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Macworld

Road warrior

**Essential
survival guide**

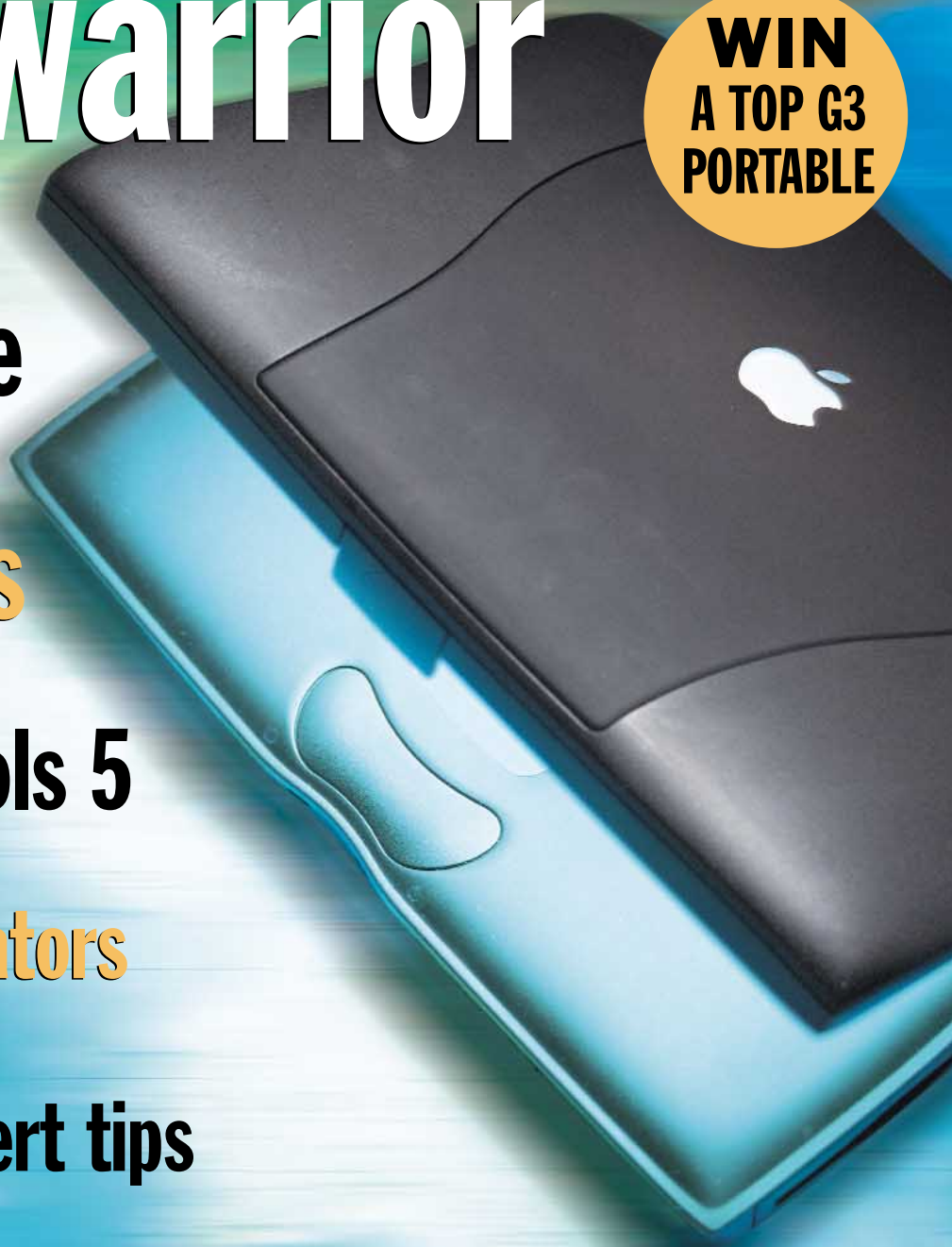
Colour lasers

Kai's Power Tools 5

Graphics accelerators

Premiere 5.1 expert tips

**WIN
A TOP G3
PORTABLE**



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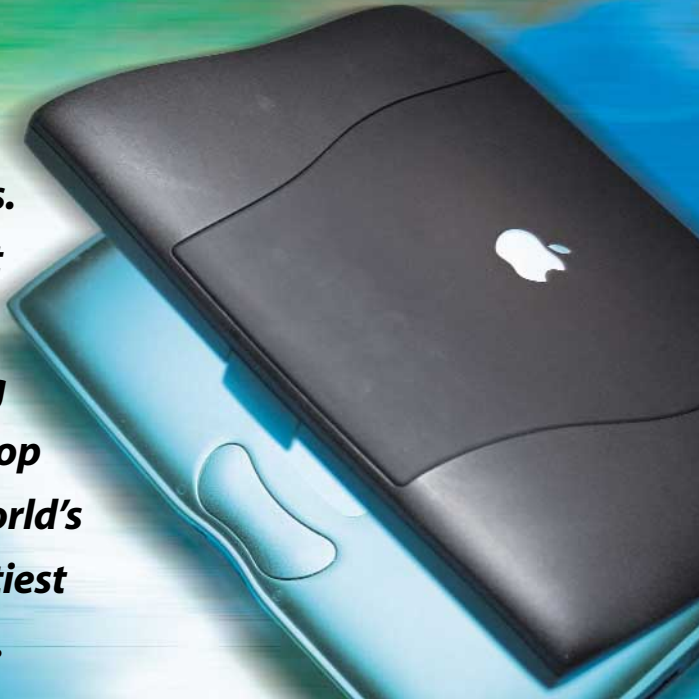
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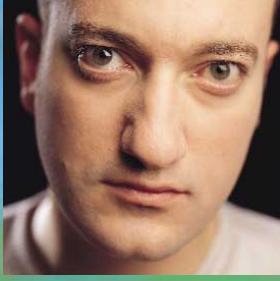
Feature



73 Essential shareware Macworld's favourite cheap and even free software gets a roll-call. And it's all on this month's CD!

Macworld read me first

Simon Jary, editor-in-chief



Oracle and Sun Microsystems have announced a major Internet computing software tie-up, involving the pair cross-licensing each other's software to form a united front against rival Microsoft. The companies described the arrangement as "an industry shaping software deal." Remember when Apple used to be at the forefront of every computer-industry-shaping deal? Oracle's database will work with Sun's Solaris OS – the plan being to create a new type of computer solely dedicated to running databases and thereby avoiding the use of any Microsoft operating system. It's no rival to Mac or Windows in the focused content-creation or more general-purpose markets, but it would hit Microsoft's Windows NT/SQL server plans pretty hard.

This strategy ties directly into Oracle's "Raw Iron" initiative that involves bundling the Internet-based Oracle8i with a streamlined OS. Raw Iron systems should be easier to set up and cheaper to maintain than servers running a full-blown OS like Windows NT. And Oracle is also close to finalizing Raw Iron deals with Intel, Compaq and HP. Bill Gates cannot be happy. The two top executives involved in the deal are Oracle's larger-than-life Larry Ellison, and Sun's boyish Scott McNealy. Each has strong links with Apple – both Larry (the richest man in California) and Scott have been close to wresting control of the company on several occasions. Wall Street rumour has it that Larry's attempt to buy Apple a couple of years back was all a ruse to install his pal Steve Jobs and jettison the ineffectual Apple CEO Gil Amelio. After Apple had contemplated buying Sun in the late 80s and again in 1990, the tables were turned when Scott (Mc) nearly merged Sun with Apple in 1995. The idea was for Sun – which had just released its network-computing language, Java – to meld its cutting-edge online technologies to the mass-market appeal of Apple, which was seriously behind Microsoft in its Internet strategy. The deal seemed a great one. Apple had the Macintosh for lower-end computers. Sun had the Solaris operating system for the high-end. Culturally, the two companies clicked. Together, they could steam into Microsoft while it was still turning round its own Internet strategy. What happened? Apple made Gil Amelio CEO, and he sunk the deal. And that was exactly when Apple's fortunes went into a nose dive. Four hard, long years ago, Scott McNealy would have provided Apple with the kind of dynamic leadership that the company is now experiencing under Steve Jobs. Instead, a fantastic opportunity had been missed.

(By the way: Scott isn't the top dog at Sun. That honour goes to Network, the company's 27-inch tall Greater Swiss Mountain Dog.) Everyone targets their sights on William (Bill) H. Gates III, who was once best-known as the world's richest man but is rapidly seeing his reputation turn to mud. If Californians did panto, Gates would get more hiss than Steve's old Beatles' records. In Apple's heyday, Jobs would order Gates into his Cupertino office and bark orders at the bespectacled billionaire in waiting. Remember, in 1984, Apple's annual sales were 15 times those of lowly Microsoft. But, with Steve gone from 1985 to 1997, Bill rapidly became king of the hill, and it was his turn to hold Apple in the palm of his hand. A year after Steve returned to Apple, Bill is facing his sternest challenges yet. The feds threaten to break his company into pieces. The addition of Netscape's Netcenter to AOL's 70 per cent Web dominance will hurt Bill's plan to establish Microsoft Network as the core Web business portal. And now, Sun, the most powerful partner in the AOL/Netscape deal, has teamed up with Ellison, Bill Gates' loudest opponent and a member of Apple's board of directors to boot. Why isn't Apple involved in this ambitious plan? Wait, it may still be... Although, the new Raw Iron network computers (NCs) are likely to be powered by Sun's Solaris, Oracle has stated that it is also considering Apple's Mac OS X microkernel, which should offer such benefits as fast I/O, pre-emptive multi-tasking, and protective memory. The NC 'revolution', melding PC and Internet technologies, might have gone off the boil in 1998, but the Raw Iron deal should re-ignite the plans in 1999. With relations strained between Apple and Microsoft again (see News, December 1998), and the bonds between Larry, Scott and Steve, don't be too surprised if this is the year that Apple really takes its foot off the brakes and launches a new attack on Windows that this time might actually bite.

MW



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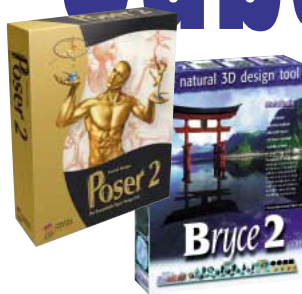


COVER PHOTOGRAPH BY MIKE LAKE

Macworld

The ultimate reference guide and news source for the Macintosh market.

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Find out how you can get either Poser 2 or Bryce 2 by MetaCreations **FREE** when you subscribe to *Macworld* – see the card opposite page 98.



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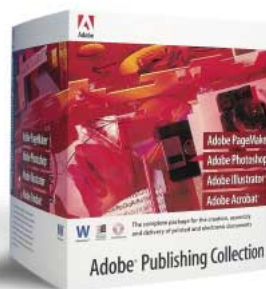
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Win a G3 PowerBook and Adobe Publishing Collection by entering your choices for the 1999 Macworld Awards. See page 95.



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Macworld

Try Dreamweaver 2 for 30 days, test out the latest serious demos, and enjoy the best in shareware and games, courtesy of the *Macworld* cover CD. Vic Lennard beckons you into this veritable Aladdin's cave ...



Macromedia Dreamweaver 2 – 30-day trial

Macromedia's Dreamweaver 2 boasts a number of major enhancements over the original version. These include:

- **Page design & layout**

Page colour-schemes, tracing layer, tabbed palettes, roundtrip layers-to-tables, multi-layer selection, colour eyedropper and rollover objects.

- **Table editing**

Better table control with select and sort, and formatting of cells, rows, columns and discontinuous cells. Enhanced context menus and table formats.

- **New site-management tools**

Visual site map, automatic link-management, drag-&-drop link selection and advanced search-&-replace.

- **Dream templates**

Separate content from design using templates, and create templates with editable content – but fixed design.

- **Roundtrip HTML & XML**

Advanced HTML editing, custom-tag database, clean-up HTML command, source formatting, XML parser and roundtrip XML.

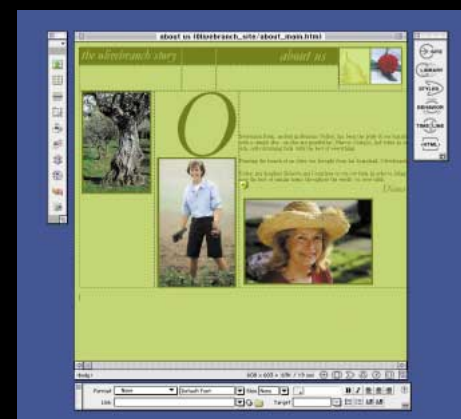
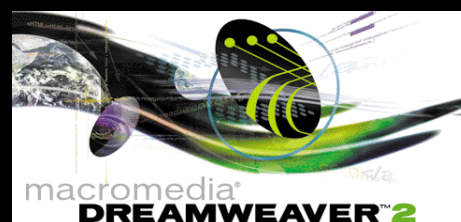
- **Customization**

Customizable commands, configurable user interface, custom property inspectors and extensible character profiles.

- **Visual authoring**

Server Side Include (SSI) support, iCat e-commerce support, What You See is What You Serve, and improved support for ASP, Cold Fusion, Tango and other third-party tools.

Take Dreamweaver 2 for a 30-day test drive with our CD trial version.



Cinema 4D GO demo

Maxon Computer's Cinema 4D has a new version: Cinema 4D GO. Aimed at beginners and semi-professionals, GO offers the handling, speed and stability of the SE and XL versions, but without the immense range of high-end functions. Rendering is reduced to 756-x-576 pixels and the animation aspects are limited – yet GO includes the same

editor and object control as SE, plus most of the management functions.

The demo is save/export disabled and includes a watermark across all rendered images. Included is a full tutorial plus scenes, textures and materials, examples, gallery and plug-ins.



Dark Vengeance

The world has been plunged into darkness. Evil forces have conspired to cast a pall over the world with a sinister eclipse. You will release the lands from the grip of blackest night – or die trying. You are a saviour...



but no hero. This is personal. The forces of evil have wronged you and there can be only one response. Vengeance. Dark Vengeance.

Embark on a 3D expedition into the black heart of a fully immersive world of utter darkness that provides a unique combination of combat, exploration and evolving character development.

Play as one of three grim avengers who must forge their way through unspeakable horror. Each will influence the journey in uniquely twisted

ways. Each will discover their own bloody destiny.

Requires a PowerPC 603e 180MHz or 604 133MHz, Mac OS 7.6.1 or later and 24MB available RAM. Supports RAVE acceleration. Play the first part of the game with our impressive demo!



Serious Demos

Xenofex 1.0



Alien Skin Software's Xenofex 1.0 is a collection of 16 inspirational special effects that will energize any graphics project. Realistic natural phenomena and sophisticated distortions have never been easier to create. The interface is simple and intuitive, and includes a fully resizable and zoomable preview window that allows you to see the effect on any part of your image with a single

click. Xenofex also includes more than 160 pre-sets to help you create complex special effects in seconds.



Boris FX

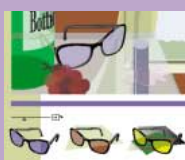


Boris FX is an unlimited-channel 3D DVE for Adobe Premiere, Media 100 video-editing and Avid Composer/Xpress software. It helps you create television-style 3D effects and transitions made popular by professional analogue hardware boxes. The key difference between the Premiere

stock effects (also supplied with the Media100) and Boris FX is the image quality and keyframe interface.

The demo includes tutorials and sample keyframes plus a smattering of QuickTime previews, showing some of the impressive effects.

Hot Door Transparency 1.0



Hot Door Transparency 1.0 is the first live transparent lens-effects for Illustrator 8. Use the Transparency palette to adjust transparency with a live preview, and edit or move your artwork while maintaining transparency.

Other serious demos:

Collect Pro 2.1.1
HandWriting Fonts
Charts Pro 1.0.3
OpenScript 1.1.2
Symbolic Composer 4.2
Effects Pack #1 Demo
Synchronize!

Also on the CD

APPLE (in the System Utilities folder)
Four updates including:
• AppleShare Client 3.8.1
• AppleShare IP 6.1 Update

COMMS & INTERNET

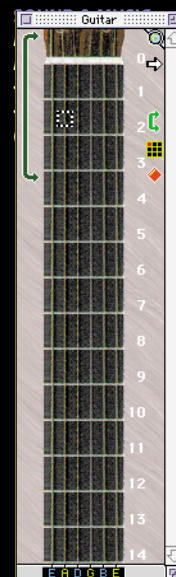
17 applications, including:
• Anarchie Pro 3.5
• OT/PPP Strip 1.0.4
• The Complete Sherlock Archive

FONTS

• Font Gander Pro 1.5.5 plus four new fonts

GRAPHICS

Four programs including:
• Animation Maker 3.2
• iView Multimedia 3.4 (below)



ANTI-VIRUS

Six items for your data's continuing protection.

UTILITIES

Seven categories comprising over 55 useful tools for your Mac including:
• CDFinder 2.5
• Desktopper 1.2.1
• DragStrip 3.6
• GoMac 1.6.1
• MyVidCap/Editor 2.5
• ScribblingWorks 1.2
• Startup Doubler 1.2.1

INFO

• Apple Wizards December 1998
• About This Particular Mac 4.12
• Diet Sleuth 2.1.0

MATHS & SCIENCE

Nine items including:
• Hex Wrench 1.0
• MacBreadboard

PICS 'N' PATTERNS

Ninja Girl and Red Tab icons from IconFactory plus IconBuilder 2.0 and 15 desktop pics

UPDATERS

This month's dedicated updaters folder includes over 75MB of patches to bring many popular applications bang up-to-date, including:
• FAXstf Pro 5.0.3
• MarkzTools III v7.04
• MAXpowr G3 v1.3.4
• SAM (12/98)
• VICOM Internet Gateway 4.5.3 & 5.0.2
• Norton AntiVirus (12/98)
• Virex (12/98) plus a number of Mac OS 8.5 updaters
• StuffitDeluxe 5.0.1

Shareware Many programs on this CD are shareware, which means that if you keep them and use them for more than the permitted time (usually up to 30 days) then you must pay for them. Treat shareware as budget-priced commercial programs – support shareware authors so that they continue to provide high-quality programs for the Mac. We've included all programs and utilities here that are covered in our shareware feature on page 73.



Aside from Dark Vengeance, Games World has three other brand-new PowerPC demos. The After Dark Games Demo includes five free rounds of Roof Rats puzzle game, Mowin' Maniac arcade and Bad Dog 911 word game. Astrorock 2000 offers asteroids on speed while the Star Wars DroidWorks demo will have you trying to construct the perfect droid.

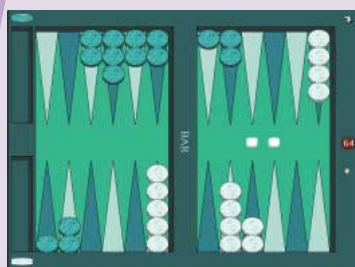
There's this month's Top Dozen shareware games plus a dozen new add-on levels for Duke Nukem and Shadow Warrior.



Astrorock 2000



Star Wars DroidWorks



David's BackGammon



ΣChess



Kalah

Other demos include:

- BBEdit 5.0
- Funnel Web 2.5
- PageSentry 2.5.1
- ReBirth RB-338



Macworld CD catalogue

Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 and '98 – almost 94,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (1.1.4) is also included – don't forget to register if you find our library useful.



FAULTY COVER CD-ROM?



If your cover CD doesn't seem to work as it should please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work then please email Gillian Robertson at gillian_robertson@macworld.co.uk

If your cover disc is broken and you want a replacement CD, please call Emileigh Borrett on 0171 831 9252 or send an email to: emileigh_borrett@macworld.co.uk

Cool Specials

Don't miss these four cool items!

- PhotoText 2.0 Solo: Fully functional, unlimited version of Extensis' award-winning plug-in for Adobe Photoshop, versions 3.0.4 through 5.0.
- Mac OS X.2 icons: A look at the future...
- Total Web Elements: A fantastic set of over 300 Web icons from IconFactory.



Install me Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

■ British Mac OS 8.1 updaters

If you have recently purchased a Mac system with Mac OS 8.0 then use these to upgrade to a later version.

■ Acrobat Reader 3.01

Install this version to be able to read many of the on-screen manuals. This also installs Adobe Type Manager 4.0.2.



■ QuickTime 3.0.2

Many of the demos need this installed. It gives you new versions of QuickTime and the MPEG, VR, Musical Instruments and PowerPlug add-ons.



Buoyant Mac lifts

Buzzing Mac market gives San Francisco event fresh impetus

Macworld Expo in San Francisco had a funky new image this year to reflect the new lease of life at both the high and low ends of the Mac market.

According to show director Rob Scheschareg, the revitalized Mac market spurred larger, "jazzier" booths as well as more vendor-sponsored programmes and activities off the show floor. "Whereas during the past couple of shows some companies were saying, 'We're getting out of the Mac market,' now new companies are signing up," he said.

"Recent momentum in the Mac market has been great," he said, "and marketing is coming around."

Steve Jobs had hinted beforehand as to what might be expected from Apple at the show including a new range of iMacs (see below). The announcement of QuickTime 4.0 in all its live-streaming glory was the highlight, at last giving RealNetworks' RealMedia and Microsoft's

NetShow a run for their money. The new incarnation of Apple's multimedia technology was not the only new arrival at the show: Apple's new 'Yosemite' line of Macs were also previewed. With processor speeds ranging from 300 to 400MHz the new G3 professional Desktop line is expected to ship in the coming months in dark translucent blue plastic mini-tower casings. Features are likely to include on-board FireWire, 10/100BaseT ethernet, USB, ADB and Infra-red. The range is also expected to feature three 33MHz PCI slots and one 66MHz slot occupied by a 128-bit ATI graphics card. Details were unconfirmed as *Macworld* went to press.

The Expo also saw Microsoft (0345 002000) reveal the new version of its Web browser, Internet Explorer 4.5. This now has support for Apple's Sherlock search feature, and includes new components, such as Page Holder, Form Autofill and shrink-to-fit printing.

The Expo opened with a forum, the Town Meeting, which featured 11 speakers from the

Expo

highest echelons of the Mac-industry.

The list of speakers included best-selling author Bob LeVitus; US *Macworld* editor-in-chief, Andrew Gore; *Macworld* columnist David Pogue; and Mitch Mandich, Apple senior vice president of worldwide sales. LeVitus hosted the Town Meeting, which addressed all aspects of the Mac community, from the state of the platform to new and emerging technologies. Apple's Mandich spoke on "selling Apple to corporations". Other speakers from Apple were Alan Olivo, who talked about the company's Think Different advertising campaign, and entertainment evangelist Mark Gavini on "fun and games on the Mac".

Taking centre stage in the South Hall of the Moscone Centre, the Consumer Showcase pavilion capitalized on consumer enthusiasm for the iMac.

The 21,000 square foot area represented the Macintosh house of tomorrow with each room representing a key Apple market

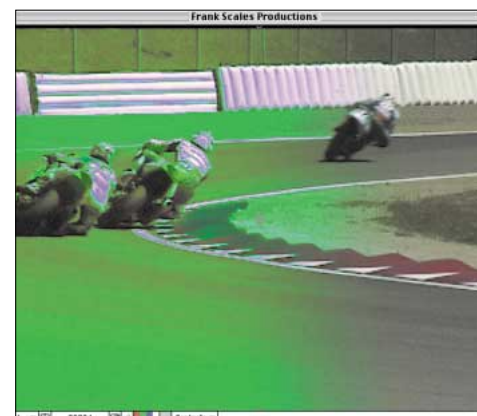
The Family Room focused on games and entertainment; the Kids Bedroom was centred on education and "edutainment", while the Kitchen focused on lifestyles. An office was set aside for small business/Internet matters and the Garage featured music. In the Hallway, various new USB products were on show.

Scheschareg said that at least 400 exhibitors were on the show floor, including a number of newcomers to the Mac market. For example, CompUSA had 3,000 square feet for its Expo debut.

The Digital Media Studio on the main show floor focused on technologies such as FireWire, MPEG standards, DVD and digital-asset management.

Net Innovators was a new annex of the popular Developer Central area that focused on up-and-coming Internet technologies.

The newly-expanded Education District



Plug-in to joy

Delirium from Digieffects contains a host of new plug-ins to spice up Adobe After Effects.



GEORGINA WATSON

showcased software, Internet tools, curriculum building solutions and multimedia for the education market. For those not lucky enough to be there, *Macworld* was on hand to bring news of the latest products.

Micro Conversions (Access UK, 0171 918 8256) was showing off its Game Wizard for iMac video board. Expected to ship in February for £125, the 8MB board provides industry standard Voodoo2 game graphics for Apple's consumer desktop. The card fits in the iMac's "unsupported" Mezzanine slot. Although installation in the Mezzanine connector voids the iMac's warranty, Micro Conversions says that it has been thoroughly tested to work in both Rev. A and B iMacs.

Unlike the PCI Game Wizard boards the company produces for desktop Macs, a 12MB version will not be introduced. The company said this is due to the lack of airflow in the iMac; for the same reason, Micro Conversions also discourages the use of 3dfx "tweaking" utilities intended to run the board faster and hotter. Bob Archer, Micro Conversions marketing and sales manager, said that, with the assistance of Voodoo chip developer 3Dfx, the next generation of Game Wizard boards (Voodoo 3) for the Mac would arrive at the same time as their PC counterparts.

Digieffects (Aragon Park, 0181 787 7080) showcased three sets of plug-ins: Euphoria, Delirium and Berserk. Euphoria is a package of Photoshop plug-ins, including the AgedFilm tool that simulates old-movie looks, and new particle-system based tools for creating realistic fire and smoke or snow flakes.

The Delirium plug-ins for After Effects have names such as Fairy Dust, Visual Harmonizer, Fireworks, Fire and Smoke. Also particle-system based, the tools enhance the video-warping features of Adobe After Effects. The Berserk AVX

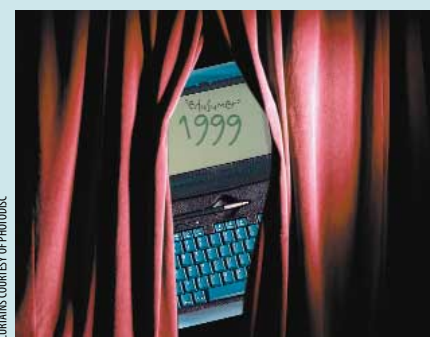
continues page 18

Apple won't flake out in '99 – Jobs

In the first part of 1999 Apple will announce and show some new merchandise. No less an authority than Apple boss Steve Jobs guarantees it.

Appearing at the Cause98 conference for higher education Information Technology held December in Seattle, Jobs noted that "We are designing it [the new low-cost, fast, consumer/education portable Mac] around a data centre that's education-based. Hopefully, consumers will like it too."

The new portable helps Jobs fulfil his promise of making Macs faster, better, and cheaper. "Our goal is to drive prices lower and lower every year," Jobs said. During his remarks, the interim Apple CEO promised smaller and cheaper Macs for the education sector, while dismissing the idea of Web and TV integration making much of a difference



COURTESY OF PHOTOCD

to computer consumers in 1999.

Apple will introduce this new portable "eduser" Mac early this year, and the move downward in price for all Macs will continue. Jobs expects that Apple will eventually see its cheapest machines at about a £100 premium over "white box" companies, those computer manufacturers that sell non-branded machines. Some of these machines sell for as little as £499, but Jobs dismissed them as "a piece of junk".

Jobs believes Apple can sell its value-adds over the cheap white-box PCs, despite that £100 price difference. "We're really big on making computers our friends can afford, and not all our friends are Larry Ellison," Jobs told the Cause crowd.

Steve is not the only Appleite guaranteeing cheaper Macs, with greater performance, and more features than the low-priced PC spread. One such senior manager told me that "we'll cut the SRP on the iMac B to £700 after February 1, while we introduce a new iMac with a 17-inch monitor, and boatload of RAM and disk, a DVD-ROM drive, and other goodies for the £999 we currently sell our iMac B."

Add to that the upcoming souped-up G3 and G4 prosumer Macs based on the Yosemite design, and the first half of 1999 is looking like Apple is living up to Jobs' plans for slowly upping the Mac SKU count to cover more price points and markets. Done slowly, there is no reason Apple can't hit more markets.

"Just so long as we don't get back to model-number proliferation," one Apple manager told me.

Indeed, it was that problem – too many models with little features to discriminate their price points – that nearly sunk the unsinkable company.

But the key to Apple's faster, better, cheaper strategy will be just exactly how much content they can cram in their low-price boxes. With complete 350MHz (or faster) Pentium II name-brand PCs selling for a bit over a grand, Apple must insure that the buyer's perception remains one of quality in the Mac experience, even if low price and high performance got them into the store in the first place.

In the past, when Apple "decontented" its Macs, it produced junk that no one wanted to buy. (Remember the original Mac LC20? A slower, junkier Mac would be hard to imagine at that price point).

This time out Apple is basing its consumer computing experience on successful models drawn from top rivals like Dell, Gateway and Micron. It's nice to see that Apple can assess both the competition and its consumers and still manage to produce a machine (the iMac) that dominates its market segment.

The portable iMac, iMac Plus, iMac Pro, and every other piece of gear the company sells in 1999 will need to extend that domination. **MIW**
– Don Crabb

Old Macs upgrade bedlam

G3 cards wreak havoc in ageing Macs – but help's at hand

G3 upgrade cards can cause serious problems when installed in older Macs, according to reports on the Web and from Macworld sources. The problem lies with an incompatibility between the PowerPC 750 (G3) and ROMs in PowerPC 604-based systems. It can result in non-functioning I/O cards, complete system crashes, and, in extreme cases, destruction of data on the hard disk.

Although the problem has surfaced with the recent crop of G3 upgrade cards, it dates from when the now defunct Power Computing was developing PowerPC 740-based Mac clones. Jon Fitch, former vice president of engineering at Power Computing, said: "It took us a long time to track the problem down. We had 30 to 40 machines up running around the clock, and we were getting a 100 per cent failure rate."

The problem occurs because of predictive, or speculative processing, a feature of most modern CPUs. Instead of executing commands in the order received, the processor looks ahead in the instruction queue and predicts which way the code will branch. The processor looks at various memory locations, including RAM, ROM and I/O memory.

Unfortunately, while RAM and ROM are designed to be read many times, some parts

of I/O memory cannot be accessed without altering them. The result is corruption that can prevent cards from functioning, crash the system or cause errors in the data stream.

Opinions vary among the accelerator card companies that acknowledge the incompatibility. According to Sonnet Technologies, speculative processing in itself cannot cause a problem. A release posted on the company's Web site (www.sonnettech.com) explains that loss of data may occur only in the few I/O devices that have problems with pre-fetch operations. This problem is easily solved, claims the company, by a software fix to prevent inappropriate pre-fetching for all I/O devices. The software is available on the company Web site.

The release concludes: "Sonnet has shipped tens of thousands of Crescendo G3 upgrade cards with fewer than one-half of one per cent experiencing any kind of compatibility issues."

Newer Technology said it has known about the problem since it started working with the G3 750 processors and has now developed and implemented a hardware fix - one that requires about \$30 in silicon per upgrade card. Independent tests have proved this new model to be unaffected by the problem.

Dantz Development, whose product Retrospect Remote has been affected by upgrade card

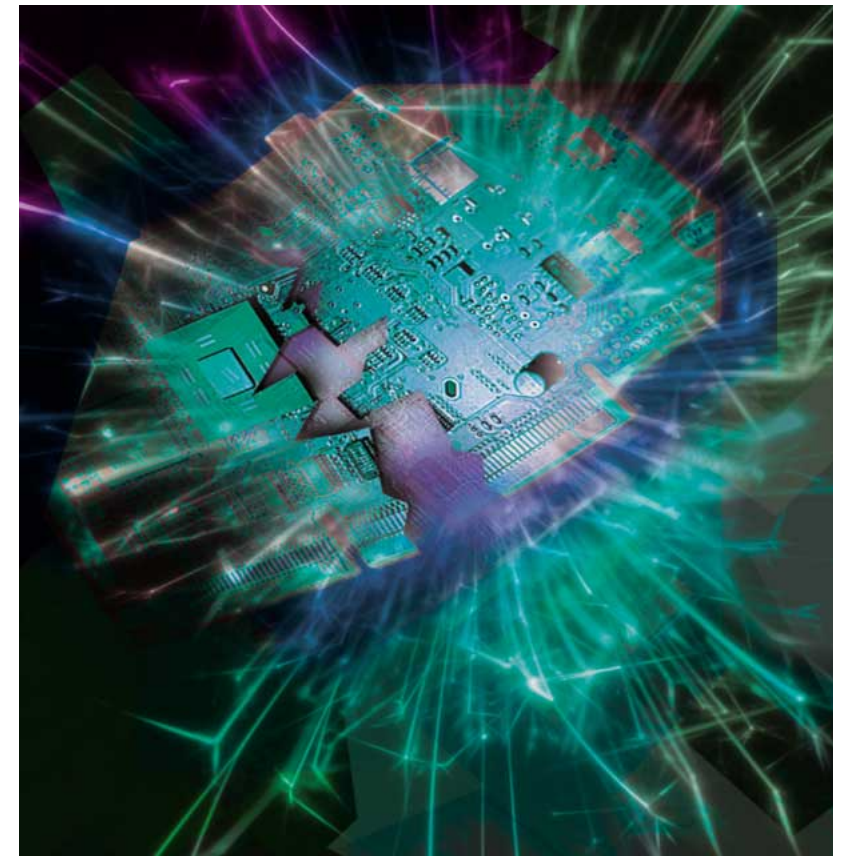
compatibilities, has reported problems when testing upgrade cards from XLR8 and PowerLogix.

XLR8 has posted a response on its Web site (www.xlr8.com), saying that the problem is "greatly exaggerated" and that the company has tens of thousands of satisfied users who are not experiencing problems. "Our technical support department reports absolutely no influx of calls dealing with system crash problems," says the company.

