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# Macworld

*iMac special!*

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of Apple

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this issue!\*



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After Effects 4.0

Illustrator 8 tricks

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YOUR NEWSAGENT

\* Free cut-out iMac, that is...

IDG APRIL 1999 £4.99



# Apple struck gold with the iMac. Now it wants to push its Windows competitors right out of the spectrum.

## contents

April 1999

Whether Blueberry reigns where Bondi Blue left off, Tangerine gets peeled by Strawberry, or Grape squashes Lime, the fruit-flavour iMacs is sure to boost the consumer device's selling power. Up above the streets and houses, rainbow flying high.

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## read me first



Simon Jary, editor-in-chief

Being a firm believer in magazine writers' opinions – I have to, don't I? – and because I'm considering doing up my kitchen, I recently went out and bought a handful of handsome home-design mags:

*Elle Decoration, Wallpaper, Living Etc*, er... etc.

Leafing through earnest pages of "Curtains vs Blinds" and "Sort out your sitting room", I chanced upon an unassuming news piece that made me flush like I'd sucked a Black & Decker heat gun. It pasted me because I'd only just finished writing the feature on Apple's new colourful iMacs (see page 66).

This small note on decorating trends made me drop my matchpots. Beige, it said lightly, is back. Beige is back. BEIGE IS BACK!?

Yup, forget the strident reds and brain-frying oranges of 1998. Laugh at Dulux mixing formulae. Stand well back, Carol Smillie. The hippest colour to splash on your walls this season is Magnolia – or Fromage, as they're craftily calling it these days. Your granny was right all along. Beige is back.

The brilliant mind behind the iMac's innovative, colourful translucent polycarbonates is thirtysomething Brit, Jonathan Ive. Jonathan used to work at top London design firm, Tangerine – he even managed to plug his old workplace with one of the new iMacs.

But Jonathan has been living in California for quite a few years now. He still looks every inch the hip Brit designer – chic European suits and big suede shoes. Last time we met, he was wearing a shirt that looked just like Mac OS 8.5's Lollipop desktop pattern – mind you, I remember my dad owning a pair of pyjamas in the 70s that were definitely the inspiration behind Apple's Bossanova pattern.

If Jonathan lived in London these days, you'd spot him sipping Absinthe down The Cantaloupe in Hoxton or driving to his Brick Lane design studio on a Vespa ET4. No Bud and Harley for Mr iMac.

But Jonathan resides in San Francisco – where, remember, the Grateful Dead were considered trendy for thirty long tie-dye years. I'm pretty sure

Jonathan doesn't, but way too many Californians think Hootie & The Blowfish rock. We're talking pretty conservative tastes, here.

Americans really are some of the greatest guys around. The ones that don't gun you down are so courteous and polite you want to shoot them. But radical they are not. While Europe was engulfed in blood and flames, the Americans started their revolution by spilling a box of teabags in a river. For two hundred years European free-thinkers have done their utmost to rid the 'old continent' of its stick-in-the-muds, religious loonies and square-shouldered jocks. Glenn Hoddle wouldn't have stood a chance.

So when Apple unveiled its Bondi Blue iMac, the conservative media and plaid-shirted industry pundits wet their chinos with excitement. January's roll-out of the four new colours and a fractionally different blue iMac was also well received. Gone forever were the days of same-colour computer boxes and peripherals. Go Blueberry! Yo, Strawberry!

Jonathan's Californian pals are whooping. But back in Tooting, bright colours are slowly being repainted Magnolia – sorry, Fromage. Beige is back.

No one is going to get bad Feng Shui from plonking an iMac too close to their pot plant or for using a Habitat catalogue as a mouse mat. But consumers might get jittery about placing an object that radiates pure lime-green in the corner of their cream-coloured living room.

Now, I'm no slave to paintpot posing. My kitchen is a knockout with two-tone Lancelot and Zodiac blues. My bathroom is more orange (Dulux: 05YY 42/727) than the inside of a can of Tango. But if beige is really back, how are the British going to colour-co-ordinate their new Internet devices and still buy Apple products? The only beige left in the Apple swatch book is reserved for the company's manila envelopes.

Because we love you at Macworld, we've been thinking long and hard on this one. Thinking different, of course. But thinking all the same.

Our answer: Bananas. Yes, dear readers, this issue we present the curiously beige Banana iMac – which, as a special gift to the style conscious, we're giving away absolutely free inside this issue. It's a real snip. **NW**

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

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The 15 winners of Xerox's optical-character recognition program, **TextBridge Pro Mac 8.0**, from January's issue of *Macworld* are: Mrs R Steel, Kettering; Kevin B Thompson, London; Steve Sullivan, Reigate; Gavin Willis, Northampton; Cyril Poulter, Hull; Joseph Ortenzi, London; Caroline Tuck, Ilford; Mr S Campbell, Lewes; Mr R Stadden, Winterbourne; Mr I C Turnock, Congleton; Mrs Nida Wilson, Bishop Auckland; Alan Johnson, Fareham; W P Hide, Grimsby; Paul Willis, Co Down; and, Alan Green of Bristol.

Also, January issue competition winners, now ten lucky owners of the **Neato CD** labelling kits and labels packs: Bryan Benge, Epsom; David Jennings, Northallerton; Kim Hudson, Leeds; Dr C J Goodwin, Markfield; Mr Michael Robertson, Great Yarmouth; Anna Moniak, London; Mr C V Thomas, High Wycombe; William G Wood, Croydon; Patrick Bunkle, Southend-on-Sea; and, Nigel Laudat of Liverpool.

And the five winners of a copy of ACI's database-development package, 4D Desktop v6: J Craig, Lhanbryde, Moray; Gerald Houghton, Irthlingborough; Stephen Elliott Hunter, Norwich; Charles Strang, Edinburgh; and Matthew Harris of London.

**Win a G3 PowerBook and Adobe Publishing Collection by entering your choices for the 1999 Macworld Awards. See page 136.**



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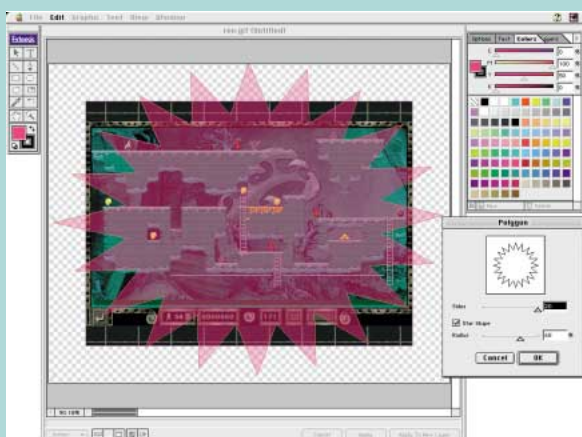


Macworld

The April CD presents you with over 650MB of the best demos, shareware, games, utilities and updaters. Vic Lennard starts the guided tour.



## PhotoGraphics 1.0



PhotoGraphics 1.0 for Macintosh puts your favourite illustration tools directly inside Adobe Photoshop 4 or 5 by providing a full-featured set of drawing tools and advanced text capabilities. Create basic vector shapes that can be filled and stroked, and can be edited at any time – even after they have been rasterized. Create text on a path as well!

Included within the installed folder are the QuickStart Guide.pdf, a document to help get you started quickly with PhotoGraphics 1.0, and QuickReference.pdf, a PDF version of the PhotoGraphics fold-out Quick Reference Card, listing commonly used keyboard shortcuts.

On launching PhotoGraphics, you will be requested to serialize and register the software. Choose demo mode which allows full functionality for 30 days.

## Jazz Jackrabbit 2

Jazz Jackrabbit 2 is a breath of fresh air for the computer-game-playing family and can be enjoyed by anyone from age six to adult. Its fascinating worlds, vibrant colours and smooth animation make for a thrilling experience. Jazz 2 proves that the rumours of the platform game genre's demise are greatly exaggerated.

Within Jazz 2 there are blocks that can be shot by various weapons. If a block has a star on it, Jazz can destroy it with any weapon. But, there are other blocks in the game: blocks with an exclamation mark on them must be stomped by Jazz's butt in order to be broken open; blocks with an ammo type depicted on them can only be destroyed by the corresponding weapon. This introduces an element of strategy requiring ammo conservation and treasure hunting.

In Jazz 2, Jazz has fire and ice weapons. Sometimes Jazz will encounter a spring that's frozen. Use a flaming weapon, and the spring will heat up and become usable. At other times, Jazz will encounter a spring that blocks his path, bouncing him back and preventing him from proceeding. Just freeze the spring with an ice weapon and Jazz will be able to walk across the resulting ice and continue on his way. Jazz can ricochet bullets off of certain surfaces, performing some very interesting trick shots.

Jazz and Spaz have their own special moves. Jazz can helicopter with his ears, allowing for a slow fall. This enables Jazz to excel at the long jump. Spaz has a double jump, allowing him to jump much higher than Jazz. This makes Spaz a master at the high jump.

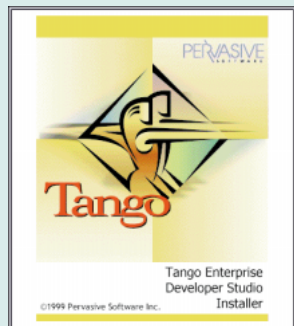
Try the first part of this great new game. If you get an on-screen message requesting DrawSprocket 1.1.4, go to the AV Demo v1.0.2 folder in Games World Hot Demos! and copy Items For Extensions Folder into the Extensions folder in your System folder.





# Tango Development Studio

Tango Development Studio is completely free on this month's Macworld CD. You'll save nearly £500 off the full Tango Application Server and Development Suite.



Tango from Pervasive Software provides a complete integrated environment for the development, deployment, and maintenance of Web sites and Web-based applications while dramatically raising the productivity of your web development team. Tango Development Studio is the most efficient visual programming environment available for prototyping and developing Web-based applications. Dev Studio has a retail price is £463.50. However, we have included it on this month's CD for free. It includes the developer version of Butler SQL.

## Rapid development

Tango provides you with an intuitive visual editor that lets you partition your application into three distinct logical layers: business, presentation and database. You visually control the application's logic and flow as you

create it. Plus, Tango's standards-based visual programming environment uses non-proprietary languages and features an extensive library of pre-built meta-tags and business application files.

## Extensibility

Use any Web server that supports the CGI standard, with Tango dynamically generating all HTML for you. Tango has incorporated Netscape's JavaScript engine, providing developers with an industry-standard scripting language to enhance your Tango applications. Tango also supports user-defined or customer HTML snippets, as well as external actions defined in another systems, including Java Classes, JavaBeans, and DLLs written in C/C++ or Visual Basic. And with built-in ODBC drivers on board, use any ODBC-compliant database you choose.

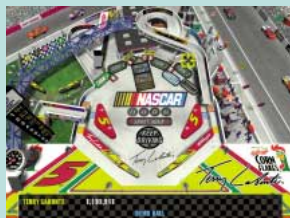
## Productivity

The group development features let you get the most out of your team. For example, you can have one person working on the graphics, your SQL expert developing the database interaction, and your business analyst mapping out the logic and bring the work together seamlessly.

# Games World



Bob the fish



NASCAR Pinball

Aside from Jazz Jackrabbit 2, Games World has three other demos. Lost Continent and NASCAR Pinball are both great Pinball demos. NASCAR Pinball will be distributed in the UK by Softline. Assault Vehicles will have you racing around a field desperately trying to survive against a heavily-armed enemy!

There's this month's Top 10 shareware games (including the latest versions of Trillite, Mac Football Manager and Unicycle plus the excellent Bob the Fish) and a selection of updaters and cheats.



Lost Continent



AV Demo

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

### ■ British Mac OS 8.1 updaters

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

### ■ Acrobat Reader 3.01

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



### ■ QuickTime 3.0.2

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

# Also on the CD

## APPLE (in the System Utilities folder)

6 updates including:

- LW 8500 PPD 1.1
- Network Asst 3.5.2
- ATI RAGE 128 Update 1.0

## SOUND & MUSIC

- Creative Tracking XI Converter
- Ugly CD Player

## ANTI-VIRUS

Four items for your data's continuing protection.

## COMMS & INTERNET

20 applications including:

- AutoShare 3.0.4
- Coolsafe 1.6
- PageSpinner 2.1

## EDUCATION

- Online Bible

## FONTS

- Fonts Manager 3.9
- SmoothType 2.1
- plus registered versions of Nu Sans 8.5.2

## GRAPHICS

3 programs including:

- DW Lite 4.0.2
- conVRter 1.4
- FilterOrganizer

## ICON UTILITIES



- Icon Machine 1.6.1
- IconDropper 3.2.1

## INFO

6 items including

- 1984 OLM Issue 10
- Apple Wizards - Feb 1999
- About this Particular Mac 5.02
- plus items for developers

## MATH & SCIENCE

6 items including

- Convert 1.2.3
- PowerCalc

## UTILITIES

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

- Drag'nBack 2.9
- Extensions Strip 19.1
- PopCalender 1.1.2
- QuickEditor 6.1
- SCSIProbe v5.0
- Smart Scroll 3.5
- SmartKeys 3.4.1
- Snapz Pro 1.1.1



- TechTool 1.1.8



- Y2K Software Audit 1.19

## UPDATERS

This month's dedicated updaters folder includes over 100MB of patches to bring many popular applications bang up-to-date, including:

- Adaptec Toast 3.5.6
- BBEdit 5.0.2
- Kingston PCI Ethernet 3.0
- MacLinkPlus 10.003p1
- MarkzTools(tm) III v7.3
- Norton AntiVirus (2/99)
- NUM 4.0.3
- OMNIS 73 v7.0.2
- SAM (2/99)
- Virex (2/99)
- VistaScan 3.1

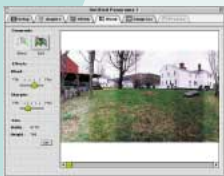
**Shareware** Many programs on this CD are shareware, which means that if you keep them and use them for more than the allowed time (usually about 30 days) then you must pay for them. Treat shareware as budget-priced commercial programs – support shareware authors so that they continue to provide high-quality programs for the Mac.



## Serious Demos



### VR Toolbox



PanoWorx generates panoramas from multiple images or a single panoramic image. It can import images from virtually all popular image file formats and also supports Photoshop acquisition plug-ins so images can be scanned or downloaded (from digital camera) directly into the program. Generate partial panoramas as well as 360° ones. Use the built-in image editor for touch-ups and text captions.

ObjectWorx generates single or multiple row QTVR object movies. It can import images from virtually all popular image file formats and also supports Photoshop acquisition plug-ins. Control virtually all QTVR 2.0 playback properties such as view animation. The program supports frame-based animation within single views of an object and special effects such as synchronized sounds, text captions, and blue-screening.

Try out VR Toolbox's PanoWorx and ObjectWorx for 15 full sessions.

### Font Reserve



Font Reserve - the unique font management software designed to forever change the way you work with fonts. You'll no longer struggle with the various font components and types ranging from suitcases, bitmap fonts, and out-line fonts to Multiple Master, TrueType, and Type One fonts. Font Reserve manages the physical fonts files for you, preventing you from ever digging through folders and suitcases again.

Font Reserve consolidates all your font files into one convenient place and provides an intuitive method for locating, activating, deactivating, grouping, and viewing them. There's no need to close most applications to make fonts available, it's easy to export fonts for delivery to a service bureau, and you can share fonts with an entire workgroup. Depending on the application you're using, Font Reserve can activate the fonts required by each document you open. With Font Reserve tracking your font files, you'll spend less time hassling with fonts and more time working.

The demo has a few features disabled and limits the number of fonts that can be added.

### Other demos include:

- Boris After Effects 2.0
- Consultant 2.56
- form-Z 3.0
- GrooveMaker



- Katabounga

### Macworld CD catalogue

Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 and '98 – almost 83,000 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.



### From Macworld Readers

A selection of graphics, game levels, databases and ezines from Macworld readers. If you would like to see your programs on the Macworld cover CD, please send contributions to Vic Lennard at the usual Macworld address (electronic or snail mail).

### Cool Specials



- Al Morale 2.0  
Have compliments thrown at you courtesy of your own on-screen admirer!
- MacinQuiz  
Think you know your Mac trivia? Find out with this cool quiz!



### 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)



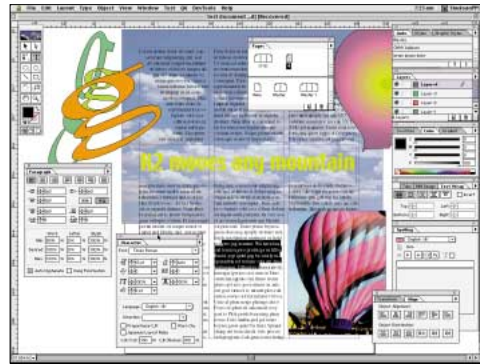
## Adobe mounts XPress 5.0

**Rivals Quark, Macromedia and Microsoft are targeted with key new publishing products**

**A**dobe has launched a spring offensive on the publishing market with the launch of four new products, aimed squarely at creative and business professionals. The company has dramatically revamped its product line-up with Quark, Macromedia and Microsoft in its sights. Leading the assault is the long-awaited InDesign 1.0, a DTP package previously code-named K2. This is swiftly followed by Adobe GoLive 4.0 – the first fruit of Adobe's acquisition of GoLive Systems. Almost as eagerly anticipated is Acrobat 4.0, the latest upgrade to Adobe's portable document format (PDF) application. And new to the fold is PressReady, a revolutionary printing technology that promises to turn your cheap ink-jet into a £10,000 proofer.

InDesign, launched at Boston's Seybold print and pre-press conference in early March, is being directly positioned against the current market leader, QuarkXPress. At Seybold, Quark signalled a staunch defence of the print-publishing market with plans to upgrade XPress to version 5.0. Further XPress 5.0 details were unavailable at press time.

InDesign reportedly shares no common code



with PageMaker, Adobe's current DTP offering, which will be repositioned – as the £299-PageMaker Plus – against Microsoft's Windows-based Publisher program to take greater advantage of Adobe's strong position in business publishing.

The new pro DTP package features a core code base that occupies only about 2MB of disk space. Taking its cue from XPress, many of the software's functions are provided by plug-ins. The software makes extensive use of Apple-Events scripting. Adobe has been wooing third-party developers of QuarkXTensions and Adobe plug-ins to create InDesign add-ons that replicate the capabilities of current XTensions. According to the company, this new modular architecture greatly speeds internal revisions to InDesign, and simplifies third-party plug-in development. Adobe Online, a Web site featuring upgrades and new plug-ins, will spearhead InDesign's customization plans.

### XPress-ionist

In another move aimed squarely at Quark's dominance of the market, InDesign can convert XPress documents on the fly. Adobe is predicting InDesign will be 99 per cent accurate in its conversions. It also supports PageMaker 6.5 files.

The application will also mark a new era for PDF in pre-press workflows. InDesign allows publications to directly save files in PDF format, setting options for image compression, font embedding and colour conversion.

On the productivity front, InDesign provides multiple undo and redo steps as well as document-wide layers. Users will be able to organize objects into layers that they can hide, reorder, and lock or unlock, as in Photoshop and Illustrator. Layers can also be used where different versions of a publication are required, such as regional variations of a magazine.

As with XPress and PageMaker, users can establish master pages that allow them to apply elements throughout a publication. InDesign lets users base one master page on another – changes to the original master page will cause the subordinate master page to update as well.

## DTP challenge

InDesign users can use graphical objects as frames for text or images, and can place and edit frames within frames. In addition, InDesign is able to create radial or linear gradients to fill and stroke shapes or text. A gradient tool lets users adjust the angle of a linear gradient manually, and text can be edited after a gradient has been applied to it. Other graphics handling capabilities allow users to rotate or resize graphics that have been moved off the pasteboard, and objects can be snapped to baseline grids and rulers for precision positioning.

InDesign also employs printing shortcuts such as sending only the visible data in a masked TIFF file to a printer, and includes single- and multi-line composer features to apply line breaks in text according to users' type settings. The software offers four kerning options: manual kerning, range kerning for adjusting spaces across a line of characters, built-in pair kerning and optical kerning for tuning character spacing visually. In addition, InDesign's Navigator palette will let users zoom in and out from five per cent to 4,000 per cent. InDesign will have an introductory price of just £399 when it ships this summer.

### Uphill struggle

Adobe's president and chairman of the board, Charles Geshke – in the UK to publicize Adobe's new publishing and Web strategy – was under no illusions about the difficulty InDesign faces: "It's no secret that market share has been lost to Quark," said Geshke, revealing that PageMaker held only 29 per cent of the professional publishing market.

"InDesign is intended to get back the market share that Aldus lost in the early 90s. It will take years, not quarters, to dislodge our competitor, but we will do it," he promised.

Geshke also talked up Adobe GoLive (explored in greater depth on page 22), positioning it at the heart of Adobe's professional Web solution and directly against Macromedia's Dreamweaver 2. Instead of Macromedia's already popular Flash, GoLive will support Precision Graphics Markup Language (PGML), Adobe's own vector format

for Web graphics.

"We're trying to persuade companies to integrate PGML. You'll be seeing products from Adobe and third-parties that not only support PGML but actively promote it," he said.

As one of its strengths Geshke pointed out that PGML supports QuickTime movies: "You cannot be on the Web and not support dynamic media," he said.

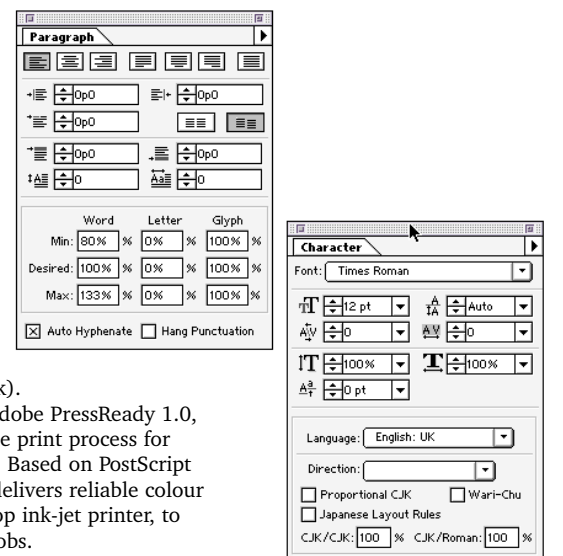
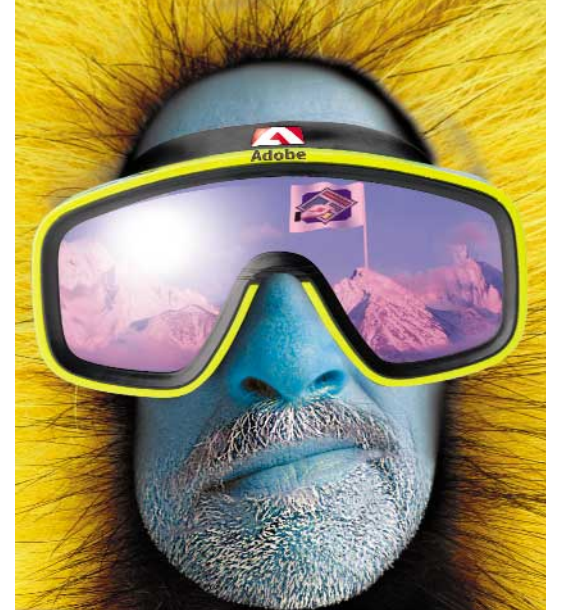
Geshke also spoke of the continuing role of PDF in Adobe's publishing system, referring to the new version 4.0 of Adobe Acrobat (see page 26 for an in-depth look).

The fourth new arrival, Adobe PressReady 1.0, promises to revolutionize the print process for small studios and designers. Based on PostScript 3 technology, the software delivers reliable colour proofs to an ordinary desktop ink-jet printer, to be used to approve design jobs.

Adobe claims the £90 PressReady enhances productivity by reducing the time a design job takes by cutting out the file shuttling usually associated with the print-approval process. By using built-in PDF features, it can create, manage and remotely proof a design job. Costs are cut as designers no longer need to view expensive high-end prints at each stage of the process.

PressReady ships with ICC profiles for select ink-jets and can simulate the press conditions of standard four-colour presses to ensure a colour match. ICC profiles for monitors can also be created with Adobe Gamma – a Control Panel included with PressReady. The application, which also ships in summer, is compatible with all major DTP applications.

**Adobe, 0181 606 4001  
– Daniel Drew Turner, Matthew Rothenberg, Michael Burns**



### Familiar faces

InDesign shares many interface features, such as keyboard shortcuts, with Adobe's Photoshop, and offers basic bézier and other drawing tools derived from Adobe Illustrator. It allows native import of Illustrator and Photoshop files into InDesign layouts where they can be edited directly.

## Newport switch for UK iMacs

**A**pple is keeping tight-lipped on the future of UK production of its successful iMac consumer PC, after 450 jobs were cut at the company's plant in Cork, Ireland.

At the time of the announcement, Apple gave assurances that the Cork factory – which employs 1,400 people – would remain at the centre of Apple's European operations. As well as the iMac, the Cork plant manufactures G3 Power Macs and PowerBooks.

Industry sources say that the lay-offs are part of a cost-cutting company-wide restructure. European production of the iMac will be out-sourced to LG Electronics, a Korean conglomerate that owns a plant in Newport, South Wales, as well as in Singapore and Mexico – although neither LG or Apple have confirmed this. LG has been present in Newport since 1997, where it employs 1,700 workers to produce PC monitors and TV display tubes.

According to sources, the deal sees Apple stepping back from the production of the iMac, with no Apple employees being transferred to LG.

While Apple remains reticent about the restructuring, the company was reported to have taken a \$9 million charge for



outsourcing the assembly of its Macintosh computers, according to a filing with the US Securities and Exchange Commission.

However, during a press conference at Macworld Tokyo, Apple Chief Financial Officer Fred Anderson had little to say about the company's outsourcing strategy. Anderson wouldn't even confirm that LG Electronics is among its subcontractors.

The shake-up caused outrage in Ireland. Brendan Ryan of the Irish Labour Party said that the way workers had learned about their predicament from the media and not directly from their employers was "astonishing and disgraceful!"

MW

## 466MHz upgrade boosts G3

**N**ewer Technology has leapfrogged Apple's high-end G3 Macs with the release of a 466MHz G3 upgrade card. The MAXpowr G3-L2 466MHz is compatible with either the new blue-&white or older beige Power Macintosh G3 series.

It comes in two configurations, each featuring a 1MB backside cache. The cache on the £1,349 model runs at 310MHz, while a £1,095 version has a cache speed of 233MHz. When tested with the industry standard MacBench 5.0 test, the

high-speed model scored 1,700, compared with the latest Power Mac G3/400 that scores 1,331.

Like all cards from Newer, the MAXpowr G3-L2 466MHz doesn't suffer from the data-corruption problem reported to affect some processor-upgrade cards. All Newer cards possess logic firmware to overcome any problems associated with speculative writes, the reported cause of the problem.

**IMC, 01344 871 329 AM Micro, 01392 426 473**





# Jobs makes Toyko

## Apple chief gets rousing welcome at Macworld Expo in Japan

Steve Jobs carried no new hardware products with him to Japan for the opening of Macworld Expo in Tokyo, but he wowed the crowd during his keynote presentation with news of surging iMac sales and the impending release of Mac OS X Server and Apple's Final Cut Pro video-editing software.

Conspicuous by its absence was news of QuickTime 4.0, as well as any sign of Apple's next professional-grade PowerBook (code-named 101 or Lombard) or the P1-Apple's forthcoming consumer portable.

Jobs' enthusiastic reception by the Tokyo crowd was tempered by repeated hardware and software failures during onstage demonstrations. The system crashes hit both Jobs and Ben Waldman, manager of Microsoft's Macintosh Business Unit.

The ninth annual trade show opened on February 17 for a three-day run at the Nippon Convention Center. Organizers said 170,000 people and more than 200 vendors attended.

Jobs' keynote speech opened the show. After walking onstage to a hero's welcome – it was

Jobs' first appearance at a Tokyo Expo – he introduced Phil Schiller, Apple vice president of worldwide marketing. The duo reprised the Power Mac-Pentium "bake-off" that they presented at January's Macworld Expo in San Francisco (see Macworld, March, News).

Jobs announced onstage that 100 USB devices will be shipping by the end of March for Apple's iMac and the newest generation of G3 Macs, and he trumpeted Apple's pioneering role in developing FireWire (IEEE 1394) technology. He announced that FireWire will be inside a 640MB magneto-optical drive from Yano Electric ([www.yano-el.co.jp](http://www.yano-el.co.jp)) that is scheduled to ship in Japan this month.

In other news, Jobs said Final Cut Pro, the video-editing technology Apple acquired last year from Macromedia, would be released in the "next few months," throwing cold water on hopes that it might be displayed in Tokyo. "Our engineers worked on this for about a year to get this exactly right," Jobs said.

Talking about iMacs, Jobs said "We cannot make them fast enough. 46 per cent of iMacs in

# debut

Japan were sold to first-time computer users," he said. "We named them after fruit," Jobs continued, "because when you see them in person you really want to lick 'em."

An embarrassing moment came shortly after Jobs introduced Microsoft's Waldman. After announcing localized versions of Internet Explorer and Outlook Express 4.5, Waldman started up Explorer 4.5 only to stand by as it crashed, displaying an out-of-memory error.

"It worked at the demo," Waldman said, blaming the Apple hardware onstage. "One of the greatest things about the new G3 is the reset switch on the front."

Jobs had his own problem with onstage hardware, however, when a wall of 50 iMacs initially failed to stream video from an OS X Server. "What is going on? I have no idea," a visibly angry Jobs said. "It didn't work as I planned."

The stalled demo righted itself after a few moments, but by then Jobs had already walked off the stage after thanking the crowd, leaving some observers to wonder whether he had abandoned additional product announcements.

Mac OS X Server, meanwhile, will debut in the United States "later this month," Jobs said, but there has been no mention of a UK shipping date. Curiously, a QuickTime 4.0 extension icon appeared when Jobs started a demo version of OS X Server – raising speculation that the two forthcoming products are linked.

## Third-party highlights

Hollywood stage lights and the loudest product demonstrations on the show floor drew massive crowds to Newer Technology's booth (IMC, 01344 871 329, AM Micro, 01392 426 473). One of Newer's coolest products was FireStorm, a FireWire digital-video-capture device that expands the capabilities of the new Power Mac G3. FireStorm is expected to be bundled with Apple's Final Cut, and pegged for a May release according to sources.

Another application that drew a lot of interest was MacTell's G3 PowerJolt. The application, which runs on all desktop and PowerBook G3s, allows you to adjust and monitor nearly every



GEORGINA WATSON

# Explorer 5.0 gives Macs a miss

Internet Explorer 5, the new version of Microsoft's free Web browser, ships in March for almost every platform but the Mac OS. Although IE 5.0 for Windows will implement features shown first on the Mac, Microsoft said there would be no version 5.0 for the Mac OS until this summer.

Jodi Ropert, product manager at Microsoft's Macintosh Business Unit, said the group wanted to work on the Mac browser's architecture, including its rendering and standards support, before releasing the new version. "That work takes a lot of time – we saw that we could not finish it until summer."

In an appearance at Steve Jobs' San Francisco Macworld Expo keynote address, Ben Waldman, general manager of the Macintosh Business Unit, said IE 5.0 for the Mac would ship by July.

According to Ropert, Microsoft re-evaluated its Mac browser strategy after seeing Apple's renewed vitality in the consumer market, especially among iMac buyers who are first-time computer users. "We saw the phenomenal response from consumers to the iMac, and felt it was critical that we release a browser that is easy for new users," she said.

During a review of product development, the Mac group decided to take a "two-pronged release strategy that resulted



## A victim of its own success

Microsoft IE 4.5 (above) will be the last revision of the Mac browser until the summer.

in Version 4.5, with 5 coming out later," Ropert said. As part of the browser development strategy, the Mac Business Unit did research that included focus groups and surveys to get a better fix on the improvements users want.

She added: "The response we got from users during research was overwhelmingly that the browser must be 'Mac-like' in appearance, support drag-&-drop, integrate well with other Mac applications, and work well with Apple technology.

"Users also requested improved stability,

speed and ease of use in tasks such as searching with the browser. Microsoft claims that Explorer is written from the ground up for the Mac. While development of the browser for other platforms is on separate tracks and handled by different teams, there is strong cross-pollination of goals and standards support between the teams."

The new version will simplify and automate tasks such as searching, navigating and organizing information, according to Microsoft.

■ A new Mac Web browser from iCab of Germany may give Internet titans Microsoft and Netscape a run for their money.

iCab offers full support for HTML 4.0 and Java. It requires only 4MB of RAM and occupies less than 2MB of disk space.

The browser was created by a German programming team and is based on an earlier version for the Atari OS. A free preview version that will run until mid-April can be downloaded from the iCab home page.

While iCab is initially offering the software only in German, English-speaking fans have created an unofficial English version containing most popular features. (Download the 1.1MB English-language browser at [www.cise.ufl.edu/~phandel/bin/](http://www.cise.ufl.edu/~phandel/bin/)).

