

**HOT: LATEST 333MHz iMACS TESTED**

**MORE NEWS, MORE REVIEWS**

# Macworld

***Home help***

**Affordable!**

Printers & scanners tested  
for iMacs and everyone

**Mac Maestro**

How to be a pop star

**TOP**  
QuickTime 4  
unleashed!

**New thin PowerBook**

Apple shows off skinny portable

**NO CD?**

PLEASE CONSULT  
YOUR NEWSAGENT

IDG

JUNE 1999 £4.99



CONSUMER IMAGING SPECIAL!  
Printers and scanners for your  
USB iMacs and Power Macs

Macworld

Ten Years of  
EXCELLENCE  
\*\*\*\*\*

contents

June 1999

75



82



92



111



read me first



You %&\*ing £@stards. I bought an Apple with floppy and nobody, I mean nobody, knows how to use the sonuvabitch... I really feel 'ripped off'. Everybody talks about this great manual in the sky that is coming out soon??? \$&\*%! \$&\*%! \$&\*%! I need this computer now in my business, not next year. %&\*@ you. I hope your dog dies."

Some Mr Angry sent Apple this nasty note in 1979. (To protect sensitive readers, I have changed some of the profanity to standard swears symbols - so I'm afraid this wasn't the first-ever use of the atmark [@] in relation to computing.)

Useful computer manuals are about as rare as decent British movies. That is, there haven't been any. Apple's how-to books actually used to be about as good as they came, but they were still pretty bad. Apple was in fact the first home-computer company to supply colour publications - and employ a modicum of wit in the instructions. It was Steve Jobs who demanded generous, professional-looking technical manuals way back in the late 1970s. And, I guess, Steve Jobs who has practically banned them today.

In the early 1980s, the manual for the Apple III started thus: "We will assume you already know how to use a computer..."

Fast-forward to 1999. The 'manual' that comes with the iMac is thinner than a floppy disk - I refer confused new readers to the history books or Windows PCs for more details on the floppy. In fact, it's slimmer than a CD! There's six colour photos showing a new user's hand plugging in his keyboard and mouse, and then switching his iMac on. That is it.

Well, almost. There is also a stray sheet of paper reminding you that the power cord must be "firmly" inserted into the power socket. And some safety tips and instructions on how to replace the battery. Oh, and there's a *User's Guide*, even thinner than the *Welcome* document. These instructions literally tell you to read the instructions. Installing software? Read the instructions, it says. Need help? This pamphlet directs you to the Help menu. Want more info? Go to the online Help Center, says the four-pager.

The biggest booklet (46 pages!) is the *Troubleshooting Handbook*. Apparently, there are exactly a dozen things that can go wrong with your Mac. For example, a CD might jam in the drive. Cue, Apple's classic line-drawing of a confident hand sticking a bent paper-clip in a pin-hole - how

COVER PHOTOGRAPHY BY MIKE LAYE

Simon Jary, editor-in-chief

disappointed newcomers must be after slashing out on the latest high tech. And there's another ten problems that could occur while you're installing your software. The solutions are pretty straightforward, if a trifle daunting: "If that doesn't work, you may need to reinitialize the hard disk" Gulp.

You get the same bundle with the new Power Macs, but Apple has substituted the six pics with a whopping 62-page book of setting-up stuff. This hot-read is what Hale & Pace would call a stonker. The line drawings are clearer than any previously attempted - you can actually see the exact slots where each card, DIMM or disk must go. If Ikea had any pride, they'd hire this artist immediately. Most computer manuals share the flat-pack's love affair with crude, badly copied line drawings that look like they've been smuggled out of enemy territory hidden in a place where the sun don't shine. And there's always an extra slot, button or screw sketched in to confuse the hell out of us. Stop being so Swedish.

So when I said that it was Steve Jobs who has banished the technical manual, I meant to thank him. We don't need 300-page tomes that show too little and make matter worse. Apple's slim *Setting Up Your Power Macintosh G3* is spot on, and presumably fairly cheap to produce.

If you don't know anything about computers - and this crowd is a prime target for the iMac - you really should hire an expert, talk to a knowledgeable friend or buy a book (Try David Pogue's *iMac For Dummies*; £14.99 to *Macworld* subscribers - see page 120).

You don't get free driving lessons when you buy a car, or a copy of *TV Quick* when you pick up that new VCR. Experienced computer users shouldn't be forced to subsidize novices, but they do deserve a quick tour of new layouts and procedures. And Apple has found an almost perfect compromise.

It doesn't tell you that if you install the public beta of QuickTime 4, with Virtual Memory turned on, your copy of Adobe TypeReunion 1.2 won't work and your Mac suddenly can't cope with opening more than a couple of apps. It doesn't preview Epson's forthcoming, stylish, translucent USB printer. And it certainly will not test every important piece of hardware and software that becomes available for the Mac. But that's why you buy *Macworld* every month, isn't it?

1: Buy a new Power Mac.  
2: Get the great guide.  
3: Subscribe to *Macworld*. Or you dog dies...

MW

features



11 This month's cover CD



68 Consumer printers

You've got the iMac or a new Power Mac, you may even still own an old Performa - here's our tests on the best sub-£500 printers, from colour ink-jets to mono lasers.

75 Consumer scanners

Remember when scanners cost more than your yearly Poll Tax? Breathe easy, because today a decent scanner could cost less than a big night out. We test sub-£300 scanners.

82 Audio action

The Mac has always been the best personal computer for making music. These days, with the right tools, it's all you need to get on to *Top of the Pops*.

92 Awards

The winners and runners up in the 1999 Macworld Awards. Find out who won, and why we love 'em in this nine-page special.

111 create workflow

Repetitive tasks  
Let AppleScript take the strain.

117 create graphics

Real paint effects  
Non-digital Photoshop filters.

139 secrets

On location  
Location Manager is a powerful tool - and simple, too.

140 q&a

Stickies fingered  
Plus other tricks and shortcuts.

regulars

8 How to contact Macworld

Who's who, and who's won what

108-109 Macworld subscriptions

Unbelievable value! Get a free copy of Art Dabbler or Soap when you subscribe!

120-121 Reader offers

164 Career Moves

Job vacancies. Get the right job here.

143 Buyers' Guide

Mac system advice; Vision thing; Macworld Reseller Guide; Star Ratings; plus a full year's index

165 Macworld Shopping

Consumer advice and mail-order ads

reviews

Macworld has it covered

50 Palm V; Palm IIIx

51 Palm MacPac 2

52 MetaCreations Bryce 4

53 UPGRADE CARDS:

XLR8 466MHz G3 vs Newer MaxPowr 466MHz G3

54 Apple iMac 333MHz

Callas pdfOutput Pro

55 Quark XTensions:

Five newcomers to XPress

56 Alsoft DiskWarrior

Callas FontIncluder 2

59 ImageAXS Pro 4.0

Chronos Consultant 2.5.3

Action GoMac 2.0

PC MacLAN 7.2

62 BrainForest Professional

QuickDNS Pro 2.2

65 NEW USB PERIPHERALS:

Epson Stylus Color 740i

Keyspan USB Serial Adaptor

TEAC floppy drive

uDrive USB floppy drive

Mouse-Trak evolution

news

in-depth stories incisiveness exclusive tests

16-17 QuickTime 4 unleashed!

18-19 DV push: Final Cut Pro

22 Adobe InDesign plug-ins

37-42 PRODUCT NEWS





# Macworld

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

## Subscribe



Find out how you can get either MetaCreations Art Dabblor or Soap **FREE** when you subscribe to Macworld – see pages 108-109.

?

Subscribe

Macworld (UK) is an independent journal not affiliated with Apple Computer Inc. Apple, the Apple logo, Mac, and Macintosh are registered trademarks, of Apple Computer Inc.

All contents © IDG 1999, except articles adapted from Macworld US, or from MacWEEK © Mac Publishing LLC.

Macworld is a publication of IDG Communications, 99 Gray's Inn Road, London WC1X 8UT. Telephone: (0171) 831 9252 Editorial fax: (0171) 405 5308 Sales fax: (0171) 405 0262 ISSN 0957-2341

Colour Origination: Lumis Colour Printed by Polestar Watmoughs Ltd Macworld is printed on paper produced in sustainable forests.

Macworld editorial domestic Internet access courtesy of those nice people at Direct Connection (0800 072 0000, [www.dircon.net](http://www.dircon.net))

## MACWORLD SUBSCRIPTIONS: 01858 435 304

A subscription to Macworld includes 12 issues, 12 CDs and a FREE copy of either Art Dabblor or Soap (see pages 108-109).

UK	Europe	ROW
£44.66	£88.97	£113.98

To subscribe, please use one of the following methods:

By post:

Macworld Subscriptions, FREEPOST (WC4336), Leicester, LE87 4DE.

By fax: 01858 434 958

By phone: 01858 435 304

By email: [idg@subscription.co.uk](mailto:idg@subscription.co.uk)

If you have a query about a current subscription please call 01858 435 303

## Contacts

who...		@
Editor-in-Chief	Simon Jary	<a href="mailto:editor@macworld.co.uk">editor@macworld.co.uk</a>
Executive Editor/News	Michael Burns	<a href="mailto:news@macworld.co.uk">news@macworld.co.uk</a>
Executive Editor/Features	David Fanning	<a href="mailto:david_fanning@macworld.co.uk">david_fanning@macworld.co.uk</a>
Executive Editor/Reviews	Lynn Dartnell	<a href="mailto:lynn_dartnell@macworld.co.uk">lynn_dartnell@macworld.co.uk</a>
Production Editor	Sean Ashcroft	<a href="mailto:sean_ashcroft@macworld.co.uk">sean_ashcroft@macworld.co.uk</a>
Reporter	Louise Banbury	<a href="mailto:louise_banbury@macworld.co.uk">louise_banbury@macworld.co.uk</a>
Staff Writer	Andrew Hinkinson	<a href="mailto:andyh@macworld.co.uk">andyh@macworld.co.uk</a>
Art Director	Mandie Johnson	<a href="mailto:mandie_johnson@macworld.co.uk">mandie_johnson@macworld.co.uk</a>
Deputy Art Editor	James Walker	<a href="mailto:james_walker@macworld.co.uk">james_walker@macworld.co.uk</a>
Designer	David Grant	<a href="mailto:david_grant@macworld.co.uk">david_grant@macworld.co.uk</a>
Managing Editor/Online	Gillian Robertson	<a href="mailto:gillian_robertson@macworld.co.uk">gillian_robertson@macworld.co.uk</a>
CD Editor	Vic Lennard	
US Editor	Andrew Gore	
Contributing editors	Peter Worlock, David Pogue, Deke McClelland, Lon Poole, Michael Prochak, Ian Winter, Simon Eccles, Joseph Schorr, Franklin Tessler, Bruce Fraser, Christopher Breen, David Biedny, Matthew Bath	
Group Ad Manager	Anne Ridyard	<a href="mailto:anne_ridyard@macworld.co.uk">anne_ridyard@macworld.co.uk</a>
Advertising Manager	Mustafa Mustafa	<a href="mailto:mustafa@macworld.co.uk">mustafa@macworld.co.uk</a>
Display Sales Executive	Dean Payn	<a href="mailto:dean_payn@macworld.co.uk">dean_payn@macworld.co.uk</a>
Classified Sales Co-ordinator	Matthew Bennett	<a href="mailto:matthew_bennett@macworld.co.uk">matthew_bennett@macworld.co.uk</a>
Classified Sales Executives	James Poulson, Sarah Maher	
Production Manager	Sharon Bird	<a href="mailto:sharonb@idglondon.co.uk">sharonb@idglondon.co.uk</a>
Deputy Production Manager	Richard Bailey	<a href="mailto:richardb@macworld.co.uk">richardb@macworld.co.uk</a>
Production Assistant	Sam French	<a href="mailto:samf@macworld.co.uk">samf@macworld.co.uk</a>
Marketing/Circulation M'ger	Sarah Bagnall	<a href="mailto:sarah_bagnall@macworld.co.uk">sarah_bagnall@macworld.co.uk</a>
Marketing Executive	Jo Brown	<a href="mailto:jo_brown@macworld.co.uk">jo_brown@macworld.co.uk</a>
Publisher	Guy Eaton	<a href="mailto:guy_eaton@macworld.co.uk">guy_eaton@macworld.co.uk</a>

## Are you a winner?

### Announcing the lucky winner of the Macworld Awards Readers' Choice competition 1999.

Mr N Parmar from Wembley is the winner of the PowerBook G3 from Apple and the comprehensive Adobe Publishing Publishing Collection. His name was the first pulled from thousands of entries – from readers voting for their favourite Hardware, Software and Mac Dealer of the year. For more details see the Awards feature starting on page 92.

The Macworld March 1999 competition to win more than £10,000-worth of Heidelberg's flagship pre-press CIRCON A3+ 42-bit colour scanner is Mr S Green from Nottingham.

The Macworld April 1999 competition to win Hewlett-Packard's large-format DesignJet 455CA and RIP software is Mr R Evans from Swansea.



**World Leaders in IT Publishing**

Macworld is a publication of International Data Group, the world's largest publisher of computer-related information, and the leading global provider of information services on information technology. International Data Group publishes over 275 computer publications in more than 75 countries. Ninety million people read one or more International Data Group publications each month. International Data Group's publications include: **Argentina's** Buyer's Guide, Computerworld, PC World; **Australia's** Computerworld, IT Casebook, Macworld, Network World, PC World, Publish, Reseller News, Webmaster; **Austria's** Computerwelt, Österreich, Networks, PC Tip; **Bangladesh's** PC World; **Belarus's** PC World; **Brazil's** Anuário de Informática, Computerworld, Connections, Macworld, PC Player, PC World, Publish, Reseller News, Supermagazine; **Bulgaria's** Computerworld, Network World, PC & Macworld; **Canada's** CIO, Client/Server World, Computer World, InfoWorld, Network World, WebWorld; **Chile's** Computerworld, PC World; **Columbia's** Computerworld, PC World; **Costa Rica's** PC World; **Czech and Slovak Republic's** Computerworld, Macworld, PC World; **Denmark's** Communications World, Computerworld, Macworld, PC World, Techworld; **Dominican Republic's** PC World; **Ecuador's** PC World; **Egypt's** Computerworld, PC World; **El Salvador's** PC World; **Finland's** Mikro PC World; **France's** Distributive, Hebdo, InfoPC, Le Monde Informatique, Macworld, Reseaux & Telecoms, WebMaster; **Germany's** Computer Partner, Computerwoche/ExtraFocus, Global Online, Macwelt, PC Welt; **Greece's** Amiga Computing, GamePro, Multimedia World; **Guatemala's** PC World; **Honduras's** PC World; **Hong Kong's** Computerworld, PC World, Publish; **Hungary's** ABCD CD-ROM, Computerworld SZT, Internetto Online, PC World, PC-X Magazine; **Iceland's** Tolvuhimur PC World; **India's** Information Communications World, Computerworld, PC World, Publish; **Indonesia's** InfoComputer PC World, Komputek Computerworld, Publish; **Ireland's** Computerscope, PC Live; **Israel's** Macworld, People & Computers/Computerworld; **Italy's** Computerworld, Macworld, Networking, PC World; **Japan's** DTP World, Macworld, Nikkei Personal Computing, OS/2 World, SunWorld, Windows NT World, Windows World; **Kenya's** PC World; **Korea's** Hi-Tech Information, Macworld, PC World; **Macedonia's** PC World; **Malaysia's** Computerworld, PC World, Publish; **Malta's** PC World; **Mexico's** Computerworld, PC World; **Myanmar's** PC World; **The Netherlands'** Computer! Totaal, LAN Internetworking, LAN World Buyers Guide, Macworld; **New Zealand's** Absolute Beginners Guide and Plain & Simple Series, Computer Buyer, Computer User Directory, Computerworld, MTB, Networked World, PC World; **Nicaragua's** PC World; **Norway's** Computerworld, CW Rapport, Datamagasin, Financial Rapport, Kursguide, Macworld, Multimedia World, PC World, PC World Ekspres; **Poland's** InfoComputer PC World, Komputek Computerworld, Publish; **Portugal's** Cerebro/PC World, Computerworld/Correio Informativo, Dealer World, Mac/In/PC/In Portugal, Multimedia World; **Puerto Rico's** PC World; **Romania's** Computerworld, PC World, Telecom; **Russia's** PC World, Publish, Seti; **Singapore's** Computerworld, PC World, Publish; **Slovenia's** Monitor; **South Africa's** Computing, Network World, Software World; **Spain's** Comunicaciones World, Computerworld, Dealer World, Macworld, PC World; **Sweden's** CAP&Design, Computer, Corporate Computing, InternetWorld, PC World, Publish; **Switzerland's** PC World, Publish, Seti; **Taiwan's** Computerworld, Macworld, NEW VISION/Publish, PC World, Windows World; **Thailand's** PC World, Thai Computerworld, Macworld, Network World, PC World; **Ukraine's** Computerworld, Multimedia World, PC World; **United Kingdom's** Acorn User, Amiga Computing, Digit, Macworld, Parents & Computing, PC Advisor, PC Home, PowerPC Business, PSXPro, The Web; **United States'** Cable in the Classroom, CIO Magazine, Computerworld, DOS World, Federal Computer Week, GamePro, InfoWorld, J-Way, Macworld, Netscape World, Network World, PC Games, PC World, Publish, Video Event, WebMaster; **Uruguay's** InfoWorld; **Venezuela's** Computerworld, PC World; **Vietnam's** PC World.



# Macworld

Over 650MB of the latest demos, shareware, utilities and updaters. There's a Headline act, some real Commotion too – and Lara's back! Vic Lennard looks at the class acts...



**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:

#### ■ 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.



#### ■ British Mac OS 8.1 updater

Update Mac OS 8.0 to this later version.

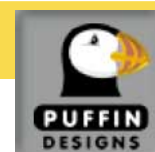
#### ■ Acrobat Reader 4

Install this version to be able to read many of the on-screen manuals.

#### ■ Also included

A number of useful utilities such as Apple Game Sprockets 1.1.4, Stuffit Expander and DropStuff 4.5 & 5.1.2, InternetConfig2.0 and Apple Appearance.

## Commotion 2



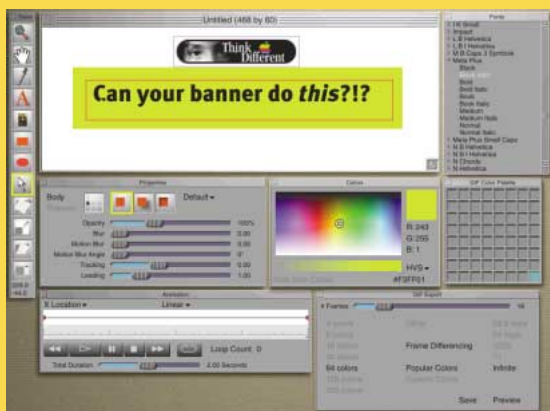
Commotion 2.0 is a comprehensive visual-effects package for professionals working in video, film, and digital content creation. Whether you're doing corporate video design or motion picture effects, Commotion's creative tools and integration are what you need to turn your vision into reality. Clone, transform, transfer and combine images to create original motion graphics. Add filter effects and animate paint and FX brushes over clips for original 2D animations.

Commotion also includes powerful rotoscoping tools for creating high-quality animated mattes. With the ability to use an unlimited number of keyframeable bézier and b-splines, you can produce detailed mattes of multiple objects that lead to the best composite. The rotosplines can even be animated over your clip before rendering, to ensure proper placement and motion.

The integrated Motion Tracker lets you select as many objects as you want and track their position within a clip. Using the tracker data, you can automatically paint objects in or out of clips, change perspective, stabilize shots and automate rotoscoping. Tracker data can also be used within the effects editor so your filter effects can follow tracked objects.

Try our save-disabled demo along with its 12 tutorials and check out the tips & tricks.

## MetaCreations Headline Studio 1.0



Headline Studio 1.0 delivers all the necessary tools for creating compelling, animated Web banners in one streamlined application. With video effects such as walk-ins, dissolves and fades for images and text (either lines, words or individual letters), Web authors have a new level of design freedom while decreasing the time it takes to produce an ad.

As Headline Studio is an integrated solution, designers can author animated GIF banner ads in a few minutes rather than the hours previously necessary. Headline Studio 1.0 includes customizable, Web-safe colour palettes, unlimited undos and the ability to determine GIF animation size and frame rate after the animation has been designed. Before Headline Studio, designing banners was much like designing a slide show. Now, designing banners is like producing a television commercial for the Web.

Demo is fully functional but save-disabled.



## Serious Demos

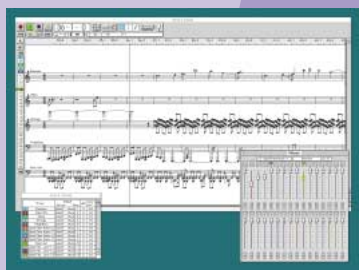


### Enhance Preview XT

Enhance Preview XT is an XTension for QuarkXPress 4.0 that improves display of pixel-based images. EPXT lets you display colour, greyscale, and bitmap (line art) images at high resolution instead of using the pixellated 72dpi screen previews QuarkXPress normally displays – even at maximum magnification (800 per cent) and maximum picture scale (1,000 per cent).

It can enhance the screen display of all standard file formats supported by QuarkXPress and its picture import XTensions, yet enhanced previews will not modify or replace your original images and will not conflict with any existing workflow.

This is a 30-day evaluation version; after 30 days, EPXT is automatically disabled.



### Opcode Musicshop 2.0

Musicshop brings your musical ideas to life, featuring 32 instrument tracks, punch in-out recording, automated mixdowns, notation or piano roll viewing and familiar tape deck-style controls.

Record, view and edit your work in standard music notation. Use the Graphic Window to simplify your music into easily readable coloured bars. Adjust and edit different parts of your music using the Strip Chart. Use the Graphic Editing window to simply grab any MIDI note to lengthen its duration, change its start time or pitch. Automate your mixes with Musicshop's 32-track mixing console and watch your faders move. Finally, see how your score will look before you print it.

The demo is fully-functional but save/export-disabled.



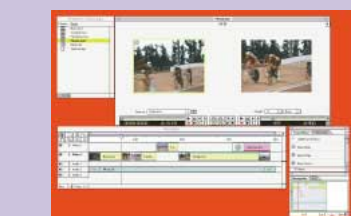
### Adobe Illustrator 8.0 & Premiere 5.0

Adobe Illustrator 8.0 is packed with powerful, flexible features that can help you transform your ideas into stunning graphics for print, presentations and the Web.

The Adobe Illustrator 8.0 tryout version includes most of the creative features of the full application but you cannot save, copy/paste, drag/drop, export or print out of the program. The tryout application also does not include third-party colour libraries, spelling and hyphenation dictionaries, Photoshop filters, sample art, fonts, clip art, action sets, tutorials and movies.

Adobe Premiere 5.0 software offers an elegant interface and superb editing tools for producing broadcast-quality movies for video, multimedia or the Web.

This tryout version of Adobe Premiere is provided to allow you to preview the features of Adobe Premiere 5.0. The product is feature complete, except that it will not capture video, save any files or export movies. You may, however, open files, import media and try third party plug-ins with this version.



## Also on the CD



**APPLE** (in the System Utilities folder) including:

- ColorSync 2.6.1
- Drive Setup 1.7.2
- LW 8.6.1
- MRJ 2.1.1

### COMMS & INTERNET

27 applications including:

- HTML Markdown 2.1
- Keep Me Online 1.0.0
- PageSucker Mac 2.1
- Style Master 1.2

### EDUCATION

Six programmes including:

- Flowchart Maker
- KeyStrokes 1.2
- KnowledgeMiner 3.0

### FONTS

- FontIncluder 2
- FontBuddy 1.1



### GRAPHICS

11 items including:

- AlphaMania 2.0.7
- Effector 1.0.7
- EPS Mover & Factory
- GraphicConverter 3.6.1
- PhotoCaster 2.0.3

### ICON UTILITIES

Three essentials including:

- Icon Machine 1.6.2

### INFO

Six items including:

- 1984 OLM Issue 12
- About This Particular Mac 5.04
- Computer Cuisine Deluxe



- My Mac Magazine #48
- + eight items for developers

### MATHS & SCIENCE

Five utilities including:

- Jeff's Calculator 1.0.1
- The Atomic Mac 2.2.0

### SOUND & MUSIC

Six applications including:

- MPEG Audio Player 1.7
- SoundApp PPC 2.6.1
- Virtual Drummer 4.0

### ANTI VIRUS

Four items for your data's continuing protection.

### UTILITIES

11 categories comprising over 60 useful tools for your Mac including:

- AutoCat 2.3
- DeskPix 2.0
- DragStrip 3.7
- EpsonShare 1.1.1
- Lupe 1.1
- MacZip 1.0.3
- OneApp Address Book 2.0
- PandoCalendar 4.4
- Reunion Planner 4.1.2
- RGB File Finder 1.4.6
- textSOAP 2.0.1
- TextEdit+ 2.5.6



### UPDATERS

This month's dedicated updaters folder includes over 75MB of patches to bring many popular applications bang up-to-date, including:

- Adobe Premiere 5.1a
- Cubase VST 4.0r3
- Digital Performer 2.51
- Disk Warrior 1.0.3
- Fireworks 2.0.2
- Freeway 2.0.2
- MarkZTools III v7.8
- Norton AntiVirus (04/99)
- PhotoTools 3.0.3
- QX-Tools 4.0.2
- SAM (04/99)
- Spring Cleaning 3.0.1
- Virex (04/99)

## Other Demos include:

### CineMotion

Desktop Magician 1.0.1

Emilé Lite 1.0

Faces

MacBarcode 3

PhotoTools 3.0.3

QX-Tools 4.0.2

Rainbow Painter 0.9.1

Sophos Anti-Virus

### Stagecast Creator



### Shareware

Many programs on this CD are shareware, which means that if you keep them and use them for more than the allowed 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.



# Tomb Raider Gold



Tomb Raider Gold is a special edition of the original award-winning Tomb Raider game that started the Lara Croft phenomenon, plus four bonus levels.

This classic adventure takes action adventuress Lara Croft around the world, in search of the fabled Scion. Players take Lara through icy caverns, ancient ruins, a lost tropical paradise and many other exotic locations.

The four new levels are split into two sections: Unfinished Business and The Shadow of the Cat. Intended as a continuation of the original game, Unfinished Business provides an alternative ending to the game. Returning to Atlantis, Lara comes face to face with an overwhelming horde of alien creatures defending their territory.

The Shadow of the Cat levels take players back to the City of Khamoon to discover the secret of the strange cat statue. Lara will need her full arsenal of pistols, magnums, shotguns and uzis to battle the bats, wolves, bears, raptors, and even a T-Rex that stands in her way.

Check the Read Me file for necessary extensions, set up the program for your particular graphics configuration and then play a portion of the second level!

## Games World

Following on from last month's dedicated Games World CD, here's two hot new demos.

Galactic Patrol is a classic space blaster. Armed with an arsenal of heavy weaponry and special power-ups, your mission is to break through enemy strongholds and exterminate all life before they exterminate you. Your super-duper rocket ship is equipped with state-of-the-art equipment to help you in your efforts – the whole human civilization is depending on you!

Adventurers head straight for Imperialism II: Age of Exploration, a turn-based strategy game set in the time of the exploration and conquest of the New World. In this sequel to the critically acclaimed game Imperialism, you take on the role of one of the European Great Powers. Your goal is to dominate Europe, your tools are conquest and diplomacy. In this demo, you can play the tutorial scenario that allows you basic access to all of the major portions of the game.

There's this month's Top 10 shareware games (including Bob the Fish 1.6, MacAttack 1.99, Solitaire Till Dawn 3.4 and Mancala 2000), two excellent Myth II network maps (including a full conversion to a WWII scenario!) plus updaters for Descent II, Dark Vengeance, Myth, Myth II and Unreal.



Galactic Patrol



Imperialism II



### 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](mailto:gillian_robertson@macworld.co.uk)

If your cover disc is broken and you want a replacement CD, please call Emiliagh Borrett on 0171 831 9252 or send an email to: [emiliagh\\_borrett@macworld.co.uk](mailto:emiliagh_borrett@macworld.co.uk)

### Macworld CD catalogue

Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 and '99 – almost 110,000 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.





## QuickTime 4 screams streams

**Apple attacks live Internet multimedia rivals with real open champ**

**A**pple has announced the public beta of QuickTime 4, its multimedia authoring software tool, at April's National Association of Broadcasters (NAB) show in Las Vegas.

Announcing the long-awaited software, which features "streaming" of live and stored video and audio over the Internet, Steve Jobs, Apple's CEO said "From this day forward, content providers, ISPs and network managers will have a choice, they will not be forced to pay a server tax to Real Networks for their proprietary server software."

Jobs said QuickTime 4 is the first streaming Internet software to use non-proprietary industry-standard Real-time Transport Protocol (RTP) and

Real-time Streaming Protocol (RTSP), the Internet Engineering Task Force protocols for streaming over the Internet. In addition, Apple announced that it has begun licensing its QuickTime Streaming Server software under an Open Source model. Apple also offered a technology demonstration of a PowerBook package that includes FireWire capabilities.

"We are embracing the non-proprietary open server model for Internet streaming, and even giving away great server software under our Open Source licensing model," said Jobs during his keynote speech.

The public beta software also includes a new QuickTime Player that offers easy access

to QT content, and significant enhancements to the QuickTime PictureViewer application and QuickTime Web Browser Plug-in, said Apple.

Compression standards supported in QuickTime 4 include MP3, Sorenson Video, QDesign Music, Qualcomm PureVoice, H.261, GSM and DVI. The software also supports video and animation formats such as AVI, DV, OpenDML, GIF, FLC and Macromedia Flash (see page 19). The inclusion in Version 4 of QuickTime for Java allows Java applets to interface with QuickTime's entire API (Application Programming Interface).

The Pro configuration also adds multi-format editing, which allows users to integrate video and audio from any supported format, including streaming. Pro users can also create slide shows that integrate images and sound, Apple said. It also provides new lens-flare and zoom filters.

### Open all hours

In other NAB news, Apple announced that its QuickTime Streaming Server software can be downloaded by developers as open-source code. The new Darwin Streaming Server is also available as a free upgrade for Mac OS X Server, Apple's recently introduced server platform (see page 26). Running on Mac OS X Server, QuickTime Streaming Server can serve more than 1,000 simultaneous modem-rate connections, Apple said.

Unlike RealNetworks, which sells its own servers, Apple will potentially benefit from other server vendors adding streaming capabilities to its server software: at NAB, Sun, SGI (formerly Silicon Graphics), Cisco, and IBM all demoed servers supporting the RTP and RTSP protocols that QuickTime uses for its streaming capability.

Apple has set its sights on knocking RealNetworks out of the streaming market, a task Steve Jobs has made a personal goal, according to sources. However, Jobs denied this: "There are no personal goals here - just business," he said. "We are striving to make QuickTime the best and most popular streaming media solution."

Hot on the heels of Apple's QT 4, Microsoft



announced the creation of a new Streaming Media division to develop and market technologies and products for digital media applications.

The company is also beefing up its streaming media presence by buying in third-party products. Windows Media technologies enable streaming-media applications such as listening to audio and viewing video online.

Earlier, Microsoft unveiled its new Windows Media Technologies 4.0, which serves high-quality FM radio at standard modem speeds at half the file size as the popular MP3 audio format.

### Fire starter

Finally, Apple offered NAB show goers a sneak peek at FireWire integration for the PowerBook with a technology demonstration that combined a Newer Technology DV PC Card with a FireWire connection. Final Cut Pro Product Manager Andrew Baum said a shipping version will arrive this summer. For more on the release of Final Cut Pro, see pages 18-19.

QuickTime 4 is available now from Apple's QuickTime Web site ([www.apple.com/quicktime](http://www.apple.com/quicktime)). The basic download is free, with the Pro version costing about £18. QT Pro 3 customers will be upgraded to Pro 4 on download of the beta. **MW - Matthew Rothenberg and Michael Burns**

*Apple is missing a great opportunity by charging extra for QuickTime 4 Pro, writes Cameron Crotty on page 30.*

## Apple not bananas over 333MHz iMac

**A**pple has upped the speed of the iMac from 266MHz to 333MHz, while keeping pricing static at £779 (ex. VAT). The news coincided with better-than-expected second-quarter earnings for Apple of \$135 million. Apart from the 333MHz Power PC G3 processor, the speed-bumped iMac retains the same features - Rage Pro Turbo Graphics controller, 32MB of RAM, 6GB hard disk and Mac OS 8.5.1. Despite widespread rumours, the colour choice is unchanged.

According to Apple, the latest iMac clocked 26.5 frames per second in a game-performance test using Dark Vengeance software, compared to a Compaq 5240 Windows PC with 400MHz k6-2 processor, which clocked 18.3 frames per second.

### My Cherry clamour

The rumoured addition of two colours to the so-called fruity range of iMac plastics started when mouse-maker Contour Design unpeeled a Banana-coloured iMac mouse. (*Macworld* readers will remember the inclusion of a cut-out Banana in our April issue.) The Banana UniMouse joins the five other flavours of iMac mice - in Blueberry, Grape, Lime, Strawberry and Tangerine. The other potential new flavour was reported to be Cherry, as a Strawberry replacement.

The three-button UniMouse, which also includes a palm support, works with iMacs and G3 Macs. The mouse has button-definition combinations, such as double-click, Control-click, Option-click and drag-lock. The UniTray, a combination wrist-pad rest and mouse pad, is also available from Contour Design in six colours that match the UniMouse.

As yet there's no matching iMac, even



though a yellow, or Banana, iMac would complete Apple's colour spectrum - joining the five other iMac fruit flavours in a colour spectrum that would exactly match the six colours of the company's old trademark rainbow logo.

Apple's spokeswoman Nathalie Welch has said that the company "has not announced any plans to release a yellow iMac."

Contour Design heard from an Apple representative at February's Macworld Expo in Tokyo that Apple initially considered manufacturing a yellow iMac, but decided against it because some people might equate the colour with a "lemon."

Apple now admits that the Blueberry and Grape iMacs are outselling the other colours by some margin. Rumours of the death of the weirdly unpopular Tangerine flavour, however, seem greatly exaggerated.

### Money matters

Bolstered by strong sales of its iMac and Power Macintosh G3, Apple earnings included \$42 million derived from the \$50 million sale of two million shares of ARM Holdings plc, and expenses of \$8 million spent on tightening manufacturing operations.

Revenues for the quarter were \$1.53 billion, up from \$1.4 billion from the same period a year ago and international sales accounted for 50 per cent of the quarterly revenue.

A year ago, the company posted earnings of \$55 million for the second quarter. Sales of iMac and Power Macintosh G3 computers drove much of the earnings in the quarter, said CEO Steve Jobs. Sales of the computers jumped 27 per cent from last year's second quarter.

In addition to healthy sales, increased efficiency in operating procedures also helped the company, said Fred Anderson, Apple's chief financial officer. The company presently has \$2.9 billion in cash and short-term investments, he said.

Customer loyalty remains a strong factor in maintaining sales, even in the face of an uncertain market which has other companies like Compaq experiencing less-than-expected revenues, said one analyst.

"Apple continues to have brand approval and sales to their existing customer base and they're getting some new converts," said Roger Kay, an analyst with International Data Corp.

"They continue to have a viable niche," he added.

Apple, 0870 600 6010 **MW**

## Free Zips and modems with sweet 17 display deal



**A**pple is running a promotion where customers buying a Power Mac G3 system with a 17-inch Studio Display will get a free 56K internal modem and an internal 100MB Iomega Zip drive. If you buy a G3 without the display, you can choose either the Zip drive or the modem. The offer is open until June 27 1999 and is available from the online Apple Store or from Authorised Resellers.

More details and a coupon can be found on Apple's Web site, [www.apple.com/uk](http://www.apple.com/uk). Apple 0870 600 6010



# Final Cut makes its debut

# debut

## Apple enters video-editing market at NAB show

Apple entered the desktop video-editing world with a bang when it introduced its long-awaited Final Cut Pro software package at the National Association of Broadcasters show in Las Vegas. Meanwhile, Adobe stayed in the game, with the announcement that its Premiere 5.1 video-editing application now features support for the newly released QuickTime 4.0 technology.