It does, however, admit there are specific incompatibilities surrounding certain older peripherals, such as Adaptec 2940 UW and 3940 UW cards, and the company has determined "reliable workarounds and alternatives". For example, turning off the XLR8 cache, before performing a backup can solve the Dantz Retrospect Remote problem. XLR8 is "working on" problems with the Adaptec issue.

PowerLogix said that despite a few "notorious" cases, the average user is unlikely to encounter difficulties. "These problems are non-existent in G3 Macs," said Mark Revell, vice president of engineering at PowerLogix, "We may go back and address it if the market gets stronger, but right now we're more interested in the future."

However, sources within Dantz say that after requesting cards from PowerLogix for testing, the card manufacturer provided software that satisfactorily addressed the problem. Although it is unreleased at the time of writing, Dantz sources said the PowerLogix software is also effective for XLR8 and Mactell cards, which are



JAMES LAWRENCE WALKER

based on the PowerLogix design.

Although based on a different design entirely, cards from upgrade manufacturer Vimage are proof against the data corruption threat, thanks to software released in May 1998 (driver version 1.20). A spokesman for Vimage also stated that the Vimage VPower cards "work just fine with Adaptec's 2940 UW and 3940 UW cards." **MW**

Buoyant Mac lifts San Fransisco Expo

plug-ins for Avid Media Composer and Xpress will let digital editors work on their footage directly to *continued from page 17*

create distortion, atmospheric effects and stylistic effects.

Another plug-in, this time for Adobe PageMaker, was unveiled by Andromeda Software (Digital Toolbox, 0181 961 6622). PhotoTiler 1.2 is a £39 custom panel layout tool that works by taking a hot folder of images and creating a database from them. It then automatically places the images into a user-defined layout of single or multiple pages. PhotoTiler can also crop the edges of images, set and alter page layout, adjust the aspect ratio of any image frame, set spacing between images, specify how images scale to fill frames, and set borders between images.

Avid Technology (01753 655 999) announced the USB-In on Avid Cinema, which means it can now run on the iMac, with the focus of running video to the Web. Avid said the Cinema software is designed specifically for people with no video editing experience.

Infowave (Computer 2000, 01256 841 841) also joined the USB movement with the PowerPrint USB to Parallel, enabling iMac owners to connect to hundreds of PC printers. The £69 PowerPrint USB consists of a suite of Mac printer drivers and a USB-to-parallel cable for connecting USB Macs to PC (parallel port) printers.

Infowave had a "road warrior" station where PowerPrint 4.5 was on show to demonstrate how PowerBook owners can connect to PC printers. Iterated Systems (01344 758 700) unveiled a new product line based on its STiNG digital still image technology. STiNG reXpress is a client/server software, starting at £7,000. It provides repurposing, resolution management and fast electronic transfer of print jobs.



Photographics 1.0, a new Photoshop extension, was on display from Extensis (Computers Unlimited, 0181 358 5857). Users can create a full range of editable vector shapes that can be filled and stroked with a full set of drawing tools. These include line, pen, rectangle, ellipse, polygon and starburst. Multiple text blocks can be created on any path with independent control of placement and formatting of each block.

Stone Design's (www.stone.com) new version of its illustration and layout tool, Create, was on show. Create 5.0, for Apple's Rhapsody Developer Release 2, has drawing, text handling and multiple page layout features. It supports various PostScript effects such as shaded fills, pattern fills and neon. The new version has enhanced support for various formats including RTF and PNG and includes updated icons, and enhanced HTML features. Upgrades to version 5.0 for Mac OS X Server, expected later this year, will be free.

Adobe (0181 606 4001) previewed After Effects 4.0 (see News, page 22) and its new Dynamic Media Studio. This is a collection of tools for composition, non-linear editing and motion graphics. The package consists of Photoshop 5.01, Illustrator 8.0, Premiere 5.1 and After Effects 4.0. Customers who buy Dynamic Media Studio will save around 15 to 20 per cent on the cost of buying each product separately, but a UK price has yet to be set.

Astarte (www.astarte.de), the company that developed the CD-burning software, Toast, rolled out a new range of DVD authoring and production tools. DVDDirector is a full-featured authoring tool, and the Pro version includes MPEG-2 encoding hardware. Astarte A.Pack is a new Dolby AC-3 encoding software and the Astarte M.Pack, the MPEG software encoder, now includes MPEG-2 capabilities. **MW**

3D developer VIDI folds

VIDI, a Macintosh 3D software developer since 1983, has gone out of business.

However, the maker of VIDI Presenter 3D and VIDI Modeler plans to ensure the fight for 3D on the Mac lives on by making a free, unlocked version of the £1,250 Presenter 3D application available for download.

VIDI claims to be the last of the Macintosh-only 3D developers. A newsletter posted on VIDI's Web site (www.vidi.com) says that Apple's lack of support for 3D was a primary reason the company decided to shut down.

No blame

VIDI's Nick Pavlovic writes in the newsletter: "I do not blame Apple for not supporting VIDI directly, but I do believe that they should have done more for 3D on the Mac and can do so now by supporting the OpenGL standard, releasing RenderMan with their next OS and bundling our free software as many have suggested."

Presenter 3D offers spline and Boolean modelling; camera, light and microphone controls; the company's Digital Clay sculpting

technology; physics effects; morphing; ray tracing; and Phong shading.

VIDI said it plans to maintain the company's Web site as a resource for 3D users and to offer fee-based technical support.

Michael Gold, director of MGA, the UK distributor of the software, said: "The whole history of VIDI is one of extraordinary innovation, promoted by the situation of 3D on the Mac."

"Other companies developing similar software have simply folded, or are about to, because of Apple's lack of support for 3D."

He said that MGA supported the "creative and interesting" move to make Presenter 3D freely available as a development tool, and MGA will continue to carry out technical support, training and help to users. He added "Apple should be the platform for 3D as well as graphics, and we hope this will make it sit up and take notice."

VIDI is hoping that Mac graphics users will take advantage of the free Presenter 3D offer, see what might be lost, and write to Apple, asking the company to reverse its policy on 3D. **MW**

MGA, 0171 352 0148

Apple's 1998 ... in quotes

January 12

"After 10 years [at Apple], I have to admit, I failed. In hindsight, we should have done things differently ... and it is a tremendous disappointment."

■ Former Apple CEO and current technology investor John Sculley.

January 15

"We tried begging, bribing – everything. This is not subtle, we have gotten on our knees collectively on this."

■ Apple board member Larry Ellison on persuading Jobs to remain as Apple CEO.

April 22

"Nobody's tried to swallow us since I've been here – they're afraid of how we'd taste."

■ Steve Jobs on rumours that Apple may be a merger target.

September 17

"The biggest kick I get is people smiling when they see the iMac. You don't usually see a lot of people smiling in computer stores."

■ Jonathan Ives, head of the team that designed the iMac.

MacPac springs a surprise

MACWORLD PREVIEW: Palm MacPac 2.0

Well, finally. Last April, the editors of *Macworld* got rumblings that something impressive was going on down at 3Com, the maker of the PalmPilot family of hand-held organizers. It seems that 3Com – sensing that its Palm-to-Mac connectivity software was oh, let's be generous and say lacking – had done an incredibly bright thing and bought Claris Organizer from Apple.

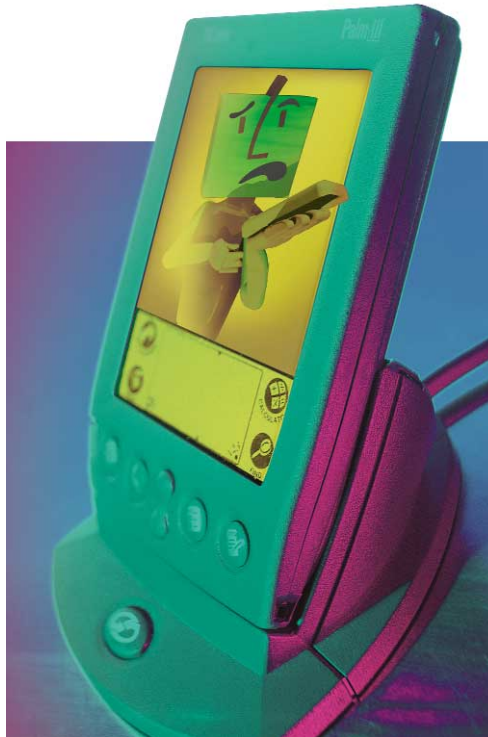
The result, we were told, would be an incredibly powerful tool that would let Macintosh users talk to their PalmPilots with greater ease than their Windows brethren. And this great software update would all appear by the end of the summer.

Now the good news is a beta version of 3Com's Palm MacPac 2.0 software has finally been released – better late than never.

The new Organizer-derived Palm Desktop software is a huge improvement over the previous Palm Desktop application, letting you view and edit your calendar, to-do lists, and address book on your Mac.

The biggest improvement? You can run it under Mac OS 8.5 without crashing – and without installing Kaleidoscope 2.1 as a workaround. Isn't that special? But more than that, the old Palm Desktop software felt like a port of a Windows application. This new Palm Desktop is Mac through and through, right down to the Apple-grey interface.

For platform zealots, the appearance of this new Palm Desktop is great news, because now the Mac's Palm software is equal to (and actually better in some areas, including printing) the Windows equivalent. And considering the death of the Newton and the lack of Mac connection tools for Windows CE-based handhelds, if you're



a Mac aficionado who's in the market for a PDA, the Palm family is your only real choice.

But the most important part of this new Palm upgrade is a little folder called Conduits, which means developers will be able to create conduits, or plug-ins, that can sync any application on your PalmPilot with any application running on your Mac. Conduits are also coming to sync up your email, other contact and address-book managers and much more.

While the new Palm Desktop gives users the basics that they've been lacking for so long, Conduits have the ability to radically change the way Mac people do their work – by letting them seamlessly transfer information back and forth between their desktop Macs and the Pilot.

You can download the MacPac 2.0 beta at

www.palmpilot.com

– Jason Snell

MW

3Com has future in Palm of its hand

Palm VII – a handheld computing device that will sell for less than £500 – has been introduced by 3Com. The company said the Palm VII is in field-testing and will ship later this year.

The Palm VII organizer will allow users to get information from Web sites via a wireless connection to the Internet and will offer two-way personal communication.

The latest in a line of Mac-compatible devices, the Palm VII will feature the iMessenger application, "Web clipping" and a two-way radio with an integrated antenna.

Web clipping will let users extract information from a Web site via special query forms on the Palm VII. To start, a user raises the antenna, which calls up a screen containing a list of applications. With the Palm VII stylus, the user taps on one of these applications and calls up a new screen or query application. Information received over the Internet by a Palm VII user will be automatically optimized for viewing on the device's small screen.

3Com, 0800 225 252

– Wendy Mattson

MW

Fjord-thinking on G3 gift offer

A strategic alliance is on the cards between Apple and 3Com. Rumours on the Web point to an Apple and 3Com co-produced handheld, featuring PalmOS software and Apple hardware and add-ons. Apple's Web site (www.apple.com) is full of Palm-related stories, promoting the 3Com PDA as a major success story. The first tangible signs of an alliance are already showing, with news of a recent deal in Sweden where new purchases of PowerBook G3s included a free Palm III handheld PDA.

Benny Donnerstad, product manager for 3Com in Sweden, added further fuel to rumours of an alliance. "We want to show our commitment to the Mac OS platform," he said. "Part of that is bundling the Palm III and PowerBook G3; another part of it is our upcoming MacPac 2.0." (See left, for more).

Carl Hedberg, product manager at Apple Sweden said: "Our customers see the Palm III almost as a little brother to the PowerBook G3, so we thought, why not bundle it?"

The campaign is currently running only in Sweden, Denmark and Norway, but Hedberg said that if the experiment turns out well it might be expanded across Europe in the second quarter. Apple, 0870 600 6010

Adobe's before and After Effects

BETA PREVIEW

Product: After Effects 4.0

Publisher: Adobe.

Pros: New Masking capabilities, interface overhaul, RAM Preview.

Cons: Memory-hungry.

Shipping: Spring 1999.

Price: TBA.

Pre-sales: 0181 606 4001

SNEAK PEEK: After Effects 4.0

A welcome arrival for the digital video community, Adobe's new release of its video-effects tool, After Effects, is packed with new features and integrated much more closely with other products in the Adobe stable – notably Photoshop, Illustrator and Premiere.

The interface has been given an overhaul, and uses tabbed windows and palettes to reduce screen clutter. It also brings it closer to the rest of the Adobe range.

While Premiere has its tracks and clips approach, After Effects' layers metaphor makes it easy to understand for users of Photoshop and Illustrator. After importing resources into a project, such as movie clips, images, and vector files, they are used to create a composition, which determines how they will be arranged and the transformations and filters that will be applied.

When importing Photoshop files, you can preserve adjustment layers and layer effects, while Illustrator files can be imported as separate layers. Compositions (or "comps") are created by dragging resources from the Project window onto the Time window – each goes into a different layer, and effects and masks applied to each layer as required.

The Time Layout window has also been given an overhaul, not only with tabbed panes to help organize features, but also the ability to group layers by colour coding. This can be used to quickly select all video files, for instance. Each layer is expandable to show details of transformations and effects. After Effects bézier-curve control of keyframes and the easy-in/ease-out of animated elements remains one of its most powerful features, giving a level of control way beyond the capabilities of Premiere.

Premiere and After Effects compliment each other well, using Premiere's strengths in sequencing multiple video clips together, and After Effects motion graphics and effects tools. This relationship is significantly strengthened in AE4.0 with the ability to import Premiere 5 projects as compositions. These can then be worked on further in After Effects – each clip is imported into a separate layer, as are transitions and filters, allowing further editing.

Improvements to the Masking capabilities in AE4.0 is one of the most fundamental enhancements to this upgrade. Now, instead of one mask per layer, you can apply up to 128 masks to each layer, giving a huge degree of control over which elements are visible on screen. It is also possible to apply effects to the masks such as rotation and scaling, enabling great new creative opportunities.



Integration game

The ability to import Photoshop alpha channels is a real plus.

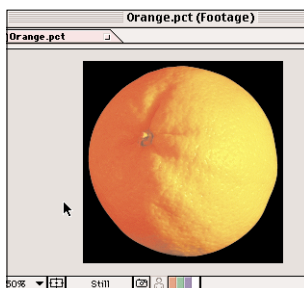
Another key feature of After Effects is RAM preview, which offers a fast way to see exactly how your Composition is looking. When activated, the RAM preview will attempt to load in frames and play them back at as close to the proper frame rate. It's a great way to see how things are turning out, and choreograph effects without having to wait for a preview. The more RAM you can throw at After Effects the better, but even on a low-end machine it is a useful tool.

Effects are what drive the creative possibilities of After Effects, and there are plenty to get your teeth into here, as well as those available from third-parties. However, some of the more powerful effects, such as Bézier Warp, Reshape and Mesh Warp, are only available in the Production Bundle version of After Effects, as opposed to the Standard Version.

The Production Bundle also features more advanced keying, motion control and audio features, but the basic functionality is identical. We'll take a closer look at the Pro features in the full review next month.

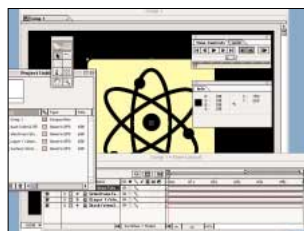
After Effects is a powerful tool, and version 4.0 adds significant improvements in the interface and usability, and much better integration with the tools you are most likely to be using to create assets – Photoshop, Illustrator and Premiere. Perhaps the strongest selling point is that experienced Photoshop users will soon feel at home using it. With this release Adobe should be able to introduce a whole generation of graphic experts to the world of video effects, whilst improving productivity and creativity for the experienced video professional.

– Martin Gittins



Smashing tab

Tabbed Footage window lets you browse the files in your project quickly and easily.



Layer-friendly

Illustrator files can be imported layer by layer.

It's showtime ... in

Colossal Comdex show set to launch masses of products

The Comdex/Fall trade show in Las Vegas is the North American equivalent of the massive European CeBit mega show: a mammoth launchfest of new products and technology, set in the glittering city of Elvis impersonators and wall-to-wall casinos. The show covered the whole gamut of technology, with a good percentage being Mac-oriented.

High fibre-diet

Answering the call for speed by the publishing market, storage vendors at the show showed off the capabilities of the speedy Fibre Channel interface, with demonstrations of new drives, cards, arrays, networks and software.

The highlight of the Fibre Channel Loop Community suite was digital video movies shown on multiple displays. This demonstration of a real-time video network linked Macs and Silicon Graphics workstations to a Fibre Channel-Arbitrated Loop (FC-AL) server, using arrays, switches and hubs mixed and matched from several vendors.

Dal Allen, president of ENDL Associates of California, said the server and its so-called "premises wiring" scheme showed the industry's increasing support for standards and interoperability. "We put it all together over the weekend - that's pretty damn cool," he said.

The demonstrated storage-area network (SAN), the industry term describing the high-speed server architecture and hardware, is one that is familiar to network administrators, according to Allen.

"It represents an honest-to-God enterprise system," Allen said. According to the Fibre

Channel Loop Community association, a draft standard for TCP/IP over Fibre Channel was submitted in August, and several proposals for switches are now moving through the standards process.

Analysts said FC-ALs prospects were bolstered by additional sources for drives and tape mechanisms for high-speed back-ups of arrays. Robert Gray, research manager for storage systems at International

Data Corp. predicted that FC-AL drive shipments will grow to 10.5 million units by 2002.

At Comdex, five drive manufacturers said they would climb on the FC-AL bandwagon: Fujitsu, Hitachi, IBM, Quantum and Western Digital. Seagate Technology is currently the sole source for FC-AL drives.

Drive makers said their future top-of-the-line mechanisms would gain the FC-AL interface. For

example, Seagate (01628 890 366) reportedly showed a 50GB FC-AL mechanism in closed industry briefings.

Meanwhile, Hitachi (0181 848 8787) showed 9GB, 18GB and 36GB FC-AL drives with spindle speeds of 12,000rpm. The company said the forthcoming mechanisms will require less power than its current 7,200-rpm mechanisms and offer an average seek time of 5 milliseconds.

Vendors also demonstrated new ways to back up the SAN servers. While Sony (01932 816 269) showed its GY-4240 Digital Tape Format drive with a built-in FC-AL interface, ATTO Technology showed an Overland Data LibraryXpress digital linear tape library connected with ATTO's (www.attotech.com) new rack-mounted version of its Ultra SCSI-3-to-FC-AL bridge.

"Fibre Channel has really picked up in the last four months," said Tony Overbay, director of marketing with CharisMac Engineering (www.charismac.com), adding that 30 per cent of the company's recent sales were in digital audio production and 70 per cent in digital video production.

An exhibitor at the show, CharisMac showed its Global File System, which lets Mac OS and Windows NT clients share Mac files over CharisMac's FibreShare network.

Electric Image's double play

Electric Image (BIT, 01420 838 11) announced at Comdex that it is about to ship its long-awaited modeller, as well as an update to the ElectricImage Animation System.

ElectricImage Modeler, part of ElectricImage Animation System 2.9, is a hybrid surface and solids modelling application based on the ACIS solids modelling engine from Spatial Technology. The long-overdue ElectricImage Modeler, originally announced in 1996, has a hybrid nature, which the company said makes certain tasks easier. For example, artists can use a solid to punch a hole through a surface.

The resolution-independent modeller features "subdivision surfaces," a sophisticated surface modelling technique that offers automatic smoothing and minimizes trimming.

Also new is a series of interactive tools for organic modelling called UberNurbs. Users start with a simple solid primitive and then pull and drag it to create a shape. The company said its extension of Nurbs (non-uniform rational B-splines) is especially useful for modelling characters and faces.

"UberNurbs are just astounding," beta tester Keith Lango said. "What used to take me hours to model in NewTek LightWave's MetaNurbs or using traditional NURBS surfacing tools takes minutes in EI Modeler with Ubers. These things are the closest I've ever seen to digital clay."

The modeller also includes a full complement of traditional 3D modelling tools, such as surface networks, or Gordon's surfaces; sweep, revolve

Vegas

and extrude tools; boundary or Coons surfaces; and skinning. It offers Boolean functions as well as a series of tools called Knives that cut objects and split geometry.

Texture layering is supported in the modeller, and models can inherit maps from their parent objects. In addition, users can load a 2D image in the background of any view to use as a template. The modeller can export models in several formats, including ACIS' SAT and the STL stereolithography format. Users can also customize tool palettes.

"It's not a stretch to say this thing brings workstation-class modelling tools to the desktop," Lango said.

The company's main release at the show, the ElectricImage Animation System 2.9, offers a 15 per cent increase in rendering speed, as well as improved 3D drawing and more control over placement of texture maps, the company said. It also adds texture rendering on objects and Phong shading with advanced lighting to 3D views.

"It's a very good, stable, solid upgrade to a troubled 2.8," said beta tester Lango. With real-time texture map display in all object and world-views, he said, "Now we don't have to test render just to see where the texture map lines up."

In addition, Version 2.9 improves on the camera mapping system and offers auto-scaling and 2D scaling in the Curve Editor. It can also import NewTek LightWave project files.

The complete package, with the film-resolution version of ElectricImage Animation System and the modeller, has been given a March shipping date for the UK. Pricing is not yet fixed but upgrades from Version 2.8 are free. The company also said it is discontinuing the ElectricImage Broadcast version.

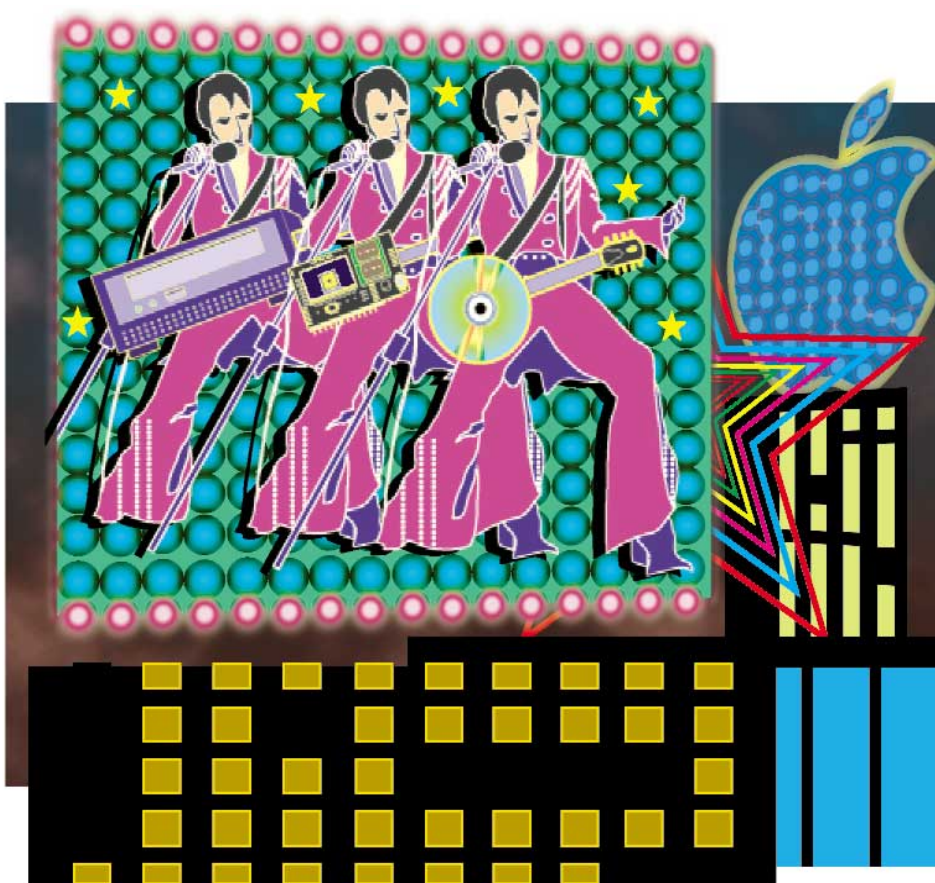
Colour printers

A double act of vendors announced new colour laser printers at the show, both aiming at the graphic design and corporate workgroup markets.

Leading the assault was Tally Printer (0118 978 8711) with news of two full-bleed tabloid colour lasers for the graphic arts market. The £3,995 Spectra*Star T8204 and £4,495 Spectra*Star T8204+, have a maximum image area of 12.6-x-18 inches.

Both printers will ship with PostScript Level 2 and PCL 5 emulation. They will support colour profiles created using Pantone colour matching tables, Tally QColor automatic colour correction software, Apple ColorSync and Windows ICM. The printers will also simulate Commercial and Euroscale press colour.

The T8204 will come with 48MB of RAM and print at 600 dpi. The T8204+ will pack 192MB of RAM and print at 1,200 dpi. Tally said users will be able to upgrade the T8204 to 1,200 dpi by

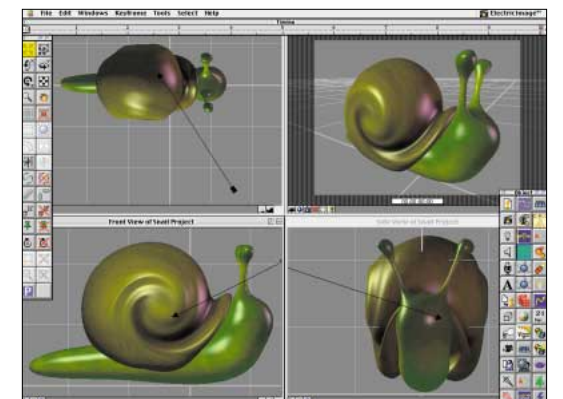


adding RAM. Both printers will be based on a 150MHz processor and will be able to accommodate 381MB of RAM.

The devices will support Mac OS-, Windows- and Unix-based networks. The CrownNet 10/100BaseT ethernet card from QMS will round out the connectivity options, which include parallel and serial ports. Tally will ship QMS' CrownView Web-based printer management and CrownAdmin 3 configuration utilities with the new Spectra*Star products.

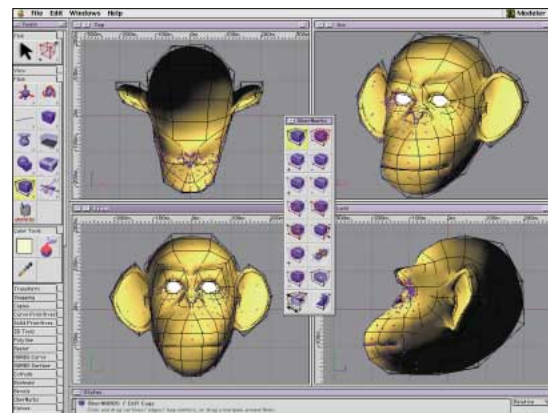
Not to be outdone, Minolta (01908 200 400) unveiled several colour lasers in Las Vegas. Among the offerings, Minolta's new £3,000 Color Page Pro Ex will print 3 pages per minute (ppm) in colour (12ppm in monochrome) at a maximum resolution of 1,200-x-600 dpi when it ships later this Spring. The Ex will come equipped with Adobe PostScript 3, an Extended Capabilities Port and 48MB of RAM, with a maximum memory capacity of 384MB. Minolta will offer optional 10/100Base TX and token-ring network cards.

- **David Morgenstern, Rebecca Gulick and Michael Burns**



Shell out

The ElectricImage Animation System runs at anything but a snail's pace, with a 15 per cent increase in rendering speed.



Going ape

Modeler from Electric Image is ideal for face-creation.

Punters fall into the mouse trap

Boffin probes computer illness in 2-year study.
LOUISE BANBURY reports

Search ended for Anarchie

Stairways Shareware has added new searching and Web-browsing features to Anarchie Pro, its Internet client for the Mac OS.

The software provides FTP transfer and search features. Version 3.5 integrates with the Sherlock search engine included with Mac OS 8.5.

The upgrade also lets users download entire Web sites for offline browsing. Users can browse the content of Web sites by entering a URL; Anarchie Pro will then display a list of all files contained at that location. With the included Internet Config, a free utility for setting Internet preferences, users can tell Anarchie Pro to launch a Web browser for graphical Web surfing.

The \$35 (£20) software can also resume interrupted downloads, and it comes with a collection of bookmarks to popular FTP sites. Users of Anarchie Pro 3.5 can edit text files without downloading them and then re-uploading them; users can also edit files directly on FTP servers using Bare Bones Software's BBEdit text editor. A new mirror feature helps site administrators back up or mirror their FTP or Web sites, the company said.

Stairways Shareware,
www.stairways.com

In response to the growing awareness of health problems associated with computer use, the government has commissioned a survey to investigate the possible harmful effects of working with mice and other computer input devices.

This groundswell of concern has provided an ideal marketing niche to companies offering ergonomically designed products.

The study, by the University of North London, is jointly funded by the Health and Safety Executive (HSE) and the British Occupational Health Research Foundation and headed by chartered physiotherapist Jane Greening.

Greening has already carried out research into the health of computer users, with intriguing results.

The sensitivity of the nerves in the wrists and hands will be examined at the beginning of the two-year study and again at the end. The second part of the study will look at established computer users, and will use magnetic resonance imaging to examine the nerves.

To avoid the painful disorders that can arise from poor use of computer equipment, the HSE has laid down the law regarding ergonomics in the workplace. Employers now have a responsibility to ensure that anyone who uses computer display equipment is not at risk of injury.

The HSE guidelines suggest ways in which employers and their workers can avoid aches and pains, such as by adopting a good posture and not using laptops for prolonged periods.

The mouse can also be blamed for some problems. The HSE leaflet *Working with VDUs* declares: "Intensive use of a mouse, trackball, or similar pointing device may give rise to aches and

pains in the fingers hands, wrists, arms or shoulders.

"This can also happen with a keyboard, but mousework concentrates activity in one hand and arm (and one or two fingers), and this may make problems more likely."

Jane Greening has plenty of experience of the problems mice can cause. "As a physiotherapist, and judging by research, I'm suspicious about their use. The mouse puts a lot of pressure on the side of the hand, and I've seen a lot of patients suffering from hand pain."

She notes that some problems lie with the user, rather than the design. "People sit there using the mouse for hours on end, and tend to position the mouse too far away from them."

The HSE leaflets suggests that to avoid mouse-related problems, you should take regular breaks, alternate from left-hand to right-handed use, or try a different size or shaped mouse.

It does not, however, give guidelines on which kind of mouse design is the best.

To provide an answer, Norwegian company Animax (0181 351 7400) has conducted its own survey to develop and promote its £39 Anir Mouse.

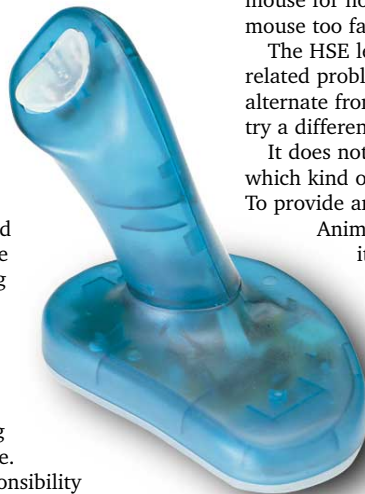
The Anir Mouse is a vertical mouse for the Mac, also available in iMac blue (left).

Backed up by the results of the comparative study, Animax claims that the Anir Mouse helps ease aches and pains, by its unique design.

Jane Greening, however,

stresses that no amount of work on new mouse-designs is a substitute for education in the workplace. "Companies can spend vast sums of money on special equipment, but it's a total waste of money if the employees don't take regular breaks. Nothing can compensate for that."

Those interested in taking part in the study can contact Jane Greening on 0171 419 3230 **MW**



Type tech dispute

ClearType, a text-display technology that is being hyped by Microsoft as a new and revolutionary technique, might actually be a 20-year-old Apple invention.

In a speech at Comdex, Bill Gates heralded ClearType as a new way of sharpening screen text. He indicated that the technology, which he claimed as Microsoft's own, could be useful in hand-held and flat-panel displays.

However, software developer Steve Gibson

says the technique was first used in the Apple II, released in 1976. When Gibson compared notes with Steve Wozniak, the Apple co-founder who developed the font-smoothing technique for the Apple II, his suspicions were confirmed.

Microsoft has not released technical specifications or white papers on ClearType, citing pending patents. But if Gibson's claims are true, the technology is already in the public domain, as the Apple II patents expired 17 years after the Apple II was released. This means that other developers should be able to use the technology without paying royalties. **MW**

Play working at 'L-plates' 3D title

BETA PREVIEW

Product: Amorphium

Publisher: Play

Pros: Ideal for beginners, advanced tools, fast renderer.

Cons: Poor type-handling, Textures teething problems.

Shipping: Spring 1999

Price: TBA

Pre-sales: 01420 83811

SNEAK PEEK: Amorphium

The Electric Image division of Play, best known for its high-end ElectricImage Animation System, is making a bold move for the mass-market with Amorphium, a sculpting program that appears to be a breakthrough in entry-level 3D graphics software. I'm certainly no 3D artist, but using a beta version of the software, I created several animations that drew one general comment: "You did those yourself?!"

Amorphium combines powerful modelling, rendering, and animation features with an intuitive interface that resembles the one in MetaCreations' Bryce 3D. You use the latter program to produce photorealistic nature scenes. Amorphium, on the other hand, shines at creating organic models from which you can generate keyframe animations. It's hard to think of a more painless way to produce cool-looking 3D images.