– Wendy Mattson

MW

aspect of your machine: cache size, L2 cache on/off, cache ratio, motherboard cache on/off temperature, clock speed, type of RAM and so on. G3 PowerJolt is just finishing beta testing and will be available free from the company's Web site ([www.mactell.com](http://www.mactell.com)).

In a double launch at Expo, Keyspan (AM Micro) showed the SX Pro next-generation PCI Serial cards and a USB adaptor for the Palm Pilot and Palm III.

The £159 SX Pro Serial Card adds serial ports to any PCI-based Apple CPU, including the new blue G3s. The card has four RS-422 miniDin8 serial ports, each supporting data-rates of up to 1Mbps.

Unlike previous models, the SX Pro provides support for MIDI peripherals. One port can be used to emulate a Macintosh printer port. The latest Keyspan USB serial adaptor connects the Palm Pilot and Palm III to the iMac or new G3s. It features a single DB9 port that connects to a Palm cradle or Hotsync cable. The £39 adaptor is compatible with all versions of Palm desktop software for the Mac. Both products are expected to ship in late March.

– Jason O'Grady, John Batteiger and Michael Burns



## Finally cut

Apple's Final Cut Pro video-editing tool boasts fast, interactive tools to minimize the number of editing steps needed to complete an action. By pressing a button or key command, or using drag-&-drop, you can perform non-linear digital-video editing, special effects, and key frame animation. Final Cut Pro also features a non-modal interface for selecting the variety of editing methods.

# PhotoDisc pleases punters

PhotoDisc has taken onboard the ideas and suggestions of its customers and has redesigned its e-commerce Web site ([www.photodisc.com/uk](http://www.photodisc.com/uk)). The site allows creative professionals to purchase and download royalty-free images. The redesign features a streamlined interface, with quick keyword-search and purchase functions and personalized Web pages. Searches can be saved, with customers now able to search for specific photographers. An unlimited number of

lightboxes can be created, emailed, shared and retrieved, and users can access an archive of previously downloaded images at no extra cost.

Users registering with PhotoDisc can also access the affiliated Tony Stone photo-library Web site, using their PhotoDisc user name and password. Accounts can be self-maintained and monitored by the user, with the ability to retrieve invoices and other account information.

PhotoDisc, 0845 302 1212



## Fix-it

One of a library of PhotoDisc images from its new-look e-commerce Web site.

MW



## Shot-in-arm for Adobe's GoLive



**SNEAK PEEK:**  
**Adobe GoLive 4.0**

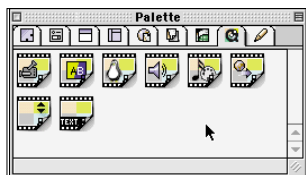
### BETA PREVIEW

**Product:** Adobe GoLive 4.0  
**Publisher:** Adobe Systems  
**Pros:** Additional QuickTime movie editor, simpler and faster site management and easy DHTML creation. Built-in ready to use actions. Highly customizable.  
**Cons:** Can't join cells when using multiple cell selection.  
**Shipping:** Late March 99  
**Price:** £178  
**Pre Sales:** 0181 606 4001



#### Hard cell

Multiple cell-selection in GoLive adds flexibility and allows quick changes to be applied.



#### Slick move

Choose from a variety of effects to apply Web-based movies

The recent acquisition by Adobe of GoLive Systems delayed an already late release of that company's flagship Web-authoring tool CyberStudio. This was partly due to the company developing a Windows version of the software, now released in simultaneous cross-platform form as Adobe GoLive 4.0. The new release now becomes a true rival to Macromedia's Dreamweaver, which has had a free run on the PC market. Adobe already produces a cross-platform Web page editor, PageMill 3.0, although it not as advanced as even the earlier CyberStudio 3.1.1.

#### Super smart support

Major features added in version 4.0 are a QuickTime Movie Editor, XML support, ASP support, PDF integration and more ready-to-use CyberObjects. Improvements to page layout capabilities and extra instant options in the Inspector will help reduce the time taken perfecting and adding elements in your pages, including rollovers, QuickTime movies, tables and text. The major changes have been employed in the site management tools, with enhancements to the site view and table editing as well as

additional CSS/DHTML improvements. The user interface itself, the ease of use of which is unsurpassed by any other Web publishing tool, has new improvements. Support for the Mac OS 8.5 Appearance control panel is enhanced with smart scrolling enabled in most GoLive document windows and palettes. To make the most of the latest developments in Web technology, GoLive can recognize and allow you to check and alter XML code without changing it. This means GoLive can now support XML tags and foreign code.

#### Dynamic components

The new JavaScript library feature irons out the problems of earlier versions, by storing code in a separate library, which the pages then reference. JavaScript actions can be written and stored in GoLive. You can also store snippets of your custom code by dragging from the in-built layout window into the floating palette. This creates a new icon and from then on you can drag and drop that same icon onto any of your pages (or sites) keeping the design consistent.

GoLive can store chunks of HTML and groups of frequently used components close at hand to drop into your designs any time across your site. You can also create template pages to use across your site.

#### Site management.

The new improvements in the Site Management feature help you increase your productivity and overall control of your site.

In GoLive 4.0 a handy floating Navigator lets you easily skim from one end of your site map to another without tedious scrolling. One very nice touch in navigation mode is the little blue arrows that magically appear as your mouse moves over the page icons, showing links. You can quickly add new files ready linked to your original page by clicking on the icon next to it. The FTP feature now gives you a very useful estimated time for upload and download and you can preserve the absolute URLs to your page files.

#### Movie madness

One of the greatest additions in GoLive 4 is the new QuickTime movie-editor feature. Giving you much more control and saving you time when adding effects and personal touches, GoLive lets you work with your movies directly in layout mode. There's also a timeline to place, organize and layer your sprites and sound files, as well as order your links and apply effects.

Working within GoLive 4 you can add QuickTime 3.0 effects, blends, filters, and many different tracks to your QuickTime movies. You can easily access through the Inspector and Timeline, and add, delete or edit sections of your movie. QuickTime elements can be selected and drag-&-dropped onto the QuickTime TimeLine editor. Effects available are Colour Tint and Style, ColorSync, Blur, Film Noise, Emboss, Sharpen, RGB and HSL balance. You can preview and alter the level of action applied. QuickTime 3 Pro is required to take full advantage of GoLive 4's new QuickTime editing facilities.

#### Multiple cell selection

Table editing in GoLive has been streamlined and updated. You can now select multiple cells in tables and then change the colour, size, proportions and fonts in one go.

The cells do not have to be next to each other for you to apply this feature. You can shift-click on any combination of cells in a table to select and alter style and content. However, you cannot merge cells by using this feature and, frustratingly, another dialogue box must be opened to perform this straightforward task. Also, you'll need QuickTime 3 Pro to utilize GoLive 4's QuickTime-editing facilities.

Adobe's new acquisition will tie in with its graphic packages like Photoshop, Illustrator, ImageReady and ImageStyler, and enable Adobe to offer a complete solution in its range of design Web-design tools.

— Gillian Robertson



## Mickey Mouse deal for Apple?

Rumour sites buzzing with more talk of Disney take-over

### Apple speeds Java update

Apple has announced a major new release of its Java Virtual Machine, claiming it is five times faster than previous versions. The new version, Mac OS Runtime for Java 2.1 (MRJ 2.1), is available for download from Apple's Web site, [www.apple.com](http://www.apple.com).

Based on Sun Microsystems's Java Development Kit 1.1.6, MRJ 2.1 lets Mac developers extend the capabilities of Java applications by coupling them with core Apple technologies, like QuickTime and AppleScript.

New features include Symantec's Just In Time compiler for Java, as well as enhanced graphics, imaging, threading and networking. Support for QuickTime and AppleScript has been added, as well as support for Swing, a user interface toolkit that brings the Mac "look and feel" to Java applications.

Avie Tevanian, Apple's senior vice-president of software engineering, said: "Customers will immediately notice the significant performance improvements in MRJ 2.1. And it's designed to run real-world Java applications from companies such as Autodesk, Oracle, SCT, and Zero G Software."

Apple, 0870 600 6010

Rumour sites on the Web have been animated recently with talk of a three-way deal between Apple, Pixar and Disney.

Steve Jobs, interim CEO of Apple and founder and head of Pixar, has reportedly been seen at Disney HQ – linked with a possible deal under which the Mickey Mouse company would buy Pixar.

Pixar and Disney have been linked in the massive media hype surrounding the computer-generated film *A Bug's Life*, and previously through their collaboration on *Toy Story*.

Jobs and Disney CEO Michael Eisner are old friends and have signed an agreement tying Disney to produce five Pixar films. Recent reports suggest that the success of *A Bug's Life* has prompted the studios to extend the partnership to a ten-film agreement. The same report said that this was the point where a possible Disney buyout was mentioned.

While the Pixar-Disney deal seems plausible, sources also suggested that Jobs used his powers of persuasion to sell Apple Computer to Eisner and the Disney board. As part of the deal Apple and Pixar

would become divisions of Disney, leveraging Disney's enormous mass-market appeal into selling Apple product.

Even more incredibly, the same source suggests that Jobs would take over from Eisner as CEO in June of this year.

Such a deal is estimated to be worth

\$12billion, with Disney said to be facing an estimated payout of \$7billion for Apple.

Jobs, with a 60 per cent stake in Pixar worth \$1.3billion, is estimated to be in line for a windfall of \$5billion in Disney shares, should such a deal come to fruition.

A Disney shareholder meeting on February 23 threw up no new details – a search for "Apple" on the Disney Web site reveals only recipes for cooking apples, while the keyword "Steve Jobs" returned no hits whatsoever.

This being our April edition, *Macworld* is taking the reports with an extremely large pinch of salt. In September 1997, we ran a similar story, touting a completely fictitious Apple-Pixar-Disney deal as part of a 'What's in store for Apple' feature. Reliable sources,

including Apple itself, indicate the recent reports may be of the same whimsical nature.

MW  
Apple, 0870 600 6010

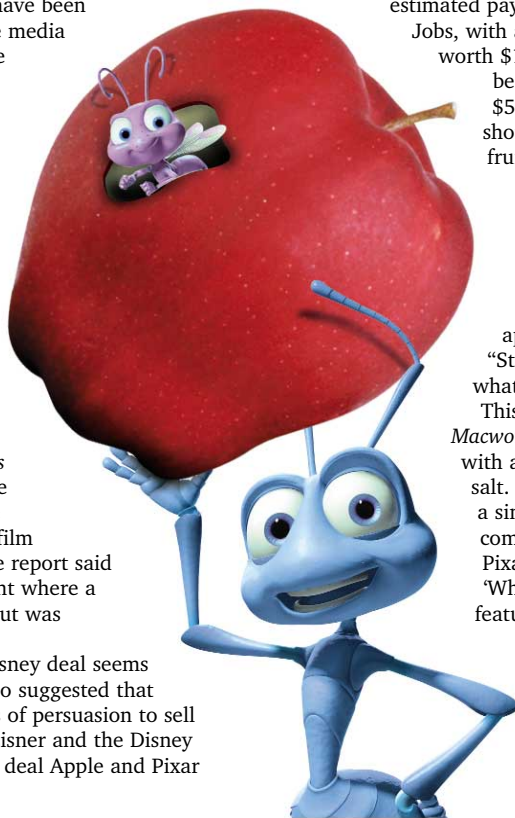


ILLUSTRATION: WALT DISNEY/PIXAR

## FireWire licence tie-up

Apple and five leading computer and consumer electronics companies are to devise a joint licensing program for FireWire.

The companies will pool the various patents each holds on technologies related to FireWire, also known as the Institute of Electrical and Electronics Engineers (IEEE) 1394 interface. The "patent pool" will make it easier for future users of the technology to license all of the essential technological pieces needed to build FireWire into products, they said.

Originally developed by Apple, FireWire, is an interface technology that is able to transfer data between electronics gear at a maximum rate of up

to 400Mbps per second. Apple's partners in the group include Compaq, Matsushita, Philips, Sony and Toshiba. The group hopes to stem concern raised by reports that Apple would charge future FireWire licensees steep licensing fees for the technology, according to a Sony spokesman.

The reports "caused some concern in the industry and some companies were reluctant to commit to the 1394 interface," according to Daniel Lintz, a spokesman at Sony's Tokyo headquarters.

The pool should "settle misunderstandings over Apple's intentions for licensing 1394."

MW  
Apple, 0870 600 6010



# Acrobat 4.0 puts on some muscle

**D**epending on how you use Adobe Acrobat, the much-awaited version 4.0 will be either highly significant or a bit of damp squib. Most of the important changes in the upgrade are support issues hidden in the background, so don't expect much in the way of added user features. That said, it's a leaner, stronger product than any of its predecessors, and is reasonably priced for an upgrade.

Acrobat, if you are unfamiliar with the product, is a suite of utilities that let you convert any PC, Mac or (to a limited extent) Unix document into a platform-independent but PostScript-based file format known as the Portable Document Format, (PDF).

In order to open, browse and print a PDF, other users need a copy of the Acrobat Reader utility, which Adobe makes available worldwide free of charge. For business users, this makes life easier when distributing business documents because it doesn't matter what kind of computer or software was used to create it, or indeed what kind of graphics and fonts were incorporated – anyone with Acrobat Reader can open the same PDF and see exactly the same thing.

## New faces

Existing users of Acrobat 2.x or 3.x may be underwhelmed by first impressions of the upgrade, though. The interface has been improved with a new toolbar to the left of the window and extra navigation buttons at the bottom, but otherwise it looks just the same as before. We also note that despite Adobe's claims to the contrary, the interface does not look anything like the standard interface in other Adobe products.

That said, business users who already use Acrobat as a way of distributing documents for comments and approval will love the new annotation tools.

Maintaining the annotation layer approach from the previous version, you now have more ways of adding your comments, including a variety of lines, squares, circles, freehand scribbles, rubber stamps, highlight-pens and more, as well as the standard pop-up notes and audio notes.

As before, every annotation is recorded with time, date and author details, and document versions can be compared and used to create a report.

Unfortunately, the next logical step in document version control – digital signatures – is not provided in Acrobat 4.0 for Mac, only for Windows. Also lacking in the Mac version compared with the PC offering are Microsoft Office integration support such as Table Maker, and the much-hailed Web Capture utility for converting Web sites to multipage, hot-linked

## SNEEK PEEK: Adobe Acrobat 4.0

PDFs. We feel that Adobe's product literature and press releases are misleading by concentrating on these hot new features without making it clear that they are not available in the Mac release of Acrobat 4.0.

Adobe told *Macworld* that these features would be added via free Mac downloads when they became available.

## Features boost

Beyond this, however, are some very important product enhancements that will matter a great deal to digital printers and new-media developers. Most significantly, Acrobat 4.0 uses a new version of the PDF (PDF 1.3 to be precise) which supports ColorSync ICC profiles, PostScript 3.0 and Adobe's mysterious new 'hierarchical metadata structure'. This latter feature is said to avoid the limitation of previous-generation PDFs that were re-editable in only the most basic way. Adobe's new desktop-publishing package, InDesign (code-name K2), will let you open up these new PDFs for complete layout changes, not just correcting typos (see page 16). Otherwise, Acrobat 4.0 still lets you save PDFs in Acrobat 3.x-compatible format.

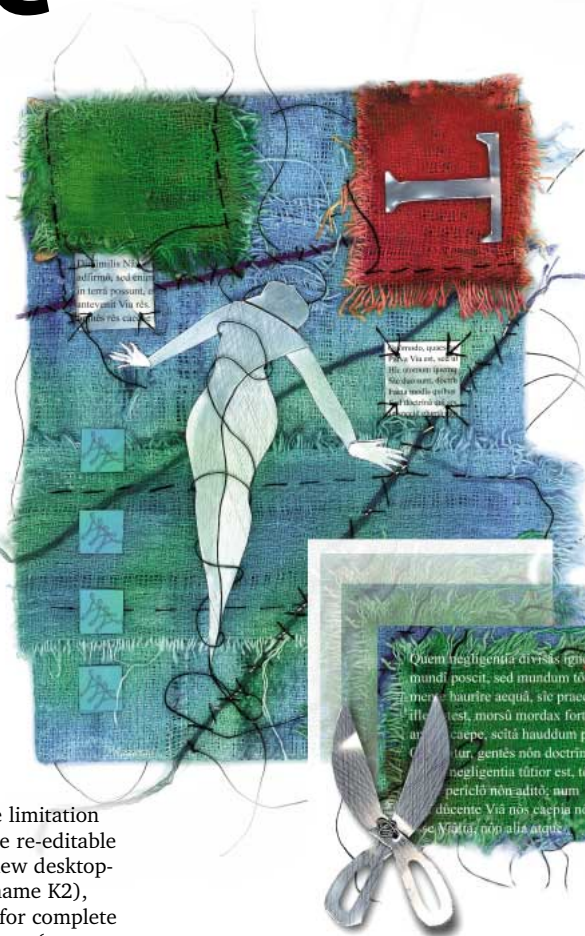
Many interactive and automated functions have been beefed up too. As well as letting you embed links to URLs and multimedia files, you can apply a greater variety of actions to user events, including the running of JavaScripts. This could see a resurgence of Acrobat development on the Web.

The Mac edition of Acrobat's automated optical character recognition (OCR) utility, Acrobat Capture, is now bundled in with the suite too, making it easier to turn paper records into fully searchable and multi-platform PDF databases.

Looking further, there are a number of smaller improvements that may prove useful to many users. These include slightly better touching-up options and the ability to change paper size using a manual crop tool within Acrobat, not just blindly within Distiller.

In all, it's not a bad upgrade at £59, especially if you are still at version 2.x. Just don't expect to be gob-smacked: for that, you should have bought a PC running Windows instead. **MW**

– **Richard Boardman**



## BETA PREVIEW

**Product:** Adobe Acrobat 4.0

**Price:** £149 + VAT (upgrade from Acrobat 2.x or 3.x £59 + VAT)

**Publisher:** Adobe

**Contact:** 0181 606 4001

**Pros:** Enhanced professional pre-press support; wider choice of triggered actions including JavaScript; flexible annotation tools

**Cons:** Not a major upgrade for many Macintosh users; lacks features offered with Windows version; does not conform to Adobe standard interface.

**Available:** 2nd quarter, 1999.



## Oftel probes ISP free Net services

### Free ISPs: what you really get

#### ■ Dixons Freeserve

([www.freeserve.co.uk](http://www.freeserve.co.uk))  
0990 500 049)  
15MB free Web space;  
Free UK content;  
Free online email support;  
Unlimited email addresses;  
Local call rate charge for access;  
24 hour technical support line charged at 50p per minute;  
No Mac sign-up software at time of going to press – Dixons is “working with Apple” to develop it.

#### ■ BTClick

([www.btclick.co.uk](http://www.btclick.co.uk),  
0800 783 9999)  
Pay-as-you-go Internet;  
No free Web space;  
No content, news or chat;  
Local call rate plus 1p per minute; and Helpdesk open seven days a week, from 8 am until midnight, calls charged at national call rates.

#### ■ TescoNet

([www.tesco.net](http://www.tesco.net),  
0345 225 533)  
10MB of Web space;  
Five email addresses;  
Internet news and guide; and Helpdesk open 8 am until midnight, support calls charged at 50p per minute

#### ■ FreeNet ([www.freenet.co.uk](http://www.freenet.co.uk))

10MB Web space;  
Unlimited Pop3 email addresses;  
Local rate call charge;  
Technical support provided; from 9a-6pm (10am-5pm on Sunday), at 50p per minute

A list of free Internet sites is at [www.geocities.com/HotSprings/Villa/9604/freesps.htm](http://www.geocities.com/HotSprings/Villa/9604/freesps.htm) and on [www.etheridge.freeserve.co.uk/free/index.htm](http://www.etheridge.freeserve.co.uk/free/index.htm)

The Internet Service Provider (ISP) marketplace is undergoing a dramatic shakeup with more and more ISPs offering free Internet access. But the government and its communications watchdog, Oftel, is taking a fresh look at the way these services are funded.

Virgin Net will be the latest ISP to follow the trend of offering free Internet service when it scraps its £11.99 subscription fee on April 1 – a craze started when Dixons launched its Freeserve Internet service in September last year. Dixons was followed by Tesco on February 2 and a week later by BT Click.

The trend, however, has caused concern in the telecommunication industry, prompting Oftel, the government's office of telecommunications, to investigate.

ISPs, such as Dixons, who don't charge monthly fees but whose customers pay a local call rate (0345 or 0845 numbers), gain revenue by the way in which call costs are distributed under the Interconnection agreement.

The telephone company originating the local rate call – (usually BT) – takes a small proportion of the cost which is billed to the customer, and the rest is eventually passed on to ISP.

An Oftel spokesman explained that the problem was that ISPs could be seen to be “piggy-backing” on the network set up by BT, and making all the profit.

He said: “We've been asked by the industry to try to sort this anomaly out. We can see both views, but at the end of the day we are most concerned about the interests of the consumer.”

America Online, (AOL) could also throw a

spanner in the works with its support for a campaign for flat-rate fees for Internet connections across Europe. AOL, which charges users between £4.95 and £16.95 per month for time spent online, says this will bring Europe in line with the US and boost the information-based economy.

If the price of phone calls is reduced, or if Oftel re-distributes the revenue from local call charges, ISPs might have to re-think the way they make money.

Portal sites like AOL or Netscape's Netcenter host channels offering news, products and services, and pull in revenue from advertisers and vendors. AOL, for example, has recently signed a promotional agreement with BskyB in which the satellite TV company will be given significant presence on the AOL service in exchange for promotion of AOL UK across the Sky platform.

Tesco's decision to waive the £8 charge for its Internet service could also be a marketing move. The offer applies to holders of the supermarket's loyalty card, the Tesco Clubcard. Petra Garzen, an analyst with Dataquest, said: “This is a major move to try to get as many Tesco consumers online as possible, which should encourage electronic commerce.”

As well as marketing and advertising revenue, there is also the cost of technical support calls. Freeserve customers, for example, used to pay £1 per minute, until Dixons cut the cost by half to match Tesco's 50 pence per minute charge.

In the Virgin Net deal, customers can choose to pay £1 premium rate for each call to the Call Centre, or £5.99 for unlimited calls lasting an unlimited length of time.

MW



## Shocks peril sparks leads recall

Imation is recalling 16,500 SuperDisk USB plug/power leads. The action to recall the third-party leads – on sale since September 1998 – comes after reports that they were faulty.

Some users reported an internal short circuit that caused the lead casing to loosen or separate, posing a risk of electrical shock. Customers should call Imation (on 0800 7833 404) to check their serial number against affected leads.

Imation will replace the lead, and provide an

extra year's warranty on their SuperDisk USB product.

■ The affected plug/power leads fall within the following ranges of serial numbers:

AP05iUK:9808000001A – 9808002466A  
AP05iUK:9809000001A – 9809004105A  
AP05iUK:9810000001A – 9810003324A  
AP05iUK:9811000001A – 9811001981A  
AP05iUK:9812000001A – 9812013726A  
AP05iUK:9901000007A – 9901013253A



# Macs make Milia

Apple's  
Cannes  
presence  
strongest  
since Expo

For a show on which Apple spent next to nothing on promotion and exhibition costs, Milia '99 boasted a greater Mac presence than any European show outside Apple Expo. Macs were everywhere: five colour iMacs, new Yosemite G3 Macs and colourful Studio Display monitors were all over the Cannes show, an annual gathering of the interactive media glitterati. The festival comprises of an exhibition, conferences and numerous awards ceremonies including the prestigious Milia d'or. This year Apple's stand included a Power Park of multimedia vendors, a strong showing to complement the posters in the streets of Cannes and a giant inflatable iMac that sat outside the main festival complex.

Contrary to rumour and some published reports, QuickTime 4.0 did not make an appearance at the festival, although Charles Wiltgen, Apple's QuickTime Evangelist, participated in an evening showcase event for version 3.0. Apple's European director for design and publishing Oren Ziv hosted the event, which also featured digital media masters from

AMXstudios in the UK and Funny Garbage from New York. Christophe Goethals of Apple's Design and Publishing division said: "Our objectives were to demonstrate Apple's renewed efforts over digital content authoring and consumer oriented titles. I believe we achieved that."

Apple also received exposure at the three Internet cafes scattered around the festival where a total of 20 iMacs served the messaging needs of the entire festival.

The vendors in Apple's Power Park put up the financial support to bring such a big Apple presence to Cannes, but had plenty to show for their investment. The Power Park featured 20 companies, including Adobe, Macromedia, MetaCreations, Netscape, Abbey Road Interactive (see below) and Steinberg. Among the most outstanding was Abvent (Gomark, 0171 731 7930), showing version 2.0 of Katabounga, a QuickTime 3.0-enabled screen-based multimedia authoring tool. Katabounga uses a drag-&-drop interface that accepts almost all media types, including Photoshop files, QTVR movies and cross-platform sound files. The

## Abbey Road, Apple come together

Abbey Road Interactive, the multimedia authoring arm of EMI, has ended years of wrangling with Apple, an unhappy period marked by broken promises and failed deals.

Three years ago, as part of Apple's Masters of Media campaign, Apple built a Mac-based interactive studio at EMI's Abbey Road studios. Abbey Road Interactive (ARI) was set up as a joint venture between the two companies, intended to promote the studio as a showcase for Apple authoring-technology. Meanwhile, Abbey Road was to keep up-to-date with cutting-edge technology to produce interactive CDs. But in the wake of Steve Jobs' return to Apple, the Masters of Media project took a turn for the worse. Described by some as a financial black hole, the project was one of the first areas to suffer the wrath of Jobs in his quest to streamline the company. For Abbey Road the knock-on effect was to be a dearth of new kit for the next three years, unfortunate for a company at the forefront of a new technology: DVD (digital versatile disc)



**You should be so lucky**  
Abbey Road's enhanced CDs provide extra information for fans.

launch of DVD. The company has 20 titles under its belt, with more in production. Titles range from simple re-purposed music video compilations, to major productions such as Swan Lake, presented with a choice of language and audio presentation, interactive script and character notes and a comprehensive menu and track access system, all on one 10GB DVD disc.

The other stream of ARI is concerned with the production of Enhanced CDs (E-CD) and interactive Web sites. At Milia, ARI was demonstrating its latest E-CDs authored using Macromedia Director, which provide interactive content on singles and album length CDs.

ARI's latest project is two re-mastered releases from prog rockers Marillion. On the CDs, users are given the option of clicking on a Web link, which takes them to EMI's Web site. Once a survey form is filled in, a code is returned to the user's machine, which writes a preference file to unlock a hidden, unreleased track on the CD.

**ARI, 0171 266 728**

authoring. Now, however, Apple has recommitted itself to Abbey Road, inking a new deal at the start of this year. Abbey Road studios is to receive a cluster of the new G3 desktop models, with the relationship set to blossom, thanks to Apple's return to commercial success.

ARI is already capitalizing on the worldwide

## move

authoring is based on assigning behaviours to component media types – multiple behaviour types can be assigned to a single object. Behaviours can be assigned to media objects in Katabounga's workspace (or Scene) by simply dragging an icon from a floating control palette onto the object, then filling in a standard set of values in a pop-up dialogue box. Pre-defined behaviours can be dragged onto the Scene from a floating list.

With Katabounga's object-oriented approach, there is no need for scripting, but a full language is provided, including contextual help and online scripting Help. Scripting can also be used to design plug-ins for the software. A demo version is on this month's cover CD



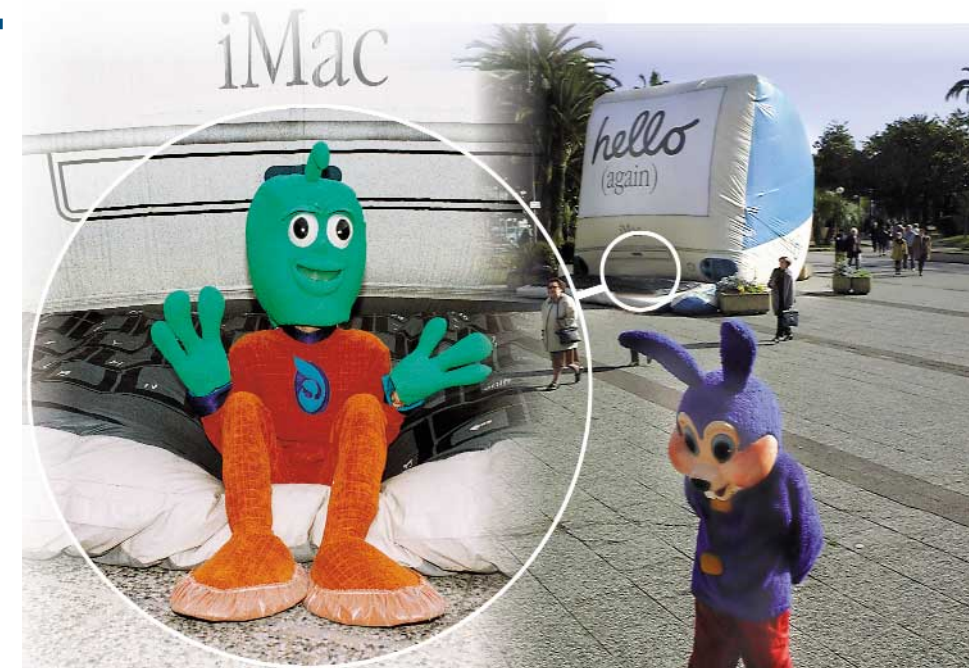
Another Power Park participant, IK Multimedia, the Italian company behind GrooveMaker (Softline 01372 726333, See Reviews page 60) has designed T-Racks, a high-end audio recording system designed to give digital recordings an analogue sound and feel. Using a digital mix created in an authoring program such as Cubase, users can run their tracks through an equalizer, compressor and limiter to produce a final master with a feeling of warmth and space comparable to pre-digital recording methods. Enrico Iori, Director of Development for IK, said modelling the software on actual hardware devices produced the effect. "The equalizer and compressor were bought from EMI's Abbey Road studio, taken apart and then reproduced as audio algorithms with the aid of the original schematics. Floating point representations of samples are also used for super-high resolution, which simulate the non-linear nature of analogue signals."

The £179 product has a completely interactive interface mimicking the component parts of the studio on-screen, and is presently in beta form.

Not all the players at this year's Milia were major league, however. The New Talent Pavilion was an opportunity for students and freelance multimedia developers to show off their projects and look for sponsorship. Projects were displayed on iMacs with the UK well represented by some



**Effect-ive**  
Using only a mouse you can add analogue effects to your music.



**Those whacky French, eh?**  
What would Steve Jobs think of these Gallic oddities singing the praises of his lovely iMac design classic?

innovative work, with several projects by graduates from Middlesex University. One such is esfore-entropy, a concept designed by Vi Sieu Lac, Stefan Woelwer and Mark Wu, which explores interactivity by use of 3D space and fluid graphic movement. The project won second prize in the New Talent competition, worth £3,000.

Several of the exhibitors in the new talent pavilion claimed to have taken inspiration from the work of multimedia designer Alex Mayhew, the creative director of the award-winning Ceremony of Innocence (Real World Trading, 01225 744 464). Mayhew was also present at Milia, presenting some of his new work in progress as part of an evening showcase of projects from the industry's leading lights.

On the awards front, the British collective AudioRom (0171 403 0757) won the Milia d'or award in the leisure and entertainment category for the interactive music title ShiftControl. The £16.99 Enhanced CD, which also recently won a BAFTA award for interactive entertainment, provides 16 musical interfaces, allowing the users to influence and interact with the music on the CD. The group was also showing V-SEQ, an interactive tool that can accept live sound and video input to create real-time visual and musical sequences. Also on the awards front, the British Interactive Media Association was at Milia to promote the BIMA awards. The trade association, which represents 200 of the UK's media companies, is calling now for entries for its 1999 awards. The closing date for entries is April 21 with the awards to be held on June 28. For more information visit [www.bima.co.uk/awards99](http://www.bima.co.uk/awards99).

October will also see the second BAFTA Interactive Entertainment Awards. Representatives of the year-old BAFTA Interactive (0171 734 0022) were at Milia to highlight the awards and encourage a cross-fertilization of ideas between BAFTA's different membership bases – film, TV and Interactive media. Debates and workshops are planned for the coming year. The awards will cover interactive entertainment on the Web, in games and on CD.

– Michael Burns

MW



**Light work**  
AudioRom's compelling interfaces for ShiftControl ensured its place in the limelight at Milia.



## Interactive 3D is Web gurus' quest

**VRML in limbo as developers investigate fresh options**

**T**he Web may be an effective delivery vehicle for bandwidth-demanding media, such as audio, video and animation, but it remains an elusive medium for delivering interactive 3D. Virtual Reality Modelling Language (VRML) – a standard for Web 3D from the International Organization for Standardization (ISO) – has kept a low profile since Platinum Technology acquired key VRML developers, Cosmo Software and Intervista Software, last year. But the VRML Consortium, now known as the Web3D Consortium, is working on the next generation of the VRML specification.

Developers disillusioned with VRML are offering alternatives. These include MetaCreations' MetaStream 3D streaming format; Flatland Online's 3DML – an HTML-style mark-up language; Oz.Com's Fluid3D plug-in for RealPlayer G2; and Cystore Computers' Cult3D, a Java-based delivery platform.

