 message transfer agents (MTAs).

The gateway will be of interest mostly to larger organizations with extensive mail systems that involve multiple hardware and software platforms, Chang said.

OSIware also offers other products based on Messenger 400, including: Messenger 400 RFC 987 Gateway (to Unix mail systems); Messenger 400 Gateway for Microsoft Mail; Messenger 400 Fax Access Unit; Messenger 400 Physical Delivery Access Unit; Messenger 400 APIs for gateways, applications and network interfaces; and Messenger 400 network support modules for X.25, TCP/IP, and asynchronous networks; and Directory 500 (X.500 services).

Contact: Janie Chang, OSIware, 604-436-2922.



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Canada Product Launch Update

TORONTO, ONTARIO (NB) — This regular feature details Canadian launches by international companies. This month brought new database and workstation products from IBM Canada and Microsoft Office on CD-ROM. The following provides details for the Canadian market to supplement other Newsbytes coverage of these announcements.

IBM Canada announced a range of workstation products on the same day as its parent company (Newsbytes, February 2).

The new SP1 parallel processing system is the first product from IBM's Highly Parallel Supercomputing Systems Laboratory. While it was announced in Canada, pricing and availability information weren't available.

The announcements also include three technical workstations: the Powerstations 355, 365 and 375. They range in base price from C\$19,125 to C\$31,655.

The PowerStation M20 is meant to be used as an integrated graphics workstation on local-area networks and in universities. Prices start at C\$5,275 and availability is set for late March.

IBM also launched the Xstation 150, an X terminal meant for use on local-area networks. It is priced at C\$3,955 and is due to ship in late March.

Several new servers also joined the RS/6000 line. The Power Network Dataserver supports the Network File Server (NFS) standard and IBM said it will support as many as 200 clients. Prices start at C\$173,815 and shipment is planned for the end of April.

Three new models available as workstations or as servers become the highest-performance members of the RS/6000 line. The Powerstation/Powerserver 360 and 370 are priced at C\$19,675 and C\$27,600 respectively. The 570 has a C\$50,695 price tag.

IBM Canada has also announced that enhancements to its 970B, 980B and 580 models apply in Canada as well as the U.S., and new graphics options are also available here. The Canadian announcement did not

include two new network interfaces and an eight-millimeter tape library announced in the U.S.

IBM Canada also announced Database2 OS/2, a version of its relational database management system for the OS/2 operating system, and Distributed Database Connection Services/2 Version 2 (Newsbytes, January 28).

First customer shipments of DB2/2 and DDCS/2 Version 2 are planned for March 26, IBM said. The single-user edition of DB2/2 will cost C\$538. The client/server version is C\$3,155 plus C\$103 per client. The upgrade price for DB2/2 single-user from OS/2 Extended Edition is C\$267, and from OS/2 Extended Services C\$130.

The cost to upgrade to DB2/2 client/server from OS/2 Extended Edition is C\$2,045 and from OS/2 Extended Services with Database Server C\$854.

The purchase price for the single-user version of DDCS/2 is C\$333, and the multi-user version is C\$5,925. A single-user upgrade from Version 1.0 to Version 2.0 of DDCS/2 is C\$103, and the multi-user upgrade is C\$957.

Microsoft Office for Windows on CD-ROM (Newsbytes, January 6) has now arrived in the Canadian market. The CD-ROM includes the suite of business applications complete with documentation on one CD-ROM disk. Now available, it has a suggested retail price of C\$899.

Also, Computer Brokers of Canada, of Toronto, announced a Canadian distribution agreement with Hercules Computer Technology, the Fremont, California, maker of graphics adapters for personal computers and workstations. CBC will distribute three Hercules product lines: the Superstation XP workstation card; the Chrome dual-page, 24-bit color display card for PCs; and Graphite, a Windows accelerator card.

Contact: Computer Brokers of Canada, 416-250-5665, IBM Canada, 1-800-563-2139, Creative Marketing Network for Microsoft Canada, 416-539-0894.

Canadian Tax Prep Package On PC Ships

CALGARY, ALBERTA (NB) — Cantax is now shipping the 1992 tax year version of its Canadian income tax preparation software, Cantax T1. New features this year include mouse support and online help.

The online help includes tax preparation tips gathered by the company's tax specialists and information from Revenue Canada's tax guides. Cantax officials said Help with using the program itself is also included, and the help is context-sensitive.

Another new feature is the "expand" option, which lets the user select any data field calculated by the software and display the form where the calculation was made.