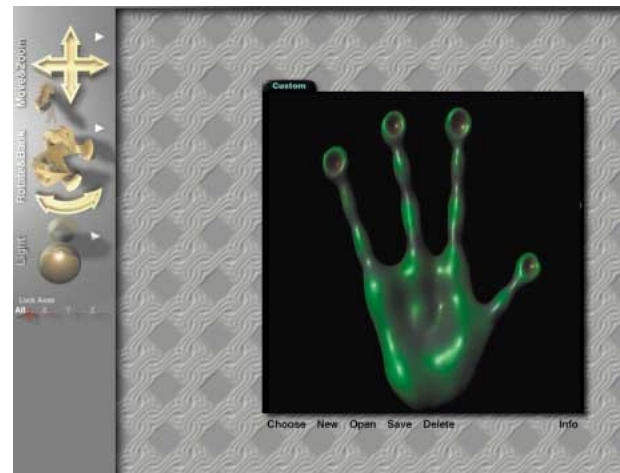
The core of the program is its Tools & Distorts mode, which provides a variety of functions for sculpting shaded models. You begin by loading an object: sphere, cube, cylinder, pyramid, cone, or doughnut. You can also generate 3D type or import models in DXF or other formats.

Once the object is loaded, you can reshape it using sculpting tools or global distortion effects. The sculpting tools – the 3D equivalent of brushes – let you push and pull on different parts of the object, much as you would manipulate a lump of clay. A potter's wheel option slowly spins the object, allowing you to apply the tools as if the model were on a lathe. Banking and trackball controls let you quickly rotate the object and see it from different perspectives.

The distortion effects, which include Taper, Bend, Bottle, Bulge, Twist, Spikes, Stretch, and Scale, reshape the whole object. You can vary the intensity of each distortion by sliding the mouse. As you apply the distortions, you can see the model change in real time. For example, if you choose the Spikes effect, you'll see spikes growing out of the object as you drag the mouse.

As you're shaping an object, you can switch to Amorphium's Paint & Optics mode to paint colours onto its surface, or use the program's Texture and HeightShop modes to apply imported textures. Amorphium also provides a Mask mode that lets you paint masks onto the object. The masks restrict painting and sculpting operations to certain parts of the image, but have no effect on textures or global distortions, at least in the beta version. The company says that in the shipping version, masks will work with global distortions as well as painting and sculpting tools.

Once you've finished shaping and painting your creation, you use the program's Composer mode



to produce keyframe animations. Animations can include multiple 3D models, along with a 2D background image, but you can animate only one model per movie. You can merge multiple objects into a single model, but once combined, they can be animated only in unison.

Generating the animations is easy. You position the model in 3D space and click on one of eight icons to create a keyframe. Then you can reposition – or even reshape – the model to create subsequent keyframes. Reshaping creates a morphing effect in the final movie.

When you produce the animation, you specify the duration and number of frames per second. Amorphium then renders a series of scenes, using tweening algorithms to generate the shots between each keyframe.

Amorphium's fast rendering engine is derived from Electric Image's high-end 3D software. Running on a 180MHz Performa 6400 with 72MB of memory, the software generated a 15-frame, 320-x-240 pixel QuickTime movie in about eight minutes. On a G3 Mac, the program screams.

Judging from the beta version I tested, the program has a few rough spots. One weakness is type handling. You can generate 2D or 3D characters, but only from TrueType fonts. Worse, the program dispenses with a font menu and instead forces you to locate and open the actual font file in a dialog box. (The vendor says that the shipping version will include a font menu). Models can include multiple objects – each with their own coats of paint – but imported textures can be applied only to the model as a whole.

Blemishes aside, Amorphium's intuitive design, real-time effects, and speedy rendering engine will likely make it a hit among artists who previously shied away from 3D graphics.

– Stephen Beale

Long climb for K2 to conquer XPress

Adobe has high hopes for new DTP package



Dark Vengeance monster Macs

Giving Tomb Raider a fantasy spin, Dark Vengeance is set to become another classic in the 3D third-person action hall of fame. Choosing one of ten characters, the player is immersed in a fantasy world overrun by the Dark Elves, a selection of some of the best baddies yet to grace a computer screen.

Including villains such as the stained glass knights, who crash to life from windows (*crash, Windows? - ed.*) as the player passes; the human and scorpion woodbot (creatures made from debris); and the Lava Rolling Rock - a fiery fiend the game is not short on variety.

Created by Reality Bytes, the game took two years to make, and the technology behind the 3D graphics far outperforms the engine behind Unreal, claims the company.

Dark Vengeance ships for £34. A demo is available on this month's Macworld CD. **Softline, 0181 401 1234**

Months before K2 is ready to roll, Adobe is reportedly pursuing an aggressive marketing strategy aimed at moving the next-generation desktop publishing application into the heart of systems currently dominated by QuarkXPress.

According to sources, Adobe CEO John Warnock will formally christen K2 during his keynote address at March's Seybold Seminars Boston. In the meantime, sources said, the company has been working overtime to convince key buyers that swapping out XPress in favour of the new Adobe software should cause few ripples in their large publishing sites.

Sources said the company will offer K2 for Mac and Windows systems at a price that will be lower than the cost of upgrading to XPress 4.0. Quark currently charges £299 for single-user upgrades from QuarkXPress 3.x.

While sources said the first release of K2 will not support QuarkXTensions, the software will reportedly open and export XPress files. In addition, the new package will let users employ XPress keyboard shortcuts in addition to Adobe's standard assortment. Key commands will be customizable, sources said.

Demonstrating its determination to beat Quark on its own turf, Adobe reportedly is already wooing major publishing sites that rely on XPress and Quark Publishing System, the company's client-server workflow package. Sources said Adobe has told prospective clients that K2 will fit seamlessly into existing QPS workflow systems. Meanwhile, Adobe continues work on Stilton and MediaBase, its own amalgam of workflow and digital asset management technologies.

Both are reportedly due later in 1999; Adobe plans to distribute the software through VARs who will bundle additional features, such as SQL server technology.

"The impression I got is that Adobe is focusing on how to be competitive with Quark in winning over long-time XPress users," one source said. He added that the company is preaching K2's lower cost and advanced capabilities while suggesting that Adobe will provide better customer support than Quark has.

As Adobe gets its K2 marketing machine in gear, additional features continue to surface; sources said many of the new capabilities match or exceed those of XPress.

Sources hailed K2's extensive use of Apple-

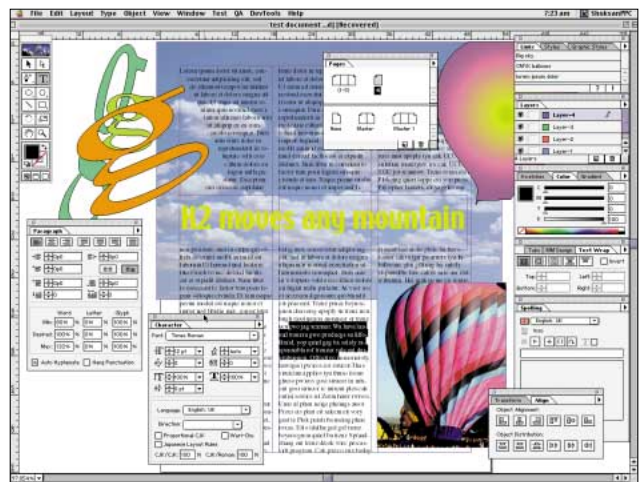
events scripting to automate many tasks.

In addition, the package will reportedly tap enhancements to Adobe's Portable Document Format that are expected to appear with the next version of Adobe Acrobat. Sources said these new capabilities will include trapping and separation features, as well as the ability to edit PDF text, layouts and graphics.

"This is the best composition engine I've seen in years," one source said.

Bigger frame maker than PageMaker

K2 reportedly will offer more-powerful control of frames than Adobe's current PageMaker package, sources said. It will support nonlinear boxes and shapes and will allow users to rasterize text within layouts.



Some observers cautioned that Adobe still faces a formidable task in addressing the concerns of longstanding XPress users. First and foremost, because the initial release will not accommodate current XTensions, users won't have recourse to many third-party customizations available under XPress.

Sources said that Adobe is working with leading third-party XTension developers to build K2 plug-ins that replicate the functions of many popular XTensions. One developer said he is taking a wait-and-see approach, however.

"It's a chicken-and-egg situation," he said. "We can't sell plug-ins without an installed base."

However, some sources said other factors may outweigh the utility gap in K2's favour. "Having production AppleScripts not breaking may be more important than XTensions," a source said.

Adobe (0181 606 4001) declined to comment.

- Matthew Rothenberg & Daniel Drew Turner

MW

Vimage details G3 325MHz upgrade

Vimage has announced a 325MHz G3 upgrade card for the Power Macintosh 55/65xx, and Twentieth Anniversary Macs (TAM).

Shipping in February for £899, the card features a 1MB cache with a 2:1 ratio. The first G3 card designed for the Creative Studio and TAM models, the card will also work in the 54/64xx machines, although it will run at 320 MHz.

Vimage claims that the upgrade will "better than triple CPU performance and better than double graphics performance" for the 55xx, 65xx and TAM machines.

The card uses the Level 2 cache slot of the Macs as an upgrade path, instead of the ZIF socket upgrade method common to other G3 card manufacturers

Vimage has also confirmed that the G3 upgrade card currently available for Performa 54/64xx machines – the 240MHz Vpower PF 54/64 – will now also work in Power Mac



Power crazy

The 325MHz G3 upgrade card, bringing third-generation speed to Creative Studio and TAM owners.

55/65xx and TAMs.

This card will only run at 225MHz when installed in these machines, however. The card, which features 512K of cache at a ratio of 2:1, is available for £399.

Channel Dynamics, 0870 607 0540



Not gone duller

Varifocus blur filter adds life to flat photos.

Varifocus filter tips

Andromeda has released a plug-in for Adobe Photoshop that adds a touch of surrealism to dull images.

The £39 Varifocus Photoshop filter mimics high-end photographic effects. It focuses and defocuses on regions of an image, adding dimension to flat 2D photos.

A pre-set palette of contoured masks can be used to shift and distort focus. Custom masks and apertures can also be created.

Digital Toolbox, 0181 961 6622

Freeway 2.0 hits the road

SoftPress Systems is shipping Version 2.0 of Freeway, the graphical HTML editor that takes a desktop publishing approach to Web design.

The upgrade allows designers to create sophisticated layouts via Cascading Style Sheets Level 2 or HTML tables; the previous version supported complex layouts through HTML tables only. The software can also export formatted type as anti-aliased GIF files.

Freeway 2.0's Actions add scripting capabilities. Actions can be used to add JavaScript and DHTML behaviours, database connectivity, or e-commerce features to a Web site.

A collection of pre-configured Actions, which includes those for graphic and text roll-overs, URL redirection, and multimedia controls, comes with the package. Actions can be tailored using a language similar to XML.

Other enhancements in the £199 upgrade include improved frame-creation, speed boosts, support for the PNG file format and editable keyboard shortcuts.

The package can also upload files to FTP servers. Registered users can upgrade free.

SoftPress Systems, 0800 731 3425

Mac OS finds its voice

Voiceworks has released Voice PowerPro 3.0. The voice-recognition software has been optimized for compatibility with Mac OS 8.5. It offers better voice-recognition and uses the increased speed of the new operating system and AppleScript routines. The package includes a Shure Microphone and pre-amp, and ships for £249. Upgrades for Voice PowerPro and PowerSecretary registered users are available from £30.

Voiceworks, 0181 455 4750

Hitachi's 17-inch plan

Hitachi has launched the CM640ET monitor – in a bid to make 17-inch displays the entry-level standard for corporate users. Using Hitachi's new Super High Contrast (SHC) tube technology, the £260 CM640ET offers



increased brightness and contrast. SHC works by using a more intense electron beam than a traditional CRT, allowing for a darker screen-tint. It has a resolution of 1,024-x-768 pixels at 75Hz and a horizontal mask-pitch of 0.2mm.

Hitachi, 0181 849 2092

SuperDisk goes mobile

LaCie has announced a mobile SuperDisk drive for the PowerBook, developed through a joint venture with Imation. The £179 SuperDisk drive is compatible with both 120MB SuperDisk diskettes and older 1.44MB floppy disks. The hot-swappable expansion-bay drive offers secure data-storage for multimedia files, Internet downloads, business presentations and data back-up.

LaCie, 0171 782 8000

MultiSync monitors duo

NEC is shipping two new MultiSync monitors, the A500+, and A700+. Both are upgrades to the standard A500 and A700 models, tailored for home users and everyday office applications. The £149 A500+ is a 15-inch monitor and the A700+ is



a 17-inch model, costing £270. Both monitors offer a top resolution of 1,280-x-1,024 pixels at 66MHz and a 0.28mm dot pitch flat/square technology CRT.

CAE Office Systems, 01923 210 923

pricing update

Tektronix Phaser range

Tektronix has announced significant price cuts on its large-format colour printers. The Phaser 380EF A3 full-bleed solid-ink printer is 50 per cent cheaper, at £4,495. The Phaser 600 A0 solid-ink poster printer is also now £4,995, a reduction of 28 per cent. The entry-level Phaser 300X A3 full-bleed solid-ink printer now starts at £2,198, down by 50 per cent, and the Phaser 480X A3 full-bleed, dye-sub colour printer has been cut by 57 per cent to £5,495. **Tektronix, 01628 403 600**



Nikon CoolPix 900

Nikon has upgraded the Coolpix 900 digital camera. The £699 standard bundle will now ship with an 8MB CompactFlash card, and the £799 premium bundle will have a 16MB CompactFlash card. The Lithium batteries have been replaced with NiMH batteries and charger. Nikon has also improved sensitivity to exposure compensation from 1.0EV to 0.5EV per stop. **Nikon, 0181 541 4440**

QMS 1600P mono series

QMS has slashed prices on the 1600P monochrome printer series. The basic 1600P, which offers a resolution of 2,400-x-600 dpi and a speed of 16ppm, has been reduced from £795 to £695. The 1600P/Net with built-in ethernet is down from £1,095 to £795. And the 1600P/XNET, with duplex unit, is reduced from £1,695 to £1,295. **QMS, 01784 442 255**



Encad NovaJet printers

Encad has reduced the pricing on its range of NovaJet printers, in response to the aggressive pricing of its main competitor, Hewlett-Packard. The 600 dpi colour ink-jet, the NovaJet Pro 600e 60, is down from £13,995 to £12,775. The NovaJet Pro 36, which offers 300 dpi, has been reduced from £4,995 to £4,275, and the Pro 60 model is down from £11,995 to £10,475. **ColourGen, 01628 526 666**

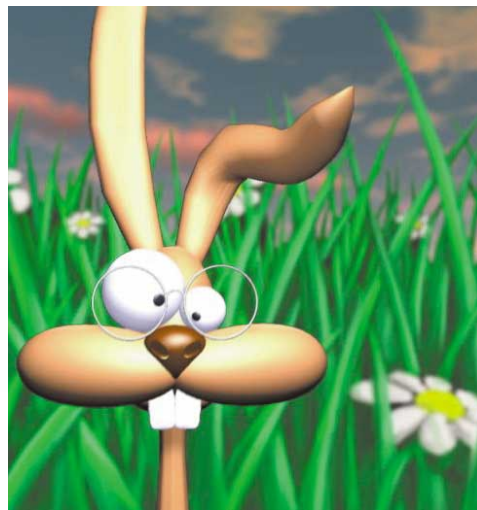
Home is where the art is

Maxon has introduced Cinema 4D Go, a scaled-down version of the company's 3D-raytracing and animation tool, Cinema 4D. It provides the home user with tools to create and animate 3D graphics, but can also output pictures with full broadcast quality. Features of the £143 software include 50 primitive objects, such as Platonic bodies and spline objects, and special objects, such as fractal and relief maps.

The animation is timeline-based for positioning, scaling and rotating objects or entire object groups, and uses a time manager for precise, interactive keyframing.

The Go edition is capable of outputting pictures and animations in S-VHS PAL with broadcast quality 4-x-4 over-sampling and fields. Maxon claims this, combined with its built-in compositing functions, gives Go the ability to produce high-quality 3D titles for video.

The package also features ultra-fast raytracing



On the move

Cinema 4D GO is a home-oriented animation package.

and a cartoon renderer. The software imports and exports various file formats, such as TIFF, PICT, JPEG and QuickTime movie.

Cross-platform compatibility is ensured by Maxon's use of Coffee – a platform-independent integrated programming language. All the functions in the software are fully documented, and an additional tutorial manual is included. It also ships with the Instant Space CD – a modular construction system for generating spaceships.

A demo is available on this month's cover CD. **HiSoft Systems, 01525 718 181**



New Conflict of interest

A new version of Casady & Greene's Conflict Catcher, 8.0.3, is now available.

The software now incorporates Mac OS 8.5's Sherlock Internet Searching.

Sherlock offers an easy way to search across a large number of search engines, and Conflict Catcher 8.0.3 creates sets of Sherlock search-site plug-ins.

Conflict Catcher's reference library has been

updated to include descriptions for more than 3,900 files. The very latest Mac OS 8.5 information has been added to the Clean-Install System Merge, and software also labels original items into the new system folder when merging.

The new version has improved support for 680x0 Macs and costs £81, but upgrades are free to owners of Conflict Catcher 8.

Softline, 0181 401 1234

MOTU keeps track of music software

Mark of the Unicorn has updated its MOTU 2408 hard disk recording system to support all leading music software packages. The £820 system offers 24-track interfacing (up to 24-bit) for both the popular ADAT (Alesis) and TDIF (Tascam) digital formats.

Eight 20-bit analogue inputs/outputs also provide access to more conventional recording

systems. The 2408 uses Steinberg's ASIO (audio stream input output) driver system to link to Mac software. MOTU 2408 is now compatible with the following audio applications: MOTU Digital Performer, Steinberg Cubase VST, E-Magic Logic Audio, and Opcode Vision DSP.

Musictrack, 01462 812010



Socket to them

The MOTU 2408 features eight 20-bit input/outputs.



LED from the front

The 2408's rack-mountable chassis with status LED display.

Fuji mounts digital printer campaign

Fuji has added to its Pictography range of colour printers for digital photo files. The Pictography 4000 offers a full range of finished print sizes from postcard to A3 with crop marks. At 25 per cent faster than its sibling – the £6,995 3000 model – it is suitable for uninterrupted print-runs of 100 prints at a time. The 4000 costs £14,995, including installation, interchangeable paper cassettes and integral calibrator unit.

Intended for in-house digital proofing, the printer ships with a full range of RIPs, from Fiery and other third-party vendors, driver software for the Mac and Adobe Photoshop export drivers.

Featuring a continuous tone resolution of 400 dpi, the Pictography uses a single-pass process for both laser diode exposures and YMC thermal development and dye transfers. Most comparable printers use three or four mechanical ink-sheet movements.

FujiFilm claims its method produces sharp text, crisp logos and excellent colour rendition. The Pictography also uses FujiFilm's low-fade



Fast and furious

The new Pictography 4000.

technology, developed for its photographic papers, to extend the life of its prints.

FujiFilm Digital Imaging, 0171 586 5900

Hitachi swoops on 21" market



Hitachi's new, four-strong series of 21-inch monitors

– the CM81 range – features its "Super Space Saving" design, and ranges from the entry-level CM811ET to the flagship CM814ET.

The CM811ET has a resolution of 1,280-x-1,024 pixels and is priced at £699.

Next in the range is the CM812ET, which is aimed at the design, architecture and DTP market.

It has a resolution of 1,600-x-1,200 pixels, a video-clock frequency (the rate at which the graphics adaptor generates the image) of 230MHz and costs £759. The £939 CM813ET has a resolution of 1,600-x-1,280 pixels and has a video-clock frequency of 250MHz. The top-of-the-range CM814ET costs £1,099 and has a resolution of 1,800-x-1,350 pixels, thanks to Hitachi's Enhanced Dot Pitch. All four monitors come with an on-screen display menu in five languages.

Hitachi, 0181 849 2092

Debut for PowerShot

Canon has unveiled a new megapixel digital camera, the PowerShot Pro70.

The £999 camera has two CompactFlash memory-card slots, giving a storage capacity of up to 96MB – the equivalent of 240 high-quality images. Images can also be copied between CompactFlash cards.

The camera features a 0.5-inch, 1.68-million-pixel CCD sensor, and has a maximum resolution of 1,536-x-1,024 pixels. This means images can be sized up to 8-x-10 inches.

The built-in power zoom lens has a 6-15mm focal length and consists of four moving lenses. Aperture settings of the PowerShot Pro70 are from f/2.0 to f/4.0. It has an optical viewfinder and LCD display and a burst mode that enables four frames per second to be captured.

The PowerShot Pro70 ships with Canon's PhotoStitch software, which connects multiple pictures to create panoramas, SlideShow Maker and Ulead PhotoImpact 4.0.

DirekTek, 01494 471100



CDs and books

Photoshop 5.0

Photoshop 5.0 for Macs for Dummies, by Deke McClelland, priced £19, covers the basics of getting to grips with the industry-standard graphics program. It includes an exploration of the new History palette and editable text, and explains how to prepare images for Web publishing.

IDG Books, 0181 231 6732

DTP training titles

New VTC software training titles are available on CD from Marrutt Digital. They are aimed at schools, colleges and businesses. The releases include Adobe Photoshop 5.0, Go Live CyberStudio 3.1 and QuarkXPress 4.0. All are priced at £79.95.

Marrutt, 01825 764 057

Painter 5 skills no secret

Painter 5 Studio Secrets, by Adele Drobilas Greenberg and Seth Greenberg draws upon the work of 40 professional artists and uses clear step-by-step instructions for enhancing print, multimedia and Web projects. *Painter 5 Studio Secrets* costs £43.

IDG Books, 0181 231 6732

Slant on Web-design

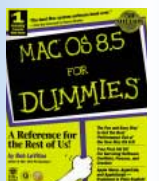
Roy McKelvey's *Hypergraphics* offers a new approach to Web-design tuition. Its coffee-table book approach looks at matters from the graphic artist's viewpoint.

Rotovision SA, 01273 727268

Mastering Mac OS 8.5

Mac OS 8.5 for Dummies, by Bob LeVitus, costing £19 includes a brief introduction to AppleScript, as well as covering the basics and more complex subjects, such as networking.

IDG Books, 0181 231 6732



Belinea 19-inch double

The latest 19-inch monitors from Maxdata include the £409 Belinea 10 60 70 and the £349 Belinea 10 60 20. The 10 60 70 has a dot pitch of 0.25mm and

a maximum resolution of 1,600-x-1,200 pixels. The 10 60 20 also features a maximum resolution of 1,600-x-1,200 pixels but with a dot pitch of 0.26mm. Both models feature an ARASC anti-reflective coating and ship with a full range of on-screen controls.

Maxdata, 0118 9 362900



Encad inks big

Encad has expanded its product line with the Graphic Extend (GX) ink and Media System. The system is comprised of matched GX Ink and GX media and is designed for use with ENCAD NovaJet PRO or NovaJet PROe printers. The GX ink is fade-resistant, with up to 25-year indoor stability. The GX System accessory kit consists of a 500ml bottle of ink, one cartridge and one 20ml squeeze-bottle of ink. The kit costs £99 for the PRO kit and £125 for the PROe version. The GX Media consists of 7mil Photo Gloss Paper, available in 100-foot rolls with widths ranging from 24 to 60 inches. Prices start at £69 for the 24-inch roll.

ColourGen, 01628 526 666

Touch and go on display

DisplayMate has launched what it claims is the world's largest interactive touch-screen. The rear-projection double-screen measures 77 inches diagonally and can be used for video-conferencing, presentations and data conferencing. It costs £14,995. Smaller screens, ranging from 45 inches to 72 inches, are also available and cost between £4,495 and £9,495.

DisplayMate 01491 835 984

To build and go ...

Starship Creator, a new game from Simon and Schuster based on *Star Trek*, is available now for £21. You can design and build your own starship, design and run missions and choose your own crew. Ships and missions can be imported and exported from other users.

MacGold Direct, 01723 582 100

Boris beckons for After Effects users

Taking aim at the high-end compositing market, Artel Software has released a new version of its Boris AE plug-ins package for Adobe After Effects that contains an extra 21 effects.

Priced at £355, Version 2.0 of Boris AE features 44 plug-in filters. These include lighting and particle effects, a range of filters for performing blurs and colour corrections, and keying and compositing capabilities. Previously, AE was aimed at users of non-linear video editors, such as Avid, Media 100 and Discreet.

In addition to new effects, Artel said it has improved many original filters. Version 2.0's wave filter, for example, is twice as fast as After Effects' own wave filter.

The company is offering a £70 discount for registered owners of Boris FX. A demonstration version is available on this month's *Macworld* cover CD.

Polar Graphics, 0181 868 2479



Square deal

Six different images, including live video, can be mapped onto the sides of an object with Boris AE's video cube effect.



Laser foundation

Konica's high-speed DP60 duplex laser printer.

Laser blazes trial

Konica has launched a new high-speed duplex laser printer – the DP60 – for £20,840.

The DP60 prints at 60ppm (pages per minute) for A4, with a resolution of 400 dpi. At a resolution of 600 dpi the print speed for A4 is 50ppm. The DP60 handles paper sizes from A5 to A3 and has a paper capacity of 7,000 sheets.

The printer offers an optional finishing unit, with an exit tray for up to 2,000 pages and stapling for 50 pages in three positions.

It has PostScript Level 2, and optional 10BaseT, 100BaseT and 10Base2 ethernet. Memory capacity ranges from the standard 16MB to a maximum of 128MB.

Konica, 0181 751 6121

Zoom at top for Minolta

Minolta has announced the Dimâge EX Zoom 1500 digital camera. Priced at £1,000, the high-resolution camera is supplied with a 3x zoom lens and a wide-angle lens, which offers more than 300 lines/mm resolving power.

It has a 1.5-million pixel CCD, and features Minolta's Digital Program Selection, which means that the camera will select the best settings to suit specific subjects.

The Dimâge EX Zoom 1500 offers high-speed operation at 3.5 frames per second and Burst capture mode – for continuous capture of up to seven frames – with a resolution of 1,344-x-1,008 pixels. Other features include a timelapse setting, exposure bracketing, several flash modes and an image organizer.

Minolta, 01908 200 400

Debut
The Dimâge
EX Zoom
1500 digital
camera.





David Fanning

The MP3 file format makes CD-pirating easy
– and the music world faces its Armageddon

Bands on the run

The future of big, greedy record companies is in jeopardy. What a shame. The thing is, small, needy record companies and performers are also staring into the abyss, which really is a shame.

The reason for all this strife is a plain old file format. Yes, a file format is going to revolutionize the way people make – or lose – money from the music industry.

The file format is MP3, which is an abbreviation of MPEG-1, layer 3, not MPEG-3 as is often quoted. With the right software you can take an audio CD and copy the contents onto your hard disk. This is nothing new – anybody with a CD writer has made at least one compilation CD, then the novelty wears off. What is new is that the file size of CD-quality music is normally around 10MB per minute – but as an MP3 file, one minute of high-quality audio takes just 1MB.

To understand the full implications of this, bear in mind that computer communications have never been faster. If you have a 56K modem or, even better, an ISDN link to the Internet, then downloading a song takes less than 10 minutes. Add to this a host of ways to access both legitimate and pirate MP3s over the Internet and you have a recipe for destruction. No wonder the big record companies are worried.

You could well counter that, because audio CDs cost around £16 to buy, but less than 50p to make, record companies are nothing but audio bandits anyway. True as this is, it's the smaller companies that really stand to lose out. Piracy has long been the bane of the music business; home taping has been killing music for years now. Copying CDs is just a recent variation on the theme.

MP3s, though, go one step further – by negating the need for access to an original copy. Even badly-pressed CDs with photocopied sleeves mean that somebody, somewhere, bought the original.

The frightening thing is, there's no obvious way for record companies to staunch this trickle of cash out of the business before it becomes a torrent.

This means one of two things: some bright spark will hit upon a solution and become hugely wealthy into the bargain; or the bottom will fall out of the music industry and the only way for a band to make money will be to play live.

Imagine how expensive tickets would be if they became a band's only means of feeding its colossal coke habit or paying for its private jet. So expensive that ordinary punters would stay away in droves. Going to see Motorhead would become as elitist as going to the opera. Probably.

Can you imagine going to Sony with a solution to this "Motorhead-problem"? It'd be like having a cure for cancer. You'd be heralded as the saviour of the music industry. It would make a lottery win look like small change.

But the fact is, at present, there's just no way to make CDs less copyable – at least without making CDs incompatible with current players. I doubt if people would fall over themselves to replace their CD players with a pirate-friendly copy-protected version.

There's no way to stop any proliferation of pirate music other than appealing to people's sense of honour. This may actually work to some degree – just not on the Internet. There, anonymity breeds anti-social behaviour. Just look at the Internet's main traffic – porn of every description clogs its every search and blink. Music will soon be snapping at pornography's sweaty heels as the most downloaded data.

The bottom line is that if you download MP3 files you will harm the music industry. As connection speeds get faster, and more people have access at work – where bandwidth is bigger – the problem will escalate. Any amount of discouragement or witch-hunting is unlikely to change the situation. Musicians will become among the paupers of the entertainment industry. Within a decade, pop stars will have the earning power of the average poet.

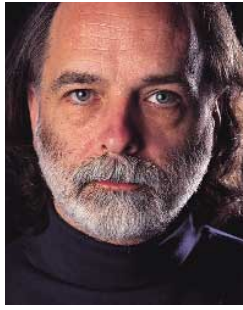
Regardless of all this, many of you will doubtless race to the Internet to download as much pirated music as possible. Real music fans shouldn't read the next paragraph.

MacAmp will let you play MP3s through your computer speakers. Mpecker will strip the music out and create AIFF files that can be recorded on CDs using Toast. Then get a copy of Hotline, the premier software for accessing the dodgiest parts of the Net, where MP3s are traded like stamps. Except for Toast, it's all shareware. But you can find them yourselves – I'd better not aid your crimes any more.

So there's your choice. Be good or be bad. Just remember, downloading MP3 files will put thousands out of work – and could well turn Lemmy into the next Pavarotti.

Probably.

MW



Michael Prochak

The millennium bug means we're all doomed – so you'd better be prepared

Dearth race 2000

No major progress on the magic front just yet, but like one of those mythical acid flashbacks they've been promising us all these years, the Millennium Bug scare has now well and truly kicked in as everyone's worst nightmare. Out there, in the Valley of the Dumb, the old Yiddish proverb that says "If you want your dreams to come true, don't sleep", has been well and truly ignored.

Now the fat is in the fire and this is clearly a bad situation for anyone who chose to believe that it would be all right on the night. As we turn into the final stretch of the 20th Century, predictably, even the broadsheets have been full of panic and dire warnings from the government's own millennium bug task force, Action 2000, which is now telling us to stock up on emergency food rations in anticipation of shortages and potential social meltdown.

Despite repeated assurances that the bug will be ironed out, it's becoming increasingly clear that large numbers of government, utilities and corporate computer systems that control every aspect of our daily lives will simply not be ready for the turn of the century.

So, to avoid panic buying in the final weeks leading up to Christmas next, we're being officially advised to stockpile a judicious amount of surplus food with an odd assortment of biscuits, toiletries, long-life milk and, of course, water. Drawing out all your cash and converting it to gold or platinum is another option, and I hear that covert marketing of Swiss passports by swarthy little fat men with waxed moustaches is becoming a major growth industry. The SAS Survival Guide might make interesting bedtime reading, and I suppose we may even see a new edition of the *Anarchist's Cookbook*. If time wasn't so short, I'd probably consider writing a "Dummy's Guide to Surviving the Millennium". But since the dummies caused this mess to begin with, I don't see the point in doing anything that helps them survive.

Although to some extent, we are all victims of this delicious digital slime, it's refreshing to see that Apple has kept a sense of humour and has recently updated its Year 2000 compliance pages with an irreverent look at the whole Y2K problem. The page opens with a suitably smug line from Douglas Adams which proclaims, "We may not have got everything right, but at least we knew the century was going to end." In a darkly humorous side-bar of

interesting facts that accompany the page, Apple wryly notes that according to *Information Week*, the tab for the Year 2000 software fix alone will hit \$600 billion. That's enough to buy 461,893,764 iMacs at \$1,299 each, although if you placed such a large order, even Apple might give you a discount. That's enough iMacs to circle the globe four times, not to mention all the planes, trains, ships and 18-wheeler rigs needed to move this stuff.

At 38.1 lbs per iMac, you'd be hauling away a total weight of around eight million tonnes. That \$600 billion is also enough to buy iMacs for every man, woman and child in the United States, plus everyone in Australia, Belgium, Cambodia, Ecuador, Ethiopia, France, Greece and Guatemala. And you'd still have more than 3,000,000 iMacs left over to pass around as tips for all the delivery people, each of whom would have to make more than 150 door-to-door trips. Shame they won't run without electricity.

While we're all merrily stockpiling tinned tuna, beef jerky, Vienna sausages, dried beans and egg protein powder, or buying wood stoves for when the power goes out in mid-winter and sewers back up, taps run dry and, of course, martial law comes to a city near you, at least we can take a bit of perverse pleasure in the knowledge that many of those responsible for perpetrating this whole ugly mess are facing pay-back time as well.

A recent report by Arthur Andersen suggests that banks and other suit-tanks are being targeted by "crooked" consultants making millions from bill-padding for alleged work on the Y2K problem. And let's face it, they should know. After all, who positioned bean-counters as "experts" in IT in the mid-80s and offered expensive and exclusive "consultancy" services to banks, business et al? The large firms of slimy accountants. Who advised business to install the non-millennium compliant crap they're running at the moment? Large firms of slimy accountants. Who, apart from Bill Gates, should we blame for much of the looming Y2K apocalypse? Large firms of slimy accountants.

Let's face it, these guys are the ultimate seagull managers. They fly in, make a lot of noise, shit over everything and then leave. Unfortunately, blame never gets you anywhere and like it or not, a lot of these scum-bags will survive.