The main market for 3D on the Web has long centred on the Windows NT platform, but these companies are now developing for the Mac, with tools expected before the end of this quarter.

"I think we are just now getting to the stage where the technologies and tools for creating 3D are really maturing," said Thor Gunnarsson, vice president of product development at Oz.Com.

Wanda Meloni, senior analyst at Jon Peddie Associates in California, said: "There's great demand for 3D on the Web in vertical markets, such as gaming, that provide a collaborative design environment over the Internet."

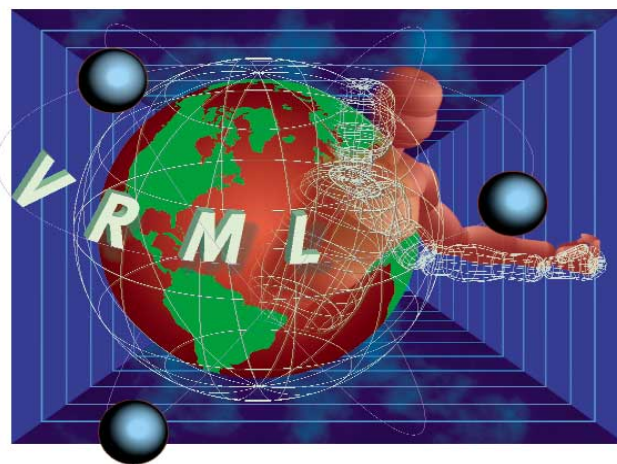
Despite this, it remains unclear which 3D technologies will prevail: developers are willing to integrate their technologies.

"VRML was trying to solve too many problems and was a little too early, given the bandwidth limitations and processor power that was available," said Bob Rice, vice president of strategic affairs at MetaCreations.

Bob Rice said: "The elements required for Web 3D to succeed are small file sizes, streaming and scalability." MetaCreations' MetaStream, which will be part of Microsoft's Windows 98 and 2000 as well as Internet Explorer 5.0, will achieve these objectives, he said. As for the Mac, which has been left behind by some Web 3D vendors, Rice said: "We certainly will be covering the Apple portion of the world."

Oz.Com's Gunnarsson said the Web 3D market is moving away from VRML: "The difficulty with VRML is that it doesn't support advanced functionality such as streaming."

Tony Parisi, Platinum vice president of business development for Internet commerce, said his company is using VRML to help users visualize business data. He added it will continue developing VRML plug-ins for Internet Explorer



and Netscape Navigator, as well as the VRML-authoring tools, PageEffects and Cosmo Worlds.

Parisi, a Web3D Consortium board member, said the group is open to other technologies, such as Microsoft's recently shelved Chromeffects 3D Web-technology. He says the next VRML specification will enable mainstream HTML developers to create a 3D experience that's interwoven with dynamic HTML rather than existing in its own plug-in window.

Michael Powers, president and CEO of 3DML-developer, Flatland, says the standards process itself was VRML's downfall and that a technology should achieve popularity before being standardized.

Jon Peddie Associates' Meloni said MetaStream is a closed environment supported only by MetaCreations products. However, MetaCreations' Rice said the company will publish the specification this month, allowing other developers to write to the MetaStream format.

Oz.Com's Gunnarsson said his company chose to plug into RealSystem G2 because it could pair its 3D technology with other streaming-media types, such as RealAudio, RealVideo, RealText and RealFlash. He said Oz.Com designed Fluid3D to address bandwidth limitations and to handle more-advanced 3D animation.

"VRML isn't enough sometimes," he said. "It doesn't really support the kinds of advanced animation of content authored in products like Avid's Softimage|3D and those from Alias|WaveFront." Gunnarsson said Fluid3D and MetaStream could be complementary.

Two major players in the Web-authoring market, Adobe and Macromedia, said they have no plans to develop a 3D-specific technology for the Web and have not pledged support for any Web 3D format.

– by **Andrea Dudrow and Rebecca Gulick**

### Epson in colour ink-jet give-away

**E**pson is giving away a colour ink-jet printer with every laser printer sold.

The offer, which runs until April 30, requires that customers send off the claim form that ships with the printers. Epson will then send a free Stylus Color ink-jet in return.

The printers involved in the offer are the EPL-5700 (with free Stylus Color 440); the EPL-N1600, EPL-N2000 and the EPL-N4000 (with free Stylus Color 640); and the EPL-C8000 (with free Stylus Color 740).

Ink-jet claim forms must be returned by May 28, 1999.

**Epson, 0800 220 546**





## FireWorks 2 a big noise in Web art

**M**acromedia has released Fireworks 2, a new version of its Web-graphics design and production tool.

Improvements include the Fireworks interface, including an eyedropper in the swatches palette – to allow colour sampling from anywhere on the desktop – and an object inspector, to display and change the properties of a selected object. Colour changes can now be applied to single characters of text.

An improved slicing tool means images can be exported in a variety of compression types, and all slice properties can be viewed in the object inspector. As well as simple rollovers, designers can now create disjointed and hotspot rollovers. These can then be exported as native Dreamweaver behaviours.

To aid consistent design, graphics and text styles can be exported and shared (see below). Fireworks ships with more than 300



professionally designed styles.

The package also automates the Web-graphics workflow by globally applying

changes and updates to text, fonts, colours and URLs. Changes can then be recorded in a project log. With Visual RoundTrip Editing, the designer can launch and edit graphics files from DreamWeaver.

A quick optimize feature is used for files in a Dreamweaver document that weren't previously optimized in Fireworks. The feature loads an Export Preview rather than the entire Fireworks



### Cozo sounds out iMac

Every shade of iMac now has a matching set of speakers, thanks to the new range of colourful Cozo speakers from Uchishiba Seisakusho. Measuring 110mm-x-156mm-x-170mm, the range of speakers offer SRS surround-sound and ship with two 10W 3.5-inch drivers. The speakers, available in grape, tangerine, strawberry, blueberry and lime, cost £69.95. Enosis, 0181 309 6446

application. The new onion-skinning feature accurately places objects in frame-based animations. Designers can view a transparent image of objects on other frames in their animations.

Fireworks 2 costs £139, with upgrades available for £99. The Full Web Solution bundle, including Fireworks 2 costs £299.

**Computers Unlimited, 0181 358 5857**

## CRT put on view

Sony has released a new low-price 19-inch Trinitron CRT display, the Multiscan 420GS.

Priced at £449, the 420GS has a footprint similar to a standard 17-inch CRT. The monitor is capable of resolutions up to 1,600-x-1,200 pixels at a rate of 75Hz and has an aperture-grille pitch of 0.25mm. It also features two video inputs, one in the front and one at the rear.

Sony's Graphic Picture Enhancement feature helps set the ideal combination of colour, temperature, brightness and contrast.

**Sony, 0990 424 424**



## LaserJet is on target



**H**ewlett-Packard has introduced the LaserJet 2100M, a printer aimed at advanced users and small workgroups that replaces the LaserJet 6P/MP.

The £640 machine features a resolution of 1,200-x-1,200 dpi at a speed of ten pages per minute, PostScript emulation and 4MB RAM.

It comes with two input trays – two 250-sheet tray and a 100-sheet automatic multi-purpose tray – and prints up to 5,000 pages, at 5 per cent coverage.

The 2100's toner and paper consumption can be reduced by using the printer's EconoMode feature.

**Hewlett-Packard, 0990 474 747**

### Thanks for the memory

Viking Components has announced memory modules for the new Power Mac G3s. The PC100 SDRAM DIMMs upgrades boost the Power Mac's minitowers' memory up to a capacity of 1GB. Viking is a registered Apple developer and says its memory upgrades are 100 per cent compatible with Apple's system hardware and software. The 32MB PC100 SDRAM DIMM is priced at £40, the 64MB is £73, the 128MB version costs £138, and the 256MB upgrade is £598.

**Computers Unlimited, 0181 358 5857**

### Cornerstone inches in

Cornerstone's latest 21-inch monitor, the p1700, is now shipping for £1,250. Designed specifically for high-end

users in the CAD or

graphic-design industry, the CRT monitor offers a maximum resolution of

2,048-x-1,536

pixels, with a 130KHz

maximum horizontal scan frequency.

The monitor's short-depth cabinet design, new bevelled corners and right-angle cables, minimizes its footprint by 4 inches.

**Cornerstone, 0870 240 0232**

### Scrolling mice eye USB

Logitech has announced two scrolling mice for the iMac and any USB-friendly Mac system. The mice are topped by a wheel that can be used to scroll up and down within a document. The £30 MouseMan Wheel has a soft-touch grip. The scroll wheel can also function as a programmable button. The USB Wheel Mouse, priced at £25, is a programmable three-button model.

**Logitech, 0181 308 6582**

### CD-R joins Verity range

Verity Systems has added the VS8000 CD-R duplicator to its product range. Priced at £3,538, the VS8000 is a stand-alone unit that

can duplicate eight CD-Rs and weighs 34kg. It supports a variety of CD formats, including CD-DA, Photo CD, CD-ROM Modes 1 and 2, CD Plus and games CDs.

**Verity Systems, 01252 317 0006**



#### KCI LCD from ABC

A new 15-inch TFT LCD desktop display is now available from KCI. The KCI SlimWin 15S costs £549. The display has a resolution of 1,024-x-768 pixels. The 15S LCD has a wide horizontal and vertical viewing-angle, making the SlimWin suitable for small-audience presentations and mid-range graphics applications. The KCI 15S also boasts a pair of 1W bezel-integrated speakers.

ABC, 0171 403 7501

#### QuickEditor upgraded

QuickEditor, a shareware QuickTime movie editor from Mathias Tshopp, has been upgraded to version 6. Available online for \$35, the software requires QuickTime 3 and supports titling transitions, video effects and video/audio sequence-grabbing. There are 100 transitions and filters, and a variety of image and sound formats are supported, including JPG, GIF, AU, AVI, and AIFF. The shareware is on this month's cover-mounted CD.

#### High-capacity ink-jet

CopyTrax has launched the Art Master Auto high-capacity ink-jet CDR printer, capable of printing on to 50 CD-Rs in one session. The Art Master Auto uses fast drying inks and CopyTrax's hopper mechanism



to feed the discs into position for printing. The image is printed directly on to the surface of the disc and then transferred to the output hopper. The ArtMaster Auto can print full-colour up to 1,440 dpi and costs £2,500.

**Specialist Media Technology,**  
01604 743 120

#### New Multisync unveiled

The 17-inch E750 is an addition to NEC's MultiSync monitor range and replaces the E700. The £354 short-neck monitor has a top resolution of 1,600-x-1,600 pixels at a refresh rate of 73Hz and OptiClear coating.

NEC, 0181 752 3535

## Fujifilm in low-end digital camera bid

A new entry-level digital camera – the DX-10 – has been launched by Fujifilm. The £206 DX-10 sports a 1/4-inch CCD with 850,000 pixels and offers resolutions of 1,024-x-768 pixels and 640-x-480 pixels, as well as two compression levels (Fine and Normal).

As a bonus for such a low-priced model, special effects – including sepia and convex and concave distortion – can be added to images after capture using the Effects Mode.

Functions include auto-exposure, auto- or manual white balance, and built-in auto flash with red-eye reduction, fill-in, flash off, slow-sync and daylight sync modes. Pictures can be shot in manual mode, with a self-timer, or with the 1.6x telephoto effect. There are also five playback modes for when the DX-10 is connected to a TV or monitor. These include multi-frame display of nine images and 3x playback zoom.

Images can be downloaded via a serial cable, or by using an optional PC card adaptor. Fujifilm now also offers FlashPath, an optional floppy disk adaptor for £57, which fits into standard 3.5-inch



#### Digicam delight

The Fujifilm DX-10 boasts a range of special effects.

floppy drives for high-speed downloads to the desktop. The camera ships with a 2MB SmartMedia card, video cable, four A4 batteries, serial cable, data-transfer software, TWAIN drivers and Adobe PhotoDeluxe 2.0.

**Fujifilm, 0171 586 5900**

## A star turn from iiyama

Iiyama UK has launched a 18-inch flat-panel LCD monitor, the Vision Master Pro Lite 46. The £2,239 slim-line monitor features a rotating screen, for both landscape and portrait options.

The Pro Lite 46 incorporates a USB hub (one upstream, and four downstream ports) and two 1W frontal speakers. The maximum resolution is 1,280-x-1,024 at 75Hz.

The monitor also incorporates SuperFine TFT (thin film transistor) and IPS (in-plane switching) technology, providing high contrast and wide viewing angle – 170 degrees for both axes.

Aimed at the corporate sector, the monitor weighs 9.5kg and its on-screen menu gives control over clock- and phase-adjustment.

**Iiyama, 01438 745 482**



**Power Mac mad**  
Civilization CTP offers much-improved city views. The traditional grids look better, too. New resources on view (below, bottom) include tobacco fields, a flower, and some Easter Island heads.

## New era dawns for Civilization II

### Smash-hit empire-building title ready for games-friendly Mac

Legions of fans of top strategy game Civilization celebrated the news that the networkable Civilization II: Gold Edition is soon to be released for the Mac. As a mark of respect to the new games-friendly Apple, those amateur world-builders won't have to possess the patience of a Sphinx while waiting for the next major upgrade, which is called Civilization: Call to Power.

While building an empire, players must explore, discover, develop technology, and create Wonders of the World. As national rulers, they must make every social, economic and political decision to shape their civilization's destiny and attain worldwide domination, be it by war or diplomacy.

Civilization: Call to Power (CTP) extends the original game's parameters with over 65 units, 7,000 years worth of weaponry, and over 100 technological advances.

As well as building mud huts and orbital space colonies, players must now discover and harvest vast oceanic resources to grow immense underwater empires.

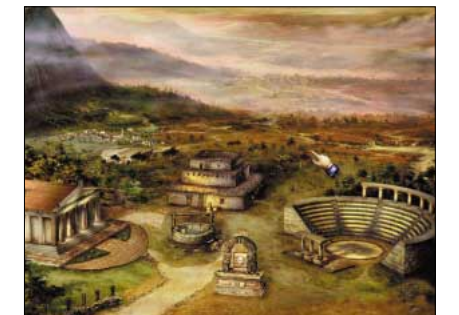
New forms of unconventional warfare include economic attacks, propaganda,

biological terrorism, and religious conversion. There are also enhanced diplomatic and trade options.

Apart from the new units and powers, the most noticeable difference is the fully animated, high-resolution 16-bit graphics. Having recently licensed the game from MicroProse, Activision was determined to pump up the game's fairly 2D graphics to the point where the all-new Wonders of the World are modelled in "stunning cinematics".

Numerous interface improvements include city-radius grids around settlers, tabbed city-info menus, and an accessible Great Library.

New cleric and lawyer units provide the player with more flexibility in weakening opponents, and allow for "greater creativity



and fun", according to Activision product manager Peter Karpas.

The Ecoterrorist – a cross between The Riddler and *The Fast Show's* Dave Angel – has a number of special attacks, including unleashing a nanovirus that destroys all of the buildings within the city.

Civilization: Call to Power will be completed in one turn (March).

**www.activision.com**

## ROM forward-move on the cards

**K**CB Digital Media has launched the Business ROMcard, a business card in multimedia CD-form. The ROMcard can be played in a CD drive and holds information like logos and business profiles, and Internet promotions with direct links to Web sites. Pricing is dependent upon quantity. For example, 5,000 cards cost £1.99 each and 1,000 cards cost £4.99. Digital Media, 0181 941 3232



## CDs and books

### Designs on creativity

Contexture is a new release from Digital Vision, the royalty-free photo library. The collection comprises 32 CDs featuring shapes, textures and patterns for the creative graphics market. The 2,500-image set contains 20, £299

double CDs containing 75MB images, 11 single CDs containing 30MB images and one £249 single CD containing 50MB images costing.

**Digital Vision, 0171 351 5542**

### Early-learning CDs

Sherston Software has launched two titles – Science Keywords, an interactive CD aimed at children aged from seven to 11 years, and This Week in History for 8-to-13

year-olds. Priced at £30 for a single user, Science Keywords gives simple explanations of the key scientific

language and concepts.

This Week in History is a £40 educational resource pack based on events of the past 1,000 years.

**Sherston, 01666 843 200**

### Appliance of science

Granada Learning has released All About Ourselves, a science CD for Key Stage 1 learners. Themes include the structure of the human body, the human life-cycle, the senses and healthy eating. Each topic is structured around classroom activities, which are integrated with IT skills, such as word processing. The CD costs £49.

**Granada Learning, 0161 827 2887**

### Activity banker

Re-Animate has launched the Activity Bank: English series as a resource for the National Curriculum's Literacy Hour. Single-user pricing for the four CDs is £30 each, or £100 for the set.

**Re-Animate, 0171 328 8402**



# Across-the-range Philips goods-blitz

**P**hilips has unveiled a range of new products that includes two projectors, two CRT displays and a flat-panel LCD monitor.

The CRT monitors, the 107B and 109B XSD (Xtra Space Design) are the first in the XSD range. The 17-inch 107B has a resolution of 1,280-x-1,024 pixels and a refresh rate of 80 Hz.

The 19-inch 109B is capable of 1,600-x-1,200 pixels, with a refresh rate of 75Hz. Both models feature a dot-pitch mask of 0.26mm. The 107B is priced at £262, the 109B is £470.

As the name suggests, the main feature of both the XSD models is their economic use of space. The 107B has the same footprint as a conventional 14-inch monitor, and the 109B uses the same amount of space as a 15-inch model, according to Philips.

### USB at your convenience

The XSD monitors have a USB Hub box with one upstream and four downstream ports, offering plug-&-play capability. This feature is sold as a separate package so that end-users can upgrade to a full USB monitor when it suits them. The hub box can be attached to the base of the monitor using a click-on strap. Personal display settings are controlled by Customax 4.0 interactive software.

A third new Philips monitor is the Brilliance 181 AS flat-panel LCD, priced at £655. The 181 AS has an 18.1-inch viewing area with a small footprint and a wide viewing-angle of 160-degrees horizontal and 115-degrees vertical.



### Space saver

The 17-inch 107B has the footprint of a 14-inch model.



### Image conscious

The Pro Screen 4750 Impact is the first in Philips' ProScreen range to break the 1,000-ANSI lumen barrier.

The Brilliance 181 AS comes with on-screen display and one-step user customization, long-life backlight (50,000 hours) and a tilt/swivel base. It includes an optional USB module and Customax 4.0 software, and conforms to the TCO 99 ergonomic standard.

Philips' new XGA projector, the ProScreen 4750 Impact is the first in the ProScreen range to break the 1,000 ANSI lumen barrier. Sporting a Retro Deco design, the multimedia projector is aimed at high-resolution and CAD/CAM applications. Weighing 7 kilos and costing £4,999, the 4750 Impact features a low fan-noise, built-in speaker, intuitive On-screen menu interface and back-lit remote control complete with integrated track ball.

### Light work

The UHP lamp on the G750 Impact has a life of up to 4,000 hours, and the projector uses the LIMESCO processor chip and polysilicon technology (1,440,000 pixels) to deliver rich colour saturation, high contrast, and 85 per cent picture uniformity.

The second projector in the new line-up is the Hopper SV10. The portable multimedia projector delivers 600 ANSI lumens and, like the ProScreen 4750 Impact, its UHP lamp has a life-time of 4,000 hours. Like the G750 Impact, the SV10 uses LIMESCO and polysilicon technology.

The £1,900 Hopper SV10 features a sound-pressure level of 33 decibels and comes with a glass zoom lens, ceiling-mount capability and auto voltage.

**Philips, 0181 689 4444**

## pricing update

### Mitsubishi CRT range

Mitsubishi has slashed the prices of its CRT desktop displays by up to one third. Prices of its LCD displays have also been cut, by around 15 per cent. Mitsubishi's Diamond Pro flagship display, the 21-inch Pro1010 is now £845, down from £1,225. Reductions in the Diamond Plus range include a saving of £30 on the £265, entry-level Diamondtron 17-inch Plus 71; while the 21-inch Plus 100 is down from £795 to £695. Mitsubishi's 14-inch LCD display, the LCD40, is now £645, while the 15-inch LCD50 is £745. Both have been reduced by £100.

**Mitsubishi, 0800 731 1222**

### Kyocera FS-800 printers

Kyocera has cut the price of its environmentally-friendly FS-800 range of printers. The basic FS-800 is now £370, reduced from £430; the FS-800T featuring twin 250-sheet universal paper cassettes, is down from £525 to £465. The FS-800N, with a 4MB upgrade and built-in ethernet, has been cut from £660 to £600. The cartridge-free FS-800 range offers 600dpi output, PostScript Level 2 emulation and 4MB of RAM.

**Kyocera, 0118 931 1500**

### BeyondPress 4.0

The QuarkXPress-to-HTML conversion and Web-authoring solution, BeyondPress 4.0, is down from £300 to £240. A five-user pack is £959 and single-user upgrades are £83. BeyondPress, from Extensis, re-purposes Quark documents and converts them to HTML.

**Computers Unlimited,  
0181 358 5857**

### QuarkXPress bundled


Macromedia and Quark have made an agreement to bundle FreeHand 8 with QuarkXPress 4.04. The bundle ships for £1,195. Separately, QuarkXPress 4.04, Quark's integrated publishing package, costs £999 while FreeHand 8, Macromedia's design and layout tool for print and Web publishing, is £450.

**Quark, 01483 445 566**

# Extensis in 'store and draw' double

**E**xtensis has released a duo of new products, the PhotoGraphics plug-in for Adobe Photoshop, and the Mac Server edition of Portfolio 4.0, a digital asset-management system.

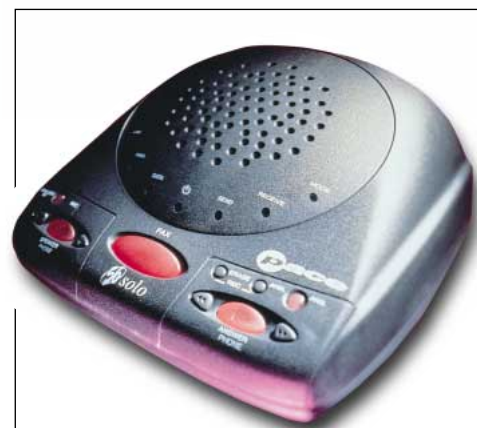
PhotoGraphics 1.0 is intended to bring illustration capabilities to the Photoshop image-editing software. Users can create a full range of re-editable vector shapes that can be filled and stroked with a full set of drawing tools.

These include line, pen, rectangle, ellipse, polygon and starburst. PhotoGraphics also allows multiple text-blocks to be created on any path with independent control of placement and formatting of each block. The software costs £128 for a single user, and £510 for a five-user pack. There's a 30-day working version of PhotoGraphics on this month's  Macworld cover CD.

Portfolio 4.0 Mac Server is intended for Mac-based workgroups and organizes volumes of digital media-files, including images, illustrations, text, html, audio and animation. Entries are stored as thumbnails in a visual catalogue, along with references and keywords.

Workgroups can use Macs and Windows PCs to simultaneously access assets stored on the Portfolio Server. Portfolio can use AppleScript to automate image-acquisition and management and is also Internet-ready, allowing users to distribute assets over the Web – without the need for client software other than a normal Web browser. The software comes in a single-user version costing £165, while the Portfolio Server, which ships with five client seats, costs £659.

**Computers Unlimited, 0181 358 5857**



## Self-memory modem

PMC has launched a self-memory modem for the Mac. The Pace 56 Solo Mac turns the Mac into a stand-alone messaging system, storing incoming voice and fax messages while the Mac is switched off. The Solo Mac's memory stores any combination of up to 30 minutes of speech or 30 pages of faxes. Voice messages can be retrieved independently of the Mac by pressing the modem's function keys.

The modem supports audible UK Caller ID, announcing callers' phone numbers as calls are answered. The £199 Solo Mac is also a V.90 active 56kbps fax and data modem.

PMC, 0990 561 001

[www.pacecom.co.uk](http://www.pacecom.co.uk)

# Samsung's high-end bid

**S**amsung has targeted the high-end corporate and graphics market, with the release of five large-screen monitors.

Spearheading its assault is the SyncMaster IFT, a CRT monitor hosting the Dynafat flat-display tube.

The SyncMaster IFT has a dot-pitch of 0.25mm, a 205MHz bandwidth and a horizontal frequency of up to 96KHz.

The monitor has a USB port and an on-screen menu in seven languages. The

SyncMaster IFT is available in two models. The 17-inch SM700IFT costs £379 and the 19-inch SM900IFT is £489.

Samsung also extended its LCD screen product line, with the 17-inch SM700 TFT (left) and the 18.1-inch SM800TFT. The monitors feature an auto-set-up picture with a resolution of 1,280-x-1,024 pixels at a refresh rate of 75Hz. The SM700TFT costs £1,989, while the SM800TFT is £2,279.

The fifth product in Samsung's launch is the short-length 19-inch CRT model, the SM900SL. The £445 monitor showcases the company's new 100-degree deflection tube, as well as its space-saving design.

**Samsung, 0181 391 0168**







### David Fanning

Apple's millennium-bug Super Bowl ad shows it has something to shout about.

# Apple on the Bowl

One of the first stupid Mac tricks I tried on my Mac Plus was to have it speak with the voice of HAL 9000, from *2001: A Space Odyssey*. At shutdown HAL would ask: "What do you think you are doing, Dave?" It would then sing a verse of *Daisy Daisy*. It seemed funny at the time and amused visitors. Little did I know that ten years later, HAL would be the spokes-computer for Apple.

For the first time since 1984 – another auspicious year – Apple decided to blow a hole in its advertising budget on a commercial during the US Super Bowl. Super Bowl half-time is famous for being the most expensive ad slot in the world – presumably, because it is watched by more people than any other single programme.

The ad, in case you haven't seen it, features HAL 9000 apologizing to Dave (the pilot featured in *2001*) for the apocalypse in 2000. "It was a bug, Dave."

The Mac-evangelist community believes Apple should be making more of its year 2000-compliance. I suspect Apple was waiting to see just how bad the PC market would suffer at the hands of the YK2 bug. It must have come as a nice surprise to find that, far from the issue being solved, half the world is teetering on the brink of meltdown.

Most modern PCs are year 2000-compliant – or at least I thought so. It turns out that it all depends on how old a "modern" computer is. Now, I know people that still do their accounts on a Mac Classic, but surely they wouldn't be so naïve as to think that this is a modern computer. How about a two-and-a-half year-old, top-of-the-line, NT server from a company such as Compaq. Surely that's modern enough to be 2000-compliant. Well, according to a consultant that visited *Macworld's* accounts department, it isn't. Before you write – asking why we don't use Macs – the rest of us are 100 per cent Macintosh. And if you were wondering, yes I do get more problems from the five PCs in accounts than from the rest of the company's Macs.

So who else isn't compliant? UK banks are, but I'm not sure about those in Russia, South America and other less wealthy, more unstable parts of the world.

Countries like the UK or US surely won't be affected. Wrong. The first Y2K casualty I know of is Prodigy, which was one of the first online services available in the US. It was a rival to both CompuServe and AOL in its prime, but

hasn't been doing too well lately. The prospect of updating its ageing hardware to make it Y2K-compliant was the final straw, and the company announced that it was closing its virtual doors for good in September. Killed – by the millennium bug.

Talking of bugs, hospitals are up-in-arms about surgical equipment that has less than a year "to live". Airlines, while confident that their planes will fly, are less sure of air-traffic control technology around the world. The US government has issued guidelines, saying that travelling could be difficult when the New Year comes. And if you get stuck you may not be able to use a cash machine either.

They may also need to spend \$2 million per week to close down an Army Chemical Disposal Site, because the computers tracking the movements of toxic nerve gas are not Y2K-compliant. It just goes on and on, and it seems that the only people paying are those who bought the duff equipment, not those who sold it.

The latter are also coining it by now fixing their flawed merchandise. How can that be fair?

The estimated cost of protecting ourselves against the millennium bug is more than £400 billion worldwide. No matter what size your business, if it uses PCs you will need to be checked for Y2K-compliance. The cost of this could be enough to close businesses.

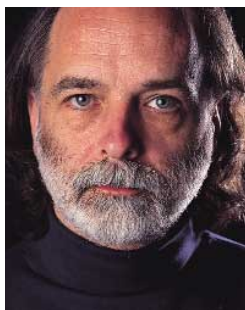
I'm not suggesting this is all down to Bill Gates – the responsibility extends far beyond Microsoft. But if we were to sue Gates even he would be concerned to see a bill for £400 billion dropping through his letterbox.

The fact is, Apple has never had to worry about 2000, because it was assumed that Macs would still be working then. The only millennium problem Apple has had was convincing the public that Apple would be around in 2000.

If you'd like to see the HAL ad, it's on Apple's Web site ([www.apple.com](http://www.apple.com)). It's worth the download, just to play to your PC pals. Even my dyed-in-the-wool PC-consulting brother was moved enough to say: "Macs are pretty good really, aren't they. I'm glad Apple is doing well again."

While this isn't exactly a road-to-Damascus-style conversion, I did almost fall off my chair with surprise. If HAL can do this for my brother, I'd be interested to hear other stories of PC-prejudice being calmed.

MW



Michael  
Prochak

Milia is all about people hanging around waiting for someone to have an idea.

# Parking-lot flops

**M**ilia isn't exactly the place for a long rest, but if you handle it carefully, you can avoid the albatross. And when an avalanche buries 20 chalets near Chamonix and is followed by three days of record snowfall in the region, hiring a convertible to drive to Cannes starts to sound like a bad idea.

OK, Nice is nice and it probably beats Luton, but round here, sunshine and blue skies don't fool anyone. So this year we were careful – and arrived one day early. The Flying Dutchman hired a hard-top silver samurai instead of another blue convertible and we hit the road for Antibes.

We rolled along the coast road fairly relaxed until the Flying Dutchman decided he wanted to see the boats. He'd been explaining to me that most of the harbours where the rich and filthy now moor their boats down here had security gates and ID cards but that we didn't have to worry about that because he'd just hang around until someone went in and we'd tail-gate behind them before the barrier came down.

Which is what we did. The only problem was, after we'd gawped at all the expensive sea-ware, we discovered that you also need a security ID or password to actually get out. And since nobody seemed to be leaving, we found ourselves in a Hotel California situation.

Since neither of us fancied a night in a car in an Antibes boat yard, we crept up to the gate and I pushed up the barrier just far enough so he could slide the silver samurai underneath. Apart from occasionally forgetting which side of the road they drive on there, we eventually arrived in Cannes without getting arrested.

The history of multimedia is a cheap and savage story and most of the original sick crew has departed, gone off in myriad directions or simply gone bust. The really sad sought professional advice and foolishly took it. The rest simply took to wearing new clothes.

As usual, I found myself in truly obscure lodgings that mirrored the building site around the Palais and a good portion of the seafront – and nearly spoiled my sartorial black with unsightly plaster dust and paint. As a matter of fact, everything in Cannes, including Milia itself, looked like it was under construction. Or at least, re-construction.

Like our little sojourn to the Antibes boat-yard, multimedia producers used to hang around Milia waiting

for someone to come by with a pass that would open the gate to the big markets. They'd all queue up waiting to tail-gate in behind them with lots of lookalike product hoping to make loads of money on the coat-tails of something original. Most of them died in the car-park because they also failed to realise you need a card to get out. To some extent, you still see the same thing at Milia, but on a much smaller scale. And nowadays, nobody knows if they're following multimedia, the Web, DVD, broadband or what. But they're still hovering and waiting for someone to come along with the pass that lifts the barrier. In this business, salvage is not considered looting.

The sad thing is, nothing really changes that much. The jargon just gets dumber, the crowds get smaller and the direction gets greyer. Last year Apple tried to think different and demo QuickTime 3 for the Milia press with no visuals, ostensibly because the previous session ran over and there wasn't time to test the projection equipment. This year they tried to demo QuickTime 4 in a similar fashion. The new G3 box is truly gorgeous – but the demos on the floor were about as exciting as belly-button lint. This year's awards smelled even more like a fix then previous years.

There were no shocking news stories and conferences were poorly attended and asked rhetorical questions such as "just what business are we in?" Even James Murdoch's key-note was so full of MBA-speak that most delegates mistook it for Swahili.

As a matter of fact, I'd bet money that it was written by someone else and that even he was uncomfortable with all that crap about the meaning of media and marketing in a networked world and the attempt to understand emerging trends that allow us to peer with a little more clarity into a rather fuzzy future.

In the mad rush to leave the keynote, I overheard a woman next to me tell her friend, "And I always thought he was the bright one."

But worst of all, most nights, even the most hardened Milia veterans even spurned the lacklustre of the Martinez bar for an early night.

Maybe, as Murdoch said in a rare lucid moment, as media choices proliferate, we become more isolated. Tailgating a media trend may get you into the digital car-park. But if someone doesn't get out and push the barriers, isolation could become a permanent way of life. **MW**



Gadget freaks are actually money wizards. Honest.