Apple vice president of worldwide product marketing Phil Schiller called Final Cut "a breakthrough product that makes the power of digital video available to a new audience". Apple said a UK version of the Final Cut Pro will be available this summer. The \$1,000 product is already shipping in the US.

Schiller added that Final Cut's editing, compositing and effects features match those from high-end video-editing packages costing tens of thousands of dollars more.

Schiller said: "New streaming capabilities in QuickTime 4 allow home users – including those surfing the Web with 28.8k modems – to hear real-time audio as good as – or better than – the clearest radio broadcasts. High-end results are

now more affordable. Final Cut fills the gap between entry-level video systems and high-end, \$100,000 Avid Technology systems."

He added: "Apple is aiming the product at creative agencies and colleges that can't afford high-end video suites, but it's also available to home hobbyists with a DV camera and a high-speed Power Mac G3 with FireWire capabilities – all together maybe a \$5,000 setup that can produce professional results."

Schiller predicted that Final Cut will do for video editing what Adobe PageMaker and QuarkXPress did for the once-exclusive fields of publication design and printing.

He also revealed Apple sees Final Cut as a unique product that won't compete directly with the Premiere editing system from Adobe, and he said Apple and Adobe maintain close ties. Final Cut and Premiere "are different products," he said, "and, if they do overlap in some areas, we can be adult about that."

Apple has no immediate plans to produce a less-expensive, lower-end version of Final Cut, Schiller revealed.

Final Cut was authored at Macromedia by the

original designer of Adobe Premiere, Randy Ubillos. An early version was previewed at the NAB show in 1996, but its release was repeatedly delayed until Apple bought the technology from Macromedia in May 1998. After years of development, a beta version of Apple's Final Cut Pro started circulating in November 1998.

According to Final Cut Pro product manager Andrew Baum, the package has seen a variety of enhancements since Apple acquired it from Macromedia. The shipping version features a complete interface overhaul that takes extensive advantage of drag-and-drop controls. It also features "comprehensive" DV support and permits simultaneous playback on computer monitors and NTSC video screens. Since QuickTime is the "backbone" of Final Cut Pro, Baum said, Final Cut Pro will support any QuickTime format, including Version 4.0's new streaming capabilities.

Baum enforced Phil Schiller's argument regarding the strategy behind Final Cut Pro.



"We're expanding a new market, not looking to target other companies," he said. "We're looking at professionals in other industries who haven't done video because it's been too difficult."

"The 60 million Web sites out there are going to be 60 million broadcast stations," and access to video-editing solutions will help to drive that convergence, Baum said.

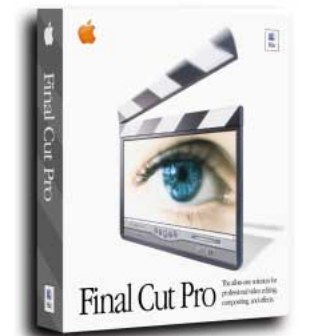
Adobe Premiere Product Manager Matthew Douglas took a somewhat different view of Final Cut Pro's prospects in the market. While Final Cut Pro "is offering a very narrow solution for a niche market," Douglas said, the combination of Premiere and After Effects, along with Adobe's other graphics applications, represents a far more comprehensive approach. "Premiere is going to be the next Photoshop-ubiquitous," he said.

He also touted Adobe's own raft of NAB announcements, all of which focus on Premiere 5.1. Douglas said the free upgrade to Version 5.1, slated to ship this summer for Macs only, will add four new capabilities to the software.

The new version of the package will offer DV device control from within the software, as well as support for QuickTime effects, including 75 transitions built into the extensible Apple technology. Premiere will tap QuickTime 4.0's support for hinted movies containing file information, enabling users to optimize file sizes. Users can also capture files larger than 2GB.

– John Batteiger, Matthew Rothenberg and Philip Dyer

**In the can**  
Final Cut Pro, Apple's new video-editing tool, features the ability to view large video windows with smooth, stutter-free playback.



## Macs 'not on cutting-room floor'

Accusations flew, Mac-partisan feathers were ruffled and confusion reigned, following reports from the NAB show in Las Vegas that Avid Technology will no longer ship Mac versions of Avid Xpress and Media Composer, its high-end video-editing tools.

The reports stemmed from Tom Corn, director of product marketing for Avid's Symphony software. He spoke to the press after the company had released details of version 8.0 of Media Composer XL, due to ship within the next few months.

He claimed that version 8.0 would be the last Mac release of the product – and that the new Mac version will not carry many advanced features, such as key-framable colour correction or large-scale online editing. These would, he said, be reserved for Windows NT systems.

The media furore that followed included speculation that Avid was turning its back on the Mac because of Phil Schiller's inflammatory positioning of Final Cut Pro in his keynote speech (see story above). Other pundits on the Web claimed that Avid was responding to Apple's continuing refusal to provide a Mac with more than three PCI slots – and even that there is an anti-Apple conspiracy in the offices of Wintel-friendly



Avid. This last rumour stemmed from Microsoft's sale of Softimage to Avid last year, a deal which saw Microsoft gain nine per cent of Avid shares. This, and the fact that Avid formed a strategic alliance with Intel in 1997.

However, Paul Henderson, Avid vice president of product marketing for editing

products, slammed the rumours.

Henderson said that, although Avid was rethinking its strategy on high-end markets, there will be no abandonment of the Mac on any fronts. He added that there will be future Mac releases of both XPress and Media Composer and that Avid will definitely support the Mac, even though the company is putting significant development into the Windows NT platform.

On the NAB show floor, Avid demonstrated Media Composer XL 8.0, as well as Unity, a new line of products for sharing various media types across platforms and network protocols.

Unity will be based on Unity MediaNet – open networking and central-storage technology that supports real-time, simultaneous sharing of high-bandwidth media and lets dedicated systems offload media-management and media-manipulation tasks.

Media Composer XL 8.0 supports a single stream of 1-1 uncompressed video, as well as high-resolution compressed images in real time. The system supports component, composite, SDI and S-video and features eight channels of analogue and AES/EBU digital audio and a separate I/O box.

Avid, 0171 307 8000



**Palette potential**  
Final Cut features advanced searching and sorting of media assets, allowing users to concentrate on creativity.

## Flash follows QT 4.0 lead

Macromedia has followed Apple's launch of QuickTime 4 by announcing that Flash – its vector-based Web design format – is QuickTime 4-friendly. And, in a move to make the Flash Player more ubiquitous, Macromedia has announced that it is available as open source.

QuickTime 4's support for the Flash open-file format means Web developers can incorporate Flash interfaces into QuickTime movies and consumers can enjoy streaming audio and video overlaid with interactive Flash graphics.

The Flash file format (.swf) is an open standard: any software vendor can output Flash files by writing to the specification published on

Macromedia's Web site ([www.macromedia.com](http://www.macromedia.com)).

Developers can also integrate Apple's QuickTime with Shockwave 7 to create games and online entertainment that combine rich interactivity with streaming video.

Macromedia says 77 per cent of Internet users can view Flash-generated Web sites without having to download plug-ins. The Flash Player, which is currently shipping with Netscape Navigator, and Microsoft Internet Explorer, was previously available for distribution upon payment of a license fee. Now that the product is open source, it will be freely available for distribution by vendors.



## Digital Origin in Roto-duo launch

**Dynamic-effects tools from 'reborn' Radius**

**D**igital Origin – formerly Radius – has announced RotoDV and RotoWeb, two new video-painting and special-effects tools for desktop digital film-makers, Web and multimedia producers.

The company previewed the products at the National Association of Broadcasters (NAB) Conference in Las Vegas. Aimed at videographers and Web designers alike, Digital Origin claims the products will provide eye-popping special effects, pure animation and subtle touch-ups.

RotoDV offers painting and special-effects for video, while RotoWeb provides similar capabilities at lower resolutions to designers of Web, multimedia and streaming-video content.

"RotoDV and RotoWeb give you the power to paint at the speed of video," said Michael Glass, product manager, Digital Origin. "You can bring movies in, paint the frames one at a time or while they play, and immediately see the result. The products give the artist real-time interaction and immediate feedback".

Based on QuickTime and on technology acquired from Post Digital, the new products can work alongside other popular applications and mesh with any multimedia workflow, said the company.

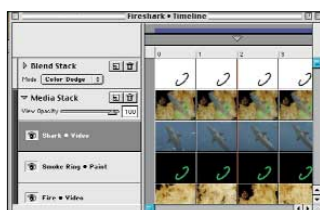
"RotoDV makes an excellent companion for video editing software such as Digital Origin's



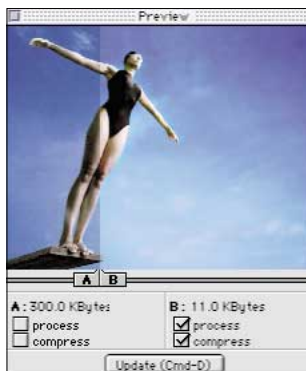
EditDV or Adobe Premiere", said Glass. "It's also an ideal complement to compositing applications such as Adobe After Effects and special effects programs such as Commotion by Puffin Designs. By providing low-cost access to multi-layer video painting, RotoDV and RotoWeb's unique capabilities give artists even more freedom of expression without adding significant cost or complexity to their projects".

RotoDV and RotoWeb include features such as customized brushes, tools with a "natural media" feel, unlimited, non-destructive layers, powerful cloning tools, real-time playback, native QuickTime file import/export and Web streaming.

RotoWeb has a retail price of £149. **Digital Origin, 01277 201 729**



**To good effect...**  
RotoDV uses a host of powerful cloning and painting features to produce some spectacular effects (left and above).



**Taking the plunge**  
Media Cleaner Pro's compression algorithms are the industry standard.

## Media Cleaner responds to QT's cue

**T**erran Interactive has followed the announcement of Apple's QuickTime 4.0 with release of Media Cleaner Pro 4.0.

The new release of the desktop media compression software means that Terran's product supports all the major formats in the digital content creation market: Apple QuickTime 4, Microsoft's Windows Media Technologies, RealNetworks' RealG2, MP3, MPEG, AVI and others.

The cross-platform software enables developers using both Mac OS and Windows to use one tool to easily prepare professional-quality media for delivery on the Web, broadband, CD-ROM, kiosks, presentations, and DVD.

The new release features 'lossless' format

conversion, enabling users to convert between certain formats without recompression. It features enhanced audio technologies from QDesign including higher quality resampling and output.

Taking advantage of Apple's new streaming QuickTime technology, Media Cleaner Pro can automate production of QuickTime 4 streaming movies. Other enhanced QuickTime features include enhanced movie alternates, automated poster frames, variable display resolutions, and tight integration with the latest codecs.

UK Pricing has not been fixed but Media Cleaner Pro 4.0 is available now as a beta release from **www.terrann.com**

**Computers Unlimited, 0171 358 5857**

## Plans on FireWire heat up



### Developers conference to broach 1394b speed revision

#### Apple releases FireWire drivers

Apple has released a new version of its high-speed FireWire connectivity software, which makes it easier for users to move digital video and still photos from digital cameras to the newest generation of G3 Macs. Version 2.0 of the free FireWire driver software is available for download now from Apple's Web site ([www.apple.com/firewire](http://www.apple.com/firewire)).

The latest version includes FireWire Support, a system extension that adds services that allow users to hook up additional FireWire disk drives, printers and other devices.

Another extension, FireWire Enabler, adds support for Apple hardware with FireWire interfaces. The Enabler extension supports the built-in FireWire interface on blue G3 Power Macs as well as Apple's FireWire PCI Card.

FireWire 2.0 requires a G3 Power Mac running Mac OS 8.5.1 and a built-in FireWire interface or at least one FireWire PCI card, Apple said. **Apple, 0800 600 6010**

FireWire continues to gather momentum this month with the FireWire Developers conference taking place in San Jose, California. High on the agenda is a discussion of the new, faster 1394b revision to the IEEE 1394 standard, which ramps the speed of FireWire communications up to 1,600Mbps. The current speed of FireWire communications is 200Mbps, with a top theoretical throughput of 400Mbps.

The 1394b standards proposal looks at the advancement of the basic specification of the interface originally developed by Apple in 1987. The FireWire interface is rapidly becoming an industry standard for connecting peripherals such as digital video recorders and digital cameras.

The 1394b revision has taken longer than had been expected, with the 1394a revision failing to make it to the approval stage. The new specification is, however, expected to be ready by autumn.

As well as boosting the speed up to 800 and 1,600Mbps, 1394b is set to hit speeds of 3,200Mbps in the future – although the electrical specification for this is still in the pipeline.

#### Ease-of-use

The developers working on the 'b' revision are also in the process of removing some of the analogue content of the original, therefore making it easier to use. Michael Teener, chairman of the 1394b project, explains that the new speed requires a new kind of data encoding method, eliminating one of the two signaling methods that the current version uses, thereby simplifying the analogue part of the interface.

The 5C copy protect is also up for discussion at the conference. This is the protocol developed by leaders of the 1394 Trade Association, including Sony, Matsuhita and Philips, as a way of protecting information sent over the 1394 bus from piracy.

At an April press conference in Japan, chairman of the 1394 Trade Association, James Snider, predicted that 1999 would prove to be a bumper year for FireWire. He said: "Mass storage and desktop cameras which use 1394 are already on the market. Scanners and printers will be available in the second half of the year."

Snider also used the conference to emphasize the association's support for the Patent Pooling Plan that came about after fears that Apple would

charge royalties for each FireWire port.

"Former concerns about 1394 licensing costs are in the past," he said, "there will be a reasonable per-system charge, independent of the number of ports or devices in a system."

Many new products and technologies will be on display at the three-day conference, including some from Apple, Sony, NEC and Matsushita.

"The number of new 1394-equipped products coming to market is accelerating rapidly, and our technical working groups are moving rapidly to enhance performance," Snider said. "We will see a new set of low-priced camcorders, digital cameras and computers equipped with the interface, along with exciting new peripherals based on the standard. Also, very soon, we will have silicon that runs at 800Mbps."

#### Card on cards

One new FireWire product expected to appear this year is Newer Technology's FireWire PC Card for digital video. The company is also finishing work on FireStorm, a video FireWire converter due to ship in July.

Newer confirmed it is developing the Type II PC Card that includes a FireWire interface designed to let PowerBook users work with digital video cameras and other FireWire peripherals.

However, Newer declined to provide pricing, availability or additional details on the FireWire card, which was previewed at the National Association of Broadcasters show in Las Vegas. "The card is in the early stages of development, so we cannot provide details," said Eric Dahlinger, Newer Tech director of corporate communications.

The FireStorm converter will allow analogue video from a VCR to be transformed into digital video and viewed on a computer. Dahlinger said the converter should cost less than \$300 (£180).

Although Newer originally planned two products – FireStorm AV and FireStorm DV – the company may decide to release one product that incorporates both AV and DV, depending on the results of the redesign, Dahlinger said.

"We are changing some chip sets to build in better performance," he said. The redesigned converter will offer features such as stronger video mirroring, the company said. **MW**

**1394 Trade Association, [www.1394ta.org](http://www.1394ta.org)  
IMC, 01344 871 329  
AM Micro, 01392 426 473**



# Firms tackle hue and cry on colour

**S**oftware developers are seeking to demystify the arcane science of colour management by introducing inexpensive products that make it easy to create your own colour-device profiles. These profiles, designed for use with Apple ColorSync and other colour-management systems, provide information about the colour-reproduction characteristics of specific monitors, scanners, and printers.

Monaco Systems ([www.monacosys.com](http://www.monacosys.com)) has introduced MonacoEZcolour, a \$299 (£185) profiling package. To create a scanner profile, you simply scan a standard IT8 target; the program analyzes the scanned colour values and compares them with the known values in the target to determine the scanner's colour characteristics.

Creating a printer profile is a little more complicated: you print a page from the program that includes a set of colour swatches in the upper half, then you attach the same IT8 target to the bottom half and scan the page. You can profile monitors by adjusting a series of on-screen images; the program also accepts data from Monaco's \$199 (£123) MonacoSensor, a hardware device that measures the actual colours that the monitor produces.

Color Solutions (TypeMaker, 0121 666 6707) has introduced ColorBlind Prove-It, a monitor-profiling package for local area networks.

In addition to creating monitor profiles, you can use the program to view the colour characteristics of any monitor on the network. A software-only version will sell for £39.95, while a version with a monitor sensor will set you back £295.

Color Solutions also offers a package called ColorBlind Matchbox that combines a colorimeter with colour-profiling software for scanners, monitors, and printers. UK pricing has not yet been fixed, but is likely to be around £650.

Profile•Editor from Color Partnership (Laurie Mullaney Associates, 01736 244 191) allows users to create profiles for printers and other output devices by visually comparing a printed sample image with one displayed on a calibrated monitor. Users adjust the on-screen display to match the print, and the program generates a profile. The product is still on the horizon, but its UK price is likely to be around £150.

It's not a colour-management product, but Pantone's (Digital Toolbox, 0181 961 6622) new \$129 (£79) HexVector plug-in for Adobe

## New products will make colour-profiling easier

Illustrator makes it easier to match spot colours by giving Illustrator users access to the company's Hexachrome system. Macromedia FreeHand already offers built-in Hexachrome support. It will ship this summer, but UK pricing has not yet been fixed.

In any print job there are two ways to specify a spot-colour: you can simulate it using CMYK process colours, or produce an extra plate for the spot-colour ink. The former makes it difficult to get an exact colour match, but the latter is typically more expensive

and cumbersome. Pantone says that Hexachrome, which uses six process colours rather than the standard four, can accurately reproduce 95 per cent of Pantone Matching System colours, compared with about 50 per cent in CMYK.

Pantone has also announced ColorSuite for Graphics and ColorSuite for Hexachrome.

The £225 ColorSuite for Graphics includes the P2C2 monitor-calibration tool to improve on-screen colour, and Pantone ColorReady, which uses ColorSync profiles and colour-matched data to show how colours will output to desktop printers, proofers or four-colour presses.

ColorSuite for Hexachrome is aimed at designers and production professionals who use Hexachrome for six-colour process printing. With the ColorSuite collection, the user can softproof Hexachrome images on-screen and create six-colour separations with Pantone HexWrench. The collection – including the P2C2 calibration tool – is priced at £330. Both bundles include a handbook and three Pantone guides.

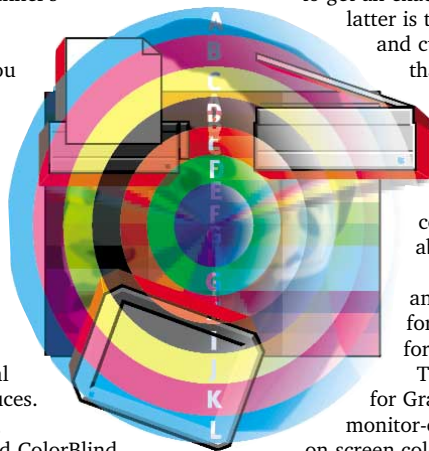
Setting up a reliable colour-management system, especially in a high-volume production environment, can still be a challenge.

The Graphic Arts Technical Foundation ([www.gatf.org](http://www.gatf.org)), a non-profit trade group, has teamed up with Apple to provide a certification program for colour-management specialists.

To become certified, printing companies and service bureaus must pay a fee and pass a one-day test in using a ColorSync-based colour-management system.

MW

– Stephen Beale



## Microsoft ships FileMaker plug-in

**M**icrosoft has released a free FileMaker Pro plug-in for its Office 98 productivity suite, allowing Mac versions of Microsoft Excel and Word to incorporate FileMaker Pro data.

The company promised the plug-in during January's Macworld Expo in San Francisco, and now the Office 98/FileMaker Pro Importer has been posted on Microsoft's Mactopia Web site ([www.mactopia.com](http://www.mactopia.com)).

The plug-in adds a new command in both Word and Excel to import FileMaker data. Microsoft said only a few steps are required to import small databases into Office 98, and it noted that Word's Mail Merge feature can be used with FileMaker Pro data to automate mass mailings.

In addition, the plug-in works with Excel 98's PivotTable and PivotChart features, the company said. **Microsoft, 0345 002 000**

# Apple is serving up

**Long-awaited server-solution shipping for £349**

**A**pple is shipping Mac OS X Server, its powerful G3-based server solution based on the bones of Rhapsody. A software-only version of Mac OS X Server sells for £349 with an unlimited client license. Apple also offers a £3,399 version bundled with a 400MHz Power Mac G3. The latter includes 256MB of memory, two 9GB hard drives, built in 10/100BaseT ethernet and a four-port ethernet hub.

Apple's targeted customers include small businesses that are hoping to establish a cost-effective Web presence and education customers looking for an inexpensive and easy way to administer Mac-based networks. Competitors in this space include PC vendors, such as Dell and Compaq, that bundle their hardware with Windows NT, Netware, or Linux server software. Low-end configurations of Sun Microsystems' Solaris servers also compete for small-business customers, although these systems typically sell for more than £3,500.

Mac OS X Server includes Apple-modified versions of the Mach 2.5 microkernel – a Unix-based OS core – and Berkeley Systems Distribution (BSD) 4.4, a popular variant of the Unix operating system. Mach and BSD 4.4, along with the Apache Web server and such Apple technologies as AppleTalk and HFS+, form the basis for Darwin, which Apple is giving away to developers under an open-source strategy (see "News, May Macworld").

However, the open source community complained that the Darwin move had not gone far enough, citing a clause in the Apple Public Source License that barred developers from shipping software derived from the code to countries which the US government has targeted for export restrictions. Ken Bereskin, a technology marketing director for Apple's operating system business, said that the clause has now been eliminated from the contract.

The company also loosened a provision that previously allowed Apple to terminate a licence

# OS X

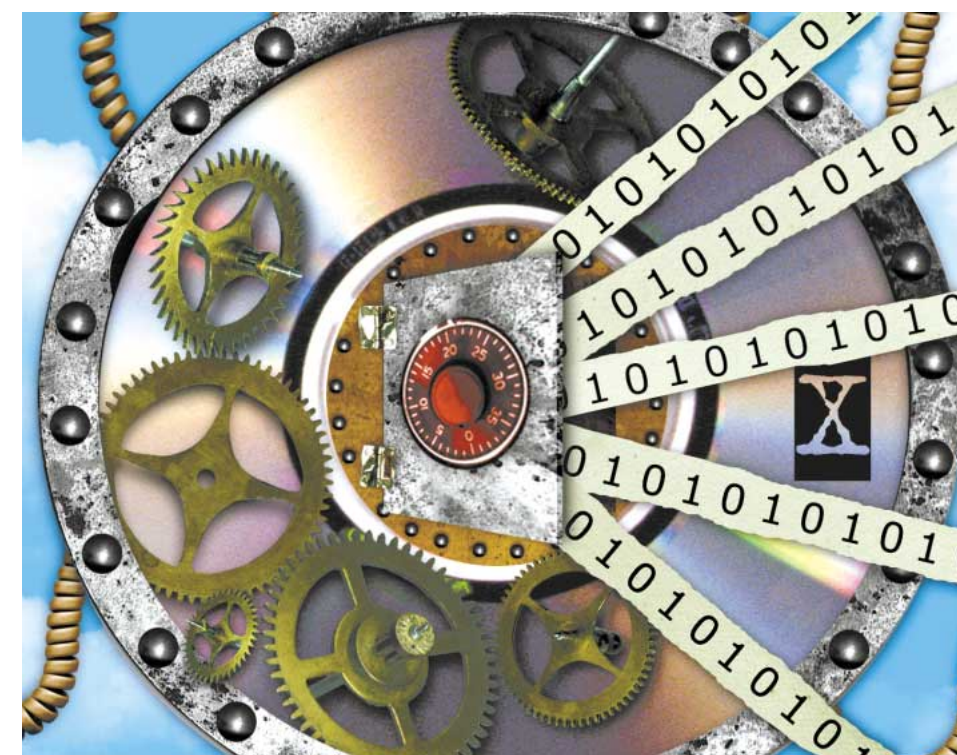
if the developer sued Apple for infringement of intellectual property rights. Now, Apple can only suspend the developer's rights under the licence agreement until the dispute is legally resolved, according to Bereskin. Since Darwin has been available, there have been more than 160,000 downloads of source code components and more than 20,000 developers have registered on Apple's Darwin Web site.

## Net booty

Beyond the components in Darwin, Mac OS X Server also includes Apple file services; WebObjects 4.01, Apple's high-end Web production software; and NetBoot, which allows client Macs to boot off the server. The NetBoot functionality will not work with Macintosh models released before the iMac, however. Apple said that the NetBoot capability has only been built into the new ROMs in the iMac and the blue-&-white G3 desktops. Older Macs are catered for by the inclusion of Macintosh Management server software.

The software also allows roaming or 'hot-desking': a way of sharing one Mac between many users, each with their own set of preferences, custom desktop and application access. For added compatibility, Mac OS X Server features Process Manager, which can run a client version of the Mac OS under the Server. The server also has a Mac-like user interface that Darwin will not include.

Stan Ng, Apple's server product manager said that Mac OS X Server was not intended to replace the company's other server solution, AppleShare IP, currently in version 6.1. Rather, he said, the two solutions would complement each other, with OS X Server ideal for networked groups of 1,000



LARRY GOODE

users or more, while AppleShare IP is better for groups with less than 500 users.

Apple's goals are to attract more applications to the Macintosh platform, spread the company's technology to other platforms and improve Apple code by allowing developers to add capabilities and detect bugs, said Bereskin.

Some of the results of the project are bearing fruit. For example, Apple's NetInfo technology is now available on the Linux operating system and Sassafras Software has built AppleTalk networking into its KeyServer product.

Mac OS X Server ships with a companion CD comprising 25 try-out versions of native software, including Web-creation tools, pre-press, productivity and system software, publishing groupware and database programs. **– Stephen Beale and Michael Burns**

## Is Darwin 'carrot' a sticking point?

**S**everal years ago I learned an excellent method for catching rabbits: Be very quiet and act like a carrot. Can Apple pull the same trick when it comes to attracting the developer community to Mac OS X via its Darwin open-source initiative? While the mum's-the-word part shouldn't pose any difficulty under the code of silence imposed by the current Apple regime, the company currently lacks the orange lustre required to draw the many warrens of developers it needs to make Darwin an open-source success.

It's not enough to simply put the source code out there and hope that people hone the parts Apple wants worked on.

### Reaction time

I'm really curious to see Apple's official reaction to developers who want to port Darwin to Intel's processors. Several vexed NeXT developers intend to do just that in response to the apparent sublimation of Rhapsody for x86. For them, the choice is either making Darwin for Intel PCs or succumbing to Windows NT. But does Apple really want to help foster Yet Another x86 OS? Indeed, does it even have a choice?

Hardware-philosophical issues aside, it's still mighty unclear what developers will derive from contributing to Darwin that they



wouldn't get more of by developing for Linux, or even one of the already-established BSD Unix flavors. Peer recognition is already a major benefit of Linux efforts, and having your name on the Linux kernel's contributor list is a sure boost to employability. Will these benefits carry over to Darwin? Maybe, perhaps, in the future.

Even if loads of developers were revved up and ready to hack, the next problem looms: The current set of Darwin source code is incomplete. Without the missing parts, eager developers can't even compile all of Darwin and start to work on adding or fixing the stuff they want. It doesn't make much sense to work on what you can't build.

### Work in progress

Admittedly, postings from Apple employees on the Darwin mailing lists indicate that they're well aware of the significant kernel

and DriverKit omissions, but it's already been four weeks – a whopping year in Internet time – since Mac OS X Server shipped. But is it reasonable to expect any corporate entity – Apple or otherwise – to get this sort of thing right the first time? Hardly.

I'm much more interested in what Apple does next. Declaring Darwin to be open source is one thing; following through is entirely another.

When will we have a complete set of sources to build a Darwin OS of our own? When will we see a precompiled distribution of Darwin? Days? Weeks? When will we see a cheap CD full of Darwin binaries and sources, as well as the standard tools that come with any contemporary xBSD/Linux distribution?

Such CDs would be a great opportunity for LinuxPPC and Prime Time Freeware, purveyors of Linux CDs for Mac hardware that have already helped the Mac Linux community by funneling the proceeds from their sales right back into further development.

Apple is presently faced with the irrefutably avian conundrum of the chicken and the egg. It needs developers to make its Darwin plan succeed; until Darwin shows signs of success, however, developers are unlikely to spend their time in exchange for uncertain returns.

The carrot is in Apple's court. **– Stephan Somogyi**

## Farallon has Intel on side

**F**arallon is working with Intel on a new home-networking product for the Mac. The announcement was made on April 5, the same day that Intel launched its new home Network product line for Windows PCs.

Farallon has announced that it also joined the Home Phoneline Networking Alliance (HomePNA). The non-profit body consists of 65 companies including Intel, Compaq, IBM and Hewlett-Packard, all dedicated to the adoption of a phoneline networking standard offering speeds of 1Mbps and higher.

Intel's AnyPoint Home Network uses existing phone lines to connect home PCs so that families can share a single Internet connection, allowing two or more users to surf the Web at the same time

without the need for a second phone line or Internet account. The move to tap the home networking market has been gaining momentum, with 3Com and Microsoft forming a partnership to develop products, and a growing number of companies joining in. Until now, however, the Mac has been left behind.

Now Farallon's marketing Manager Ken Haas confirmed that the company is working with Intel and will use the Intel chip on the forthcoming Mac product, but the company would not give further details about a shipment date, pricing or product specifications.

The product will work over the phone line to interconnect Macs and PCs. **Principal, 01756 704 000**

## Sony puts skids under Connectix

**C**onnectix has been ordered by a US court to stop shipments of its Virtual Game Station – the PlayStation emulator (See May Reviews) – which is at the centre of a legal storm with Sony.

This is the latest twist in an ongoing wrangle between the two companies – which began when Connectix announced the Virtual Game Station at Macworld Expo in January. Sony promptly sued.

Connectix said the court order is temporary and that shipments will resume.

"This is just the first stage of a lengthy process of discovery of facts and finding of law. We are confident that we will be able to resume shipments once this matter has received further review at the appellate level," said Roy McDonald, president of Connectix. **MW**



# InDesign sparks plug-in frenzy

A host of software companies are set to ship plug-ins for Adobe InDesign, taking advantage of the forthcoming DTP program's extensibility.

One developer, a new company called PowrTools, says that with InDesign's flexible architecture, plug-in vendors can make the page-layout program "sit up and beg".

PowrTools ([www.powertools.com](http://www.powertools.com)) says it will ship InDesign plug-ins shortly after the program's expected summer release. PowrTable, the first in a planned series of PowrTools utilities, will let you create text tables for use in InDesign documents.

Also in the works: Mapsoft ([www.mapsoft.com](http://www.mapsoft.com)) has announced Sherpa for Adobe InDesign, a plug-in that permits the creation of Adobe Acrobat PDF files that include links, bookmarks, forms, action handlers, and other interactive features.

ShadeTree Marketing ([www.borderguys.com](http://www.borderguys.com)) says it will offer an InDesign version of Fraemz, a program that lets you apply one of 404 high-resolution borders to text and picture boxes in InDesign documents. The program also features a drop-shadow function.

Virginia Systems ([www.virginiasystems.com](http://www.virginiasystems.com)) announced an InDesign version of Sonar Bookends, a £120 indexing utility. You can index books that span multiple documents, automatically reverse first and last names, and sort single-level or multilevel word lists.

Enfocus (Alta, 0171 622 6606) says it will offer Enfocus PDF Check-Up for InDesign, a preflighting program that inspects PDF files saved in InDesign for conditions likely to cause output problems. Pricing has not yet been set, but is likely to be around £139.

Em Software ([www.emsoftware.com](http://www.emsoftware.com)) announced an InDesign version of its database publishing plug-in range. Em's InData automatically formats database or spreadsheet information for use in catalogues, directories, and other structured publications.

InCatalog creates hot links between a product database and InDesign document so changes in one automatically update in the other.

A Lowly Apprentice Production ([www.alap.com](http://www.alap.com))

## DTP program's extensibility prompts surge of interest

announced that it will develop InDesign versions of ShadowCaster, a QuarkXTension for generating shadow effects, and Xpert Tools, a set of page-layout productivity aids.

LizardTech ([www.lizardtech.com](http://www.lizardtech.com)) announced that it will offer an InDesign plug-in that lets you compress image files using the company's Multiresolution Seamless Image Database (MrSID) format. The company says that MrSID, which uses wavelet compression technology developed for the US government, offers a 30:1 compression ratio with minimal loss of image quality. LizardTech will

provide the plug-in as part of a suite of publishing tools and plans to include it in the InDesign package.

Other developers, including several vendors of QuarkXTensions, are less certain of their plans. Extensis ([www.extensis.com](http://www.extensis.com)) promises that its Preflight Pro pre-flighting software will

work with InDesign files, but says it plans to hold off on developing InDesign

plug-ins until the program gains some significant

market share. Markzware (Alta, 0171 622 6606), Vision's Edge ([www.visionsedge.com](http://www.visionsedge.com)), and DK&A

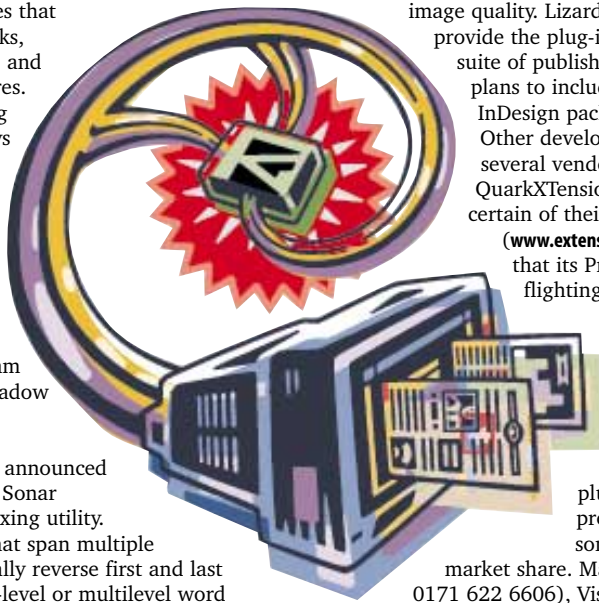
([www.dka.com](http://www.dka.com)) say they plan to offer InDesign plug-ins. However, they have not announced any specific product plans or timetables.

— by Stephen Beale

■ Adobe Acrobat 4.0 – the latest version of the PDF-file creation software – is now shipping, priced at £149. Free upgrades are available to customers who purchased Acrobat 3.0 after February 16, 1999.

Among the new high-end publishing features is support for ICC profiles, full support for PostScript 3, and tools for making last-minute changes to text and graphics within a PDF file. Upgrades for registered users of Acrobat 2.x cost £59.

Adobe, 0181 606 4001



## OpenGL set for Mac, says Apple

Three months on from its revelation at Macworld Expo in San Francisco, Apple has delivered on its promise to bring OpenGL to the Mac.

At Expo, Apple said it had licensed the OpenGL software library and application-programming interface (API) from Silicon Graphics. In his keynote speech, Steve Jobs pledged that Apple would be putting more energy into 3D, (*Macworld*, March, News).

Now Apple has released its first OpenGL libraries and an OpenGL Software Development Kit (SDK). Available for download in beta form, the software expires on June 1, 1999, and supports systems running on RAGE II, RAGE Pro and RAGE 128 3D graphics hardware.

The OpenGL libraries are available at [ftp.apple.com/developer/opengl](http://ftp.apple.com/developer/opengl).

The SDK is available at [ftp.apple.com/developer/opengl/](http://ftp.apple.com/developer/opengl/)

## Is Apple losing the plot with QT?

QuickTime-charge policy may not pay dividends

I'm only human; there's only so much I can take. Watching Apple play pattycake with one of its most potent pieces of software – QuickTime – has got me gnawing holes in my four-point restraints.