But as Coleridge said in the Rime of the Ancient Mariner, "A thousand thousand slimy things lived on; and so did I." Which reminds me, I've got a bit more shopping to do. MW

Even Microsoft is jumping
on the simplicity bandwagon

Desktop critic

DAVID POGUE is the author of the *Great Macintosh Easter Egg Hunt* (Berkely Books 1998). He also wrote *Macs for Dummies*, fifth edition, newly updated for Mac OS 8, *The Weird Wide Web* (IDG Books Worldwide, 1997) and *The Microsloth Joke Book* (Berkeley, 1997).

Easy PC for Gates

Shortly after the iMac became the numero uno jaw-dropping record-smasher of all time, a funny thing happened. People began to believe that it's a whole new breed of machine – not a Mac, not even a computer, but some kind of cool-looking, super-simple Internet appliance. One stranger after another emailed me: “Are you going to write *The iMac for Dummies*?” I'd reply: “You don't need such a book. *Macs for Dummies* has everything you need.”

And they'd write back: “Oh, too bad. Well, maybe the bookstore has something on iMacs.”

I'd sit there dumbfounded that Apple's marketing has been so effective in convincing the public that the iMac is something utterly new. (And believe me, it's been a long time since anyone used the words “effective”, “Apple”, and “marketing” in the same sentence).

But come to think of it, the iMac isn't the only startling (although delightful) marketing phenomenon we've witnessed lately. How about the PalmPilot? This gadget is neither the cheapest, smallest, nor the most-featured handheld computer – yet it commands 65 per cent of all palmtop sales, trouncing even Microsoft's PalmPilot look-alikes. Other palmtops have colour screens, built-in modems, keyboards, PC Card slots – but not the PalmPilot. Have consumers lost their minds?

Not a bit. The iMac and the PalmPilot are both winners in a contest that many manufacturers don't even realize they're playing: the simplicity war. The iMac's success isn't based on price alone (plenty of Wintel boxes are cheaper still), nor on speed (plenty of Macs are faster), nor on its looks, great as they are. The one thing it's got over all other personal computers is the simplicity factor. In this regard, Apple's ads hit the nail on the head: you literally take this thing out of the box, plug it in, and turn it on.

Now *that* people can understand. The iMac comes closer than ever to the appliance Steve Jobs has dreamed about making since 1984. With any other computer, consumers must face the fear of the unknown (and the fear of assembly). But the iMac sets up like a cordless phone.

Simplicity has more than emotional pay-offs, though: it also confers terrific technological benefits. The iMac has no SCSI jack – iMac owners will never have to experience

the headaches of termination, SCSI IDs, and cable maths. (Indeed, no cables at all snake out from behind the machine – the phone and keyboard cables are the only ones that protrude, and they come out of the much more accessible side of the iMac. Why did it take the computer industry 20 years to think of that?)

Similarly, the PalmPilot, in its sweet greyscale way, runs for two or three months on a pair of AAA batteries – compared with the 15 to 20 hours you can get out of a colour Windows CE palmtop.

And because its operating system is so compactly designed, the software programs available for it are models of stability and concise coding. A 75K PalmPilot application is considered a behemoth.

In other words, there's a simplicity backlash in this world and clever tech companies are making millions from it. But wherever there's money to be made, one company is sure to show up to feed at the trough. Guess who?

“Simplicity is now a jihad at Microsoft,” spokesman Greg Shaw told *US News & World*

Report. Bill Gates himself is

leading the charge. After Windows

gave him a typically ridiculous error message (“The DHCP client could not obtain an IP address”), he pounded out a

14-page memo outlining the company's new simplicity campaign, and emailed it to all Microsoft executives.

Now that's news; “Microsoft” and “simplicity” have never appeared in the same week before. Has Microsoft finally realized the error of its bloated ways? Has it finally recognized the value of tight, streamlined coding that serves a focused purpose? Nah. Call me cynical, but excuse me: where was Microsoft's aversion to software bloat during the years when it was selling us 150MB software? Sounds like Microsoft, having watched its products approach end-stage featuritis, has realized that there's only one way it can keep selling us upgrades: by starting to remove the layers of complexity it's spent the last 15 years piling on. What a strategy! You know what? It can't lose. No matter; I applaud simplicity in technology wherever it may be found.

Besides, I can't criticize Microsoft for trying to capitalize on the simplicity movement – my latest book, *The iMac for Dummies*, just came out.



Macworld reviews

MACWORLD RATING	★★★★/9.0-10.0 = EXCELLENT	★★★/7.0-8.9 = VERY GOOD	★★/5.0-6.9 = GOOD
	★★/3.0-4.9 = AVERAGE	★/0-2.9 = POOR	
MACWORLD POLICY	At Macworld, we don't think our readers should have to worry about whether ratings are based on a real product or a prototype. Therefore, we simply don't rate products unless they are real, shipping versions – the products we rate and review are the same products you end up buying.		

Macworld

Impressive upgrade to Web page-layout tool



Dreamweaver 2.0

Publisher: Macromedia

www.macromedia.com

Distributor: Computers Unlimited (0181 358 5857)

Pros: Goes further than any other Web-site creation tool; suitable for a very wide user range; fab new templates feature; XML support; automated rollover-button creation.

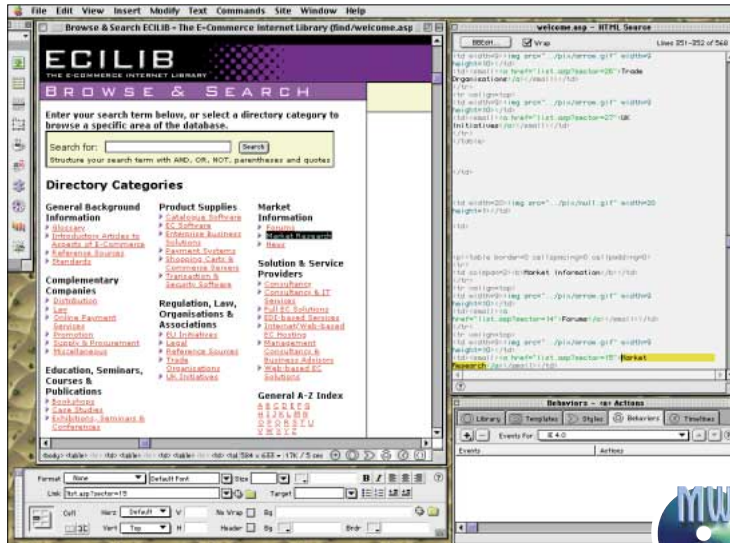
Cons: Silly interface elements; table editing could be better; slow on anything but a G3.

Price: £299 ex VAT (includes BBEEdit 5.0); upgrade £99 ex VAT.

Star Rating: ★★★★★/9.3

When Dreamweaver first appeared, it immediately set new standards for HTML-authoring tools, and we all got terribly excited about features like round-trip HTML (wow, it doesn't screw up my coding!), Dynamic HTML with animation (the MD's photo really swoops into place!) and simultaneous editing of source code and visual previews (hey, you do the creative bit, while I get to be tag-geek of the day).

However, after a little use on live projects it became clear the program wasn't immune to version-one disease, the main symptom being a set of hot, high-end tools you'll rarely use, built on a shaky foundation where the stuff you need every day doesn't quite come up to scratch. It's hard for software companies to avoid infection, because when it comes to workaday tools



Order from chaos

Version 2.0 of Dreamweaver uses tabbed palettes that can dock together, leaving much more room on the desktop for the essential dual-view of WYSIWYG preview and raw HTML.

A 30-day trial version is available on this month's cover disc.



and techniques, it's only by thorough user testing and repeated redesigns of a program's infrastructure that you can really get it nailed down.

Cutting-edge features

And so, on to version 2.0, where Macromedia has addressed some of the important, underlying issues while maintaining the drive for new high-end features. The result is a startling achievement: it acts as an efficient workhorse for the essentials of Web production, and incorporates so many cutting-edge features that even the most accomplished Web designer will find themselves salivating and counting the hours of new-found freedom it'll give them to, well, surf the Web instead of building it.

It's not an unqualified success, though.

The program is still rather clunky when it comes to displaying and editing tables – the bricks and mortar of most Web-page structures – and Macromedia has goofed on some essential elements. For example, there is no way to specify the default filename that the Web server will load from a subdirectory, and so if links point to a subdirectory name instead of to a file name, Dreamweaver thinks the link is broken. Also, Macromedia is stubbornly sticking with a graphical user interface that is counter-intuitive (full of silly icons instead of sensible labels) and fails to match the clarity

and neatness of its other programs.

Macromedia has added around 40 major new features, many of which will make a real difference to the production of typical, professional Web projects. The additions fall into five areas:

- **Templates:** one of the most impressive additions, it's now possible to save any page as a template file, designating specific areas of the page as editable by either selecting the area in the page preview or, for more precision, selecting the start and end points of the editable HTML source code.

When a new page is based on the template, the user can only edit the designated areas. This is clearly an essential feature in production environments where the design of a site must be separated from its daily content changes, or in scenarios where a freelance designer needs to come up with site files that will be further edited inhouse by people who get nervous around HTML.

- **Page-design enhancements:** Dreamweaver now lets you convert Dynamic HTML layers into vanilla-HTML tables, so you get the best of both worlds: design your page using multiple layers, slide them around until they look ideal, and then set the design into tables using a single command (as long as the layers aren't overlapping). As Dynamic HTML is struggling to gain ground in the real world (even Microsoft's own Web site rarely uses it), this is an excellent tool for designers who want to maximize browser support without compromising the creative process.

The program also lets you place a 'tracing layer' under a page design, to help you match the design to a sketch (the layer doesn't appear in a browser), and has an eyedropper that converts a colour from anywhere on the desktop (even underlying applications) to its nearest Web-safe equivalent. What's more, Dreamweaver now has a tool for placing rollover-effect buttons, so tackling one of the most widely demanded Web-page effects.

- **Improved table editing:** while this feature is still less than ideal (tables are slow to create, clunky, and often fail to reflect the browser view within Dreamweaver's WYSIWYG work area), Macromedia has worked hard to make tables sortable, easier to format (including a set of preset formats, à la MS Word), and with context-sensitive menus that give you direct access to key table, row and cell attributes.

- **Site management:** tell Dreamweaver where the root folder of your site design is on our disk, plus the full URL of the site you're designing, and it automatically

creates a full-site diagram, manages links automatically, and has a site-wide search-&-replace feature to rival BBEEdit 5.0 (reviewed page 51). These tools combine to make Dreamweaver a more attractive option for sites, rather than just for individual pages.

■ **High-level HTML/XML and JavaScript support:** Dreamweaver's complete standards support now incorporates XML and a thorough knowledge of client-side JavaScript/JScript behaviours as well as server side scripts such as ASP and Cold Fusion. Its support for XML will be particularly handy as the language – which allows the user to define their own tags and associated page settings – is expected to gain ground in the coming year.

Macworld's buying advice

Producing a Web-page creation tool is a thankless task: you have to please everybody from the one-person Internet department, right up to hard-core programmers looking for ways of extending their skills onto the Web. Dreamweaver is, frankly, the only tool that can cut it across this wide

swathe of users. For undemanding users the program works elegantly as a drag-&-drop page creation system, but it doesn't force Web-design professionals into a restrictive interface aimed at protecting beginners from making howling errors. In fact, with its template system, it's a perfect tool for letting a Web pro create an underlying design, and then letting a site editor loose on page-by-page construction without having to worry that they'll tinker with the carefully dovetailed designer HTML.

With its incredibly powerful high-end tools, not to mention price, Dreamweaver 2.0's natural market is clearly the non-beginner. But if you're at all interested in extending your Web skills then it's worth splashing out, even if you're currently at sea with JavaScript, Dynamic HTML and XML. The only user who can sensibly ignore it is the genuinely casual Web-page producer, for whom a simple, completely stress-free tool like PageMill would be a better buy. Everyone else should grab the free, 30-day trial version from this month's cover CD.

Ian Winter

Obscure but fun Photoshop filters



Kai's Power Tools 5

Publisher: MetaCreations

www.metacreations.com

Distributor: Computers Unlimited (0181 358 5857)

Pros: Great interface; engaging; can produce some spectacular images.

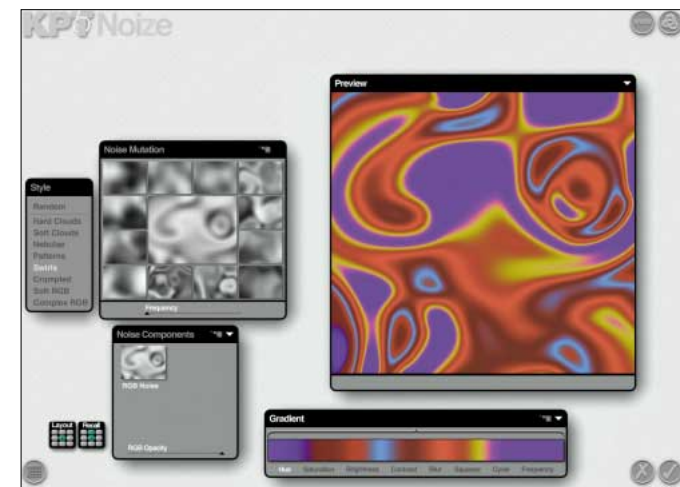
Cons: Obscure nature of some filters means they may lack useful application in actual design.

Price: £129 ex VAT; upgrade price £65 ex VAT

Star Rating: ★★★★★/7.2

Adobe's open plug-in architecture has led to the development of many outstanding third-party Photoshop filters. Kai's Power Tools is certainly one of the best, and has developed an almost fanatical following among designers, encouraging new ways of thinking about visual imagery and turning user interface design on its head, and the release of version 5 looks set to continue in the same vein.

At first glance the interface is unmistak-



Bring the Noize

The new Noize filter is an enhanced version of the generic noise filters in Photoshop, but can produce textures and images that are a lot more interesting.

ably Kai Krause, but considerably cleaner and less cluttered than in version 3. Gone are the confusing organic backgrounds and bizarre property palettes; in comes new, more legible drag-able editing windows, more consideration of screen real estate, and neat, easy to manage controls. Despite this, getting results is still more a case of experimentation and random knob twiddling, than formalized documentation and tutorials, and, as ever, the new interface demon-

strates a good understanding of the dynamics of computer power. As in version 3 for example, an image being manipulated appears in relatively small viewing windows and that means speedy real-time previewing.

KPT 5 introduces a new set of filters that in their own way are every bit as indescribable as the filters in version 3. Much of the emphasis is on fractal imagery with three filters dedicated to creating and

Reviews continues page 48

exploring the otherworldly, and entirely fascinating, area of fractal geometry. Most familiar will be the FraxPlorer, which lets user design Mandelbrot-set style fractal images, or morph them in to the class of fractal shapes known as Julia Sets. Users can zoom in on areas of the fractal, exploring the infinite complexity of these quite amazing images or define colour cycles to create some of the most psychedelic visions imaginable. KPT FraxFlame is similar to KPT 3 texture explorer, in that it lets you explore and mutate images along a number of criteria. The fractal patterns it produces look like a cross between fine spider's webs and exploding gas nebulae. The other fractal-based filter, KPT Frax4D, is even more difficult to describe. It essentially lets you create a 3D-fractal sculpture and then wrap this to any environment map to produce, well, fractal blobs – these are actually 3D slices through 4D fractals! All of the fractal filters are beautiful to

look at, and great fun to play with, but you have to question their usefulness to the average designer. Thankfully, the seven other filters are more conventional – relatively speaking of course. Blurr for example, is an extension to the standard blur filters in Photoshop and gives several new dithers and effects, and the related Smoothie adds a Gaussian-blur filter to soften edges and then automatically clips them to clean up the image. KPT Noise filter is also an enhanced version of the standard Photoshop 'Noise' filter and produces mathematical models of turbulence to create noise patterns that can be applied across any image. Such patterns can also be used as texture maps in other filters and can produce some really excellent effects. In a similar vein, FiberOptix is a filter that adds noise to images in the form of fibres that resemble hair or fur. Each fibre is rendered individually as a 3D object and you have full control over colour, lighting effects, growth, orientation and

shape. If you've ever wanted a hairy text effect – then this is the filter for you! Other noteworthy filters include KPT Orb-it, which creates a field of spheres over any background image, RadWarp that distorts images with a distinctive 'fish-eye' lens look, and KPT Shapeshifter that simplifies the process of creating bevels, drop shadows and glows around objects.

Macworld's buying advice KPT 5 is a great set of filters that will provide inspiration for a new generation of designers, but you have to question their usefulness. Filters such as Frax4D are fun to play with, but it's difficult to envisage real-world design applications of 3D cross-sections of 4D fractal images. The ability to animate and output the content as a QuickTime movie – available in the KPT Interform 3.0 filter in KPT 3 – would have helped considerably. Despite this, KPT 5 is peculiar, irreverent and very interesting – a worthy inclusion to your Photoshop filter set. **Neil Jones**

Gain speed from an easy upgrade



Vpower PM4400 G3/240

Manufacturer: Vimage
www.vimagestore.com

Distributor: Channel Dynamics (0870 607 0540)

Pros: Easy installation; hefty speed boost.

Cons: Slower than the 233MHz Power Mac G3.

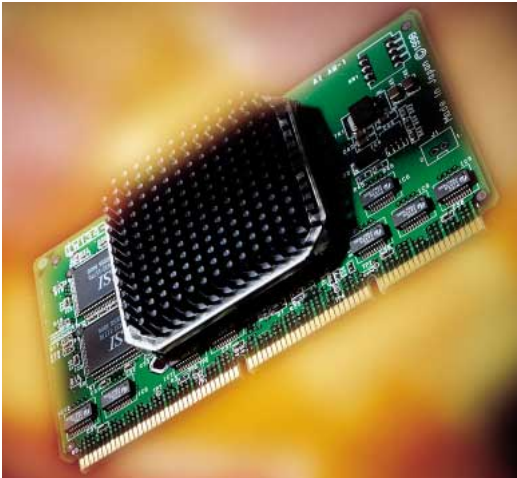
Price: £389 ex VAT

Star Rating: ★★★★★7.5

When Apple waved goodbye to the clones, it left behind a legacy of Macs with sketchy upgrade options. Now owners of the Power Macintosh 4400 and Motorola's StarMax series can beef up their machines with a Vimage Vpower PM 4400 G3/240 upgrade card.

The Vpower PM4400 G3/240, a 240MHz CPU with a 512K Level 2 cache, installs in the cache slot of the 4400, replacing any existing cache module. Since these Macs represent a generation of machines that didn't house the CPU on a daughtercard, Vimage created an upgrade card for the cache slot. Unlike other G3 upgrade cards, the Vimage card doesn't have any software controls for tweaking the cache-to-bus ratio. The card also lacks hardware switches – it operates at a fixed frequency.

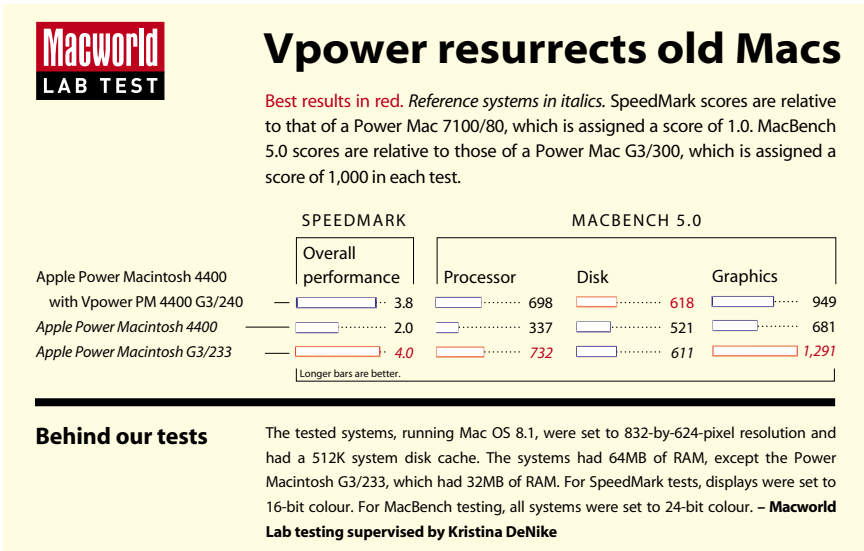
Macworld Lab tested the Vpower card in a Power Mac 4400, and based on the results, other models using Apple's Tanzania architecture should work equally well. MacBench 5.0 and SpeedMark tests



system bus of the 233MHz G3 Power Mac.

The real speed gain was confirmed in informal real-world tests. In Adobe Photoshop, the upgraded Mac gained about 25 per cent over the unaccelerated machine and was up to 63 per cent faster in some image-processing tasks. For more speed, check out the £675, 300MHz version of the Vpower card, with a 1MB Level 2 cache.

Macworld's buying advice The Vpower PM4400 is a stable upgrade. Keep in mind, though, Apple's statement that third-party upgrade cards will not be officially supported under Mac OS X. It will be the card manufacturers' responsibility to provide any necessary fixes. **Jeffy Milstead**



Filter effects for Photoshop



Xenofex

Publisher: Alien Skin Software

www.alienskin.com

Distributor: Principal (01756 704 444)

Pros: High-quality filter results; good effect editability; excellent television and paper-crumpling effects.

Cons: Over-fussy interface clouds usability; some lightweight effects; no multi-layer previews.

Price: £89 ex VAT. *Demo on this month's cover CD.*

Star Rating: ★★★★★8.4

Complementing Alien Skin's already-popular Eye Candy 3.0, Xenofex is a collection of 16 plug-in filters for Photoshop and compatibles, giving you access to special effects that either add new objects to your image, or distort the existing pixels for realistic or creative results.

Thanks to the multiple sliders available for each of the effects, the results for any one filter can be very diverse, which makes them hard to categorize. However, Xenofex's filters can broadly split into four groups: those that 'mangle' the image in some way; those that project the image onto a 3D plane; those that create new objects in the image; and finally some ultra-creative effects which will rarely be used.

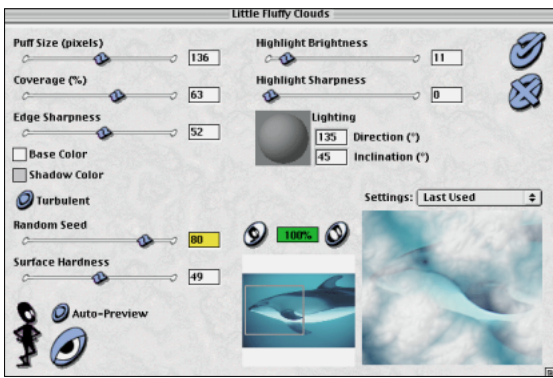
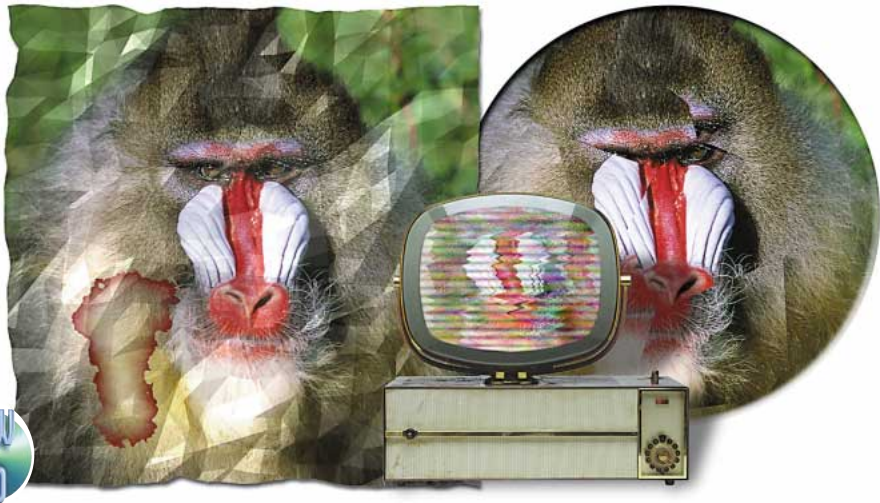
The manglers

Seven of the 16 filters are concerned with adding dirt, distortion or taking other approaches to alter the clarity of the image, but with reference to real-world distortions.

For example, the Crumple filter makes your selection appear as if printed on a ruined surface, whether it be scrunched-up paper, melted plastic or a softly perturbed tissue paper. The Distress filter deals with the edge of a selection, making it look torn, worn or otherwise eroded. The rather weedy Origami filter adds a set of fold-lines to a selection, with each surface between folds being a solid colour, while the excellent Shatter and Shower Door filters are concerned with making the image appear as if viewed through shattered or frosted glass.

A particularly good filter is Stain, which builds a stained area in the shape of your selection – should you need a coffee spill or wine splash, this is ideal. Finally, there's the Television filter, which is the first time there's been a worthy alternative to Deep Devices' freeware RetroScan filter. As its name suggests, Television filters the selection to make it look as if it's displayed on a TV screen, with the interface allowing you to vary scanline thickness, static, ghosting, image break-up and even the curvature of the screen.

Three Xenofex filters project images onto a 3D plane. Baked Earth alters the image to make it appear as if it is on a cracked, parched surface. As such, this filter



Above: four-way split
This mandrill has gone through four Xenofex filters: the Crumple filter makes it appear to be printed on bunched-and-unfolded wax paper; the Stain filter has been used to insert the wine splash at bottom-left; the Television filter produced the on-screen image; and the Shatter filter distorted the image as if viewed through a broken window.

Left: cloud control
Like Eye Candy, Xenofex gives you fine control over a filter's effect, with a good sized (but unfortunately only single-layer) preview window.

treads the same path as several others, although it gives you a great deal of control over the process. The Flag filter will prove extremely useful: it distorts the image into a fluttering flag or banner shape, adding appropriate highlights and shadows to suggest the material that the flag is made of. While the shape of the flag is hard to adjust, the resulting effect is very realistic.

The Puzzle filter, as its name suggests, projects your image onto a jigsaw-puzzle grid, with options to alter the number of pieces and the depth of woodcut.

Creating new image elements

Four of the filters paint new elements into your selection. The Electrify filter creates sparks and electric arcs around the edges of your selection, giving the impression that it is emitting electricity, while the Lightning filter paints glowing arcs across your selection. Again, this has all been done before, but Xenofex adds a great deal of control to the process.

The Little Fluffy Clouds filter adds well-rendered clouds, mist and other atmospheric effects, with presets for options such as storm clouds, billowing smoke and transparent fog. Combine this with heavily antialiased selection areas and you have a powerful tool for adding weather effects to your image.

The last object-creation filter is Rounded Rectangle. This creates bevelled "buttons", with good control of button height and bevelling quality, but is a disappointment in that the bevels are only in the shape of rounded rectangles: it doesn't create

buttons in the shape of your selection, and the bevel-edge can only be a plain curve. For a more powerful tool, you'll have to use Eye Candy 3.0's bevelling filters, or just use Photoshop 5.0's excellent layer effects. Rounding up the count to 16 are the Constellation and Stamper filters. The first breaks up the image into widely-spaced dots, and the second fills your selection with repeat patterns of the current or newly-loaded image. Neither gives you very much real control over the result, and the results are so idiosyncratic that they will rarely be used in practice.

Macworld's buying advice

Alien Skin clearly leads the field when it comes to quality distortion effects for Photoshop, and Xenofex has all of the company's trademark features: radical new effects, well thought out presets, and an interface that encourages experimentation (albeit at the expense of absolute clarity – it's often a mystery what a particular slider does until you try it and wait for the slow update of your image thumbnail).

Xenofex shouldn't be regarded as an upgrade for Eye Candy; it has fewer filters, and is less mainstream than Eye Candy. If you're looking for your first set of filters to add a little zip to your Photoshop work, then Eye Candy remains the best buy, but if you want to progress further, or have a particular need for one of its new filters, then Xenofex is an outstanding collection: sometimes nutty, sometimes straight-laced, but always inventive. **Ian Winter**

Reviews continues page 50

Graphics accelerators



ix3D Mac Rocket

Manufacturer: iXMicro
www.ixmicro.com
Distributor: Principal Distribution (01756 704 444)
Pros: Good software bundle; video-out port.
Cons: Mediocre performance; no game RAVE support.
Price: £155 ex VAT
Star Rating: ★★ ★/6.8

ix3D Pro Rez

Manufacturer: iXMicro
www.ixmicro.com
Distributor: Principal Distribution (01756 704 444)
Pros: Hefty software bundle.
Cons: No game RAVE support; mediocre performance.
Price: £205 ex VAT
Star Rating: ★★ ★/6.5

Vision3D Pro II Lite

Manufacturer: Mactell
www.mactell.com
Distributor: Channel Dynamics (0870 607 0540)
Pros: Blazing speed; RAVE game support; inexpensive.
Cons: RAVE support is not complete.
Price: £229 (8MB) ex VAT; £145 (4MB) ex VAT
Star Rating: ★★ ★★/7.6

In our search for the fastest pixels in the West, we tested three new 2D/3D accelerators: iXMicro's ix3D Mac Rocket and ix3D Pro Rez, and Mactell's Vision3D Pro II Lite. Both iXMicro boards use the company's TwinTurbo 128-3D graphics chip. The £155 Mac Rocket comes with 4MB of RAM and includes composite-video- and S-Video-out ports. The £205 Pro Rez comes with 8MB of RAM. On the Vision3D, Mactell uses Number Nine's Imagine 128 Ticket to Ride chip. We tested the card with 8MB of RAM (£229); a 4MB version costs £145.



ix3D Mac Rocket (left),
ix3D Pro Rez (middle)
and Vision3D Pro II Lite.

All of these cards are noteworthy because – unlike game-specific 3D accelerator cards such as Micro Conversions' Game Wizard – they accelerate 2D and 3D graphics routines, including those used in 3D modelling programs. Mactell gives a brief nod to game acceleration by implementing portions of Apple's RAVE 3D game-acceleration libraries, but iXMicro ignores game-specific 3D completely. None of these cards are intended for primary use as 3D game accelerators.

With all three cards, installation is a piece of cake: just pop open your system and pick an empty PCI slot. The cards all include easy-to-use software installers.

For the most part, the companies' video-control software worked as advertised. iXMicro includes a generous software bundle with each board. Mac Rocket features a full version of Kai's Photo Soap from MetaCreations. Pro Rez includes Photo

Soap plus two other MetaCreations packages, Bryce 2 and Expression.

When we put the cards through our test suite, Mactell's Vision3D was the runaway winner. In 2D tests, it was much faster than the G3 Power Mac's built-in video, and it was slightly faster than the G3 in 3D tests. The ix3D Pro Rez and Mac Rocket were only a hair faster than the G3 in 2D performance. In 3D tests, the iXMicro boards were slower than an unaccelerated G3.

Macworld's buying advice

Of the three boards tested, the Vision3D Pro II Lite wins based on performance, price, and RAVE support (albeit limited). However, it would be unfair to completely dismiss the iXMicro boards. They won't do much to accelerate 3D graphics, but they will boost 2D graphics performance, especially on pre-G3 Macs.

Cameron Crotty

USB version of popular storage format



Iomega Zip 100 USB

Manufacturer: Iomega (0800 973 194)
www.iomega.com
Pros: The most popular removable format.
Cons: Colour is more Chelsea than Bondi blue.
Price: £100 ex VAT
Star Rating: ★★ ★★/8.1

As soon as the iMac was introduced, hardware manufacturers picked up the translucent theme and ran with it. The most recent peripheral to hit the shelves is the Iomega Zip 100 USB, the popular super floppy.

Resplendent in its translucency, there's one thing wrong with the new Zip colouring. It's not iMac Bondi blue, it actually makes Bondi blue look quite green by comparison. I know it shouldn't matter – at least to your average computer user – but I can't help thinking that colour will be more important to an iMac owner. Thankfully, the demise of SyQuest means we won't ever see the SparQ for the iMac. Thankfully that is, not because it was useless, but its translucent red case would have clashed terribly.



Another aspect of the demise of SyQuest is that it narrows the choice of removable media types. While this is sad for SyQuest, the decision to choose Iomega technology is now simpler. The only other real competition is the SuperDisk from Imation (see iMac Reviews, December 1998) a similar super-floppy drive. Compatibility is the main issue when choosing a removable drive, and both the SuperDisk and the Zip have their good and bad points.

The Imation drive holds 120MB and can read floppy disks. The Zip holds 100MB, and while it doesn't read floppies, it's a more widely-used format. So the choice boils down to either a need to use

old-fashioned floppies, or a need to be more compatible with other high-capacity disks.

The drive itself is the same as any other Zip, the only difference is the USB connections. Iomega has thoughtfully included a transparent USB cable that will match the iMac cables. The unusual thing about USB, as opposed to SCSI, is that the thin connectors are more reminiscent of ADB, in fact you can plug your Zip into the keyboard if you like.

Don't worry about the comparative slow speeds of USB. The Zip wasn't noticeably slower than the SCSI version, though large file transfers will make the difference more apparent.

Macworld's buying advice

Despite its not-really-Bondi-blue appearance, the USB Zip is the first mainstream removable format available for the iMac. The SuperDisk isn't available in a SCSI format, so you'll only be compatible with other iMac SuperDisk users, whereas Zip is widely used on both regular Macs and PCs, so it offers great compatibility. This makes it about the most useful USB device around.