This year's release also adds a DOS shell feature so users can enter DOS commands without shutting down the tax preparation software. A new "Go To" feature lets users move to a form by selecting it from a list. A

search by typing feature will respond as the user types in the name of a form or file by jumping to the first name that matches the letters typed.

The new release also adds a function-key template for the computer keyboard, on-screen clock and calendar and compatibility with more laser printers.

Cantax said the output from its package is approved for submission of computer-printed tax forms to Revenue Canada.

The software needs a personal computer with 512K bytes of memory, a hard disk and DOS Version 2.0 or later. The suggested retail price is

C\$69.95.

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Canada Product Launch Update

TORONTO, ONTARIO (NB) — On January 25, only a few days behind its parent company in the U.S., Sun Microsystems of Canada unveiled its Network Terminal Server (Newsbytes, January 21), saying the system will soon be available C\$10,150.

Silicon Graphics Canada launched the company's Onyx advanced graphics supercomputers and the new Indigo2 Extreme workstation (Newsbytes, January 26), as well as its Challenge and Power Challenge servers, in the Canadian market on January 27. Prices for the Extreme workstation will start at less than C\$14,000, the company said. Prices for the top-of-the-line Power Challenge supercomputing servers will begin at about C\$170,000.

Borland Canada Software said Paradox for Windows (Newsbytes, January 28) is available immediately in Canada. The introductory price in Canada is C\$167.95 until April 30. David McGlaughlin, president of Borland Canada, said the list price will rise to about C\$575 after that, although upgrades and competitive upgrades will remain in the C\$170 range.

Borland Canada also announced a 90-day price promotion on its Quattro Pro spreadsheet software, which will be available for C\$124.95 until April 30.

Contact: Borland Canada, 416-229-1831 ext. 141, fax 416-229-6123; Silicon Graphics Canada, 416-625-4747; Sun Canada, 416-477-674.

Windows Software Hot In 1992, Says Dataquest

SAN JOSE, CALIFORNIA (NB) — Sales of application software for the Microsoft Windows operating environment have increased a whopping 238 percent in 1992, according to a survey released by Dataquest.

Of all software applications, the top five vendors, Microsoft, Lotus, Wordperfect, Borland and Symantec controlled 74 percent of the market in 1992. Dataquest estimates that Microsoft's revenue for software applications nearly doubled, from US\$1,693,200,000 in 1991 to

US\$3,378,900,000 in 1992. The estimated total revenue for software applications was up 60 percent over 1991 to an all-time high of US\$7,634,500,000 in 1992.

Kesselring says the top vendors keep "devouring" competition through acquisition. Borland said in a recent announcement that software was becoming a commodity, and Dataquest says price wars were started by the fierce competition between the top vendors.

Contact: Dataquest, 408-437-8312.

Microsoft Denied a Trademark on Windows Name

WASHINGTON, DC (NB) — A preliminary decision by the U.S. Patent and Trade Office has dealt a setback to Microsoft, by denying the company's application to make "Windows" a protected trademark name.

Although the decision is unlikely to put much of a dent in Microsoft's massive share of the market, had it gone the other way, it could have been significant for other publishers. Had "Windows" been approved as a private trademark it would have made it much more difficult for competitors to market Windows-compatible programs.

In denying the application, the Patent Office said that the word "windows" was just too generic to warrant granting Microsoft any trademark protection, which would have allowed the company to block other software publishers from advertising any product with the word "windows" in its name.

This would have made it difficult for competitors to promote their programs, which are designed to operate in the Microsoft Windows environment.

The decision does not affect Microsoft's ownership or copyright protection of its Windows program in any way, and it remains highly illegal to copy and sell Microsoft's programs. What the decision does affect is the way Microsoft utilities and applications programs can compete with third-party developers.

Many people confuse patents, trademarks and copyright. Each usually covers

different types of creative properties and offers different protection.

Patents must be granted by a government agency, and to be approved they must either contain new ideas or processes, or incorporate a major improvement on existing processes. Patents prevent others not only from duplicating a patented product, but from making slight changes and then arguing to be free of patent claims.

Trademarks must also be individually granted by the federal government and only protect the use of a name, such as "Kleenex," and not the actual product. Thus, many companies make tissues, but only one can sell "Kleenex."

A copyright, which is often used to protect software from piracy or illegal copying, can receive official recognition and registration, but actually has legal standing as soon as an author records text or information in a permanent form — whether the author is writing a book or creating a word processor program.

Software can be patented, copyrighted, and/or protected by trademark. Microsoft Windows is already copyrighted so it cannot be copied, but the word "Windows" is not protected.