Software that handles time-based data is perhaps the only arena where Apple can declare absolute technical dominance over the competition. QuickTime is structurally light-years ahead of anything else on the market today. And since it was originally designed as a complete architecture instead of a point-and-shoot solution to a single problem, it's likely to stay that way, so long as Apple can keep creative and perceptive people working on it.

But good technology doesn't always win. RealNetworks has a multi-year head start in streaming media, and Microsoft is entering the fray. The former can fight from the high ground of an installed base, and while the latter will likely lumber around blindly with lousy release after lousy release, sheer bulk backed up by savvy marketing will guarantee market damage.

So we have a familiar scenario. Apple is floating into turbulent market waters already jammed with tough competitors. To move forward and win the race it needs the helpful paddling arms of end-users – the more the better. Apple's solution? Make those users pay \$30 (£18) to get on board.

What possible advantage can Apple obtain from charging for the full version of QuickTime? Is it the money? Let's say that Apple convinces 100,000 people a month to upgrade – a wildly optimistic scenario in my opinion, but we'll give the company the benefit of the doubt. At \$30, that adds up to about \$3 million (£1.8m) per month, or £5.4 million per quarter. Now, \$9 million (£5.4m) isn't exactly spare change, but Apple just reported over \$1.5 billion (£900m) in quarterly revenue. You do the maths.

When you've tired of comparing grains of sand with basketballs, balance that potential income against the opportunity to have the tools and capabilities of a full-fledged QuickTime 4.0 out in the market winning hearts and minds. Apple worked hard to bolster its digital-video street cred with a FireWire demo at the recent NAB (see page 16). Wouldn't it be worth giving up 30 bucks a head to be able to say that the Mac OS with QuickTime 4.0 is the only desktop operating system in the world that lets you capture and edit



digital video without any additional software? Talk about letting a million flowers bloom.

Some would argue that RealNetworks charges for the full version of its RealPlayer software. To that I answer, RealNetworks has to. Apple has the luxury of other, fatter, revenue streams. By the way, you don't think that Microsoft is going to charge for its streaming media client, do you? It'll just be another nifty Windows add-on-like that Internet Explorer "feature."

I've tried to build a rational argument against charging for QuickTime, but I must admit that my strongest motives are emotional and philosophical. I could, I suppose, justify making folks pay for access to truly high-end QuickTime features such as video filters and the like. But the lobotomized version of QuickTime and QuickTime Player that Apple is currently offering is an insult to Macintosh users everywhere. You can watch the funny pictures and listen to the cool sounds, but you can't work with them, cut them, paste them, save them unless you upgrade to QuickTime Pro. Is there anything more quintessentially Macintosh than the ability to have control over your data – anytime, anywhere, any kind?

At the risk of sounding melodramatic, this sort of access isn't a bonus that users should have to pay extra for. It's part of why we bought a Mac in the first place.

– Cameron Crotty

### Jazz buffs set up composing site

A group of jazz musicians has launched a free multimedia Net resource for independent music makers.

Planet of Tunes promotes the work of a number of up-and-coming jazz-influenced talents, as well as providing in-depth technical advice – in the form of downloadable Acrobat articles (PDF).

Site author Matt Ottewill said: "We will soon launch a discussion forum and hope to post articles covering the whole spectrum of music issues, including recording, authoring, distribution."

"The site gives us a chance to bypass the traditional structures of the music industry but in a way that still promotes artistic expression." [www.planetoftunes.com](http://www.planetoftunes.com)

DAVID ANGEL





## Thin different

Apple set to release new  
lightweight  
PowerBook G3,  
as portable  
strategy shifts  
to the 'third way'

Apple showed dealers its next-generation PowerBook computer line behind closed doors at the National Association of Broadcasters (NAB) Conference in Las Vegas, according to sources close to the company.

The new PowerBook – code-named *Lombard* – is reportedly based on Sony's 0.9-inch-high Vaio portable. Steve Jobs has said on more than one occasion that he wants Apple to be more like Sony, whose late entry to the PC market has been almost as successful as its PlayStation launch was into the games arena.

As reported last month (*Macworld*, May 1999) Apple is currently eyeing three markets for portable computers. CEO Steve Jobs' statement that "there may be three markets for portables" diverges from Apple's earlier strategy of focusing on laptops for business and consumer users.

Jobs said that, apart from systems aimed at high-end "digital road warriors" and the forthcoming low-cost, consumer-oriented *P1* portable, there may be a need for a third type of machine, geared at busy executives who just want to check email when they're travelling. This could be the rumoured thin-form *Lombard* portable.

Apple is also working closely with 3Com on its Palm handhelds and licensing some technology to it. Jobs' earlier offer to buy 3Com's handheld business was rejected.

### Skinny trade

PowerBook experts are certain that the current PowerBook form – originally code-named *Wall Street* – will be phased out in the near future. Many expect that *Lombard* will surface at Apple's Worldwide Developers Conference (WWDC), which runs from 10-14 May 1999.

Many reports suggest that there are few units of the higher-end *Wall Street* PowerBooks remaining for sale. This, on top of the recent price cuts on the current range, certainly indicates a new form factor on the way. *Lombard* prices are likely to start at around £1,695.

Apple declined to comment on unannounced products. – **Jeff Walsh and Simon Jary** MW

### Myth II goes to (World) War (II)

A group of third-party enthusiasts has released a free plug-in for Bungie's *Myth II: Soulblighter*, which puts a spin on the usual fantasy-warfare scenario.

WWII: Recon is a map for *Myth II* that moves the setting of the game to Europe during the Second World War. Instead of fantasy armies comprising of dwarves and zombies, players control WWII infantrymen and artillery pieces. Created by a member of *Myth* enthusiasts group, Clan Plaid, WWII: Recon is a multi-player map with four variants, including a 12-player game.

*Myth II* ships with Fear and Loathing, a tool set for creating 'Net maps of this type. Bungie has already released two 'Net maps of its own, available from its Web site, [www.bungie.com](http://www.bungie.com)

WWII: Recon can be found on this month's Macworld CD.



THE RUMOURED NEW POWERBOOK – CODE-NAMED LOMBARD OR 101 – is reportedly at least as thin as Sony's 0.9-inch Vaio portable and twice as sleek. The ultra-thin enclosure is reportedly curvaceous, which should distinguish it from most other ultrathin Windows-based subnotebooks.

To emphasize the conflicting nature of reports – reaching boiling point on the Web-based rumours sites – other sources have *Lombard* as approximately 1.3-inches thick, compared to the current 1.8-inch-high PowerBook G3. (Panasonic's 1.5-inch-high ToughBook 33 weighs just 2.6 pounds.) These same reports suggest one *Lombard* prototype uses translucent plastics, while a second retains the black opaque plastics of today's PowerBooks. It is possible that the final shipping unit will include some translucent components.

IDG's *InfoWorld* claimed the prototype *Lombard* featured processor speeds starting at 400MHz with the next-generation PowerPC G4 processor. As a launch option, however, this seems unlikely as it is usual for the latest processors to appear in desktop systems before portables. G3 processors at 300, 333, 366, and 400MHz appear more likely initial chip candidates. A 433MHz G3 is rumoured to be available by June.

Hard drives could reach up to 12GB, with 4GB and 8GB as options. It is also likely that Apple would include both USB and 400Mbps FireWire ports; if not as standard, then as options. Sony's 2.7-lb Vaio does include i.LINK (Sony's name for the IEEE 1394 standard, called FireWire by Apple), USB, a V.90 modem and a CardBus PC Card slot.

*InfoWorld's* report claims that the NAB secret preview of the 3.5-lb portable also featured a detachable LCD display that can be replaced with goggles for a so-called heads-up display. Apple has tried out similar technologies, and some *Lombard* prototypes have had them. However, most sources suggest that serious applications of this technology are at least a year away.

■ Read David Fanning's *First Contact* (page 45) for more on *Lombard*.

## Lotus Notes & Domino alive and five

Lotus Development is beta-testing Mac versions of Release 5 of Lotus Notes and Domino Designer, with final versions due by July's Macworld Expo in New York.

Lotus Notes R5 is groupware for messaging and collaboration, allowing users to manage appointments, contacts and other information; exchange email; and browse the Web and intranets.

The Mac version of Notes R5 will be an "all-in-one" package said Antonio Robinson, Notes client product manager, with email, calendar, scheduling and browser applications.

The revision will have a customizable user interface that is a "radical change from the earlier version – more like a browser" he said, along with faster performance as a result of changes to the program's architecture and Mac OS 8.

The final version of Lotus Notes R5 for the Mac will cost £35 to £45, depending on the type of client and will require a PowerPC system running Mac OS 7.6 or later. Groupware Domino Designer is a Web-oriented successor to the Notes integrated messaging software. Domino Designer R5 will cost £300 and can also be used as application server software. Lotus, 01784 455 445

## Goo-ing, goo-ing gone: Kai-boshed

**Kai cera cera! All change as host of big names move on**

**T**op names in the Macintosh world have been making big moves recently – and even bigger waves. First up was Kai Krause, ousted from MetaCreations after an executive board reshuffle. He was followed by Peter Tamte, Apple's game guru, who has now moved to Myth and Marathon developers Bungie. And here, Apple UK has lost its managing director, Jon Molyneux, to online directory company, Scoot.

Last month MetaCreations announced an executive management reshuffle, which saw the departure of Krause and the appointment of John Racioppi as senior vice president of global sales. The company did not comment on the reasons for the departure of Kai Krause, formerly chief design officer at MetaCreations.

Krause is a semi-legendary figure in the Mac graphic arts industry. Formerly an independent special-effects consultant in the late 70s, Krause's best known contributions to graphics software are his intuitive interface design for MetaCreations's graphics software and the eponymous PowerTools plug-ins for Adobe Photoshop.

The designer also lent his name to several other MetaCreations products including Kai's Photo Soap, and Kai's PowerGoo. As well as numerous design and technical awards, Krause won a Clio award for work on *Star Trek – The Movie* and IDG voted him the first member of the "DEMO God Hall of Fame" in its IDG DEMO conference series.

Peter Tamte, formerly Apple's director of consumer marketing, founded the consumer Macintosh software publisher Macsoft before

joining Apple last summer. He will head Bungie's new publishing division as executive vice president. Apple is losing a key player with Tamte, who has been largely credited for persuading game developers to return to the Mac platform since the launch of the iMac.

However, Tamte is keen to return to his roots: "The Internet is creating tremendous opportunities in entertainment that most traditional publishers are not ready for," he said. "Bungie is in a unique position to help drive this change through its three internal development studios and through leveraging its successful multi-player gaming site, bungie.net, in innovative ways."

Bungie's new publishing division is targeted at externally-developed titles, a move in focus for the company, which has so far concentrated on internally-developed games.

Apple UK's Jon Molyneux, quitting the company to become the MD of Scoot, the interactive consumer services company, will be replaced temporarily by Brendan O'Sullivan, currently MD of Apple's subsidiary, Xemplar Education.

In related news, former *Macworld* contributor Guy Kawasaki has stepped down from his post as Apple's chief evangelist. For several years Kawasaki ran the Evangelist mailing list, promoting new Mac-based talent and encouraging readers to harass companies and individuals who showed an anti-Mac bias.

Kawasaki believes Apple's recent success has negated the need for such partisan activities and he wrote to the 40,000 strong list, informing readers about his departure.

"The original purpose of Evangelist was to counteract the negative news about Apple and Macintosh," he said. "Evangelist has served its purpose – fantastically, as a matter of fact."

– Michael Burns



### Titanic for Mac no longer on ice

**A**fter an eternity of travelling, *Starship Titanic* has finally been launched on the Mac. The game, created by author and Apple Master Douglas Adams, was released last year for Windows users, winning awards and public acclaim, but the Mac version was plagued by development trouble.

The £34.99 game is set on a luxury space-liner which, true to its name, crashes in the icy seas of space. Playing a passenger, the user travels through the gigantic spaceship, encountering its bizarre characters and solving puzzles to move through each game level.

An official strategy guide has been published at £12.99 to coincide with the Mac release. Both game and book are available from high street retailers.

**Softline, 01372 726 333**

## ShockWave enjoys multi-user boost

**M**acromedia has taken the first step in enabling multi-user participation of Shockwave-driven content on the Web.

The Shockwave Multi-user Server licensing program will provide the capability for up to a 1,000 users to simultaneously connect to multi-player games, multi-user presentations, shared whiteboards, multimedia chat, connected entertainment and auctions. The Server also provides

synchronous communication of the various media types supported by Shockwave.

By linking to standard databases, media exchanged between clients can be managed, scores can be tracked, and users' accounts can be updated.

Examples of entertainment sites developed with Shockwave can be viewed on the Web at [www.shockwave.com](http://www.shockwave.com).

Computers Unlimited, 0181 385 5857



## Commotion gets a fresh lick of paint

**P**uffin Designs has released version 2.0 of Commotion, its dynamic paint and image-processing package for desktop video production. It now includes more than 200 pre-set FX Brushes for creating a range of textured, stylized and filter effects, as well as tools for creating text. Commotion combines paint, rotoscoping and motion-tracking tools and allows Mac-based film and video editors to preview results in real time on their desktop systems.

The FX Brush, a new texture-based paint tool, lets artists add an unlimited number of brushes. With the FX Brush, users can create textured and stylized media brushes, including chalk, charcoal and neon, and can build brushes with two colours, two patterns and various effects, including diffuse and border.

Users can create customized brushes from illustrations or still images to create unique special effects. The FX Brush, which includes size, opacity and feathering parameters, is integrated with Commotion's AutoPaint, Rotospline and Motion Tracking tools for animation effects.

Another new feature is Motion Text, a plug-in for creating, editing and adjusting animated TrueType and PostScript titles. The plug-in lets users control the position, rotation, scale, leading,



**Disappearing act**  
Commotion features powerful tools for painting effects onto film.

colour, opacity and baseline shape of fonts. It also renders with high-quality motion blur for titles, the company said.

Commotion 2.0 costs £1,695 and includes more than 20 new filter effects, such as keying, blurring and sharpening, as well as geometric image transformations for keyframable position, rotation, corner pinning and scale adjustments. Other enhancements include 16 new software filters from ICEfx.

**BIT UK, 01420 838 11**

## Sony: plan it off the tapes

**S**ony is shipping two tape drives – the SDT-10000 fourth-generation DDS-4 (digital data storage) drive and the SDX-500C – its first product to support the new AIT-2 tape format.

The SDT-10000 offers a compressed data capacity of 40GB (20GB native) and sustained transfer rates of 4.8 MBps with compression. This corresponds to a compressed-data backup speed of 17GB per hour. Buffer memory is 10MB.

With a price tag of £930, the SDT-10000 is intended for server and workstation backup in the corporate and SoHo sectors. The SDX-500C AIT-2

has a capacity of 50GB and a transfer rate of 6MBps without data compression. Priced at £3,099, the drive is aimed at high-end applications such as enterprise networks, real-time data acquisition and video servers. Both products are internal drives with an Ultra Wide SCSI interface.

Sony, 01932 816 660



## Brother USB printers cater for Macs

**B**rother has announced that two of its personal laser printers – the HL-1050 and HL-1070 (pictured) – are now compatible with the iMac and new G3 Power Macs. The printers now feature USB ports and the new £30 Brother USB driver kit, which includes a CD and USB cable for



connecting the USB-equipped Macs.

The two printers have also dropped in price. The HL-1050 is now £259, a reduction of £40, while the HL-1070 – which has dual paper bins, PostScript 2 emulation and a choice of 4MB or 8MB of memory – is down from £369 to £339.

**Brother, 0161 330 6531**

### Ask answers LCD call

Ask Proxima has launched a multimedia LCD projector, costing £5,495. Designed for applications such as graphs, design and CAD/CAM tasks, the Impression A9 has 1,000 ANSI lumens and a 2,500-hour 120W UHP lamp. It also features true XGA-resolution of 1,024-x-768 pixels.

**ASK, 01753 701 050**



### Panasync different

Panasonic has rolled out a new 15-inch CRT monitor, the Panasync S501, with a price tag of £132. The monitor can handle a maximum resolution of 1,280-x-1,024 pixels at a refresh rate of 62Hz. Image adjustment controls on the front panel include horizontal and vertical size and position, pincushion, trapezoid and tilt correction and screen rotation.

**Panasonic, 0500 404 041**

### Database upgraded

CatBase Software has released version 4.0 of its relational-database publishing package. Catalogues and directories can be published using QuarkXPress, PageMaker, Multi-AdCreator or Microsoft Word – or electronically, as HTML documents or delimited text files. It can also run as a self-contained Web or Intranet server. A single-user version costs £895, and a multi-user version is £1,795.

**CatBase, 01920 871 866**

### LG's open flat season

LG has announced the Flatron 795FT Plus, a 17-inch monitor with a flat screen and USB port. Costing £280, it has a top resolution of 1,600-x-1,200 pixels at a refresh rate of 75Hz. The screen has inner and outer anti-reflective coatings to reduce eye fatigue.

**LG, 01753 500 400**

### Trace has right Affex

Trace Services has added the Affex CD Artist to the company's range of CD-R printers. The Affex CD Artist prints directly onto the CD surface and has an output of 72 CDs per hour at 360dpi on a 25 per cent coverage. It is capable of resolutions up to 1,440-x-720 dpi and costs £1,695.

**Trace, 01462 484248**





pricing update

**Belinea 10 70 15**

Maxdata's 17-inch Belinea monitor, the 10 70 15, has been reduced from £209 to £159. It has a 0.27 dot pitch, a maximum resolution of 1,280-x-1,024 pixels and a recommended resolution of 1,024-x-768 pixels at a refresh rate of 85Hz. The screen is protected by an AGRAS anti-reflection coating.

**Maxdata, 0118 936 2900**

**ScanMakers X6 and 4**

Microtek's flatbed scanners – the ScanMaker X6 and ScanMaker 4 – are now available bundled with SilverFast colour-management software, which provides colour correction, unsharp masking and CMYK preview. The ScanMaker X6 handles A4 originals and costs £249, while the ScanMaker 4 is a dual-media scanner, priced at £599.

**Microtek, 01908 317 797**

**TEAC CD-R56S CD-R**

TEAC's flagship internal CD-R drive, the CD-R56S, is now £249, down from £299. It can write at speeds of up to 6x and read up to 24x. Data-transfer rates are 900KBps (write) and 3,600KBps (read) with a buffer of 2MB.

**TEAC, 0802 181 030**

**Agfa ePhoto 1680**

Agfa's ePhoto 1680 digital camera has been reduced from £549 to £449.

As well as a 1.3 million-pixel image sensor, the camera has four image-capture modes, a swivel lens, 2-inch LCD, EasyPilot control button and a 6x zoom capability. Advanced settings include manual exposure and focus, white balance and external flash synchronization.

**Agfa, 0181 231 4906**

**Dreamweaver 2.0**

Dreamweaver 2.0 – Macromedia's Web-site design and production package – is now shipping with FileMaker Pro 4.1. The bundle, costing £399, is £69 cheaper than buying the two products separately. Also provided is the new FileMaker ODBC driver and documentation.

**Computers Unlimited,  
0181 358 5857**

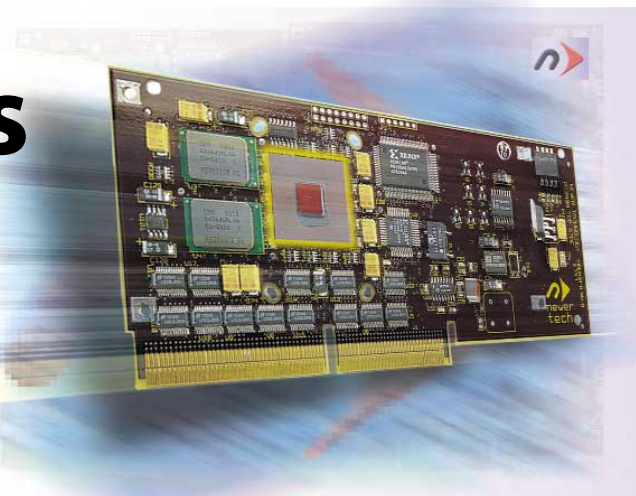
# Newer's price-cuts on cards

Newer Technology has cut prices across its MAXpowr and NUpowr G3 upgrade ranges. Newer's MAXpowr G3 PowerPC ZIF upgrades, suitable for all Apple G3 desktop machines, all feature 1MB of backside cache. Price cuts start with the 300MHz model (featuring cache running at 200MHz) dropping from £449 to £385.

The 366MHz (cache running at 183MHz) and 400MHz (cache at 200MHz) cards are down to £460 and £540 respectively. The top of the range, the recently released 466MHz model (featuring a cache speed of 233MHz), falls from £1,079 to £610.

The PCI MAXpowr G3 upgrade cards are intended to give a G3-boost to older PCI-based Power Macs. Compatible with Macs featuring a daughtercard-mounted processor, those cards affected in this price drop all feature 1MB of backside cache.

The 400MHz model (cache at 200MHz), previously at £799, drops to £540, while the 300MHz (cache: 150MHz) and 366MHz (cache: 183MHz), are now priced at £385 and £460 respectively. Newer's MAXpowr G3 L2B range suits Macs whose upgrade path is via the Level 2-



cache slot. A 400MHz card, with 1MB of backside cache running at 200MHz, falls in price from £809 to £565.

There are also two 300MHz cards in the price cuts. A model with 1MB of backside cache running at 200MHz drops £40 to £399, while a card with 512K of backside cache running at 150MHz is now £295.

The price cuts continue for users of PowerBook 1400. The NUpowr G3 PowerPC upgrade, a 233MHz card with 512K of cache running at 117MHz is now £235, while a 250MHz card (1MB cache at 125MHz) now costs £315.

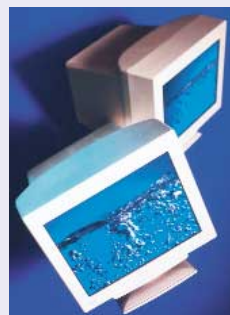
**IMC, 0870 840 2121**

**HM Micro, 01392 426 473**

## Iiyama flat-out

Iiyama has added to its flat monitor range with the 22-inch Vision Master Pro 510 and the 17-inch Vision Master Pro 410. Costing £783, the 22-inch monitor has a bandwidth of 360MHz, and gives a maximum resolution of 1,880-x-1,440 pixels at 85Hz. The 17-inch model ships for £309 and offers a bandwidth of 160MHz and maximum resolution of 1,600-x-1,200 pixels at 75Hz and 1,280-x-1,024 pixels at 90Hz. Both displays have earned TCO'99 approval, and incorporate new beam landing correction technology that ensures colour uniformity on all parts of the screen.

**Iiyama, 01438 314 417**



**Flat feat**

The new 22- and 17-inch Vision Master Pros.



**Quality output**  
The Fujifilm NX70 outputs photo-quality prints direct from SmartMedia cards

## Smart move

Fujifilm has announced a USB SmartMedia Card Reader, allowing iMac and Power Mac G3 owners to download images from digital cameras. The £70 SM-R1 ships with connecting lead and driver software. The reader accepts all SmartMedia cards from 2MB to 32MB.

The company also launched the £279 NX-70, a printer that outputs photo-quality prints direct from SmartMedia cards. Prints are created at the touch of a button and images can also be printed from a Mac using a SmartMedia card.

**Fujifilm, 0171 586 1477**

# Keyspan, Entrega enter the USB fray

Keyspan and Entrega Technologies have gone head-to-head with Universal Serial Bus devices that offer new options for connecting peripherals to iMacs as well as blue-&-white Power Mac G3s.

Entrega is shipping the USB-CON-D8, a new converter for connecting older serial peripherals to USB ports on iMacs and new G3 computers.

Smaller than a pager, the converter includes a serial port for hooking up PDAs, external modems, digital cameras and other peripherals to USB-equipped Macs. The bus-powered device does not require a separate power supply.

Meanwhile, Keyspan shipped the SX Pro Serial Card, a £159 PCI expansion card which adds four additional serial ports, each supporting data rates up to 1Mbps. Compatible with all PCI Macs including the new G3 Power Mac, the card

provides support for MIDI peripherals and is also able to let one port emulate a Macintosh serial printer port.

Keyspan has also released the USB PDA adaptor (pictured), a £39 USB-to-serial device that lets users connect PDAs and some graphics tablets to USB Macs.

The adaptor works with organizers from Psion and Palm Computing and with Artz II and Intuos graphics tablets from Wacom. A RS-232 DB9 port on the device allows users to connect directly to a Palm cradle or HotSync cable.

The adaptor supports data rates up to 57.6 Kbps during Palm HotSync tasks, Keyspan said. Palm Desktop 2.0 software is required to run the device with Mac OS 8.5.

Keyspan has also dropped the price of its PCI USB card for older Macs. It now costs £49 and comes with a five-year warranty.

**Entrega, 0118 965 7751**

**Keyspan, AM Micro, 01392 426 473**



## Casio back in the frame

Casio has announced the QV-5500SX digital camera that boasts a 1.31 megapixel CCD. The camera's Quick Shutter feature means shots can be fired at 0.5-second intervals. Images can be stored in HTML format, allowing still images and movies to be viewed in a Web browser. Each image can be optimized for attaching to email messages.

Enhanced recording functions include: auto-exposures; multiple-exposures; night scenes; and three light-meters modes. Four flash modes are also available – including red-eye reduction – and the camera has a 2X/4X digital zoom and PAL/NTSC video output. The camera, priced at £400, comes with an 8MB CompactFlash card and software for manipulating and enhancing images.

Casio, 0181 450 9131



**Print power**  
The Canon PageStation LBP3260 is a 32 page-per-minute mono network laser and is shipping for £1,996.



## Action station

Canon has released the PageStation LBP3260, a 32 page-per-minute mono network laser printer. Shipping for £1,996, the PageStation can handle a variety of paper stocks and envelope sizes.

It comes with dual 500-sheet paper trays that allow the printer to output 100 pages face up or 500 pages face down. Its toner cartridge has been enhanced, and now has a capacity of 15,000 A4 pages at 4 per cent coverage. Network capabilities for the PageStation are provided via ethernet and AppleTalk – a network-ready model is available for £2,235.

**Canon, 0181 773 6000**

CDs and books

**Learning extra value**

The Learning Company is offering a "buy one, get one free" promotion on its Reader Rabbit and The ClueFinders CD ranges.

The CD titles take children from pre-school to Key Stage two, and are designed to enhance the National Curriculum. The Reader Rabbit series, covering reading,

maths and science, cost £20 each. The ClueFinders CDs – covering maths, reading grammar, science and geography, cost £30.

**Learning Company, 01293 651 300**



**Appliance of science**

Science Explorer II, the latest title from Granada Learning, is designed for Key Stage 2 pupils and brings to life a wide range of scientific topics through virtual laboratories and interactive investigations.

Topics covered include Electricity, Light and Sound, Materials and Living Things. The CD costs £59 for a five-user site licence, with multi-user discs available for between £8 and £15, depending on numbers.

**Granada Learning, 0161 827 2927**

**Language no barrier**

Catalan, Tibetan, Czech and Maltese are the latest additions to EuroTalk's collection of Talk Now! language-learning CDs for complete beginners. Priced at £25, the CDs use interactive games to build skills and confidence, and aim to teach the first 500 words of the language. The World Talk series for intermediate learners has also grown, with Arabic, Portuguese, Japanese and Norwegian now shipping for £30.

**EuroTalk, 0171 371 7711**

**Royalty-free guide**

A new, free technical guide to using royalty-free stock photography has been published by the Image Distributors Association (IDA). Intended to help design professionals get the best from digital images, the guide covers image-usage, licensing and file formats.

**Cadmium Systems, 0800 436 867**



## product news



The following are available on this month's cover-mounted Macworld CD.

### Universal saves day

Hi's Universal Saver 1.6 is the latest version of Hiram Wilson's \$10 shareware utility for automatically saving documents in most Mac applications at user-selected intervals. Users can now set the Save button as default within the utility's "warn before saving" dialogue box.

### FontIncluder updated

FontIncluder 2 from Callas Software, costing £99, now embeds PostScript Type 1, Type 3 and TrueType fonts into EPS, PostScript and DCS files. It also allows PC fonts to be embedded on a Mac and vice versa. FontIncluder Pro Server is a £199 server version that monitors specified folders and embeds fonts in the target files.

### I can see a Rainbow

Rainbow Painter from Addition Interactive is a new \$12 shareware image-editing package that supports



eight image layers with alpha channels

and a mask layer. The Power Mac software is based on an earlier version for the Atari Falcon.

### TextSoap can clean up

TextSoap 2.0.1 is an interim update to Unmarked Software's \$20 shareware text-formatting utility. Version 2.0.1 improves compatibility with BBEdit, fixes a problem with Version 2.0's find-and-replace function and lets users find and replace some hidden characters.

### Desktop gallery

DeskPix 2.0 from SearchWare Solutions randomly displays a new desktop picture based on a user-selected list with each restart. Version 2.0 adds the ability to play a new sound at start-up.



# Epson's blue print

Epson has launched an iMac-inspired version of its Stylus Color 740 ink-jet printer, the Stylus Color 740i.

The 740i is identical to its biege sibling – the 740 – apart from its colour, which is the iMac translucent blue-and-white styling.

The 1,440 dpi Color 740i benefits from Epson's PerfectPicture Imaging System, which combines the company's proprietary Micro Piezo ink-jet technology, smooth AcuPhoto Halftoning and specialized quick-drying inks.

Print speeds are six pages per minute (ppm) for mono and 5ppm for colour. The time to print a photographic print is 1 minute, 19 seconds for

a 4-x-6-inch print and just under three minutes for a 10-x-8-inch print.

The 740i features Mac serial and PC parallel ports as well as USB.

It is currently shipping only in the US. UK pricing and shipping dates were unavailable at the time of going to press.

**Epson, 0800 289 622**



## Tenon upgrades its WebTen server

Tenon Intersystems has unveiled WebTen 3.0, an upgrade to its Apache-based Web server for Power Macs. WebTen now supports Web-based email, secure remote-administration, enhanced SSL-certificate support, dynamically loadable Apache modules and a Sherlock-compatible search engine.

As well as built-in WebMail – for accessing email from any device running a browser – the new version includes a pre-installed trial copy of Web Event. This is a Web-based calendar application with interactive

scheduling. WebTen incorporates the Apache Web server software, recently included with the Mac OS X Server. This software has been enhanced in WebTen with Mac-specific features. It extends the open source Apache with a point and click interface, Internet object caching, SSL 3.0 and FTP.

Available for both Mac OS and OS X Server, WebTen 3 costs £330, with upgrades available from £135 (from version 2.x) and £165 (from version 1.x). FullMoon Software, 01628 660 242

## Mictotek's 2000 vision

Microtek has added to its high-end pre-press ScanMaker family with the ScanMaker 2000. The £4,499 flatbed scanner has 36-bit colour-depth and a resolution of 2,000-x-2,000 dpi. The scanner ships with internal SnapTrans templates for scanning transparencies.

The templates slide into the scanner and can handle 16 slides and a variety of film sizes. As there are no mirrors in the optic path, the light source scans directly through the transparent media for high quality scans.

The DCR Colour Calibration System ensures accurate colour output that matches the original, and the ScanWizard software magnifies the



### Resolute performer

The ScanMaker 200 has a resolution of 2,000-x-2,000 dpi.

preview image in high resolution and stores gamma curve settings.

As well as ScanWizard, bundled software includes an ICC-profile program, Kodak Color matching system, Caere OmniPage, ColorIt! and LaserSoft SilverFast.

**Computers Unlimited, 0181 358 5857**

## 'Net-access boost

Sercom has introduced a new range of Internet access servers aimed at the SoHo market. The £118 Widelink IPS150 is a LAN-to-Internet access-solution that uses one modem or ISDN TA to connect TCP/IP users to the Internet. The more

sophisticated  
£217 Widelink  
IB3240

(pictured) is an  
ethernet hub,  
Internet access  
and a LAN Comm-

unication server in one. The IB3340, at £252, offers a Print server, modem sharer and four-port hub.

**Minitran, 01279 757 775**

## ViewPanel makes debut

Viewsonic has launched its first 18.1-inch digital flat-panel display, the VPD180 ViewPanel. The £2,595 display boasts a 140-degree horizontal viewing angle, two-port USB and a resolution of 1,280-x-1,024 pixels.

**ViewSonic, 01293 643 900**

## Ricoh's high-end printer

Ricoh is shipping a high-end black-&-white and colour copier/printer for £7,825. The Aficio 3006, which also

serves as a  
scanner, has  
8-bit colour  
depth and  
supports "full  
bleed" A3.

**Ricoh,  
0181 261 4000**

## Global Village TelePort

Boca Research has announced the Global Village TelePort Internal 56K Fax/Modem for the new Power Mac G3 minitowers. Priced at £89, it includes GlobalFax software, multiple address books and a Set-up Helper. The device is designed to slot into the minitower's existing communications slot.

**Boca Research, 0990 420 421**

## Griffin's free-update trio

Griffin Technology has released free software updates for three of its products: the gPort – a USB-to-serial converter – now supports Mac-compatible serial devices; the iMate – a USB-to-ADB adaptor – supports a wider range of hardware protection dongles; and the iPort – a universal iMac serial and video adaptor – supports cycling of video resolutions.

**www.griffintechology.com**

# Agfa sounds-off on digital camera

**A**gfa has introduced the ePhoto CL50 – the company's first digital camera to offer both sound capture and burst mode.

The ePhoto CL50 is priced at £549. To coincide with the launch, the price of the ePhoto 1680 has been dropped to £449, a reduction of £100.

The new camera offers four resolution settings (a maximum of 1,600-x-1,200) and four flash modes. The ePhoto CL50 includes a built-in prism that directs sunlight behind the LCD screen, conserves battery power and enhances overall brightness. It also features a 3X optical zoom lens and a 2X digital zoom in both capture and playback mode.

With the burst mode feature, users can hold the shutter for continuous shots at half-second intervals, allowing up to 10 continuous pictures in VGA mode resolution (640-x-480). The CL50

also has a built-in microphone for adding sound to each image. The ePhoto ships with an 8MB SmartMedia card and Agfa's PhotoWise software for accessing, managing and enhancing photos.

**Agfa, 0181 231 4906**



# Projectors light the way

**T**wo new projectors from Panasonic are now shipping – the PT-L797 (pictured) and the PT-L556. The PT-L556 weighs 5.5kg, and can be used with or without a Mac,

thanks to its Type II PCMCIA card slot. The projector also ships with an optional adaptor card for reading CompactFlash cards from digital cameras. The £5,100 projector offers 600 ANSI

Lumens, and a resolution of 800-x-600 pixels

(SVGA). It can also handle XGA mode (1,024-x-768). The higher-end PT-L797 has a brightness of 1,600 ANSI Lumens and weighs 9kg. It uses two UHM lamps focused through the projector lens.

The resolution is 1,024-x-768 pixels (XGA) and up to 1,280-x-1,024 pixels (SXGA).

The £8,950 PT-L797 has digital and optical zoom controls, a one-touch auto-setup and a backlit-wireless remote control with mouse.

**Panasonic, 0500 404041**



# Interex steps up card-speed stakes

**X**LR8 has announced its fastest upgrade card yet for Power Macs and clones with daughtercard processors and has dropped the price of its Zif-upgrade 466MHz MACHSpeed G3Z.

The new PCI card is a 450MHz model with 1MB backside cache costing £749. It is compatible with Power Macintosh 73/75/76/85/86/95/9600 models, Umax Pulsars, Power Computing and Daystar Clones.

The card includes XLR8's new control panel software, MACH Speed G3 Control v1.3.1, which delivers enhanced stability and compatibility – as

well as testing facilities – to XLR8 cards. Meanwhile, the 466MHz MACH-Speed G3Z has had its priced slashed by £250.

It now costs £729 – and also ships with MACH Speed G3 Control v1.3.1. Interex UK, 01923 266 400







### David Fanning

Apple must bite the bullet and look to outdo Sony's flat plan

# Narrow minded

**T**he G3 PowerBook is now a well-established luxury item on many a mobile Mac fan's wish list. But while gloating over their "fastest mobile computer in the world", early adopters may be left green with envy when confronted with a Sony Vaio. For those unfamiliar with the Vaio, it's a rather special notebook PC from Sony – most strikingly because it's little more than two centimetres thick.