David Fanning

Impressive upgrade to HTML/text editor

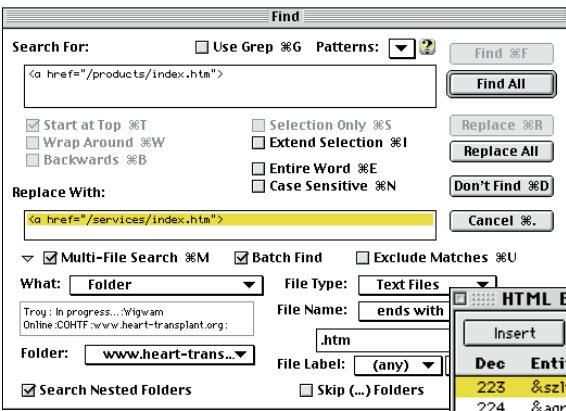


BBEdit 5.0

Publisher: Bare Bones Software
www.barebones.com
Distributor: Full Moon Software (01628 660 242)
Pros: Ideal tool for the HTML-literate; superb search-&-replace, HTML-markup and syntax-checking tools.
Cons: Users must already know HTML; would benefit from more conventional WP features; no WYSIWYG previews within BBEdit; poor table construction tool; few JavaScript aids.
Price: £86.50 (or £57 upgrade from BBEdit Lite) ex VAT. A save-disabled, full version of 5.0 is available on this month's CD.
Star Rating: ★★ ★★/8.8

BBEdit is a text editor geared towards programmers in general and, increasingly, towards HTML coders in particular. It has gained broad usage thanks to its thorough implementation of HTML tags, excellent glossary commands for inserting commonly-used code, and (my personal favourite) its superb multi-file search-&-replace tool that lets you modify in seconds a tag, image size or any other item across all of the files in a Web site.

If your idea of Web design is to drag



Super search
This innocuous-looking dialogue is one of BBEdit's key strengths, allowing you to search all of the files in a folder and all of its subfolders (even an entire disk) for text, and replace it with a revision. BBEdit can rattle through a few thousand typical HTML files in a couple of minutes.

Show some character
BBEdit 5.0's HTML Entities palette is a quick way to insert those pesky European characters into a document. Unfortunately, the program doesn't convert the keystrokes on the fly.

page elements into a WYSIWYG interface and muck around with the result until it "looks OK", then BBEdit definitely won't be your cup of tea; but if you prefer to see the raw HTML scroll before your eyes, and you don't get uppity when somebody calls you a programmer instead of a designer, then you'll definitely like this little gem.

New on the BBlock

At first glance BBEdit 5.0 doesn't look substantially different to version 4.5: a big coding window, a huge floating palette of HTML tags, and a toolbar only vaguely related to the kind of thing you'll see in a word processor. But Bare Bones has made substantial changes under the skin.

Underpinning the entire program is a brand new HTML syntax checker that

updates BBEdit to HTML 4.0 standards and, at the same time, introduces a couple of handy tools: with the cursor anywhere within an HTML tag in your code, hitting Command-M opens the Tag Maker, which lists the valid extensions for that tag, while hitting Command-Option-M opens the Edit Tag dialogue, which gives you all the basic options for the tag (including JavaScript continues page 52



Faster pixels?

Best results in red. Reference system in italics. Scrolling scores are relative to those of a Power Macintosh G3/300 with 128MB of RAM, which is assigned a score of 1.00. Frame-rate scores indicate the number of frames per second. MacBench scores are relative to those of a Power Macintosh G3/300 with 64MB of RAM, which is assigned a score of 1,000.

Video card	2D ACCELERATION				3D ACCEL.		MACBENCH 5.0	
	Word scroll	QuarkXPress scroll	Photoshop scroll	Commotion frame rate	Walker frame rate	Graphics	Publishing graphics	
iXMicro ix3D Pro Rez	1.05	1.24	1.48	29	12	1,354	1,585	
iXMicro ix3D Mac Rocket	1.03	1.29	1.51	29	11	1,371	1,627	
Mactell Vision3D Pro II Lite	3.89	1.52	2.06	34	17	3,153	1,991	
Apple Power Macintosh G3/300 built-in video	1.00	1.00	1.00	39	14	1,369	1,607	

Behind our tests

All cards were tested on a Power Macintosh G3/300 with 128MB of RAM with the display set to 1,152-by-870-pixel resolution. For detailed information on our methodology, see www.macworld.com/tests/. – Macworld Lab testing supervised by Gil Loyola

MacDrive 98 2.1 offers the same integration into Windows. Unlike MacOpener, however, MacDrive does not support Windows 3.1. But it has several nice utilities that MacOpener does not.

For example, it can identify Mac files' creator and file types, which is handy when you are trying to update the extension maps in Mac-disk-mounting software, in cross-platform networking software, or in the Mac OS's PC Exchange. Another handy utility lets you copy Mac disks from your PC's drives.

On Media4's Web site you'll find several utilities that remap special symbols between Mac and PC files to correspond to the different locations where these symbols occur in Mac and PC font files.

Except for these small differences, the

two programs are incredibly similar. The extra utilities in MacDrive give you more options, but if you use Windows 3.1, you should go with MacOpener.

Conversions plus

The newest version of DataViz's Conversions Plus is not a major upgrade. It adds Microsoft Office 98 for Mac file formats to its translation list of word processing, database, spreadsheet, and graphics formats; integrates into Microsoft's Outlook 98 email manager; and has the nifty Attachment Opener, which decodes various compression formats (MIME, UUencode, and BinHex) popular for Web and email files.

However, most people on both platforms are using Microsoft Office, and most modern programs import from and export

to competing formats. Programs with Mac and PC versions almost always read each other's files without translation.

If you deal with people who use outdated formats such as WordStar, you'll want Conversions Plus, but otherwise, consider if you can handle translations with your current programs' import/export options.

The Attachment Opener utility may be appealing, since there are still occasional mismatches between browsers, mail clients, and compression utilities (such as Stuffit and WinZip) that require manual decoding of file attachments.

Macworld's buying advice

You can't go wrong with MacOpener or MacDrive, but avoid Conversions Plus unless you really need it. **Galen Gruman**

Industrial-strength 3D animation tool



ElectricImage 2.8

Publisher: Electric Image

www.electricimage.com

Distributor: BIT (01420 83811)

Pros: Fast, high-quality rendering; excellent texture controls; robust file-format support.

Cons: No modeller; no texture-map previews in scene views.

Price: £1,995 ex VAT

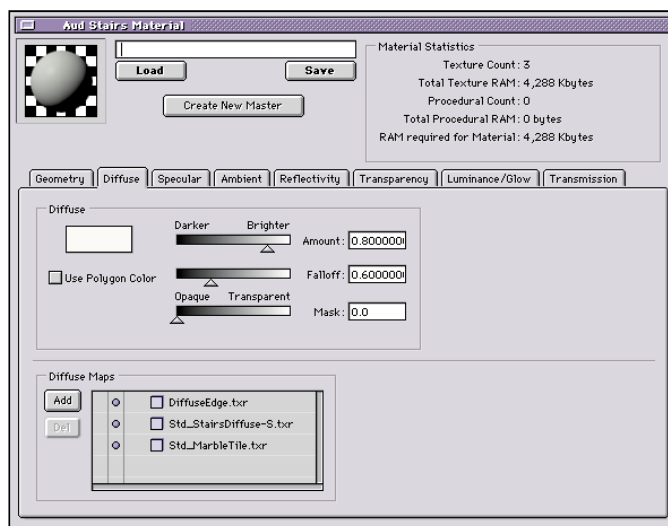
Star Rating: ★★★★★/7.7

With a vast number of major motion-picture and broadcast special effects to its credit, ElectricImage has established itself as the state-of-the-art 3D graphics program for the Mac – even if it does cost more than most CPUs. The latest version still lacks an integrated modeller, but with version 2.8's new features and tweaks of existing ones, ElectricImage remains the best Mac-based rendering and animation tool for production professionals.

Relief in changes

The ElectricImage interface's many improvements will be welcome to longtime users. For example, the new Selection Set feature lets you group subsets of object parameters, a critical addition for managing scenes with large numbers of objects and textures. Grouped objects can now have bones that lets you deform them, an important feature for making characters walk and move.

You get two flavours of morphing. One requires the source and target objects to have the identical polygon and vertex count. The more-powerful and -flexible multitarget polygon morphing lets you select subgroups of polygons for morphing, a crucial feature for facial animation.



New in your face

ElectricImage 2.8 has a significantly overhauled interface, including a much improved Materials Editor.

ElectricImage's animation controls still define the standard for Mac-based 3D graphics and include a new Function Curve Editor, which delivers extremely fine control over advanced keyframe and animation parameters.

Texture handling has received perhaps the most attention in this upgrade, bringing it up to truly professional standards. You can apply an unlimited number of texture maps per object; advanced texture caching handles memory overflows that would plague lesser rendering environments. Displacement mapping allows an imported greyscale image to distort an object's shape, yielding amazing special effects. For example, you can animate the displacement amount to have one shape "grow" out of another. (Displacement mapping is different from bump mapping, which adds the appearance of surface deformations without changing the object's geometry.)

The texture-map interface has been overhauled and is much more straightforward than in previous versions. New procedural textures – such as woods, stones, and rust – are a welcome addition, but they still pale in comparison with those found in MetaCreations' Bryce 3D.

However, ElectricImage cannot preview texture maps in its working windows. The program does not support OpenGL or QuickDraw 3D, either of which would permit limited texture previews.

Rendering has been speeded up, although by how much varies, depending on polygon counts, volumetric lights, and texture settings. A new depth-of-field capability adds to realism by automatically applying specific levels of blurring as objects recede from the camera.

ElectricImage is available in separate editions for film and broadcast production. The broadcast edition is limited to supporting video resolutions; the film version supports the higher resolutions used in motion pictures.

Macworld's buying advice

If you bill serious money for rendering and animation work, ElectricImage can pay for itself in a professional production environment. It's not for the casual 3D artist, but those who need the power of ElectricImage know who they are and will definitely want this upgrade.

David Biedny

Reviews continues page 56

Classic rhythm synths in software



ReBirth RB-338 2.0

Publisher: Steinberg

www.steinberg.net

Distributor: Arbiter Pro Audio Group (0181 970 1909)

Pros: Sounds and operates like the real thing; customizable.

Cons: Not much easier to program than the real thing.

Price: £149 inc VAT; upgrade £39 inc VAT.

Demo available on this month's CD.

Star Rating: ★★★★★/7.8



Flashback

ReBirth provides digital versions of old rhythm synthesizers that would otherwise cost you a small fortune.



What's old is new again. Just ask the folks at Volkswagen or fans of analogue synthesizers. Those old instruments that musicians gladly abandoned are now considered classics and are highly prized. And just like the new Beetle, these instruments are beginning to reappear, in this case as software. One such creation is ReBirth RB-338 2.0, from Propellerhead Software (marketed by Steinberg), an application that mimics three of Roland's venerable rhythm synths: the TR-808 and TR-909 drum machines and the TB-303 bass module.

Granted, those model numbers probably mean nothing to you. The sounds are

familiar, though – just think of the drum machine in Phil Collins's *In the Air Tonight* or the bass and drum tracks in any of today's house dance mixes. ReBirth is a remarkably convincing imitation of Roland's rhythm boxes. Not only are the sounds virtually indistinguishable from those of the original but the software versions also look, and for the most part operate, just like the Roland machines.

As with its analogue counterparts, you develop ReBirth songs – by creating and stringing together a series of short drum and bass patterns – the old-fashioned way. On the TR-808 and TR-909, you select a tempo, start recording, and assign different

drum sounds to buttons that represent 16 sixteenth notes. For example, to create a boom-chick-boom-chick bass and snare pattern, you assign the bass drum to buttons 1 and 9 and the snare to buttons 5 and 13. The two TB-303's can also be programmed in this manner or by step-recording-assigning a pitch to a sixteenth note, clicking on the Step button, and then assigning the next pitch to the next sixteenth note. This process so closely mimics the old ways that it may seem tedious to those accustomed to creating riffs with modern MIDI sequencers.

While remaining faithful to the sound and design of the original machines, ReBirth adds several modern-day goodies. For instance, in Song mode, you can twiddle any of ReBirth's many tone controls in real time and record that twiddling – change a sound's tuning and resonance over time, for example. And using an included program called ModPacker, you can plug your own sounds into ReBirth as well as create a custom interface. You can also export your ReBirth tunes as AIFF or WAV files.

Macworld's buying advice

ReBirth is an outstanding achievement, both aurally and visually. Modern musicians who missed out on the analogue years and are interested in the sounds of yore should give ReBirth a long look and listen. And if you're like me and tossed the analogue gear ages ago, maybe you're ready for the sound to be reborn. **Christopher Breen**

Solid media management



Portfolio 4.0

Publisher: Extensis

www.extensis.com

Distributor: Computers Unlimited (0181 358 5857)

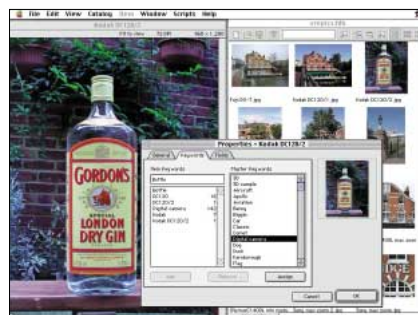
Pros: Basic HTML publishing; scalable to client/server use; good value; scripting.

Cons: Clunky keyword features.

Price: £129 single user; £529 five users; £1,249 server with five clients; upgrade for single user £49. All prices ex VAT.

Demo available on this month's CD.

Star Rating: ★★★★★/8.3



Assign keywords

In Portfolio 4.0 you can create an unlimited number of keywords and assign any combination of them to the assets in your catalogue.

and displays 'galleries' of search results.

Portfolio 4.0 can now act as a standalone application for single users running on Power Macintosh or Windows platforms, with both supplied in the same box. The standard version can run as a client to the far more expensive Portfolio Server 4.0. Canto Cumulus 4.0, Portfolio's chief rival, is available in Desktop (£149 ex VAT) and Desktop Plus (£499 ex VAT) single-user forms, plus a client/server version (server with five clients £1,995 ex VAT).

Four levels of access privilege can be assigned, from viewing-only to full administration. Portfolio 3.0 databases can be viewed, but need to be converted to version 4.0 format to gain full functionality.

The new version adds scripting through

AppleScript events to automate repetitive tasks such as background cataloguing, publishing content to other production tools, and generating static HTML pages. XPress templates can be automatically filled with images and text from a Portfolio catalogue.

By publishing catalogues via a Web server as simple, static HTML pages (containing multiple thumbnails and record names), they can be accessed locally or globally with no need for the Portfolio server. However, you'll need to use CGI scripts to carry out true database searches. Portfolio 4.0 can also assign URL links to individual records, so clicking on them takes you to an online location.

The new version now recognizes more than 30 file types, and can preview most of them at full size (provided the original volume is mounted) without running the original application.

The keyword features are somewhat improved, and can automatically extract file and path names as keywords, but personally I prefer the fast and easy hierarchical folder metaphor used by Canto Cumulus to assign records into common groups.

Macworld's buying advice

Portfolio 4.0 is a sound product and good value, but take a look at Canto Cumulus 4.0 before you finally make your mind up which one to use. **Simon Eccles**

Reviews continues page 59

This latest incarnation of the program once known as Aldus Fetch adds basic Web-friendly functions, optional client/server operations, scripting, slideshow presentation, and improved cataloguing, keywords, viewing and presentation functions.

It's billed as an 'asset management' application, which basically keeps track of multimedia files, including stills, movies, sounds, layouts and text. Records can be added to catalogues by drag-&-dropping individual files or whole folders. It creates thumbnails, assigns searchable keywords,

Competitively priced graphics tablet



Creation Station Pro

Manufacturer : CalComp

www.calcomp.com

Distributor: Art Systems (0115 943 1404)

Pros: Good-size tablet area; programmable mouse; attractive price.

Cons: Poor build quality; no software bundles.

Price: £210 6-x-9 inches; £285 12-x-12 inches; £440 12-x-18 inches. Prices ex VAT

Star Rating: ★★☆☆/7.0

The big brother of the Creation Station (reviewed in December 1998), the Creation Station Pro is aimed more at graphics professionals, compared to the home-user orientation of its smaller sibling. The essential concept – that of a pen-based graphics tablet and a cordless mouse – remains the same, but the Pro version offers a larger active area in three sizes (6-x-9; 12-x-12 and 12-x-18 inches).

The tablet's construction is of a decent quality, with a transparent overlay sheet that can be used to place items – up to



0.25 inches thick – under for tracing.

There's another overlay strip at the top of the tablet, which can be used to place a custom logo or other graphic design. It's unusual however, that a tablet of this size doesn't have a menu strip of programmable function areas. Instead CalComp provides popup Hotkeys that allow you to program any number of functions.

The pen and the mouse are the same as those supplied with the Creation Station. Unfortunately, their design leaves much to be desired. The pen in particular compares badly with the ergonomically designed Wacom Intuos pens, although it permits 512 levels of pressure and has two barrel

buttons as well as the tip, all of which can be programmed.

The mouse becomes much more useful with a larger area to move over, and with five buttons is highly programmable.

The TabletWorks software is identical to the that shipped with the Creation Station and offers a high degree of user customization – although forgetting the need to press the Apply Mapping button after changing the mapping settings left me confused for a while. Another excellent feature of the Creation Station Pro is QuickScroll, which lets you scroll around in an application without resorting to the scrollbar. Unlike the standard version however, Creation Station Pro doesn't come with any third-party software.

Macworld's buying advice

The Creation Station Pro is a more suitable choice for professional graphics users than its smaller sibling. While there are better tablets available, CalComp is certainly very competitive on price. The Creation Station Pro is a great choice for users who want a better input solution than the standard mouse, yet have a limited budget.

Martin Gittins

Pricey monitoring utility guards well



PageSentry 2.5

Publisher: Maxum Development

www.maxum.com

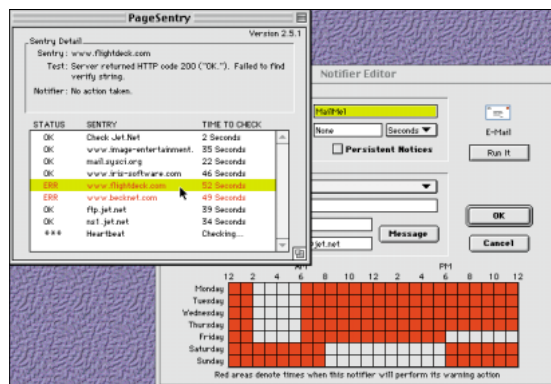
Distributor: Full Moon Software (01628 666 084)

Pros: Multiple protocol support; scheduled notifications; periodic status summary; AppleScript support.

Cons: Expensive for more than ten sentries.

Price: £99.50 – standard version up to 10 Sentries and 10 Notifiers; PageSentry Pro up to 100 Sentries and Notifiers £263.50. Prices ex VAT.

Star Rating: ★★☆☆/6.9



Watchful eye

PageSentry monitors multiple TCP/IP servers simultaneously and generates multiple notifications when servers go offline and online.

A 30-day trial version of PageSentry 2.5 is available on this month's CD.

Webmasters often rely on customer complaints to tell them that the company home page is off the air. PageSentry 2.5 watches your servers for you – from your office or from across the Internet – automatically notifying you by email or alpha page when problems arise.

PageSentry is a small application that can run in the background of any Internet-connected Macintosh. It comes with a well-written user guide, online documentation, and some sample AppleScripts for use with pagers or remote power-control devices. You configure a list of probes – called sentries – that periodically test specific protocols on specified servers, and a list of people to notify by either email, pager, or Apple event.

PageSentry then quietly checks your servers for proper operation, emitting notifications when servers become unreachable or respond incorrectly, and then when they return to normal operation. A handy status display lets you see problems at a glance.

The program includes numerous perks. For example, you can probe servers using HTTP, FTP, SMTP, Telnet, AppleShare IP, DNS, and arbitrary TCP/IP streams and configure multiple notification techniques – email, alpha paging, or AppleScript. Included are AppleScripts for Mark/Space Softworks' PageNow, Ex Machina's Notify, and Sophisticated Circuits' PowerKey Pro. The PowerKey AppleScript lets you automatically reboot a nearby server when PageNow finds

it unresponsive. You can schedule and customize notifications to occur only during certain time periods, to automatically repeat, and to wait a predetermined interval before sounding the alarm. These features combine to make PageSentry easy to configure for even complex monitoring chores.

PageSentry has no obvious technical faults, and the affordable entry-level package lets you configure up to ten sentries and ten notifiers. Alas, the next-larger PageSentry package costs nearly three times as much, entering the range of full-

fledged network monitors. However, although PageSentry performs some of the functions of a full-blown network monitor, its feature set is not as complete.

Macworld's buying advice

If you're monitoring just a few services on two or three servers, you won't go wrong with PageSentry's attractive price and good performance. However, if you need to monitor numerous services on several servers, you may want to consider spending a little more for a full-fledged network-monitoring tool, which can also report on performance over time in addition to performing other high-end functions.

Mel Beckman

World champ

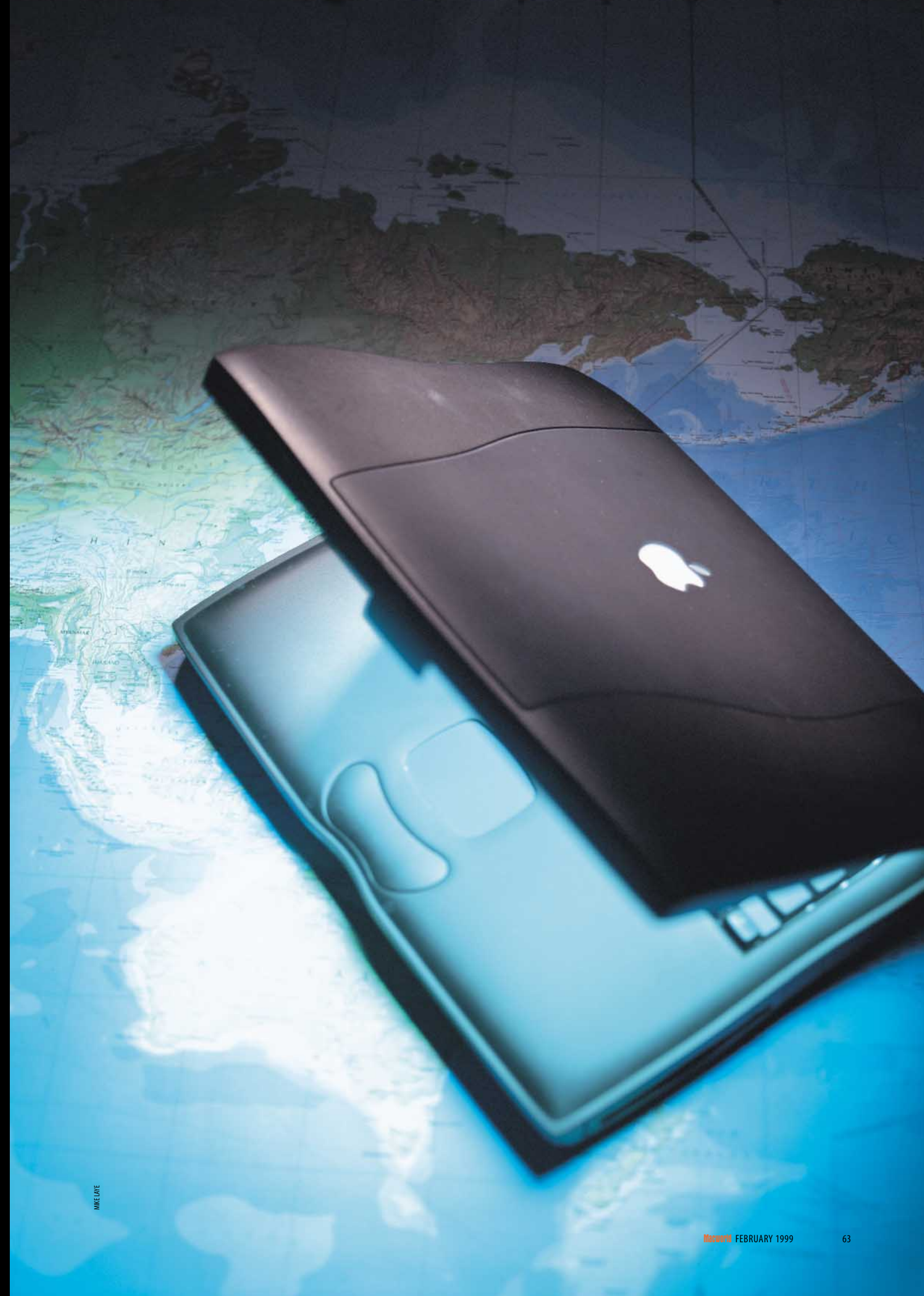
The PowerBook survival guide

FREEDOM is not a word most of us associate with the heavy-but-loveable Macs that sit on our desks surrounded by a tangle of papers and cords. But our PowerBooks are different. Sleek and mobile, PowerBooks are made to move. With one tucked under your arm, you can pick up your work and go. Anywhere, anytime.

Or can you?

Between batteries dying and heavy bags of equipment wearing deep grooves in your shoulders, travelling with a PowerBook isn't always a smooth ride. That's why we've assembled this PowerBook Field Guide, filled with expert tips; gear to fit your travelling needs; and above all, ways to keep sane and work smarter wherever the road takes you.

continues page 64



Survival skills

Expert PowerBook tips for when you're on the go.

By David Pogue



Road Warrior's Modem Saver Plus can keep your modem from getting fried by foreign phone lines.

Four ways to stay connected

The PowerBook is a vital tool because it keeps you in touch with your office and the rest of the world, no matter where you might be. Here are a few top tips to help you make the most out of your remote Mac connections – whether you're using your PowerBook in a hotel room or your own home.

1 Upgrade to Mac OS 8.5. With the latest update to the Mac OS, Apple has finally created great remote-access software. In this release, the PPP and Remote Access control panels have merged to become version 3.1 of the Remote Access control panel. This version lets you dial remote-access servers and Internet service providers with equal ease from the same interface. Better still, you can now connect to the Net – and even choose what number to dial – all from the Control Strip, with no control panels or helper applications necessary.

2 Get Timbuktu Pro. Netopia's (Principal, 01756 704 000) remarkable Timbuktu Pro 4.5 software (£149 for a two-user pack) is a must-have tool if you frequently dial in to

your office network from a remote location.

With Timbuktu Pro and either a TCP/IP or an AppleTalk connection, you can view the screen of any other Mac that's running Timbuktu. As a result, you can run applications that you didn't install on your PowerBook, search through email you left at the office, and more. But Timbuktu's not just for screen sharing: its file-transfer feature beats the Finder hands down when used over modem lines, making it the ideal tool if you want to grab those files you forgot to bring with you.

If you don't want to leave your computer on all the time (a necessity if you'll be using Timbuktu) but want it to be there when you need it, consider also getting a Power Box (£49 from Power Box 01202 310 510). The Power Box is a nifty gadget to power your external devices at the same time as your computer.

Simply hit the start key and as your Mac starts up it will turn on another socket to power your drives, modem, scanner or any other peripheral. This will also work if you set your Mac to start up at a particular time when you are not there. Then you will be able to remotely access your Mac, if you time it right.

3 Bypass Finder copies. If your file server at work runs AppleShare IP, you may be able to access it via an FTP client such as Dartmouth College's fab free Fetch 3.03 (www.dartmouth.edu/pages/softdev/fetch.html), Stairways Software's \$35 (£20) shareware Anarchie Pro (www.stairways.com), or Peter Li and Vincent Tan's \$20 shareware NetFinder (www.ozemail.com.au/~pli/netfinder) rather than having to mount it on your desktop. You'll be able to transfer files in a much speedier fashion – FTP uses less network overhead than is used in mounting Mac volumes and performing Finder copies.

4 Save your email on the server. If you use a POP email client such as Eudora Pro or Light from Qualcomm (www.eudora.com) or Outlook Express from Microsoft, be sure to set your preferences to leave mail on the server. If you don't, your PowerBook will delete every message after downloading it, leaving you no way to retrieve those messages and file them on your return. You'll ensure that your email in-box at work contains a complete copy of your correspondence. If you don't, you'll get a conspicuous hole in your email trail every time you head out on the road. – Jason Snell

With their G3 horsepower and gigantic screens, today's Mac laptops bring us closer than ever to the Holy Grail of portable computing: forgetting that we're not using a desktop computer. Unfortunately, one road trip will burst that bubble in a hurry, as you're quickly mired in low-battery warnings and connection hassles you'd never get with a deskbound Mac.

But don't despair. If you can find room in your bag for *Macworld's* collection of expert tips and tricks for the mobile Macintosh user, you'll be able to work in far-off places just as easily as if you were back at the office.

Pack it up, pal

Before heading off to the airport, your first task is to get your important files onto the laptop. You can do so the wired way, the quick way, or the space-age way.

Perform instant network hook-ups It's easy to hook up a PowerBook to another individual Mac: use a standard serial (StyleWriter) cable to create a tiny, Mac-to-Mac LocalTalk network, or an ethernet crossover cable (about £10) to create a much faster Mac-to-Mac ethernet connection without needing a hub or router.

Try superfast SCSI transfers If your files are big or your time is short, on the other hand, put your PowerBook into SCSI Disk Mode, in which your PowerBook impersonates an external hard drive

Off-roading without a Mac

Just because you're a hard-core Mac user doesn't necessarily mean you always lug a PowerBook around with you when you're out of the office. Sometimes it's simply impractical to tote one along. But if you've got a 3Com Palm III (or other Palm-family handheld organizer), you don't have to lose touch.

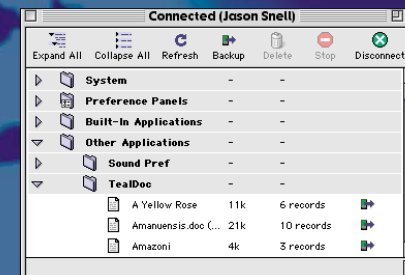
Quick and dirty If you've got electronic documents you want to read on the go without the inconvenience of paper, consider Florent Pillet's \$20 shareware Palm Buddy utility (<http://perso.wanadoo.fr/fpillet/>; see the screen shot "Palm pal").

Not only is this a great tool for backing up and installing files on a Palm device (without the hassle and overhead of 3Com's own HotSync software), but Palm Buddy can also automatically translate any text file into a document that is readable by any Palm-based Doc reader, such as the \$17 shareware TealDoc, from TealPoint

Software (www.tealpoint.com), or AportisDoc, from Aportis (\$30, www.aportis.com).

Mini-mail To keep up with email on a Palm device, you won't need anything faster than the 14.4 Kbps of 3Com's teeny PalmPilot modem. If you're on a budget, you can use Ian Goldberg and Steve Gribble's free Top Gun Postman (www.isaac.cs.berkeley.edu/pilot/), which downloads mail from a POP/SMTP server directly into the Palm OS's built-in Mail program. For more full-featured email, consider the \$40 MultiMail Professional 2.0, from Actual Software (www.actualsoft.com), or the \$50 HandMail 2.0, from Smart Code Software (www.smartcodesoft.com).

Dainty data At press time, 3Com had not yet released the much-promised version 2.0 of its Mac HotSync software (see "Mac's best friend," August 1998). But when that software does appear, Rob Tsuk's Jfile to FileMaker Conduit (www.tsuk.com/fmc/) will let



Palm Pal
A friendly drag-and-drop interface makes Palm Buddy a must-have utility.

you sync FileMaker databases with the \$20 Jfile from Land-J Technologies (www.land-j.com/jfile.html), a popular Palm flat-file database. That means you'll also be able to look up and edit flat-file databases in the palm of your hand.

– Jason Snell

for another Mac. To set this up, you need a special cable, such as the £45 dark-grey HDI-30 SCSI Disk Adapter cable from Apple (0870 600 6010). (Don't confuse it with Apple's light-grey HDI-30 SCSI System cable.)

Now open the PowerBook Setup control panel or (on 1998 and later models) the PowerBook SCSI Disk Mode control panel. Specify a SCSI ID for your laptop, 1 through 6, just as though it's going to be a scanner or another SCSI device. Finally, shut down both Macs, connect the far end of the Disk Adapter cable to your desktop Mac and the near end to your PowerBook, and turn on the PowerBook.

When you turn on the desktop Mac, the PowerBook's hard-drive icon shows up just as though it were an external hard drive. You can drag huge files back and forth, revelling in the speed of the copying.

Investigate infra-red beaming If you're not up for the hassle of dealing with cables and SCSI addresses, try the PowerBook's infra-red-beaming feature. The infra-red (IR) port, the dark translucent plastic plate on every PowerBook and iMac, sends and receives files from one Mac to another through the air, without a single cable connection. You can even retrofit an existing Mac with infra-red features by using a £50 Farallon AirDock; Principal 01756 704 000) Setting up your wireless Mac-to-Mac network is remarkably easy.

1 Open the Infrared control panel (if you don't have this control panel, skip to step 2). Choose either IRTalk, a Mac-only language that's a lot like LocalTalk, or IrDA, a faster, more universal networking scheme. (Both Macs set to use the same protocol.)

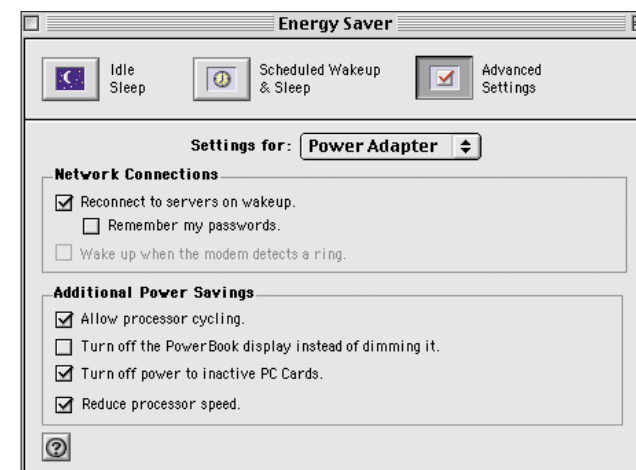
2 Open the AppleTalk control panel and choose Infrared Port from the pop-up menu.