Microsoft, which had been up sharply before the announcement of the rejection of the company's trademark application, was only down slightly soon after opening the next day, indicating that the news had little impact on investors. The company can still appeal the ruling.



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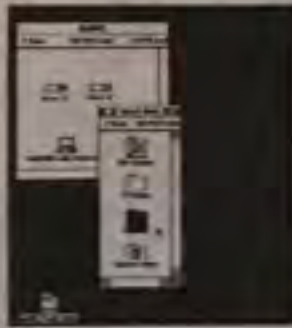
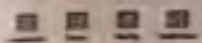
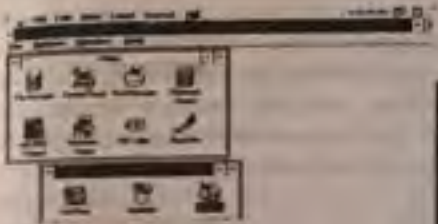
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Soft PC

Continued from page 74

megabyte of extended memory — the minimum requirement for Windows. This humble configuration requires a Quadra with eight megs of RAM — hardly a low-end system.



As every Windows user knows, Microsoft's environment wants to have more (and more!) RAM than one megabyte. So, as soon as the SoftPC installation was completed, I followed the documentation's instructions on how to boost the amount of RAM available to Windows, by increasing Soft PC's memory allocation to 12MB. I then booted SoftPC. Once loaded, it displays a typical DOS screen.

DOS 5.0 is included with the product, as

is the full version of Windows 3.1 — complete with a Microsoft registration card. If you have a different version of DOS, you can install it instead. I ran a prerelease copy of Microsoft's DOS 6.0 on the system without any problem.

Unlike previous incarnations of SoftPC, this version can emulate VGA graphics in addition to CGA and EGA displays. It can read DOS disks directly with the Mac's floppy drive and can access the Mac's hard disk as if it were a network drive. If you have a CD-ROM drive connected to your Mac, SoftPC can access it to read CD-ROM discs designed for a PC.

The only trouble is, performance is terrible. Once Windows was configured with 6MB of extended memory, I loaded the Windows README file into Write by double-clicking its icon. It took fifty-two seconds (!) just to draw the type on-screen — and this is on an optimally configured Quadra with extended memory and SmartDrive!

To make a long story short, I recommend SoftPC only for those users who need DOS compatibility as a method of getting a Mac purchase approved. Only masochists would really want to use it. ■

No Networking, Mail For DOS 6.0

REDMOND, WASHINGTON (NB) — Contrary to widely published reports, Microsoft apparently has decided not to include network and mail functions in its soon to be released DOS 6.0.

According to industry reports, corporate users of other network-

ing systems asked Microsoft to pull the network functions. However, it appears that those functions will be available as a separate module. One PC maker told Newsbytes it is presently in negotiations with Microsoft to include DOS 6.0 with its systems and it plans to include the networking features, whether they are part of the basic DOS 6.0 package or sold separately.

The network and mail code was

designed to provide a link to Windows For Workgroups, Microsoft's recently released network-in-a-box. Windows for Workgroups was formally introduced late last October and includes file sharing, electronic mail, scheduling, calendaring and support for dynamic data exchange (DDE).

DOS 6.0

Microsoft Chairman Bill Gates said at the rollout that the product could eventually become Microsoft's biggest seller,

with sales reaching one million copies in the first 30 days. While Microsoft does not release specific sales figures, it appears that WFW may not be meeting Microsoft's sales expectations.

Contact Microsoft, 206-882-8080.

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Logitech's Soundman 16, Alliance With Media Vision

FREMONT, CALIFORNIA (NB) — Logitech, best known for its pointing devices and hand-held scanners, has announced Soundman 16, a sound board that the company says offers CD-quality sound for personal computers.

Soundman 16 incorporates Media Vision's 16-bit Spectrum chip set and is the first Logitech product to result from an agreement between Logitech and Media Vision. It also incorporates Yamaha's high-end OPL3 sound synthesis chip.

Logitech spokesperson Serge Timacheff told Newsbytes that Soundman 16 offers synthesized and digitized sound for personal computer users and provides 20-voice MIDI support, 44 kilohertz digitization, 16-bit audio playback and recording, guaranteed SoundBlaster 1.5 compatibility and a variety of software and hardware enhancements designed to optimize installation and use.

Dave Pelton, Soundman 16 product manager, says the automated installation process is a key advantage. "We leveraged our vast experience from scanner and mouse bus board installation and design to produce a board virtually anyone can install," says Pelton. The board features software-selectable IRQ, DMA and IO addressing, meaning no jumpers or DIP switches have to be set by the user.