You can imagine what will happen when first-time computer users are faced with both Mac and Sony laptops. The Sony will win every time because – and I hate to admit it – the Vaio is far sexier than the G3 PowerBook. It's was the same with the iMac, which was sold on its looks as much as its much-flouted ease-of-use. Many iMac customers were first-time computer users or even bored PC users.

It would appear that Apple's style drive has given birth to a monster. What is it going to do about its super-waif rival?

As you may know, Mac fans have been waiting for the new G3 PowerBook for a few months now. A new version is unofficially due – but hasn't surfaced just yet, because Apple has been forced to return to the drawing board. (see News, page 32). Last year, the very thought of a G3 PowerBook with built-in FireWire and USB was tantalizing, without even thinking of its obligatory faster-than-ever processor. But since last summer, somebody – probably Steve Jobs – realised that, compared to the Vaio, the G3 PowerBook would look like a breeze block with buttons. We can only guess what's been happening since then, but the rumour mill keep churning and it seems like the days of the bloated PowerBook are numbered. The next model is likelier to be more floor-tile than breeze block.

To put you in the picture on what Apple is up against, let me run through the Vaio's features.

It sports an i.LINK, which is a FireWire port to you and me – remember, Sony had a big hand in the development of FireWire. It also contains a V.90 modem, a 6.4GB hard drive, 1,024-x-768 pixel LCD screen and the obligatory Pentium processor – all of which are housed in a magnesium-alloy case, weighing just 2.7lbs.

You may think this seems perfectly achievable for Apple – but squeezing it all into in a 25mm-thick case could prove a thorny task.

Because floppies are now creaking towards the "Borrowed

Time" rest home, Apple will surely dispense with them as an internal PowerBook option. A USB interface will provide ample opportunity to add a third-party floppy drive (see the USB floppy drive review, on page 65). Hard drives are already available in unbelievably small packages, sporting incredible capacities, so that part should be easy. Modem capabilities in PowerBooks have never taken up that much space, although BT approval for them could prove problematic. The LCD screen is an Apple speciality, with its controls over resolution and colour-fidelity unparalleled in the industry. If Apple can squeeze the functionality of the Studio Display into a portable machine, it's on to a winner. There's also talk of the new PowerBook's screen being removable, to make presentations easier.

So, theoretically, Apple should match Sony achievement. However, merely offering the same thing isn't good enough. Apple must be ahead of the game and offer more than the Vaio. Remember, despite Apple's recent good fortunes, it's still the underdog in the platform wars.

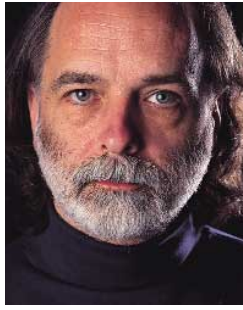
Apple does have one trump card: industrial design. Our man in Silicon Valley, Jonathan Ive, has been wowing the world with his iMac and Power Mac G3 designs. Of course, the iMac isn't as svelte as some machines, but the point was to be appealing rather than skinny. The new PowerBook will need to be both.

But it's just not in Apple's nature to take someone else's lead, even when that competitor is "Thinking Different". But Sony has undeniably captured people's imaginations and Apple must follow suit. However, it can't come up with a Vaio clone, as nobody would be impressed. Apple must produce something smaller, cheaper, faster and sexier to win people over. Neither can it look like a Vaio. Quite a tall order, even for one of the most inspired industrial design teams in the world.

As if to prove that Apple's looking to the future, there have been reports that it is working towards an LEP (light-emitting polymer) screen for future models. LEP looks like a natural successor to LED screens. The only problem is that Apple's boffins haven't quite finished inventing it yet.

The future, then, seems to be promising ever-thinner portables – which will demand users with ever-fatter wallets. Apple needs to "Think Similar" to win a slice of this action.

MW



## Michael Prochak

The world's got war, genocide and famine  
– and we've got our computer headaches.

# Reality bytes

In his now rather dated “technological” novel, *Tunc*, Lawrence Durrell said that war meant all things to all men. Full employment, freedom from the wife and kids and a fictitious sense of purpose. The reason why so many people love war is simple: there's no time to think about why they're making a mess of their lives – and those of others. Just blame your neighbour for your own ineptitude and punish him. I suppose that's why years ago – when I worked in a small radio station in southern Ohio – we cynically treated the news as a rather sad, predictable joke. Back then, our catchphrase in nearly every report was “And the fighting continues in Beirut.”

Not long after that, I spent some time in the Middle East and got caught up in the craziness referred to locally as the “holy war”. Today, a good 20 years later, little has changed. The catchphrase is the same, only the names have been changed – and not to protect the innocent.

While wired westerners comfortably whinge and worry about the latest Windows upgrade or the Y2K problem – and how all their precious systems will survive into the next millennium – an even larger percentage of the world's population can't afford the luxury of whinging, because they aren't even sure they're going to survive into next week.

While Macintosh users world-wide continue to “Think Different” and try to remain stoic about the impending bug-fest, reality – which insists on thinking the same as always – recently wiped the smiling faces off a number of iMac and G3 screens, when an Athens-based Apple reseller became the victim of a terrorist bomb attack. They say the bombers were outraged at Nato's airstrikes against Serbia and that the Greek police received a warning – relayed via a local TV station – that a shop selling American computers was to be bombed. Reports suggest that the shop was damaged in the blast, but fortunately no one was severely injured or killed. It was better than the PlayStation or Nintendo and all the tabloid hacks loved the news spin about Macs displaying a bomb icon when they crash.

Meanwhile, Action 2000 – the government-backed organization to help small and medium companies assess and address the risk from the Millennium Bug – has launched a National Mentoring Scheme.

The aim of the programme is to run a series of workshops through which smaller companies can come together and share “good practice”. It will target those who are dealing

inadequately with the wider business implications of the Y2K problem and are, therefore, putting their own and other people's businesses at risk.

The programme had a high profile launch at the House of Lords a few weeks ago and loads of companies and organizations have come forward to act as hosts for events all over the country. It's a particularly good PR wheeze for companies since, as hosts, all they have to do is lend their name to the event, provide the venue and pick-up the tab for light refreshments. Action 2000 provides the credibility of a national government programme, all the marketing and promotion, content, facilitation, involvement of other relevant channels, and a centralized national information and bookings infrastructure.

As a safer way of avoiding making a mess of your lives, you can ring Action 2000 on 0845 601 2000 for full details.

As sad, predictable jokes go, Microsoft doesn't seem to need war or anything else to help it avoid thinking about why its making a mess of our lives and has, predictably, delayed the third beta of Windows 2000.

While the Macintosh community can once again adopt a superior sneer, the Redmond mob says Wintel users should start seeing versions of the operating system “soon” under early adopter programs. That's right after they start seeing flying pigs. Given the time lag of this column, the actual release should've come and gone by now – so judge for yourself. Microsoft said it hopes businesses will test the new software, so by the time October rolls around it'll be prepared to make the switch to the new OS – whatever that might be.

Officially, Windows 2000 is slated to ship toward the end of the year. Just don't ask about Y2K compliance. Beta testers have pegged the release for October, but Uncle Bill has been hesitant to fix a date, especially because the project has slipped before.

However, he did say something about Windows 2000 now being scheduled to ship in early January 1901. Okay, so it's a rather weary, predictable joke. But when you're as rich as Bill Gates, you don't care who's laughing... or even who isn't. So, when you're sitting smugly in front of your Mac, and the fighting continues in Kosovo or wherever next, remember this pearl of wisdom from Homer Simpson:

“He may have all the money in the world... but there's one thing he can't buy. A dinosaur.”

MW



Lies, damned lies and stats:  
why we're all being conned.

## Desktop critic

**DAVID POGUE** is the author of *iMac for Dummies* (IDG Books Worldwide, 1998) and 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). His latest is *The Microsloth Joke Book* (Berkeley, 1997).

# The numbers game

**M**EGABYTES, megahertz, market share – you can't have a conversation about computers without trotting out numbers. Yet the sloppiness of today's high-tech numberology is appalling. Let's try this example: how many Americans are online? Research firm IDC nails it squarely at 38 million; Mediaquest says 53 million; Intelliquest says 73 million people are online – almost double IDC's estimate.

Now, let's say you're writing an article for the *Wall Street Journal* about how TV is doomed because of the Internet's rise. Which number would you pick?

See the problem?

We worship statistics, measurements, and specs, but the numbers are often figments of somebody's agenda. Here are a few we could start correcting right now:

**56K Modems** How is this label misleading? First, 56K should be 56k, referring to kilobits per second, only an eighth as much as kilobytes, the K that we're all used to. Second, the FCC sets a 53-Kbps maximum speed, because stronger signals cause phone-line interference. Third, even 53Kbps is theoretical; most people get 46 Kbps on a good day. And fourth, that speed is only for receiving data. All 56-Kbps modems send data at only 33 Kbps. In other words, 56K is the most fraudulent spec in the industry. Ralph Nader, where are you now?

**List prices** What a wacky system: each company picks a pie-in-the-sky price for each product. That way, every catalogue and store can sell it for half as much, promising us a fantastic discount.

Trouble is, nobody sells software for list. Digital Origin's EditDV goes for \$899 – list. But even the company's own Web site sells it at \$499. Why don't we end the charade and talk about the actual prices? (*Macworld* will soon do its part by publishing averaged prices from several national stores rather than list prices).

**Suggested memory size** When I was having trouble with Internet Explorer, a Microsoft tech rep's first suggestion was to change the suggested RAM allotment from 4MB to 8MB.

In other words, software companies pressure their programmers to set memory sizes too low – for marketing purposes. We pay the price in stability.

**Market share** Macs last a lot longer than Windows PCs. Millions of people still use their nine-year-old Mac Classics and IIs – but how many people still use that era's 386 (Windows 2.0) machines?

So, true enough, current Mac sales aren't a big slice of the pie – but the number we hear about, sales market share, is irrelevant (especially when the calculations are as goofy as research firm PC Data's: it tallies each colour of iMac as a different model, making it impossible for the iMac to maintain its best-seller status). What really counts – when calculating the potential market for software and add-ons,

for example – is how many Macs are in use. That number is much higher: 16 per cent, by the estimate of the Software Publishers Association (SPA). But do we ever hear that statistic? Nooooo!

**Software market share** "Windows applications accounted for 81 per cent of the application software sold," says the most recent SPA report; "Macintosh sales represented just 11 per cent." Scary, dude.

But the SPA's estimates are nearly useless, thanks to one little fluke: an increasing number of companies include Mac and Windows versions on the same CD. (According to the market-research service SofTrends' latest numbers, up to a third of software best-sellers are such hybrid CDs.) When you buy a

hybrid CD, does the CompUSA checkout clerk ask which kind of computer you have? Of course not. All such sales are tallied as Windows sales.

**Megahertz** As far as the public knows, more megahertz is better. But this year's hot new blue 300MHz Power Mac G3 is actually slower than last year's beige 300MHz Power Mac G3 (because of the effect of other components) – and that machine is faster than a 300MHz Pentium (because MHz aren't comparable among different chip families). The world has yet to invent a consistent, overall speed measurement for computers.

**Version numbers** Software version numbers are pure marketing concoctions. The upgrade from System 7 to System 7.5, for example, was a baby step compared with the leap from 7.5 to 8.0. If anything, it's the tiny increases that really count, because that's when a program goes from "4.0" buggy to "4.0.1" usable.

Of course, then there's the numbering leap from Word 6 to Word 98. That one seems about right.





# 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

Palmtop now more Mac-like than ever



## Palm V

**Manufacturer:** 3Com/Palm Computing

(0880 731 1064)

[www.palm.com/europe](http://www.palm.com/europe)

**Pros:** Gorgeous, slender case design; outstanding new screen technology; rechargeable batteries.

**Cons:** Expensive; incompatible with existing add-ons.

**Price:** Palm V, £349.99 ex VAT; Palm IIIx, £279.99 ex VAT.

**Star Rating:** ★★★★★/8.7

Consider the similarities between the Palm, the smash-hit pocket computer, and the Macintosh: both devices are based on a Motorola chip, they have nearly identical user interfaces, and both reflect an obsession with simplicity and intelligent design. Even the designers are the same – 60 per cent of Palm Computing's employees once worked at Apple. And yet for the first years of the (then named) PalmPilot's existence, its connections to the Mac were crude at best.

Almost overnight, everything has changed. With the release of 3Com/Palm Computing's long-awaited MacPac 2 (see next review), at last we can heartily recommend the Palm as a Macintosh peripheral. An explosion of third-party software conduits connects all kinds of Mac data – FileMaker, Microsoft Word and Excel, and Intuit Quicken documents, plus your calendar and address-book information – to the Palm with the press of a button. And 3Com/Palm Computing has released a pair of new models: the Palm IIIx and the ultra-chic Palm V, whose sleek, sculpted, heat-blasted aluminum case seems inspired by the same curvy coolness factor as Apple's own recent models.

### Style statement

The stunning-looking Palm V represents a pure hardware makeover – it's slightly shorter and narrower than previous models, and much thinner and lighter (0.4 inches thick, 3.8 ounces). This shrinkage makes it even likelier that you'll carry the Palm V with you.

The palmtop's superthin profile hints at the next big change: this is the first model



### Seriously sexy

The Palm V's sleek, sculpted, heat-blasted aluminum case should make even the most design-mad user happy.

not powered by AAA batteries. Instead, a Lilon battery drives it; the battery gets recharged whenever the Palm V sits in its new, AC-powered HotSync cradle. One charge lasts approximately a month, a complete drained-to-full charge takes 90 minutes, and just one HotSync (two-way update) a day is enough to keep the Palm V fully charged, according to the company. This new battery scheme is arguably better for both the environment and your battery budget. It also means that you can leave the Palm V turned on all day as it sits in its cradle, displaying your schedule, a clock, or even a family photo.

On the other hand, since the device now draws power through its sole connector – its HotSync jack – no existing add-ons fit the Palm V. All Palm peripherals must be redesigned, including the Delorme Tripmate (a GPS satellite receiver) and LandWare's GoType portable PalmPilot keyboard (the company has already announced a Palm V-compatible version). Nor will Palm's own snap-on Palm modem fit the Palm V; you'll have to buy the sleek new £129.99 Palm V

clip-on modem. (A £34.99 travel kit, featuring a recharging cord that doesn't require the cradle, is also available.)

The Palm V's other dramatic new feature is its razor-sharp screen. Based on a new film technology from 3M, it provides a light yellow-green background for text and graphics, which seem to float on the glass's surface. (PalmPilot fans who clamour for a colour screen should note the cautionary tale of the new colour Windows CE palmtops, whose batteries die after only eight hours of use. Compare that with two months for the Palm IIIx and one month for the Palm V.) Unfortunately, both the Palm V and the Palm IIIx do something bizarre when you turn on the backlighting: rather than simply lighting up, Indigo-like, as on previous models, the entire screen also inverts black and white. The effect is disconcerting and not necessarily more readable than the original scheme.

3Com has solved the contrast-knob problem at last. On the original PalmPilot models, it was all too easy to bump off this knob in your pocket; the Palm III recessed

the knob so deeply it was almost inaccessible. On the Palm V, you press a physical button to summon an on-screen contrast slider – a great improvement.

The rest of the Palm V story involves low-key touches: there's now a stylus slot on both sides of the device, a nod to left-handed users. (The Palm V includes a leatherette screen cover; one edge slides into the unused stylus slot as a hinge.) And 3Com/Palm Computing sells a line of Palm V accessories, including a combination stylus-ink pen and a head-turning, brushed-aluminum hard case (this prevents accidental button-pressing in your pocket, which the leather flap often fails to prevent).

Although the Palm V is remarkably beautiful, it also costs £150 more than its

predecessor, the Palm III, and doesn't add features or memory. (On the other hand, the Palm V's 2MB go a long way; a typical Palm program is under 20K.) The less flashy but more practical buy is the Palm IIIx (★★★★/8.8; £279.99). This model is nearly identical to the Palm III but sports twice the memory, a screen almost as good as the Palm V's, an expansion slot, and a more rugged circuit-board design.

The budget-conscious should also note that the Palm IIIx pushes the previous model, the Palm III, down to £199.99 and the two-year-old PalmPilot models to £155.

Neither new model introduces any software changes. Sceptics may grumble, but there's much to admire about a company that refuses to pile new features, Microsoft-

like, on a machine popular for its speed, simplicity, and elegance. Furthermore, remember that the Palm III, IIIx, and V are flash-ROM upgradable – in other words, when 3Com does decide to update the software, you'll be able to do so by downloading a software updater to your Macintosh.

### Macworld's buying advice

The Palm V is the StarTac phone or Mont Blanc pen of pocket electronics; the Palm IIIx is the rugged workhorse. Both new models represent careful, welcome improvements to one of the most beautifully conceived pieces of electronics since the Macintosh itself.

**David Pogue**

Reborn PIM sync with Palms



## MacPac 2

**Publisher:** 3Com/Palm Computing (0800 731 1064)

[www.wizardworks.com/macsoft](http://www.wizardworks.com/macsoft)

**Pros:** Syncs reliably with Palm devices.

**Cons:** Desktop software doesn't always mirror data on Palm.

**Price:** Free upgrade from v1.0 for download; on CD, with adaptor cable, £16.99 ex VAT.

**Star Rating:** ★★★★★/6.9

The long-awaited Palm-compatible version of Claris Organizer, which 3Com acquired from Apple last year, is here at last. Like Organizer, 3Com/Palm Computing's MacPac 2 combines an easy-to-use scheduler and contact manager in one convenient package – but it can also share data with Palm organizers.

You can access MacPac's datebook views from the tool bar or by clicking on tabs in the calendar window. Schedule items include timed appointments, banner events, and to-do's (although there's no place to describe events). The contact manager sports all the customary data-entry aids and supports popular formats for printing envelopes and labels. An optional Instant Desktop menu lists your favourite contacts' names and phone numbers, along with the current day's events and tasks.



### Full calendar

MacPac 2's multitask view shows banners and appointments on top, to-do below.

MacPac is an excellent stand-alone PIM, but its real strength is its ability to share data with Palm organizers. On the plus side, 3Com has done an admirable job of writing fast, reliable conduits to handle the flow of data to and from the Palm hardware. But if you're expecting the desktop software to mirror the data on your organizer faithfully, you may be disappointed. For example, untimed events that repeat daily, weekly, or monthly don't transfer from the Palm to the desktop. Even more annoying, notes linked to calendar items on the Mac lose their

attachments when you transfer them to the Palm.

### Macworld's buying advice

MacPac 2 will probably satisfy most Palm users. But if you find the inconsistencies between the desktop and the palmtop frustrating, try Chronos's Consultant (see review page 59) – it syncs with Palm organizers and lets users share contact and schedule data.

**Franklin Tesslar**

Reviews continues page 52










**Manufacturer:** Apple Computer (0800 783 4846)  
**www.apple.com/uk**

**Pros:** Faster than the last iMacs.

**Cons:** Nothing more than a speed bump.

**Price:** £779 ex VAT

**Star Rating:** ★★★★★/8.4



upgrade to the iMac G4. The price is a little more than you're getting for the original, but you were about to buy a new computer anyway, so it's 10 per cent more spent, not 10 per cent more. Not a bad upgrade, from this angle.

**Macworld's best**  
The new model is the iMac G4, and the iMac is known for one case, built into the computer.

upgrade to the iMac, you should bear in mind that the price is staying the same. So you're getting more for your money. If you were about to buy an iMac, you'll get 25 per cent more speed for the same price. Not a bad upgrade when you look at it from this angle.

The new model sports all the things that the iMac is known for: ease of use, all-in-one case, built-in everything. Possibly the only thing the 333MHz version will do is make people feel better about investing their money in an iMac. Consumers are safe in the knowledge that there won't be another speed bump for at least a few months.



**Publisher:** Callas Software  
[www.callas.de](http://www.callas.de)

**Distributor:** Page & Press (0181 998 0080)

**Pros:** Extends use of PDF files in pre-press workflow; simple to use.

**Cons:** Some remaining problems with PDF format itself.

**Price:** £199 ex VAT.

**Star Rating:** ★★★★★/8.2

pdfOutput Pro Profile:

Name: 4 colour + Pantone 1 to 5 CV

Comment:

Page setup:

Paper size: A4 Extra

Scale: x 100.00 %

Offset: x 4.00 mm

y 4.00 mm

☐ Rotate 90° ☐ Mirror

☐ Invert Image

Page range:

☒ Current page ☐ All pages

☐ From 1 to 1

Options:

☐ Mainframe bathman information

☒ Separations: CMYK

☒ Crop marks Distance 3.00 mm Length 5.00 mm

☒ Registration marks

Destination: Printer

☒ Same behavior as PDF file

☐ Ask at runtime

Cancel OK

*pdfOutput Pro lets you create colour-separated PDF files within Acrobat, printable to any PostScript device or to disk files for soft proofing on-screen with the free Acrobat Viewer.*



**Publisher:** Badia Software  
[www.badiasoftware.com](http://www.badiasoftware.com)  
**Pros:** Useful interface.  
**Cons:** None significant.  
**Price:** \$39.99 via Web site  
**Star Rating:** ★★★★★/8.6

**Publisher:** Gluon  
[www.gluon.com](http://www.gluon.com)  
**Distributor:** XChange (0171 637 2966)  
**Pros:** Simple interface, fast.  
**Cons:** Expensive.  
**Price:** £99 ex VAT  
**Star Rating:** ★★/4.9

**Publisher:** Gluon  
[www.gluon.com](http://www.gluon.com)  
**Distributor:** XChange (0171 637 2966)  
**Pros:** Comprehensive quality-control features; easy interface.  
**Cons:** Expensive.  
**Price:** £195 ex VAT  
**Star Rating:** ★★ ★★/5.8

**Publisher:** Gluon  
[www.gluon.com](http://www.gluon.com)  
**Distributor:** XChange (0171 637 2966)  
**Pros:** Innovative idea.  
**Pros:** PDF output problems; RAM hog;  
**Price:** £129 ex VAT  
**Star Rating:** ★★/4.6

**Publisher:** Markware Software  
**www.markware.com**

**Distributor:** Digital Toolbox (0181 961 6622)

**Pros:** Powerful, comprehensive file recovery.

**Cons:** Expensive.

**Price:** £115 ex VAT

**Star Rating:** ★★ ★/6.9

**Clone**

**Boundary Offsets**

Across: 0"

Down: 0"

Width: 0"

Height: 0"

**Geometry Offsets**

Angle: 0°

Skew: 0°

Corner Radius: 0°

Frame Width: 0 pt

**Shade Offsets**

Item: 0%

Frame: 0%

☐ **Rotate Around Point**

Point Across: 0"

Point Down: 0"

Angle Step: 0°

**Copies**

Count: 1

☐ Paste Behind ☒ Group

Clear All Cancel OK



Last month's cover disc featured six demo QuarkXTensions including Badia Duplica, and 11 freeware XTensions.

Quality Control

QC...

Pg	Item	Count: 20
3	Altered Style	
3	Altered Style	
3	Excessive Text Inset	
3	Altered Style	
3	Excessive Text Inset	
3	More than 2 RETURN(S)	
3	Altered Style	
3	PICT: XI Screen	
	Scaled Graphics	
	RGB PICT	
3	TIFF: Seybold Back/Inside .tiff	
	Scaled Graphics	
	No Background Color	
3	TIFF: Seybold Back/Inside .tiff	
	Scaled Graphics	
	No Background Color	

For those who want to rescue bad QuarkXPress files, Markztools III is a utility suite that covers the most common corruption problems in the QuarkXPress program. Convert Document lets you open and convert higher-version documents – such as those created in QuarkXPress 4.0 – from within an older version of the software. Salvage does a good job of opening damaged QuarkXPress files, including those that generate “Bad File Format” or “Unexpected End of File” errors when you try to open them. Scavenge Text is a last resort for bad files, allowing you to extract text if you can’t open the file itself.

Reviews continues page 56



New tool fixes damaged directories



## DiskWarrior

**Publisher:** Alsoft

[www.alfsoft.com](http://www.alfsoft.com)

**Distributor:** Softline (01372 726 333)

**Pros:** Reliable; foolproof user interface; useful preview feature; speeds up healthy drives.

**Cons:** Can't see unmountable disks; not as comprehensive as Norton Disk Doctor.

**Price:** £55 ex VAT

**Star Rating:** ★★★★★/7.6

Every Mac volume has a catalogue – a kind of table of contents – that the OS uses to find your files. If it becomes badly damaged and you don't have a backup, your data could be lost. Alsoft's DiskWarrior comes to the rescue by repairing mangled catalogues, displaying impressive stability and reliability for a 1.0 release.

DiskWarrior's sole focus is the reconstruction of catalogues, a process that's beneficial for healthy as well as broken catalogues. Unlike Symantec's Norton Disk Doctor, DiskWarrior doesn't examine your disk, run through a checklist of possible errors, and fix them one by one. Instead, DiskWarrior takes a holistic approach: it



### Foolproof

*DiskWarrior's opening window couldn't be simpler: just pick a disk and press the Rebuild button to restore your disk directories' health.*

looks at the existing catalogue data, collects additional information the OS has stored elsewhere on the disk, and uses all the information to re-create an entirely new catalogue.

By rebuilding a damaged catalogue, DiskWarrior can resurrect previously deleted files as well as those believed to be lost. If the catalogue is healthy to begin with, rebuilding has a measurable speed benefit because a fresh catalogue is much easier to search. On a test volume, the Mac OS's Disk First Aid took 1 minute and 44 seconds to scan the catalogue; after rebuilding, it took only 39 seconds. (To rebuild a disk's catalogue without DiskWarrior, you'd have to

back up, initialize, and restore the disk; simply defragmenting files with a disk optimizer doesn't have the same effect.) And DiskWarrior proved remarkably reliable: not once during testing did the program create a bad catalogue or cause any disk-related vexations.

DiskWarrior's user interface is remarkably straightforward. You simply select a disk and press the Rebuild button and DiskWarrior builds a new catalogue. Once it's finished rebuilding, you can preview how your disk will look with the new catalogue: DiskWarrior mounts both the original and rebuilt catalogues as read-only disks and lets you explore them in the Finder. You can then use the preview catalogue to copy files off the disk, without changing anything on the disk itself. If you decide you want to keep the rebuilt catalogue, DiskWarrior uses it to replace the old one.

Only one noticeable flaw appeared during testing: if a disk was damaged in such a way that the Mac OS refused to mount it, DiskWarrior wouldn't work with it.

### Macworld's buying advice

Although it's not as comprehensive as Norton Disk Doctor, DiskWarrior performs its one crucial function well and should be part of any collection of disk tools. Not only is the program useful for sprucing up healthy disks but it also increases your odds of recovering files that might otherwise be lost.

**Stephan Somogyi**

Near-perfect solution to missing fonts



## FontIncluder 2

**Publisher:** Callas Software

[www.callas.de](http://www.callas.de)

**Distributor:** Page & Press (0181 998 0080)

**Pros:** Solves the 'missing font' problem by embedding fonts in the document file; server version automates the process across a network.

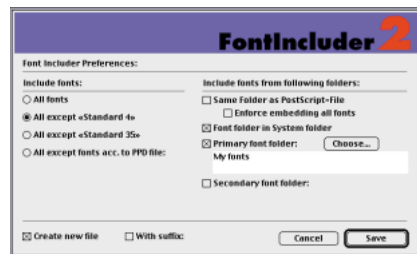
**Cons:** Should support more file formats.

**Price:** £99 ex VAT; FontIncluder Pro Server, £199 ex VAT.

**Star Rating:** ★★★★★/9.3

It probably happens a thousand times a day around the world; it's almost certainly happened to you more times than you can remember: you send a document to a client, or you receive a document from a designer and somebody, somewhere in the chain doesn't have the correct fonts.

The most common solution is to supply a copy of the typefaces with the document, a solution that is almost certainly illegal since font licences usually exclude that approach. A legal method is to use font embedding in applications like XPress, but the resulting PostScript files are print-only formats that cannot be viewed on screen.



### Font Fix

*FontIncluder embeds the necessary fonts within any PostScript, EPS or DCS files and provides all the control you need. The process can be automated with AppleScript, or via the server-based version.*

Nor can they be placed on a page within XPress itself.

FontIncluder provides a perfect workaround to the problem by legally embedding fonts within any PostScript, EPS or DCS files. Furthermore, it handles TrueType and Type 1 fonts, as well as the more usual PostScript Type 3 typefaces, and it allows you to embed PC fonts in Mac files, and vice versa.

The software is simple to install and to use, and provides a few welcome minor features such as control over whether to embed the near-universal typefaces like Times, Helvetica, Courier, Symbol, Avant Garde, Palatino, and so on.

For larger operations running multiple networked design and pre-press

workstations, Callas offers FontIncluder Pro Server, which adds a number of enhanced functions to speed workflow and automate the embedding process.

By designating input and output folders on the server, any PostScript, EPS or DCS files placed in the target folder can be automatically processed for font embedding and then passed to the output folder. Although the stand-alone FontIncluder 2 can be similarly automated using AppleScript on Macintosh or command-line batch processing under Windows, the Pro Server version can be set up in minutes and is a low-cost, off-the-shelf solution.

### Macworld's buying advice

For anyone involved in moving pre-press files between designers, clients and print shops, FontIncluder is a near-perfect solution to the universal problem of missing typefaces, while avoiding illegal copying of fonts. It will pay for itself in the cost of a couple of emergency courier deliveries.

Don't underestimate, either, the benefits of archiving graphics and documents where the required typefaces are embedded within the files rather than deleted from the hard disk or require re-installing from type library CDs. If Callas's FontIncluder 2 worked with TIFF, JPEG and other file formats, it would, in fact, be perfect.

**Peter Worlock**

Reviews continues page 59

## Midrange image database



### ImageAXS Pro 4.0

**Publisher:** Digital Arts & Sciences

[www.dascorp.com](http://www.dascorp.com)

**Distributor:** Contact Design & Marketing  
(01273 384 249)

**Pros:** Flexible, scriptable image database; easy-to-use keyword function.

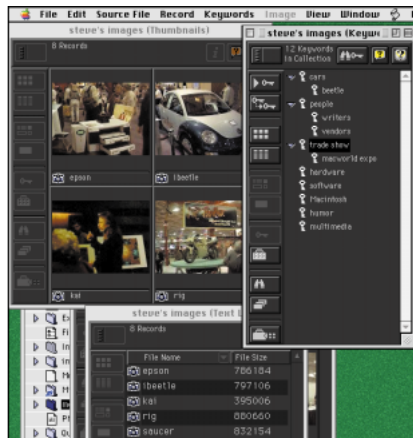
**Cons:** No networking capabilities; cluttered design

**Price:** £249 ex VAT, upgrade from earlier versions of ImageAXS, £149 ex VAT

**Star Rating:** ★★/6.9

Whether you call them image databases or media-asset managers, programs that help you organize photos, illustrations, movies, sounds, and other elements are the current rage among media pros. ImageAXS Pro 4.0 occupies a middle ground among these programs, lacking networking capabilities but otherwise offering a full range of media-organizing tools, including the ability to automate operations through AppleScript.

In ImageAXS, creating an image database is easy: you can open image files from within the program or drag-&-drop folders from the Finder. You can then view the



#### Too many windows

*ImageAXS Pro 4.0 is flexible, but the interface tends to get a bit cluttered.*

images as individual records, in a thumbnail window or in a Finder-like text list. Within each collection, images are organized into portfolios.

You can quickly tag a group of images using keywords; once you define a keyword, you can drag it to any records you choose. You can also create keyword hierarchies. In addition to assigning keywords, you can define an unlimited number of text fields for each collection.

ImageAXS's scripting functions are also impressive. You can script most operations with AppleScript and use the program's recording mode to automate repetitive

functions. An HTML Export function lets you quickly create Web pages containing thumbnail images; clicking on a thumbnail in a browser brings up the full image. You can also export selected images as self-launching slide shows.

Unfortunately, the program's multiple windows tend to clutter the interface. When viewing a single collection, you're likely to open the Text List window for fast sorting, the Thumbnail window to see the images, the Keyword window to assign keywords, and the Portfolio list to show all portfolios within that collection. If you perform a keyword search, any images you find appear in a temporary Portfolio window. It would be nice if the program took a more streamlined approach.

ImageAXS Pro supports most popular graphics and multimedia formats, including PICT, TIFF, JPEG, GIF, and all QuickTime 3 media types. However, it can display EPS files only if they include screen previews, and its support for native formats is limited to Adobe Photoshop.

#### Macworld's buying advice

Digital Arts & Science's ImageAXS Pro 4.0 gives you flexibility when you're setting up collections and makes it easy to apply keywords to multiple image records. If you need a full-featured image database and can live without the networking functions, give it a look.

**Stephen Beale**

## PIM syncs with Palm organizers



### Consultant 2.5.3

**Publisher:** Chronos

[www.chronosnet.com](http://www.chronosnet.com)

**Pros:** Translates English descriptions into events; synchronizes with Palm organizers.

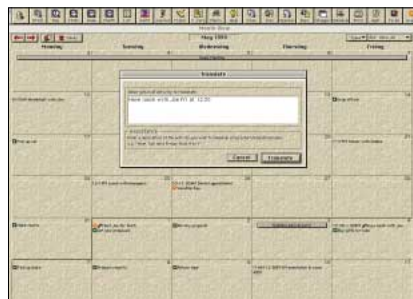
**Cons:** No timed to-do's or zero-duration events; limited alarms; uncompleted to-do's appear on current day.

**Price:** \$39.95; \$49.95 with Palm synchronization, downloadable via Web. CD & manual also available to order online, \$59.95

**Star Rating:** ★★/6.9

In the past, Macintosh users who wanted to share contact and schedule information with 3Com's Palm family of handheld organizers didn't have many options. The original Palm desktop software for the Macintosh was abysmally slow, and Now Synchronize, which was supposed to let you exchange data between the Palm and Qualcomm's Now Up-to-Date/Now Contact bundle, was limited and unreliable.

Now that 3Com has just released its Palm version of Claris Organizer (see review page 51) things should improve.



#### Easy events

*Consultant 2.5.3 translates English phrases into date-book events.*

However, while we were waiting for 3Com, an inexpensive Palm-compatible PIM – Chronos's Consultant – has been quietly winning converts among the Mac Palm crowd. Consultant 2.5.3 gives you most of the bells and whistles you'd expect in a PIM, including a full-featured contact manager and a calendar that offers day, multiday, week, month, year, Gantt, and list views.

Consultant sports a colourful, albeit cluttered, interface. Alas, unlike Now Up-to-Date, Consultant doesn't support timed to-do's or zero-duration events, and entering event times is more cumbersome than it could be. On the plus side, automatic word completion and telephone-number formatting help save keystrokes, and you can book events by describing them in plain English; Consultant translates your requests into

calendar items, complete with links to the appropriate contact (see 'Easy events').

If memory is tight, you might want to use the accompanying program called MiniConsultant to look up and enter contact or schedule data; it uses only half as much RAM as the main application (about 1MB). By clicking on icons in the Finder's menu bar, you can also display telephone numbers for your favourite contacts or review the day's events – even if neither program is running. Pop-up alarms notify you of upcoming events, but you can't dismiss or snooze the alarms without having Consultant or MiniConsultant open.

To use Consultant's Palm-synchronization feature, you'll need to download the latest version of the Palm conduit-manager software from 3Com's Web site. Data exchange between Consultant and my Palm III was generally reliable, and the online manual did a good job of explaining the rules that govern how individual fields are handled. The most glaring problem is that uncompleted to-do's on the Palm always show up on the current day in your calendar, even if they're due later.

#### Macworld's buying advice

Consultant 2.5.3 is a fairly good PIM in its own right. If you use a Palm organizer, download the demo version from Chronos's Web site and give Consultant a try.