3 Launch Apple IR File Exchange, a program in the Apple Extras folder on every PowerBook and iMac hard drive. Position the two Macs so that their transmitters face each other. Amazingly, any Macs in range show up as "drop-box" folder icons. Now just drag file or folder icons from your desktop onto the icons of the receiving Macs. When the progress bar indicates that the job is done, the recipient should open the Apple IR File Exchange folder. Inside is a folder named IR Receiver – which contains whatever data you just beamed through space.

Unlike traditional Mac file sharing, IR doesn't require setting up passwords, registered users, or levels of access. You might call it don't-plug-&-play.

A battery of power savers

Once you're out the door, you may quickly discover that your PowerBook's "three-hour" rating is an exercise in sheer optimism. For



G3 slowdown

When battery power is more important than horsepower, use Energy Saver's Advanced Settings panel to slow down the works.

better battery mileage, try these tricks:

Work dimmer, not harder If you can work with your screen at half brightness, you'll add 20 minutes to each battery charge; your backlight is one of the laptop's biggest power consumers. Also turn off AppleTalk while on that plane or train; it, too, saps away power unnecessarily.

Exercise spin control A spinning hard disk is one of the PowerBook's biggest power guzzlers; a non-spinning one, on the other hand, uses almost no power at all. If you run your laptop off a RAM disk, as described in the sidebar "Double your battery life," your battery can last four hours or more.

If the RAM-disk approach is a bit much, at least use selective spin control by pressing control-shift-0 (zero) to chill your hard drive when it's overactive. Do so promptly after saving your work, for example, to prevent the hard disk from spinning pointlessly for 15 more minutes (or whatever period you've specified in the Energy Saver or PowerBook control panel).

Choose disk-shy apps For additional spin control, favour programs that don't access the hard disk very often. Microsoft continues page 66

Location, location, location

Few things are more frustrating than settling down with your PowerBook and realizing that before you can check your email, you've got to change the settings in a half dozen control panels.

That's why Apple created Location Manager, a powerful tool that lets you change dozens of preferences with just one click. It's quite tricky to set up, but once you have properly configured Location Manager, you can finally stop tinkering with settings and get to work.

How it works

Location Manager is a lot like the Extensions Manager control panel: you can create different sets, or collections of preferences, and turn them on and off in one fell swoop instead of one at a time. Using Location Manager 2.0 (a part of Mac OS 8.5), you can remotely control AppleTalk, TCP/IP, printing, Extensions Manager, File Sharing, Internet preferences, Modem settings, Remote Access settings (including dial-up phone numbers), your time-zone settings, and even the volume of your PowerBook's speaker. (Previous versions of Location Manager offer a more limited amount of control.)

Just because you can control all of these

settings doesn't mean you'll want to. Based on your particular situation, you may need to control only a handful of these items. If you use a PowerBook both at home and at work, you might want to create a different set of AppleTalk and TCP/IP settings for each locale, as well as a different default printer and a separate set of Internet preferences. If you travel frequently, you may just want to create settings for your most common destinations – complete with each city's time zone and the local number for your Internet service provider.

No matter what you use your PowerBook for, chances are good that Location Manager can save you time. That's why it's worth it to take the time to get to know more about it.

Step 1. Getting started

To begin, open Location Manager (see the screen shot "Home base") either directly from the Control Panels list in the Apple menu or via its Control Strip panel (an icon that looks like two sets of preference files joined by a pair of red arrows). Use the File menu to create your first new location. If you've already configured your PowerBook for a certain place, it's important that the first location set you create includes all these

preferences – otherwise you might lose them when you create another set.

Step 2. Describe your preferences

Location Manager refuses to work with any preference named Default, so you must open all the control panels you plan to modify with Location Manager and give your preference settings descriptive names. The method involved is the same for the AppleTalk, TCP/IP, Remote Access (which integrates the pre-OS 8.5 Remote Access and PPP control panels), and Modem control panels: choose Configurations from the File menu (see the screen shot "Get set"), click on Rename, and give your settings names like Work Ethernet TCP Settings or Remote Access 800 Number. The Extensions Manager and Internet control panels have a more intuitive interface for creating and managing multiple sets of preferences via pop-up menus.

If you want to be extra-safe, hit the Export button and export your settings to files. That way, if anything bad happens to your settings, you'll still have a copy you can import later using the Import button.

Step 3. Create a location

Now you're ready to create your first location. Location Manager learns settings by picking up whatever ones are currently active and storing them away. If you've got things just the way you want them, you should be able to click on items one at a time in the Settings area of the Location Manager window and click on Apply to add that setting to your location. If you need to make changes, click on the Edit button, and Location Manager brings up a dialogue box that lets you open the control panel you need to edit (see the screen shot "The springboard").

When you're making changes to settings, remember to be extremely careful. Location Manager works by remembering the name of the configuration setting you use in a particular control panel, not the actual setting itself. If you open the Remote Access control panel, replace your user name, password, and phone number, and close the

window, saving your changes, you've overwritten your previous settings and there's no way to get them back.

Before you make any changes, be sure to create a new set of preferences. In the TCP/IP, AppleTalk, Modem, and Remote Access control panels, you do that by choosing Configurations from the File menu, clicking on Duplicate, giving this new setting a descriptive name, and clicking on Make Active. Now you can make all the changes you need to.

When you've finished changing settings in a control panel, you close it, and Location Manager reappears. Now when you click on the Apply button, your newly changed settings are added to the location you're editing.

Once you're done, you can create as many locations as you need to fulfil your travel requirements. For each new location, choose New Location (or Duplicate Location if the location you want to make is similar to an existing one) from the File menu (see the screen shot "Makin' location"). Then go through all the relevant control panels, make changes to your settings, and apply those changes to your new location.

Powerful possibilities

The least documented of Location Manager's settings – the Auto-Open Item setting – may be its coolest. It can instruct Location Manager to open files, applications, or other items whenever you select a new location. One of the best uses for this is to designate server aliases as Auto-Open Items so that server volumes remount automatically. By making an AppleScript an Auto-Open Item, you can also have your Mac perform customized tasks.

And whether you're using a Mac at home or on the road, if you share space on that Mac with other users, you'll find Location Manager a blessing. Since Location Manager can change your TCP/IP, Remote Access, and Internet settings at the same time, you can use it to quickly shift between different Internet accounts, right down to different

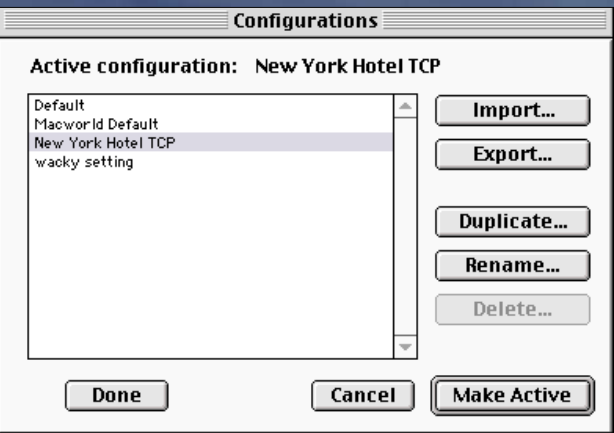
home pages and default Web browsers.

Caveat User Location Manager is quite powerful, but it could be both easier to use, not to mention more comprehensive. Although version 2.0 is an improvement on its predecessors, Location Manager is still one of Apple's uglier interface efforts. Switching locations is annoyingly accompanied by a pop-up window filled with scary streams of text and the occasional hard-to-comprehend error message.

Ideally, Location Manager should let users make changes to preferences without having to click through individual control panels (and without risking the accidental destruction of their settings). It should also be able to control more preferences, including power-management settings and perhaps even Mac OS 8.5's themes.

There's plenty of room for improvement, but as it is, Location Manager is quite useful today. If you have grown weary of wrestling with your PowerBook's settings every time you travel, you should invest the time to configure it now. Your effort will pay off further down the winding road.

– Jason Snell



Get set

Export, rename, and change settings from the Configurations window.



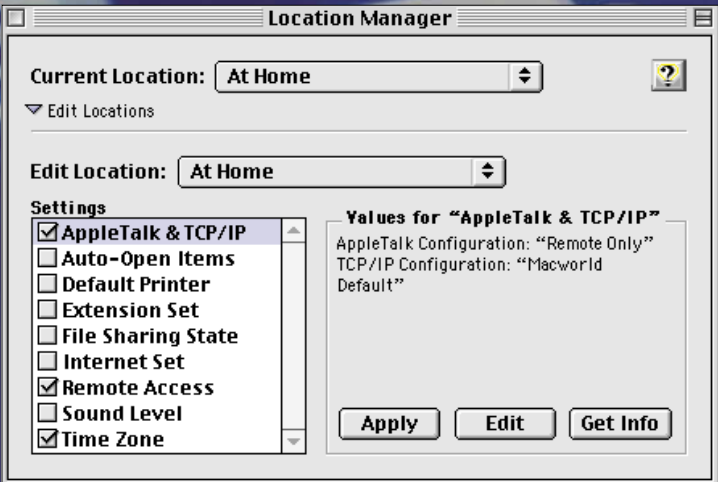
The springboard

From here, you can open control panels, configure them, and apply the result to your location



Makin' location

Be sure to make new locations so you don't destroy your old ones.



Home base
Choose which settings to change from Location Manager's main window.

programs, alas, are among the most disk-intensive. Instead, draft your speech in the \$70 Mariner Write from Mariner Software (www.marinersoft.com) or Apple's £99 ClarisWorks while on the plane.

Tweak your processor Your PowerBook offers several secret controls that can minimize its processor's energy use. On the newest PowerBook G3 models, these options are in the Energy Saver's Advanced Settings panel; on older laptops, open the PowerBook control panel and, while holding down the option key, move the Easy/Custom switch into the Custom position.

If you turn on the Allow Processor Cycling option, you'll permit your processor to rest between bursts of activity, saving juice (but making games and movies jerkier).

The option Turn Off Power To Inactive PC Cards (in the G3 series only) may eke out a few extra minutes by cutting off the juice to any inserted PC Cards such as modems or ethernet cards, although not

every card will be able to turn off when you choose. Finally, the Reduce Processor Speed option slows down even a G3 to a feeble 25MHz (see "G3 slowdown"). To be sure, this is a dire last resort – but when the battery warnings are coming up and all you're doing is finishing your speech, this option may be just the ticket.

Up in the air

A little strategic thinking goes a long way toward making your plane trip – and your airport time – PowerBook-friendly.

Sit smartly Savvy PowerBookworms ask for an exit-row seat; only then do they have enough tray-table room to open a PowerBook G3 all the way.

Seek outlets Your wait at the gate doesn't have to be fruitless thumb-twiddling time; power outlets lurk at every gate of every airport (and bus and train station, too). Use them. To find one, you

need to think like a janitor; these outlets are generally concealed on the side of a pillar, virtually never convenient to a seat. If your need for juice is stronger than your pride, you're really going to have to sit on the floor. Don't expect to find outlets when you're in the air. On some of the newer airplanes, there are power outlets right on the seats in first class – but you can use them only if you own the correct adapter (they're not standard outlets). You can usually find an outlet in the plane's lavatory, but we doubt that your fellow passengers would look favourably upon you if you commandeered it to use your PowerBook.

Sleep in the air A plane trip is a series of on-and-offs for the typical PowerBook: on for security, off for takeoff, on for the ride, off for dinner, and so on. Do what the pros do: never shut down your PowerBook. Instead, simply close the lid when you're not using the machine (or press -shift-0 [zero]), thus putting it to sleep. (Be sure

it's actually asleep, as indicated by the tiny blinking light on the case.) The next time you want to use your computer, all you have to do is press any key. For a speedier PowerBook wake-up, select Make AppleTalk Inactive from the AppleTalk On/Off Control Strip module.

The fact is, there's no good reason to shut down your PowerBook ever, unless you want to change its SCSI or monitor configuration, shelve it for days, or ship it. When you're not working, your PowerBook should be sleeping.

Surviving the hotel room

In some ways, arriving at a hotel is a welcome moment, since you can stop worrying about running out of battery juice. But in other ways, the hotel room presents its own challenges.

Print for free The first challenge – the lack of a printer – is continues page 68



Snap-on dock marks return of Duo functionality

G3 Series BookEndz

Manufacturer: Newer Technology www.newertech.com

Distributors: IMC (0181 358 5857) and AM Micro (01392 426 473)

Pros: No more tangling with wires every time you pick up your PowerBook.

Cons: You may need to fiddle with it to get it right for your setup.

Price: from £155 ex VAT.

Star Rating: ★★★★★/8.2

Not too long ago *Macworld* spoke about the new G3 PowerBooks taking the place of desktop models. This is a fine idea, but in practice there are some annoying drawbacks, namely cables. Attaching and detaching cables is an annoyance severe enough to discourage working on the road.

The solution to this is BookEndz, a desktop docking station for the G3 PowerBooks. It is a simple enough idea, very common in the world of PCs. A docking station, sometimes grandly known as a port replicator, holds all the connectors for networks, monitors, external drives, any peripheral that can be connected to a PowerBook. When you need to hit the road, simply slide your PowerBook out of the dock and you're mobile.

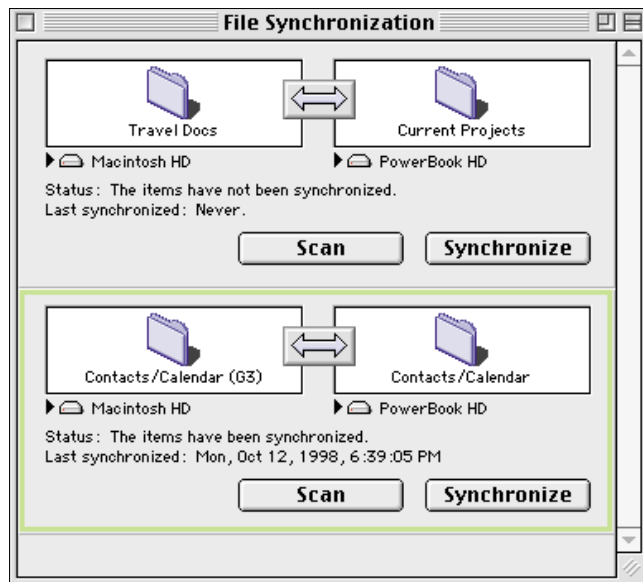
The BookEndz dock did seem a bit flimsy at first, but it doesn't need to be any sturdier. When you slide in the PowerBook the Newer logo on the top lights up. Somehow this made it seem more substantial. All the ports worked correctly but there was a small problem with the sound.

The way the dock arrives, it is configured to use external speakers and an external microphone. If you don't have these items then you must open the dock and move the corresponding connectors. If you don't do this your PowerBook will be silenced when docked. It is not a big deal to fix, it takes couple of minutes, more if you can't find your screwdriver. — **David Fanning**

easily surmountable. Using your PowerBook's fax modem, fax your printworthy documents to the front desk, addressed to yourself. Presto: fresh, crisp printouts. Moreover, most hotels these days use plain paper (not that curly fax stuff), deliver the fax to your door, and don't charge a penny. The front desk never needs to know that the fax originated in the same building.

Jack in safely Another traveller's hazard is the digital (PBX) phone jack, found in virtually every hotel room. Such jacks look exactly like normal (analogue) phone jacks — but if you plug your PowerBook's modem into a digital line, you could fry the modem for good.

Fortunately, the bedside phones in most modern hotels have a special analogue jack on the side, marked "Data" or "Dataport," into which you can safely plug your modem. (Don't forget to bring a



That syncing feeling

Don't let your travel documents get confused with the versions on your home

Mac — use the File Synchronization control panel to synchronize them with the click of a button.

generous amount of telephone cord with you.) If you worry that your hotel won't offer such a jack, travel with a digital-line converter, such as the £130 TeleSwitch Plus, from TeleAdapt (Teleadapt, 0181 233 3000). Or try another helpful tool — the \$30 Modem Saver Plus, from Road Warrior (www.warrior.com), which tests a jack for safety before you plug it in.

Simplify your set-up Once you've arrived at your temporary location, don't bother with the usual ritual of changing your PowerBook's clock to the new time zone, typing in the local Internet-access number, adapting to a different network setup, and so on. Instead, do all that with a single click, using the Location Manager (see the sidebar "Location, location, location").

Home again

After your travels, you've got one challenge left: returning your on-the-road documents to your desktop Mac without confusing them with previous versions.

Get in sync Synchronizing files is the whole purpose of the unsung but extremely handy File Synchronization control panel (called PowerBook Assistant before Mac OS 8.5). It helps you synchronize parallel folders on your PowerBook and your desktop Mac and makes the process drag-and-drop easy.

On either computer, drag a PowerBook folder onto one side of the control panel and a desktop-Mac folder onto the other. Then, whenever you click on Synchronize, the File Synchronization control panel makes sure that the two folders contain exactly the same set of files — the newest only.

(In the screen shot "That syncing feeling," you can see two different pairs of folders being synced.)

Zip through data transfers If you would rather avoid the hassle of networking your desktop Mac with your PowerBook after each trip, outfit your PowerBook with a £209 PowerBook Zip drive, from VST Technologies (from La Cie, 0171 872 8000; and DirekTek, 01494 471 100). This way, you can keep all your documents on a single Zip disk, which you transfer between machines before and after each excursion.

The last word, for now, on tips

Let's face it: simply carrying one of today's gorgeous, sleek, high-horsepower PowerBooks is enough to impress friends, co-workers, and passersby. But mastering the tricks of expert PowerBook use will let you venture farther. And isn't that the reason you bought a laptop in the first place?

Double your battery life

Frustrated by the short life of laptop batteries? Then replace your juice-guzzling hard drive with a disk that doesn't move and uses no battery power at all. That's the purpose of a RAM disk, a portion of memory the Mac treats like an additional (but extremely fast) floppy disk.

When you work off a RAM disk with your hard drive spun down, a fresh PowerBook battery can last four hours or longer per charge. The bad news is that setting up a RAM disk as your in-flight hard disk requires some dedication and effort, but the good news is that it's a one-time setup.

1 First, figure out how much disk space your RAM-disk contents will require — total the disk-space requirements of, for example, your word processor, your documents, and a stripped-down System Folder. (At minimum, a basic Mac OS 8.1 setup should include the following: System, Finder, PowerBook Enabler, Text Encoding Converter, Geneva 9-point, and the Appearance extension.)

2 Open the Memory control panel; turn off virtual memory and click on the RAM Disk On button. Move the slider to the right until it shows the size you calculated (or larger, if you can afford the RAM). Turn on Save On Shut Down or Preserve RAM Disk Contents so that you won't have to repeat this business later. Restart.

3 Now a RAM-disk icon appears at the right side of the screen. Copy your files — the mini System Folder, your word processor, and your documents — onto it. Also copy onto it an alias of the Startup Disk control panel.

4 Finally, use Startup Disk to select the RAM disk as the start-up disk. Restart again. (If the laptop doesn't boot, press 1-option-P-R during start-up to nuke the RAM disk and start over.) You'll be shocked at how fast your Mac now starts up — in about three seconds. At this moment, however, your hard disk is still spinning; you aren't getting any extra battery mileage until you complete the next step.

5 Drag your hard-disk icon to the Trash! The Mac warns you that you're doing something nutty; click on OK. (If the disk is still spinning or spins up unbidden from time to time, press --control-shift-0 [zero] to stop it cold.)

At last you've arrived at an amazing point. Your PowerBook is absolutely silent, runs about three times as fast as before, and uses very little battery juice. Everything on the RAM disk is safe, even if your laptop crashes, sleeps, or restarts. Only removing both battery and power cord — or shutting down without having used the Save On Shut Down option in the Memory control panel — obliterates your RAM disk.

To summon the hard disk back to the screen (to back up your document, for example), double-click on the Startup Disk alias on your RAM disk.

And to terminate your RAM disk, use the Startup Disk control panel to choose your hard disk, restart, erase the RAM disk, turn off the RAM-disk option in the Memory control panel, and restart again.

Road gear

Enhance your PowerBook with these essential extras

By Stephan Somogyi

The latest PowerBook G3 comes with almost everything a mobile Mac might need, but there are still situations when you require something more. If you have an older PowerBook that's still performing yeoman's service — and isn't in evident need of replacement — there's also a lot you can do to make your mobile work flow more smoothly.

Know your slots and bays

Sure, you know your PowerBook has interesting places for you to put expansion hardware, but you may not know all that these bays and slots can and cannot do.

The PowerBook bays were built to be flexible, but it's not always clear what hardware bits go where (see the diagram, "The lay of the land"). Take, for instance, the PC Card slots. Every PowerPC-based PowerBook has them, but depending on how old your PowerBook is, these slots can have different capabilities.

All PC Card slots can accept basic PCMCIA Type II cards, such as most modems. One of these cards can fit into each of the available slots. You can also fit a dual-height Type III card — such as a hard disk for a high-end digital camera — into any PowerBook with PC Card slots, although one of these bigger cards will take up both spaces.

The PowerBook G3 series, however, has particularly snazzy PC Card slots. These support the faster CardBus cards, which can move data at up to 132 MBps, compared with a standard PC Card's meagre 20 MBps. The trick is that although CardBus cards look almost identical to ordinary PC Cards, they're shaped just differently enough so that they won't fit into a standard PC Card slot. PC Cards, on the other hand, work just fine in CardBus slots. As a result, though, you

may not be able to use newer expansion hardware in all your PowerBooks.

Another flavour of PC Card that might discombobulate the unsuspecting PowerBook user is the Zoomed Video (ZV) card. ZV cards also look like standard PC Cards, but they're designed for processing and generating video data.

ZV cards need a ZV-capable slot — the bottom slot in G3 PowerBooks (as well as in the 3400-series PowerBooks). If you put it in the wrong place, the ZV card won't work.

Watching movies

If you're up in the air a lot, there's one obvious reason to add an extra piece of hardware to your PowerBook — so you can watch movies while you're on the plane. You'll need to get the PowerBook DVD-Video Kit from Apple when Apple finally releases it in March.

The DVD-Video Kit has three parts: a DVD-ROM drive, a ZV card that decodes the audio and video data on DVD movie discs for playback, and Apple's own DVD Software. The DVD-Video Kit's drive has an additional bonus: it can read DVD, CD-ROM, and CD-RW discs (a standard PowerBook CD-ROM drive can't read CD-RW).

Unfortunately, when we tried out Apple's DVD Software 1.0, we met a few rude surprises. If you don't take battery-saving precautions, such as setting the Separate Timing For Hard Disk Spin Down option in the Energy Saver control panel to five minutes or less, even a full battery won't last two hours. "No biggie," you say. "Just put the PowerBook to sleep and pop in a fresh battery." Right? Sadly, it's not so.

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The lay of the land

Before you buy expansion hardware for your PowerBook, it's good to know your way around its slots and bays. Here's a map of all the PowerBook G3's ins and outs.



If you're airborne a lot, there's one obvious reason to add an extra piece of hardware to your PowerBook – so you can watch movies while you're on the plane. You'll need to get the PowerBook DVD-Video Kit from Apple when Apple finally releases it in March.

Apple's DVD software can't remember how far into the film you are, which means in most cases you'll have to hunt manually through the movie for your place (some DVD titles support scene selection, which makes this a bit easier). This problem isn't related to the battery running out, either: the DVD Player loses track of the last-viewed spot on the disc anytime the PowerBook sleeps. A version 1.1 software update is geared to fix this problem, so by the time it does become available here most of these problems should be fixed.

Presenting with your PowerBook

Another reason to add to your PowerBook is if you frequently make presentations on the road and have the misfortune to own a first-generation PowerBook G3. A bug in the first revision of this model's motherboard (since fixed) makes it impossible to set the external video ports' resolution to 640-x-480 pixels – the standard many projectors expect. Help is £235 away in the shape of iXMicro's ix3D Road Rocket (Principal, 01756 704 444).

The ix3D Road Rocket is a CardBus-based video card, originally created to add support for a second monitor to the PowerBook. At the heart of the Road Rocket is the same accelerated 2D/3D chip set found in iXMicro's ix3D PCI cards. Its video performance isn't as high as that of the PowerBook's built-in ATI Rage Pro LT chip set. However, for the purposes of straightforward presentations, the difference isn't likely to be noticeable.

If you need the Road Rocket, you'll appreciate the fact that it works, but be forewarned – it's huge. It not only takes up both slots, but it sticks out a good two inches. This means you have to be careful not to corner too tightly when running through hallways, and you can't use a 100Mbps ethernet card or the DVD Kit's ZV card when the Road Rocket is installed.

Jacking into a fast network

The PowerBook G3 series' stock 10BaseT ethernet port meets most users' demands, but if you plan on connecting to a fast new 100BaseT network while travelling, you need a card to do so.

These new 100BaseT networks – which run at 100Mbps instead of "regular" ethernet's 10Mbps – are increasingly ubiquitous, and if you're moving graphics files around, the added bandwidth is a big help. Both Farallon and TDK have 10/100BaseT CardBus cards for PowerBooks that speak both 10BaseT and 100BaseT.

The £129 TDK Network Flyer 100 (0118 921 6230, www.tdksystems.com) card has a dongle – a connector between the card and the phone cable – that locks securely into the card. Unfortunately, this dongle doesn't have any indicators to show whether the network connection is live. Such telltales are priceless when you're trying to hook yourself into another net for the first time. Often, if you have trouble, the little lights help you figure out where the problem is.

In contrast, the £133 Fast EtherTX-10/100 CardBus Adapter from Farallon (www.farallon.com, Principal, 01756 704 444) has two LEDs on the network end of its dongle. One shows network activity and the other indicates whether the network is running at 10Mbps or 100Mbps – very handy.

Connecting far from home

The 56-Kbps modem built into the current PowerBook G3 is fast and flexible enough for most people, but if you venture far from land lines you may want to consider more untethered options. Also consider a new modem if you own an older PowerBook.

International modem issues What problems might you run into if you travel far from home? First off, while PowerBooks bought in the UK are likely to work internationally, they contain modems approved for use only in the UK.

Modems must pass BT requirements before they're approved for use in the UK, and by the same token almost all foreign countries have requirements.

Don't forget, like over here, in some places it's actually illegal to connect a non-approved modem to the public phone network. To get around all this, you need a modem that has been approved for use – and meets the electrical specifications – in the country to which you are travelling.

One possibility is 3Com's (0800 225 252) £169 Megahertz 56K Global Modem PC Card. More than 20 countries have formally approved this V90 modem for use. While it isn't specifically designed for the Mac, it works well in a PowerBook, thanks to the Mac OS's built-in drivers. However, you won't be able to access the modem's more advanced features unless you run the software in Virtual PC or another emulation program.

Cell-phone connections Just as modems lack one international standard, cell phones don't have standardized modem connectors. To send information out over a cell phone, you'll need a modem that explicitly supports these devices, such as 3Com's Megahertz 56K Cellular Modem PC Card with XJack connector. Unfortunately, this modem won't be available in the UK for a couple more months. This card has built-in support for cellular phones – on the edge of the card is a second plug for a dongle to connect to the cell phone.

Older PowerBook boosts The most apparent reason to get a



All software glitches aside, Apple's DVD-Video Kit can turn your PowerBook into a travelling entertainment centre.

new modem is if you own an older PowerBook. The newest PowerBook G3 has a built-in modem that supports the V90 modem standard, created to put an end to the 56-Kbps modem standard wars (see "Dial M for modem", *Macworld*, May 1998). However, you can't upgrade some earlier PowerBook modems to V90, which means you won't be able to connect to V90 ISPs or dial-in servers. The 3Com Megahertz 56K Global Modem PC Card and the Megahertz 56K Cellular Modem PC Card both support the V90 standard.

Fortunately for PowerBook users, the necessary drivers for PC Card modems are built into the Mac OS. That means unlike LAN cards – which require Mac-specific drivers – most PC Card modems, even those not formally aimed at the Mac, work when plugged into a PowerBook.

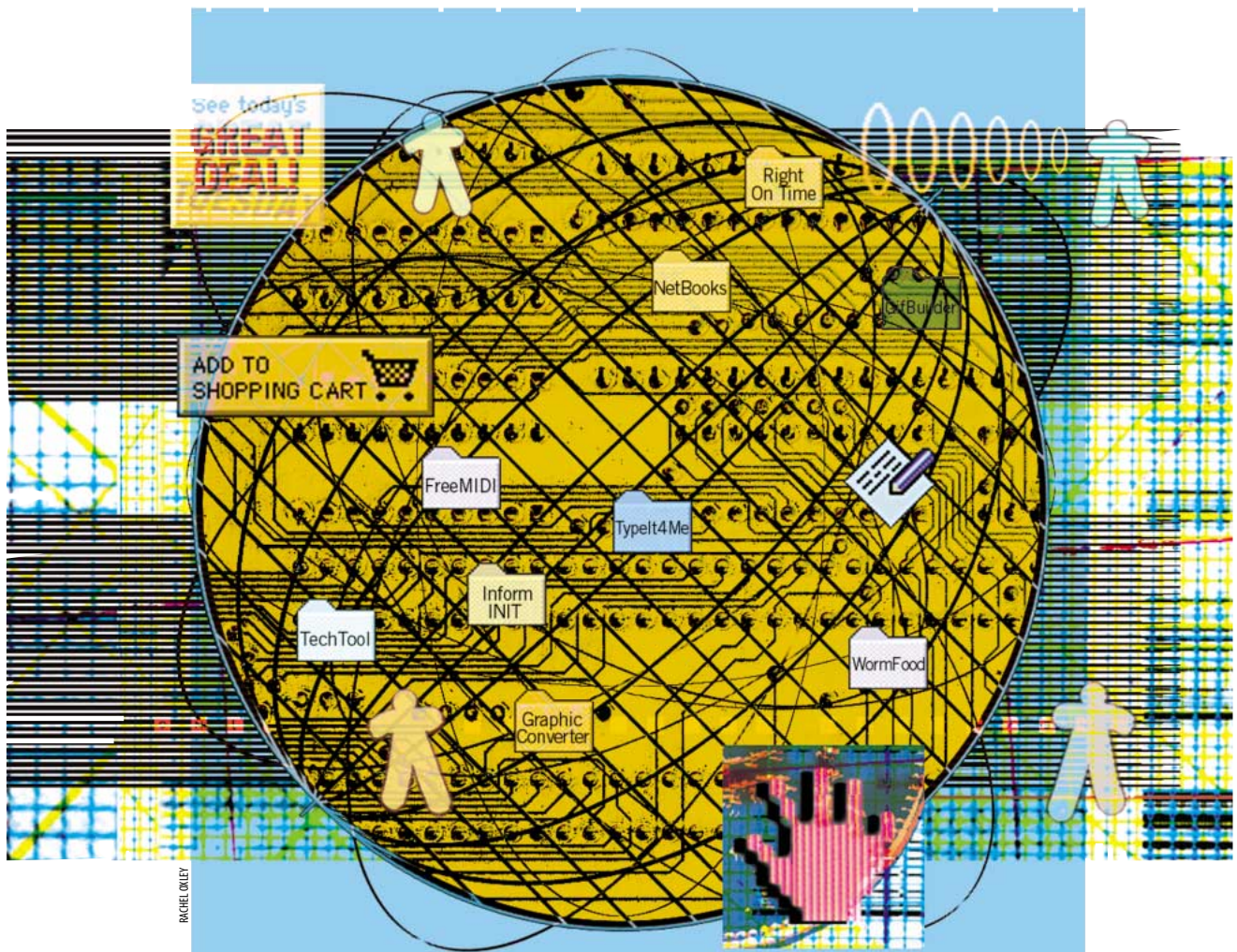
The last word

Thanks to its expandability, you can customize a PowerBook to suit most mobile computing needs. There are plenty of products designed for other situations you may find yourself in.

If you're lugging around loads of data, you can get a £209 Zip drive from VST (available from La Cie and DirekTek) that fits into the PowerBook G3's media bay. For video-heads, there's the £299 Kritter, from Par Technologies (available from AM Micro, (01392 426 473) – a small digital camera that you can connect to your PowerBook via a ZV card – as well as Par Technologies' £129 CapSure card for capturing full-motion analogue video. Soon you'll also be able to buy PC Cards with a USB interface so that you can connect to iMac peripherals.

Even today, PowerBooks aren't first-class citizens in the world of mobile peripherals. This is clear from the dearth of drivers for PC Card and CardBus network cards, and the lack of formal support from many PC Card modem vendors. Still, with the roaring success of the PowerBook G3, it shouldn't be long until more products are officially declared PowerBook-compatible. Then you'll have even more options to take with you wherever you may roam.

MM



Serious *shareware*

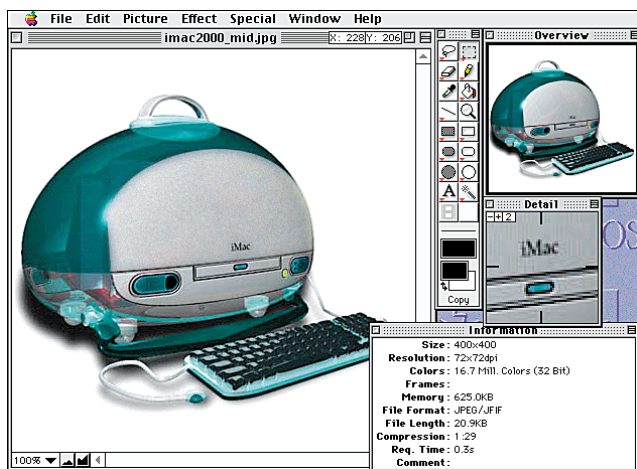
Not every useful and powerful Mac program comes in a shrink-wrapped box.