## Desktop critic

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

# New, clear device

I try not to be a bleeding-edge, early-adopting gadget freak, I really do. Yes, I admit that I bought an original Newton, and an early digital camera, and the very first Pilot organizer. But I'm not an addict – no way. I can stop any time I want. So, when I learned that my area was to be the lucky recipient of a cable-modem trial, you can imagine my inner struggle.

A cable modem is one of those futuristic Internet technologies that promises to be 100 times faster than a normal modem. Only 350,000 were installed in the United States by the end of 1998, mainly because so few cable-TV companies offer them. On one hand, the £20 monthly fee seemed steep, especially since I was already paying \$20 a month for my Internet account and \$25 for a second phone line. On the other hand, *Macworld* hasn't written much about this important new technology; I could get a cable modem as a noble journalistic experiment, making the financial sacrifice for the good of the Mac community. (Can you say "tax deduction"?). In all, I must have weighed the pros and cons for a good four seconds before calling to sign up.

Three technicians came to set up the thing – a black box about the size of a 1980s-era external hard drive. One end connects to your cable-TV jack (which I had to have installed near my desk – another £60 sacrifice in the name of journalistic pursuits). The other end connects to your Mac's ethernet jack. With my first email, I discovered the greatest cable-modem benefit: you're spared the usual 90 seconds of dialling, connecting, and modem shrieking. You're online instantly; you're permanently connected to the Internet, 24 hours a day.

I yelled downstairs for my wife and dog to come watch my first attempt at turbosurfing the Web. But after they'd gathered around the screen, I was horrified to discover the dirty little truth about cable modems: they don't, in fact, make Web surfing much faster. I clicked on a link – and waited. Twelve seconds for [honda.com](http://honda.com), 23 for [weather.com](http://weather.com), 24 for [Macworld.com](http://Macworld.com). My jaw hung open in disbelief. Where was the 100-fold acceleration? "Neat, honey," my wife reassured me before heading back downstairs. The dog was even less impressed.

The problem: even if your pipe to the Internet is a fire hose, the computers on the other end still dish out Web pages with a teaspoon. Instead of waiting for my Mac to receive each page, I now wait for the other end to send it.

The problem isn't quite as bad in the wee hours, when my neighbors aren't sucking away my bandwidth by using their cable modems or watching CNN. Still, I was bummed. "Up to twice as fast at certain times of day" wasn't quite the advertised 100-x speed bump. Nor was uploading any faster; TV's cables are designed to carry data into your home, not out of it.

On the other hand, in my experience, downloading files with a cable modem is, for some reason, astonishingly fast. My first 3MB download wrapped up in under a minute – about 50K per second. You start to feel as though the Internet is one whoppin'-big external hard drive. Suddenly Internet video isn't a jerky, postage-stamp-size mess – you can actually watch TV-style video in a three-inch window without waiting.

It got better. One morning it hit me: I wasn't using my second phone line any more! See? I wasn't an out-of-control spendthrift gadget freak at all. I could cancel my second line and my ISP account, saving all kinds of money.

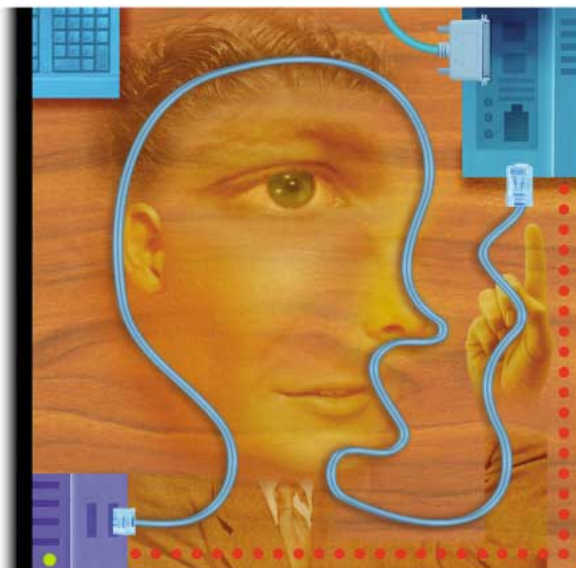
Furthermore – hold on a sec – no phone line, no modem. Why not sell my modem? And with no modem, my Mac's precious

modem port was suddenly free to accommodate my PalmPilot cradle full-time. Yep, things were improving quickly around the Pogue Mac.

There was only one little glitch: how would I go online when travelling? Without a 3,000-mile-long ethernet cable, my PowerBook clearly wasn't going to reap the benefits of the Internet monster machine back home. The cable company cheerfully offered its dial-up service – a toll-free number that lets me dial in to my cable-modem account from the road, for only \$15 more a month plus \$9 an hour. Riiiiight. So much for cancelling my ISP.

Still, here's how I look at it: I'm saving six minutes a day in connect/disconnect time. If my time is worth \$25 an hour, that's \$912 a year my cable modem saves me. And if that sounds like a gadget freak trying to justify another high-tech purchase, well, you're probably right. I promise to get rid of the thing – just as soon as my satellite-dish modem comes in.

MMW



# 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

## Motion graphics and visual effects on tap



### After Effects 4.0

Publisher: Adobe (0181 606 4001)

www.adobe.com

**Pros:** Superb integration with other Adobe products; excellent features structure; sensible pricing.

**Cons:** RAM preview requires powerful Mac; audio processing under-developed.

**Price:** Standard Version £500, upgrade from 3.0 £139; Production Bundle £1,000, upgrade from Standard Version 3.0 to Production Bundle 4.0 £369 before April 30; thereafter £605. All prices ex VAT.

**Star Rating:** ★★★★★/9.0

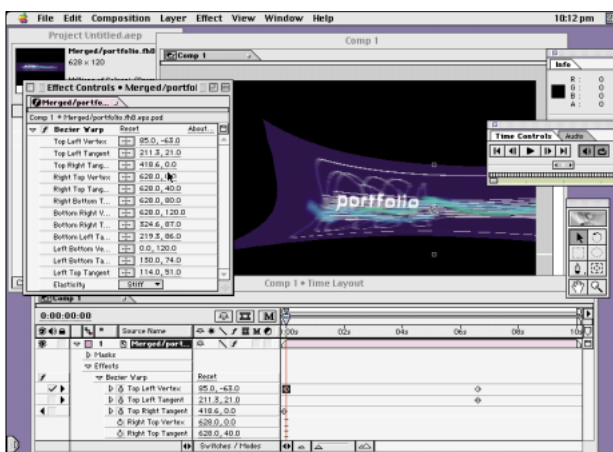
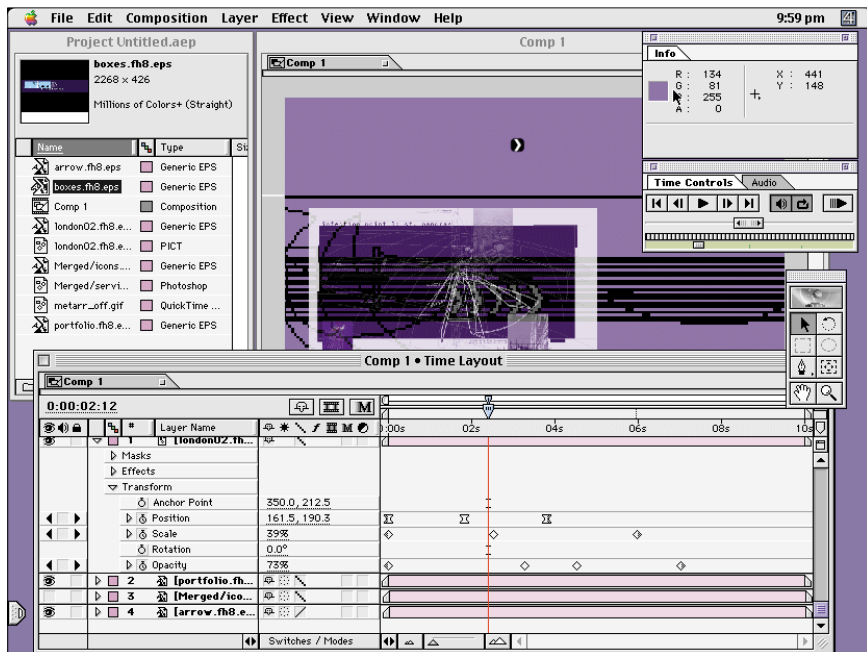
After Effects 4.0 is a major upgrade to a popular program, and manages to combine an increase in power, performance and features with improvements in usability and integration with Adobe's other creative tools. It's a remarkable feat, and Adobe is to be congratulated for satisfying the demands of the high-end professional user while providing a great introduction to digital video production.

Given that Adobe already has a video-production tool in Premiere (see review of version 5.0, September 1998) it's worthwhile taking a few moments to see how the two interrelate. Premiere is a top tool for importing, editing and sequencing video and sound, but its animation features are generally fairly weak. It's great for working with source video, but not as a means of creating video footage from still images. Its effects tools are likewise fairly limited.

After Effects is the opposite, which is why the two programs complement each other so well. While After Effects' video-editing tools are pretty limited, it excels at creating video using static images and applying movement and effects to them. Its other key function is for the addition of visual effects to a piece of video.

After Effects comes in two versions – the Standard Version and the Production Bundle. The latter, which requires a hardware dongle, adds a number of visual-effects features aimed at the video-production market. Without the dongle, the program operates in Standard mode – a nice touch.

Version 4.0 reveals a tighter integration



**Above: Right at home**  
Adobe After Effects' interface has been overhauled, and users of Photoshop should find it reassuringly familiar.

**Left: Advanced features**  
Applying a Bézier warp involves the manipulation of 12 control points.

with other Adobe products, notably Photoshop, Illustrator and Premiere. Photoshop users in particular will feel right at home with the new interface with its tabbed windows and palettes.

#### Let there be layers

As with Photoshop, layers are the key to building compositions in After Effects. The new adjustment layers in version 4.0 allow you to experiment with effects. You can turn any new or existing layer into an adjustment layer and any effect applied to one can be applied to all the layers that appear beneath it.

Version 4.0 also has new masking capabilities. Now up to 128 masks can be added to a layer so you can mask out parts of an image. Individual mask layers can be named in the Time Layout windows so you can keep track of them. You can also copy and paste existing masks from Photoshop and preserve adjustment layers and effects when importing. Similarly, After Effects can now also import Illustrator files, and preserve layers, which makes it the perfect tool to animate drawings and graphics. Combining the new masking features with adjustment layers to make protection mattes also allows users to create unusual effects.

Having previously used tools such as Director and Flash for this kind of work, the extra precision and layer effects that After Effects offers is a real boon to creativity.

After Effects' Time Layout window has a new look and you can assign a colour label to each layer name. The timeline aspects are reminiscent of those used in the animation part of many 3D modelling programs, such as Infini-D, though the level of detail here is generally higher.

Version 4.0 sees a number of new audio-editing features, and the audio interface has been revised. New features include looping and time remapping, as well as downsampling. While not as comprehensive as a dedicated audio-editing suite such as Peak or Cubase VST, it does provide the basic functionality for video production.

#### Previewing

Once ready, movies are rendered to the hard disk as QuickTime files. A powerful new feature, the RAM preview, allows the playback of compositions in real time without the need for rendering. On a fast Mac with plenty of memory, this is a great way of fine-tuning parts of a movie.

While the basic functionality between the Standard Version and the Production Bundle is the same, the latter comes into its own for adding effects and applying filters. There are also a number of advanced audio capabilities accessible only in the Production Bundle, including Flange and Chorus, Parametric EQ, Modulator and Reverb.

In total the Production Bundle adds 34 effects and filters to the Standard Version, the most powerful of which are undoubtedly the warping effects. The Bézier warp adds control points to an image, which can then be individually manipulated over time, producing great distortion effects.

The Mesh Warp is similar, but uses a deformation grid rather than control points. The Reshape effect fits one image inside another shape – for example, a face being squashed into a bottle.

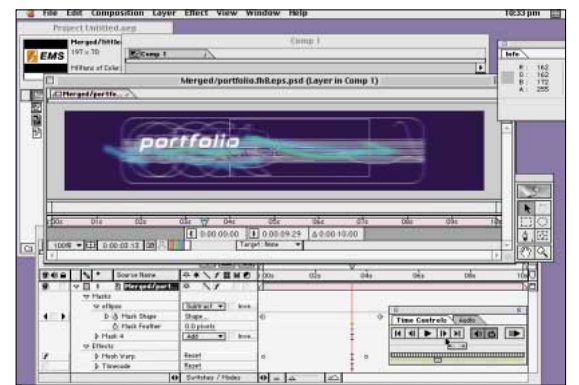
Another powerful new effect available only in the Production Bundle is the Particle Playground, which allows multiple objects to be moved, either as a stream of particles or as a grid. By default these particles are dots, but they can easily be replaced with a composition, image, or text in order to produce some amazing effects such as a swarm of bees, flocking birds or exploding text.

#### Macworld's buying advice

After Effects 4.0's clean interface keeps the complexity of the program at arms' length until you need to explore its advanced features. Experienced Photoshop users will feel right at home – although suddenly they have a whole new dimension to work with – time.

Version 4.0 is the best tool I've seen for taking a bunch of still images and moving them, scaling them, transforming them and blending them. You can do it intuitively with drag-&-drop ease, or with microsecond, pixel precision.

While the Production Bundle has some great high-end features, the Standard Version, at £500, offers stunning value for



**Behind the mask**

Up to 128 masks can be applied to each layer, created using the rectangle ellipse, or freehand pen tool. You can also combine and subtract masks, and transform them over time.

money. At this price Adobe could finally do for desktop digital video what Photoshop has already done for graphics.

**Martin Gittins**

## Ultra-fast G3 upgrade card



### XLR8 MACH Speed 400MHz G3Z

**Manufacturer:** XLR8

www.xlr8.com

**Distributor:** ProMedia (01923 266 400)

**Pros:** Flexible and fast.

**Cons:** Expensive.

**Price:** £799 ex VAT

**Star Rating:** ★★★★/8.7

The MACH Speed card from XLR8 brings a huge speed increase to users of G3 Macs. It's a ZIF socket (Zero Insertion Force) upgrade, so it is easy to install. The software gives plenty of information on what the card is doing, how fast the cache is running, and even how hot the processor is.

The difference between the XLR8 card and those from other manufacturers is the amount of control you're given. With the MACH Speed card you can go to 400MHz and beyond. This is made possible by the use of tiny jumpers on the card itself. If you're feeling brave you can set the card

to run at different multiples of your Mac's bus speed. The standard setting is for a 6:1 ratio that gives you 400MHz, but there are settings for 6.5:1, 7:1, 7.5:1 and 8:1 ratios. The maximum setting gives a theoretical 533MHz to your old G3 233 – more than double the speed.

Taking the Mac beyond the recommended processor speed is not for the fainthearted. But it is rewarding. You will reap the benefits of extreme speed and productivity.

To find how fast your machine can go, you must increase the speed until it won't start. This is your upper limit, so you must set the card to the previous fastest speed. It's recommended that you leave the card running for 24 hours to check for faults. Then you can look forward to faster computing.

In our test we achieved 433MHz, faster than the 400MHz and still apparently stable, so it proved good value. Other machines may be able to run the processor even faster. But at its 400MHz setting, the card makes a big difference in processor-intensive work. It may be worth considering upgrading your disks too, for an all-around speed increase.

#### Macworld's buying advice

Of course for just a little more cash, you can buy an iMac, but if this doesn't appeal the MACH Speed 400MHz G3Z card gives your old Mac a new lease of life.

**David Fanning**

Reviews continues page 51



Feature-rich upgrade to leading 3D modeller



# formZ 3.0

Publisher: Autodesk

www.formz.com

Distributor: Gomark (0171 731 7930)

**Pros:** Excellent range of modelling tools and animation features; flexible modelling environment.

**Cons:** Rendering a little slow.

**Price:** Form-Z £1,120; RenderZone £1,495; RadioZity £1,789; upgrade from 2.x RenderZone 3.0 £276.

All prices ex VAT.

**Star Rating:** ★★★★★/8.7

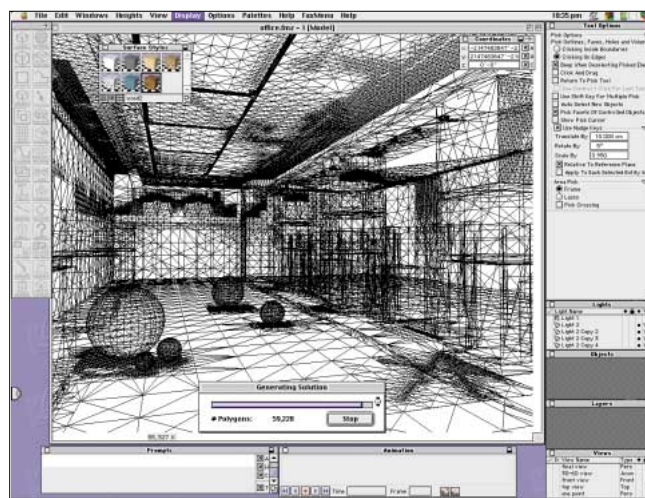
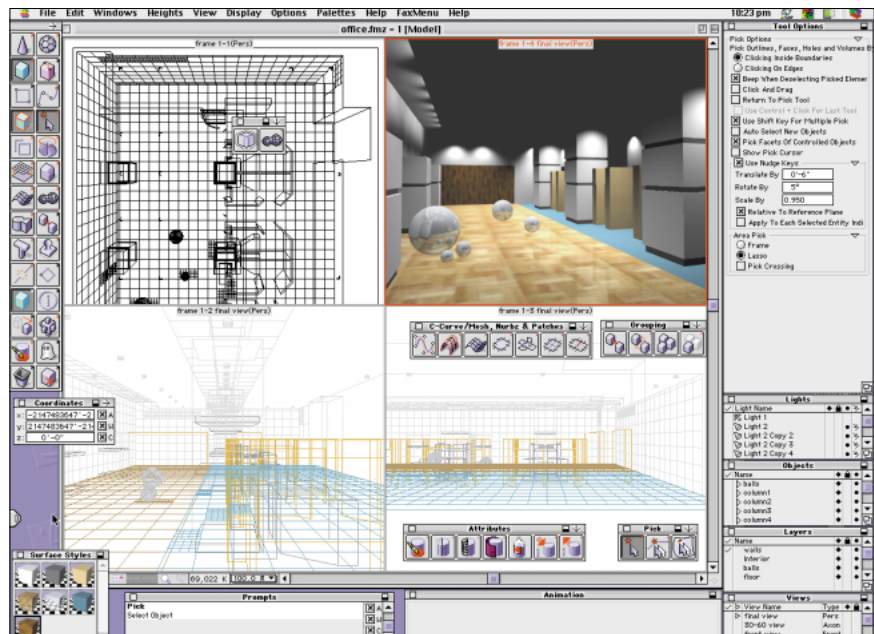
The atmosphere is more than a little rarefied in the high-end 3D market on the Mac. In the broadcast and film work arena, only LightWave, form•Z and Electric Image are true contenders. In particular, form•Z has gained a reputation as the Mac's most capable modelling system over the last few years.

The new version builds on the incremental releases of the past 18 months, but offers new features of such significance that it seems worthy of more than just a dot release classification. The developments include the addition of basic animation, object personalities and a fully customizable interface.

The interface is far more flexible than in previous versions, though it still looks a bit dated. Interface options allow the tool bars to be displayed in black-&-white, grey or full colour. The problem is, the main palette still looks a little too flat. Interface design is a personal thing, but I feel that the current look and feel of the application does not reflect the high standard of the application's functionality.

Toolbars can be pulled out to form floating palettes, giving you instant access to the tools you use the most, while keyboard shortcuts can be assigned to any function. An Options palette has been added that displays options for any tool selected. While this takes up a fair bit of screen space, it does allow you to change settings on the fly. Tool dialogues are still available, however, if you decide you want to claim back any of that lost screen space.

The alignment and distribution controls now work in any orientation. The new justification and distribution options, combined with a new preview dialogue, encourage experimentation – the possibilities are endless. All objects can be optionally displayed with centroids, centres of gravity, origins or local co-ordinate



**Above: Custom made**

The interface is now fully customizable with the option to choose how tool bars are displayed and grouped.

**Left: Go slow**

The RadioZity options provide the best rendering results for artificially lit environments, even if it is a little slow.



A demo of form•Z 3.0 is available of this month's cover disc.

## TOP TEN NEW FEATURES

- Primitives with personalities
- New spline drawing procedures
- Parametric derivatives and previews
- New stairs from paths options
- New pure NURBS modelling
- Low-resolution cages for object manipulation
- Customizable interface
- Hierarchical layers
- Walkthrough and fly-by animation tools
- Context sensitive options palette

systems for selection, manipulation or snapping. Line editing operations have been extended for both 2D and 3D entities. Tools for the direct insertion of points and segments are now included.

Parametric primitives are initially generated as analytic primitives – meaning they can be transformed into polygon,

nurbz, patch or metaformz (Autodesk's has a thing for the letter Z). This new functionality greatly increases the flexibility of the application when modelling. Autodesk calls the attributes 'personalities', as the same base primitives can be transformed and used in a variety of different ways in a scene, behaving differently when edited.

Once a primitive has been placed, the drop tool or edit controls can be used to assign a personality to the object. The parametric functionality has been extended further, to include

derivative objects. Objects such as helices and screws are stored with the parameters that generated them, providing a simple means to edit the overall object at any stage. Edit Controls and Edit Surface are new tools allowing manipulation of parametric objects, reshaping them via controls or direct surface manipulation.

Pure NURBS modelling has finally made an appearance in the application, supplementing the hybrid NURBS produced by controlled meshes. Called nurbz in form•Z, they're created from control lines, skins, and sweeps, or by converting analytic primitives. More complex, organic shapes can be produced thanks to the improved spline drawing tools. These now offer free-hand sketch curves as well as b-splines and both quadratic and cubic bézier tools. The skinning is now much more straightforward and forgiving, as you don't have to specify whether a tolerance needs to be used, nor whether an unequal number of vertices exist in the sources.

Drafting and modelling tools have been improved across the board, with a reworking of both the 2D and 3D tool sets. form•Z

continues page 52

has long been a popular visualization tool for architects because of its excellent 2D CAD features, and the addition of a stair-case generation tool will ensure it remains so. Any path – straight or curved – can be used to generate any shaped staircase, rather than just a spiral as was the case in previous releases. Multiple flights and rails can be created with a preview window, to see what you'll get before you commit yourself.

As well as the improvements in model-ling functionality, version 3.0 adds basic animation to the package. Animation is restricted to walkthroughs and fly-bys using user-defined cameras. Camera controls are robust, if a little basic. The animation tools will suit architects or industrial designers, who form a large part of the form•Z user base. If you're more demanding, or you wish to produce material for broadcast, you'll still need to go elsewhere and will probably end up with ElectricImage as a companion application. Autodesys is clear

it wants to produce a market leading modelling and rendering package, and is leaving high-end animation to others. This is a shame, as form•Z outstrips other pack-ages like 3D Studio Max and Cinema4D when it comes to modelling complex geometry, but doesn't offer the level of animation functionality that many high-end users are looking for.

Rendering in both RenderZone and RadioZity now feature the ability to capture rendered surfaces as textures. This is very useful for capturing radiosity rendering and multi-layer texturing, and the technique can be used when exporting to VR applications, or for creating materials for game produc-tion. Accurate light intensities can now be created in RenderZone as well as RadioZity, helping to create far more realistic interior-rendered images. Hybrid radiocity/raytrac-ing images can be created to maximize image quality while reducing overall rendering time.

One aspect to bear in mind when using

the RadioZity options is that the rendering is very slow. Calculating the radiosity values in a scene is computationally complex and you should really go down this route only if you have a fast machine (G3 300MHz or above), and lots of RAM. If you don't increase the memory partition of the application after you've installed it, you can't use RadioZity. Your machine will also be locked up while form•Z performs its calculations, as it won't run in the background – which can be a pain.

### Macworld's buying advice

All things considered, version 3.0 of form•Z performed well. A few bugs remained in the version we reviewed, but a patch to 3.0.2 should be available by the time you read this. While rendering remains a little sluggish, if you want to model on the Macintosh and don't need animation, you won't find a more comprehensive application anywhere.

**Richard Sphörer**

### Compression utility released too soon



## Stuffit Deluxe 5.0.2

**Publisher:** Aladdin Systems  
**www.aladdinsys.com**

**Distributor:** Softline (0181 401 1234)

**Pros:** Batch conversion of old Stuffit files; can browse contents of SEAs.

**Cons:** Buggy; files incompatible with older versions of Stuffit.

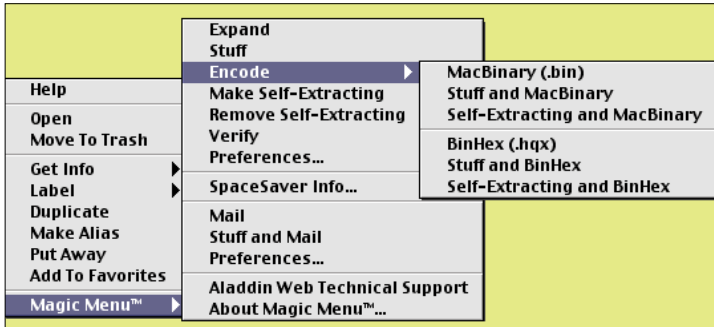
**Price:** £65 ex VAT; upgrade £29.78 ex VAT

**Star Rating:** ★★/4.5

Occasionally we have to judge a flawed product even though we've been assured that fixes are on the way. Such is the case with version 5.0.2 of Aladdin Systems' Stuffit Deluxe, the default compression utility for the Macintosh. Although Aladdin has promised that Stuffit's bugs will be squashed in updates to be delivered by the time you read this, it's my duty to report on the current – rather than potential – state of this blemished product.

Stuffit Deluxe lets you compress files and folders into Stuffit archives and expand just about any compressed file you're likely to find on the Internet. Stuffit SpaceSaver – now included with Stuffit Deluxe – offers background compression and expansion as well as name-based and label-based compression. Just include a user-definable keyword in a folder or file name or give an item a label, and SpaceSaver automatically compresses the item.

And now to the bugs. First, Stuffit Deluxe 5.0's new cross-platform file format purportedly makes it easier to swap Stuffit archives between Macs and PCs. But



*Revealing the magic*  
You can reach Stuffit Deluxe 5.0.2's many compression options via contextual menus.

although my Mac could open Stuffit archives that had been compressed on a PC, the reverse wasn't possible: Mac-compressed Stuffit archives refused to open on a PC with Aladdin Expander 2.0 for Windows.

Another bug involves Stuffit's True Finder Integration (TFI), which lets you convert files and folders into Stuffit archives, self-extracting archives (SEAs), and MacBinary and BinHex files simply by appending a .sit, .sea, .hqx, or .bin suffix, respectively, to the item's name. Under Mac OS 8.5, if you use TFI to convert a Stuffit archive into an SEA, Stuffit puts the wrong files in the SEA.

Aladdin claims that these kinks will be worked out by the time you read this. What the update won't address is Stuffit Deluxe 5.0's new file format: archives you create with this version can't be opened with an older version of Stuffit Deluxe or Stuffit Expander.

Aladdin claims that Stuffit Deluxe 5.0 increases compression by about 20 per cent over previous versions, but that number depends on the files being compressed. Compressing a folder with 25 PICT files, Stuffit Deluxe 5.0 did create a smaller archive-100K versus Aladdin DropStuff 4.5's 116K. But when I stuffed a folder contain-ing ResEdit 2.1.3 and all its components,

the Stuffit 5.0 archive was 4K larger than its DropStuff 4.5 counterpart. Stuffit Deluxe 5.0 is also slower than version 4.5: on a 250MHz PowerBook G3, even with the Fast Compression option enabled, version 5.0 took 4 minutes and 10 seconds to stuff a 103MB folder; DropStuff 4.5 took only three minutes and 50 seconds.

Although Aladdin stumbled with this version of Stuffit Deluxe, the program's not all bad. Its many compression options are available via contextual menus, and the program now supports the MacBinary III format. You can view the contents of an SEA without expanding the file, by choosing Remove Self-Extracting from the Magic Menu that appears in the Finder's menu bar. And the included DropConverter utility lets you batch-convert old Stuffit archives to the new format.

### Macworld's buying advice

Stuffit Deluxe 5.0.2 is buggy, slow, and likely to be incompatible with the version of Stuffit Expander you currently have. Let's hope these criticisms are now moot – that Aladdin has fixed the bugs and the compatibility problems, making Stuffit Deluxe once again worthy of our recommendation.

**Christopher Breen**

### Image-correction plug-in can't match test



## Intellihance Pro 4.0

**Publisher:** Extensis

**www.extensis.com**

**Distributor:** Computers Unlimited (0181 358 5858)

**Pros:** Easy to use; extensive image-correction options.

**Cons:** No Undo function; interface quirks; flawed colour-correction tools.

**Price:** £129 ex VAT; upgrade £49 ex VAT.

**Star Rating:** ★★★/5.7

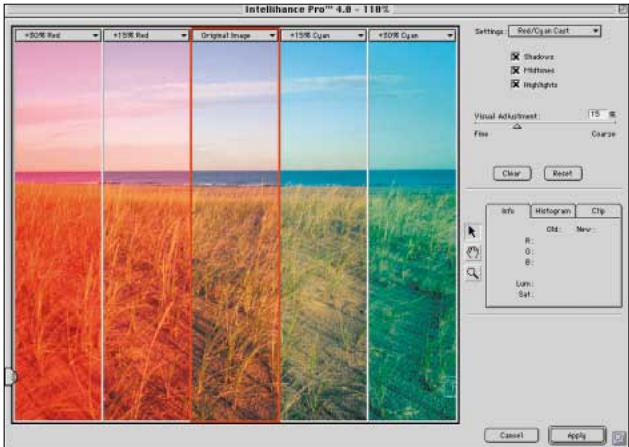
Although Adobe Photoshop offers an array of tools for improving the look of your images, figuring out the best mix of brightness, colour cast, and other adjustments for a particular photograph can be a challenge. Extensis Intellihance Pro 4.0, a Photoshop plug-in, makes it easy to see how different combinations of settings will affect your image. Once you've got the right mix of adjustments, you can apply them with a single mouse-click. It's a great idea, but the most significant addition to this upgrade – the new Power Variations mode – is implemented more successfully in a competing plug-in, Vivid Details' Test Strip (see Reviews, April 1998).

### Sincerest form of flattery?

Power Variations, one of Intellihance's three modes, is almost a feature-by-feature copy of Test Strip (prompting Vivid Details to file a patent – and trademark-infringement law-suit against Extensis). The plug-in presents your image in a multiple-pane layout; each pane shows variations in a single attribute, such as Green/Magenta Cast. Click on the pane that looks best to you, and that becomes the active image. You can also print the variations to proof them on paper.

Some features in Power Variations go beyond their Test Strip counterparts. You get a larger selection of layouts, up to a five-by-five grid. Any layout can include a single subdivided image or repeating images; Test Strip offers a repeating-image option in only one of its colour-adjustment modes. And you can store any combination of settings in a single preset and run them directly from an Extensis menu that appears in Photoshop; Test Strip presets can be run only from the plug-in. But where it really counts – making precise colour corrections – Intellihance falls short.

Colour theory holds that adding a certain percentage of one primary colour is the same as subtracting its opposite. For example, adding 10 per cent green to an image is the same as subtracting 10 per cent magenta, as you can see in Photoshop's Colour Balance dialogue box. It follows that if you add 10 per cent green and 10 per cent magenta, you're back where you started and your image should be unchanged. That's what happens when you add the two colours in



### Copycat?

Intellihance Pro 4.0's Power Variations mode (top) borrows heavily from Vivid Details' Test Strip (bottom).

Test Strip. But add them – or any other complementary pair – in Intellihance's Power Variations mode, and the colours shift noticeably.

Other omissions make it look as if the upgrade was rushed out the door. In all three modes, Intellihance lacks an Undo feature, and its functions don't show up in Photoshop's Actions palette (Extensis says it will address the latter problem in a forth-coming update). The Power Variations interface is also a bit sloppy: the labels that identify each pane in the layout appear to be pop-up menus until you click on them and see that there are no additional selections.

### Plug-in à la mode

Intellihance's other two modes, Intelligent Adjustment and Fine Tuning, also borrow from Test Strip. These modes let you experiment with different mixes of contrast, brightness, descreening, saturation, colour cast, sharpness, despeckling, and dust and scratch removal. You can compare the effects using the same layouts available in Power Variations mode.

The Intelligent Adjustment mode offers limited options for each setting, but you can adjust those settings manually using the plug-in's Fine Tuning mode. For example, the brightness choices in Intelligent Adjustment mode are Off, Deeper Shadows, Shadow Emphasis, Balanced Tone, Midtone Emphasis, and Highlight Emphasis. In Fine Tuning mode, you can modify brightness through a Photoshop-style Curves function

or by entering numeric values for shadows, midtones, and highlights.

As in Power Variations, you can store the effects as presets and apply them from the Extensis menu. Presets also appear in a pop-up menu above each pane in the layout.