Soundman 16 has jacks for stereo input for devices such as CD players, and has amplified 4-watt output for speakers or headphones. There's also a mono microphone jack and a combination MIDI/joystick port. On the board, an array of pins provides connectivity with numerous types of internal CD-ROM audio, and a hardware mixer offers individual control of FM, line-in, internal CD audio-in, digital audio and microphone audio.

The board provides support for both Microsoft Windows 3.1 and DOS, with sep-

arate controls and drivers for each. There's also a Windows "applet" that allows fine control of all channel volumes, bass, treble, balance and other features.

System requirements include an IBM-compatible PC using a 386 or higher microprocessor, DOS 3.3 or higher, Windows 3.1 or better for Windows use, 640 kilobytes of system memory (although 2MB are recommended), one full length 16-bit expansion slot, speakers or headphones for output and a microphone or other audio device for input. The company says a separate optional cable will be available for connecting a MIDI device or internal CD-ROM drive. Sample sound files are included with the board.

Timacheff told Newsbytes that Soundman 16 will ship later this month and carries a suggested retail price of \$289. That should make the "street price," or the price buyers can expect to actually pay, under \$200 according to Timacheff.

Logitech President Pierluigi Zappacosta says the PC audio market has tremendous potential. "Nearly two million sound cards were shipped in 1992, and about four million are forecast to ship this year," he said.

Meanwhile, Logitech and Media Vision have announced an agreement that allows Logitech to incorporate Media Vision's multimedia chip sets and other OEM products in a variety of Logitech products over the next few years.

Logitech also markets pointing devices and handheld scanners for the personal computer market. The company owns 43 percent of the outstanding shares of Advanced Gravis, a Canadian-based company which produces UltraSound, a high-end sound card that incorporates wave table synthesis technology.

Contact: Logitech, 610-713-4430; Media Vision, 415-579-0700.

Matsushita & Sony To Agree On Digital VCR Standard

TOKYO, JAPAN (NB) — An attempted industry standard for a next-generation digital video cassette tape recorder (VCR) will be set in the near future.

Japan's major electronics firms, Matsushita Electric and Sony, have reached an agreement to set up the digital VCR standard. Other firms are also expected to join these firms under the united industry standard.

Both firms have reportedly already written down the signal processing method of the device and have proposed the standard to other electronics makers. It is said Hitachi and Japan Victor (JVC) have also agreed to join the alliance. Dutch-based Philips and France-based Thomson are also expected to join in the future.

Matsushita and Sony are currently discussing the details of the device's future standard such as the recording method and the tape's width. Their proposed standard will also cover digital camcorders. Moreover, the device will be equipped with features to transmit motion picture data and game software via telephone lines.

The actual standard will be the tape's width of only six to eight millimeters (mm), which is smaller than VHS VCR. The camcorder version of the digital VCR will also be small and is expected to fit into a hand. Also, the recording time will be four hours for regular TV programs and two hours for high definition TV (HDTV) programs.

Interestingly, it is claimed that it would be compatible with a variety of HDTV standards, regardless of whether they are Japanese, American or European.

The digital copying will be reportedly limited to only a single time in order to protect the copyright of programs or software.

Apparently,

Matsushita and Sony want to avoid repeating their VHS versus Beta fiasco, which caused confusion in the industry. The first digital VCR products are expected to be released as early as the end of next year.

Contact: Matsushita Electric, +81-3-3578-1227; +81-3-3437-2776; Sony, +81-3-3448-2200.

**Matsushita and
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their VHS versus
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which caused
confusion in the
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Canada: Long-Distance Talks Break Off In Alberta

EDMONTON, ALBERTA, CANADA (NB) — National long-distance carrier Unitel Communications Inc., of Toronto, and AGT Ltd., the telephone company serving most of Alberta, have broken off discussions aimed at bringing long-distance competition to the province. Unitel said it will file an application with federal regulators for competition under the same terms imposed on phone companies in seven other provinces earlier this year.

In June, the Canadian Radio-television and Telecommunications Commission (CRTC) gave Unitel the green light to compete with established provincial and regional phone companies in British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland. That decision did not cover Alberta because at the time of Unitel's original application AGT was owned by the provincial government and not subject to provincial regulation. The government has since sold the company.

Soon after the CRTC decision Unitel and AGT announced they were discussing terms for Unitel to connect its network to AGT and offer competitive long-distance service in the province.

Unitel spokesman Peter Janecek said the talks broke off over disagreements about the method of interconnection — AGT

insisted that Unitel connect through AGT facilities in Edmonton and bypass Edmonton Telephones, which serves the city, he said — and because AGT would not provide Unitel with financial information the Toronto company said it needed.