By John Fu and Philip Dyer

Shareware – those superfluous games, novelties, and interface enhancers that clutter your hard drive and distract you from your work. If you’ve ever had a colleague who thought it was a hoot to play round after round of Jared – that little smiley face that sings off-key Guatemalan folk songs – you know no good can ever come of shareware. There’s no telling where it comes from and how much testing it had before its release. If you have clients who rely on you to provide a professional service on a tight deadline, the last thing you need is shareware . . . right? Wrong.

If you’re on a tight budget, you can save a lot of money by choosing shareware and freeware over giant commercial software packages. But even if price is no object, shareware can be an excellent complement to the tools you already have.

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Groovy graphics

GraphicConverter can open images saved in almost any format and even gives you the basic tools you'll need to edit them.

Grappling with graphics

Not every graphics chore requires Adobe Photoshop; even if you're a Photoshop pro, you may find that you can perform many image-editing tasks more efficiently using shareware.

Let's say you need to convert 500 images from some graphics format you've never heard of into GIF and then reduce them all by 25 per cent, run a "sharpen edges" filter on them, and combine them all into a slide show. You could load up Photoshop, Equilibrium's DeBabelizer, and Microsoft PowerPoint to get the job done, or you could save yourself some RAM and time by launching Thorsten Lemke's nimble \$35 GraphicConverter. This Rosetta stone of graphics utilities can batch-convert to and from almost any image format, offers a wide range of image-editing options, and can organize your images into a slide-show presentation.

If you create graphics for use on the Web, some new commercial applications – notably Macromedia's Fireworks and Adobe's ImageReady – can make the job much easier. But for many people, nothing beats Yves Piguët's free GifBuilder, the original GIF-animation tool. Simply create the cels in your favourite image-editing program – GraphicConverter, perhaps – and then use GifBuilder to assemble them. Its drag-&-drop interface and simple transition effects are pleasant enough, but the program's price (or lack thereof) is the nicest touch of all.

The smooth sounds of shareware

If your Windows-using friends are in the habit of sending you sound files they've downloaded or recorded on their PCs, you can hear them on your Mac – just get Norman Franke's free SoundApp and listen to your friends' desperate pleas for a real operating system. This mother of all sound utilities can translate files from just about any sound format into something your Mac can play, which makes the utility ideal for prepping sound files for the Web or a multimedia presentation. Although SoundApp doesn't offer as many special effects as its commercial cousins, its abilities are quite impressive – and, again, it's free.

If you use your Mac to make music, you'll want to try FreeMIDI, from Mark of the Unicorn. This complete MIDI operating system offers an intuitive interface, recognizes more than 200 MIDI devices, and provides a pop-up list of 100 popular MIDI synthesizers.

Shareware at work

Sure, shareware can help you generate and edit content such as images and sounds. But several shareware programs have an even more practical bent, helping you work more efficiently and get yourself organized.

Automate your life If you send out tons of email every day or have to key countless entries into a database or word processor, you need an application that automates the process. Riccardo Ettore's \$27 Typelt4Me, for example, can save you time by auto-

completing frequently used text strings (such as your name and address) whenever you type a simple abbreviation.

If it's task automation you're looking for – word processing or otherwise – check out Binary Software's KeyQuencer Lite. For just \$20, this powerful macro engine can perform complex tasks such as opening a document, merging text into it, editing the text via menu commands, and then emailing the finished product to a mailing list at the touch of a button.

Get it together Even if you use all this shareware to cut your software budget in half and double your productivity, it won't do you a bit of good if you miss an important meeting because your schedule is in disarray. Luckily, one of the best personal information managers available anywhere is only a download away. Chronos's \$40 PIM, Consultant, offers an intuitive interface that makes it easy to keep up with even the busiest schedule and the most unruly collection of contact information.

If your needs are simpler, use Panda Systems' free PandoCalendar to mark events on a compact desktop calendar. There's also John Covele's free Right On Time, a versatile calendar that keeps your to-do list handy and reminds you of upcoming meetings.

Manage Your Money Once you've started using shareware to streamline your work habits, you may become so efficient that you'll need a way to keep track of all the additional money you're making. One option is NetBooks, Symmetry Software's shareware continuation of the popular PeachTree Accounting; it helps you keep your accounts organized, without requiring that you know a lot about accounting.

If you're a FileMaker Pro user, check out Estimate & Invoice Tracker. This free set of FileMaker Pro templates from FileMaker will help you generate bids and track projects from beginning to end. As your fortunes increase, keep an eye on your investments with Michael Foreman's \$10 Financial Portfolio, a HyperCard stack that stores information about your investments and calculates your net worth.

Crash savers Nothing ruins your day quite like computer troubles, but several shareware programs can help stop problems before they start. You don't necessarily need Norton Utilities to keep troubles to a minimum and fix the ones that do crop up; you can prevent problems by using MicroMat's free TechTool to perform the regular maintenance Apple recommends. Although this free version doesn't offer all the analysis and repair tools of its

commercial cousin, it can rebuild the desktop from scratch, zap the PRAM, test for damaged System files, and clean up your floppy drive – all while you're fetching your morning coffee.

When SCSI voodoo comes to haunt you and all your external drives seem to have disappeared, use the free SCSIProbe, from Newer Technology, to diagnose your SCSI chain and mount volumes with a single command. If what ails you is an extension conflict, use Dan Frakes's \$15 encyclopedic reference, InformINIT, to get detailed information about those gremlinlike extensions lurking in the depths of your System Folder.

Even when you've done all you can, sometimes your only option is a clean install of the system software. Alleviate the pain of this procedure by using Marc Moini's Clean-Install Assistant (free for personal use) to transfer files from the fallen System Folder to the reborn one.

Bug zappers Mac viruses have been resurgent as of late, but shareware can help keep your system clean. To eradicate the recent Graphics Accelerator virus, just run John Dalgliesh's free AntiGax. The recent AutoStart virus is no match for Matthias Neeracher's free WormFood, which flicks that nasty bug off your hard drive and prevents future infections.



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Whatware?

The fuzzy, twisting line between shareware and commercial software becomes more and more blurred every day. There's no way to fit every product neatly into a single category, but these definitions should help.

Commercial software

Usually distributed on CDs in shrink-wrapped boxes, commercial software is sold in stores, online, or in a catalogue.

Examples: Macromedia Director, Microsoft Office 98

Shareware

Freely distributed by the author on a trial basis, shareware is usually available via an online service or the Web. The author requests that after a certain period of time, often 30 days, you pay a fee for the software if you want to continue using it. Registering shareware often gets you extra features, or at least removes those annoying payment reminders.

Examples: GraphicConverter, Escape Velocity: Override

Freeware

Freeware is freely distributed software that's available for unlimited use at no cost, though the author retains all rights to the product.

Examples: SoundApp, StuffIt Expander

Public domain

Like freeware, public-domain software is freely distributed, except that the author also distributes the source code with permission to modify the product.

Examples: NewsWatcher, Internet Config

Whateverware

Publishers of whateverware don't want money but do want some kind of recognition or reimbursement. These products range from emailware (just send the author an email message if you like the product) to the nonsensical sillywalkware (perform a Monty Python silly walk in public if you like the product).

Examples: OS 8 Views Setter, Iconizer

Demos

Scaled-down versions of commercial software products, demos are freely distributed with some features disabled, allowing you to get a feel for the product before purchasing the full version.

Examples: Adobe Illustrator demo, MacSoft's Quake demo

Sadly, John Norstad's free Disinfectant, which at one point was able to combat all known Mac viruses, is no longer in production; if you need an all-encompassing antivirus program, you'll have to get a commercial package such as Symantec's Norton AntiVirus or Network Associates' VirusScan or Virex.

Web wonders

Now that your business is chugging along nicely, it's time to put up a Web site to tell the world what you can do. With shareware Internet servers and utilities, you can get your Web site off the ground and ensure that it runs smoothly.

Can you spell HTML? For most HTML purists, the preferred text editor has long been Bare Bones Software's outstanding BBEdit or its freeware sibling, BBEdit Lite. The Lite version offers most of the commercial version's editing tools; both give you a wide array of HTML tools that help you breeze through tedious coding chores.

If you aren't an HTML whiz and need a little more help generating Web pages, turn to Optima System's \$25 PageSpinner. While this HTML editor is not nearly as powerful as the current crop of WYSIWYG products, PageSpinner is more than adequate for anyone who just needs to post a few pages on the Web.

Site-serving shareware For serving simple Web sites on your Mac, try Social Engineering's free Web server, Quid Pro Quo; it offers most of the abilities of commercial server software and can handle thousands of hits per day. If you want to add FTP services to your site, Stairways Software's \$10 NetPresenz makes it a snap and even includes Web and Gopher services; if you want to add email service, Stalker Software's free Stalker Internet Mail Server is a great choice. Qualcomm also offers an older version of its Eudora Internet Mail Server for free.

No matter how meticulously you set them up, servers have a tendency to crash when you least expect it. You could prepare yourself for the inevitable with a \$100 server watchdog or spend just \$20 for Karl Pottie's AutoBoot, which restarts your Mac automatically after a freeze. Another Pottie utility, the \$25 Keep It Up, attempts to relaunch crashed server applications and can perform regular restarts to help prevent problems.

Crashes aren't the only thing that can bring your Web site to a screeching halt. If an application on your server puts up a dialogue box that requires a response, your machine is essentially dead until you click on one of the buttons. Dan Walkowski's free Okey Dokey Pro saves the day by checking for dialogue boxes as often as you like and automatically clicking on the default button.

More online options With Web sites sprouting like tribbles, it's hard to make people aware of your site. Rather than writing the address on a napkin, send potential visitors a shortcut to your site – a file created with the freeware Internet Launcher, by Gabriele de Simone. Users simply click on the file to launch their browser and go right to your site. (This works only on Macs; you'll need to keep a napkin handy for PC users). If you're sick of printing 20 pages of images and tables just to get one paragraph of text, download John Moe's brilliant Net-Print and print only the text you select.

The last word

Big commercial applications will always be around; they simply offer the biggest bang, albeit for the biggest buck. But if you don't want to buy an expensive application just to gain access to a single feature, or if the application you already own doesn't handle certain tasks the

way you'd like, don't shy away from shareware. And – this is the best part – if you don't like it, you don't pay for it.

Perhaps the best thing about shareware is that so many new products come out every day that this article is probably out of date already. To keep you current, we'll maintain a list of all the shareware mentioned in this article, plus additional shareware items, at www.macworld.co.uk/ftp/download.html

If you've found other shareware products that help you get your work done better, tell us about them and we'll add them to the list. And if you're looking for a product that doesn't appear on our list, check for it at one of the other sites mentioned in "Bookmarks".

If you do find a piece of shareware you like, please register it. Not only will you be doing the right thing but you'll also be giving shareware authors the incentive to think of more insanely great ways to improve your Mac life.

MW

Each issue we include 100s of MBs of the hottest shareware on our cover-mounted CD-ROM. All the essential shareware mentioned here is available on this month's Macworld CD.

Macworld's Shareware Page:
www.macworld.co.uk/ftp/download.html

How to pay

Paying for US shareware can be tricky from the UK. If the software maker is affiliated with Kagi you have more options. Kagi acts as a clearing house for shareware fees. If you don't have a credit card, then you may have to send cash through the post. Also, cheques drawn on UK banks can take up to 12 weeks to clear in the US.



Primarily colour

Today, colour laser printers are the only real option for office use. **By David Fanning**

The fate of monochrome printing is sealed: it's a black-&-white issue. Although its demise was predicted an age ago – with the advent of colour laser technology – the recent nose-dive in the price of colour lasers means there's little or no reason for buying mono. Even if you are a mono-maniac, some black-&-white models will soon be upgradeable to colour.

Colour, without a doubt, is the way forward for office printing. But how do you make an informed choice? To keep things simple and within a reasonable budget we looked only at A4 colour lasers. There are A3 models, but they are pricier and don't necessarily service the workplace market. We'll take a look at them later in the year. Another requirement was that models reviewed all have a minimum spec of 10BaseT ethernet and at least level 2 PostScript: virtually all base-model printers have this as standard, but it's worth asking, as you may avoid hidden extras later.

Colour A4 printers are among the most flexible ever, handling a diverse range of duties. For routine tasks, like the printing of letters, it ticks over at 12 pages per minute. For full-colour, this speed drops to around three to four pages per minute. Before, colour laser printers have proved crude as proofing tools – with their limited colour-matching and variable quality. The latest range won't replace Chromalins or wet proofs, but for most jobs they are excellent.

Also, colour lasers have traditionally been aimed more at the corporate world, with its ravenous appetite for all things presentational. Although photographic quality was never really a priority, current picture quality – no doubt driven upwards by a plethora of high-quality ink-jet printers – means the printers we tested boast photo-realistic output. The results are not comparable to the dye-sub process, but are undeniably impressive.

If colour proofing is a major consideration, then you may want to look at more expensive high-end ink-jet and dye-sub printers. Both technologies usually offer

Editors' Choice

Tektronix Phaser 740

Macworld Rating ★★★★★8.6

The Phaser 740 was not the fastest printer tested – but it's fast enough. Nor does it boast the highest quality prints – but they're still excellent. Where the Tektronix Phaser 740 wins is on value.

The base-model, costs just £1,395, and the high-spec version is £2,995



MIKE LAYE

A3 output. They are slower, but the emphasis is on quality, not pace. Dye-sub printer costs are high, because the paper required is akin to photographic paper – in both quality and price. Each print needs three or four sheets of the dye roll, even when printing a small part of the page. This adds to the expense and means that dye-sublimation is a one-trick horse: no good for anything but proofing.

If your printing needs are not colour-critical and speed is not a key consideration, cheap ink-jet printers give great value. The drawbacks are that networking the printer is virtually impossible. Because it's your computer

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Speed king

The winner in the speed stakes was the HP LaserJet 4500, which returned a mono figure of 16ppm.

rather than the printer that does the print processing the speed of your computer affects the rate of printing.

If you require fast network-printing but do not have a use for colour, your options are diminishing. Mono lasers still exist but the difference in price is small. The Tektronix 740 comes in a mono configuration for £999 and is upgradeable for just £400. If you need speed there are mono lasers that are capable of 32ppm. The colour lasers we looked at are capable of meeting the mono demands of the average medium-sized office.

The buzzwords in the world of colour printing are "faster" and "bigger". There already exist super-quick A3 colour lasers that use a new layout for four-toner cartridges, making single-pass printing possible. This means A4 pages can be

printed at up to 12ppm. As ever, the main drawback is cost; such printers are still hovering around the £5-6,000 region. What this does show, though, is that faster colour is possible – a key to its wider acceptance in the office environment.

With the printers we tested, speed was a prime consideration.

To match the speed claims of the manufacturers the figures quoted here refer to engine speed, which provides a benchmark across the range tested. Processing time and the time it takes to get information to the printer are not examined. Processing time is variable depending on the size and complexity of the document, as is downloading time, which also relies on the quality of the network.

We determined engine speed by printing 21 copies of a document. To avoid having this figure distorted by the time it takes the printer to process the first page, we started the stopwatch after the first page is printed and timed how long it takes to produce the other 20 copies. This way you can work out a ppm figure.

Quality is also of paramount importance. Each printer's output was judged without prior knowledge of which model printed what page. All text-heavy pages were of a

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Printing technologies

Laser

Until recently, the complexity of colour laser printers has made it an expensive option for colour. Colour lasers effectively combine four separate mono laser printers into a single box. The laser controls the placement of electronic charges which attract the toner particles.

The toner is then transferred to the paper and sealed by quickly heating the paper. Because processors within the printer do the work of converting the image from a PostScript to a raster image, your machine is left free to work elsewhere.

Ink-jet

Ink-jet printing leads the way in colour printing due to its low cost and high quality. The term ink-jet – called bubble-jet by Canon – derives from the way the ink is transferred to the page. The ink is fed into a chamber just behind the ink head then, at precisely the right moment – and at thousands of times a second – an electric current heats the ink. The boiling ink is then forced through the nozzle onto the paper.

The process works well but there are a number of drawbacks. To get the best results you must use high-quality paper, as normal photocopier paper is too porous and results in bleeding. Also, full-colour pictures can use so much ink that it can wrinkle the paper. Glossy paper is the solution to this problem.

The main drawback of using ink-jets in an

office is the technology's slow speed and poor sharing capability. If, however, you work alone and speed is not important, it gives unbeatable value for colour.

Solid ink

Solid Ink is used by only one manufacturer, Tektronix. The reason is that it holds the patent on this hybrid colour-printing method. The solid ink is, in fact, a wax block, rather like a square crayon.

The ink is melted and fed into a chamber much like the ink-jet method. The ink is then shot onto the page, where it dries quickly and gives a glossy finish.

Dye-sublimation

Dye-sublimation uses a roll of dye-coated sheets to lay down each colour separately. Each roll holds the different colours, which are applied in turn.

When you print, the paper – which is usually high-quality photographic paper – is held by grippers while the dye is heated, after which it is transferred to the paper.

The paper often has a margin, so that the grippers do not damage the image. Strong grippers are needed, as the paper must be fed through the engine up to four times and registration is critical.

A continuous tone is achieved, even though the resolution is quite low: 300dpi is common. This is because the dye, when hot, melts into the other colours, giving a



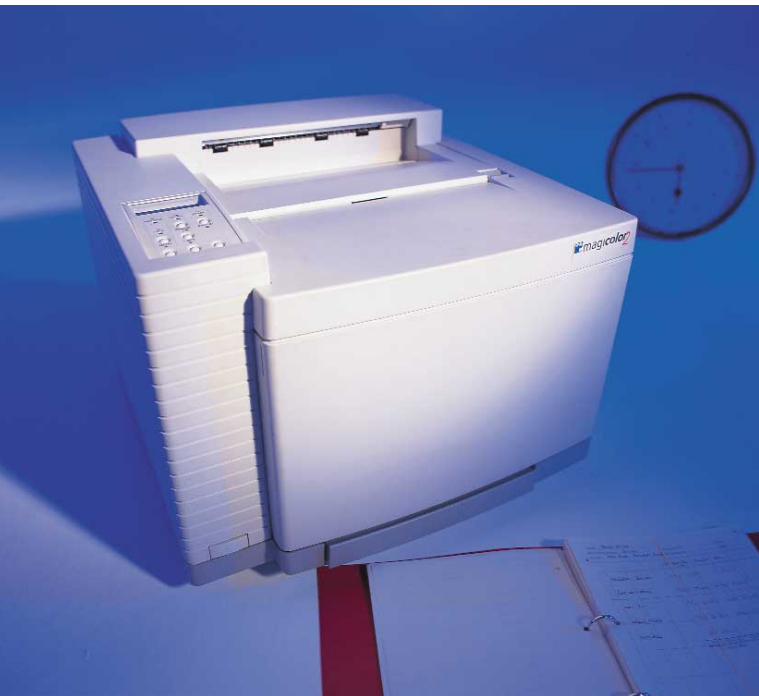
Ink different

Tektronix is the only manufacturer to use solid ink printers, seen here inside the Editors' Choice Tektronix Phaser 740.

photographic image. Text however tends to be a tad fuzzy.

Thermal wax

Thermal wax works in a similar way to dye-sublimation, using wax-coated, instead of dye-coated, rolls. Both give a continuous tone output for photographic quality.



New Year resolution
None of the printers tested printed at a higher resolution than the MN QMS Magicolor 2.

high quality across the range and although colour, graphic and, similarly, photographic output did not differ hugely. This may be because many of the printers use the same Panasonic print engine. The fact that manufacturers use third-party print engines doesn't mean that they're all the same, though. The performance of a printer is largely down to the controller hardware and software. Well-written driver software is capable of producing better and even faster prints. Resolution on most models varies

according to the amount of memory available. The more memory, the higher the top resolution. This is similar to the way video memory on your Mac determines the resolution of your monitor. We tested speeds at 600 dpi and quality at the highest possible resolution of each model. Although the machines tested were not all base models, we did consider the merits of the less toolled-up models. For example, the £2,995 Tektronix we tested included bolt-on extras bells, such as a duplex unit and additional hard drive. At the other end of the scale, the entry-level model costs just £1,395 and gives a similar

performance, just without the frills. Comparing these prices makes for a level playing field. You can then figure out how much you are paying for the extras, which can bump up the price if you're not careful. Adding them later can be even more expensive. For instance the fully-loaded Tektronix Phaser 740DX, with 128MB of RAM, auto-duplexing unit and 4GB hard drive, costs £2,999. This is substantially more than the base-model, which costs £1,395. But if you add the cost of the extras, it comes out at more than £500 more than the DX version. Much of the extra cost is down to the additional RAM. Much of RAM is proprietary, so you must use RAM sold by the company that makes your printer. To buy 128MB of RAM will cost you £180. But Tektronix will charge you a hefty £1,100 for the same amount of Tektronix RAM. It's difficult to imagine that proprietary RAM is needed when normal RAM is so cheap. I hope future versions use more common RAM.

The Panasonic KX-P8420 is almost identical to the Tektronix 740, because Panasonic makes the engine used in many colour lasers. Being a Panasonic beast down to its bolts, it seemed reasonable to assume the KX would out-perform its hybrid competitors. But none of it: it ended up in the wrong half of the speed table, reinforcing the earlier observation – that software is a crucial factor.

The quality of colour printing was good overall; none of the printers embarrassed themselves. Printing was to such a high standard that it was tough to distinguish them at the standard 600 dpi resolution. The real test came with the higher resolution prints. None printed at a higher resolution than the MN QMS Magicolor 2, and the results were impressive. The Panasonic printed at the same resolution, but the image was spotty when compared with the QMS output. The Xerox DocuPrint also suffered from spotty prints, although the resolution should have been high enough to avoid such dithering.

The idiosyncratic Xerox DocuPrint, meanwhile, offered up its software on floppy disks. Why oh why can't they put it on a CD – it would be cheaper and mean you don't have to be swap disks every two minutes. Its speed was also nothing to read-&-write home about; this asthmatic machine achieved just 2.5 colour ppm, wheezing between pages to catch its breath. The other newer models outpace the DocuPrint, but at least this should mean that you could pick one up cheap.

The Lexmark Optra SC is also last year's model, but its performance is still respectable. It uses a barrel-shaped toner cartridge that sits in a cylinder. The cylinder actually moves the toner cartridges around in turn, unlike the other printers, which have stationary toner cartridges. This is a slower method of printing, and the latest Lexmark A3 colour laser uses a different

Colour lasers, in black-&-white

MANUFACTURER	MODEL	STAR RATING	PRICE	BASE-MODEL PRICE	MEMORY (MB)	MAX COLOUR RESOLUTION (PIXELS)	CONTACT	TELEPHONE
Digital	LNC02	★★★★/7.9	£2,759	£2,759	32	600-x-600	Genicom	0800 966 519
Tektronix	Phaser 740	★★★★/8.6	£2,999	£1,395	128	600-x-600	Tektronix	0870 241 3245
Panasonic	8420	★★★★/8.1	£1,995	£1,995	80	2,400-x-600	Direktec	01494 471 100
Xerox	DocuPrint C55MP	★★★/6.7	£2,665	£2,665	30	600-x-600	Xerox	01895 251 133
Lexmark	Optra SC 1275	★★★★/7.8	£1,829	£1,829	32	600-x-600	Lexmark	01628 481 500
QMS	Magicolor 2 CK	★★★★/8.4	£1,795	£1,795	24	2,400-x-600	QMS	01784 442 255
HP	LaserJet 4500 DN	★★★★/8.2	£3,230	£2,500	64	600-x-600	HP	0990 474 747

method. The larger printer achieves speeds of 12 colour A4 ppm using this method, but it's still quite pricey.

The Lexmark still offers good value, at just £1,829 it's more than £1,000 cheaper than last year. QMS also recently slashed £1,000 off the price of the QMS Magicolor 2, making for an even better deal than the Lexmark. The Magicolor 2 costs just £1,800 for the configuration we tested.

The winner in the speed stakes was the HP Laser Jet 4500, which returned a mono figure of 16ppm and just over for colour. The quality was also excellent, but the price can't compete with the Tektronix base-model. When you compare the speeds of all the models, the differences are fractional. This means you have to weigh-up the value of such fractions: often the extra money required for minimal improvements is not wisely spent.

Choosing any peripheral costing more than £1,000 is a tough call, and some of the printers reviewed cost much more than that. Use these independent facts and figures to make an informed decision

If possible, find a dealer that has your chosen model on display. Go along and see the prints with your own eyes – this will mean you won't be disappointed after you've parted with your hard-earned cash.

– but take your time. If possible, find a dealer that has your chosen model on display. Go along and see the prints with your own eyes – this will mean you won't be disappointed after you've parted with your hard-earned.

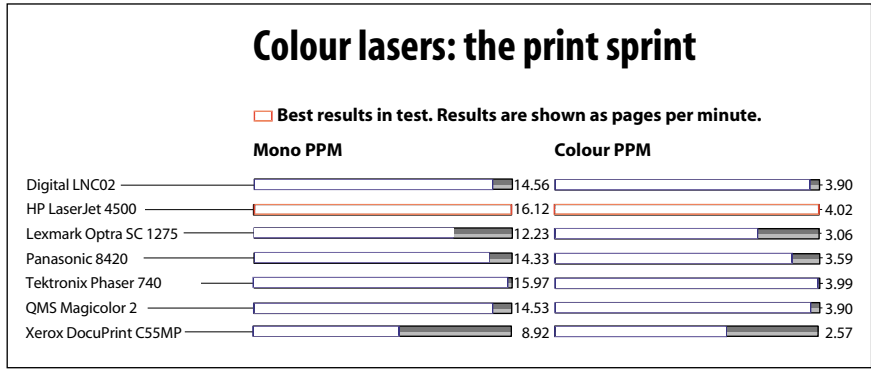
Remember, it's likely that your new printer will be doing twice the work of your previous printer – both colour and mono jobs – so you may want to spend a little extra to secure the necessary performance.

If you're still stuck on buying a mono printer, I'll be testing them later in the year. But just remember – the future is colour. **MW**



No change
The Lexmark Optra SC is last year's model, but its performance is still respectable.

The quality of colour printing was good overall; none of the printers embarrassed themselves. Printing was to such a high standard that it was tough to distinguish them at the standard 600 dpi resolution.



create motion

Mastering Premiere

Expert tips on a video-editing powerhouse. By Jim Heid

Some premieres are more successful than others. Just ask the producers of *Waterworld* – and of Adobe Premiere 5.0. The long-awaited upgrade of this veteran video-editing program packs professional-level features and a greatly enhanced interface. But in a world of innumerable system configurations and dozens of different video-capture cards, Premiere 5.0 didn't always play to rave reviews. Its debut was marred by some bugs and performance problems – and by incompatibilities with many third-party video-capture cards (see “Surviving Premiere's flaws”). Adobe addressed some of Premiere 5.0's problems with the 5.1 update (www.adobe.com), but we'll help you navigate through the sticky points that remain.

Despite its flaws, Premiere is still a video-editing powerhouse. To take full advantage of its capabilities, learn and apply Premiere's shortcuts and timesaving features. Version 5.0 sports more of these goodies than did earlier versions, and you'll find guides to the best of them in “Taking charge of the Monitor window” and “Timeline tricks”. Unless otherwise noted, all processes apply to both the Mac and Windows versions of Premiere.

Crossing the platform divide

Now that Premiere 5.1 and QuickTime 3 are available for both Macintosh OS and Windows, it's easier than ever to set up a multi-platform editing shop. You can move Premiere 5.1 projects between platforms but keep the following tips in mind.

File carefully It's a good idea to stash all the files a given project requires in a single folder. This makes it easier to move the project's assets between platforms. When you open the project on the destination platform, Premiere will display an Open dialogue box and ask where the project's assets are located. Navigate your way to the folder containing the first file that Premiere is looking for, and then click on OK. Because you put all the files in the same place, Premiere will locate the rest.

It's also a good idea to name files with cross-platform compatibility in mind. Specifically, be sure your Mac projects end with the .ppj file extension – that's how the Windows version of Premiere identifies project files. If your network software truncates long file names, try the eight-by-



GLENN MITSUI

three naming convention: a maximum of eight characters in a file name, with a three-character extension.

Kill the previews Remove preview files before transferring a project from one platform to another. To delete all preview files, press and hold -option-shift (Ctrl-Alt-Shift on PC keyboards). Next, move your pointer to the work-area bar on the Timeline window. When the mouse pointer turns into a small trash icon, click the mouse. Then save your project and send it packing to the other platform.

Use the right codec For both your source clips and your project, be sure to choose a compression scheme that's available on both platforms. Cross-platform codecs include Component Video, Sorenson Video, and Cinepak, all of which are available in QuickTime 3 Pro.

It's too bad that Premiere 5.0 shipped with some bugs and that some third-party capture-card vendors have dragged their feet in releasing Premiere 5-compatible drivers. But while Premiere 5.0 may have been heckled at its debut, it's still a powerful player with a bright future. And that's more than the producers of *Waterworld* can say.

MW

Jim Heid has been working with Adobe Premiere since version 1.0

continues page 88

Taking charge of the monitor window

The Monitor window is a cornerstone of Premiere 5's enhanced user interface. Premiere's new look and feel mimics that of high-end video-editing workstations, thanks in large part to the program's side-by-side Source and Program views; the former harbours individual clips, while the latter houses your whole project. You can now quickly assemble projects, using primarily the Monitor window and its battery of buttons.

Instant inserts

In previous versions, inserting one clip in the middle of another was a multi-step process. In Premiere 5, it takes just a couple of clicks: with the new clip visible in the Source view (A) of the Monitor window, position the Timeline window's edit line (see A in "Timeline tricks") where you want the insertion and then click on the Monitor window's Insert button (F). Premiere 5 splits the clip that the edit line bisects and inserts the new clip at that location.

Quick cutaways

When you use the Insert button, Premiere 5 pushes anything to the right of the edit line forward in time, extending the length of your project. But if the clip you're inserting is a two-second cutaway – say, a shot of an interviewer nodding her head in agreement to an answer – you'd want the cutaway to replace two seconds' worth of the clip to the right of the edit line. In cases like this, add the new clip by clicking on the Overlay button (E) instead of the Insert button.

All the trimmings

When you need an extra measure of editing precision, switch the Monitor window into trimming mode by pressing -T (Ctrl-T on PC keyboards). In trimming mode you can fine-tune cuts down to the single-frame level.

Opening clips in separate windows

If you prefer to open a clip in its own window as you could in earlier versions of Premiere, press option (Mac) or Alt (PC) while double-clicking on a clip in the Project or Timeline window. Clicking on the collapse button (C) separates the controllers from the playback windows, enabling you to position each separately.

TIP If you have a PAL monitor connected to your computer, you can instantly move the Source and Program images to the PAL monitor by pressing (Mac) or Ctrl (PC) while clicking on either image. If you collapse the Monitor window, you can quickly resize the Source and Program images by shift-clicking on either image.

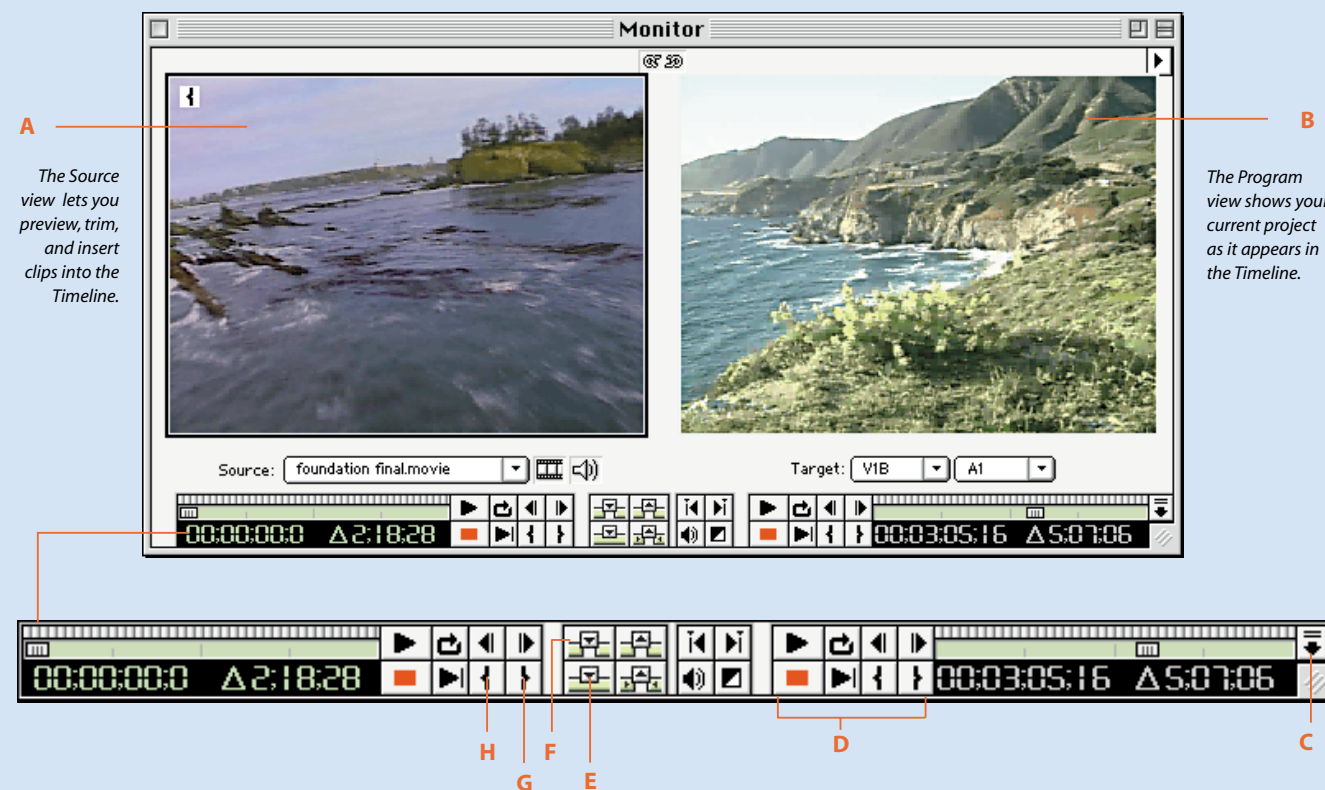
Taking shortcuts

Each of the Monitor window's buttons has a handy keyboard shortcut: (E) Overlay, comma; (F) Insert, period; (G) Set clip's out point, O; (H) Set clip's in point, I.