Intellihance ships with dozens of presets that theoretically cover most common image-correction scenarios, such as compensating for too much flash in a digital photograph. However, only a few presets seem useful where real-world photos are concerned, and there's little you can do with them that you can't do with Photoshop's Actions palette and built-in image-correction tools. One exception is Intellihance's descreening function, which converts scanned halftones from a magazine or newspaper into moiré-free continuous-tone images suitable for printing. Intellihance's Fine Tuning mode also gives you greater control over despeckling than Photoshop does.

### Macworld's buying advice

Extensis Intellihance Pro 4.0 is easy to use and lets you compare and apply a wide range of image modifications. However, its Intelligent Adjustment and Fine Tuning modes add little to Photoshop's built-in image-correction functions, and the Power Variations mode suffers from a flawed implementation of colour theory. Extensis may call it Intellihance Pro, but most imaging professionals are better off sticking with Test Strip. **Stephen Beale**

Reviews continues page 54





## Kai's Photo Soap 2

**Publisher:** MetaCreations

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

**Distributor:** Computers Unlimited (0181 358 5858)

**Pros:** Feature-packed; extensive tools for organising, using and printing images; automatic correction of common photo problems; good Web support.

**Cons:** Non-standard interface; no balloon help; very slow; some bugs.

**Price:** £34 ex VAT

**Star Rating:** ★★/6.8

With the advent of good quality, affordable digital cameras, and with colour desktop scanners reaching almost pocket-money prices (£80 and falling), there's a growing market for consumer-oriented photo editing and image-manipulation tools.

The leader of the pack to date is Adobe's PhotoDeluxe, benefiting from its genetic relationship with the professional's choice, Photoshop. But MetaCreations, publisher of the Kai's Power Tools set of Photoshop plug-ins, is no slouch when it comes to imaging excellence and now offers its own solution in Kai's Photo Soap version 2.

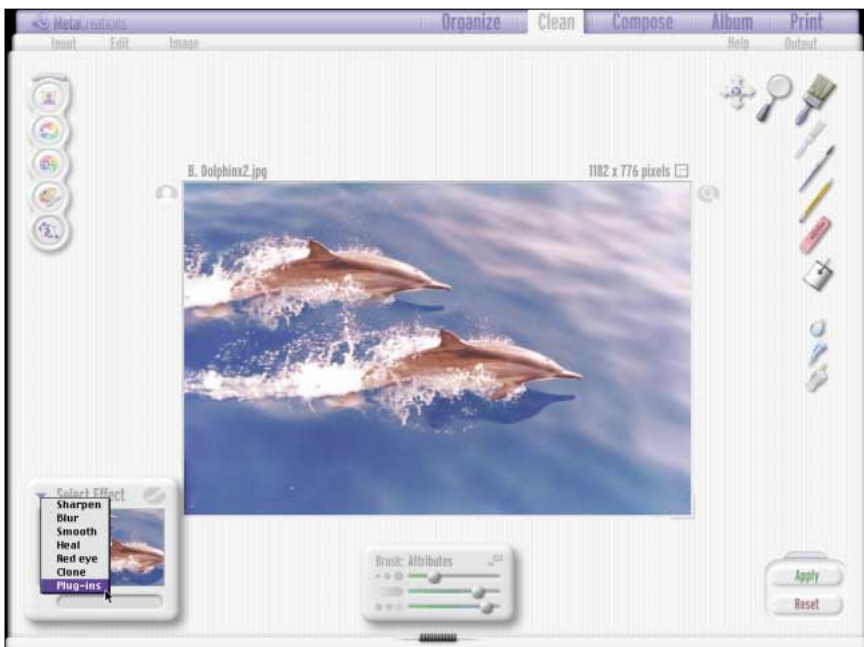
At first glance, the latest incarnation of Soap is stunning. While the first version scored points for automated correction of many common image problems – scratches, dust marks, red-eye in flash photos, incorrect contrast, and so – it also suffered a number of notable omissions.

Among the most prominent of these were lack of support for Photoshop plug-ins (a bizarre error from the KPT publisher), poor selection tools, and the inability to work on more than one image at a time (precluding the possibility of montaging pictures). With version 2, MetaCreations has fixed all of these problems, and added a wealth of new features that take the application far beyond the realm of a limited consumer photo-fixer.

Built into Soap is a powerful set of image-database functions that make it easy to store sets of images, with associated key words, in virtual photograph albums. A cute addition is the ability to create your choice of album appearances, from strikingly modern to pseudo-antique.

Soap also makes it easy to be more creative in your use of photos: you can print business cards, greeting cards, calendars, invitations and more. There are also a number of features that make it easy to use your images electronically, either in on-screen slideshows or on the Web via a group of export filters that automatically generate HTML, standard Web graphic files, or email.

Of course, the heart of the program must be its abilities in editing your pictures,



### Above: Where's my Mac?

When you're working in Soap 2 you're no longer working on a Mac – you're in Kaispace. There's no access to the Mac desktop, or to the standard Menu bar. Although the toolset is powerful and all-encompassing, the lack of balloon help means you have to try everything to discover what happens.

### Left: Easy photo fixes

Correcting common photographic problems – from scratches and creases to red-eye and poorly exposed or blurred shots is simple.

and Soap 2 is a much more powerful tool than its predecessor. All of the obvious features are here: airbrush, pencil and eraser; colour-correction; contrast adjustment; sharpening and blurring tools; and the ability to crop, rotate, scale and otherwise manipulate to your heart's content.

In addition, Soap 2 now supports Photoshop plug-ins for the wilder kinds of image editing, and other advanced features include cloning tools, and a well-implemented layering feature that makes it simple to create montages of images and text.

So far, so wonderful. Sadly, while Soap 2 is excellent in conception, the execution leaves a lot to be desired.

The first, and by far the biggest, problem is the interface. MetaCreations, under the guidance of graphics genius and chief technology officer Kai Krause, has been famous (or notorious, according to taste) for its interface design. Soap 2 is no exception.

All visual elements of the interface are non-standard: dialogue boxes, sliders, tool palettes, icon design – everything is different, and often just for the sake of being different. Few of these tools work any better than their standard Mac counterparts, but their unfamiliarity adds an enormous burden to the learning curve.

The lack of balloon help is just another irritation: the only way to learn what

many of these controls do is to turn to the manual, or select them and try (remembering to choose Undo before you muck up your image).

Even worse, Soap 2 dispenses with the standard Mac menu system, so you have to go hunting for common actions like opening and saving files, cutting and pasting, and others. Piling injury upon insult, the program also takes over the entire screen, locking you out of standard Mac tools like the Apple and 'running applications' menus.

Finally, there are some technical issues. Even running on a fast PowerPC 604-based system, Soap 2 is very slow with long pauses when switching between toolsets. And on two occasions during the review process, it crashed on quitting.

### Macworld's buying advice

If you can live with the gratuitously different interface, and you have a G3 Mac, Soap 2 offers a powerful set of tools for handling your digital images. Beyond the graphics editing and effects tools, the features for managing image collections and printing creative documents do away with the need to buy one or two other applications. But if you have any experience with Photoshop, you're likely to find Soap's idiosyncratic approach an obstacle rather than an asset.

**Peter Worlock**



## Myth II: Soulblighter

**Publisher:** Bungie Software

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

**Distribution:** Softline (0181 401 1234)

**Pros:** Interface and graphics refinements; RAVE support.

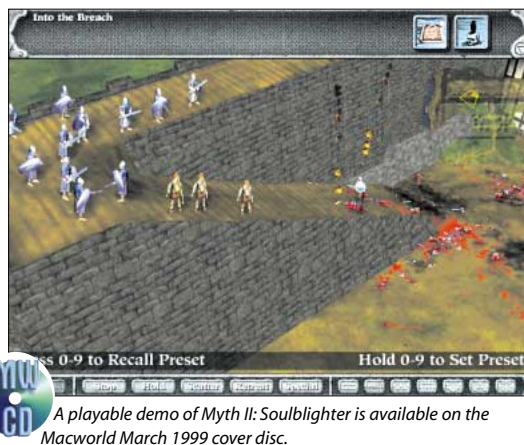
**Cons:** Troops are a bit dim about the hazards of fire.

**Price:** £34.03 ex VAT

**Star Rating:** ★★★★★/8.8

After tweaking the last few lines of code in the real-time strategy game Myth: The Fallen Lords, the folks at Bungie must have felt a bit like Michelangelo after applying the final daubs to the Sistine Chapel: "Not bad, but what are we going to do to top this?" The original Myth offered beautifully rendered 3D terrain, a solid tactical element, superb physical modelling, free Internet gaming via bungie.net, cross-platform play, and support for 3Dfx-based hardware acceleration. Could the company produce a compelling sequel that wasn't a regurgitation of the original? In a word: yes.

Although Myth II maintains nearly all the elements of the original, the sequel refines rather than reiterates. You continue



your battle with the forces of the Dark, but this time you discover a more detailed world in which the legions of both Light and Dark have an expanded set of characters, all with embellished abilities. Bowman now carry a flaming arrow for setting grass afire – a wonderful tactical enhancement for discouraging or fricasseeing your opponents. Regrettably, your troops are all too willing to march right into the same fire. And as if the too-quick-on-the-draw dwarfs from Myth I weren't nuisance enough, Myth II includes mortar dwarfs who fire deadly – although inaccurate – projectile weapons.

Bungie has also improved Myth's interface. All formations are now mouse selectable in a small menu bar at the bottom of

### Turning Myth into reality

This castle wall is just one of Myth II's environmental enhancements.

the game screen, and rotating troops is easier – just select them and use the arrow keys to pivot.

The range of environments is wider in Myth II: you'll have occasion to fight indoors, within the walls of an enemy castle, and on board a ship. Animated 3D objects such as windmills and drawbridges add to the visual lustre of the game. Squeamish players can now turn off the blood and gore. Two powerful

but complex editing tools let you alter game elements and create maps. And Myth II supports RAVE 3D hardware acceleration on systems that carry at least 32MB of RAM and a Rage Pro or Rage 128 chip set.

Oh, and one more thing. Myth II is a kick to play-in single-player mode or against human opponents.

### Macworld's buying advice

Bungie has done a marvellous job of enhancing what was already a stellar game. It's a foregone conclusion that fans of the original will buy Myth II: Soulblighter. If you have the slightest interest in real-time strategy games, check it out.

**Christopher Breen**



## Digital Performer 2.5

**Publisher:** Mark of the Unicorn

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

**Distributor:** MusicTrack (01462 812 010)

**Pros:** All the latest bells and whistles (24-bit; mastering quality plug-ins; destructive stereo editing; ASIO and ProTools 24 support); complete iMac and new G3 compatibility; excellent crossgrade deal.

**Cons:** With no entry-level version available it's a bit pricey for the first-time buyer.

**Price:** £549; upgrade £116; competitive upgrade £199. All prices include VAT.

**Star Rating:** ★★★★★/7.6

Performer was one of the very first Mac MIDI sequencer programs (when Steinberg and the rest were still only developing for the Commodore), so Digital Performer boasts the longest pedigree of any digital audio/MIDI sequencer. So how does the latest batch of improvements stack up against the Johnny-come-latelies?

The good news is that MOTU have been the first to respond to Apple's changes in hardware interfacing. Digital Performer 2.5 no longer uses floppy-disk installs (which don't work via USB floppy drives anyway)



### Two of the best

Two of Digital Performer 2.5 highlights are the superlative 64-bit MasterWorks 3-band Compressor and the destructive Audio Editor window.

like Cubase VST nor does it use serial port dongles like Emagic Logic or Waves. To install the program you simply type in the serial number in your manual during the CD-ROM Install routine. Digital Performer 2.5 runs on the iMac and the new blue G3s (although if you want to use MIDI, you'll need a USB-to-MIDI interface – see the USB/MIDI sidebar on page 80). You don't even need your CD-ROM handy during day-to-day operation (unlike with VST 4.0, which is liable to ask for the CD at the least convenient moment).

While affecting the program's use, this hardly constitutes new features, but fear not, DP 2.5 has a bunch of these. First of all there is a destructive stereo Waveform Editor, which allows the permanent removal of clicks, pops and other short, unwanted snippets in your audio recordings. This type of editor is becoming increasingly popular inside digital audio sequencers and this version works as well as any other. For quick fixes, it saves you switching to something like Bias Peak. Proceed with caution,

continues page 56

however – it's not called destructive for nothing.

Sample-accurate editing is now possible throughout the program, allowing you to zoom right into individual samples and move audio (or MIDI events) by a minute amount (I've always found this an anorak approach to digital audio). Of more interest, are the two new mastering plug-ins: MOTU's built-in effects have always been a cut above those supplied free with the likes of VST (and this may have been one reason for the higher price). The new ones are no exception with their transparent 64-bit processing quality. MasterWorks Compressor and Limiter give the sort of subtle (or not if you prefer) control of dynamics, which a few years back only came in TDM format or in stand-alone hardware boxes, either of which would cost you more than this entire program. The Compressor is in fact a three-in-one plug-in with separate compression on adjustable low, mid and high bands (stop cymbal crashes compressing the bass

drum, for example). Existing plug-ins can now be used as inserts as well, for increased flexibility.

The up to 8-band Parametric EQ has a new graphic interface (the CD says Graphic 8-band EQ, which I read as 8-band Graphic EQ – plenty of opportunity for confusion there) which makes adjusting the already sweet-sounding EQ a breeze. And the long overdue Normalize command makes its appearance in the audio menu, together with Fade In and Fade Out.

I have reservations about normalization bringing up the noise floor on 16-bit recordings but with DP 2.5's 24-bit capability, its appearance is timely. 24-bit recordings can be made through MOTU's own 2408 (if you connect a third-party converter like the MusicNet/Sonusor AD24 to the ADAT Optical input), ProTools 24 or 24-bit ASIO cards like Sonorus Studi/O or Yamaha's DSP Factory (SPDIF input only).

Talking of the new ASIO capability, I couldn't get DP 2.5 to see anything in its

ASIO Drivers folder – DSP Factory, Sonorus Studi/O, or Event, all purportedly supported. I tried on five different computers. (I recall a similar hitch getting Logic Audio 3.6 to see its ASIO Drivers folder.) You can solve the problem, however, by copying the Sound Manager ASIO folder from any other ASIO-supported software, such as Cubase VST, into DP 2.5 and the cards should appear.

### Macworld's buying advice

24-bit recording, destructive stereo editing, the MasterWorks Compressor and Limiter, Normalize/Fade, and ASIO and Pro Tools 24 support are all major new features (sample-accurate editing and graphic adjustment of EQ are also nice to have) and the Digital Performer faithful will certainly upgrade. While MOTU's competitive upgrade from any rival sequencer is great value at £199, without a cheaper non-24-bit version, as offered by Cubase VST and Audio Logic, the price is rather high for the new Mac musician. **Paul Wiffen**

### Special effects and video enhancements



## Boris AE 2.0

**Publisher:** Artel Software

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

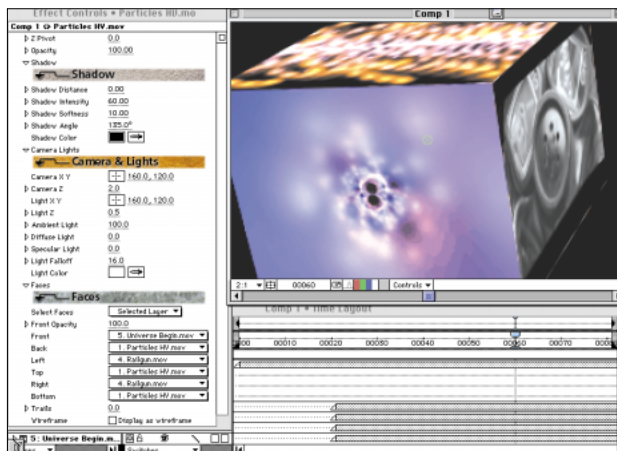
**Publisher:** Polar Graphics (0181 868 2479)

**Pros:** Wide range of effects; fast performance; great distortion filters.

**Cons:** A bit pricey for the hobbyist market.

**Price:** £345 ex VAT, upgrade £275 ex VAT.

**Star Rating:** ★★★★★/8.8



### Movie magic

Boris AE 2.0 lets you map video onto basic shapes; here, a different movie appears on each face of a cube.



A demo of Boris AE 2.0 is available on this month's cover disc.

## CineMotion 1.0 for After Effects

**Publisher:** DigiEffects

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

**Publisher:** Polar Graphics (0181 868 2479)

**Pros:** Excellent film-simulation effects; good control over shutter parameters and grain reduction.

**Cons:** Weak documentation.

**Price:** £199 ex VAT.

**Star Rating:** ★★★★★/8.5

Both hobbyists and professionals will find a lot to like in two new and different sets of plug-ins for Adobe After Effects. Artel Software's Boris AE 2.0 should appeal to anyone looking for more variety in his or her special effects, while DigiEffects' CineMotion 1.0 for After Effects is designed for digital videographers looking for the best output quality. Both are important additions to any After Effects toolbox.

Boris AE is a compelling collection of 44 filters ranging from fun to functional, with filters for distortion, colour correction, lighting, keying, special effects, and simple

3D object mapping. Many of the plug-ins render noticeably faster than their After Effects equivalents – for example, the critical Unsharp Mask and Blur filters are twice as fast as After Effects' built-in filters, and more controllable to boot.

Another gem is the Pixel Chooser, an incredibly powerful option that lets you mask an effect very precisely with values derived from any other layer in the composition without using any additional After Effects masking techniques. The Digital Video Effects filter delivers a z-axis for "flying" elements, with built-in soft shadows, light sources, and opacity blends; a particle system offers customizable shapes and controllable velocity and gravity effects. But many After Effects users will want Boris AE just for its excellent distortion plug-ins, including an industrial-strength displacement filter.

For video artists looking to push the limits of captured video, CineMotion's extensions to 3:2 pull-down functionality surpass After Effects' built-in conversion capabilities. The documentation is disappointing, but CineMotion's ten plug-ins ease the process of making video look more like

film and offer precise control over captured-video variables. The highlight is Film Motion, a filter that processes fields of video in various ways to yield different looks and gives you full control over interframe blurring, which simulates the motion of a camera shutter. Adjustable parameters let you tailor the effect to conditions in the processed footage.

Complementing Film Motion are plug-ins that enhance footage containing digital artifacts. These plug-ins give you fine control over banding, grain, noise, and field interlacing. Selective HSB Noise, for example, delivers separate noise values for a layer's hue, saturation, and brightness channels.

### Macworld's buying advice

Both of these filter collections are worthwhile investments for serious After Effects devotees. Boris AE 2.0 has more-diverse special effects, while CineMotion for After Effects excels at optimizing video for professional applications. Both deliver exactly what they promise: a picture that will please any eye. **David Biedny**

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Dance music creation software



## GrooveMaker

**Publisher:** IK Multimedia

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

**Publisher:** Softline (0181 401 1234)

**Pros:** Imaginative user interface; high-quality sounds, keyboard shortcuts; good results easily achievable.

**Cons:** Needs a decent Power Mac.

**Price:** £42.54 ex VAT. A demo available on

this month's cover CD.

**Star Rating:** ★★★★★/8.7

There used to be a time when dance music required a pair of turntables, some decent recording gear and a substantial library of records. Then the techno-heads became involved and reduced the equation to a CD full of loops, a sampler and a computer-based MIDI sequencing package. Now the prerequisite kit is down to a single piece of software: GrooveMaker.

The four songs on the CD each contain many high-quality sound loops. Load one of them into the SongMenu and switch to the GrooveMaker screen, an eight-track stereo sample player. Each track in the right-hand



### Get into the groove

While it may look like an orbiting space station, the GrooveMaker screen is where your creative juices flow, resulting in a unique set of grooves.

list has a default loop assigned to it with a title indicative of the style: Bass, BD (bass drum), FX, Perc and so on. Click on a track to audition it. Hit the mute and solo buttons to hear particular track combinations.

Click on one of the four randomix buttons to change a number of tracks simultaneously, locking some of them to keep the feel you want, so creating new, imaginative sound combinations. Then use the sync function to make randomix take effect at the start of the next eight-bar phrase. You can even tap in a new tempo on your mouse button or add real-time arpeggios through the on-screen virtual synth arpeggiator. Up to eight tracks can play simultaneously, each with its own volume and stereo pan position,

and be saved as one of 99 grooves.

With a set of tasty grooves under your belt, use the GrooveSequencer to place them in the order you want and click on the mix button. You can even remix your mixes at a later date through the V-Mix screen. The result is either a single stereo file or eight separate stereo files, each in AIFF format, for loading into the likes of Cubase Audio where MIDI-based sounds can be added.

Powerful stuff. Given five minutes, you will be completely immersed in GrooveMaker. Within half an hour you're likely to have an instrumental masterpiece that would not be out of place blasting out of your car radio.

### Macworld's buying advice

GrooveMaker makes dance-music creation almost as easy as hitting the play button on your CD player. It comes complete with a second CD containing the Dancity sample collection (more than 500 loops) and further loop CDs are available either now or shortly.

While the software is a testament to Macromedia's Director 6, anything less than a decent Power Mac and 32MB of RAM results in slow on-screen response. You'll also need to print out the 36-page A5 PDF manual, the acceptable face of cost-cutting. That aside, GrooveMaker certainly lives up to its name. Try the demo on this month's CD – we've even included an extra three demo songs. **Vic Lennard**

A keyboard hotkey combination converts the print menu options within an application to fax equivalents making sending a fax almost identical to printing. The Standard and Fine options give faster or superior text quality with Standard and Fine Grayscale resulting in the same for pictures.

On preparing a fax, an on-screen zoomable preview ensures that page orientation and details are correct. The remote machine is then freed up almost immediately with the server carrying out the fax image creation. Once sent, a desktop alert appears confirming successful transmission.

With fax creation being essentially a function of QuickDraw rather than PostScript, care has to be taken to ensure that all necessary fonts are installed on the server along with Adobe Type Manager otherwise font substitution and bitmapping occur. Similarly, on-page vector graphics fax as their screen bitmap appearance, a shortcoming in technology rather than FaxExpress.

On the server side, the queue can be altered and the fax number changed – a nice facility – and cover pages designed through a basic creation program.

### Macworld's buying advice

With support for any Class 2 fax modem, FaxExpress is easy to set up and use and rock solid in performance. If you're looking for a cost-effective solution to office network faxing, have a look at FaxExpress – you won't be disappointed.

**Vic Lennard**

Networked faxing software



## FaxExpress Network 5.0.5

**Publisher:** Glenwarne (01628 667 702)

**Pros:** Easy to set up and use; rock solid performance; good documentation.

**Cons:** None to mention.

**Price:** Server Pack £75; 3-User Pack £175;

5-User Pack £225; 10-User Pack £400; 25-User

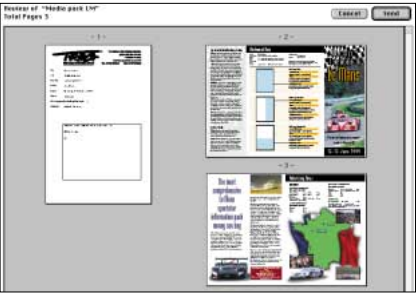
Pack £700; 50-User Pack £1,200 (all ex VAT).

A demo is available on this month's cover disc.

**Star Rating:** ★★★★★/9.0

Over the past few years, the network fax software market has slimmed down to just three products that work with standard fax modems: FaxSTF, 4-Sight FAX and FaxExpress. FaxSTF's offering is now over three years old and no longer based on its latest technology, while the pricing for 4-Sight FAX takes it out of the realm of the small- to medium-sized office. Glenwarne continues to develop FaxExpress, with 90 per cent of its fax software sales being in this market area.

Certain features are expected of a fax program, such as 256-greyscale support, multiple cover pages, attachments and so on.



### The shape of things to come

FaxExpress's Review feature ensures WYSIWYG – what you see is what your client gets...

Networked fax software has two extra requirements over and above this: the remote machine must be freed up as soon as possible and the system must be bombproof.

Installation of FaxExpress couldn't be easier: the server software was ready to roll on a Power Mac 7100/80 (usually reserved for ISDN send/receive) in a couple of minutes with User software installed around the office ten minutes later.

In many ways, Mac OS does all the hard work through the Fax Chooser item – with no System Extensions to cause conflicts, FaxExpress is extremely stable. It's also memory friendly – the server software needs just 2MB of RAM and the FaxViewer program (for printing faxes) a further 2MB.

Basic setting up is a doddle. Each remote machine logs on to the server through the Chooser at which point cover pages, phonebooks and attachments are shared between the machines.

Virus-protection software



## Norton AntiVirus 5.0.3

**Publisher:** Symantec

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

**Distributor:** Computers Unlimited (0181 358 5858)

**Pros:** Straightforward interface; fast rescanning.

**Cons:** Flawed LiveUpdate feature; invasive default protection settings; large RAM requirement (huge without virtual memory).

**Price:** £69 ex VAT; call 0171 744 0035 for upgrade to version 5, £35.06 inc VAT (5.0.3 patch downloaded from Web site).

**Star Rating:** ★★★/6.8

## Virex 5.9

**Publisher:** Network Associates (01753 827 500)

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

**Distributor:** Softline (0181 401 1234)

**Pros:** Faster first-time scanning than NAV; less-intrusive protection.

**Cons:** Large RAM footprint; no automated virus-definition update.

**Price:** £99 ex VAT. Registered users of Virex 5.8 can obtain a free upgrade by calling Network Associates.

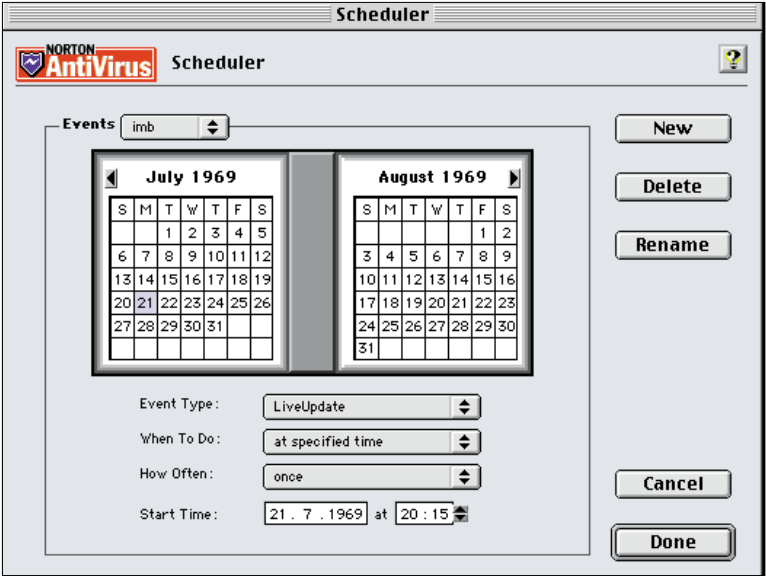
**Star Rating:** ★★★/6.4

The continuing war between virus writers and developers of anti-viral software hasn't left Macintosh users unscathed. Although we've been spared the continuous onslaught of viral proliferation that plagues the Windows world, the past year has seen several new Mac-specific software miscreants. One defence is Symantec's Norton AntiVirus 5.0.3, a major upgrade to the veteran package once known as Symantec AntiVirus for Mac. Another is Network Associates' Virex 5.9, which is outwardly unchanged from its immediate predecessors and has only internal differences. Both products offer a combination of protection from new viruses and the ability to scan your existing files for lurkers.

### Similar, yet different

Both Norton AntiVirus (NAV) 5.0 and Virex 5.9 have two major components: an extension that protects your Mac in the background by stopping any viral-infection attempts and an application that lets you configure various functions, install updated virus definitions, and scan the files on your disks.

The new versions of both NAV and Virex purportedly have additional protection capabilities, such as scanning for and protecting against future viruses. It's impossible to test these claims without writing a new virus of our own, but we do know that this feature increases both packages' RAM requirements. Where the protection extensions of old were happy to take up a few hundred kilobytes at most, the current generation has got greedy: with virtual



### Scheduling your protection

Norton AntiVirus 5.0 makes it easy to schedule scans and updates.

memory enabled, NAV uses 644K at start-up, and Virex latches on to 867K. If you turn off virtual memory, NAV grabs 832K of RAM at start-up (Virex's demands are unchanged).

Both programs can scan files stored in several popular compression formats, but their overall scanning speeds differ. When they scan a disk for the first time, they build a database of tracking information so that when they next scan the disk, files that haven't changed aren't rescanned. NAV took about 7 minutes to scan our test disk; Virex scanned the same disk in just over 6 minutes. NAV was considerably faster when rescanning, taking only 4 seconds; Virex took 20 seconds.

Both Virex and NAV have scheduling features that let you set scans for certain times. NAV lets you schedule multiple events, via a clear user interface (see 'Scheduling your protection'): you can specify which folders or disks to scan, as well as when and how often to scan. Virex's scheduler interface is anaemic in comparison; it allows you to specify only a single scanning event and forces you to either scan all local volumes or explicitly specify which folders and disks to scan.

Virex's protection features are unobtrusive; the program alerts you only if it detects a virus. NAV, on the other hand, alerts you whenever it observes suspicious activity. This overzealousness results in frequent interruptions, despite NAV's ability to "learn" about and not report the same infractions repeatedly.

### Staying current

Staying up-to-date in the viral arms race requires diligent checking for updates. Both Symantec and Network Associates post monthly virus-definition updates that allow the packages to learn about new viruses. To stay current, you have to download the updates from the company's Web site and install them.

NAV's new LiveUpdate feature is intended to remove the tedium of checking for, downloading, and installing such updates. After communicating with a server at Symantec that stores the latest virus definitions, NAV checks to see whether newer definitions are available and then downloads and installs them.

This is an excellent idea in theory, but LiveUpdate is seriously flawed. Although you can use your modem to call Symantec's server, most people will use their Internet connection, because it's both cheaper and more convenient. However, once NAV has connected to the server and begins downloading over the Internet, it uses the archaic – and staggeringly inefficient – Xmodem protocol to transfer the update. Also, despite NAV's ability to decompress files, the updates are transmitted uncompressed, further bloating the download time.

In tests with a 33.6Kbps modem, NAV took 22 minutes to download an update – roughly 6Kbps. In contrast, downloading Symantec's stand-alone updater via FTP took about half the time, even though the updater was twice the size of the "live" update. LiveUpdate may free you from manually performing multiple update steps, but it will cost you in terms of time and online connect fees.

### Macworld's buying advice

Virex 5.9 is the less obtrusive of the two anti-viral packages, and you're unlikely to know it's doing its protective duty until it detects a problem. However, its user interface needs a features overhaul, its RAM requirements are hefty, and it lacks an automated update feature. Using Norton AntiVirus 5.0.3, despite its problematic LiveUpdate feature and overprotective behaviour, is the best way to protect your Mac from invasion.

**Stephan Somogyi**

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Instant access to 32-volumes of information



## Encyclopædia Britannica 1999

**Publisher:** Encyclopædia Britannica International  
**www.eb.com**

**Distributor:** Acclaim (0800 282 433)

**Pros:** Easy access to a wealth of information; friendly front end; Internet hot-links; good search engine.

**Cons:** US dictionary; annual subscription; expensive.

**Price:** £99 inc VAT.

**Star Rating:** ★★☆☆/8.2

With Microsoft Encarta discontinued on the Mac and other encyclopædias offering primarily US content, Encyclopædia Britannica 1999 is a welcome addition to the Mac's knowledge base.

The Standard Edition offers the texts



from the full 32-volume Encyclopædia Britannica along with 4,000 photos and illustrations. Netscape Navigator is used as the front end, offering a friendly, well known 'face' to the program that can be updated as new versions of Navigator appear (the latest incarnation, 4.5, seamlessly replaced the CD version of 4.04).

Aside from the CD-based product being much cheaper than bound volumes, it offers a number of features that are impossible on a book-based system. The Search box supports both free-form questions and answers or

Boolean queries, with a controlled number of searches delivered. Additionally, hot-links within each article move you seamlessly from area to area – after a time, it feels as though you're simply browsing the Internet. In fact, this is another facility on offer – there are around 30,000 embedded Internet URLs.

Another impressive facility is the compass navigation where you can explore the geography, politics and culture of the world's nations. Not so impressive is the online US dictionary – next to useless in a UK product.

### Macworld's buying advice

While it's a shame that the full Multimedia Edition – double the number of pictures plus multimedia presentations and filtered search, isn't available on the Mac, Encyclopædia Britannica 1999 is user-friendly with a good search engine. It can also be updated, though at a cost of \$40 per year via the Web site. Given the retail price, surely the first year's downloads could have been free of charge? Slight gripes aside, Encyclopædia Britannica is the most authoritative source of knowledge on the Mac. **Vic Lennard**

Budget scanner with few frills



## Phantom 336CX

**Manufacturer:** Microtek  
**www.microtek.nl**

**Distributor:** Computers Unlimited (0181 358 5858)

**Pros:** Affordable; better-than-average software bundle; good-quality output; fast scanning times.

**Cons:** Build quality isn't great.

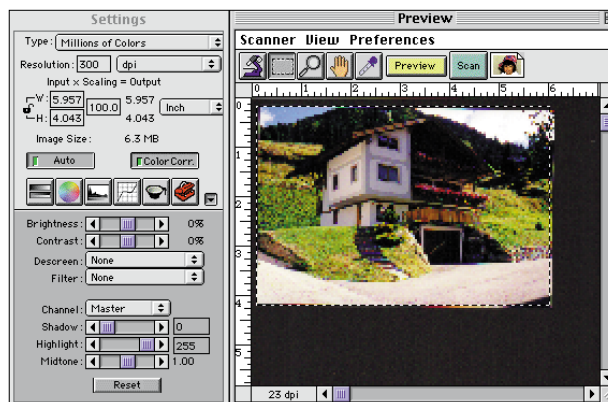
**Price:** £75 ex VAT.