AGT spokesman Ron Liepert would not confirm nor deny the specifics, saying the company did not want to "negotiate in public," but he did say that the fact that Edmonton is served by an independent phone company is a central issue. AGT carries the cost of serving rural Alberta and receives no offsetting urban revenue from Edmonton, he said. The province has only one other sizable city, Calgary.

Janecek noted that recent polls found 77 percent of Albertans in favor of long-distance competition. AGT, for its part, is not saying anything against the idea of competition — a prepared statement from the company said it "continues to support competition in the long-distance market." AGT said its concern is over fair payment from Unitel for connection to its network.

Several other telephone companies have appealed to the CRTC portions of the decision dealing with the way the cost of interconnecting networks is to be distributed.

Contact: Peter Janecek, Unitel, 416-345-2635



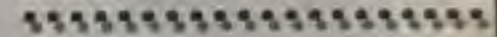
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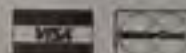
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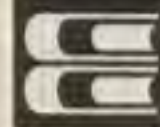
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USER GROUPS

ADAM OWNERS! Vancouver Island Senior ADAMphiles (VISA) newsletter, meetings, supplies. Contact David Corley, #17, 885 Berwick Road, Qualicum Beach, B.C. V8K 1N7. (804) 752-1984

AMIGA USER GROUP (Peñon) For meeting times and place call Ray Norman 589-7199 or Robert Hardy 942-6364. BBS numbers 271-3008 and 271-1082.

APPLES B.C. COMPUTER SOCIETY. A User Group for Macintosh and Apple IIx Macintosh meetings are on third Wednesday in each month, at the Arboretum Club, Vancouver at 7 p.m. Novice and other special-interest groups are held mid-month. Apple II meetings are on the first Monday of each month at Deer Lake United Church, Burnaby. For further information call 437-9035 or 263-3767

ARCHITECT USER GROUP (Macintosh). Call Glenn Schiller or Kai Groll. Byte Computers, 738-2181.

ASTUTE-ATARI ST. Meets 1st Tues., 7:30 Hastings Comm. Ctr. Dennis 420-8710

ATARI USERS! Vantast. 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 Voss 357-6426.

B.C. INTERGRAPH USERS GROUP (BCIUG). Contact: Mike Barnes 528-1906 (voice) or 528-2944 (Fax) for information on next meeting.

B.C. Lan Manager/Connectivity Users Group. Contact: Ian Dicken @ 432-6257 for more info.

B.C. REGIONAL USERS GROUP SOCIETY of Hewlett Packard Users. Contact Randy Olf for information 661-8948.

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, at the NEW DEC office 150-12671 Commerce Parkway, Richmond. 7p.m. Contact Vern Crockett 604-421-9442

C LANGUAGE SIG. Phone for time and place. Brian Consens 325-1877

CANADIAN VIRTUAL WORLDS SOCIETY. Virtual reality forum with a focus on the technical, artistic and philosophical implications of cyberspace. Meets 2nd Wed. monthly at CIER 1040 Homer St. Contact Derek Dowden 737-3629 for details or call the VR Hotline 24 hrs @ 739-8090.

CLARON SIG (VPCUS). Last Wed. 7:30pm at Langara SUB. Gerald Elwood 737-4946

CHILLIWACK COMMODORE COMPUTER CLUB (C.C.C.C.) - 876. Supporting Commodore Amiga. P.O. Box 413, Saddle, B.C. V2R 1A7

CORELDRAW! SIG (VPCUS) - Slew Woodvinton 525-5266

DATA PROCESSING MANAGEMENT ASSOCIATION. DPMA International joint dinner meeting. Contact Brooke Allen 688-3902 to register

DATABASE USERS GROUPS (VPCUS). Brad Froese 941-1066 (Paradise), Michael U 667-4100 (Bever)

FORTH B.C. meets 7:30. 1st Thursday.

Rm SW1-3180, BCIT Main Bldg. Discussions, demos and information for programming/applied Forth (hardware and software)

GAMES SIG (VPCUS). 3rd Fri. Abernethy United. Shane Richardson 733-4193, evenings to 9pm. (This is not a BBS)

GENERIC CAD USER GROUP. 685; 294-8287 (2400 n. 8, 1). Contact: Frank Zardis 584-6496 for meeting info.