**Franklin Tessler**

Reviews continues page 61



Convenient launching tool does Windows



## Action GoMac 2.0

**Publisher:** Power On Software

[www.poweronsw.com](http://www.poweronsw.com)

**Distributor:** Gomark (0171 731 7930)

**Pros:** Convenient navigation features; extensive drag-&-drop support; easy windows management.

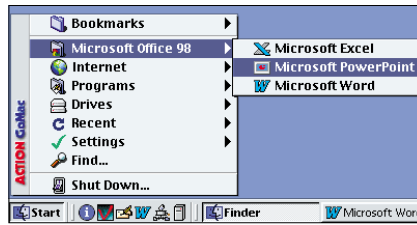
**Cons:** Removing items from Start menu could be easier.

**Price:** £34 ex VAT

**Star Rating:** ★★★★★/8.4

Many Macintosh users are loath to admit it, but Windows 95 and 98 include one navigation tool superior to anything found in the Mac OS – the Start menu and the accompanying task bar. Power On Software has evened the score by releasing Action GoMac 2.0, a navigation and launching utility that not only mimics but actually improves upon its Windows counterpart.

Action GoMac comprises four basic components – a Start menu for accessing recent items, bookmarks, Internet applications, commonly used applications such as those found in Microsoft Office, and the



### GoMac Go!

Action GoMac 2.0 offers quick access to often used items.

contents of drives attached to your Mac; a QuickLaunch area akin to Apple's Launcher; a task bar that lets you switch easily among open applications with a single mouse-click; and the Clock Tray, which contains a clock and pop-up calendar. A single, unobtrusive grey bar at the bottom of your Mac's screen contains these four components. From the GoMac control panel, you can choose to reveal this bar only when your cursor moves to the bottom of the screen, hide background applications, and configure GoMac's application-switching key combination.

GoMac's drag-&-drop support is extensive. For example, to add an item to the Start menu or QuickLaunch, you simply drag its icon to either area. Removing items from QuickLaunch is simple – just click and hold on an item and then select the Remove command from the pop-up menu. Removing an item from the Start menu takes a few

more steps; you have to select Start Menu Items from the Settings hierarchical menu and drag the item's alias out of the Start Menu Items window. We prefer Now Utilities' method of removing items – you simply highlight the item and remove it by pressing the delete key.

The task bar's pop-up menus are also helpful. For example, using these pop-up menus you can quit a background application without returning to it, produce the application's Get Info window, see how much memory the program uses, and add the program to the QuickLaunch area. Clicking and holding on the Finder button allows you to bring any open window to the fore – very convenient when open windows are stacked atop each other.

It's possible that some of these features sound familiar to you. After all, can't you do many of the same things with the Apple menu and Launcher or an advanced macro utility such as WestCode Software's OneClick? To a certain extent, yes. The difference is that Action GoMac is already configured and ready to go – no mucking about with folders, buttons, and scripts.

### Macworld's buying advice

Action GoMac 2.0 is one of those utilities you could probably manage to live without, but its convenience is hard to resist. Try the 30-day demo on Power On Software's Web site and see for yourself. **Christopher Breen**

PC connectivity must-have adds ARA support



## PC MacLAN 7.2 for Windows 95/98

**Publisher:** Miramar Systems

[www.miramarsys.com](http://www.miramarsys.com)

**Distributor:** Principal (01756 704 000)

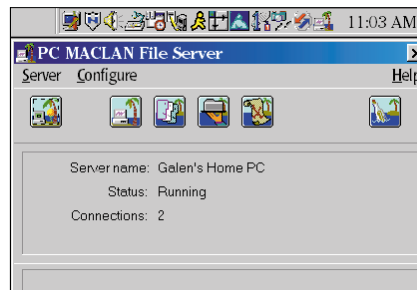
**Pros:** Faster LAN connections; adds ARA and AppleShare IP protocols.

**Cons:** Must restart PC to switch between ARA and LAN connections; abysmal documentation.

**Price:** £172 ex VAT; upgrade from v.5/6, £67.50 ex VAT

**Star Rating:** ★★★★★/8.9

A year ago, we chided Miramar Systems for offering Apple Remote Access (ARA) dial-up connectivity from PCs to Macs as a £149 companion product to the PC MacLAN (see "Windows workers", April 1998). Happily, the product (PC MacLAN Remote) is no more; the new PC MacLAN 7.2 for Windows 95/98 now includes ARA support. But PC MacLAN Remote's biggest flaw remains in the new PC MacLAN: you must reboot your PC every time you switch between a dial-up ARA connection and a regular AppleTalk LAN connection.



### Easy access

PC MacLAN 7.2 for Windows 95/98 adds icons to the system tray, offering fast access to the program's file- and print-server controls.

Still, PC MacLAN is a wonderful tool that makes it amazingly easy to connect PCs and Macs. Once installed on your PC, it offers nearly invisible access to a PC from a Mac and vice versa. (Nothing needs to be installed on the Mac side.) From a Mac's perspective, the PC is simply another networked system available from the Chooser or Network Browser; from a PC's perspective, a Mac is simply another system in the Network Neighbourhood.

In addition to supporting ARA, version 7.2 supports a handy new connectivity route: local and Internet networks based on AppleShare IP 5.0 and later. As Apple

migrates from AppleTalk to TCP/IP, such connections will become more common. If your Mac servers are running AppleShare IP 6.0, however, they already support PC clients; you don't need PC MacLAN to let your PCs connect to them.

Another welcome improvement is that network response time is noticeably faster. And PC MacLAN 7.2 adds two icons to the Windows system tray to give you double-click access to the file- and print-server software (which makes PCs and their printers visible to Macs).

There's still room for improvement in the program's manual, however. Rather than devoting a chapter to each key issue, the manual simply describes menu items and installation steps. This is a real flaw when you consider that networking software involves such complex issues as how to switch from ARA connections to networked AppleTalk, whether to enable TCP/IP for ARA connections on the client and server sides, and how to download fonts to a printer via the PC. The manual treats these topics skimpily and disjointedly.

### Macworld's buying advice

In spite of some lingering shortcomings, PC MacLAN 7.2 for Windows 95/98 is an essential product that does its job very well. It's the easiest way for users and system administrators to connect Macs and PCs.

**Galen Gruman**

Reviews continues page 62

Palm-based outliner comes to the desktop



## BrainForest Professional

**Publisher:** Aportis Technologies  
[www.aportis.com](http://www.aportis.com)

**Pros:** Flexible outline creation and editing; integrated project-management features.

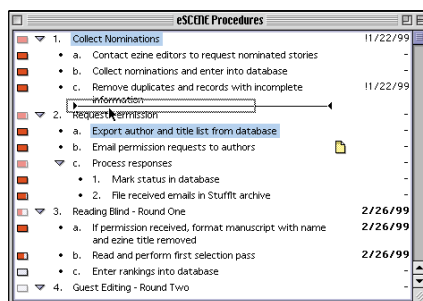
**Cons:** Sparse interface; no record-level synchronization

**Price:** \$40 download from Web

**Star Rating:** ★★★★★/8.6

Outlining is no longer reserved for writing school term papers; whether you're maintaining important lists of information or managing complex projects, hierarchical outlines offer a flexible structure for organizing everyday data. Aportis Technologies' BrainForest brought outlining capabilities to Palm devices, and now BrainForest Professional 1.0 brings them to the desktop. With the exception of some version 1.0 quirks, BrainForest Pro is a useful outliner, even for those who don't own a Palm.

BrainForest's name comes from the



### Outlining isn't a drag

*BrainForest Professional makes it easy to see where dragged items will end up.*

metaphor it uses to organize data: outlines are trees, which contain branches of items and subitems, ending with leaves, the deepest level of the hierarchy. Each branch or leaf exists as either a normal item or an action item; a check box indicates whether the item has been completed.

Beginners may think that they've missed the forest altogether when they first open the application. A new BrainForest tree is the essence of Macintosh minimalism: a blank window labelled Untitled. Although Aportis is deliberately echoing the Palm OS's sparse interface, a small tool bar or floating palette containing basic controls would be a welcome addition.

You can use BrainForest outlines for

scheduling by switching the tree's type from Standard to Project. The check boxes beside action items become bar indicators, measuring completion in percentages that you can change by clicking on them and selecting from a pop-up menu. You can assign start and end dates and a priority level, and specify the item as a repeating event or task.

BrainForest's approach to synchronizing data with the Palm is a bit awkward: instead of updating data on a record-by-record basis, as the built-in Palm applications do, BrainForest stores its files for installation when you perform the next HotSync operation. This method was the only one available to users of the original MacPac software, but given the open-conduit architecture of the current Palm Desktop 2.1, record-level synchronization should be a priority in the next release.

### Macworld's buying advice

If you already use BrainForest on a Palm, you'll appreciate being able to enter larger quantities of information by keyboard with BrainForest Professional. For those who don't own a Palm, BrainForest Pro offers an inexpensive outlining solution. When Aportis adds record-level synchronization and expands the minimalist interface, BrainForest Pro will be indispensable for keeping your life's data organized.

**Jeff Carlson**

Domain name server improves wizards



## QuickDNS Pro 2.2

**Publisher:** Men & Mice  
[www.menandmice.com](http://www.menandmice.com)

**Distributor:** Gomark (0171 731 7930)

**Pros:** Domain-setup assistants; antispoofing security; domain file import; dynamic load balancing; redundant Web-server routing.

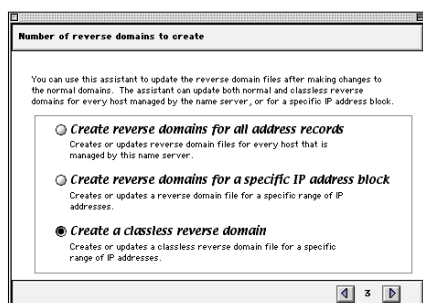
**Cons:** Can't display secondary records.

**Price:** £137 ex VAT; no upgrade available.

**Star Rating:** ★★★★★/7.6

The Internet Domain Name System (DNS) is big news these days, both because of the hotly contested changes in DNS policies and because it's turned out to be the linchpin of the Internet – without DNS, you can leave your surf-board at home. Men & Mice brought server-calibre DNS to the Macintosh with its original QuickDNS Pro, which offered Internet domain-name lookup robust enough even for heavily trafficked Web sites. Version 2.2 builds on that base by improving ease of use, performance, and security, boosting the Mac's credibility as a self-contained Internet server.

QuickDNS Pro is easy to install and



### Easy reverse

*QuickDNS Pro's domain wizard automates the creation of classless reverse domain files.*

includes an excellent online (PDF) user's manual. This version retains its predecessor's user-friendly interface, with wizards that lead you through the process of creating various DNS records. Alternatively, you can use the supplied batch-conversion tool to translate DNS records from a text-based DNS server, such as those bundled with Unix and Windows. The product also offers secondary DNS service and dynamic load balancing, two features that enhance a Web-server farm's reliability.

New in this version is the ability to import records directly into the server via the administration application, streamlining the process of converting from another platform. Also new is a wizard that automates the creation of classless reverse domain files,

a time-consuming and tedious manual process with traditional DNS servers.

This version adds an important security feature that prevents DNS spoofing, a technique for redirecting email or other traffic from its intended destination to a hacker's server. You can also restrict zone transfers to specific secondary servers to further protect domain information.

Other new features give you control over the amount of detail in DNS activity logs and add performance improvements that take advantage of fast G3 processors. In tests against Apple's MacDNS (part of AppleShare IP 6.1), QuickDNS Pro delivered 150 times as many cached and noncached responses per minute as MacDNS. On a Power Mac G3/300 running OS 8.5, QuickDNS Pro easily kept up with Sun's Solaris Unix DNS server running on a 300MHz Intel box.

QuickDNS Pro still can't display the contents of the secondary domains it's serving, but it now includes a debugging tool, DNS Expert, which checks for consistency of DNS information across domains.

### Macworld's buying advice

If you want to avoid the tedium of Unix DNS administration, QuickDNS Pro 2.2 delivers all the performance you could want, plus a feature set that goes far beyond the DNS servers bundled with Unix and Windows.

**Mel Beckman**

Reviews continues page 65



# USB peripherals for iMacs and the new blue-&-white Power Macs

Great low-cost alternative to a colour laser

## Epson Stylus Color 740i

**Manufacturer:** Epson (0800 289 622) [www.epson.com](http://www.epson.com)

**Price:** Around £199

**Star Rating:** ★★★★★/8.9

**W**hy settle for a plain-vanilla ink-jet printer when you can have one that looks like an iMac? Epson's new Stylus Color 740i is functionally identical to the Stylus Color 740 (see Reviews, January 1999 and Test Centre, this issue), but sports an iMac-inspired colour scheme, complete with see-through coloured plastic.

As you watch the gears turn, the versatile four-colour printer produces great-looking text and graphics, including photos. Like its sibling, the 740i features built-in serial and parallel ports in addition to USB. Its case is blueberry, but for a little extra you can order a cover that matches any of the other four iMac flavours. **Stephen Beale**



Floppy drives go head to head

## TEAC floppy drive

**Manufacturer:** TEAC [www.teac.com](http://www.teac.com)

**Distributor:** Mac & More (01442 870 300)

**Price:** £59.95 ex VAT

**Star Rating:** ★★★★★/7.7

## uDrive USB floppy drive

**Manufacturer:** Newer Technology [www.newer.com](http://www.newer.com)

**Distributor:** AM Micro (01392 426 473)

IMC (01344 871 329)

**Price:** £84 ex VAT

**Star Rating:** ★★★★★/7.4

**T**wo of the latest USB floppy drives to be created for iMac and the new blue-&-white G3 Macs, are the TEAC USB floppy drive and Newer Technology's uDrive (pictured below).

Although the iMac is geared for Internet use and lets you easily send files larger than a floppy disk can hold, there are many users who still have a need for these disks.

Those of us who frequently swap data with non-connected friends with older Macs, have a wealth of software backups still held on floppies, or wish to save a few pennies (until telephone charges become cheaper or better still free), make a market for floppies.

Being small, slim and translucent blue-&-white, the TEAC drive looks very attractive. It is light enough and portable enough to shove in your handbag or pocket every morning, and take to work to transfer your files. The Newer uDrive is much larger, chunkier and heavier, but its smooth curves and Bondi blue colouring is designed to match Newer's other USB peripherals. The uDrive also has an indicator light showing when data transfer is occurring from the floppy disk.

When connecting either of these floppy drives to your Mac, you'll notice that they

don't need their own plug although the uDrive has an AC adaptor socket if you need it and don't yet own a powered USB hub. This is because they need very little power to run and take their power directly from the USB connector. The plug-&-play feature of USB means you don't need to shut down, connect the device, then restart each time you plug a new device in.

Before you install anything you must check you have the correct version of USB Manager. If you own one of the earlier iMacs, you need to install the iMac Update 1.1 to fix a bug in the way the iMac recognizes some peripheral USB devices. This will update older versions of USB Manager to version 1.1. To check which version you have, use the Apple System Profiler on your Mac and follow the instructions. The Newer drive comes with the software updates on a CD ready to install if needed. For the TEAC, you must download it from Apple's Web site along with the iMac Firmware update 1.1.

There's just one slight criticism in using both these USB floppy drives. You must remember to drag the disk icon from your desktop to the Wastebasket before pressing the eject button on the actual floppy drive. If you forget, a scary warning will flash up on your screen telling you to immediately replace the floppy or data will be lost or damaged. Make sure you read the manual before use. **Gillian Robertson**

Two serial ports from easy-to-use adaptor

## Keyspan USB Serial Adaptor

**Manufacturer:** Keyspan [www.keyspan.com](http://www.keyspan.com)

**Distributor:** AM Micro (01392 426 473)

**Price:** £65 ex VAT

**Star Rating:** ★★★★★/7.5

**W**ho said only furry felines have nine lives? Thanks to manufacturers such as Keyspan, you can save orphaned serial devices, such as printers and modems.

The Keyspan USB Serial Adaptor is a converter cable that plugs into a USB hub and provides two serial ports. The easy-to-use Keyspan adaptor functions well and supports a wide range of devices, including select models of Apple StyleWriter and Hewlett-Packard DeskJet printers and all Epson printer models; Kodak, Olympus, and Nikon digital cameras; the 3Com Palm Pilot and Palm III; and all brands of standard external modems.

But there are restrictions. "Externally clocked" serial devices – those that control the data-transfer rate to the computer – are not supported, nor are LocalTalk devices.

**Henry Bortman**



Comfortable but frustrating mouse

## Mouse-Trak evolution

**Manufacturer:** Itac [www.mousetrak.com](http://www.mousetrak.com)

**Distributor:** Business Futures (0800 526 457)

**Price:** £95 ex VAT

**Star Rating:** ★★★★★/6.5

**I**tac's Mouse-Trak evolution may be pretty to look at, but it's not very easy to use.

The contoured design of the Mouse-Trak fits nicely in your hand and provides excellent wrist support. The trackball is easy to control, but its six programmable buttons are not. You can't program the buttons' functions through a control panel. Instead, you must program the functions with the buttons themselves – a very arcane process with only confusing documentation as an aid.

Worse, there is no way to program the equivalent of a control-click, which means you can't use contextual menus without having to reach for the keyboard. Also, double-click-dragging is an uncomfortable operation. **Henry Bortman**





# Consumer Durables

**LOW-END USERS CAN MOP-UP WHEN buying printers and scanners, because quality is improving as rapidly as prices are tumbling. In a special double-header Test Centre, Macworld puts consumer printers and scanners through their paces.**

Macworld  
Ten Years of  
EXCELLENCE  
\*\*\*\*\*

## Prints charming

With SoHo printers it's a case of more for less. **By David Fanning**

Macmania continues to sweep the nation, picking up new computer users and PC refugees as it goes. Almost every sale of an iMac entails the sale of a printer, often sold as part of a bundle. If you're one of this legion of punters should you be blindly accepting the model suggested by the salesman, or should you be examining other models and options? Conversely, if you have an older Mac and printer and want to upgrade, you have to choose a printer that's compatible with your old machine and will keep up with you when you get a new machine? These are just a couple of the scenarios we'll be addressing during this look at consumer printers.

Classifying consumer printers isn't an exact science, as many consumer Macs are used in the workplace. The easiest way to define a consumer printer is by price. For the purpose of this feature, we are considering printers up to the £500 mark. This includes basic ink-jets with simple colour, to special photo-colour ink-jets – as well as laser printers, for those who need to print quickly letters or text-heavy documents. Paper sizes up to A3 are possible with some models, and others have other special features, such as A5 Photo printing, and even the ability to work directly from a digital camera.

The cheapest ink-jet printer comes in at a under £200. It may be possible to get an even better deal if you're buying your printer as part of an iMac bundle being offered by many mail-order dealers. But remember, if you're getting a good deal on the printer, beware of hidden costs elsewhere in the bundle, even though most of the deals I've seen have been pretty good.

The only way to get a cheaper printer is by buying second-hand. The trouble is, such older printers probably won't support USB, which is the connection used by iMacs and the new G3 Power Macs. Moving up in price, there are few printers available between £500-£1,000. The next step up on the ink-jet front is the Epson Color Proofer 5000. This offers accurate colour for studio and agency proofing, but is priced



### Editors' Choice

#### Epson Stylus Color 900

Macworld Rating ★★★★★/8.6

The Stylus 900 goes a long way to bridging the gap between the ink-jet and laser technologies, because it can approach the speed of a slow laser for mono prints.

accordingly. You can get close to the quality – but without the accuracy – by using a large-format ink-jet with high-quality paper. This is achievable for under £500, but you must surrender luxuries, such as network printing and PostScript compatibility.

By paying more than the £500 limit we have imposed on this feature you will get progressively faster print speeds and further features, such as networking, PostScript and, eventually, colour. If you think you may be in the market for business colour

continues page 70



## Consumer printers slug it out

MODEL	PRICE	STAR RATING	PORTS	INK	MAX PAPER SIZE	MANUFACTURER	TELEPHONE
Epson Stylus Color 900	£342	★★★★/8.6	USB, Mac Serial, Parallel	Four-colour	A4	Epson	0800 220 546
Epson Stylus Color 1200	£387	★★★★/8.2	USB, Mac Serial, Parallel	Four-colour	A3+	Epson	801 220 546
Epson Stylus Photo 750	£232	★★★★/8.5	USB, Mac Serial, Parallel	Six-colour	A4	Epson	802 220 546
Epson Stylus Color 740	£193	★★★★/7.8	USB, Mac Serial, Parallel	Four-colour	A4	Epson	803 220 546
Epson Stylus Color 1520	£499	★★★★/7.3	Mac Serial, Parallel	Four-colour	A2	Epson	804 220 546
Canon BJC-4650	£279	★★★/6.8	Mac Serial	Five-colour	A3	Canon	0121 680 8062
HP DeskJet 880c	£219	★★★★/7.3	USB, Parallel	Four-colour	A4	Hewlett Packard	0990 474 747
Samsung ML/7000N	£509	★★★★/8.2	10BaseT	Black toner	A3	Samsung	0800 521 652



### Photo finish

The Epson Stylus Photo 1200 is an A3+ version of the Stylus Photo 750 and shares the same range of connections – USB, Mac Serial and Parallel.

you should consider the Phaser 740 from Tektronix. There's a mono version of this (normally) colour laser printer for just £999. Its best feature, however, is its ability to upgrade to colour for an extra £400, making it a nippy colour laser. It was always unlikely that colour lasers would stretch to the home market but, considering there are mono lasers for less than £500, we may see a colour laser in our consumer printer round up within five years.

### Tight budget? No problem

For those readers on a tight budget, the cheapest printers tested here are perfectly useable. Mono printing gives quality, and simple colour is possible. What is obvious, though, is that you get what you pay for – and the more you pay for an ink-jet printer the closer to photographic quality you get. Importantly for your wallet, you can also get better quality by using higher quality paper than by using a more expensive printer with plain photocopier paper.

The technology used in the printers tested comes in two types, ink-jet and laser. Both of these technologies are quite mature, which keeps prices down. Unfortunately, this also means they are unlikely to improve significantly any time soon. For example, most of the ink-jet printers we looked at offer resolutions up to 1,440dpi. To achieve this, the droplets of ink are minute; if they were made any smaller the very physics of ink-jet technology would have to change. When dealing with miniscule particles there's a limit after which tiny air currents affect the ink particles. This makes accuracy impossible – which defeats the object. Other problems with ink-jet technology – such as bleeding and smudging – have mostly been overcome by using high-tech inks and paper, but this adds to the overall price of ownership.

Laser technology has also reached a limit on resolution: not one set by physics but by the capabilities of the human eye. The first laser printers printed at 300dpi, but 600dpi and then 1,200dpi printers superseded them. There are some models that claim even higher resolutions but,

after the 1,600dpi mark, the difference is invisible to the naked eye. So, even though higher resolutions are possible in theory, they're pointless.

What's still improving is the speed at which laser printers can print – and their cost. This leaves the future development of both technologies with almost nowhere to go. The only improvement with ink-jets will be speed enhancements, and perhaps minor resolution tweaks. Laser technology will also become faster and cheaper with time.

Other methods of printing may emerge that do the job better but, so far, alternatives have not lasted. For example, thermal-transfer technology used by ALPS printers has now been pulled from the European market. It isn't an inferior technology, just one that was never well-known to the public. It used a system by which pigment-packed ribbons were heated to transfer colour to the page. It worked well and actually had some advantages over the competing ink-jet printers. It was better at printing on plain paper, dried instantly and you could also get rolls of ink that included gold or silver metallic strips – ideal for those wedding invitations or employee of the month awards. Unfortunately, the ALPS range of printers is now available only in the US.

Another printing method that has fallen out of favour is dye-sublimation. Dye-sub printers have not disappeared entirely, but their high cost has made them unpopular. Until recently, dye-sublimation was the method of choice for proofers, but now low-cost, colour-accurate ink-jets have shunted them out.

### Testing times

For our tests, we devised a number of different print jobs. The first was a simple text and low-res graphics page, similar to printing a Web page, which are among the most commonly printed items – though curiously, email is the most popular. These pages were printed with speed in mind, with colour quality taking a back seat for the moment. Each ink-jet printer has a fast-colour option, and this was selected to print on standard ink-jet quality paper. This is one step up from photocopier paper and is slightly glossy, to avoid bleeding.

Next we printed a half-page of images from a digital camera. This was printed at maximum quality on the highest grade of

glossy paper. This test forgoes the speed option and concentrates on solely on quality. Inevitably, it took considerably longer, but generally the results were worth waiting for.

The last print test was a simple page of text from Microsoft Word. The settings were adjusted for speed without colour. Because of the nature of ink-jets, multiple pages have little or no speed gains – but laser printers are different.

When you print to a laser printer it needs to heat up to the right temperature to melt the toner. Once the correct temperature is achieved it can crank out pages much faster than any ink-jet. There are many different ways to measure the speed of a laser printer. The only way to get a true engine speed, regardless of environment, is to time multiple-page printing after the first page emerges. This means that variables – such as the computer you're using and the speed of the network – will not affect results.

### Home truths

The home or small business environment is obviously different to the corporate world. A printer will not be shared by 20 other people, and slow print-times usually affect just one person. This means that, if you want to print your business cards at the highest resolution possible – or you want your holiday snaps printed on glossy paper – it's likely you can spare the time. If time's not an issue, the printers tested here give great output. The Star Ratings take all factors into account – speed, print quality, ease-of-use and price.

The other thing that's has a key bearing on our ratings is, of course, value for money. Having the fastest printer with the best images is great, but if it costs too much, its rating will be affected.

The products in the under-£500 category are overwhelmed by the Epson range of printers. Of the ink-jet printers we tested, five are Epson printers, with just two other manufacturers offering alternatives. It may seem a little unfair to the other manufacturers, but these companies are hardly underdogs – they are, in fact, giants of the printer industry: Hewlett-Packard (HP) and Canon.

The difference between the companies is the level of support for the Mac market. Canon was a key player in the invention of ink-jet (or bubble-jet, as they call it). The now departed StyleWriter series of printers that bore the Apple logo were, in fact, based on Canon printers. When Apple pulled out of the consumer printer race, Canon didn't take up the slack in the market.

HP has had Mac products for a long time, but it's lagging behind the other players, especially since Epson joined the market. HP printers have consistently lagged behind more advanced printers aimed at the PC market. Mac products are low on HP's list of priorities and

I suspect that, if it weren't for the advent of USB, HP may never have released a Mac product again.

I may be being a little hard on Canon and HP because a couple of years ago the Mac market hardly registered on their radar. Now that Wall St has warmed to Apple, perhaps these lumbering giants will once again turn their attention to Apple products. I'm sure the Mac community is quite prepared to welcome them back like prodigal sons – but they've some work to do to catch up.

Epson, I'm sure you'll be unsurprised to learn, gets the Editors' Choice award. But which one?

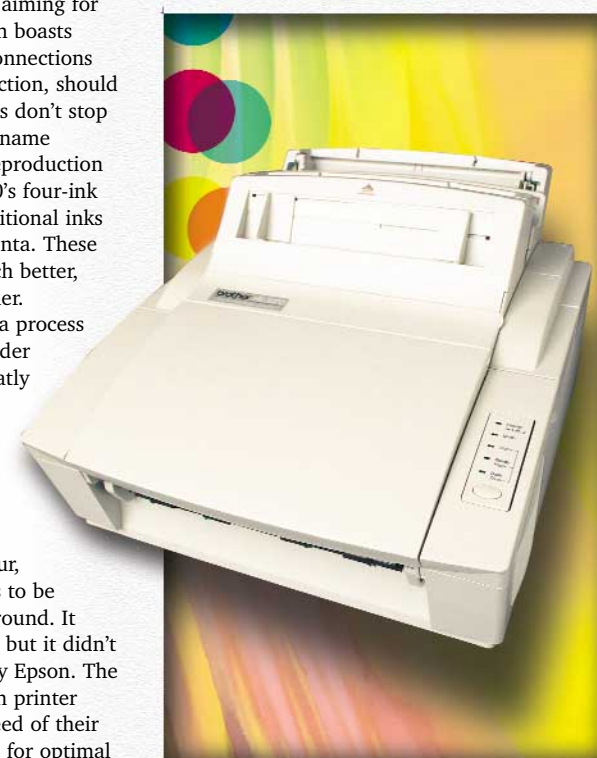
As ever, its horses for courses. At cheaper end of the range, the Stylus Color 740 offers pretty good colour and mono prints at a reasonable speed for a little under £200. When I say pretty good colour, I should say that it is pretty good until you compare it to the more expensive options, which go from pretty good to breathtaking. If you want to add a little colour to letterheads, posters or presentations the 740 is fine – but some banding appears at lower resolutions.

If you want photographic reproduction, you will need to spend a little more. If you don't have a USB-equipped Mac, the Stylus Color 700 is still available, and it uses the older printer connection. You should bear in mind that, if you upgrade your Mac, you run the risk of making your printer obsolete. It looks like a bargain at £174, but I would recommend avoiding something with such a short life expectancy.

You would be better off aiming for the Stylus Photo 750, which boasts both USB and Mac serial connections and even a PC serial connection, should you need it. The advantages don't stop there, the Photo part of its name denotes the Epson photo-reproduction quality inks. Unlike the 740's four-ink setup, the 750 has two additional inks – light cyan and light magenta. These make the colour range much better, and skin tones look smoother. Graininess and dithering – a process that gives the effect of a wider colour range – are also greatly reduced, to give smooth tones. At £232 it is more expensive than the 740 but the improved compatibility and quality make it a great deal.

If you need speedy colour, the Stylus Color 900 claims to be the fastest ink-jet printer around. It was the fastest in our tests, but it didn't reach the speeds claimed by Epson. The reason for this is that, when printer companies measure the speed of their printers, they set all factors for optimal speed. Our tests were conducted on a slower computer: it probably has a badly fragmented disk. These are real-

continues page 73



### Third-party way

Some lasers, like the Brother HL-1050, claim Mac-compatibility, but rely on third-party products to provide it.

world factors. The chances are, your computer will drive any of these printers faster than ours. But, assuming you do live in a perfect world, you can rely on speed figures from Epson. Our speed tests are conducted in controlled – but not perfect conditions – and so are proportionally correct.

When printing high-quality colour on the Stylus 900, the speeds fell to the more usual sluggish ink-jet tempo. There are a number of features that make the Stylus 900 the ideal printer for the small-to-medium-sized office. Most importantly, the ability to add 100BaseT networking means it can be shared easily. Its faster printing also means that print queues will not be a problem. It isn't as fast as a colour laser printer but, at a fraction of the price, it fills the role adequately.

### Give it Large

If you need to do large-scale printing there are a number of options. Firstly, Epson has the Stylus Photo 1200, which is basically an A3+ version of the Stylus Photo 750. It shares the same range of connections – USB, Mac Serial and Parallel – which make it future-proof.

If that isn't big enough, the Stylus Color 1520 supports paper sizes up to A2. Unfortunately, it only has Mac serial and parallel connections, which means if you have, or intend to buy, a USB-equipped Mac, you've got a problem.

Another option is the Canon BJC 4650, which is capable of A3 prints with photorealistic colour. Because it's more than a year old it doesn't sport a USB connection, which gives it a limited life-span. A new USB-equipped Canon printer is in the pipeline and, unless you intend to keep your non-USB Mac for the next three years, you might want to wait for it.

Last but not least of the ink-jet group is the Hewlett-Packard DeskJet 880c. The 880c is the newest in a long line of DeskJet printers but, in the past, Mac-compatibility has taken second place to the PC market. Now that USB is a Mac-standard it's no big deal to write a Mac driver and easily re-enter the Mac market.

The printer doesn't work right out of the box – you need to download the drivers

from the Internet. This puts HP at the bottom of the pile for ease-of-use. The resolution of 600dpi isn't impressive compared to 1,440dpi possible on Epson printers, but it fared well enough. As the 880c has only USB and parallel interfaces, you won't be able to use it with the older Macs.

If colour seems like a pointless flight of fancy – because all you want is crisp black text – you have other options. One laser printer very nearly made it into the under-£500 category. The advantage of laser printers is in the quality of text, and also speed and networking capabilities. If all you do is print letters or other text documents then a laser is for you. If you think that you might ever want to print in colour, then you opt for an ink-jet.

The £509 Samsung ML7000n laser printer is an amazing deal – including all the features you would expect in a laser printer for slightly over our £500 limit. It seemed churlish to leave it out. It includes 16-pages-per-minute 10BaseT networking and PostScript – a must with lasers.

There are other laser printers available for under £500, but they don't directly support the Mac, opting rather for a third-party solution to solve the problem. As more USB laser printers hit the market, an increasing number of manufacturers are realizing that Mac support is easier than ever. This will mean more choice and healthier competition.

### The final word

If you're looking for a printer to fill a particular need – whether it's printing digital photographs or invoices – you should be able to find a solution for £500 or less. Epson has a colour printer for just about every eventuality, and its prices are reasonable. To make yourself future-proof, choose a USB printer. That way, you will get years of use – even if you buy a new computer.

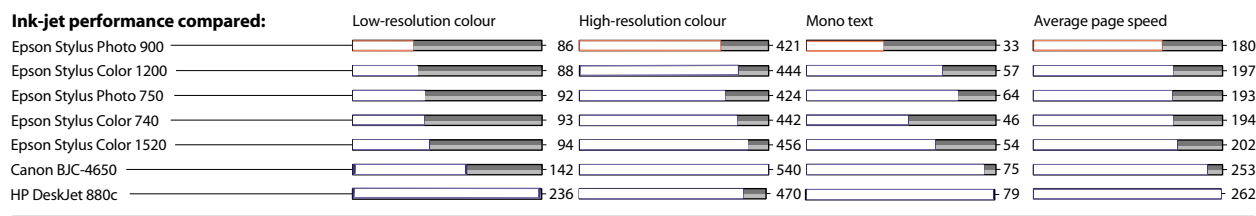


#### Photo finish

The £509 Samsung ML7000n laser printer represents an amazing deal – including all the features you would expect in a laser printer for just over £500.

## Ink-jet speed shootout

Best results in test. Shorter bars and shorter times are better.



### Behind our tests

All the printers were tested using the same machine to print from. To enable testing of both USB and serial printers we used a Power Mac 9600, fitted with a Keyspan USB card. For low-res we printed at the fastest setting available for colour printing. For high-res tests we printed at the maximum quality setting. Mono text was simply a page of text printed without colour. All speed tests are measured in seconds.



# Carry the scan

Entry-level scanners give real value for money. **By David Fanning**

**W**hen the desktop publishing revolution began, the most sought-after item was always a scanner. Today, scanners remain a high priority even for home and small-business users. The reason for this is their versatility – plus their relatively low cost. Here, we take a look at a number of low-cost models (priced under £300). You'd have thought such a low price threshold would restrict us to consumer scanners, yet one semi-professional model still crept in.

Most of the scanners tested are available for between £100-£150. Scanners have become smaller and lighter in recent years, meaning you no longer have to give up swaths of desk space to accommodate one. The advent of SCSI-less Macs and USB scanners means it's time to move away from SCSI as a scanner connection. With one exception, the scanners tested are USB devices. If you're a SCSI user, don't flip to the next section of the magazine just yet, because most of these models have equally good SCSI versions available too.

Alternatively, you can add a USB card to your PCI Mac to ensure future compatibility when upgrading your machine.

The £300-plus price-range puts you firmly in the semi-professional scanner market. These are usually defined not so much by their high resolutions as their professional features, such as batch scanning and transparency capability.

Professional designers may think they need to shell out an extra £300 or so for a model that will meet their requirements, but the reality is that a low-end scanner may be all you needed. For positional work a screen resolution of 72dpi is all that's required. If you require positional scans from transparencies, a number of the models tested can be upgraded with adaptors. While you won't be able to use the scans for glossy publications, the results are easily good enough for place-holding duty.

Going back to the days when such scanners cost £1,200 and upwards, some manufacturers designed lower-cost hand-held scanners. These typically managed a maximum resolution of 150dpi and often in 16 shades of grey. They were

## Editors' Choice

### The Artec 1236USB

**Macworld Rating** ★★★★★/8.7

The translucent blue Artec 1236USB performs above and beyond the call of duty. It is tiny – something made possible by its lack of power supply cables. Power is drawn from the Mac's USB port. It can go where you go and makes an attractive partner for your iMac or Power Mac G3. Oh yeah...it scans well too.

useful in some circumstances, but because you can now get a 1,200dpi, 36-bit scanner for half the price, they are now obsolete.