**Star Rating:** ★★☆☆/6.4

USB scanners all have one thing in common: they're so cheap, cheerful and downright plasticity that, if you do get one, don't be surprised to find a line of movie stars queuing to get surgical inspiration. High-tech, they ain't.

So the Microtek Phantom 336CX wasn't too much of a surprise. On the plus side, it has a decent range of all-terrain software, and plugging the whole shebang together took all of ten seconds. It's more slimline than most flatbeds too, with a depth that's little more than that of a horizontal fag packet. It is also on par with most budget scanners, with a 36-bit colour depth, although it sports an extremely poor resolution of 300-x-600dpi. Most of its competitors offer twice that.

Our tests proved that affordable consumer scanners are really beginning to offer a decent performance. The Phantom 336CX can do a full scan of a standard-sized photo in around 30 seconds using the TWAIN plug-in for Adobe Photoshop or the bundled ColorIT image software.



The plug-in calls up Microtek ScanWizard, (above) where you can exercise reasonable control over the preview before final scan. Colour-levels, curves, contrast and the like can all be manually tweaked, or you can simply let the software automatically attempt the best scan it can. And this where it delivers. We scanned a test reflective without auto-correction, and it appeared quite washed out, with muted colours. With the auto-correction option on, however, colours where vastly improved, with more vibrant hues and sharper definition, although the limited resolution does hurt image quality.

Even better, everything is controllable through one or two windows – a preview window of the scan, and a floating palette of tools. You can even apply filters, such as blur, emboss and sharpen, before the final scan, and get a live, updated preview. Previewing is quite fast, with a full A4 page taking around 20 seconds.

The rest of the software bundle is firmly aimed at the home office or family user. It comes with Caere OmniPage Limited Edition for optical character recognition,

which proved quite effective in the review tests. We scanned a full A4 printed letter, and the text was ready for editing in just seconds.

Although the ScanSuite software bundle that comes with the Phantom 336CX offers more than other scanner in this price range, it still smacks of 'Happy Shopper' scanning.

Operating like a Kai's PowerScanTools Lite, the software has a funky-esque console that links to other applications, such as email, image-editing, printer and fax software to add a further dimension to bundle. A row of chunky buttons provides user-friendly scanning, and the entire process is automated. You can, say, select a destination application (email, say), hit the '72-dpi scan' button, and the scanner will dash off, scan the photo, crop off any trace of the scanner lid, fire up the application and do everything bar send it. It's a fantastic idea and worked for most things, but the cropped image looked like a kid armed with scissors had been at it without adult supervision.

### Macworld's buying advice

If you need a budget scanner and don't mind a slightly weak build quality then the Phantom 336CX is a good choice. The auto-correction software is great for novices, while more seasoned scan fans will enjoy its 'tweakability'. Despite its better-than-average software bundle, the scanner is badly let down by its low resolution.

**Matthew Bath**



# Fruit yum

## Macworld tastes Apple's new coloured iMacs. By Simon Jary

**W**arning: the following information is not for the colour blind, or for any stick-in-the-muds still in love with their old beige computers. In case you haven't been reading *Macworld* recently or your telly's on the blink, you won't know that Apple's iMac – the best-selling consumer PC in the US and many other parts of the world (Hooray!) – is now available in a fruity range of new colours: blueberry, grape, lime, strawberry and tangerine.

Apple struck gold with the iMac – its finest-ever consumer PC. For the first time in years, it pushed Compaq and Dell into silver and bronze positions. And now it wants to push its Windows competitors right out of the spectrum.

And it's not just the colours that have changed. The new fruit-flavoured iMacs are faster than the Bondi Blue original, have more video memory than the very first incarnation, and sport larger hard drives. The iMac just keeps getting better, but don't hang around waiting for spiffier features and cheaper prices – if you desire one, stop wasting time and buy one today. In this review of today's iMacs, we'll tell you why these are the best consumer Macs (indeed, best consumer computer ever), undertake some indepth colour research, and answer your most frequently asked questions.

### Techno colour

The five new colours – or “flavours” as Apple dubs them – are a juicier bunch than the beige boxes available everywhere else. Take a trip to PC World or Dixons, and tell me which computer stands out from the crowd. Even the Bondi Blue original iMac looks a bit staid in comparison to this range.

Quite simply, Apple has surprised us all about how much there is to consider when choosing colours for computers. In the past, we'd worry over the difference between lists of megahertz, disk capacities and screen sizes. Now that processors are so powerful that even the slowest is fast enough to handle the majority of our domestic needs, choosing a home PC has come down to the far more subjective level of taste and co-ordination. It's a whole new way of considering computer compatibility... Imagine, people are actually going to redecorate their rooms around these things!

“The colours are reflecting the Web-oriented content now driving the computer,” says Thomas Meyerhoffer, the designer of Apple's first translucent computer, the eMate.

“The computer is no longer a graphic printer machine or calculator in black or beige – instead it's a [www.edutainment.box](http://www.edutainment.box),” says the former Apple senior designer.

Colour, says Apple CEO Steve Jobs, “is far more important than the

mumbo-jumbo associated with buying a computer. People don't care about this stuff. What they care about is ‘I want to express myself’.”

According to Leatrice Eiseman, author of *Colors for Your Every Mood*, “The colours of the new iMacs represent the current demographic of who's buying computers. These are innovators and young-minded people who are open to the use of colour.”

Initially, there was a very high demand for Blueberry – presumably because people equated the iMac with blue, whatever the shade. Apple now claims that demand is “equalizing”, with the rainbow television ad raising the profile of the other four colours.

Figures in from resellers indicate that the Blueberry and Grape models are apparently selling best, with poor-old tangerine the least-popular colour. And yet, regional preferences turn the tables in various parts of the world. For example, Tangerine iMacs are reportedly proving popular in Denver, Colorado, reflecting the orange team colours of the NFL Super Bowl champs, the Denver Broncos. Apple UK may find a smaller fanbase among Dundee Utd fans. The Lime iMac is also a slow seller in most areas, and yet the Irish apparently love its emerald qualities.

What is certain today is that Apple seemed to get its homework right with the original Bondi Blue iMac, as the new Blueberry continues to outsell all the other flavours – with a 45 per cent share as we went to press. Grape sells about 25 per cent. And the other colours make up the other 30 per cent in this order: Strawberry, Lime and Tangerine. We can only presume that the two most modern colours of the range (Lime and Tangerine) have not yet made a significant impression on domestic decoration to fit into homely colour schemes.

Apple's great new colours TV ad will be a boost, with its iMacs spinning to the tune of the Rolling Stones' *She's a Rainbow* from the *Satanic Majesties Request* LP – believe me, we've had countless calls asking us how to get hold of the music... (This 1967 long-player also included the Y2K-prophesizing *2000 Light Years From Home*.)

It's a fine choice of music, but thank God Apple didn't stretch the Stones references any further. Imagine the Jagger/Richards range of iMacs: Ruby Tuesday would be fine, but please no Blood Red Wine or Brown Sugar... as for Cocksucker Blues...

### The i jump

The new iMacs boast a faster processor than the original Bondi Blue iMacs. The 266MHz G3 PowerPC processor is about as fast as a 400MHz Pentium II, and even faster than a 450MHz PII at some functions. This is because the PowerPC G3 is a more ‘modern’, leaner

continues page 69





The Blueberry iMac is the most popular of the new iMac flavours – probably because it’s closest to the familiar Bondi Blue of the original (it’s slightly less aquamarine). Tests have shown that exposure to blue has a calming influence. Blood pressure, pulse rate and – worryingly – brain waves slow down. This could turn out useful when your iMac crashes or you’re waiting for your USB printer to churn out the next page.

**Symbolism:** Blue represents reliability, and, according to studies, denotes a safe investment. Blue is best for authority and spirituality – it was the colour of God in the Old Testament. In heraldry, blue symbolizes piety and sincerity. It has often been used to imply heaven, truth, eternity, faith, peace, loyalty, chastity, prudence, wisdom and contemplation.

**Popularity:** Both the landmark 1941 colour survey by Hans Eysenck and the comprehensive 1977 Porter Survey place blue as number one in the “universal order of colour”. This preference was given further backing in the 80s when Rowntree-Mackintosh (no relation) discovered that British kids were crying out for blue smarties.

**Blueberry owners:** People who prefer blue are said to be conservative, accomplished, deliberate and successful. It also indicates a desire for order and peace, and a benign life.

**For:** Chelsea and Everton fans; William Hague’s new Tories; iMac traditionalists

**Not for:** John Prescott’s old Labour; Man Utd fans; iMac radicals

**Pop group/song:** New Order’s *Blue Monday*

**Meal:** Muffin

**Teletubby:** Noo-noo (the vacuum cleaner)



The Grape iMac is a luxurious, and, of course, translucent purple – “the colour of imperial Rome” according to Apple’s Steve Jobs. The word purple comes from the name of a starfish that yielded a highly expensive coloured dye that was used for the robes of Roman emperors and magistrates. The only more expensive colour dye at the time was blue.

**Symbolism:** Purple is a rich colour, carrying suggestions of wealth and extravagance. In heraldry it denotes rank and royalty. It is closely related to violet – which is used to indicate knowledge, sanctity, humility, sorrow, nostalgia and old age. On the other hand, companies such as Cadbury and Silk Cut use purple for its “naughty but nice” associations, linking smoothness and excitement.

**Popularity:** In colour preference tests, violet/purple ranks over yellow and orange, but below red, blue and green. *Macworld*’s own tests found Grape to be No. 1 ‘with the ladies’.

**Grape owners:** Those who prefer violet are said to be sensitive and tasteful, with a liking for the arts and philosophy. They are temperamental with high ideals. Purple follows blue in the calming stakes, slowing down blood pressure, pulse rate, and brain waves.

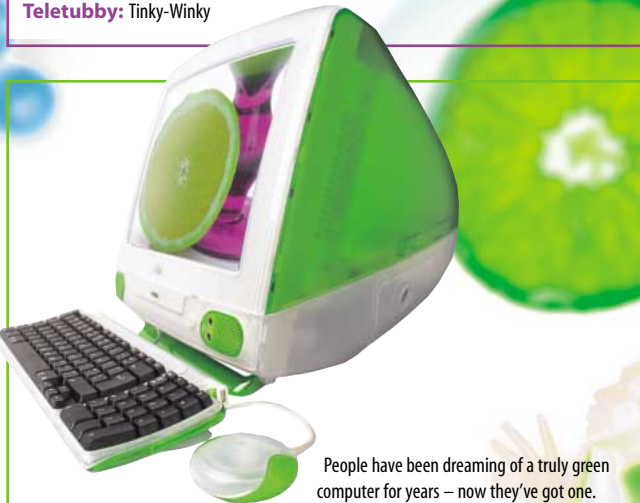
**For:** Wine connoisseurs; goths; priests

**Not for:** Teetotalers; the young at heart; real men

**Pop group/song:** Black Grape; Deep Purple; *Purple Haze*

**Meal:** Aubergine bake

**Teletubby:** Tinky-Winky



People have been dreaming of a truly green computer for years – now they’ve got one.

Lime is a cordial colour, but quite shockingly new compared to yesterday’s beige. Before this less-than-sober machine, Lime was popular only for squeezing down bottles of Mexican beer. Now, Apple is hoping you’ll find this Lime tasty enough on its own.

**Symbolism:** Green is the colour of nature and even genetically modified vegetables. In heraldry, green is the symbol of hope, through growth and regeneration. It’s the sacred colour of Islam, but also the colour of money – American Express sucked until the company changed its credit cards from yellow to green. It has, of course, also been appropriated by the eco-friendly Green Movement (natch).

**Popularity:** Green comes third in colour-preference tests, behind blue and red.

**Lime owners:** Adults who prefer green are said to be well adjusted, civilized and conventional. Kids who choose it are well balanced and without strong overt emotions. Take note: a rejection of green is said to indicate a degree of mental disturbance, and a complex lonely existence. . .

**For:** Alan Titchmarsh; eco-friendlies; country types

**Not for:** Urban minimalists; Orangemen; the French Secret Service

**Pop group/song:** Green Day; Shakin’ Stevens’ *Behind the Green Door*

**Meal:** Salad

**Teletubby:** Dipsy



Pinker than a true red, this Strawberry is really rather camp.

**Symbolism:** Red is the colour of fire and passion. It suggests love, joy, energy, strength, assertiveness, ferocity and fertility. Red is also the colour of revolution. Beware, while red is the Chinese marriage colour (good idea for a present), it means disaster to native Americans and death to those of Celtic persuasion. In heraldry, it symbolizes courage and zeal. In marketing red addresses our need for instant satisfaction: hence its use on Coca-Cola and Marlboro ciggies. Exposure to red causes blood pressure to go up, pulse rates to quicken, and stimulates brain waves. Be careful, though, as it also makes you sweat more. . .

**Popularity:** In the Eysenck and Porter colour surveys (see Blueberry), blue came out as the preferred colour for the great majority of adults, with red safely in second. Interestingly, however, red is number one for pre-pubescents. So the Strawberry iMac could be just the ticket to get your kids more interested in the Internet than Nanosaur.

**Strawberry owners:** This iMac’s red tone should find strident support. And its pinkish hues might attract people who seek tenderness, affection and gentility.

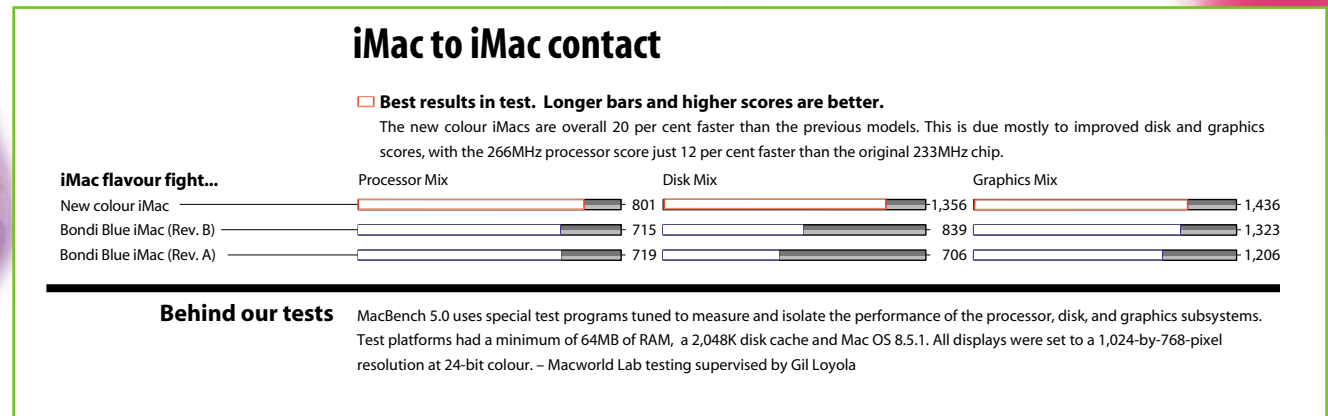
**For:** Liverpool, Man Utd, Forest, Arsenal and Charlton fans; Barbie; Air stewards

**Not for:** Bulls; the bad-tempered; Dennis Wise

**Pop group/song:** Strawberry Switchblade; *Strawberry Fields Forever*

**Meal:** Strawberries and cream

**Teletubby:** Po



processor than even Intel’s latest Pentium III. Don’t compare megahertz speeds across different processors, let alone platforms.

The colour iMacs 266MHz chip represents an overall boost of about 20 per cent over the original’s 233MHz processor and chipset. See our speed-comparison table on page 69. The original 233MHz chip shouldn’t be considered a slacker, however. It is way fast enough for most domestic – even professional – needs. Remember, many Mac pros are still labouring away in studios on pre-G3 Power Macs.

The newest iMacs also get a 6GB hard drive – compared to the older 4GB drives. Again, 4 gigs is probably fine for most, but few will turn their nose up at the extra 33 per cent of space.

The on-board video accelerator – also known as the graphics chipset – is responsible for the screen performance. This was upgraded – from an ATI RAGE IIc to a more powerful RAGE Pro Turbo – even on the Bondi Blue iMac around December last year, and so there’s no change with the flavoured iMacs. The next step up – the blistering ATI RAGE 128 – is available only on the new blue-&-white G3 Power Mac (see *Macworld*, March 1999).

Another change is the fruits’ lack of an infra-red port. The Bondi Blue iMacs did have this under-used feature. Its removal has enraged some PowerBook users who use infra-red for networking. Apple, probably rightly, decided the benefits of wireless connectivity didn’t justify the extra cost for the majority of iMac users. At present, there’s no infra-red solution as Farallon’s add-on AirDock is not available for USB. But it’s no great loss for most of us.

Everything else on the iMacs is pretty much the same, except some local differences in the software bundle. The fruity iMacs ship with: Mac OS 8.5.1, ClarisWorks 5.0, Microsoft Internet Explorer, Microsoft Outlook Express, Netscape Navigator, Adobe PageMill, FAXstf, Kai’s Photo Soap SE, World Book Macintosh Edition, Nanosaur, Sammy’s Science House and Thinkin’ Things 2.

Of course, each new iMac comes with its own coloured keyboard and mouse. Neither is to everyone’s liking, though. Some say the keyboard is too small; others that the low-profile round mouse is uncomfortable.

continues page 70



Remarkably, the least popular of the new iMac flavours. The Tangerine iMac is more a glowing gold or fossilized amber than a small orange. We rather like its striking statement here at *Macworld*, and are perplexed at its ranking. Colour research has shown that orange is often picked out by those who suffer from physical and mental exhaustion to compensate for the vitality they lack – quite the thing for rush-hour on the Internet.

**Symbolism:** Orange is the colour of warmth, fruit and flowers. In Greek mythology, orange was the colour of Jupiter, the supreme ruler of gods and mortals. On the other hand, the robes of Buddhist monks are coloured saffron to symbolize humility. For the Chinese and Japanese, orange is the colour of love and happiness. In heraldry, orange symbolizes strength and endurance.

**Popularity:** iMac buyers must be a pretty representative bunch as orange is also at the bottom of the colour-preference heap, according to scientific studies.

**Tangerine owners:** People who favour orange are said to be cheerful with a ready smile, quick witted, talkative, and sociable.

**For:** Auric Goldfinger; King Midas; Dundee Utd fans; the Man from Delmonte

**Not for:** Vodafone; Irish republicans; sexually deviant Tory MPs

**Pop group/song:** Tangerine Dream (natch); REM’s *Orange Crush*

**Meal:** Jaffa cakes

**Teletubby:** None!

### Droppy floppy

One of the most famous facts about the iMac is its lack of a floppy-disk drive. For some bizarre reason, this is still causing people to choke on their sandwiches. Yes, it was a radical step for Apple to take. But only as radical as rubber tyres for bikes, or ditching 8-track audio cartridges from music centres. And Intel was quick to endorse the notion of a floppyless computer with its Concept PC announcements a couple of months later – although Windows users seem keen to hang on to the 1.4MB removable ‘solution’ until about 2003. . .

Apple scrapped the floppy for a number of reasons. First, it chopped quite a few pounds off the price. And second, the floppy is definitely a dying medium for storage in the light of bigger file sizes, inexpensive Zip and SuperDisk formats, and fast email messaging.

One company, NetFloppy, is capitalizing on the iMac’s floppy gap with what it calls a “virtual floppy” for iMac users. (In fact, the service can be used by any computer users, even those owning Windows PCs. iMacFloppy.com is an online file-exchange service where, instead of copying a file to a floppy in order to transfer a file to another Mac, the iMac user copies the file to a secure online disk space. This file can then be easily transferred to another computer’s hard drive. All the second computer needs to access the file is an Internet connection.

The iMacFloppy disk-service account comes with a free 3MB of disk space for file transfers between Macs. NetFloppy plans to offer premium service add-ons, which may include more storage space for larger files, security-enhanced connections, and group accounts.

Visitors to iMacFloppy.com can also pick a matching colour scheme to match the new fruit flavours. The site uses an Internet file called a ‘cookie’, which is a tiny text file that contains information about you and your visits to Web sites. With this cookie installed, your chosen colour scheme pops up automatically on the next visit.

Other storage solutions include Imation’s SuperDisk and Iomega’s Zip drive – see the following feature on USB peripherals.



On the whole, most of the iMac users we polled agreed that they soon "got used" to the more compact keyboard – it still includes all the function keys of the old Extended Keyboard. But few had anything nice to say about the mouse. It's just too radical a change for people to stomach. We surveyed iMac owners new to computers, and found they don't complain about the mouse at all – it seems to be a case of oldies adjusting to the new form. After a few weeks trial, if you don't like it we suggest you try one of the third-party mice on offer – for instance, Contour's more traditionally shaped Unimouse (£35) that comes in each of the new flavours. See the following feature on USB peripherals for even more choices.

### Somewhere over the rainbow

Apple reports that the iMac has sold over a million units since last August. As soon as it hit the shelves, it rushed to the top of the charts – becoming the best-selling PC (October through December 1998) in the US and other countries. Hands down it beat various models of Compaq Presario (with 350MHz Pentium II and 333MHz Celeron chips) – some feat.

The most significant and satisfying success of the iMac to Apple is that it's not just Mac loyalists who are buying – the company's latest figures show that approximately 46 per cent were purchased by first-time computer owners, and another 16 per cent were purchased by Wintel converts – totalling 62 per cent of iMac buyers that are new to the Macintosh platform. This is definite proof that the iMac's simple Internet setup, competitive price and design ethos mark a significant victory for Apple in a world dominated by the beige Wintel Goliath.

Now that Apple has moved its professional Power Mac systems to USB as well, the choice of peripherals is sure to rise. Another bonus for iMac users is Windows 98 support for the Intel-engineered standard. Wait till the Windows gang get busy creating new add-ons – it won't take much to make these devices work with your iMac.

Whether Blueberry reigns where Bondi Blue left off, Tangerine gets peeled by Strawberry, or Grape squashes Lime, the introduction of the fruit-flavour iMacs is sure to boost the consumer device's profile and selling power. Up above the streets and houses, rainbow flying high.

mw

## Fruit-flavoured iMac Q&A

### Where's the floppy disk drive?

There isn't one. As we explain in 'Droppy floppy' on page 69, there are far better ways of transferring files than the ye olde floppy. Imation's SuperDisks hold 120MB of data and can handle old-style 1.4MB floppies if you really need to use them. The other major storage devices for iMacs are Iomega's Zip (100MB) and Jaz (2GB) drives, but neither is compatible with floppies.

### Will this iMac run all the software we need since it doesn't run Windows?

The iMac comes with Mac OS 8.5.1 already installed, so it will run all the thousands of software titles available for the Mac – from Microsoft Office to Tomb Raider. By adding software like Connectix's Virtual PC or Insignia's SoftWindows 98 (both about £100), the iMac can run any Windows 95 and 98 titles, too. Connectix has also announced Virtual GameStation, which promises to let you run games for the Sony PlayStation on Macs. At the moment, though, it will run only US titles. We'll keep you posted.

### How long will it last before we have to replace it?

Most new computers – unless you buy them under the bar down your boozer – should run and run for years. Macs age better than Windows PCs because the older ones can still get by with many of today's software titles. Many Macs in use today date back from the 80s! You are more likely to replace a computer because your needs have changed. The more you use your iMac, the more proficient and ambitious you become. And that usually means you demand more and more from your computer. That said, the iMac is one powerful computer – and unless you suddenly become interested in 3D engineering CAD or high-end video producing, your new iMac should be



good for at least three years. And that's probably more than you could say about any computer available today.

### The iMac has a 266MHz processor. But Windows PCs run on 350 and 400MHz Pentium II. Surely the iMac is slower?

It's easy to directly compare processor speeds, but it's not the way to judge between different types of computer. The iMac's G3 PowerPC processor is a different type of chip to the Pentium II of a Windows PC. In general, the iMac's 266MHz G3 processor runs software at about the same speed as a 400-450MHz Pentium II or Celeron processor.

### Are the iMacs all the same?

Yes and no. There have been three types of iMac since the September UK launch date. Revision 1 (RevA) was quietly upgraded – with no price increase – to RevB in December last year. Basically, Apple boosted the video memory (VRAM) in the RevB iMac from 2MB to the maximum 6MB and powered up the graphics chipset to deliver better 3D game graphics. The extra VRAM also allows iMacs to display millions of colours at the screen's maximum resolution (1,024-x-768 pixels). The flavoured iMacs are RevC. They have a faster processor (266MHz as opposed to 233MHz) and a larger hard drive (6GB compared to 4GB). Rev4? You can bet your iMac T-shirt that

they'll be faster iMacs released sometime this year, but nobody's saying when. There have also been rumours of iMacs with 17-inch screens – but don't hold your breath waiting for these. All computers get superseded by faster, bigger (and cheaper) models. Fact of life. Don't worry about it. If you want/need now, buy today.

### Is that all I need to buy?

Yes, if you just want to browse the World Wide Web, send email, and play games. But you'll probably want to print out letters and so forth. And maybe you'll want to input your own pictures – via either a scanner or a digital camera. One additional thing we advise all iMac buyers to purchase is more memory. The iMac's 32MB is enough for low-level browsing and email, but will struggle if you want to use a Web browser at the same time you're drawing in ClarisWorks. You can't have too much memory – you'll crash less and be able to run bigger and better programs. Buy an extra 64MB for about an extra £70.

### What does it cost?

The new "fruit-flavoured" iMac lists for £779 (ex. VAT). Be careful, MacWarehouse is cheekily charging an extra tenner for the popular Blueberry and Grape models. You can still pick up an original (probably RevB) Bondi Blue iMac for just £649. Both of those prices include a keyboard, mouse, and generous software bundle. Unlike many "bargain" Windows PCs you'll see, the iMac has a built-in 15-inch screen and so that won't cost you a penny more. But extras like printers, more memory (RAM), an external disk drive, scanner and extra software will cost extra.

There are some good deals about with printers and scanners – check our USB feature, Reviews pages and Star Ratings section for the best iMac peripherals.

mw



# USB:



## serial killer

USB is opening up whole new worlds for the Mac

By David Fanning

**T**he bulk of the talk about the specs of both the iMac and the new Power Mac G3 range has tended to focus on their lack of floppy drive. However, the replacement of the Mac serial port with USB (Universal Serial Bus) is far more likely to affect the way you use your machine. You needn't worry about the lack of Mac serial ports though, because their replacement runs rings around it, on both speed and flexibility.

Here, we take a look at the current crop of USB devices, which come in all shapes and sizes. Apple claimed in January that there were more than 100 USB peripherals available for Macintosh. This may have been a tad premature at the time – at least from a UK perspective. But within the next three or four months that figure will become a gross under-estimation.

By the end of 1999, most things that can utilize USB will be using it. For example, most digital camera manufacturers are turning their thoughts to USB, and printer and scanner makers have already delivered USB-consumer models.

Companies such as La Cie are pushing USB capability by making storage peripherals available. And the makers of mice, keyboards and joysticks for the PC market are taking advantage of the new Apple market. The future for USB on the Mac platform is looking rosy – to such a degree that if you don't have USB you may want to add capability with a USB PCI card.



**Floppy king**  
The Imation SuperDisk can read floppies and 120MB SuperDisks.

USB offers speed and expandability. Its speed is a healthy 12Mbps – more than ten times faster than the old serial bus. This is comparable to the original speed of SCSI, although most storage now uses SCSI 2 or better, which increases bandwidth. USB storage devices are both possible and practical – they just won't be that fast.

Although USB can't compete with SCSI on speed, its ability to connect multiple devices far exceeds the cranky capabilities of SCSI, which has a traditional limit of seven devices – more if you use multiple SCSI cards (but not much more). USB can handle a colossal 127 devices. For that, you would need a desk as long as an old Wild West bar. Also, if all these devices were to share the same port, 12Mbps wouldn't go very far.

To use multiple devices with USB you need a hub. There are plenty available and they're simple to use. Simply connect the hub to your USB port and, hey presto, you have additional USB ports. This tier-configuration allows simultaneous

continues page 74



**Space chase**  
The La Cie USB Hard Drive is the only way to get extra disk space on an iMac.

## Music and USB

Any article penned in the last month about connectivity between MIDI and USB would more than likely be full of doom and gloom. This is because at the time, all existing Mac-MIDI interfaces connected via serial ports. There were USB-to-Serial adaptors available, but these were displaying timing inaccuracies. Timing is not so much of a big deal if you are, say, printing. After all, what's 250msecs when you're outputting a document? However, it did result in extremely ragged recording and playback of notes when used for MIDI. However, the forecast for piping MIDI-in and -out of the iMac and the new Power Macintosh G3s via USB – there's no other way – is looking brighter day-by-day.

First, there was the news at Macworld Expo in San Francisco that the £79 Momentum uConnect USB-to-serial adaptors have been rigorously designed to avoid timing inaccuracies and should be fine for connecting existing serial-MIDI interfaces. Griffin also has an adaptor, whose timing performance is in the right ball park – but no serious tests have yet been done to validate either of these claims (watch this space).

This was followed two weeks later at NAMM by MIDIMan introducing the first MIDI interface that plugs directly in to the iMac's USB port, the MIDISPORT 2x2 Multiport Interface. As the name implies, this gives you two MIDI Ins and Outs – or 32 MIDI channels – which is enough for most people's needs and, at £89, is a steal.

MIDIMan was at the beta stage with the software drivers as we went to press, so it should be available shortly after this article appears. Roland has been shipping a Super MPU64 USB-MIDI Interface, which gives 4-in 4-out with Windows drivers. Again, the Mac drivers are at the beta stage and are due in late March.

### USB-to-audio

The outlook for USB with regard to audio on the Mac is a little murky right now. At the moment, the hooks don't exist in the Apple System to allow transmission of digital audio via USB, so once again, hardware products that should work on the iMac and G3/400 are currently shipping only with Windows drivers. These include Opcode's DatPort, that gives SPDIF In and Out, which is ideal for connecting your DAT machine hence the name.

Roland, meanwhile, has released the UA100, which is a great device for guitar players. It not only gives audio-in (at both mic and guitar levels) and audio-out via 20-bit converters, but also DSP simulations of effects pedals and amplifier simulations – as well as recording staples, such as reverb and chorus. We just have to hope that the next system upgrade adds in the hooks for audio, because both Opcode and Roland are keen to support the Mac platform with these products.

– Paul Wiffen

## Music and USB contacts

Momentum uConnect  
Channel Dynamics Distribution Limited  
0870 607 0540  
[www.momentumus.com](http://www.momentumus.com)

MIDIMan UK (MIDISPORT 2x2)  
01205 290680  
[www.midiman.net](http://www.midiman.net)

Edirol (Roland Super MPU64 & UA100)  
0181 956 2224  
[www.roland.co.uk](http://www.roland.co.uk)

Opcode (DATport)  
SCV  
0171 923 1892  
[www.scvlondon.co.uk/opcode](http://www.scvlondon.co.uk/opcode)

connections of multiple printers, scanners, or any other USB device.

### Hot swapping

Hot swapping is when you connect or disconnect a device without restarting the computer. This may not seem like a big deal to new users, but the gnashing of teeth caused by adding or removing SCSI devices is still fresh in the mind with old hands like me. Talking of teeth-gnashing, the other great thing about USB is there's no need for termination or ID numbers. Again, newcomers will be blissfully ignorant of "the SCSI factor". When I first stumbled into the house of cards that is the SCSI chain I was told by an "expert" that such chains are "more art than science". Black art, maybe. All you now need to know is that USB connectivity is a godsend.

There's another bonus that USB has over most other types of connection, it has power. The variable power that USB can deliver means that external power supplies may not be needed in many cases, making for smaller, neater devices.

### Future connections

As with all technology, shelf-life is always an issue. USB, though, should have longevity, because more demanding communication needs will be served by other technologies. In the instance of the new blue and white Power Mac G3s, the FireWire ports take care of higher bandwidth communication needs. FireWire is far more suitable for taking the place of SCSI than USB, but it is definitely overkill for keyboards and joysticks.

Until recently, USB has been strictly an iMac issue, so the majority of devices available are low-end or consumer level.

Higher quality mid-range scanners, for example, still use SCSI as the preferred connection. This can and will cause problems for new Power Macintosh G3 owners.

Scanners tend not to saturate the available bandwidth with SCSI, as the speed of the scanner is generally quite slow. Consequently even the expensive scanners use only SCSI 2 – considerably slower than Ultra 2 SCSI, which ships as an option on the new Power Macs.