GREATER VICTORIA PERSONAL COMPUTER USERS' ASSOC. P.O. Box 5302, Station B, Victoria V8R 6S4. General meeting last Wed. Also, special-interest group meetings 362-3804

HAM RADIO USERS GROUP. 2nd Monday each month. 8th Feb 7:30 pm. Sturgeon Creek Regional Secondary school, 2665 News ave. Call Rick Lord 896-0631 res. everyone welcome

HELP DESK INSTITUTE USER GROUP. newly formed. Provides training, education and a networking forum for help desk professionals: people who help computer users, formally or informally. Call Wendy Godfrey for information on membership at 737-9327

INDEPENDENT COMPUTER CONSULTANTS ASSOCIATION. Box 820, Station A, Van., B.C. 682-2747. Fax 625-1036

ITAC-BC Dinner Meeting. Ph. 682-2044. box 688-0330. Meetings are held at The Keg Casino. Doors open at 5:30 pm; buffet dinner at 6:15 pm; guest speakers at 7:00 pm. Cost is \$30 for members, \$40 for non-members. Contact: Shirley Friesen-Nicol, 682-2034.

KAYPRO USER GROUP/VANCOUVER PORTABLE COMPUTER 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. Heathrose 685-437-7628

LOTUS 1-2-3 SIG. Last Tue (Hip-May). 7:30pm, Langara SUB. Dave Schwaber 922-9245, evenings to 10pm

MACWEST COMPUTER SOCIETY. 2 monthly meetings for members include PD copy sessions. General Meetings: 2nd Wed & New User Meeting 2nd Wed. each month 7:30 p.m. Guildford Public Library, Surrey. Contact: Yves Tomy 595-596-2715 or Sec. Roger Smith 988-6041

NEXT USER GROUP Meeting. last Wed every month, 7:00 pm at Biological Sciences Building, UBC. Rm B-2000. For info call 874-8671/874-VNSI

NOVICE SIG (VPCUS). Jeff Gray 689-5898

OS/2 SIG (VPCUS). 1st Wed. 7:00pm. IBM Building. Jonathan Storey 983-2057

PORT COO COMPUTER CLUB. Commodore, Amiga & IBM. 1st & 3rd Tues 7:30 pm. Rm. 104, George Peakes Jr. Sec. School, 1390 Leaver Ave., Port Coquitlam. Mike Evans 942-4998

REVELATION TECHNICAL USER GROUP (RTUG). 1st Wednesday of every month; c/o InfoTech Management, 360-885 Dunsmuir St. Vancouver, B.C. V6C 1N6. 684-4866

SMART USER GROUP. Bruce Weller 598-8065

T.I. INHA COMPUTER B.C. 98hr Users Group, every Thurs 7-10 pm. For information

call Ron 522-9598. 1st Thurs. Tutorial. 2nd Thurs. General. 3rd Thurs. Tutorials. 4th Thurs. Library night. Or call our T.I. BBS "DIA A TP" 522-9830

TARGA/3DS USER GROUP. First Image, #112-1829 Mainland St., Vancouver, 2nd Thurs 7:30 p.m. 684-9588 or 685-264-9301

TRACE (Richmond Area Club), Thompson Comm. Ctr., 272-5789 1st & 3rd Mon. 7:30-9:30

VANCOUVER Enterprise Forum, 688-8444

VANCOUVER ACM/SIGGRAPH Computer Graphics, 1st Wed. Call Susan Mast, 822-3034

VANCOUVER ACCPAC USERS GROUP. 2nd Tues. Stanley Park Pavilion. For info: phone or fax 325-0363

VANCOUVER AUTOCAD USERS SOCIETY. BCIT, Bldg. 3A, Room 110, 1st Wed of the month. 7:30 pm. Contact Steffen Carré. 732-8170 for info

VANCOUVER CLIPPER DEVELOPERS ASSOC. 1st Tues., 7 pm, #400-1770 Burrard St. Van. 687-4101

VANCOUVER COLOR COMPUTER CLUB. 3rd Tuesday, 7:30 pm, Century House, Moody Park Recreation Centre, 600-8th St., New Westminster. Contact: Jordan Dobinski 431-9081, Steven LaFleur 467-0923

VANCOUVER ELECTRONIC PUBL. ASSOC., 1115 W. 118th, Vancouver V6H 1K4 (mail). For info, call 733-0080 (leave msg.)