Your options with even a low-end scanner are numerous. One such use is scanning images for use on a Web site. Now that most ISPs offer free Web space, I'm assuming the majority of our readers have access to the Net.

The secret to any decent Web site is, of course content – and to this end images contribute a great deal. Because Web sites are viewed on monitors, screen resolution is the same the world over. This means that, whether you're authoring Disney's new Web site or one meant solely for the eyes of your pals, a simple £99 scanner is all you need. Even if the scan is not colour-perfect, many models come with bundled software that can correct imperfections.

You don't even need to splash out on a digital camera: if you already have a quality film camera, you have little to gain by splashing out on a digital version. Of course, you'll miss out on the instant gratification factor of digital photography

continues page 77



– but there still a lot to be said for a quality glossy print from real film. And remember, if you have a good quality printer, you can even duplicate pictures at a fraction of the cost of reprints. A scanner and printer could even pay for themselves in no time if you want to duplicate your wedding shots. The results would be practically indistinguishable from the real thing.

Something I discovered when looking for suitable snaps to scan for testing purposes was that the majority of holiday pictures are taken with cheap or disposable cameras. The resulting prints are almost universally blurry. Scanning these into your Mac may not make them into masterpieces, but you can improve them.

A common problem is badly framed pictures. In this instance, scan them in and re-crop them. If your scanner has Adobe PhotoDeluxe – or something similar – you can tweak the colour balance or even turn it into a birthday card. There's a ton of fun to be had with scanners.

If it is the immediacy of digital cameras that you want, you can always buy a Polaroid instant camera for less than £30. Its pictures may not be top quality, but they have a certain charm. You can scan them

Back to resolution. This is one of the most often quoted specifications when it comes to scanners – because the higher the resolution, the sharper the image. However, the resolution quoted by many manufacturers has little to do with image-quality – because they often quote the machine's interpolated resolution. At first, interpolation was a hardware trick to increase the possible resolution. When using interpolation, the scanner would scan at its highest resolution, then offset the scanning head by half a pixel and scan again. This would give twice the information of a single scan but, as it was not collected in one pass, it was not the same as an authentic high-resolution scan. It was a good work-around and, when 300dpi scanners were more than £1,000, it was also a cheap work-around.

Unfortunately, the marketing moguls – with their love of ever-brasher statistics,



#### Jewel scan

Heidelberg's Jade 2 has all the features you would expect of a mid-range scanner and is ideal for studio work.

## Scanners slug it out

MODEL	PRICE	STAR RATING	RESOLUTION (PIXELS)	SOFTWARE	CONTACT	TELEPHONE
Agfa SnapScan 1212U	£129	★★★★/8.3	600-x-1,200	FotoLook, FotoSnap, OmniPage Lite	Agfa	0181 231 4906
Artec 1236USB	£99	★★★★/8.7	600-x-1,200	Adobe PhotoDeluxe 2, TextBridge Lite	USB Direct	01932 255 485
Epson GT-7000	£170	★★★★/8.4	600-x-2,400	Adobe PhotoDeluxe 2, Adobe PageMill, Textbridge and Presto! PageManager	Epson	0800 220 546
Heidelberg Jade 2	£280	★★★★/7.6	600-x-1,200	LinoColor Easy, Photoshop LE	Heidelberg	01242 285 100
Microtek Phantom 336CX	£77	★★★★/7.9	600-x-1,200	Scan Wizard, Color IT, OmniPage	Microtek	01908 317 797
Umax Astra 1220U	£85	★★★★/8.2	600-x-1,200	Adobe PhotoDeluxe 2, OmniPage	Umax	01344 871 329

in for reprints, enhancements or Web work. Their quality will be no worse than the cheapest digital cameras.

Of course, scanners can be put to more sophisticated uses, particularly in the small office environment. For example, if your scanner has OCR (Optical Character Recognition) you need never re-type anything again. Simply scan the relevant document using TextBridge or OmniPage (both are regularly bundled with scanners). The OCR package reads the letters and turns them into an editable text document. The software even copes with copying formatted documents. It's not totally accurate, but does save hours of typing.

Scanning is already a mature technology although resolution and speed are both likely to improve. However, ever-increasing resolution is not a compelling reason to buy any of the scanners in the price bracket we are examining. And while speed increases are always nice, scanning an A4 page at 72dpi in a little over 30 seconds is plenty fast enough for most low-end users. The real variable in the consumer-scanner bracket is price. A price war is already underway – and sub-£100 scanners are now common.

turned to interpolation to get them ahead in the numbers game. The word “interpolation” has now come to mean something different. Rather than being a hardware trick, it's software interpolation that is more common. Instead of offsetting the scanning head, resolution is increased via software. The result is the same as when increasing resolution in Photoshop. No extra information is involved, making the image blocky – and no better for the higher resolution. All the scanners we tested are capable of some kind of interpolation, but we never quote interpolated resolution, because the information is worthless. Always go by optical resolution.

There really has never been a better time to buy an entry-level scanner – but how do you tell them apart? In testing, a number of features contributed to our Star Ratings.

continues page 79



#### Spectre calls

The Microtek Phantom 336CX is small and neat, but was easily the noisiest scanner on test.



Quality is the key factor. If you're scanning at 46,000 dpi but your colours are wrong it's no use to anybody. We scanned a number of pictures, photographs, magazine clippings, text and ink-jet-printed images. Each tested the models' varying abilities.

Our second test was for speed. Because the scanners have varying high resolutions, we chose 72dpi as the acid test, because they were all capable of it. We used an A4 image and timed the results from the moment the scan button was clicked to the image appearing on screen.

Ease-of-use was another important factor. Scanners can be difficult to set up, especially for novices. As their USB capability means new iMac users are likely buyers, we have assumed little or no knowledge of peripherals. These scanners should be as easy as plugging in a mouse.

Another factor crucial to home and small-office users is size. Small is very much beautiful, while price – as ever – also rears its ugly head. Our aim is always to prevent you from splashing out unnecessarily.

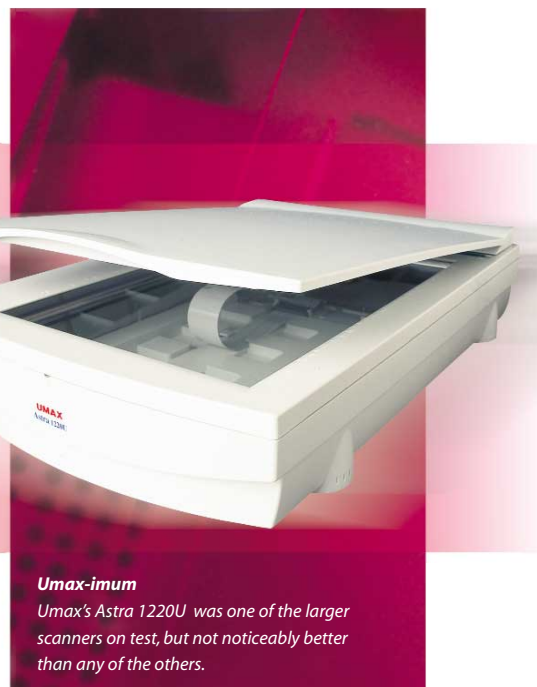
Let's start with size. Like a veritable cuckoo in a wren's nest, the Jade 2 dwarfs the competition. The Jade shouldn't really be in this feature, but its amazingly low price demanded its inclusion. It has all the features you would expect of a mid-range scanner and is ideal for studio work. For a little extra you can attach a transparency adaptor. The reason for its low price is down to its age. When the Jade 2 first shipped, it was more than twice the price of the current model. Now though, it's affordable for the home user. One drawback with the Jade is that it doesn't have a USB option. Even high-end Macs no longer ship with SCSI as standard – so SCSI scanners need SCSI cards to work with modern Macs. There are USB-to-SCSI adaptors in the pipeline, but none have so far shipped, so their usefulness is unknown. The danger of fitting a SCSI card in a new G3 Macintosh is that, with just three vacant PCI slots, you can run out

of room very quickly. If you've opted for the fast SCSI option to get speedy drives in your new Mac, attaching a scanner to the SCSI bus will slow it down dramatically. Although Ultra 2 SCSI – or any fast SCSI – is backwards-compatible, attaching a slow SCSI device always means everything runs at the slowest speed. Until the suitability of the USB-to-SCSI adaptors is known, be aware of anything that relies on SCSI. It may represent a good deal now, but you may live to regret it.

From an outsized veteran we move to a compact newcomer. The Artec is tiny, made possible by its lack of power supply cables. Power is drawn from the Mac's USB port. The scanner is only a couple of inches bigger than its A4 top-size capability. It's also cast in translucent blue, which adds to its charm. This is a cute scanner.

Cute and effective. Its portability spurred us on to run a number of extra tests. Imagine you're on the road with your new USB equipped PowerBook (shh... it's still a secret). You need to scan a document and you have your Artec plugged into the PowerBook, which is balanced precariously at an angle on your car seat. Even though the Artec has access to only 500 milliamps it can still perform the scan, even at a 35-degree angle. The Artec performs above and beyond the call of duty: it can go where you go; it makes an attractive partner for your iMac or new Power Mac G3; and it scans well. There is just one problem: because of its PC-manufacturer background, its software installation is inelegant. Although not exactly rocket

continues page 80

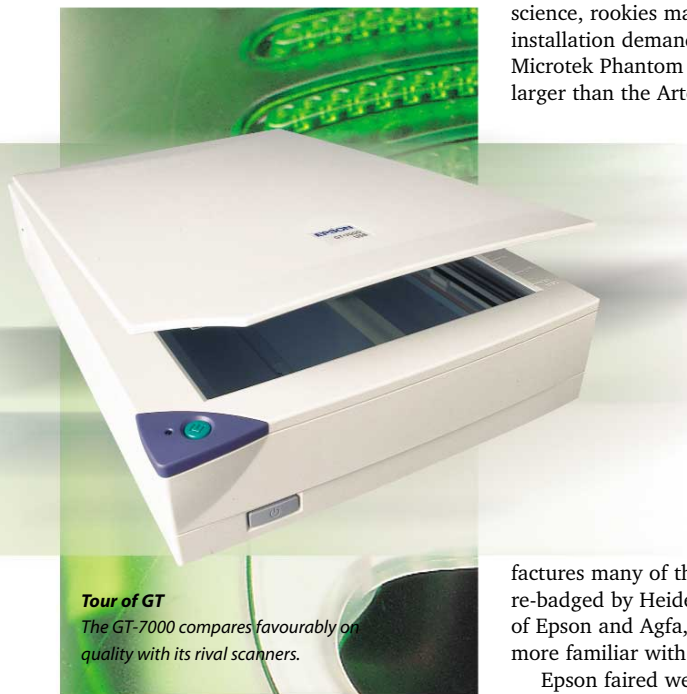


**Umax-imum**

*Umax's Astra 1220U was one of the larger scanners on test, but not noticeably better than any of the others.*

## Five-point plan for better scans

- 1** Always use continuous-tone originals if possible. That means photographs, rather than magazine pictures. The reason is that printed material is composed of small dots. Because the scanner scans in small dots, the dots will not match-up perfectly, causing a moiré effect. You can get rid of this in Photoshop, but you'll lose some sharpness.
- 2** Always scan for the maximum optical resolution for best printed results. This is likely to enlarge file-sizes but it's important for top results. The reason for this is that the lower the optical resolution you scan at, the fewer charge couple devices (CCDs) the scanner employs when scanning the image. Even if you don't require an image of high resolution, scan at the maximum optical resolution anyway. Now you can reduce resolution using Photoshop, which does a better job of retaining relevant information when reducing file size.
- 3** Software can help you achieve a better picture. If you have Adobe Photoshop you can control levels of brightness and contrast. Try experimenting with the levels to get the best results. Auto Levels in Photoshop will only work correctly when there's an obvious white point and dark point.
- 4** If you're scanning line art, don't use the automatic line-art setting if your software has one. You're almost always better off using greyscale, or even scanning in colour and making any adjustments after scanning. When scanning in black-&-white you capture less information. Always capture as much information as possible. This means that you have the option of discarding information you don't need.
- 5** Scan any images intended for Web-use at a low-resolution. When saving, save as either a JPEG or a GIF. Photographic images should always be JPEG files, as the compression method is designed specifically for photographs. If you're scanning a graphic, such as a company logo, use a GIF format, as JPEG will make it appear blocky. For faster loading GIFs, you can reduce the palette of colours used in Photoshop.



**Tour of GT**  
The GT-7000 compares favourably on quality with its rival scanners.

science, rookies may fall foul of its manual installation demands. Next up in size is the Microtek Phantom 336CX. Only slightly larger than the Artec, the Phantom uses an external power adaptor. It is small and neat but is easily the noisiest scanner on test, which was something of a distraction. Undoubtedly, the three big guns in the scanner industry are Epson, Agfa and Umax. For those not in the know, Umax manu-

factures many of the high-end scanners re-badged by Heidelberg. The pedigree of Epson and Agfa, I'm sure, you'll be more familiar with.

Epson fared well in the tests, after

clash with the fruitier iMac flavours but Bondi and Blueberry should be fine. If you just can't stand all this frivolous nonsense, there's a grey SCSI version of the 1212U also available. There's a SCSI model of the Umax 1220U – but bear in mind the USB upgrading factor. The USB version is one of the larger scanners on test, but not noticeably better than any of the others.

If you're an older-Mac owner and are concerned about buying a non-USB scanner, there's a solution. There are a PCI cards available that add two USB ports to older Macs. The KeySpan USB costs £59, but USB Direct has one at half that price.

Software is another variable. The Phantom, for example, presented me with Scan Wizard 1.0, which I've been staring at since 1995. It could use an upgrade.

But it's not worst software around – at least you can get to the controls when you need them.

The Agfa software, though, makes everything so simple that you can't tell what resolution you're scanning at. I know novices may become confused

## Scan speed shoot-out

Best results. Shorter bars are better.



The figures shown indicate the time it took to scan an A4 image at 72dpi. All scanners, with the exception of the Jade 2, use USB interfaces. The Epson, Agfa and Umax models are also available with a SCSI connection.

performing poorly in recent years. The older Epson scanners had a characteristic yellow cast on scans, something I'm glad to say is a thing of the past. Epson engineers always said the different colours seen by older scanners were, in fact, more accurate – but it's what the eye sees that's important.

Now Epson scans compare favourably with the rest. In fact, scan-quality all-round was extremely good – and it's difficult to say if any is best (good news for scanner punters).

For the purposes of singling out a model, this shifts the emphasis on to the other considerations.

The Agfa scanner was the first to appear in a truly iMac-like translucent case. It makes a striking addition to the iMac peripheral collection. It may

when offered choices of resolution, but over-simplification makes life unrewarding for more experienced users. Epson's software is also a tad shy about resolution, choosing standard settings to match the Epson printers' output-resolution.

At least Epson scanners allow you to set scanning resolution if you wish to. Microtek, has been making Mac scanners for at least ten years – but any head-start it may have had has become a deficit.

## The final word

The USB scanners tested all do the job well and were close on quality and ease-of-use – so it's well worth checking the software bundles available with each model.

For me, only the Artec offered something new and different: being cable-free and translucent blue, it's a compelling buy. The software includes the fantastic Adobe PhotoDeluxe and a plug-in for Photoshop. This makes it easy for both novices and professionals to get the job done.

The Artec can even scan when going uphill – so it's a natural winner.

MW



**Striking light**  
The Agfa SnapScan 1212U was the first to appear in an iMac-like translucent case and makes a striking addition to the iMac-peripheral collection.



# RAM

Your Mac is a studio in-waiting.

By Bob Dormon and Paul Wiffen



A

P

**THESE DAYS, IT SEEMS, DIGITAL AUDIO ON COMPUTERS IS THE NEW ROCK 'N'** roll – or at least the new way to record it. Everyone from nightclub crooners to hardcore rappers are turning to computers to record their sounds. Tape is dead – long live RAM.

But what exactly is CPU-based synthesis, random access recording and, more importantly, what do you need to turn your new Mac into the modern-day equivalent of a 24-track recording studio?

In fact, in its strictest sense, digital audio has been available since the birth of the Mac. Unlike PCs, whose audio capability has always relied on plug-in cards, every Macintosh motherboard has always had audio built-in as standard and, of course, it has always been digital.

Transforming audio into a stream of digital information – which can be held in memory, stored on hard disk or processed and changed by the CPU of a computer – requires a process called analogue-to-digital conversion (ADC, or A-to-D conversion). This turns the analogue waveforms into an electrical signal carrying sound (as in traditional home hi-fi or an electric guitar or organ) into a string of numbers. These can then be stored and processed by the computer before being turned back into an analogue signal, which can be fed to a speaker for the results to be heard (digital-to-analogue conversion, D-to-A or DAC). In this digital form of audio, the energy level present in an analogue waveform at any split second is represented as a digital word or sample. The quality of the resulting digital audio – how faithful it is to the original sound – is dependant on two things: how accurate your sample is and how often your sample is taken.

continues page 84

IMAGES © PhotoDisc 1999, www.photodisc.com/uk



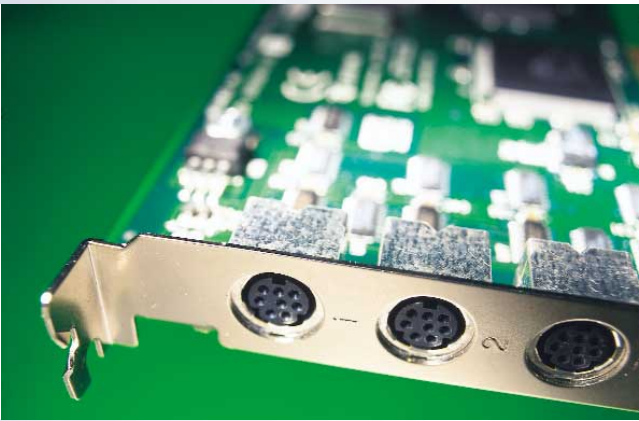
Back in the 1970s and early 80s, the quality of the standard sample was 8 bits, which gave a sample resolution of 256 divisions of the analogue audio-energy range. At the time, this was all even the most expensive stand-alone computer systems – such as the Fairlight, beloved by Peter Gabriel and Duran Duran – could manage. So, that the first Macs featured the same digital audio resolution was impressive. Where the high-end computer systems fared better was in the sample rate (how often a sample was taken). While the original Mac operating system restricted samples to 11kHz, – which is 11,000 samples a second – more expensive systems could go up to 20kHz or even 30kHz, making them much brighter and cleaner. The original system sounds on a Mac sound okay through the tiny little speakers, but if you ever connect them to your hi-fi, you will hear how dull and dirty they are. But, even with the higher sample rates on expensive systems, there was no standard – so audio could not be passed between systems in digital form. It had to be turned back to analogue and then back to digital again.

Fortunately, the new consumer standard for audio recordings, the Compact Disc, not only brought better quality recordings for the masses, but a standard everyone could agree on: 16-bit 44.1kHz. This used two bytes instead of one to store the resolution, giving not twice the resolution, but a staggering 65,536 divisions of the audio energy range – and this analysis was performed 44,100 times per second. This gave crystal-clear quality and a dynamic range which has remained the standard until the very recent arrival of DVD, which can support up to 96kHz at 24-bit resolution (although in practise, most DVD will end up using 16-bit, 44.1K).

The only problem with 16-bit audio was that the required converters were much more expensive and the amount of data produced – 5MB per minute, or 10MB for stereo – clogged up the slower 1980s’ processors and filled up the average 8MB of RAM frighteningly fast.

So, in the 1980s, Macs stuck with 8-bit 11kHz sound and still, most system sounds reflect this early standard. However, in the 1990s, the price of 16-bit converters dropped drastically. This, and ever-improving computer performance means computers can now cope not just with stereo, but multiple channels of CD-quality audio – and without even cracking a sweat. Add to this the increasing use of recordable CDs for data storage, and the modern computer becomes the ideal system to record your own CDs on.

Of all the machines out there, none is better for digital audio applications than the current crop of Macs (from the 233MHz iMac all the way up to the 400MHz G3): a fact born out by the use of Macs in 90 per cent of recording studios. Because a PowerPC processor is almost twice as fast as a Pentium II running at the same speed, it can handle extra channels, extra signal processing – or both – simultaneously. So, whatever reason you had for buying your Mac, now just might be the time to record that hit single you always knew you had in you.



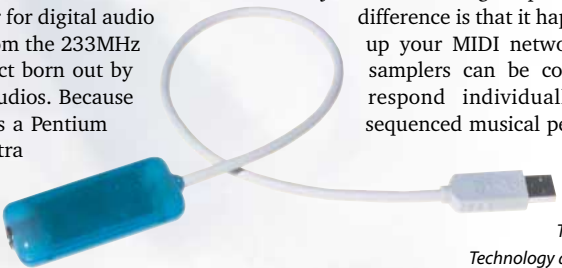
**Wolf harries**

*If you can't wait for a full-spec USB MIDI interface to appear, the MegaWolf Romulus PCI card offers four serial ports and works using FreeMIDI.*

If the megabyte-munching memory and media requirements of digital audio make it the new rock ‘n’ roll, then MIDI is skiffle. MIDI has been around since the early 1980s. It changed the way most popular music was created, with the aid of computer-based sequencers keeping time with monotonous precision.

It is an ancient legacy in computing terms and providing MIDI functionality on a modern computer is not a big deal. The catch is that MIDI and audio features tend to be bundled together in the latest software packages, which are designed to take advantage of today’s processing power. However, MIDI-only packages do exist, which means that even an SE-30 should be able to knock out a tune.

While digital audio plays real digitized recordings, making demands of your disk-drive and system bus, MIDI behaves more like a word processor – with file sizes to match. MIDI itself doesn’t entail the use of audio data, it’s just a means of communication – like AppleTalk for musicians. Typically, the sounds played via MIDI are actually generated from external synthesizers. All MIDI does is tell these devices which notes to play. A sequencer, though, captures your playing and spits it out along a MIDI cable plugged into a synth. It’s just like sending a print job to a remote printer. The difference is that it happens instantantly. You can also set up your MIDI network so that numerous synths and samplers can be connected – and can get them to respond individually to different elements of a sequenced musical performance.



**iMate**

*The iMate USB-to-ADB adaptor from Griffin Technology allows iMac users to run Emagic's dongle-protected Logic Audio software among others.*

**Soft synthing**

QuickTime offers MIDI support in a number of ways, providing the means to play MIDIfiles with MoviePlayer and listen to them with QuickTime Musical Instruments.

Simply drag-&-drop a MIDIfile onto MoviePlayer and it’ll convert MIDIfile to Movie format. It can then replay the music sequence, accessing QuickTime Musical Instruments (QTMI) which contains a set of General MIDI sounds. This should even work with varying levels of fidelity on 68x0 Macs. Problems can arise if there is too much controller data (pitch bend, volume control etc) which can clog-up the playback performance. In any event, you must make sure the QTMI extension is enabled.

Roland provides a software version of its SC-88 Pro synth module, called the Virtual Sound Canvas (VSC-88H). This is a more refined alternative to QuickTime Musical Instruments. The VSC-88 replays MIDIfiles too, but an error in the manual means its default configuration (Polyphony Priority Mode) must be changed to Response Priority Mode for satisfactory results – or you’ll get huge playback delays, even on a 400MHz G3!

QuickTime 3 also has an updated set of Roland Sound Canvas sounds. These include the extended Roland GS Format, which provides alternative instruments to those used in General MIDI. QuickTime Pro enables you to get the most out of MoviePlayer and to use

these additional sounds easily. Alternatively, a MIDI sequencer will be able to access QuickTime Musical Instruments, although initially, OMS or FreeMIDI may be required to establish the presence of QTMI.

Those without a General MIDI module who want to create a GM-compatible song for MIDIfiling can always use QTMI on a sequencer to establish the correct instrument program changes.

Conversely, PowerBook-toting producers on the move – receiving MIDIfiles via the Internet – can get a good idea of the tunes using QTMI or the VSC-88H, without additional hardware or the burden of downloading massive audio files.

In its basic form, MIDI has 16 channels, which you can use to simultaneously access different instruments. Choosing from a palette of synthesized instrument sounds when replaying a sequenced MIDI song is like being able to edit sections of text using a variety of colours inks and typefaces. The only limit is your creativity.

**Change of key**

Again, like a wordprocessor MIDI needs a keyboard – albeit a piano-style one. If you have a disinclination for tinkling the ivories then alternative “controllers” are available – in the form of MIDI guitars, basses, wind instruments and drum kits. What they do is translate a musical performance into MIDI-note data that can be fed into either a sequencer or a simple one-to-one connection with a synthesizer or sampler. A sequencer will help you get the most out of MIDI, as it can access the sounds in your MIDI synthesizer at the click of a mouse, rather than you having to squint at some ill-conceived LCD front-panel display. The sequencer also can be used to correct mistakes in your performance and you can play back previously recorded sections while you layer new stuff on top.

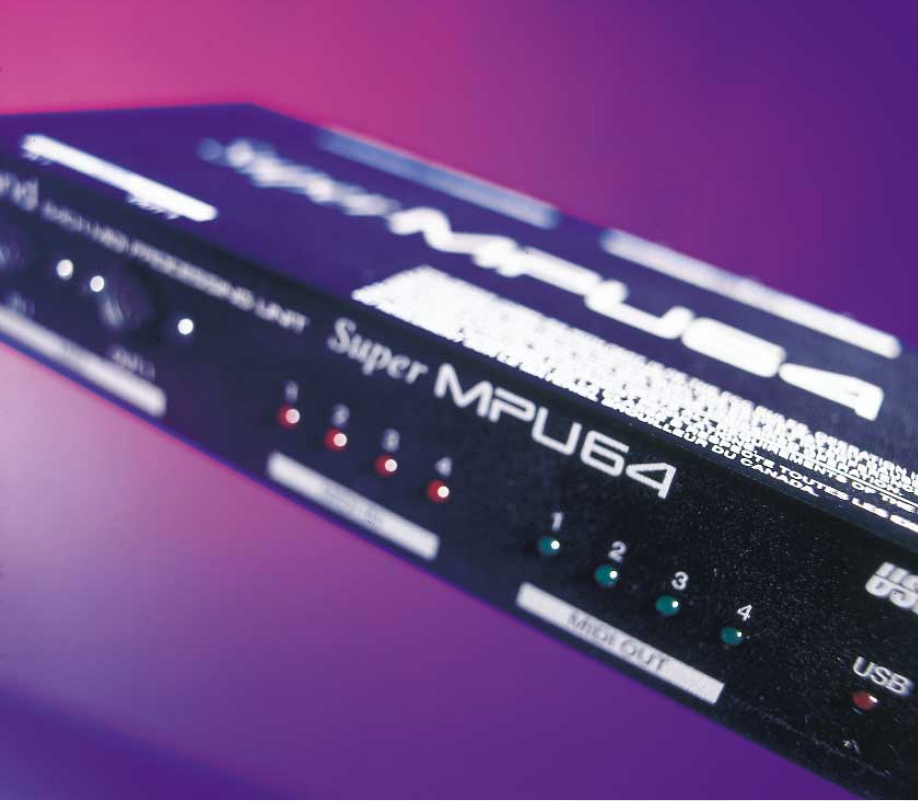
A sequencer will remember what you played, when you played it, how long you played it for and how hard you played it. The latter is called velocity sensitivity, which helps give more expression to your playing by altering the loudness of the sound according to force you strike the keys. Most keyboards have velocity sensitivity but some cheap ones don’t – these should be avoided, as they will make your musings sound lifeless. Furthermore, some MIDI keyboards contain no sounds – they are just a MIDI controller, enabling you to punch in your notes that can be conveyed to a synth of some kind. Other keyboards have serial interfaces and sounds too, such as the Korg X5-D. As you’ll only need the one keyboard, MIDI synth modules are available that just contain the synth sounds which you can access via a sequencer or directly from your controller keyboard. Some of these modules, from Yamaha and Roland, have serial interfacing too and can be set-up to behave as a MIDI interface – so you can connect them to both your Mac (serially) and keyboard (with MIDI).

**Pass the port**

MIDI on the Mac can be as simple or sophisticated as you like. The range of MIDI interfaces is unsurpassed by any other platform providing heavyweight professional or petite portable solutions. Until recently, connecting a MIDI interface was a simple matter of using a serial port and then letting your MIDI sequencing-software know which one the interface was on. OMS (Open Music System), devised by Opcode and now incorporated into QuickTime, elaborates on this and provides the means to access QuickTime Musical Instruments (QTMI) – the virtual synthesizer inside your Mac. See “Soft synthing”, on the facing page, for more details.

The new Power Mac G3s have changed the way that MIDI interface hardware is accessed. USB is the most obvious path to follow, but the devices currently on offer are unsophisticated, although this will change in due course. Currently, serial port adaptors enable users to continue working with legacy gear and current high-end interfaces. At the time of writing, no USB-to-Serial interfaces offer support for MIDI. As timing is critical to MIDI sequencing – and, lest we forget, music in general – the issues here may take a while to be resolved.

This is not the end of the story though. If you’re an iMac user, then Griffin Technology’s iPort provides a genuine serial interface that has performed superbly in every respect during tests for this feature. The iPort fits in the blanking panel below the iMac’s audio and USB interfacing. It has a single serial-interface, plus a 15-pin monitor output, so that you can hook up your iMac to another display, mirroring what’s on the iMac screen. We’ve successfully tested the iPort on a basic 16-channel (single port) interface up to the big daddy of them all, Opcode’s Studio 5 – a 240-MIDI-channel interface (15 ports) with additional synchronization features. AppleTalking on the



**Super MPU64**

*The first Mac-compatible USB MIDI interface to hit the streets, Roland's Super MPU64 relies on OMS to deliver interfacing for four MIDI ports (64 MIDI channels).*

iPort works too so you can get all your old tunes over to the iMac, lyrics from your Newton and QuickTake images of your gig.

The iPort won’t work in an Power Mac G3 and the serial-port solution here is to use a serial interface PCI card. A number of these cards exist, but one that specifically offers support for MIDI comes from MegaWolf. Its Romulus (four serial ports) and Remus (two serial ports) cards employ FreeMIDI (a MIDI routing system similar to OMS) to allow music sequencing applications to recognise the PCI serial interfacing.

Tests with the Romulus card worked fine for Mark of the Unicorn’s Digital Performer 2.5.1 and Emagic’s Logic Audio Platinum. 3.7.2. A bug in Cubase VST 4.0 prevents it from recognizing incoming MIDI data, although playback was possible. Results may vary, depending on the MIDI interface you use, as some may need to emulate more common MIDI devices. Opcode’s Vision requires OMS instead of FreeMIDI, so it won’t work with this particular arrangement.

**USB: it’s not a dyslexic bus**

Although the iMac alerted punters to USB, most manufacturers are still dozing – Windozing to be precise. Mac support for USB MIDI devices is only just trickling in – albeit with a renewed sense of urgency – as manufacturers have realized there are more Macs with USB than PCs.

Roland’s Super MPU64 was first off the mark. Available now, this device has four independent MIDI input and output ports (64 MIDI channels) and requires OMS to function. You also need to make sure the Super MPU64 is plugged directly into a USB port on your Mac or a hub. Daisy chaining from a keyboard does not provide sufficient power. Our tests with OMS-compatible sequencers worked fine.

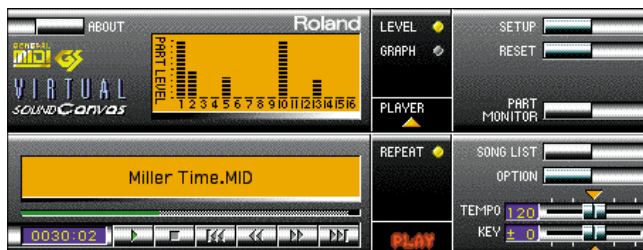
USB interfaces waiting in the wings are MIDIMan’s MIDISport (a basic 2 port interface) plus high-end multiport models with timecode synchronisation features from the likes of Mark of the Unicorn and Opcode.

**Authorization counts**

The lack of floppy drive on the new Macs simply caused chaos for music software vendors. Most rely on the PACE installer, which uses a floppy Master disk to write invisible files on your hard drive that enable “authorized” use of the music application. Initially, buying an external USB floppy-compatible drive – such as iMation’s SuperDisk – to do the honours didn’t work, as the PACE software assumed

continues page 87





#### VSC-88H

Roland's Virtual Sound Canvas offers decent effects treatments (controlled from sequencer software), tempo control and key transposition, as well as a MIDI file player.

something dodgy was happening and wouldn't recognize the USB drive for authorization. This problem has now been fixed, thanks to the Floppy Enabler extension, available from the PACE Web site ([www.pace.co.uk](http://www.pace.co.uk)). We've tried it and it works.

Not everyone wants to buy a floppy drive though, so other solutions have appeared. Opcode and Steinberg offer updates of their wares on the Internet that will expire a few weeks later. The idea is that you work while you wait your registration to be processed. You send them a challenge code – which appears when you run the update – and they email you a response code that unlocks the application. Mark of the Unicorn simply issues a serial number with the purchased product.

Emagic's flagship Logic series of software has always used an ADB dongle or two, which means that running it on the ADB-equipped Power Mac G3 is a cinch. However, the iMac has no ADB port, but USB-to-ADB devices solve this problem. We tried a Griffin Technology iMate for Emagic Logic, Logic Audio and Waves plug-in dongles and it was trouble-free. The iMate flashes when the attached dongles are being accessed, yet we did notice that it slowed down the loading time of the program.

### MIDI compatible

The music you create on a sequencer can be saved as a MIDI file and transferred to any MIDI-capable platform, from Atari to PCs. A MIDI file is like ASCII text for musicians. You can import the MIDI file on any sequencer (even hardware models) and your MIDI music tracks can then be replayed on that system. This allows users to take their work to different studios and also update their systems without losing their work. So, when ardent Atari users and PC plonkers eventually see the light and move over to a Mac they can take all their files with them. In fact, many applications offering multi-platform versions allow file transfers without converting to a MIDI file and Logic even reads Cubase files directly.

The universal nature of the MIDI file has other advantages. Many popular songs appear on pre-programmed MIDI file disks and CDs, so you can torture friends and neighbours with endless karaoke evenings. The Internet is full of MIDI files of varying quality, including classical music pieces. So you don't have to be a muso to make MIDI music. Furthermore, MIDI files and your own sequenced MIDI songs can utilize program changes, a system which uses numbers to represent certain instruments.

When used with a General MIDI standard synthesizer (hard to avoid these days) program change number 1 always calls up a Piano, change 17 an organ and change 33 an acoustic bass. Channel 10 is reserved for drum and percussion sounds, with program changes bringing up different kits. All decent MIDI files will have these program-change number allocations pre-defined for instant gratification. You should do the same with your music if you intend to distribute it as a MIDI file.

Often, sequencers will show the General MIDI synth names instead of numbers, which makes things easier.

Indeed, perhaps computing in general today would be easier if the mainstream had paid closer attention to what musicians were doing with MIDI. Musos have been effectively networking equipment since 1983 and have a solid multi-platform file-compatibility system. Music equipment may have evolved beyond MIDI's capabilities, but MIDI continues to perform a valuable service, despite its age. Moreover, MIDI-compatible equipment never becomes obsolete – it

just comes in and out of fashion. This is something you're unlikely to see with 680x0 Macs and 286 PCs.

So, armed with this knowledge of the basics, where does a budding pop star start? Well, once you've decided on your particular style of music – Gregorian chants or speed-metal thrash – you must choose your weapons. Below is a veritable music tool shop for you to combine, according to your needs and budget. You'll be able to fashion professional audio far cheaper than ever before.