What happens to a fast-SCSI chain when you connect a slow scanner is that the chain drops to the speed of the slowest device. This defeats the object of fast SCSI, and an alternative is desperately needed. USB can fill that gap, but has been considered a low-end option until recently. FireWire is another solution, although this could make scanners more expensive. By the end of this year how the scanner market will solve this problem should reveal itself. Whether it is FireWire or USB, professional Macintosh users should be able to reap the benefits.

### Storage

The collection of USB storage devices is wide and diverse. With the new G3 Macs, storage will be a real concern, because of the lack of a floppy drive. This was a bold move by trend-setting Apple. There are always situations where using old technology is unavoidable. The choice for floppy compatibility is narrow; there's either the SuperDrive from Imation or the nDrive from Newer. The SuperDrive was one of the first USB devices to ship exclusively for the iMac, and Apple assisted in its design so that it would compliment the iMac. As with many of the older USB

designs, it no longer matches perfectly with the new range of colours. Since Apple has placed more emphasis on design and appearance, colour-compatibility is an added issue.

The SuperDrive is a bit of an odd duck. Not only does it come in a USB format for Macintoshes but it can read floppy disks and proprietary 120MB disks. This means that, for floppy compatibility, it's great. But what are you going to do with the 120MB disks when nobody else uses them? The answer is, of course, use the SuperDrive for backup and floppy compatibility. It's important that you realize that this is its biggest selling point.

Unfortunately, a raft of releases from Newer Technology came too late for this feature. One of the promised devices is the uDrive, a USB floppy-drive. The only difference between this and the floppies we know and love will be the uDrive's manual eject, rather than the traditional auto-eject that we see in Macs. Its colour is closest to the Blueberry iMac and G3 Power Macs. If this doesn't match your choice of iMac, Newer is due to offer its USB devices in other flavours in due course.

Once you get beyond your floppy needs, storage choices improve. Iomega offers the USB Zip drive. When the Bondi Blue was the only colour of iMac, Iomega bucked the trend by offering a different hue of blue. Its boldness will pay dividends, because it's a good match for the blue G3 Power Mac and the Blueberry iMac. Many people expected the USB Zip to be considerably slower than usual, but in practice it doesn't affect speed noticeably.

Compared to the SuperDrive, the

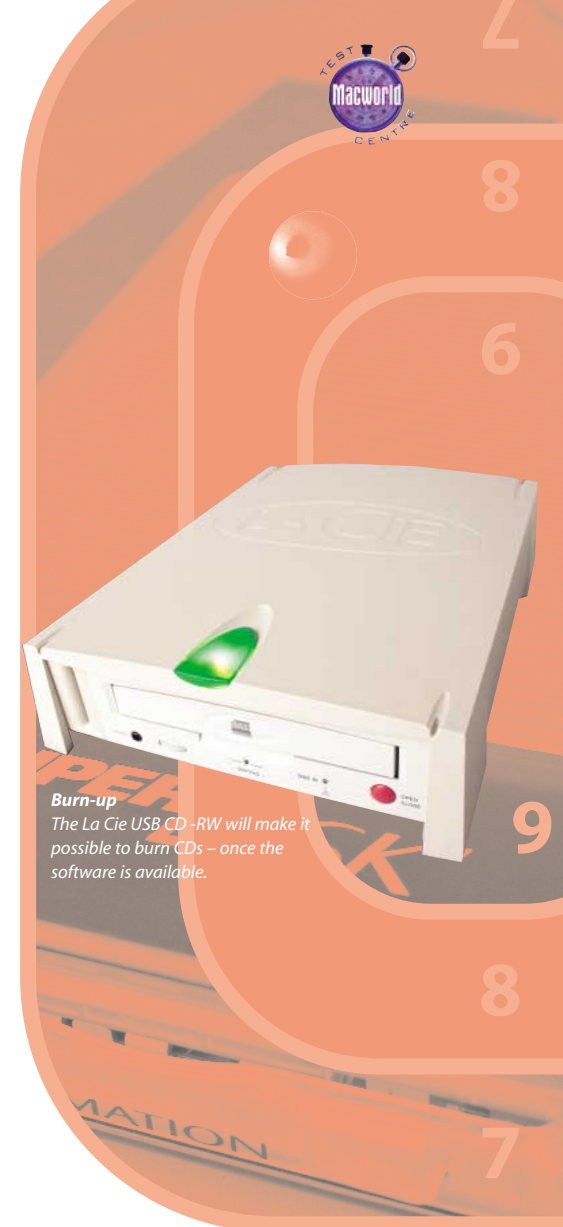
Zip disk has a lower capacity of 100MB. However, its portability is greatly improved, as it's a popular storage format on both Macs and PCs. This is handy for homeworking. It can't read floppy disks, but it's still more useful than the Imation SuperDrive.

If you need to move files larger than 120MB, there are a couple of solutions looming on the horizon. Iomega's Jaz drive currently doesn't have a USB option, but by the summer an adaptor cable should be available. Iomega is calling the adaptor a "USB dongle", which is confusing, as a dongle normally refers to a hardware security device. Whatever it's called, it'll allow you to plug a 2GB SCSI Jaz drive into your USB-equipped Mac.

One of my favourite options is already available for the PC market, but software issues are delaying the Mac version. La Cie has a CD-RW that connects via USB. The software issue will be solved as soon as Adaptec – the maker of the CD-mastering software, Toast – brings out the USB-compatible version. A CD-RW is able to burn CDs and re-writeable CDs, which is a cost-effective way of both archiving your work and sharing it.

CD burners are just about the most flexible storage devices you could wish for. At under £1 per disc they are as cheap as floppies, so you can afford to send them to customers and colleagues without worrying about their return. If you use the dearer re-writeable CDs you can use them again and again. You can even make compilation CDs for your own listening pleasure. You'd be hard-pushed to find a modern computer

continues page 77



**Burn-up**  
The La Cie USB CD-RW will make it possible to burn CDs – once the software is available.

## USB: get connected

COMPANY	MODEL	PRICE	STAR RATING	CONTACT	TELEPHONE
Agfa	SnapScan 1212U	£139	★★★★/7.8	Agfa	0181 231 5511
Ariston	Podiki Mouse	£20	★★★★/7.9	Ariston	01756 704 444
Entrega	7 Port USB Hub	£99	★★★★/7.5	Entrega	0118 965 7751
Epson	Stylus Color 900	£342	★★★★/8.5	Epson	0800 289 622
Griffin Technology	iMate ADB converter	£49	★★★★/7.5	Alta	0171 622 6606
Griffin Technology	iPort serial converter	£49	★★★★/7.5	Alta	0171 622 6606
Hermstedt	WebShuttle	£159	★★★★/8.6	Hermstedt	0171 242 4060
Imation	SuperDrive	£120	★★★★/7.4	Imation	01344 402 200
Interex	Scrolling Mouse	£22	★★★★/8.2	ProMedia	01923 266 400
Interex	4 Port Hub	£55	★★★★/7.5	ProMedia	01923 266 400
KeySpan	USB PCI card	£59	★★★★/8.0	AM Micro	01392 426473
La Cie	4.3GB USB Hard Drive	£165	★★★★/8.6	La Cie	0171 872 8000
Microsoft	Sidewinder JoyStick	£43	★★★★/8.1	Microsoft	0345 002 000
Microsoft	GamePad	£26	★★★★/8.0	Microsoft	0345 002 000
SanDisk	ImageMate card reader	£53	★★★★/8.5	Peak Development	01489 796 979
Thrustmaster	Top Gun JoyStick	£34	★★★★/7.8	Thrustmaster	01276 607 905
Thrustmaster	GamePad	£21	★★★★/7.0	Thrustmaster	01276 607 905
Umax	Astra 1220U	£99	★★★★/8.0	IMC	01344 871 329



**Image conscious**  
The San Disk ImageMate makes digital photography much more convenient.



## Logitech QuickCamVC

The QuickCam has been around for a while, but was recently bought by Logitech. The new version uses USB and has a maximum colour resolution of 320-x-240 pixels. Video conferencing is possibly the most popular application for this camera, closely followed by Web cams. To use the video-conferencing facilities you need additional software, such as the infamous CUSeeMe, which is widely used – though often for broadcasting pictures of bodies in varying states of undress. There are more respectable uses for CUSeeMe: in the

US, some nurseries use it so that parents can keep an eye on their kids from the office. The QuickCam VC also lends itself to use as a Web cam. Again, you'll need additional software.

Although QuickCam VC may not come with driver software, you should be able to download the relevant software from [www.logitech.co.uk](http://www.logitech.co.uk)



that can't read data from a CD, so it is also the most flexible way to share stuff.

Actually, La Cie has really scooped the competition, by developing a CD-RW for USB. CD burning requires a steady stream of data, and simple USB controllers won't work – because they use buffers to hold the data. La Cie has developed a direct-control process that means buffers aren't required, which in turn makes the CD-RW machine possible. By the time this issue of *Macworld* is on the shelves the CD-RW should be available for just £249.

La Cie has also made a selection of external hard drives with USB connections – another scoop, as this is the only way you can increase disk space on an iMac. The colours aren't funky or translucent but they do a good job. And if you need more disk space you are short on choices. The capacities of the La Cie drives range from 2GB to 10GB, in 2GB increments. I don't know whether it's because it's been a long time since I bought a hard drive, but the prices seem amazingly affordable. The 2GB is £145. Adding a 10GB drive costs £229.

### Control

You know the advertising advertising slogan that declares "Power is nothing without control." This is also true with USB-equipped Macs, because they have souped-up games graphics, yet share the same round mouse and kid-sized keyboard as the iMac. The answer is game controllers. The companies that have traditionally supplied PC gamers with these products are now beginning to make USB versions. Although not all of them are shipping with full Mac software, most are compatible by virtue of drivers, either from the manufacturer or Apple.

The biggest name in game controllers is also the biggest name in computing. Yes, it's Microsoft. After you've stopped booing, you may be interested in a couple of its game controllers that have USB connections. There is the SideWinder Precision Pro joystick and the SideWinder Game Pad. Technically speaking, these products are not for Macs at all. The beauty of USB makes it possible for us to get a look in because Apple has written drivers for these devices. There is one oddity, though: if you buy one of these devices and download the drivers from the Apple Web site, it will work. If for some reason it doesn't, it means it isn't supported by either company. Microsoft will tell you it isn't compatible

with the Mac, and Apple will tell you that it is a Microsoft product. This situation should be resolved with the release of Mac OS 8.6, because that will include the input sprockets needed. Then, as these sprockets become an official Apple product, Apple should – in theory – support them.

Having played around with both the joystick and the game pad, I'd say you should get over any Microsoft-phobia and use them. They are good, solid devices – very well designed and comfortable to use. One minor niggle is that the joystick is designed for right-handers only. Being of the sinister persuasion, this would make flying a jet fighter a little tricky. Do any real left-handed fighter pilots exist?

The game pad is reminiscent of a PlayStation controller, but has heavier and bigger handles. It may be too big for little hands, but perhaps little hands should not be wasting the denizens of Unreal or Quake.

An alternative to the Microsoft products is the range from Thrustmaster. As the name suggests, game controllers are the primary focus of its business. At the moment, only two controllers from Thrustmaster's huge range are USB-compatible: the Top Gun joystick and the Fusion game pad. Both are Mac-compatible, but if the drivers aren't included in the box you can download them from the Thrustmaster Web site ([www.thrustmaster.com](http://www.thrustmaster.com)). Again, the joystick is right-handed. The game pad feels good in your hands as long as you shut your eyes. The colour scheme of black, powder blue and lime green is shocking and guaranteed to clash with your Mac, no matter what flavour it is.

Another company that will soon ship a USB joystick and game pad is Ariston. Don't confuse it with the washing machine people – they are quite different. The Ariston range covers hubs, a video camera, various adaptors and mice. The product that shipped first was the Podiki Mouse. Podiki, as I'm sure we were all aware, is Greek for mouse. At first, I scoffed at this two-button affair but it does manage to go faster and further than your average mouse, and I found the second button useful. Another left-hander gripe is the fact that its second button is automatically an option-click button – and is positioned on the right. I'm told that updated drivers for the mouse will soon take care of this problem.

There are a couple of other mice

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### Microsoft

If you can overcome any Microsoft misgivings you may have, its USB game controllers – like the SideWinder joystick (above) and the Game Pad (below) may win you over.



### Cut and thrust

At present, only two controllers from Thrustmaster's huge range of game controllers are USB-compatible: the Top Gun joystick (above) and the Fusion game pad (below).







**Mice one**  
The Interex Scrolling mouse (above) and Aristone's Podiki mouse are an alternative to the new G3 Macs' round, child-like, mouse.



**Scan do**  
Available USB scanners include the Agfa SnapScan 1212U (above) and the Umax Astra 1220U (below) – both offer excellent results at a low price.



available for USB Macs, both featuring a scroll wheel. This wheel allows you to scroll up and down documents without clicking on the scroll bar. Logitech has the USB Wheel Mouse, and Interex has the USB Scrolling mouse. At the time of going to press, the USB Wheel mouse had no Mac drivers to support it, so it just has a wheel. The Scrolling mouse, however, does have Mac drivers, allowing you to use the wheel to scroll through documents easily. It's also available in funky iMac colours, although the original black is still my favourite. Contour Design ([www.contourdesign.com](http://www.contourdesign.com)) also has a mouse, called the UniMouse, that is available in the new iMac flavours.

I'm sure that soon all the available USB mice and other devices will have Mac drivers. In the meantime any of the mice examined make a good replacement for those who find the iMac mouse too small.

### Connections

The plethora of USB devices means you can easily run out of USB ports if you aren't careful. I know I said you can have 127 devices – but you'll need a hub to supply the extra ports. Fortunately, hubs are both plentiful and cheap – probably because they don't usually require driver software, and they're the same as PC USB hubs.

Hubs work by having two kinds of port. There is one upstream port – that connects to your Mac – and any number of downstream ports – that you connect devices to. If a device carries one of each type of port then you can carry on adding mode devices in a chain without the need for a hub. Devices that need power should run either directly from your Mac or from a powered hub.

Prices for hubs vary, but reckon on paying around £60 for a four-port hub and around £100 for a seven-port hub. Interex has both a four-port and a seven-port hub made of clear plastic, supposedly to match your iMac's styling. I'm not convinced it's so pleasing seeing the guts of all these devices. After all, green PCB boards aren't that interesting. Entrega also has a couple of hubs that are small an unobtrusive. Newer will be releasing its hubs imminently, and they'll sport a funky asymmetrical box and fab iMac colours. They're also much bigger than I expected. Newer wins the prize for most iMac-like styling, with Entrega taking the medal for discretion.

Interex, meanwhile, is promising a new design of hub that has interchangeable legs and match the iMac flavours.

Some monitors are now shipping with built-in hubs, so if you want to keep everything neat and tidy, a monitor hub could be the answer.

It's quite likely that you have some old equipment that isn't USB-compatible, but there's a solution. For serial devices, there are USB-to-Mac serial converters available from Newer and KeySpan. Both appear to work well with printers, but there are some issues concerning the reliability of modem

## High-speed SCSI cards are great for new G3 drives, but if you add a scanner to the chain it will slow everything down.

connections. These problems may yet be resolved, but at present it's not a working solution.

Other converters are available for serial connections, but be aware that USB-to-serial may, in fact, refer to PC serial. In some situations, even this is an ideal solution. If you're one of the many people who has ditched a PC and switched to the Mac OS, you may have a PC-compatible printer. PowerPrint USB from InfoWave provides the correct connection and drivers for most PC printers.

It's possible that you need an ADB port for a couple of reasons: you can't stand your iMac keyboard, or you use software that requires a dongle. A dongle, for those of you lucky enough not to need one, is like a hardware key used as a security device to stop software theft. It connects to the old keyboard connection and, when you use the software, it checks to see if the key is present. If ADB is something that you need, then the iMate from Griffin Technology provides the solution for £49.

SCSI is probably the most missed connection of all. External devices, such as scanners, hard drives and removable drives, usually use SCSI. There are USB- to-SCSI converters, but we weren't able to secure one in time for this feature. Basically, if you have an external device that uses SCSI, your best option is get a SCSI card. However, this leaves iMac users out in the cold. If you're an iMac owner and want to use a SCSI device, use a converter. If you have a scanner that uses a SCSI connection, you should consider a USB scanner. At a little over £100 it is a relatively cheap way to solve the problem. For external hard disks, the La Cie USB drive is an excellent and inexpensive solution.

If you intend to use a SCSI card in a new Power Mac G3, be careful to choose the right one. High-speed cards are great for high-speed drives, but if you add a scanner to the chain it will slow everything else down. If necessary, get a separate SCSI 2 card for a scanner and save the high-speed card for high-speed devices.

### Input and output

At present, only a handful of cameras have USB connections. These are looked at in more depth in a separate feature on digital

cameras on page 84. If you have a camera that doesn't include a USB connection you can still use USB to get the images from it. For cameras that use the CompactFlash storage cards there is a card reader available from Sandisk that plugs into the USB port. This allows you to access the images from the card as easily as a floppy disk, but much quicker. Newer has two card readers that will soon be available: one for CompactFlash and another for SmartMedia. Each will work in the same way and all of them are much faster than downloading images using a serial cable.

The scanner market for USB has, until now, been aimed directly at the iMac community – but this is set to change. USB is quite capable of controlling higher-spec scanners, though none are yet available. Those that are available come from Agfa and Umax, and offer excellent results at a low price.

The Agfa Snapscan 1212U and the Umax Astra 1220U have a resolution of 600-x-1,200 dpi and 36-bit colour recognition. There isn't much to choose between the software bundles either: Agfa offers ColorIt; Umax offers Adobe PhotoDeluxe. What does make a difference is that the Umax Astra has a transparency adaptor. If you don't need to scan transparencies then choose on price.

Printing from a USB-equipped Mac requires either one of the adaptors mentioned: an ethernet-equipped printer or a USB printer. Epson has been quick off the mark to offer USB printers, and the range now includes the Stylus Color 740, Stylus Photo 750, Stylus Color 900 and Stylus Photo 1200. Each of the printers is aimed at a particular type of printing.

The Stylus Color 740 is a straightforward, all-round A4 printer, and costs just £193. It uses four inks to produce good text and reasonable but not quite photographic output. The Stylus Photo 750 is also an A4 printer, but it uses six inks for a better photographic colour output. The Stylus Color 900 is similar to the 740, but could be described as a pro version as it has been updated and is much faster than the 740.

In fact, the Stylus Color 900 claims to be the fastest ink-jet printer in the world. We'll test this claim next month, as part of our personal printer round-up. Finally, the Stylus Photo 1200 is an A3 version of the 750, but giving photographic quality. All are USB-compatible and range from £193 for the 740 to £387 for the 1200.

### Communications

Modems are part and parcel of the iMac, but the new Power Macintosh G3 machines lack both a modem and a serial port to connect one. There will be internal modems available for them soon, but in the meantime you must use either a

USB-to-Mac serial converter or skip the modem completely and go for ISDN. BT's Home Highway now offers affordable ISDN for consumers. There is also a selection of USB ISDN terminal adaptors available. These are external ISDN devices that connect to your Mac using USB. While we covered a few of these in December's *Macworld*, one of them missed the deadline – so we have included it here.

The model in question is the WebShuttle from Hermstedt. It was designed with the iMac in mind, even though it's purple and white. It's a happy coincidence that the colour scheme goes well with the Grape iMac. Its performance – as with all ISDN devices – is 64Kbps per channel. Compare this with the 50Kbps you can expect from a 56K modem.

If you're in a real hurry to connect to the Internet, you can also use the second ISDN channel to bring the connection speed up to 128Kbps. Remember though, if you do this, using two channels means double the telephone bill. Hermstedt has done an excellent job of bringing a potentially complicated technology to the consumer market.

### Macworld buying advice

The range of USB products is so diverse that it's impossible to pick one above the rest. If you have a USB-equipped Mac then USB is not a choice, it's a way of life. I am excited by the new opportunities offered by this standard.

The range of products available for Macintosh has never been greater and this is, in part, because of the cross-over of PC products. The end result is great news for the consumer. The future is looking even brighter. Serial is dead, long live Universal Serial. **MW**

**Ink big**  
The Stylus Color 900 ink-jet is one of a range of USB-friendly printers from Epson.



**Line up**  
The Hermstedt WebShuttle ISDN device was designed with the iMac in mind.



# Open and shutter case

Sub-£1,000 digital cameras are rapidly closing the quality gap. **By David Fanning**

**D**igital cameras have been improving rapidly since the technology first hit the market 10 years ago. The first, faltering steps were marred by low resolution and poor picture-quality, as well as clumsy, awkward storage and picture retrieval.

People have been making the transition to digital technology in just about every area: audio, video, television and radio have all benefited from the improved quality of digital.

The problem with digital photography is that the results are poorer quality pound for pound than the analogue alternative. Not so long ago, this gulf in quality appeared difficult to breach. Yet with a helping hand from companies like Epson – with its photo-quality colour ink-jet printers – final output is now comparable to traditional photography at least at the consumer level, and it is still improving.

This month we take a look at the latest batch of consumer digital cameras. Our price cut-off point is £1,000, but most models fall well below that threshold. All are capable of producing at least a 640-x-480-pixel image, and some as large as 1,536-x-1,024. The resolution that a camera is capable of determines the amount of detail you get in the image. You often find that the number of pixels (picture-elements, or dots) a camera can see is quoted in megapixels. For example, a camera with a resolution of 1,536-x-1,024 pixels could be described as a 1.5-megapixel camera – because, if you multiply the numbers, the total would be over 1.5 million pixels.

If you think digital cameras are overpriced, it may be time for another look. As with computers, the price of digital cameras is coming down, while capability at any given price-point is improving. The £1,600-Apple Mac LCII of around seven years ago, for example, bears absolutely no comparison with the new £1,600 400MHz Power Macintosh. It's the same with digital cameras. Having said this, even the



cheapest models are vastly more expensive than their traditional counterparts. You can pick up an inexpensive camera and scanner for less than the price of the cheapest digital camera. That, though, misses the point of digital photography: flexibility, speed and no need for developing.

At the high-end of the scale, there are digital cameras that can keep pace with professional cameras. These start at around the £1,000 mark, but rise rapidly to £5,000

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## Editors' Choice

### Canon PowerShot Pro 70

**Macworld Rating** ★★★★★/8.8

Of the cameras we tested, the Canon PowerShot Pro 70 (above) was easily the favourite. It has a resolution of 1,536-x-1,024 pixels, which makes it the highest resolution model we looked at. The auto focus worked quickly and accurately, while other cameras hummed and clicked for an age trying to get it right. A Burst mode lets you take as many as four pictures per second.

## Digital cameras in the frame

MANUFACTURER	MODEL	PRICE	STAR RATING	RESOLUTION (pixels)	STORAGE MEDIA	CONTACT	TELEPHONE
Agfa	ePhoto 1680	£479	★★★★/7.6	1,680-x-1,200	SmartMedia	Agfa	0181 231 4200
Canon	PowerShot A5 Zoom	£549	★★★★/8.4	1,536-x-1,024	Dual CompactFlash	Canon	0121 666 6262
Canon	PowerShot Pro70	£999	★★★★/8.8	1,024-x-768	CompactFlash	Canon	0121 666 6262
Epson	PhotoPC 750z	£619	★★★★/8.6	1,280-x-960	CompactFlash	Epson	0800 220 546
Epson	PhotoPC 600	£323	★★★★/8.4	1,024-x-768	CompactFlash	Epson	0800 220 546
Epson	PhotoPC 700	£380	★★★★/8.5	1,280-x-960	CompactFlash	Epson	0800 220 546
Fujifilm	MX-500	£340	★★★★/8.4	1,280-x-1,024	SmartMedia	Fujifilm	0171 586 5900
Kodak	DC210	£340	★★★★/7.8	1,152 x 864	CompactFlash	Kodak	0800 281 487
Kodak	DC260	£595	★★★★/8.5	1,536-x-1,024	CompactFlash	Kodak	0800 281 487
Nikon	Coolpix 600	£399	★★★★/8.0	1,024 x 768	CompactFlash	Nikon	0800 230 220
Nikon	Coolpix 900	£680	★★★★/8.4	1,280 x 960	CompactFlash	Nikon	0800 230 220
Olympus	Camedia C900	£553	★★★★/8.3	1,280 x 961	SmartMedia	Olympus	0800 0720 070
Panasonic	NV-DCF3	£340	★★★/6.4	640-x-480	CompactFlash	Panasonic	0900 357 357
Ricoh	RDC-4 200	£499	★★★★/8.7	1,280 x 960	SmartMedia	Johnsons Photopia	01782 753300
Sanyo	DigiCam VPC-X350	£382	★★★★/8.5	1,024-x-768	SmartMedia	Sanyo	01923 246363
Sony	Mavica MVC-FD81	£459	★★★★/8.2	1,024-x-768	Floppy Disk	Sony	0990 111999

and beyond. Although a specialist market, the benefits should make it more popular. Consequently, prices will plummet.

For example, taking studio shots with a digital camera for a magazine like *Macworld* means results are instantly viewable. Once the shot is perfected, it can be sent directly to our production department. Compare this to a traditional photo-shoot where there are at least a dozen steps before you get a digital image you can drop into QuarkXPress.

The reason for most of the advances in digital cameras is improved CCDs. Charge Couple Devices act as the camera's retina, capturing colour information. The number of pixels held on the CCD determines image-resolution. Equally important, CCD-quality affects image-quality. It's possible to have a high-resolution picture but still have a poor-quality image.

The cameras we tested have a range of resolutions up to 1.5 megapixels. Once cameras hit this resolution, results – when printed on a good photo-quality printer – can pass for traditional analogue prints. Over the next two or three years, you can expect cameras in this price range to fall into the 2.5-megapixel category. When such technology is affordable to the general public, sales of traditional cameras are sure to dwindle.

When testing, we found each camera has a unique character, which is refreshing. It means manufacturers are doing their best to offer new and useful features to get themselves ahead of the pack. This is great news for the consumer, but makes direct comparison difficult.

For example, the Kodak DC260 has a great on-screen interface and even makes a convincing "shutter" noise when you take a picture. The Sony Mavica, meanwhile,

boasts effects such as sepia tone.

One factor that must bear direct comparison is picture-quality. To this end, we have printed the results from each camera on page 90.

Ease-of-use is another concern when dealing with consumer-oriented items like digital cameras. If you give the camera to a stranger to take a family holiday snap you don't want to have to explain the intricacies of digital photography. Ideally, they needn't even know they're holding a digital camera. Cue the Kodak fake-shutter effect.

On the other hand, not everybody wants their camera to decide on how to take the perfect picture. For the photography enthusiast, control is everything. The Canon PowerShot Pro70 is aimed at such buffs. To get the best out of it you may have to bury yourself in the manual for a few hours. The Pro 70 feels great, it is heavy and it looks like a traditional SLR camera, so will appeal to the more serious photographers. Unfortunately, it has a serious price tag too: at £999 it just sneaks under the wire for

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### Lens a hand

The Canon PowerShot A5 Zoom has an automated motorized lens-cover.



### Floppy seconds-saver

The Sony Mavica MVC-FD81's floppy-based storage is a good way of holding images.



## Judge for yourself

Here are a series of identical photos, taken under similar circumstances, on each of the cameras tested.



Agfa e-Photo 1680



Canon A5 Zoom



Canon Pro 70



Epson PhotoPC 700



Epson PhotoPC 600



Epson PhotoPC 750z



Fujifilm MX-500



Kodak DC210



Kodak DC260



Nikon Coolpix 600



Nikon Coolpix 900



Panasonic NV-DCF3



Ricoh RDC-4 200



Sanyo DigiCam VPC-X350



Sony Mavica MVC-FD81

## Digital camera media: the ins and outs

All cameras tested – with the exception of the Sony Mavica – use one of two media to store images: Smart Media, or CompactFlash cards. The Mavica stores images on a 3.5-inch floppy drive, which is the quickest way of transferring images – as long as you have a floppy drive. However, if you're the proud owner of an iMac or a new Power Mac G3 the floppy drive is a thing of the past, so you'll have to make alternative arrangements.

In fact, the iMac and new G3 models also lack a serial port, so whatever the camera you chose, you'll need a USB solution. USB comes in a variety of shapes and sizes, not all of which are readily available. Most, though, will ship soon. Adding a USB floppy drive from Newer Technology or a 120MB SuperDrive from Imation can solve the Mavicas floppy disk problem.

Also, there are USB readers available to read either the Smart Media or CompactFlash cards. This is a convenient way to offload your images and much faster than downloading directly from the camera via a serial connection. It should be on the top of your shopping list if you have USB and use your camera regularly.

Using a card reader means you can both store and quickly download images, which is a great help. Otherwise you must hook

your camera up to a computer and spend an age downloading at serial-port speeds. If you have more than one card's worth of material you must change the card in the camera too. This becomes such a pain that you end up yearning for the days when you whipped film down to Boots. There are a number of USB-to-serial adaptors that some manufacturers are rumoured to be thinking of including in the box. In any case, this is only a short-term fix, because in most cases it will slow down USB-to-serial speeds.

Storage media are still too expensive to afford to carry a bunch of them around with you, but you may wish to consider one of the high-capacity cards – especially if you're going to be apart from your Mac for a while.

You can always ditch snaps that don't make the grade, but in practice, all but the obviously awful ones stay put until you get them home and view them on a big screen.

Another option for the USB user is, of course, a USB connection. It's much faster than the serial connection and simple to use. Kodak has the only USB-equipped camera that we tested. Some manufacturers still need convincing that USB is common enough to warrant arming their cameras with it.

this feature. But if you are used to paying big bucks for semi-professional cameras this might not be such a shock.

### Software

Even the top-end cameras we tested include software to help add value. Programs like MGI PhotoSuite, Adobe PhotoDeluxe and HotShots from PictureWorks allows even the novice computer-user to make Christmas and birthday cards, to craft digital effects and to tweak picture quality.

It's good to see manufacturers have added decent software, as this gives value for money, especially for novices. Even the more advanced user can have fun with such software; it beats Photoshop hands-down when used for making greetings cards.

### Screen tests

We took a variety of pictures – both indoors and out – with each camera. The results of the outdoor test are printed un-enhanced on the facing page. The images were turned into Photoshop TIFF files, with no processing or correcting. Bear in mind that, with the software provided with these cameras, you may be able to improve on the quality of original shots.

**Agfa e-Photo 1680** This is the big brother of the 1280, which came out last year. The quirky design is hinged, so that the LCD viewfinder can always be seen at the correct angle, even if you hold the camera over your head. The quality of image is good, but the lack of an optical viewfinder means that taking pictures in bright sunlight can be difficult. Viewing an LCD image is always a problem in bright sunlight – especially with colour LCDs – so an optical viewfinder as backup is always desirable. The resolution is high, so you can capture great images. But the time it takes to save each image is slow. It could do with a rapid-fire option to make it more like a traditional camera.

**Canon PowerShot A5 Zoom** The PowerShot A5 is a high-quality camera.

It's compact and has a metal case, like the IXUS range of film cameras from Canon. It also has a motorized lens-cover that automatically protects the camera lens when it's not in use.

One problem with digital cameras is battery life. The Canon models both use a NiMH rechargeable cell or normal rechargeable batteries. The NiMH cell comes with a charger and Canon claims that, fully charged, it can take 400 pictures before needing a recharge. I didn't get that far, but take this figure as a best-case scenario. Even so, this is considerably more than the average manufacturers' claim.

While not in the megapixel class, the A5 Zoom makes great pictures at 1,024-x-768. When printed, this is fine for paper up to A5 size, hence the name. As one of the smallest cameras tested, it makes for a premium mid-range option at £549.

**Canon PowerShot Pro70** Of the cameras we tested, the PowerShot Pro 70 was easily the favourite. It has a resolution of 1,536-x-1,024, which makes it the highest resolution model we looked at – but it's so much more than this. Based on the Canon EOS, it has a 28-70mm f/2.0-2.4 zoom lens, and is compatible with the EOS flash system. The auto focus worked quickly and accurately, while other cameras hummed and clicked for an age trying to get it right. A Burst mode lets you take as many as four pictures per second. Dual CompactFlash slots mean that you have a theoretical 128MB capacity for images.

While the price tag of £999 is bound to be off-putting for all but the most serious photographers, it is for now the ultimate in consumer digital cameras.

**Epson PhotoPC 600** The PhotoPC 600 was the cheapest camera tested, but it

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### Fun and gains

The Kodak DC 260 is a fun, yet pro-style camera.



still performed well. Picture quality was not as good as its megapixel counterparts, but for Web-publishing it is ideal. Its price tag of £323 is reasonable, but I wouldn't be surprised to see it drop further when the 750z hits the streets.

The 600 includes a terrific selection of software, as does the entire Epson range. For example, PictureWorks HotShots allows you to enhance your images, then frame it with a number of borders. It's ideal for cards or school projects.

**Epson PhotoPC 700** The PhotoPC 700 is basically a megapixel version of the 600. The resolution is 1,280-x-960, which makes for a substantial improvement in image quality. It also has more advanced functions, such as exposure-compensation control, sensitivity selection, white-balance settings and improved macro facilities. In addition to the bundled software, there's Adobe PageMill for Web publishing. These make it more suitable for the semi-professional user, and for just £60 more than the 600.