VANCOUVER EPSON QX-10 USER GROUP. No fee. For info call Mike McManus at 584-0276

VANCOUVER FOXPRO USERS GROUP (VFLUG). 2nd Tues., 1900 hours; 395-1177 W Broadway. info (vax) 688-4142

VANCOUVER NETWORK USERS GROUP (VANUG). 1st Monday (September through June) information 733-0065

VANCOUVER PORTABLE COMPUTER CLUB (VPCCL), AMO 17. Jay Siegert, 4251 Lansford Dr. Richmond, B.C., V7C 4S4, 271-1519

VANCOUVER PC USERS SOCIETY (VPCUS). 2nd Thursday, 7:00pm at Science World, 1455 Quebec St. Vancouver. \$5 guest admission. General question and answer session, presentation, draw. Monthly newsletter, PD software and shareware sales, seminar registration. Membership \$30/calendar year. P.O. Box 48257, Vancouver, B.C. V7X 1A1 information 732-9800

VAN SINCLAIR USERS GROUP. Times Square, 2nd Fri. Kildare Comm. Ctr., Gard Brunsrig 931-5209

VANTARI. Box 3614, Main Post Office, Van., B.C. V6B 3Y6. Bill Sutherland 988-1450. Don Hatch 433-8055. 2nd Wed., Hastings Comm. Ctr., 3096 E. Hastings.

VERSACAD USER GROUP. 2nd Tues. Call CAD Sokolov Inc., 681-4688 for info

VICTORIA MACINTOSH USERS GROUP meets from 7:30 to 10:00pm on the second Tuesday of each month at the James Bay Community School, 140 Cowgaw St. Victoria. For more info phone Robin Tarnoff at 652-3568

VPCUS Special interest groups (SIGs). See individual listings. To start a SIG or for further information: Gerald Elwood 737-4974

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APRIL '93

MULTIMEDIA HANDS-ON! Sponsored by Apple Canada, Vancouver Trade & Convention Centre, April 19-23. 1-800-263-7017 or 416-581-8797.

IMEC '93, The international multimedia exhibition & conference held at Exhibition Place, Toronto, Ontario, April 28-30, 1993. Interactive video, Laserdisc Technology, CD-Rom, Computer-based instruction, DV, CDTV and CD-I. (403) 448-9181.

SOFTWARE QUALITY ASSURANCE AND TESTING, A four day training course focusing on current practices and state-of-the-art techniques for ensuring software quality in Vancouver on 2 consecutive Fri/Sat, April 30, May 1st, and May 7 & 8, 1993. SPC members \$700/Non members \$1400 (add GST). To register, call SPC Membership Services 662-8183.

MAY '93

MULTIMEDIA '93 EXPOSITION AND FORUM "The Merging of Technologies" Conference May 26-May 29, 1993. Trade show May 27-May 29, 1993. Metropolitan Toronto Convention Centre, Toronto. Contact: Susan Black, Phone: 416-680-2491 Fax: 416-680-2492.

SEMINARS

MEETING THE CHALLENGES OF ALCOHOL AND OTHER DRUG ABUSE IN THE WORKPLACE, March 30 & 31, '93. Located at The Ramada Renaissance Hotel. Contact Executive Programs, UBC, Tel: 822-8400 or Fax: 822-8496.

BRINGING TECHNOLOGY TO MARKET, April 1 & 2, '93. The Science Council of BC's SPARK Initiative, and Regis McKenna Inc. of Silicon Valley present an intensive two-day workshop, designed to improve your strategic marketing skills. SFU Harbour Centre, Vancouver. Contact: Mike Boeur 436-3574. Toll free within BC: 1-800-665-5C8C.

SEYBOLD SEMINARS '93, April 13-16, 1993. Hynes Center, Boston, MA. A multi-faceted event focusing on the technologies of publishing and communications, offering up to five topic-tracks daily, two additional seminars and a variety of instructional courses. For more info, call: (800) 433-5200 or (310) 457-8500.

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PERSONAL COMMUNICATION SKILLS FOR MANAGERS, April 15-18, '93 and June 14-15, '93. Contact Executive Programs, UBC. Tel: 822-8400 or Fax: 822-8496.

THE MANAGEMENT OF TIME, Creating a system that works for you. April 22 & 23, '93. Contact Executive Programs, UBC. Tel: 822-8400 or Fax: 822-8496.

THE PROJECT MANAGEMENT

PROCESS, April 28-29, '93. Contact Executive Programs, UBC. Tel: 822-8400 or Fax: 822-8496.

CREATING AND DEVELOPING SELF-MANAGING WORK TEAMS, Enhancing Organizational Performance. April 29 & 30, '93. Contact Executive Programs, UBC. Tel: 822-8400 or Fax: 822-8496.

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NEXTWORLD EXPO, May 25-27, 1993. Moscone Convention Center, San Francisco. An event combining a developer's conference, user Conference and a product showcase. 1-800-767-2336.