### DSP synthesis on the host CPU

Because of the sheer power available in the new Macs, there is now more software than ever for musical applications. In fact, the cutting-edge software is being written for the Mac first and then ported over to the PC six months later, when its processing requirements have caught up. Retro AS-1 from Bitheadz (see March Reviews, page 55) is a case in point. It has been shipping on the Mac since the middle of last year – but the poor PC punters only got their version in December. It uses a technology called virtual synthesis – also confusingly known as “physical modelling” – and developed for keyboards at £1,000 pounds or more. The Retro software uses raw CPU power to recreate from scratch the classic sounds of analogue synths, which have made such a comeback in recent years – thanks to dance music – for just £149.

For someone like myself who remembers these sounds the first time round coming from unreliable boxes of spaghetti and knobs costing upwards of £3,000, it seems like nothing short of magic that up to 32 voices of such sounds can be generated on a computer's CPU.

For the purist, Steinberg's earlier £129 Re-Birth confines itself to emulating just two seminal analogue instruments in the Dance Music explosion – the Roland TB-303 Bassline and TR-606 Rhythm Machine. This gives you exact copies of the drum machine sounds and acid synth timbres which spawned a whole generation of dance music. But, with only two voices of synth polyphony, it really is only for those who want absolute authenticity in their acid recreations.

### Professional sample playback with synthesis

The guys at Bitheadz took the technology they developed for Retro and combined it in Unity DS-1 with sample playback at the most professional quality (16-bit or 24-bit with a suitable PCI card like the Sonorus Studi/O or RME 96/8 on the G3). This means the traditional strengths of external MIDI keyboards, such as filtering and enveloping – not to mention multiple-effect processing, to give you chorus, reverb and delay – can now all be performed on up to 64 stereo-sample voices in real-time (although you may need a G3/400 to achieve the theoretical maximum 64 voices).

So, instead of buying a hardware sampler for between £1,000-3,000 and/or a general MIDI sound module for £500-1,000, you can do all this using a £300 software package. Previously, the only way to playback MIDI on the Mac was to use QuickTime Musical Instruments (see QuickTime box-out), which has improved immeasurably with QuickTime 3.0, but still could not be described as professional quality MIDI sounds. Right now Unity is the only professional sampling/synthesis hybrid on the Mac.

Provided you have at least a 233kHz G3 processor, you will be able to run a sequencer at the same time as Unity (or its sister program Retro). To do this with Cubase, you will need to use OMS to get the MIDI from the Sequencer to the sampler/synth, but with Logic Audio and Digital Performer, Emagic and MOTU (Mark of the Unicorn) have come up with their own ways of triggering software synths/samplers directly.

Logic uses special devices in its Environment – called Unity DS-1 and Retro AS-1 – to trigger these programs directly. MOTU uses FreeMIDI system to direct the MIDI from the sequencer to all internal and external MIDI devices. Both systems allow you to call up individual program names from inside the sequencer, so you can just run the sampler/synth in the background and not constantly be switching between programs.

On-board synthesis uses high levels of CPU power and, if you include sampling, you will need to add at least an extra 64MB of RAM.

continues page 88

## Digital-audio sequencing

The majority of professional MIDI sequencers have now been expanded to record not just MIDI into RAM – something they have been doing for 15 years – but also digital audio to the hard drive.

The amount of RAM required for one track-minute of 16-bit, 44.1kHz is 5MB, so even a 200MB of RAM would get used up in five minutes of eight-track recording.

The solution is to use the fast-transfer times now available to pass these large quantities of data direct to the hard drive. Once stored there it can be edited and played back with all the advantages of random access – but without your machine's RAM being monopolized. What's more, the CPU's processing power can be used in playback for realtime EQ and effects, which don't change the original recording, just the playback. This means you can record a voice or any instrument directly into the Sound Input of your Mac. Also, when it returns from Sound Output, it will have been tidied up and will have had reverb, distortion or any of 100 effects added to it. The shakiest musicianship can very quickly be cleaned up and made to sound great.

The first program to offer this entire process in an all-in-one environment was Cubase VST for the Mac. This was released after the first PowerPC chips, which provided the quantum leap needed to add signal processing to audio playback. At £329, it is still the best introduction to the business of music recording on computers and its current Mac version (4.03) adds features as yet unavailable in either the PC version or on other Mac digital-audio sequencers.

## Signal processing: plug-ins

Steinberg was the first company to allow third party plug-ins – and now the VST Plug-in format is a standard on the Macintosh – even for competitive programs, such as Logic Audio – to integrate third-party plug-ins. There are now more than 100 VST plug-ins. These range from downloadable freeware to specialist, high-quality applications which can cost as much or more than the host program (but which often replace a piece of hardware costing up to four times as much). We cannot cover even a fraction of the available VST plug-ins here but we will mention a few that are invaluable for certain applications.

Guitarists who want to record directly into a Mac without recourse to a miked-up amp should buy Steinberg's Red Valve It. This turns a guitar into a glorious howling squealing beast that Jimi would have been proud to use.

And Antares Auto-Tune plug-in is indispensable for vocalists unable to carry a tune. It actually detects out-of-tune pitches and corrects them. The degree of correction can be adjusted from very subtle to Iron Maiden strength.

To put the final polish on a mix, there's nothing like high-quality reverb. Although the Espacial and Wunderverb plug-ins (free with VST) are okay for general use, Waves's TrueVerb – part of its Native Power Pack collection – is the acknowledge leader of VST plug-in reverbs, even if somewhat expensive in terms of CPU power.

More recently, TC Works TCVerb has offered the sort of quality offered in the high-end hardware made by its parent company, TC Electronics – without the penalty of TrueVerb in terms of CPU usage.

Steinberg has also developed a technology in VST that is an industry-standard for hardware expansion to audio-input and -output capabilities. Called ASIO (audio stream in and out), it allows the user to go beyond just the stereo-in and -out of the Mac using third-party PCI expansion cards.

## Plug-in synths and samplers: re-wire

The most exciting development in VST 4.03 is a technology called Re-Wire that Steinberg has developed that allows Re-Birth to play back "inside" and which has been opened up to allow third-party synths to send audio output into VST. Bitheadz has been quick to support this, and version 1.2.1 of Unity is the first third-party software to work with Re-Wire. This means you can have up to 34 audio connections between Unity and VST (stereo-out for each of the 16 MIDI channels, plus a main stereo-out) to either record as audio – reducing the drain on the CPU – or process through VST EQ and plug-ins. Being able to move digital audio between programs on the computer – like OMS and FreeMIDI do for MIDI – is a major step

## contact details

### ■ Griffin Technology

[www.griffintechology.com](http://www.griffintechology.com)  
iMate (USB-to-ADB adaptor); £49  
iPort (iMac Serial interface and monitor ports); £65  
Contact: Alta Technology  
[www.alta-technology.com](http://www.alta-technology.com)  
0171 622 6606

### ■ Edirol

[www.edirol.com](http://www.edirol.com)  
Roland Super MPU-64; £139  
Roland Virtual Sound Canvas VSC-88H; £39  
Contact: Edirol UK  
[www.edirol.co.uk](http://www.edirol.co.uk)  
0181 956 2224

### ■ MegaWolf

[www.megawolf.com](http://www.megawolf.com)  
Romulus (four-port Serial interface PCI card); £255  
Remus (two-port version); £200  
Contact: Hinton Instruments  
[www.hinton.demon.co.uk](http://www.hinton.demon.co.uk)  
01373 451 927

### ■ Information

Imation SuperDisk  
Updates  
[www.superdisk.com/sc/sc\\_dl.html](http://www.superdisk.com/sc/sc_dl.html)

### ■ PACE

Floppy Enabler  
[www.paceap.com](http://www.paceap.com)

### ■ Arbiter

Steinberg ReBirth (£149), Red Valvelit (£99) & VST 4.03  
(with ReWire) (£329)  
[www.steinberg.net](http://www.steinberg.net)

### ■ TC Works

TC Reverb (£229) & Spark (£299)  
[www.tcworks.de](http://www.tcworks.de)  
0181 970 1909

### ■ Turnkey

BitHeadz Retro AS-1 (£149) & Unity DS-1 (£299)  
[www.bitheadz.com](http://www.bitheadz.com)  
0171 419 9999

### ■ Sound Technology

E-Magic Logic Audio (Silver £199 Gold £399 Platinum £549)  
[www.emagic.de](http://www.emagic.de)  
01462 480 000

### ■ MusicTrack

Mark of the Unicorn Digital Performer with FreeMIDI (£549)  
[www.motu.com](http://www.motu.com)  
01462 812 010

### ■ SCV

Waves Native Power Pack inc TrueVerb (£399)  
[www.waves.com](http://www.waves.com)  
0171 923 1892

forward. Other companies, such as MOTU and E-Magic are developing similar systems, called MAS 2.0 and EASI for Digital Performer and Logic Audio respectively.

These will enable full integration between digital-audio sequencers and sound generating applications, leading to more flexible audio routings than the most expensive hardware synthesizer/sampler/mixing desk combination.



Macworld  
10th Years of  
EXCELLENCE

# 16 OF THE BEST



Macworld  
AWARDS 99

## The year's best Mac products

Every year, Macworld honours those products that have made a real difference to our working lives. Now that Apple is back in the consumer market with its runaway iMac success story, we can also bestow gold on the products that make our home lives happier too. Editors and contributors nominate their favourite hardware and software products, arguments rage, votes are cast, and winners emerge. This year, in honour of Apple's stunning multicoloured polycarbonate plastics – that nearly won an award on their own! – we changed our chrome gongs to translucent awards. Note that we gave our Best Technology award a Tangerine trophy – we still love this golden colour despite you lot spurning it for the joys of Blueberry.

This year over 300 Macintosh types met again at London's plush Savoy hotel for a gala evening of food, drink, comedy and dancing. But the voices were hushed and the atmosphere was electric when Macworld's Editor-in-Chief, Simon Jary, and Features Editor, David Fanning, announced the winners of the 1999 Macworld Awards. OK, there was a lot of drunken banging of cutlery – thank you, IMC – and rude chatter... but there was joy and gratitude from the winners.

We base our awards on the expert opinions of our editors and contributors. Whether we were looking at a business product, a tool for print publishers, software for multimedia and Web designers, or the latest Power Mac, scanner or digital camera, we made sure that those products we chose offered great value, usefulness, and innovation. Above all, we sought products that embody the creative spirit that defines the Macintosh. (Note: Runners up listed in alphabetical order.)

### Sponsors



## Best Technology

### Sponsored by

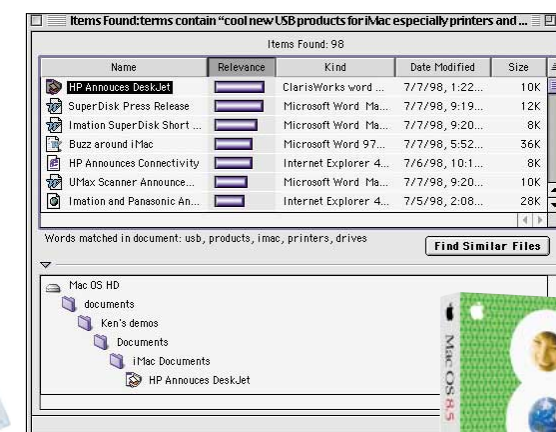
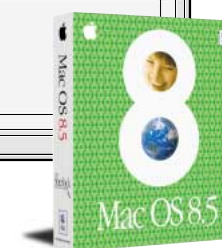


## Sherlock, Apple Computer

One of the most impressive features of Apple's Mac OS 8.5 is Sherlock, its super search engine. The Find File replacement lets you hunt for words or groups of words within documents and lets you search natural-word queries on multiple Web sites simultaneously. Dr Watson would be proud...

### Runners up:

- ★ Coloured polycarbonate plastics (right) – Apple Computer
- ★ USB 1.1 – Intel (far right)
- ★ AppleScript – Apple Computer
- ★ DVD-RAM – La Cie
- ★ iMac – Apple Computer



continues page 95

# Creative Hardware

## Color Proofer 5000, Epson

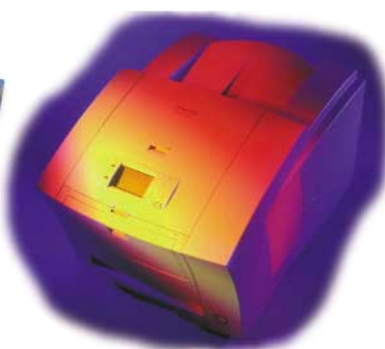
Sponsored by **Adobe**  
Indesign

By combining micro-piezo technology with a Fiery RIP, Epson's rather wonderful Color Proofer 5000 gives perfect colour every time. It's cheap enough to compete well with all other proofing systems. And with lower cost of ownership, this top-quality 1,440dpi ink-jet is almost guaranteed to save small design studios a stack of cash.



### Runners up:

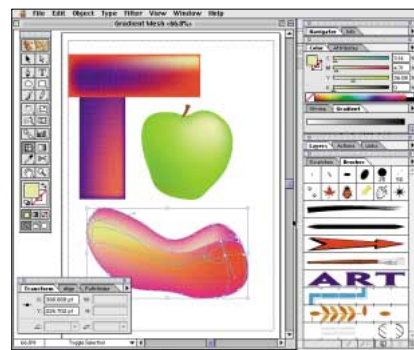
- ★ 21-inch Studio Display – Apple Computer
- ★ Intuos digital tablets – Wacom
- ★ Jade 2 scanner – Heidelberg
- ★ Mirage II scanner – Umax
- ★ Phaser 840 colour printer – Tektronix



# Creative Software

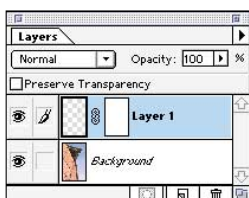
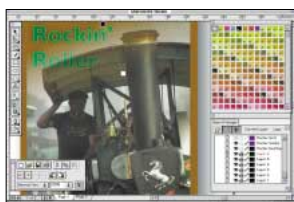
## Illustrator 8.0, Adobe Systems

After a tough vector-based battle, this drawing champ is back to its best. While Macromedia FreeHand has justly earned its supporters, with version 8, Illustrator is back in contention with a fine upgrade. Its Gradient Mesh tool is truly unique, and Adobe has responded to user suggestions on interface and usability issues.



### Runners up:

- ★ Bryce 4 – MetaCreations
- ★ CorelDraw 8 – Corel
- ★ Fireworks 2 – Macromedia
- ★ Genuine Fractals Print Pro – Altamira Group
- ★ Photoshop 5.0.2 – Adobe Systems



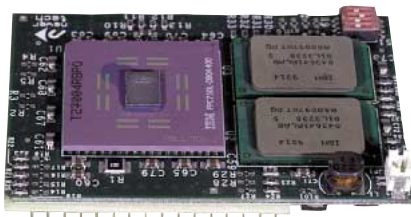
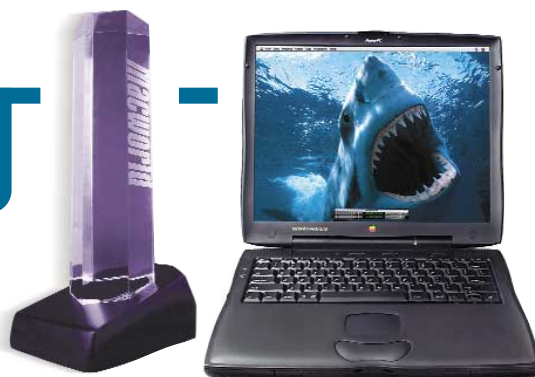
continues page 96



# Productivity Hardware

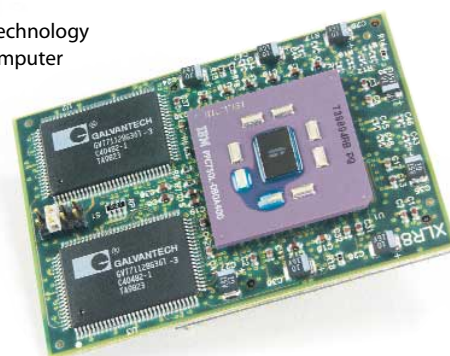
## PowerBook G3, Apple Computer

This beauty was never beige, but its merger of desktop power and smart portable design make it a winner with us. Since it's first incarnation as a G3-powered old-style PowerBook, Apple's portable has been remodelled with a sleek new design and acres of active-matrix screen space. There are DVD options, a great new keyboard, stunning sound – and the speed (up to 300MHz) just blows away any Wintel laptop.



### Runners up:

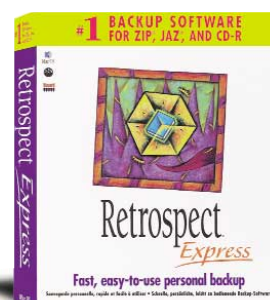
- ★ **Color laserJet 4500DN** – Hewlett-Packard
- ★ **DVD-RAM** – La Cie
- ★ **MACh Speed 466MHz G3** – XLR8
- ★ **MaxPowr G3 466MHz** – Newer Technology
- ★ **Power Macintosh G3** – Apple Computer



# Productivity Software

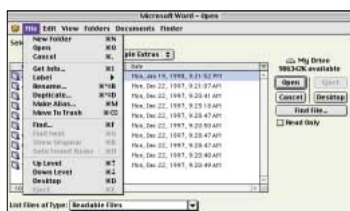
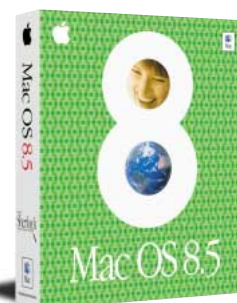
## Retrospect Express, Dantz

What better productivity software is there than a program that saves your butt when your hardware fails you or your system goes up in smoke? And at £29, it costs you less than a handful of Zip disks. So stop moaning about losing data, sort out your back-up software with either this personal solution or its big-brother network saver, Retrospect 4.1.



### Runners up:

- ★ **Action Files** – Power On
- ★ **Conflict Catcher 8** – Casady & Greene
- ★ **FlightCheck** – Markware
- ★ **Mac OS 8.5.1** – Apple Computer
- ★ **QX-Tools 4.0** – Extensis

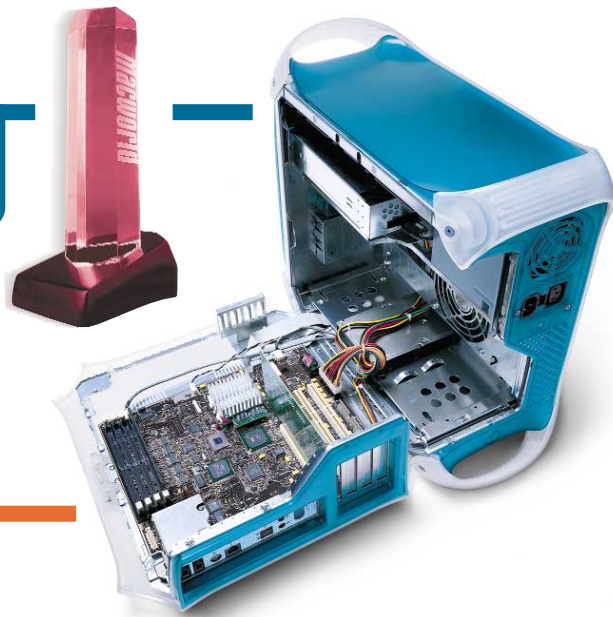


continues page 99

# Multimedia Hardware

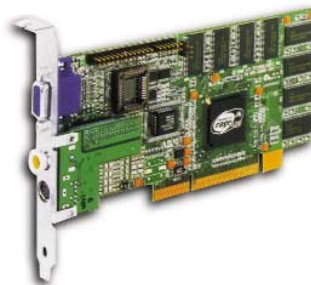
## Power Macintosh G3, Apple Computer

It boasts with blistering Rage 128 graphics and raw G3 power... and now it's blue and white. The latest generation of desktop Power Mac is the greatest yet. What it lacks in PCI slots, it makes up for in brute strength, elegant beauty, the best case design in the whole of computing, the latest USB and FireWire connections, and, well, handles...



### Runners up:

- ★ **CoolPix 900** – Nikon
- ★ **DVD-Video card** – Apple Computer
- ★ **PowerShot Pro70** – Canon
- ★ **Rage 128** –ATI
- ★ **STUDI/O** – Sonorus



# Multimedia Software

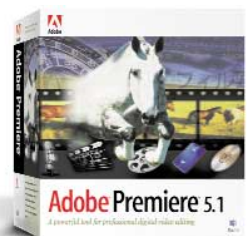
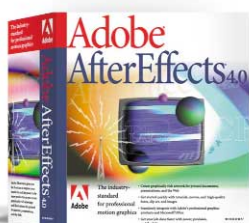
## Director 7, Macromedia

With this improved multimedia master, Macromedia proves that it has not only grabbed the Internet rocket – it appears to be steering it too. This latest release – with a smaller, faster playback engine, great vector graphics and text support – hits the multimedia ball right out of the park. OK, so it came out a bit close to version 6.5 – costing us all in upgrade fees, but who said progress was going to be cheap.



### Runners up:

- ★ **After Effects 4.0** – Adobe Systems
- ★ **Digital Performer 2.5** – Mark of the Unicorn
- ★ **Electrifier Pro 1.0** – Electrifier
- ★ **Media Cleaner Pro 3.1** – Terran Interactive
- ★ **Premiere 5.1** – Adobe Systems



continues page 100



# Connectivity Hardware

Sponsored by  Direct Connection

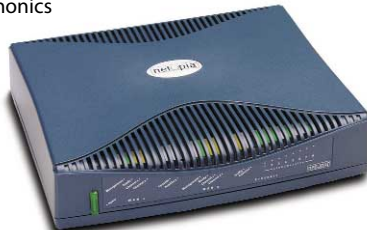
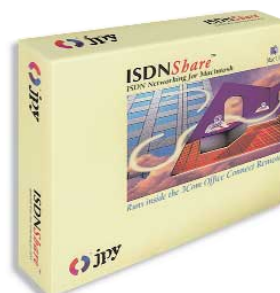
## Web Shuttle, Hermstedt

The Web shuttle has made connecting to the Internet with ISDN even simpler than it was using a modem. Its driver software was designed with ISPs in mind and can provide dual channel access to service providers that offer it. Wrap this up in a sleek grape box and you have ISDN for everybody, including novices.



### Runners up:

- ★ **56 Solo Mac** – Pace
- ★ **ISDN Share 2.0 bundle** – JPY and 3Com
- ★ **R3100 ISDN** – Netopia
- ★ **Sonic Wall 1.8** – Sonic Systems
- ★ **Zoom MXIS** – Zoom Telephonics



# Connectivity Software

## AppleShare IP 6.1, Apple Computer

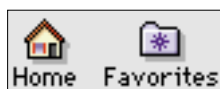
Networking a Macintosh computer has always been much simpler than networking any other computer. Performance of the network was not always good compared with the rest though. So when the new AppleShare IP 6.1 combined fantastic performance with easier than ever set-up, it made the best server software ever.



Web & File Server Activity				
Status: Running	Current User Activity: <input type="text"/>			
Name: dli-ashare1	Set Maximum: 15 min			
Connected Users: 4	Guest Access:	File: Off	FTP: On	Windows: Off
	Web: On			
Connected User	Connection Type	(day hr:min)	Connected For	(day hr:min)
jwdevis	SMB	0 00:05	0 00:03	
thaoen	FTP	0 00:00	0 00:00	
mrabbin	AppleShare/TCP	0 00:01	0 00:01	
jyfermerich	AppleShare/AppleTalk	0 00:01	0 00:01	

### Runners up:

- ★ **4D Server 6.0.5** – ACI
- ★ **Dave 2.1** – Thursby Software
- ★ **EtherPeek 3.5** – AG Group
- ★ **Internet Explorer 4.5** – Microsoft
- ★ **MacOpener 4.0** – DataViz



continues page 103

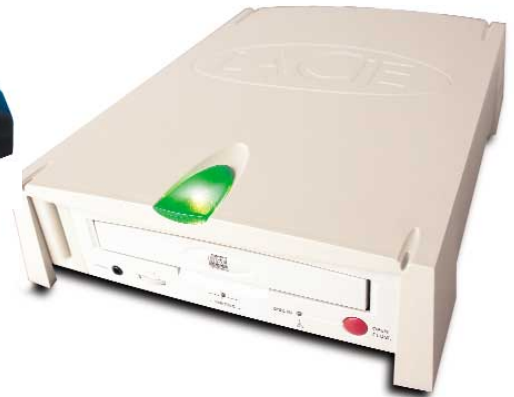
## iMac Hardware

Sponsored by



### USB CD-RW, La Cie

Being without a floppy drive is something that iMac and G3 users are used to now. The lack of a cheap way to transfer data remains a problem though. The La Cie USB CD-RW offers tons of storage and compatibility with every computer made in the last five years. With blank CD-ROMS costing less than floppies used to, it is a natural successor.



### Runners up:

- ★ **Mirage II scanner** – Umax
- ★ **PowerPrint adaptor** – Infowave
- ★ **Scrolling Mouse** – Interex
- ★ **SnapScan 1212U scanner** – Agfa
- ★ **Stylus Photo 750 ink-jet** – Epson



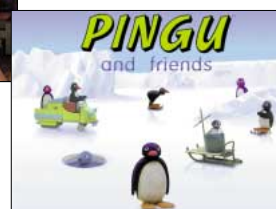
## iMac Software

### Kai's SuperGoo, MetaCreations

It's the only program that can honestly claim to put a smile right across your face. Kai's SuperGoo takes off from the popular PowerGoo, and gets even goovier – now you can pan or zoom while you pinch, twirl, smear, smudge, and nudge, zig zag, ripple and stretch. You can even create animations by dragging pictures to a simple filmstrip window. Very, very Goo-d!



### Runners up:



- ★ **ClarisWorks for Kids** – Apple Computer
- ★ **Kai's PhotoSoap 2** – MetaCreations
- ★ **Klingon Honor Guard** – Wizworks
- ★ **Pingu & Friends** – BBC Multimedia
- ★ **Tomb Raider II** – Eidos



continues page 104



# Web Publishing

Sponsored by  GLOBAL VILLAGE  
COMMUNICATION

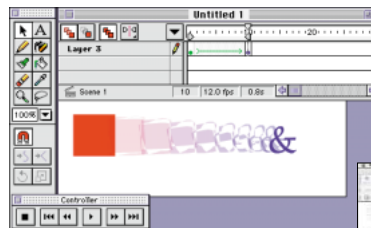
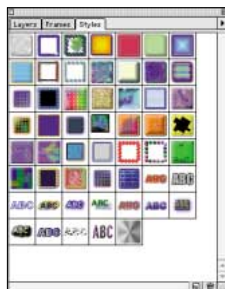
## GoLive 4.0, Adobe Systems

Forget the name change (from GoLive CyberStudio), ignore the delay for a Windows version (nice for them to wait for a change), Adobe's just-released – and recently acquired – professional WYSIWYG Web editor has countless new and improved features. A solid, reliable upgrade, GoLive 4.0 makes the Web designer's workload a whole lot easier.



### Runners up:

- ★ Dreamweaver 2 – Macromedia
- ★ Fireworks 2 – Macromedia
- ★ Flash 3 – Macromedia
- ★ Funnel Web – Active Concepts
- ★ WebTen 2.1 – Tenon Intersystems



# Entertainment

## Myth II: Soulblighter, Bungie Software

Its addictive qualities and on-line gaming capabilities mean that it could also be called home-breaker or marriage wrecker. Soulblighter is a must-have for the many fans of Myth (The Fallen Lords). This time, the medieval battle game inhabits a more detailed world with more characters (mortal dwarfs) and wonderful tactical enhancements.



### Runners up:

- ★ Diablo – Blizzard Entertainment
- ★ Mars Rising – Ambrosia
- ★ Tomb Raider II – Eidos
- ★ Unreal – Epic Megagames & Digital Extreme
- ★ X-Files game – Fox Interactive

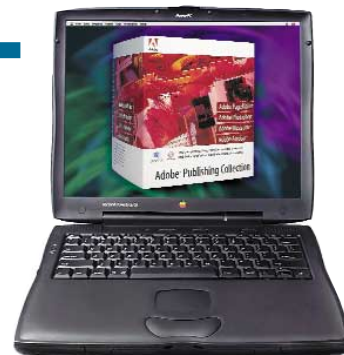


continues page 107

## Macworld Readers' Choice Awards

It's not just *Macworld's* editors and contributors that get to nominate and vote for their favourite Mac products. Every year *Macworld's* readers have their say too, and win a top prize to boot. This year, lucky reader **Mr N Parmar**, from Wembley, won a PowerBook G3 and Adobe's comprehensive Publishing collection (Photoshop, Illustrator, Acrobat, et al) when his name was pulled out of the proverbial hat.

There are three Readers' Choice awards – Best Hardware, Best Software, and Best Dealer. Competition was as tough as ever this year with the consumer iMac, new G3 Power Macs, Mac OS 8.5, Photoshop 5, Microsoft Office, and QuarkXPress 4.0 all scoring highly. Don't blame us if you disagree on this lot – it was thousands of you who voted...



## Readers' Best Hardware

Sponsored by  **INTEREX**  
EUROPE LTD.

### iMac, Apple Computer

The weird but wonderful computer that kick-started Apple's latest PC revolution won our readers' hearts with its looks, simplicity and innovation. Now available in five colours, the iMac has redefined the term 'personal computer'.



### Runners up:



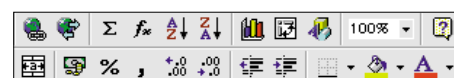
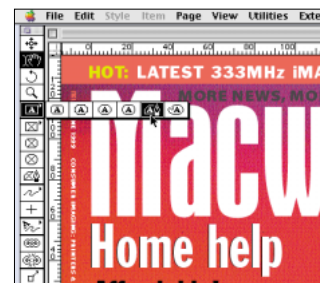
- ★ Power Mac G3 – Apple Computer
- ★ USB Zip Drive – Iomega

## Readers' Best Software

Sponsored by  **DIREKTEK**

### Photoshop 5, Adobe Systems


Last year, when version 4.0 of Adobe Photoshop won this readers' award, we said: "you can bet your paint brush that Photoshop 5 will figure strongly at next year's awards' ceremony". Everyone seems happy with the upgrade because this market-leading, must-have image-editing software supremo wins again. excited.



### Runners up:

- ★ Office 98 – Microsoft
- ★ QuarkXPress 4.0.4 – Quark

## Readers' Best Dealer

Sponsored by  **COMPUTER**  
2000

### MacWarehouse

You can't escape the ads and eponymous catalogues of this legendary Mac dealer. MacWarehouse sells it all, from Strawberry iMacs to multicoloured Zip disks, from QuarkXPress to Tomb Raider II, from blank CDs to PowerBook memory chips.



**MacWAREHOUSE**

### Runners up:

- ★ Computer Warehouse
- ★ Mygate



This is...  
**computer warehouse**

**M**  
Mygate



# Follow the script

Let AppleScript take the strain of repetitive tasks. By David Blatner

**T**he Mac is better suited than ever to automating your work, although that wasn't always the case. Ten years ago, if you needed to automate your computer, it was better to get a PC. The Macintosh operating system just wasn't set up for batch processing and scripted automation. But the tides have changed – the Macintosh now ships with the superior automation system.

The key to automating your Mac is AppleScript, which is built into the operating system. AppleScript 1.3 (the version that comes with System 8.5) is finally PowerPC-native, which means it's several times faster than it was in older systems.

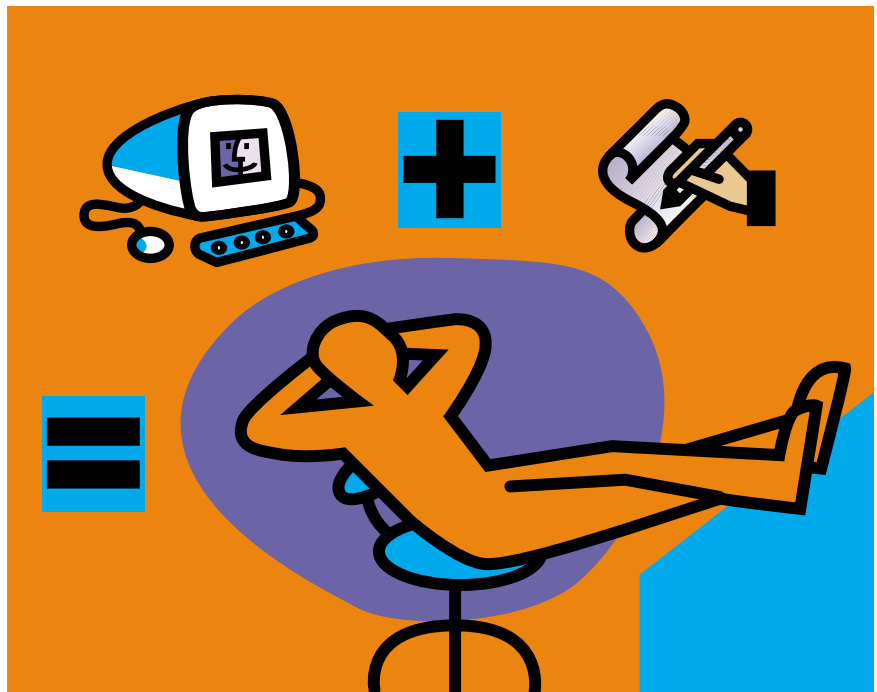
Even better, you can now attach scripts to folders so that when you interact with a folder (for instance, adding a file or moving the folder's window), the script runs automatically.

With these attached scripts – called folder actions – you can trigger a whole sequence of steps simply by dragging a file into a specific folder or by opening a folder. You could, for instance, trigger a script that has your Mac save a piece of artwork as an EPS file in QuarkXPress, rasterize it in Adobe Photoshop, and then place it on your Web server.

In fact, that's exactly what the scripts in this article do (see "From page to Web"). You can use them – with minor modifications – to automate your publishing process.

## Have No Fear

Before I dive into the heavy-duty process of scripting QuarkXPress, Photoshop, and a file-transfer utility, let me first show you



how simple AppleScript can be. Telling your computer what to do is technically computer programming – but before you panic, remember that AppleScript is different from any other kind of programming. First of all, you don't need any special software to write these kinds of programs. Second, the AppleScript language looks like everyday English.

Keeping the panic under control is important, because AppleScript is an incredibly powerful language that can speed up your work and make your life exponentially better.

If you've never programmed before, here's your chance to find out how much fun it is to write something in text and have your computer follow your orders. Try this:

**1** Fire up the Script Editor application (you'll find it in the Apple Extras folder on your hard drive unless you've moved or deleted the application). Several commercial applications on the market let you script easier and faster than Script Editor, but this one is free.

continues page 113

## What you need

- Apple's AppleScript
- Apple's Script Editor
- QuarkXPress 4.04 or later, or 3.X
- Adobe Photoshop 5
- Main Event PhotoScriber
- File-transfer utility

2 Type this script:  
**tell application "Finder"**  
**activate**  
**open window of startup disk**  
**set position of window ↵**  
**of startup disk to {30, 50}**  
**end tell**

3 Finally, click on the Run button in Script Editor to see the script in action. This script is not only a simple introduction to AppleScript, but also demonstrates a few of the syntax rules to follow when writing your own scripts. First, you must direct your commands to a particular application or object. This script directs commands at the Finder itself. The word **activate** tells the Finder to become the active, frontmost application. The ↵ character (option-L) means that the command continues on the next line. To specify a position for an object on screen, set the coordinates inside braces. In my example, the script sets the hard drive's window at 30 pixels in and 50 pixels down. Finally, you must match all "tell" operators with an "end tell" command (it's like saying "at ease" to the application).

The script increases in complexity with the task, but you can do powerful operations even with simple scripts.

## What's scriptable?

Being able to script the Finder is pretty cool. Being able to script the Finder in conjunction with other programs is awesome. For instance, AppleScript can take a FileMaker Pro database full of information and build a fully formatted catalogue or directory in less than a minute (this is how some newspapers create their daily television guides and weather information).

Similarly, AppleScript can process a folder full of XPress documents, converting all the fake fractions into true ones. AppleScript can even parse your email (in Eudora Pro or Claris Emailer) and take action based on what it finds.