TIP Here are some undocumented keyboard shortcuts for the Monitor window's transport controls (D): press L to play a clip, K to stop playback, and J to play in reverse.

Quick editing

The Monitor window makes fast edits easy. Rather than drag a clip to the Timeline window, simply use the buttons for setting the clip's in and out points (H and G, respectively) and then drag the clip from the Source view (A) to the Program view (B).



Surviving Premiere's flaws

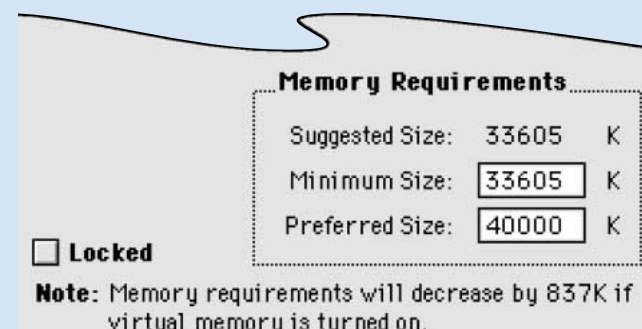
If you're using Premiere 5, you may fall victim to one or more of the following "issues". Here are some ways to get around them.

Frequent crashes upon launch

This could be caused by a corrupted font; try removing fonts until you isolate the flawed one.

Frequent crashes as you work

There's a good chance that your video-capture card isn't compatible with Premiere 5. Adobe changed Premiere's underlying architecture in ways that require capture-card developers to create new versions of their drivers. The rule is simple: if Adobe hasn't certified your capture hardware as being Premiere 5-compatible, don't upgrade to Premiere 5.



RAM raider

Premiere is happiest with virtual memory off and lots of real RAM allocated.

How do you determine whether your capture hardware is Premiere 5-compatible? Check with its developer or check the compatibility matrices on Adobe's Web site at

www.adobe.com/prodindex/premiere/resources.html#matrices

Frames dropped during capture

To avoid dropping video frames during captures, ensure that your Mac's CPU is devoting all its attention to Premiere. Disable AppleTalk, choose LocalTalk in the Network control panel, and insert media (floppies, CDs, Zip cartridges) in all of your removable-media drives. Also, disable any extensions that talk to the CPU extensively; examples are screen savers and calendar or timer extensions. And follow the usual rules of video capturing: capture to your fastest hard drive, and defragment that drive before capturing.

Performance is slow as treacle

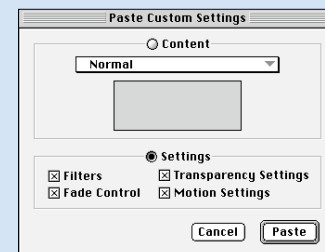
Premiere 5, particularly the Mac version, is no speed demon. Some operations, such as performing a ripple delete or inserting a clip near the beginning of a large project, are downright plodding. The 5.1 update addressed a few performance problems, but you can further ensure that Premiere 5 is running at top speed by using the Finder's Get Info command to allocate at least 30MB to 40MB of memory to Premiere. And that's real RAM – always turn off virtual memory before running the Mac version of Premiere. You can allocate more than 40MB if you like, but be sure that at least 3MB remain free for the Mac OS and QuickTime.

Timeline tricks

The Timeline window is the best place to get a big-picture overview of a project and to apply filters, transitions, and other effects. Here are some timeline tips.

Fast filter copy and paste

Say you've applied a few filters and special clip settings to one clip and you'd like to apply them to others. In the Timeline window, select the clip containing the effects and choose Copy. Then select the clip to which you want to apply the settings and choose Paste Custom from the Edit menu. In the Paste Custom Settings dialogue box (at left), click on the Settings button and then check or uncheck attributes as appropriate.



Custom-made

Paste Custom Settings dialogue box.

Toggling snap-to-edges

The Timeline window's snap-to-edges feature makes positioning clips easier by automatically snapping the clip you're dragging to the nearest clip, transition, or marker – much like the snap-to-guides feature that publishing programs provide. If you'd prefer to disengage the snap-to feature when moving a given clip, hold down the shift key while dragging the clip.

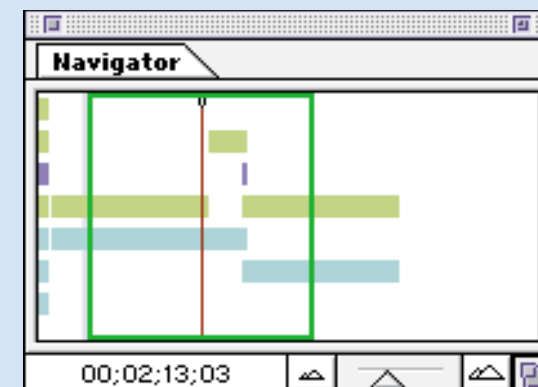
Faster Timeline displays

For faster scrolling, configure the Timeline window to display only clips' file names rather than thumbnail frames, and turn off the display of audio waveforms. To do both, use the Timeline Window Options

dialogue box, which you can display by control-clicking within the Timeline window. In the Track Format section, click on the lowest radio button, next to Filename, and uncheck Show Audio Waveforms.

Quick Timeline navigation

Use Premiere 5's Navigator palette to quickly move around within the Timeline window and to change the window's time scale. The edit line (A) is Premiere's equivalent of a blinking cursor in a word-processing program. To move the edit line, press shift and then drag it. To change the time scale, use this slider (B). Drag it to the left to reduce the timeline and see a more bird's eye view, and drag it right to zoom in and view finer increments of time.



The Navigator Palette

create sound

Sound investment

QuickTime 3.0's Musical Instrument set hits a high note.

By Paul Simmons and Vic Lennard

QuickTime is probably the greatest software achievement in Apple's history and one of the few Mac innovations to be accepted as a cross-platform standard. Introduced in 1991, QuickTime allows personal computers to work with synchronized time-based data such as video, music, text and 3D animation. QuickTime VR, a later offshoot, can be incorporated into QuickTime and synchronized with animated sprites and music. On the face of it, QuickTime 3.0 is simply an expedient way to provide the five elements (QT, MPEG, Musical Instruments, PowerPlug and VR) in one package but Macworld's September 1998 feature ("Double QuickTime professional", page 68) set the record straight: the professional version of QT3 is a serious improvement on its predecessor.

With the Standard version now available on the Macworld CD, and the upgrade to Pro easily affordable, the question is: how far can the new Musical Instruments be pushed?

The musical side of QT3

The QT music architecture allows movies and applications to play sequenced musical notes via the Musical Instruments software synthesizer (now a full set of Roland GS sounds rather than a sub-set, as previously) or from imported, CD-quality stereo 44kHz 16-bit files that can be reduced in size by using a variety of codecs without the hefty loss of quality one would expect. In short, good quality, small sound files for Web site and multimedia use.

Standard MIDI Files (SMFs) can be imported into QT movies and converted for easy playback through the Musical Instruments or via an attached General MIDI synth (though MIDI output is not available for Windows at present). There is also a standard interface between QT and OMS (Open MIDI System) – the QuickTime Settings from the Control Panel shows available resources (OMS, General MIDI and QT Synth).

MoviePlayer 3.0 provides access to QT. The File menu commands of Import, Export and Save As are the gateways to converting different formats into QT movies. One fascinating feature is that of importing



GEORGINA WATSON

external custom-made sampled sounds into an existing MIDI File. It needs some pre-planning but the results can be stunning.

There are three main ways to use QT3 Pro. Two involve MIDI movies with either pre-existing MIDI Files or custom-created ones. The third uses QT3's import and compression facilities with pre-recorded audio samples.

Editing instruments

Any MIDI File can be imported into MoviePlayer through the File menu's Import option, converted and saved as a movie. While the notes within the MIDI File cannot be edited, the final reproduction can, with instrument selection being the simplest choice. (see "Changing instruments").

Beyond that, the parameters of any instrument (aside from drums) can be edited substantially from pitch, levels and stereo positioning (pan) through to the complex characteristics that make up the sound (see "Sound editing"). Once changed, MIDI movies can be saved – Streets2HarpMid Movie in the Serious

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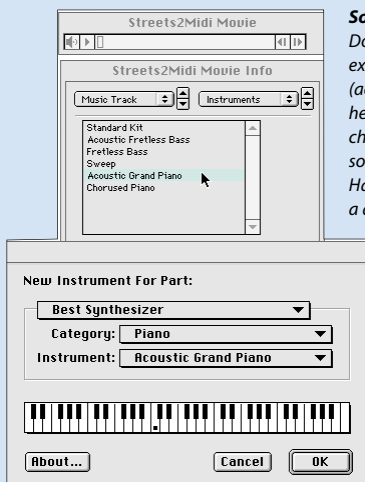
Changing instruments

How easily can a MIDI movie's allotted instruments be changed within QT3 Pro? Load up Streets2Mid Movie from the cover CD and try these moves.



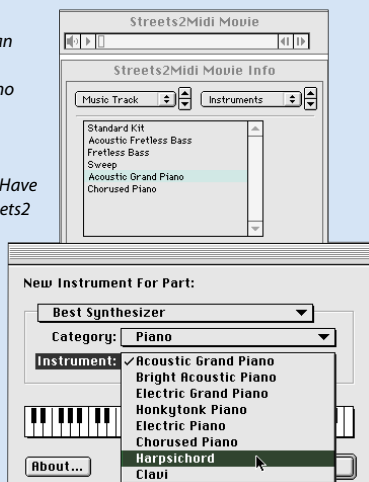
On track

Go to the Get Info option in MoviePlayer's Movie menu, select Music Track on the left (above) and then the Instruments option (below).



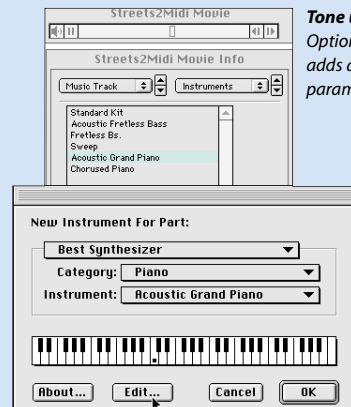
Sound off

Double clicking on an existing instrument (acoustic grand piano here) allows you to change the allotted sound (left) to Harpsichord. (right) Have a quick listen to Streets2 HarpMidi Movie on our CD to hear the difference.



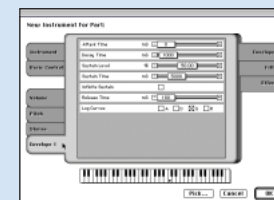
Sound editing

Any instrument's sound can be changed – if you know where to look ...



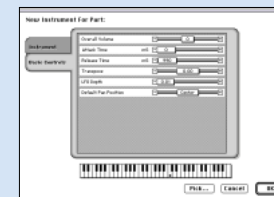
Tone up

Option-double clicking on an existing instrument adds an Edit button (left) from which all instrument parameters can be accessed (below).



Control freak

Basic Controls are of the quick 'n' easy variety (left) but click on the padlock (right) and all is revealed, from envelopes and filters through to effects.



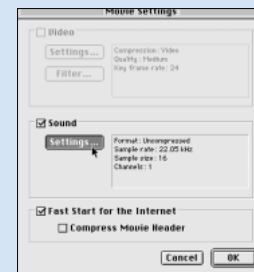
No limits

QT3 Pro's limitation of 256K per sound can be overcome through judicious use of its output codecs.



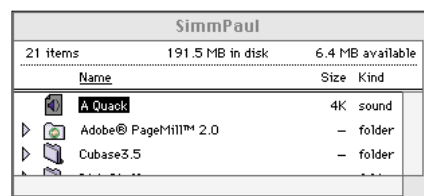
Export earnings

Select AmbientMacworld QT on our CD and choose Export from the File menu. Name the file and click on Options (left) to edit the parameter for the compressed movie. Settings takes you to a page where sound quality can be set and a codec selected.



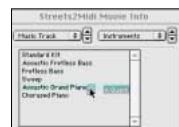
Right on Q

QDesign (left) is an excellent codec – a 15-day trial is included on the Macworld cover CD. experiment with the parameter to get the best results (below).



Quack software

Mac alert sounds can replace an existing instrument (right) – here, our cover CD Music is about to gain lead Duck (above).



Demos folder on the cover CD has a harpsichord in place of the original acoustic piano. Instruments can even be replaced with Mac alert sounds by simply dragging and dropping. Have a listen to Streets2QuackMidi Movie for a rendition of Donald Duck on Speed!

One word of warning: once you begin editing and saving the results, file size increases substantially. However, this is a small price to pay – especially if you are not au fait with sequencing software within which such editing is also possible.

Working with original MIDI Files

If MIDI Files are being prepared for inclusion on a Web site or a multimedia project with the QT Musical Instruments as the sound source, using a GM synth gives a good idea of how the final MIDI movie will sound.

If an alert sound is to be used, the notes must be written in the sequenced file and treated as an instrument – remember, notes

cannot be edited in QT3 Pro.

As an example, have a listen to StreetsAdmac2Mid Movie on the CD in which a 150Kb vocal sample has been recorded via the Mac's mic input and incorporated. The final pitch was worked out and notes entered using a basic piano preset as a guide.

Another possible pitfall is with sequencer tempo settings – for instance, unless correctly specified in Cubase's Mastertrack, all QT MIDI movies run at 120bpm.

Importing stereo sounds

The greatest limitation to using decent length stereo sounds is the current handicap of 256K per unit. But there is a way around this.

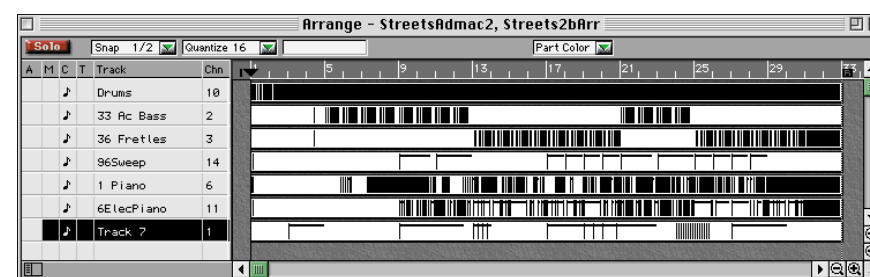
A piece of music in a format supported by QT3 Pro (such as AIFF, WAV, AU and MPEG 1/2) can be converted to a Movie and then exported using one of the available compressors. QDesign

Corporation's QDesign Music Encoder (www.qdesign.com) leads to better results than the built-in codecs but takes time to master due to the large number of parameters. Comparing AmbientMacworld Qdes4.mov with the original AmbientMacworld QT shows a little degradation in sound quality – but the file size has reduced from 2.8MB to 50K!

Here and now

QuickTime 3 Pro is destined to become a vital component of the Mac OS, and third-party add-ons such as the QDesign codec will enhance this further, being invaluable for presenting stereo 16-bit music in good quality, small file sizes.

Streaming such movies on Web sites gives a very real alternative to Real Audio – especially as one is charged for streams with a Real Audio server. The simple importing of Mac alert sounds is interesting but currently more of a novelty than useful.



Once the 256K limit is increased, though, this will present far more of a practical tool.

In the near future, music on a Web site will be synonymous with the perception of a professional nature. QuickTime 3 Pro is the tool to make that happen.

Paul Simmons is a composer who writes for PlayStation, PC and console games, and CD titles. Thanks to James Bissett for his assistance in this piece.

Sound advice

The use of custom sounds in a MIDI movie requires careful thought when originating a MIDI File. Here, Track 7 has been set up as the guide for the Audio sound sample in StreetsAdmac2Mid Movie.



Play it again, PRAM

Keep your Mac's parameters in good-working order. **By Vic Lennard**

How does your Macintosh "remember" the current values of its system-based control panels every time you switch off? If certain values – such as memory set-up and keyboard settings – were not stored on shut-down, they would have to be re-set to your personal taste after start-up.

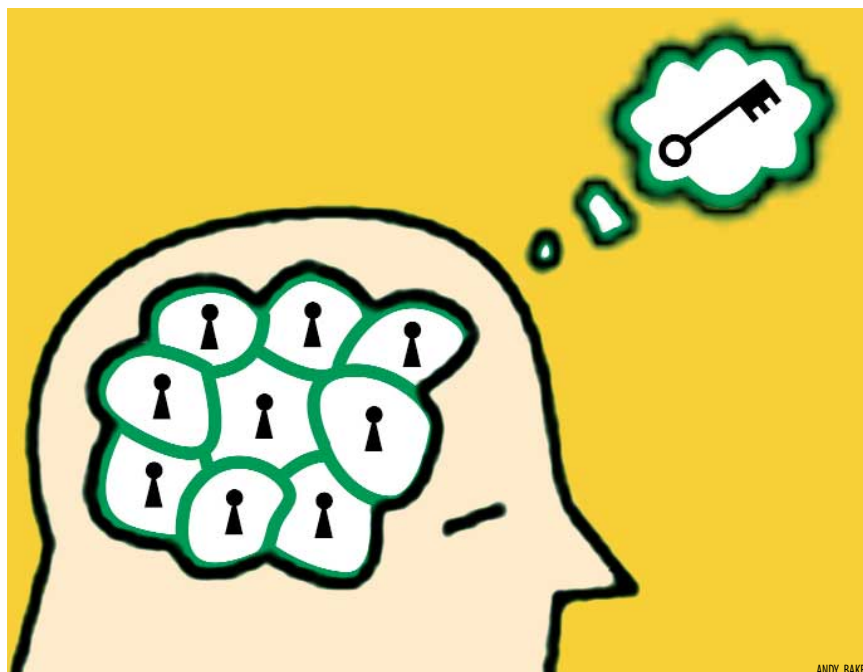
Some of the information is kept in a battery-backed section of memory called the Parameter RAM (PRAM); other values reside in the Finder Preferences inside the System Folder's Preferences folder. If the data contained in either of these becomes corrupted, problems can occur.

Finders not keepers

Have you ever had a "shimmering" box in the middle of your screen on start-up? Or found that your Wastebasket unexpectedly asks for confirmation of emptying? Then your Finder Preferences file is likely to be corrupted.

Values for Finder-based parameters are kept in the Finder Preferences file. These include the System font, icon alignment and list view, and Wastebasket "Warn before emptying" setting ("Finder settings").

To solve the problem, drag the Finder Preferences to the Wastebasket (some systems may require the preferences to be placed outside of the System Folder first)



and restart. Now adjust the settings to taste and restart again.

Poor memory

System-wide preferences are set via Control Panels and stored in your Mac's PRAM, 256K of memory within the real-time clock chip. Of these, 20K handle the basic

parameters. The main variables affected and their default values are in "PRAM settings". It's rare for this data to be damaged – unless the battery is starting to run out. As the battery life is rated at an average of three years, this could happen within the life of your machine.

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Common default settings

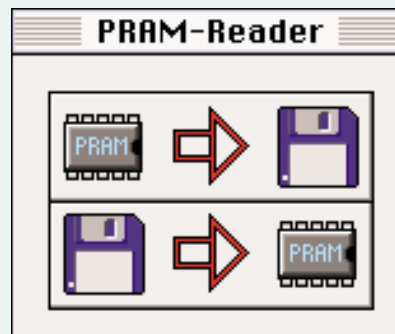
Finder settings

- Item Setting
- System font Geneva 9
- Icon alignment Straight grid
- List view Smallest icon/sizes, kinds, labels, dates
- Warn before Emptying

PRAM settings

- ItemSetting
- Modem port 9600 baud, 8 data bits, 0 parity
- Printer port 9600 baud, 8 data bits, 0 parity
- Keyboard Key Repeat Rate one below fastest; Delay Until Repeat second longest; Keyboard Layout for Mac OS country of origin

- Alarm Midnight, Friday 1/1/1904
- General Insertion Point Blinking to middle; Menu Blinking to 3; Folder Protection to off; Documents to Last folder used in the application; Show Desktop when in background on
- Startup Disk None
- AppleTalk Connect via Printer
- Memory Disk cache size to 96K (32K on older Systems; also, 32-bit addressing to off)
- MouseTracking to third setting from left, double-click speed to middle
- System Beep Simple Beep
- Speaker volume3
- NetworkLocalTalk on older Systems



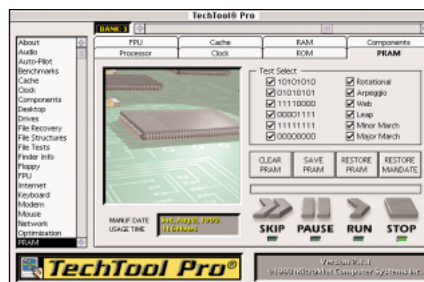
PRAM pusher

PRAM-Reader allows you to save your settings and re-install them after zapping the PRAM at start-up.



Rebuilding works

TechTool 1.1.7 is useful for PRAM and Desktop rebuilds up to Mac OS 8.0



Complete overhaul

TechTool Pro 2.1.1 goes way beyond PRAM and Desktop rebuilds, offering a complete analysis and repair solution.

The manner of resetting depends on the Mac OS version. Holding down -option-P-R on start-up until a second restart works on most machines.

On PCI-based Power Macs, use this combination after the grey screen appears to keep your screen display information. Certain PowerBooks (190, 1400 and 5300) have a slightly different routine in that the machine shuts down after the key combination (as it also resets the power manager) and then restarts after hitting the Reset button.

You could also use a utility that saves your current settings, resets (or "zaps") the PRAM and then restore the values. TechTool is one such utility but only works with systems up to Mac OS 8.0. PRAM-Reader V1.2 offers a similar facility; PRAMInspector 1.0 allows the more inquisitive to see current settings for the basic parameters.

Desktop blues

Your Mac needs to keep track of all applications and comments on your hard disk. That is the job of the Desktop Manager through its Desktop files, two database files found in the top level of your hard disk (Desktop DB and Desktop DF). Although invisible, you can see them with various utilities such as Norton Disk Editor.

If your desktop and file icons lose their custom appearance then your Desktop file has a problem. It may have become corrupted through a System crash, or may have grown too large to function efficiently.

To rebuild the database, save your current extensions set-up with the Extensions Manager and then turn them all off apart from Macintosh Easy Open.

Restart and hold down the Command-Option keys until a dialogue box appears asking whether you want to rebuild your desktop file. Click on OK for each hard disk. Once completed, go back to the Extensions Manager, select your preferred set-up and restart.

TechTool will save your desktop information, rebuild it from scratch and then restore your settings. Alternatively, Total Desktop Rebuild 1.1 will erase your Desktop files at start-up and force your system to rebuild them.

When all else fails... call
Macworld Hotline
0906 466 4440

Available from Monday to Friday (8.30am to 6.30pm) Macworld Hotline provides you with fast and competent support on pre- or post-sales technical problems, for Macintosh hardware and software. You pay only for the technical help you receive.

And our Money Back Guarantee means that if you are not satisfied, simply send us a fax confirm, and we will reimburse you.

The Macworld Hotline costs £1.50 per minute. You'll be charged on your standard telephone bill.

Technical help at your fingertips

Get the best

There are other reasons you may be having trouble. Your hard disk may have a directory problem, or one of your memory chips may have developed a fault.

TechTool Pro 2.1.1 (£95; Softline, 01372 726 333) www.micromat.com is probably the best diagnostic tool around and goes far beyond handling PRAM and the Desktop files. It can analyze all aspects of your machine (including RAM, main components and processor) and also check your hard disks. Well worth investing in.

Finally, don't ignore minor problems. Get to the bottom of them and sort them out before they really give you an expensive headache!

Macworld's features editor David Fanning and contributing editor Lon Poole answer readers' questions and select reader-submitted tips for this column. Send your question or tip (include your address and phone number) to David Fanning, Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT. You can also send mail electronically, marked Q&A in the subject line, to david_fanning@macworld.co.uk or via fax to 0171 405 5308. We pay £25 for each tip published here.

We cannot make personal replies, so please do not include a stamped-addressed envelope.

Q&A & Tips

Escaped alias

Tip Aliases can be tricky things and on occasion they forget exactly which file they are supposed to refer to. OS 8.5 now offers a remedy to this predicament. Just select the unattached alias and press -I to bring up the Get Info dialogue box.

In this dialogue box you'll notice a button that may be new to you: Find New Target. Click this button and Apple's new Open dialogue box will appear, allowing you to select a target file, folder, or volume for that alias. Notice that if you select a file with a different icon than the one used by the alias, that icon will change when you make your selection.

Searching with Sherlock

Q I have been very impressed with Mac OS 8.5's Sherlock super Find application that can search the Web. Is it possible to make Sherlock the default search engine in my browser?

Peter Antzensochs

A Here's how to make it so: Open the Internet control panel and click the Web tab. In the Search field type the following:

`file:///Macintosh%20HD/System%20Folder/Apple%20Menu%20Items/Sherlock`

This assumes, of course, that your hard drive is named Macintosh HD. If it's titled differently - Bubba Bob, for example - you'd want an address that looks like this:

`file:///Bubba%20Bob/System%20Folder/Apple%20Menu%20Items/Sherlock`

Basically, just start the URL with file://, enter the pathname to Sherlock, and insert %20 between each separate word.

Now when you click on the Search button in your browser, Sherlock will launch, ready to search the Internet.

Internet Config gotcha

Tip OS 8.5 includes the Internet control panel which uses the Internet Config extension to co-ordinate your various online preferences. Just so happens that Internet Config uses this same extension and this can cause problems. Here's why:

If you install an application that installs a copy of Internet Config (and many, many programs do), the Internet Config extension may be installed as well - replacing the version of this extension that ships with OS 8.5. Using an earlier version of this extension (meaning a version earlier than 2.0.2) can throw a wrench into such Apple goodies as the OS Help system.

The tip: If you suspect that an application may install Internet Config, take a gander at the custom install option before proceeding.

If you notice that Internet Config will be installed, go with the custom install and uncheck the Internet Config installation option.

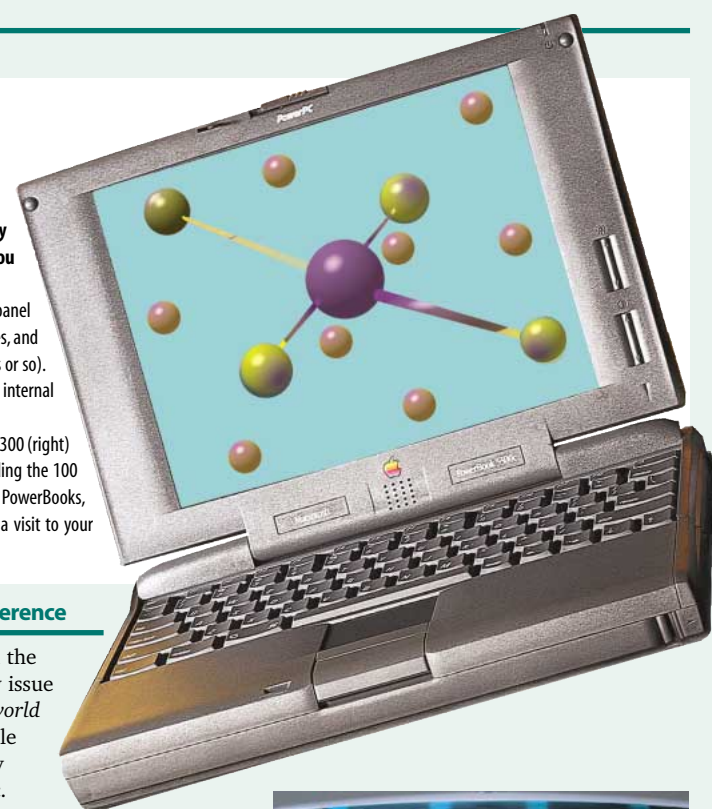
aliases • Sherlock • Config • Moose • newer iMac • Lara Croft

PowerBook recharging

Tip Apple's PowerBooks have been around long enough now that the internal batteries on some of these portable wonders may have given up the ghost. But how are you to know when you leave yours plugged in all the time? Here's how:

Make sure the date and time are properly set in the aptly named Date & Time control panel and then shut down your PowerBook. Disconnect the power adaptor, remove any batteries, and beetle off for a cup of coffee (you can have tea, if you prefer, just come back in 10 minutes or so). Restart the PowerBook and check the date and time. If they're incorrect, the PowerBook's internal battery could be kaput.

You can recharge the internal batteries on PowerBook 190, 200, 500, 1400, 3400, and 5300 (right) models if you leave them plugged in for two full days. The PowerBook 100 series (excluding the 100 itself and the 150) have internal batteries that can't be recharged. If you have one of these PowerBooks, the interconnect board needs to be replaced which, to me, sounds like you'll be paying a visit to your Apple authorized dealer.



Celebrate the difference

Q I read in the January issue of Macworld that Apple has recently upgraded the iMac. How are they different, and how can you tell whether you have a Rev. A or Rev. B iMac?

Christopher Hayes

The original iMac comes with 2MB of video RAM, Mac OS 8.1, and the ATI Rage IIC graphics accelerator chip. Rev. B models add an additional 4MB of video RAM, ship with Mac OS 8.5, upgrade the graphics chip to the ATI Rage Pro, and include a copy of Adobe PageMill 3.0.

You won't be able to tell from the outside of the iMac, but the box it comes in reveals all. Look for model number M6709LL/B on the outside of Rev. B cartons.

Control Strip shortcut

A Under OS 8.5, you can add a control strip module to the Control Strip simply by dragging the module to the Strip. To make a copy of a particular control strip module, hold down the Option key, click on a module in the Control Strip, and drag the module to the desktop. To remove a control strip module, hold down the Option key, click and hold on the module you want to remove, let go of the Option key, and drag the module to the desktop.

Not now, Jeeves!

Tip If you've had it with the butler dogging Lara Croft's heels in her home in Tomb Raider II, here's how to lose the old gentleman: Walk into the kitchen, open the freezer door, and walk in. Eventually the butler will join you with his tea tray. Rush out of the freezer by leaping over the butler's head and close the door behind you. Don't worry, although he won't be able to get out, the tea will keep him from getting hypothermia. This month's tips by Chris Breen.



Pick up the new iMac
Apple has tweaked the iMac to include more video RAM, a new graphics chip and the latest version of the Mac OS.



Peter Worlock



IT shows in the UK are in a parlous
state – but it's not all bad news

Show stoppers

There is, as somebody once observed, no business like show business. I don't suppose they had in mind the business of computer shows and exhibitions, but they couldn't have been more right, especially here in the UK.

Despite Britain's status as one of the largest IT markets in the world, we seem to have no luck with shows. Over the years, for various reasons, we have witnessed the decline of a number of exhibitions: the Which Computer? Show and the Personal Computer World Show were once enormous and are now deceased.

Incredibly, the Windows Show has been poorly supported and poorly attended here, and of the plethora of Internet events none has succeeded in establishing a clear market lead.

Most recently, and most tragically from our point of view, we may have just witnessed the death of Apple Expo. Incredible as it may seem, the UK's Mac event has long been the most successful computer-related exhibition in the country – testimony to the famed loyalty and resilience of both Macintosh users, and those companies who have supported the Mac over the years.

Emap fiasco

Sadly, and as I feared on this page last month, the childish argument between organizers Emap Trenton and Apple UK may have nailed the coffin closed. And while Apple is promising its own event in late spring or early summer, there must be grave doubts whether a new show can succeed in drawing both exhibitors and visitors in sufficient numbers, even with Apple's clout behind it.

But with a new year upon us, it's not the time for gloom and doom. Whatever the state of show business in the UK, the wonders of Macworld Expo in San Francisco are the traditional starting point for renewed activity in the world Mac market and there's grounds for unfettered optimism in 1999.

The iMac has restored Apple's fortunes, and its reputation, and within the coming months we are likely to see more innovation, and first-class execution, than we've seen for many years.

A new handheld system, perhaps; possibly new variations

on the iMac theme; certainly a range of high-end systems that should renew Apple's leadership position in the creative markets.

A measure of Apple's success in reinventing the personal computer once again will be the rush of PC makers to copy the style of the iMac. We've already seen the first wannabes, including some concept systems from Intel, but I confidently predict that 1999 will see a torrent of boxes boasting peculiar shapes, adventurous colours, and offbeat peripherals.

Mac software shortage

Beyond the immediate prospects of more mouth-watering hardware from Apple, though, it would be good to see renewed activity in the Mac software market. Even though the success of the iMac has prompted a good deal of activity in games software, in other areas things are quiet – maybe too quiet.

For too long, the Mac has relied on the efforts of just a handful of stalwart supporters: Adobe, Macromedia, MetaCreations, Microsoft, and a few more. Nothing could be better in 1999 than some new blood, offering new products in neglected applications areas.

Business software may be a prime candidate for new products, especially if the bloodletting in the Microsoft anti-trust suit prompts Microsoft to withdraw support for the Mac versions of Office. But there I go again – always with the portents of doom.

New Year promise

As I wandered the wide open spaces of Apple Expo, someone inquired about, not to say marvelled at, my apparent limitless capacity for cynicism – for finding the dark cloud in every silver lining. Surrounded, as we were, by the corpse of a once-great Mac event, no response seemed necessary.

However, I will publicly declare my New Year Resolution for 1999: to give greater prominence to the positive Macintosh experience this year, and to limit myself to no more than three bouts of cynical depression.

Here's hoping for a great year for Apple, for the Mac and for all of you.

MW