WHICH COMPUTER? SHOW, Birmingham, England. April 7-10, 1993. Show management: Reed Exposition Companies. 203-964-0000.

ELECTRONIC ART & DESIGN, San Francisco, CA, April 22-23, 1993. Show management: Sumera Inc. 415-904-0808.

LOTUS WORLD May 3-6, 1993. Hynes Convention Center, Boston, MA. Workgroup Computing, Technology Management, Knowledge Working, application Development, and Technology Trends.

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MICRO FOCUS USERS CONFERENCE, May 10-12, 1993. Buena Vista Palace/Orlando, FL. \$745 before 4/1/93, \$845 after 4/1/93. Contact: Micro Focus Users Conference/Headquarters-Palo Alto, CA. Tel: 415-496-7286.

APPLE WORLDWIDE DEVELOPERS CONFERENCE, San Jose, CA, May 9-13, 1993. Show management: Darrin & O'Neil, 800-853-7751.

SUN WORLD EXPO, San Francisco, CA, May 10-13, 1993. Show management: World Expo Corp. 800-225-4998.

COMDEX-Spring, Atlanta, GA, May 24-27, 1993. Show management: Interfact Group. 817-449-6800.

WINDOWS WORLD, Atlanta, GA, May 24-27, 1993. Show management: Interfact Group. 817-449-6800.

SILICON GRAPHICS EXPO, May 25-27, 1993. Show management: Silicon Graphics Expo. 512-331-7761.

MAC SHOW, Chicago, IL, June 3-5, 1993. Contact The Show Management Co. Inc. 215-540-9111.

CONSUMER ELECTRONICS SHOW INT'L SUMMER, June 5-9, 1993. Chicago, IL. Show management: Electronic Industries Association. 202-457-8700.

PAGEMAKER CONFERENCE & EXHIBITION, June 7-8, 1993. Seattle, WA. Show management: Pagemaker Conference. 206-625-5431.

MAC SHOW, June 3-5, 1993. Orlando, FL. Contact The Show Management Co. Inc. 215-540-9111.

DATABASE WORLD CONFERENCE & EXPO, June 29-July 1, 1993. Boston, MA. Show management: Digital Consulting. 508-470-3800.

MACTIVITY, June 29-July 1, 1993. San Jose, CA. Show management: Winhouse Computer Co. 408-284-2860.

PC EXPO, June 29-July 1, 1993. New York, NY. Show management: Nat'l. Binheim Expos Inc. 800-825-3876.

FUZZY LOGIC '93, July 20-22, 1993. San Francisco, CA. Show management: Polynell Publishing Company. 508-292-2124.

SIGGRAPH (ACM), August 3-5, 1993. Anaheim, CA. Contact: ACM/SIGG: 708-850-7843.

MACWORLD EXPO-East, August 3-8, 1993. Boston, MA. Contact: Mitch Hall Associates. 617-381-8330.

SUN OPEN SYSTEMS EXPO-West, August 10-12, 1993. Anaheim, CA. Contact: Publications Comm. Inc. 800-285-3979. Fax: 972-250-8756.

INTEROP-Fall, August 23-27, 1993. San Francisco, CA. Contact: Z8 Desk. 415-941-3399.

WINDOWS & OS/2-East, August 24-26, 1993. Boston, MA. Contact: Miller Freeman Expos-West. 415-905-2200.



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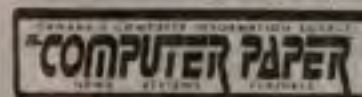
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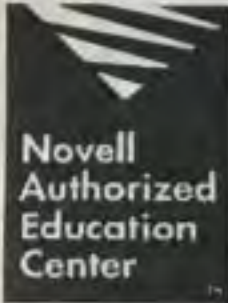
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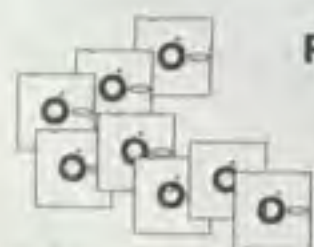
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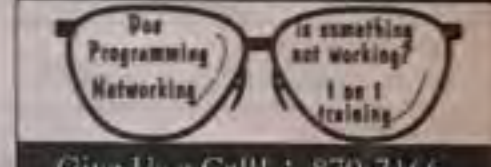
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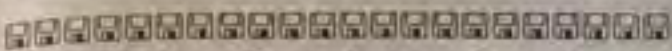
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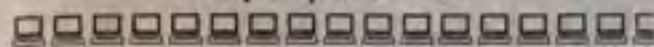


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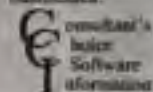
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