While you can't automate all applications with AppleScript, you can script many key players, such as QuarkXPress. Photoshop is also scriptable, but in a limited way (see "Script Photoshop"). Even by scripting just these programs, you will enhance your productivity significantly.

## What about macros?

The most important difference between scripting and macros is that scripting lets you query the program you're automating. For instance, a script could ask QuarkXPress what the name of the current document is and then type that name into a text box on every page of your document.

While macros can be useful, there's no way they can perform a task like this. Go with AppleScript when you need efficiency and power.

**David Blatner is the author of *The QuarkXPress 4 Book* (Peachpit Press, 1998) and a co-author of *Real World Photoshop 5* (Peachpit Press, 1999).**

# Folder actions

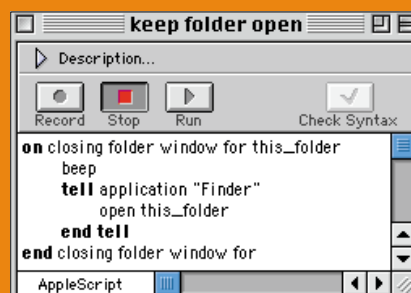
The ability to attach AppleScripts to folders (new in System 8.5) is extraordinary. You can start a script action in any of five ways: open or close a folder, move a folder's open window, and add items to or remove them from a folder.

Unfortunately, the procedure for attaching a script to a folder is a little obscure. You must first write an AppleScript in a program such as Script Editor. Then, add one or more of the special new on-scripting commands (see the sample scripts here for examples). You can get more information about how to write scripts for folder actions by selecting AppleScript Help from the Help menu in Script Editor.



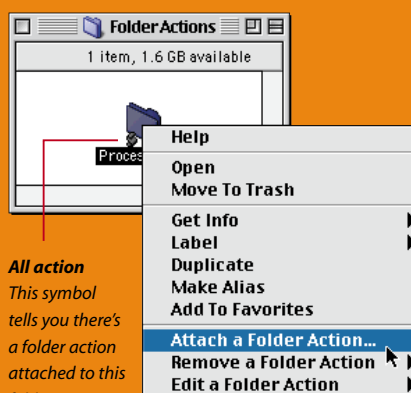
## Open sesame

The Finder is more scriptable than ever. In this example, when you open the folder, the script asks if you want to open the folder's files. It also makes the Finder interactive using the statement **display dialog**. Here, the variable **this \_ folder** is set automatically to the file path of the folder with the attached script.



## Folder police

Folder actions run only on folders that are open or that you are opening. Here's a script that stops anyone from closing a folder you need to keep open.



**All action**  
This symbol tells you there's a folder action attached to this folder.

## Attach a folder

Once you've saved your script to disk, click on a folder with the control key held down and select **Attach A Folder Action** from the context-sensitive menu. Remember that you can attach more than one script to a folder. If you want to edit or detach the script later, there are items in the context-sensitive menu for that, too.

continues page 114



## From page to Web

Even better than automating a single mundane task is automating an entire workflow. The scripts here show how you can automate the process of converting a QuarkXPress document into a Web-ready file, using AppleScript, QuarkXPress, Photoshop, Dartmouth College's Fetch, and Internet Explorer. The process I'm illustrating is updating a Web page with an ad created in QuarkXPress.

It's easy to get an ad in XPress onto the Web even without AppleScript: just save the ad as an EPS file, rasterize it (turn it into a bitmap) in Photoshop, save it to disk as a GIF or JPEG, and put it on your Web server. But if you had to change the ad everyday, this process would soon get tiresome – so why not automate the workflow?

I built this workflow with three scripts, each attached to a folder using System 8.5's new Folder Actions feature

(see "Folder actions"). These hot folders automatically run their scripts when you drop one or more files into them.

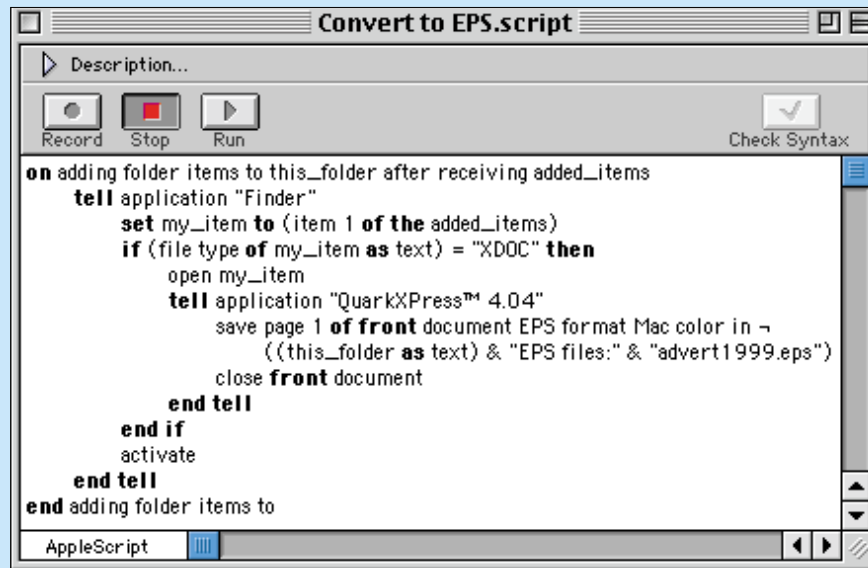
Note that, while the scripts shown here will work "off the shelf," they won't work in all circumstances. You can download the full versions of the scripts, which are more robust and less likely to break, from [www.macworld.co.uk/ftp/](http://www.macworld.co.uk/ftp/). You can modify the scripts to fit your needs or study them to learn basic concepts about creating your own.

Don't forget some other important sources of information in your quest to learn more about AppleScript: Apple's AppleScript Page ([www.apple.com/applescript/](http://www.apple.com/applescript/)), the AppleScript Sourcebook ([www.AppleScriptSourcebook.com](http://www.AppleScriptSourcebook.com)), Everything CD for Mac Scripting ([www.everythingcd.com/scripting/](http://www.everythingcd.com/scripting/)), and Scripting on the Web ([www.scriptweb.org](http://www.scriptweb.org)).

### Script QuarkXPress

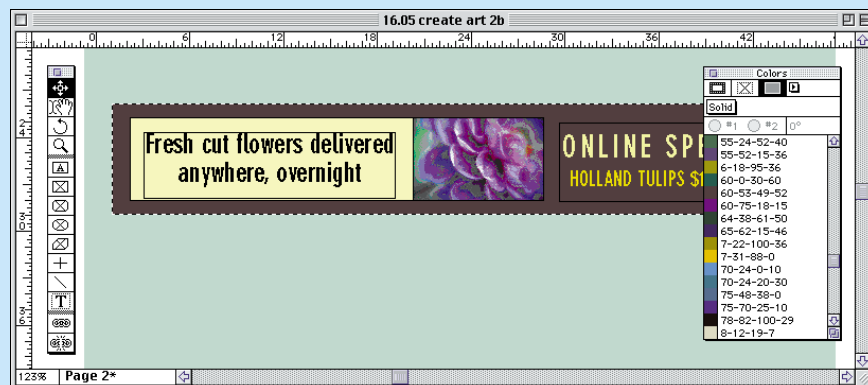
QuarkXPress is ideal for making simple ads because it has great typographic features and lets you re-purpose content that you've already used in print materials. XPress is also one of the most scriptable and scripted applications on the Mac. Here, I've built an ad in a document that is the same size as the ad itself, so that I won't need to worry about cropping it later. After building the ad, the first step is to export it as an EPS file from QuarkXPress. Here, the script reads item 1 of added\_items, in case someone drags more than one file into the folder. If the file is an XPress document, the script exports the first page as an EPS file and then closes the document.

If you want to script XPress 4, make sure you're using version 4.04 or later (earlier versions were too buggy to bother with). Also, note that many scripts that worked with QuarkXPress 3.X require modifications to work with XPress 4, because of the way the newer version handles boxes (especially Bézier boxes).



#### XPressly stated

The first script tells the Finder to open the ad in XPress, and tells XPress to save the ad as an EPS.



#### Daily Ad

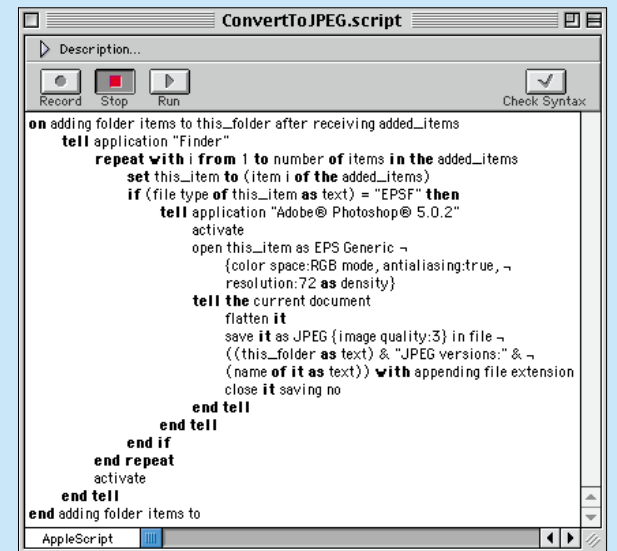
You never have to touch the ad. The script opens QuarkXPress and does the work for you.

### Script Photoshop

People who script have clamoured for Adobe to make Photoshop AppleScriptable for years. Unfortunately, the cries have fallen on deaf ears, and Photoshop lets you use scripting only to open files (using the open command) and run pre-made Photoshop Actions (using the do script command). Photoshop also lets you batch-process a folder of images using one or more Actions, but only from within the program, not via scripting. While you can do a lot within these constraints, they leave much to be desired. Fortunately, Main Event ([www.mainevent.com](http://www.mainevent.com)) has released PhotoScripter, a plug-in that adds scripting functionality to Photoshop 5.

Photoshop's Actions are easy to create, but PhotoScripter beats them out in several ways. For instance, the second step in my workflow (converting the EPS file to a JPEG) would be impossible to do as an Action.

When attached to a folder, this AppleScript uses the EPS Generic filter to open in Photoshop any EPS files that appear in the folder. You can control all the important properties of the Open As Generic EPS dialogue box here: colour space, antialiasing, and size.



#### Permission to rasterize

This script opens the ad in Photoshop, flattens it, saves it as a JPEG file in the JPEG Versions folder, closes the rasterized image, and moves on to the next image.

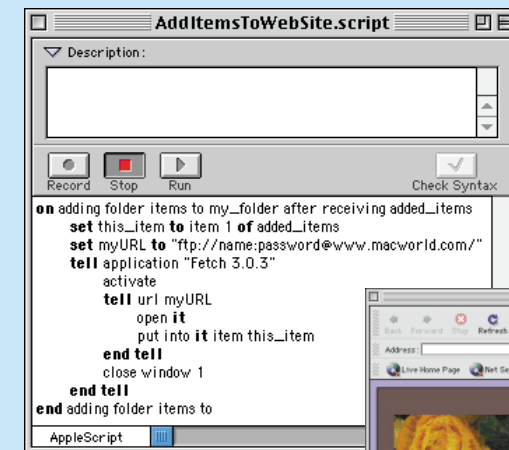
### Automate the transfer

The final step in this automated workflow is to get the new JPEG image onto my Web server. Fortunately, you can script both Fetch and Stairways Software's Anarchie Pro (these file-transfer utilities are shareware, available at online sites, including [www.macworld.com](http://www.macworld.com)). In my sample script, I use Fetch. This script, also set up as a Folder action, launches as soon as the JPEG file drops into its folder, immediately uploading it to the proper folder on the Web site. (You should replace this Web site with your own, of course.)

The script doesn't have to end here. For example, you could add another line at the end of the script that reads:

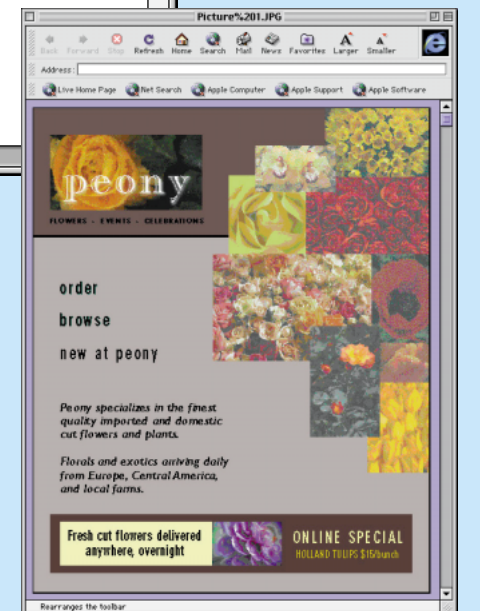
```
tell application "Internet Explorer 4.01"
  openURL "http://www.macworld.com/" ~
    & "myfolder/myfile.html" ~
  flags 1
end tell
```

This would open the proper HTML file in Explorer so you could make sure your ad looked correct on the final page.



#### A fetching script

This third script tells Fetch to put JPEG files from a specific folder onto a Web server.





# Paint your tag on

Photoshop filters can make work appear painted. By Mike Wooldridge

**F**or digital artists trying to achieve the look and feel of traditional-media art techniques, the real challenge is blending and altering elements to make the final piece look as though it was created with paint and pen rather than by pixel-pushing.

San Francisco-based illustrator and graphic artist Frank Kozik has experimented with Photoshop filters over the years to make the elements he uses in his art – cartoon drawings, photographs and synthetic textures – look painted rather than digital.

His goal with many of his designs is not to create fantastic, slick imagery that's obviously computer-based, but to make art that looks like it comes from the non-electronic world.

Kozik has been creating concert posters and album-cover art for underground bands since the mid-1980s. His posters featuring Soviet-style soldiers, Lichtensteinian women, and cartoon characters have become prized collectibles, and some of his poster art is in the Smithsonian Museum. But he's probably best known to Macintosh users for his in-your-face illustrations for now-defunct Mac-clone maker, Power Computing.

In this piece, Kozik says, he was trying to imitate the look-and-feel of an old, weathered billboard with its layers of art in various states of decomposition.

He started with several of his favourite elements: hand-drawn cartoon characters; a cross and an American flag created in Adobe Illustrator; and scans of various pieces of art. He added filter effects in Photoshop to soften the edges and added texture and selected and eliminated random parts of each image, using the magic-wand tool and layer masks to create a splattered-paint look. Then he scanned in and distorted an oil painting and superimposed it at a very low opacity on the rest of the art.

Although the art looks "natural", Kozik's set-up for this project was mostly digital: a Power Computing PowerTower Pro 225; 1GB of RAM; a 14GB Bellstor external hard-drive; an external Iomega Jaz drive; two Sony Trinitron monitors (20-inch and



21-inch); Adobe Photoshop 3.0; Adobe Illustrator 6.0; Adobe Streamline 4.0; Adobe Gallery Effects; and Tormentia Photoshop filters, included with *Macworld Photoshop 5 Bible* (IDG Books Worldwide, 1998). **MW**

**Mike Wooldridge is a freelance writer and new-media designer.**

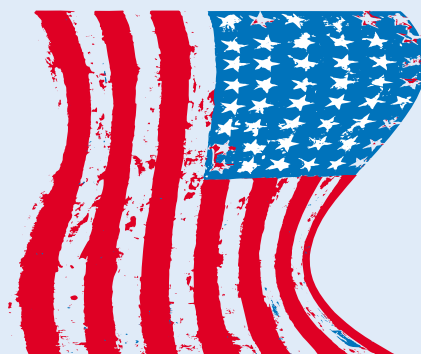
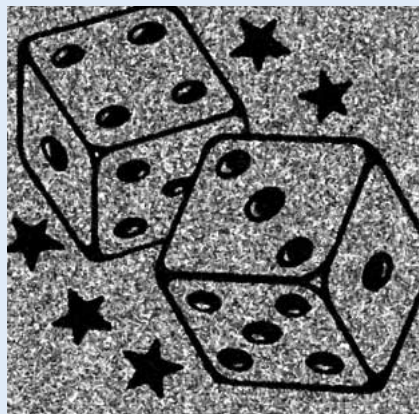
continues page 118



# Anatomy of a graphic

**1** Kozik began the project with seven graphic elements. He hand-drew and scanned in the cat's-head illustration and created the American flag, military cross, flames, and "Man's Ruin Records" text

in Illustrator. He scanned in the dice and wolf images from 1950s decals found at an antique store. Kozik imported all these elements into separate Photoshop files.



**2** To soften the hard edges and give texture to the flat areas of colour and gradients, he applied to each separate file Photoshop's Add Noise filter and the classic Dry Brush filter from

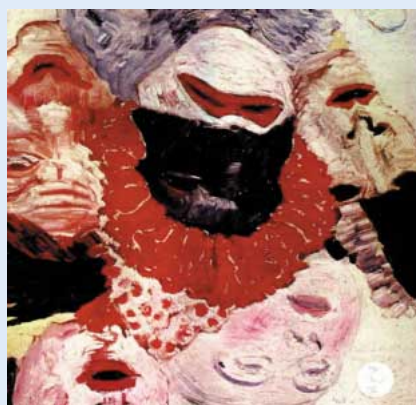
Adobe Gallery Effects (filters included in Photoshop 4 and later). The effects are seen in the cat's head illustration (right).



**3** Next, he used a Tormentia filter to adjust the colours of each element in its separate Photoshop file so they would complement each other in the final image. He followed this up with another dose of the Dry Brush to amplify the earlier textures and give the elements even more of a painted feel.

**4** Kozik then brought each element into separate layers of a single Photoshop file. Working on one layer at a time, he selected random areas of the illustrations, using the magic-wand tool followed by the Similar command, and deleted the selected areas via the layer mask. You can see the splattered-paint results of this technique in the pair of wolves' heads. He also lowered the opacity in some layers to reveal images in lower layers.

**5** Kozik's final step was to scan and invert a randomly selected image – an oil painting of clowns scanned from the cover of a 1970s English magazine – and add lots of random noise to it. He superimposed this over the final collage at a low opacity to add an extra element of texture.



# On location

Location manager is an underestimated – yet powerful – tool. **By Joseph Schorr**

**L**ots of people think of the Location Manager as a control panel that's only for PowerBook-toting business travellers – a handy gizmo that makes it easier to reset your clock when you're jetting between San Francisco and New York, for example.

But the Location Manager – which has come with desktop Macs as well as PowerBooks since Mac OS 8.1 – is good for much more than city switching. It lets you reconfigure almost your entire system – everything from your default printer to the sound-output level – with a single click. Once you've mastered its secrets, you can leapfrog past a half-dozen control panels, changing your Mac's basic setup in a matter of seconds. With Location Manager 2.0 (which comes only with Mac OS 8.5) you can change your AppleTalk, TCP/IP, File Sharing, Modem, and Remote Access settings; launch any applications you want; reconfigure your email client and Web browser; and turn dozens of extensions and control panels on or off without having to open a single dialogue box. (Previous versions of Location Manager are more limited).

## How it works

Location Manager lets you store the configurations from several different control panels – such as TCP/IP, AppleTalk, and Extensions Manager – in a single location file. By activating a location setting



during start-up, you change the setup of several different control panels all at the same time.

To make this magic happen, open up the Location Manager control panel and choose New Location from the File menu. Give the new location a name, and click on Save. Then begin assembling the configuration you want, by clicking on any of the items in

the Location Manager's Settings list. For each of the items, you can click on Apply to capture the settings that are currently in use on your system or click on Edit to open a control panel and change the settings to the ones you want stored. For details about working with these settings, see "Location Manager logistics". Here's a sample of how

continues page 140

## Location Manager logistics

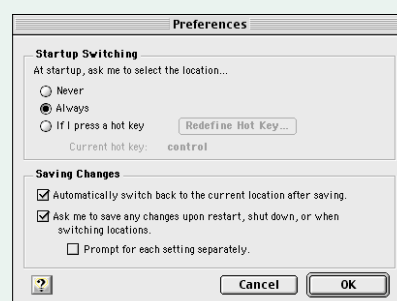
**L**ocation Manager is one of the Mac's most powerful control panels but not one of the most intuitive. Here are some guiding principles to help.

■ Before you even touch Location Manager, you must first create and save configuration settings for most of the individual components – such as Extensions Manager, Modem, Remote Access, TCP/IP, and AppleTalk – that you want to control.

■ Location Manager won't let you use control-panel configurations that have the name Default. If you're running control panels such as AppleTalk and Modem under default

configurations, duplicate those configurations and give them different names. Choose the Configurations command from the File menu in control panels such as Remote Access, Modem, TCP/IP, and AppleTalk to duplicate, rename, and save configurations.

■ You don't have to restart to switch locations. Just make the change in the Current Location pop-up menu in the Location Manager control panel or select the location from the Location Manager module on the control strip to change configurations. (Some settings, such as a saved Extensions Manager set, won't take effect until after restarting).



### Start-up check-in

Location Manager is able to prompt you at start-up.



you can use Location Manager to handle some routine system-setup tasks that could otherwise be a hassle.

### One machine, two personalities

Do you share your Macintosh with another person? If so, you can use Location Manager to quickly reconfigure the system for each of you on start-up. For example, my wife and I share one Mac, but we run very different systems. Location Manager makes juggling our two setups a breeze. When the Mac starts up, Location Manager automatically prompts us to choose a location (see “Where am I?”). Choosing His or Hers (the two location settings we’ve saved) from the pop-up menu customizes the system for each of us. Her location setting opens the Launcher on start-up (it’s selected as one of the Auto-Open Items in Location Manager’s Settings list); switches the Extensions Manager to a sparse set named Minimal; makes her colour ink-jet printer the default printer; and turns on her Internet settings, activating her email user name and password, dialing up her ISP, and directing her preferred Web browser to a custom home page containing her favourite links.

Whenever I start up the same Mac and activate my location setting, the Launcher stays hidden, my own set of extensions gets turned on, our monochrome laser printer becomes the default printer, and all the Internet settings are switched over to accommodate my preferences – my ISP and my user name and password.

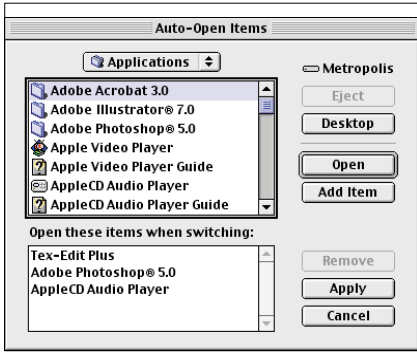
### The commuter computer

If you carry a PowerBook from work to home each night, creating two location settings – one for the office and one for home – saves time. The office setting can connect your Mac to the network via ethernet, choose a nearby workgroup printer as the default, flip on file sharing, and set up your TCP/IP control panel to access the Internet via the company network. When you go home at night, starting up with an alternative location setting can switch your AppleTalk connection from ethernet to LocalTalk, target your personal printer as the default, and configure your TCP/IP settings to handle a dial-up connection to a local ISP.

### Start-up items done right

It’s easy to have files launch themselves on start-up by using the Startup Items folder. Problem is, sometimes you don’t want those items to start up – and stopping them is a hassle. You have to press the shift key at exactly the right moment to disable those start-up items.

With Location Manager, though, it’s easy to create two alternate location settings – one that includes start-up items (called Auto-Open Items) and one that doesn’t (see “Getting started”). Just choose the location you want at start-up, depending on whether you want the self-launching files to be triggered.



#### Getting Started

With Location Manager, you can designate any files as Auto-Open Items. They will launch themselves whenever the location is chosen – either at start-up or at any other time during a work session.



#### Where am I?

Location Manager can prompt you to choose a location setting each time you start up.

### Configuration migration

Ever get a new computer and find yourself spending half the day reconfiguring the new system, painstakingly re-creating the settings you had on your previous Mac? Location Manager provides a valuable shortcut: you can import and export Location settings. Just launch Location Manager, activate the location setting you want to export, and choose Export Location from the File menu. Use the Import Settings command in Location Manager on your new system to install the settings.

### Location is everything

Once you’ve tapped into the power of Location Manager, you’re sure to find all sorts of reasons to create new location settings – even if you never get on another plane.

**Joseph Schorr is co-author of Macworld Mac Secrets, fifth edition (IDG Books Worldwide, 1998).**

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

### Find and replace tabs

**Q** How can I enter tab and return characters in the Find and Replace dialogue boxes in ClarisWorks and Microsoft Word?

Robert Schwartz

**A** In ClarisWorks, type \t or press ⌘-tab to enter a tab character. To enter a return character, type \p or press ⌘-return. To enter a line-break character, type \n. For a list of other special characters you can enter in the Find/Change dialogue box, choose the ClarisWorks help index from the Help menu and look under the keyword Finding Text and the topic “Find and change text”.

In Microsoft Word (all versions), you can type ^t to enter a tab character, ^p for a return character, or ^l for a line-break character. You can also choose these and other special characters from the Special pop-up menu near the bottom of the dialog box. If you don’t see this pop-up menu in Word 98, click the More button in the Find dialogue box. Word 98’s on-screen help has a list of special characters you can find and replace; look in the help index under the keyword Finding Data and the topic “Examples of special characters and document elements you can find and replace”.

### Create a sound WAV

**Q** My friends and I like to send sounds to one another (Barney Fife saying “Andy! Andy!” and so forth). How can I create WAV files to send to my buddies who have Wintel machines? And how can I listen to the WAV files they send me?

Dan Tempas

**A** If your system has QuickTime 3, you can open and play various types of sound files, including the Windows WAV format, in MoviePlayer, SimpleText, or any other application that can open QuickTime movies. To open WAV files in applications other than MoviePlayer, turn on the Enable QuickTime Exchange option in the QuickTime Settings control panel. If you upgrade to QuickTime 3 Pro, you can also convert sounds to WAV files by using MoviePlayer’s Export command. Mac OS 8.5 includes QuickTime 3 and a free upgrade to the Pro edition; if you haven’t upgraded to 8.5 yet, you can download the standard edition of QuickTime 3 free from Apple’s Web site at [www.apple.com/quicktime/](http://www.apple.com/quicktime/) and pay \$29.95 for the Pro upgrade. QuickTime 3 works with System 7.1 and later.

If your system has QuickTime 2.5,

# WAVs • find and replace • clearing desktop clutter

## Stickies gets personal

**Tip** There are two ways to enhance the largely inconspicuous Stickies program that the Mac OS has included since System 7.5. Michael Merwin noticed that Stickies remembers two positions for each note – one for when the note is open and the other for when it’s collapsed, and he uses this feature to organize his notes. He clicks each note’s zoom box to collapse it and stacks the collapsed notes in a corner of his desktop (see “Stickies tricks”). Stickies displays the first line of each collapsed note in its title bar, reminding him of the note’s contents.

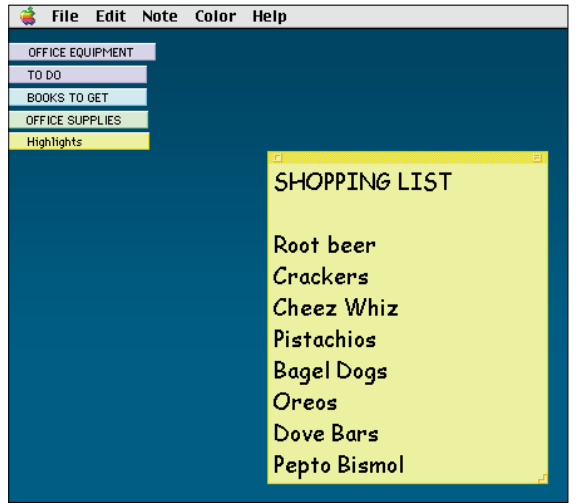
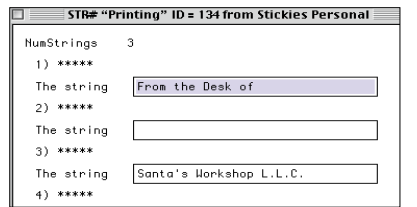
Clicking a collapsed note’s zoom box opens it in its previous location, and clicking its zoom box again returns it to the stack of collapsed notes. If you have the Zoom-Box Collapses Window option turned off in Stickies’ Preferences menu, you need to option-click a note’s zoom box to collapse it. And James LaRoche discovered how to change the text that Stickies prints before and after your name in the footer of every note you print (by default, Stickies uses the Owner Name from the File Sharing or Sharing Setup control panel). To change the footer text, you need a resource editor – such as Apple’s ResEdit freeware – or you can use Mathemaesthetics’ Resorcerer

([www.mathemaesthetics.com](http://www.mathemaesthetics.com)). First, create a duplicate of the Stickies application in the Apple Menu Items folder and name the duplicate Stickies Personal. Open Stickies Personal in your resource-editing program of choice, and double-click the STR# resource item in the Stickies Personal resources window. In the STR# resources window that appears, double-click resource ID 134, Printing. The window for this resource shows three text strings you can edit to personalize your Stickies. It’s easy to make additional personalized copies of Stickies with names such as Stickies Business and Stickies Funny.

#### Stickies tricks

Your Stickies notes can remember two positions: one when a note is collapsed and another when it’s open (right).

You can personalize notes’ printed footer info by accessing your Stickies STR# resource ID 134 (above right).



MoviePlayer can open and play most WAV files, but SimpleText and other applications can open only some WAV files. With QuickTime 2.5, even MoviePlayer can’t open a few WAV files that it can open with QuickTime 3 – it’s rather arbitrary, so the only way to really know for sure is to give it a try. You can also convert between WAV files and Mac sound files with freeware such as Norman Franke’s SoundApp. QuickTime 4 is also now available as a Preview Release.

### Clear up the clutter

**Tip** Drowning in screen clutter? Clear the blight of excess windows from your desktop with a click of your mouse – two clicks at the most. For your first click, James Gates suggests that you scrunch up all the windows of the active application by option-clicking the collapse box of the active window. If necessary, a second step hides the windows of all other applications (see the end of this item if you’ve forgotten how to do this). To expand all collapsed windows of the active application, option-click the active window’s collapse box.

You can also expand and collapse all the active application’s windows by option-double-clicking the title bar of any

window, active or inactive. To affect just one background window, ⌘-double-click its title bar. Now try option-⌘-double-clicking an inactive window’s title bar.

Note that these double-click tricks won’t work if you have the relevant option turned off in the Options section of Mac OS 8.X’s Appearance control panel or Mac OS 7.6’s WindowShade control panel.

### Apple wises up on the euro

**Tip** Following the launch of the euro, Apple has added the euro symbol (€) to the following fonts distributed with Mac OS 8.5 and later: Apple Chancery, Capitals, Charcoal, Chicago, Courier, Gadget, Geneva, Helvetica, Hoefler Text, Monaco, New York, Palatino, Sand, Skia, Symbol, Techno, Textile, and Times. With any of these fonts except Symbol, you type a euro symbol by pressing option-shift-2. With the Symbol font, you press option-T.

If you don’t have Mac OS 8.5 or 8.5.1, you can obtain three free euro fonts from Adobe’s Web site at [www.adobe.com/supportservice/custsupport/LIBRARY/503a.htm](http://www.adobe.com/supportservice/custsupport/LIBRARY/503a.htm). With each of the fonts – sans serif, serif, and monospace – you can type a euro symbol by pressing any key. These fonts work with any Mac OS

version, but sizes other than 10 point tend to look jagged on screen and with non-PostScript printers unless you have Adobe Type Manager installed.

Microsoft also distributes updated versions of its core fonts on its Web site at [www.microsoft.com/typography/fontpack/default.htm](http://www.microsoft.com/typography/fontpack/default.htm). You can use these TrueType fonts with any Mac OS system. The LaserWriter 8.6 driver software, which Mac OS 8.5 and 8.5.1 include, performs a euro-related trick with many fonts. It prints a euro symbol from the Symbol font everywhere it encounters an option-shift-2 character in a font internally designated a Mac-encoded font, even if this character appears on screen as an international currency symbol. If the printer has the Symbol font built in and this Symbol font does not contain the euro symbol, the LaserWriter 8.6 driver adds the euro to the printer’s existing Symbol font.

Older LaserWriter drivers do not normally substitute the euro from the Symbol font. Instead, LaserWriter 8.5.1 and earlier print the international currency symbol wherever an option-shift-2 character appears in a Mac-encoded font.

For more-detailed information, including instructions for adding euro symbols to existing fonts, see Apple Technote 1140 at [developer.apple.com/technotes/tn/tn1140.html](http://developer.apple.com/technotes/tn/tn1140.html).

## Peter Worlock



Why can't interface designers keep it  
simple – and ditch icons for good.

# Icons in your face

If you want to start a blazing row over your next dinner party, there are a select handful of subjects guaranteed to inflame the passions of all concerned. Traditionally, politics and religion have worked well and, depending on your circle of friends, public versus private health and education can often stimulate the cardiovascular system. To those topics, I think, we can usefully add computer interface design.

Those of us whose computers boot with a happy-smiley face entertain no doubts about the superiority of our interface over those that feature the heavily-pixelated image of multicoloured squares. (Incidentally, if Microsoft is serious about attracting creative types to its platform, it ought to learn how to anti-alias its own logo properly).

A lot of time, effort and legal fees have been expended on the promotion and defence of the “Macintosh look-and-feel”. All right-thinking members of the Mac community stoutly supported such actions against the pilfering Microsoft designers, and were duly outraged when the US courts found in favour of Gates and Co.

Curious, then, that so many have installed shareware utilities designed explicitly for the purpose of mutilating the interface. No multi-coloured, eye-wrenching, bastardized sci-fi atrocity, it seems, is beyond these free-thinkers.

When Microsoft launches a Mac application that doesn't conform to the Mac interface, it gets hammered. When MetaCreations launches a Mac application that doesn't even pretend to conform to the Mac interface, it gets lauded for innovative design. (Except by me, of course).

It's hard not to see double standards at play everywhere on this subject, and I have to confess that I'm no exception. As much as I've criticized MetaCreations for its offences against the standard interface, I have to profess a fondness for NewTek's Lightwave, an interface design that's been pretty much pilloried by other Mac reviewers.

The difference, is that Meta has a habit of prettying up the interface at the expense of usability, while NewTek has boiled down the interface to its bare essentials. It may look ugly but it is highly functional. In any case, I've written before about icon mania in interface design. I repeat my firm conviction: no icon has ever been invented that conveys the meaning “to search” better than the simple

word “search” (with appropriate translation for other languages).

The language issue was always the point. Why change that word into different languages when the magnifying glass icon conveyed the same meaning to audiences around the world? Well, because the magnifying glass icon conveys different meanings to audiences in the same room. It might mean “search” to you, but to me it means “magnify”.

I had just started thinking about this article when I happened upon a three-year-old interview with MetaCreations' former chief Kai Krause (see News, page 32). In it, he describes the notion of designing an interface that conforms to Apple or Microsoft standards as “fascism”. Well, I'm as much in favour of individual liberty as the next person, and I defend Kai's right to be utterly, completely, totally wrong. It's easy to forget now, but the notion of interface rules and guidelines was not an arbitrary, “fascist” decision by either Apple or Microsoft. Before the Mac, every single computer program – from the biggest, feature-packed application to the tiniest utility – had its own interface design down to the smallest detail. Keyboard shortcuts were different, where one program used the ALT key, another used the CTRL key, and so on.

Then Apple launched the Mac and everyone stopped in wonder. “Gosh!” they said. “It's amazing. When you've learned one program, you've very nearly learned all of them.” And Microsoft was smart enough to recognize a breakthrough when it saw one, and it began imposing similar rules on Windows developers.

Apple gave a lot of thought to the way people might profitably interact with computers, and the early Mac interface represented that thought process. Interface design was what made the Mac so easy to learn and to use but sadly, it's been downhill from there: where once you could tell just by looking whether a file was a document, an application or a control panel, today you have no chance.

Software companies have a responsibility to adhere to interface guidelines. I've spent 15 years learning how to drive a Macintosh and I take it amiss when software developers break the rules and trip me up. Unless, of course, I think it's an improvement, in which case it's OK. Like Lightwave. Death to icons.

MW