The other thing that this camera has that the competition doesn't is the ability to print directly to an Epson printer. For the extreme technophobe you can actually own and use an Epson camera and printer without having to use a computer at all.

**Epson PhotoPC 750z** The 750z is the latest addition to the Epson fold. Technically, the CCD is the same as the PhotoPC 700. Epson uses interpolation to increase the resolution to 1,600-x-1,200. I don't comprehend the reasoning behind this, as interpolation simply adds pixels not image information. The results are good but are nothing you couldn't achieve by using Photoshop to increase the resolution.

One nice feature is the LCD display's ability to use ambient light to illuminate the viewfinder. This prolongs battery life and makes for better visibility in sunlight. While the PhotoPC 750z is undeniably better than the PhotoPC 700, I'm not convinced it's £220 better.

**FujiFilm MX-500** The MX-500 is a good high-resolution camera for the money, albeit lightweight and plastic. This is unfortunate, because it belies its picture quality. One drawback is that its Smart Media card is a mere 2MB – compared to most other models' 4MB. Also, each time you start the software, it reminds you that you need to tell it to look for a camera connection. Surely it would have been easier for it to just check itself? This is from version 3.0.4 of Picture Shuttle. I dread to think what previous versions looked like.

Ignoring its inelegance, the pictures are excellent. Also, Adobe Photo Deluxe is included, which is great fun and easy to use. The MX-500's is the best software bundle, ahead of the PictureWorks suite included in other models.

**Kodak DC210** I quite liked this at first – until I tried to download some images and had to read the small print. It reads "Macintosh Systems require PC Card

reader capability or Macintosh connection-kit accessory (sold separately)". That's annoying. Imagine getting home from Dixons and excitedly trying out your new buy, only to find that irritating message. Anyway, forewarned is forearmed. Don't make the mistake I did. When I did get images off the camera and into my Mac, the results were good.

A megapixel CCD means that a resolution of 1,152-x-864 is possible. Its case is more substantial than the FujiFilm MX-500, but its controls are equally basic. For a simple point-&-click camera it's a good buy – but you get more for your money with the Epson PhotoPC 700.

**Kodak DC260** This is a fun, yet professional-style camera. The controls run from an on-screen display, which gives easy feature access. The £600 price tag makes it one of the most expensive cameras we tested, but this is because of its high spec. It has a 1.6 million-pixel (1,536-x-1,024) CCD. This is the first model to come with a USB connection, although curiously the USB cable that plugs into the camera is an 8-pin serial connection. This means it can handle less high-tech downloading methods. Its fake shutter sound-effect mentioned earlier is silly, but fun. All in all, the DC260 is a deceptively good camera.

**Nikon CoolPix 600** The 600 is what you might call a prestige mid-range camera. It's small and sexy and has gadgets such as a docking adaptor to recharge and download at the same time. However, it's not a megapixel camera and, at £469 it's pricy. Also, the software was reluctant to recognize the camera, constantly asking if it connected correctly. Once you have managed to get the images onto your Mac you can mess around to your heart's content with Adobe ImageReady.

It has a detachable flash that makes for an even smaller camera. Size is, in fact, one of the main features of this camera. You can get better quality cameras for less money – such as the Kodak 210 or the FujiFilm MX-500 – but these are considerably bigger and cheaper looking. The CoolPix, then, wins the vanity vote.

**Nikon CoolPix 900** This is a much more impressive camera than the 600, and not just because of its higher resolution. Its hinged body is reminiscent of the Agfa e-Photo models, but it is more compact and has a sturdy metal casing. Because Nikon is a world leader in high-quality lenses, the CoolPix 900 has optional lens attachments. Your choice ranges from basic wide-angle lenses to horrendously expensive fisheye lenses. These are choices more normally found with high-end cameras.

Unfortunately, the Nikon shows its age (over six months) when compared with the new Canon PowerShot Pro 70. It out-guns the Nikon on resolution and features. But at £200 more, perhaps it should.

**Olympus Camedia C900** Olympus is another big name from traditional



**Mega pictures**

The Epson PhotoPC 700 is a Megapixel version of the 600, with its resolution of 1,280-x-960 pixels.

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## Glossary of digital camera terms

**CCD** Charge Couple Devices are the retina of the camera. They record the light and colour information focused on each pixel and express that information as a number. These numbers are the basis for the digital image.

**Pixels** A pixel is a picture-element, or dot. A CCD has hundreds of thousands of these, producing an image that can be reproduced on a monitor or printer.

**Resolution** The resolution of an image describes the number of pixels used to make up that image. For instance 1,024-x-768 means the image is made up of by a grid of 1,024 dots horizontally and 768 dots vertically. The higher the resolution the more dots you have. The more dots you have the better the clarity of the image.

**LCD viewfinder** The LCD viewfinder is a small LCD screen in which

you can view an image before taking a picture. You can also use it to view images after you have taken them. It is usually best to have both an LCD view finder and a traditional optical viewfinder, as LCD displays don't work well in direct sunlight.

**USB** Universal Serial Bus is the latest connection technology found in iMacs and the new Power Macintosh G3 series. It is ten times the speed of its predecessor, the Mac Serial connection. It's possible to use some cameras with this higher-speed connection. Also, card readers usually use USB.

**SmartMedia and CompactFlash** These are forms of media used to hold the image-data. SmartMedia is a thin plastic card that slots into the cameras. CompactFlash cards are slightly thicker, looking more like a small After Eight Mint.

photography. The Camedia looks very much like a traditional camera too. As you retract the lens cover, the motorized lens extends, just like the Olympus film version.

The controls aren't entirely self-explanatory, but after a quick dip into the manual you should be ready to go. Its resolution of 1,280-x-960 means images are sharp and clear. Although at first the £495 price tag seems a lot for a camera with just above-average features, it's a neat, compact camera producing better-than-average images. What it does lack is decent software: a downloading utility hardly sets the pulse racing

**Panasonic NV-DCF3** The NV-DCF3 would have been a great camera two years ago. However, paying close to £400 for a 640-x-480 camera is ridiculous, no matter what the features or quality. Look for big price reductions before going for this one.

**Ricoh RDC-4 200** The Ricoh is another hinged camera, similar to the Nikon CoolPix 900 in appearance. Compact but a tad flimsy, it relies on an LCD viewfinder, as there is no optical viewfinder. This makes it difficult to use in bright sunlight. When taking pictures with the sun behind you it is especially difficult to see. The results were good, but you can get a better camera – from Fuji or Epson – for the same price.

**Sanyo DigiCam VPC-X350** This is the same camera featured in that great TV commercial about a Japanese wedding party getting ready for a group photo. When the shutter is clicked the guests start doing the Birdy Dance – because the camera can also record 15 seconds of video.

The DigiCam is one of the smaller cameras we tested, but it features 1,024-x-768 resolution and a rapid-fire facility. It's ideal for just about any occasion and small enough to keep with you in case a photo-opportunity should arise.

**Sony Mavica MVC-FD81** The Sony Mavica was another pleasant surprise. Its floppy-based storage is a good way of holding images. I was concerned it would chomp through batteries very quickly because of its floppy drive, but this wasn't the case. Another unexpected feature was its ability to impose image effects – such as

embossing, sepia and monochrome – as you take the shots. After taking your pictures, simply slip the floppy into your computer and copy the contents. The resulting folder contains an HTML file, which lets you browse the images from a Web browser.

### In the pipeline

The ever increasing resolution of digital cameras is about to jump up another step when FujiFilm release its MX-2700 model which boasts a 2.3 megapixel CCD. This translates to a 1,800-x-1,200-pixel image, which should be capable of printing an A4 image at photographic quality.

Fuji also has another couple of models up its sleeve, which we will review in a future issue.

Nikon also has recently announced two additions to the CoolPix range: the 700 and 950. These models will also soon be reviewed.

### Macworld buying advice

First work out what you want to do with your digital images. If you need pictures to add to your Web site, for example, aim low. Low-res cameras have low prices, and you can pick up a bargain – such as the £329 PhotoPC 600 from Epson.

Fortunately for your wallet, this is also reaching the end of its product cycle, which will mean additional end-of-line bargains when it's discontinued. If budget isn't too much of an issue, the next model up – the Photo PC 700 – offers superior quality at just £380.

If you're after semi-professional results or – to use a nasty new phrase – a prosumer model, look to the big names of traditional photography: Canon, Kodak and Nikon make excellent digital cameras, which produce images fit for publication, although not of glossy magazine standard.

The PowerShot Pro 70, the Kodak DC260 and the Nikon CoolPix 900 are robust and high-quality cameras.

Although the Canon definitely wins on features, the Nikon is more like a simple point-and-click.

The Kodak, meanwhile is somewhere between the two, with a simple fun interface and high resolution.

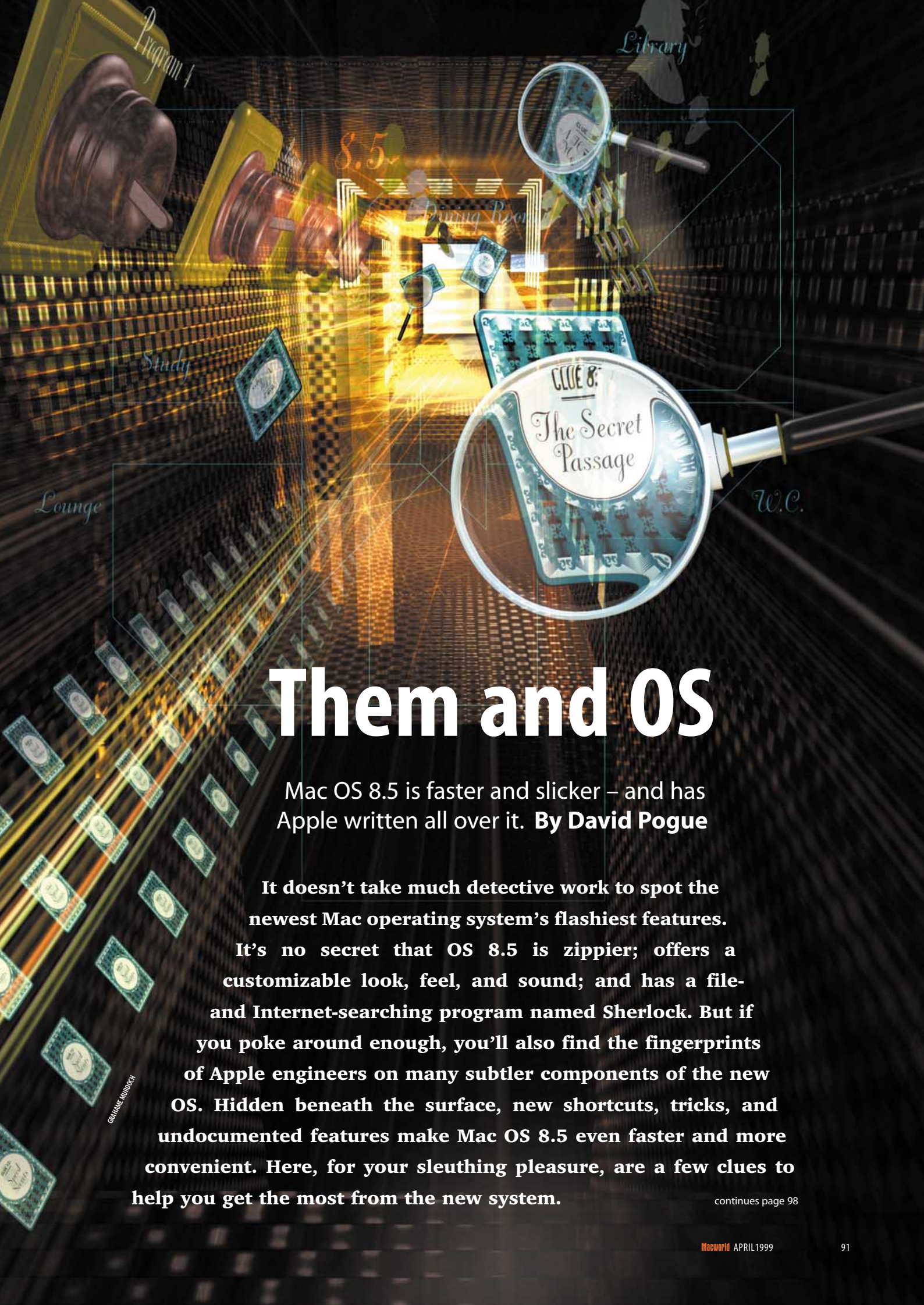
MW



### Snap's snip

FujiFilm's MX-500 is a good high-resolution camera for the £340 price tag.





# Them and OS

Mac OS 8.5 is faster and slicker – and has Apple written all over it. **By David Pogue**

**It doesn't take much detective work to spot the newest Mac operating system's flashiest features. It's no secret that OS 8.5 is zippier; offers a customizable look, feel, and sound; and has a file- and Internet-searching program named Sherlock. But if you poke around enough, you'll also find the fingerprints of Apple engineers on many subtler components of the new OS. Hidden beneath the surface, new shortcuts, tricks, and undocumented features make Mac OS 8.5 even faster and more convenient. Here, for your sleuthing pleasure, are a few clues to help you get the most from the new system.**

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# Essential troubleshooting tips

The thought of upgrading to Mac OS 8.5 probably fills you with excitement and trepidation. You may be eager to try out 8.5's touted new features, but odds are that you've also heard about the OS's reported bugs and compatibility problems – from applications that won't launch to system crashes at start-up.

Although Mac OS 8.5 certainly has had its share of trouble, the good news is that most of its problems are easily fixed. How? The best remedy is to update your software. (See the table, "Get up-to-date," to find out about common program updates).

This should eradicate more than 90 per cent of the bugs and conflicts. The following advice should smooth most of the remaining potholes on the road to Mac OS 8.5 success.

## TIP 1 Prevent data loss

We may as well start where your fears probably do: the reports that Mac OS 8.5 can somehow cause a hard drive to fail. Perhaps you've heard the horror stories – a blinking question mark that appears at start-up and that there's no getting past.

Often the only way to bring a Mac with this affliction back to life is to reformat the hard disk.

At the time of going to press, Apple reported that the cause of this rare problem is "probably" a defect in previous versions of Drive Setup (included with the Mac OS). Therefore, make sure you get Mac OS 8.5.1 – which is available from the Apple Web site (<http://til.info.apple.com/swupdates.nsf/search>) – before you upgrade. It comes with a new version of Drive Setup – 1.6.2. For maximum safety, then back up your data and reformat your hard disk before updating the OS. Even if you're unwilling to reformat your hard disk, the following steps should help keep you out of trouble:

1 Before you install OS 8.5.1, launch the latest version of Drive Setup (1.6.2 at press time) and select Update Driver from Drive Setup's Functions menu. Quit Drive Setup.

2 Launch the Mac OS 8.5 installer. When you get to the Install Software window, click on the Options button. Uncheck Update

Apple Hard Disk Drivers. (This is important).

3 Proceed with installing Mac OS 8.5.1. If you're using another formatting utility, such as FWB's £134 Hard Disk ToolKit 3.0.1 (Softline 01372 726 333), make sure to get the latest version of the driver prior to installing Mac OS 8.5.1. Then simply follow steps 3 and 4.

## TIP 2 Avoid the Apple menu logjam

Overall, Mac OS 8.5 is speedier than its predecessors, but sometimes it can become bogged down. In particular, switching themes and changing the system font in the Appearance control panel can take a long time. Your Mac also may slow to a snail's pace when you select any menu after switching from one open application to another. The slowdown is caused by a bug in the OS that relates to the Apple Menu Options control panel. You will encounter it only if you've enabled Apple Menu Options and have an alias to a large folder or volume in your Apple menu (either at the root level or in the System Folder's Favourites folder).

To solve the problem, delete the alias or – if that doesn't do the trick – disable the Apple Menu Options control panel. If you decide to abandon the Apple Menu Options but don't want to give up those features, try a shareware alternative, such as Fabien Octave's \$10 BeHierarchic or Kerry Clendinning's \$15 MenuChoice. You can find both of them at [www.macworld.co.uk/ftp/](http://www.macworld.co.uk/ftp/)

## TIP 3 Pry open control panels

When you try to open Mac OS 8.5's new Internet or File Exchange control panels, you may be greeted with a message that says: "To use the Internet control panel, you must first install Internet Config Extension version 2.0 or later." Mac OS 8.5 places the correct version of the extension in your System Folder, so why is the message claiming that it's gone?

The reason is that when you install Web browsers – and many other Internet programs – they often overwrite the version you need with an older version. If this happens, you'll get the error message. The

solution? Launch the Mac OS 8.5 installer, and choose to custom-install the Internet control panel. In the process, you'll reinstall the 2.0.2 version of Internet Config Extension.

## TIP 4 Fix Adobe Type Manager

One widely used program that has not been updated to work with Mac OS 8.5 (at the time of writing, anyway) is Adobe Type Manager (ATM). As a result, the program can cause a variety of troublesome symptoms – including system crashes and Type 23 errors – that wouldn't necessarily lead you to suspect ATM as the cause.

While waiting for the bug-fix update, Adobe advises the following kludge (which fixes most, but not all, of the reported problems):

1 Change ATM's Preserve: Character Shapes to Preserve: Line Spacing.

2 Turn on ATM's Smooth Font Edges on Screen option, but do not check the Disable Smoothing at Screen Font Point Sizes check box.

Additionally, many users have found that unchecking the Translate Documents Automatically option in Mac OS 8.5's File Exchange control panel eliminated the Type 23 errors associated with ATM.

## TIP 5 Calm QuarkXPress quirks

QuarkXPress users will suffer some oddities when they upgrade to Mac OS 8.5 – including display problems, such as check boxes missing from dialogue boxes. There's an unconventional but effective solution to this problem: install TK's shareware program Kaleidoscope 2.1.x. We're not sure why it works, but it does. Having Kaleidoscope installed also serves as a workaround to a problem Palm PDA users have experienced – namely Pilot Desktop application crashes.

At the time of going to press, 3Com ([www.3com.com](http://www.3com.com)) released a beta version of MacPac 2.0, which should fix this bug. Contributing Editor Ted Landau offers troubleshooting advice for every new Mac OS release, on his MacFixIt Web site ([www.macfixit.com](http://www.macfixit.com)).

Once you have this little palette, there's a lot you can do to make it yours. Click and drag on the inner edge of the palette's right side to adjust the tiles' width. Press option and click on the zoom box in the palette's upper-right corner to make your palette show small icons. Want to orient the palette horizontally? Press option and shift and then click on the zoom box.

If you yearn for other creative ways to reconfigure this palette, search the Mac OS Help file for the word Switcher to find clickable AppleScripts that will do the trick.

Don't forget that you can drag-&-drop icons from the Finder directly onto the Application palette to launch them, or that you can option-click on a program tile to go to that program and hide the one you were just in.

**A menu with many faces** If the OS's built-in Application-menu-modification tricks don't do it for you, download PolyMorph Software's free control-panel, Prestissimo. It lets you efficiently rearrange the Application palette's buttons, change the size and shape of the palette, specify your own keyboard shortcut for switching programs, and much more. (Allegro was Mac OS 8.5's code name – and in music, *prestissimo* is faster than *allegro*. Geddit?)

## Speed secrets

What makes Mac OS 8.5 fast is that it's been tuned to really take advantage of the PowerPC chip. This means that you can use it only if you have a PowerPC Mac, but it also means that it feels much faster than Mac OS 8.1, especially when you're copying over a network. The intrepid Macintosh user doesn't have to stop there, however.

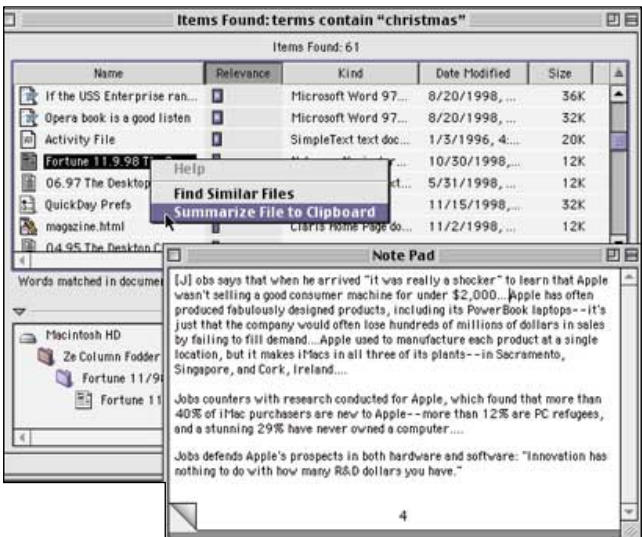
**Stealthy scrolling** Using scroll bars may be the obvious way to get around a window or page, but they're not the only way: in any Finder window, press ⌘ and then drag (inside the window) to slide your view up, down, or even diagonally.

**Instant open** Mac OS 8.x's spring-loaded folders open automatically when you drag an icon on top. You can then adjust the speed of this auto-opening feature by using the Edit menu's Preferences command.

Unfortunately, if you set the auto-opening delay too short, your cursor is likely to open windows accidentally. Yet if you set the delay too long, the feature takes forever to kick in.

So, what's the Mac OS 8.5 solution? Well, leave the Preferences setting at "long". Then, when you drag onto a folder, press the spacebar. The folder will then spring open instantly.

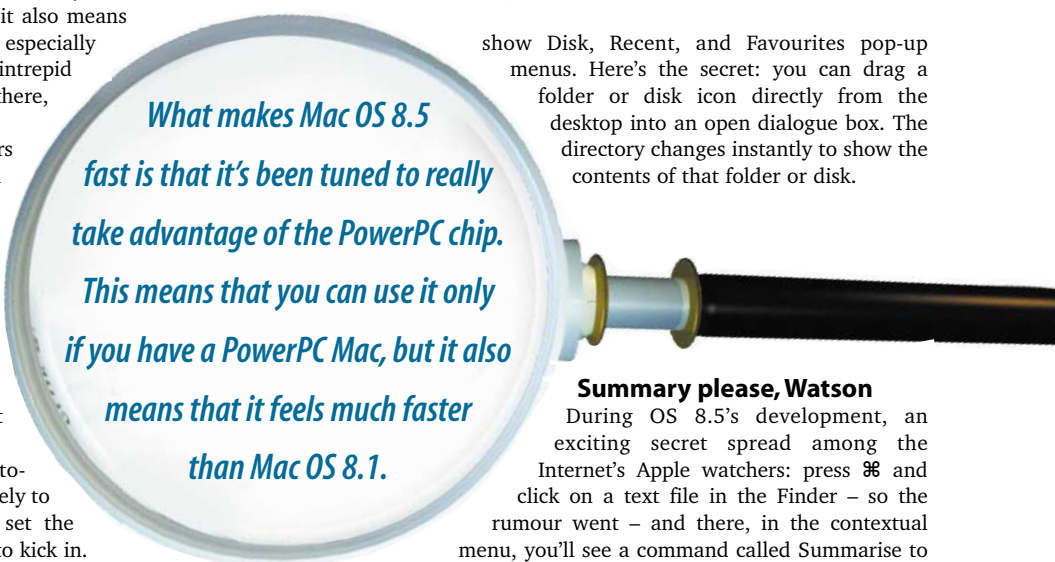
**Secret passage** Mac OS 8.5's new Open-&-Save dialogue boxes offer many advantages: they're movable and resizable; they offer Finder-style triangle buttons to help you navigate folders; and they



## A Mac of few words

If the DataViz MacLinkPlus translators are installed, Mac OS 8.5 can summarize all manner of lengthy documents with a single control-click.

show Disk, Recent, and Favourites pop-up menus. Here's the secret: you can drag a folder or disk icon directly from the desktop into an open dialogue box. The directory changes instantly to show the contents of that folder or disk.



## Summary please, Watson

During OS 8.5's development, an exciting secret spread among the Internet's Apple watchers: press ⌘ and click on a text file in the Finder – so the rumour went – and there, in the contextual menu, you'll see a command called Summarise to Clipboard.

Using this feature, you can reduce a wordy 15-page document to a couple of concise paragraphs (see "A Mac of few words").

Unfortunately, when you try this, you'll discover that the promised Summarize command is mysteriously missing, unless

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## 'A' Is for Application Menu

Kinsey Millhone and Hercule Poirot got reputations for being brilliant detectives – but then, they never had to help Mac novices over the phone. For example, asking a novice to identify the active program by analysing the tiny Application-menu icon in the upper-right corner of the screen makes solving murders look like child's play.

Mac OS 8.5 goes a long way toward making the new Application menu easier to use, since it now identifies the active program by name. But there's more to this clever menu than that.

**Name games** The new Application menu can be customised to fit almost any whim. If you prefer the old, icon-only Application menu to its more verbose program-name sibling, click on the divider on your menu bar (between the clock and the name of the active program) to make the name disappear. If you want just a little less of the name to show, drag the divider to the right.

## The quick switch

If you don't want to use the mouse to switch active programs by choosing from the Application menu (see screenshot, right) press ⌘-tab and you will be able to to cycle swiftly – and alphabetically – through all your open programs. Hit ⌘-tab-shift and you can cycle backwards.

**Palette appeal** If you're switching among applications a lot, you may prefer to view all your open programs' icons at once, where they'll be available in a single click. In that case, click on the Application menu and drag it down to the desktop to turn it into a floating palette.





you've clicked on a plain text file (for example, one created in SimpleText). Elementary, my dear Watson: DataViz's MacLinkPlus translators are required to make the Summarize feature work. Alas, MacLinkPlus no longer comes with the Mac OS. (Apple decided that the DataViz licensing fees were an unnecessary expense).

You can install MacLinkPlus from a previous version of the Mac OS, get it bundled with some Mac OS 8.5 reference books, or buy DataViz's £88 MacLinkPlus Deluxe (Principal, 01756 704 444).

You'll be able to summarize only the types of files your version of MacLinkPlus supports. This means you'll need a newer version for files made in Microsoft Word 98, for instance.

Once you're up and running, you can even control-click on the Clipboard window repeatedly to summarise the summaries down to a single sentence. That undocumented trick could come in handy when you're on the receiving end of documents written by, say, long-winded relatives, members of Parliament or lawyers.

## A foreign affair

The Mac has always been an international player – but never so much as in Mac OS 8.5. For the first time, you can view Japanese, Korean, Chinese, Arabic, Hebrew, and Indian Web pages in their non-Roman alphabets without having to buy any language kits.

To make this possible, the new OS comes with a multi-megabyte package of special fonts, but they're not part of the standard installation package. To get these, run the Mac OS 8.5 installer, click on Add/Remove, and install Multilingual Internet Access. When it's over, you'll be able to view those foreign-language Web pages (see "East meets West").

Another hidden international touch: the new Euro currency symbol (€) has been added to built-in fonts, such as Charcoal. Press option-shift-2 to produce it in your documents. Remember, however, that other people won't see your Euro symbols on their computers unless they, too, have Mac OS 8.5.

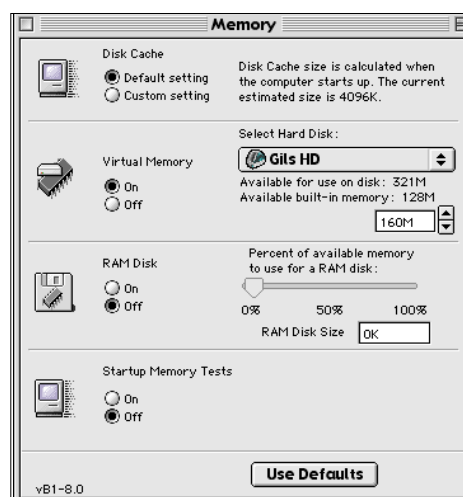
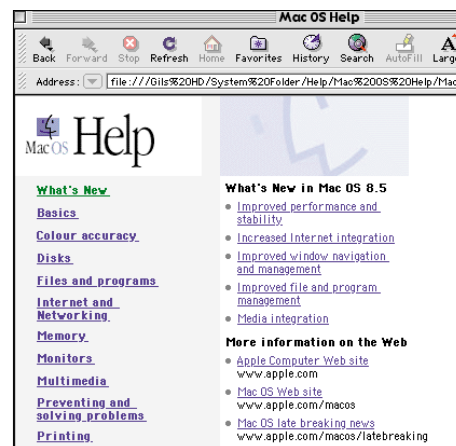
## The X-tips

Following the tracks of Mac OS 8.5's makers can lead into some dark software corridors. Here, for the bold and the bored, are some of the features even the programmers' bosses won't know about.

**Memory lapse** Ever notice that the more memory a Mac has, the longer it takes to start up? The reason is that the Mac tests all its memory each time you turn it on. One undocumented Mac OS 8.5 feature, however, lets you bypass these tests altogether.

While pressing **⌘-option**, open the Memory control panel. You'll see a secret panel bearing an On/Off switch for Startup Memory Tests. In theory, turning off these diagnostic tests makes your Mac

**Help is at hand**  
You can print from the help files if you read them using a Web browser.



**Memory lapse**  
While pressing **⌘-option**, open the Memory control panel. You'll see a secret panel bearing an On/Off switch for Startup Memory Tests. In theory, turning off these diagnostic tests makes your Mac start up faster.

start up faster. However, do so at your own risk – some Mac-clone owners have reported crashes.

**Printer inspector** Before printing that 150-page QuarkXPress document, you'd better hope that your printer of choice isn't tied up or lacking the necessary downloadable fonts. To find out, just use the File menu's Get Info command (**⌘-I**) on a laser printer's desktop icon. The beefed-up Get Info screen tells you whether or not the printer is busy, how it's configured, and which fonts it has. Also, you can now drop PICT and PostScript files directly onto the printer desktop icon to print them – without opening a separate application.

**Help tactics** The new Mac OS Help mechanism is actually a mini-Web browser that reads special HTML help files. Unfortunately, that means you can't copy or print anything from the help text – unless you get sneaky. Launch your favourite Web browser, choose Open from the File menu, and open the Help folder (in your System Folder). Inside the Mac OS Help folder is an index file called Mac OS Help. From here you can access all the help files with your browser and can copy or print the text just as you would any Web page.

**A hidden message** As with any truly interesting software, Mac OS 8.5 even contains a clandestine credits display. Press control-option-**⌘**. The wording of the first command in your Apple menu will now change to "About the Mac OS 8.5 Team." Choose it and you'll be treated to a lengthy display of credits and floating icons from the people who made this OS what it is.

## The last word

Holmes and Watson would never have guessed that even software could harbour such secrets, surprises, and strange sights. Mac OS 8.5 has it all. This operating system's hidden talents can make your Mac show off, do more, and hurry up. It's all there – if you know where to look.

**David Pogue is co-author of Macworld Mac Secrets, 5th Edition (IDG Books Worldwide), which contains several kilos of useful Mac OS 8.5 info.**



*Holmes and  
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# Top draw

A golden age of Illustration applications is upon us.

By Deke McClelland

**A**s computer artists, it seems like we're forever on a treadmill – once you become comfortable with one version of a program, another hits the streets. These days, the average time between upgrades is about 15 months. If a company has the gall to issue an upgrade – and expects us to buy it – that upgrade had better be good.

That's why the newest update frenzy is so impressive. Adobe Illustrator 8.0 ([www.adobe.com](http://www.adobe.com)) returns to its glory days as a streamlined, feature-rich standard-bearer. CorelDraw 8.0.1 ([www.corel.com](http://www.corel.com)) performs an even more amazing trick, rising like a phoenix from the smoking husk of the roundly dismissed version 6.

A third upgrade, Macromedia FreeHand 8.0.1 ([www.macromedia.com](http://www.macromedia.com)), is the most modest, but its predecessor, FreeHand 7, was so far ahead of the pack that the new version still comes out smelling like a rose.

The secret behind the success of the version 8 upgrades is imitation. Each of these drawing programs offers exciting new features that were either borrowed from competitors or inspired by different graphics programs.

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The result is a trio of drawing doppelgängers – each has its special strengths, but if all you care about is having a lot of great features, then they all fit the bill.

That's why we dug a little deeper to examine not only whether these programs have particular features, but also – if so – how well those features perform and how easy they are to use.

To do this, we gave key features a grade on a scale from A to F, with “A”, of course, being best. (See the table, “Illustrious implementations”, for the winners in each category, and go to [www.macworld.com/more/](http://www.macworld.com/more/) for the complete report card with comments.) We also hired three artists to test-drive the new applications and report back with their findings. We compiled lists of the top five tasks that each program performs better than the rest (see the “Five tasks” box-outs throughout this article).

The result is a comprehensive picture of three closely-matched rivals – and a clear ruling on the one program that appears to get it right most often.

## Interface and compatibility

Every graphics program is like a room in a big studio. If you're comfortable working in the environment that the software provides, you can accomplish anything. If not, no matter how well the tools work, your creativity will be stymied.

Likewise, you need to be able to move freely throughout the studio – from your drawing program to Adobe Photoshop, for example. If you can exchange files easily, as well as open old files and integrate them into new artwork, you'll save time.

**New order** Say what you will about Adobe's efforts to make all its applications' interfaces consistent – in return for the sometimes confusing changes Illustrator has undergone, the program now has the most straightforward working environment in the business.

Illustrator 8.0 frees up screen space by aligning palettes in an orderly column along the window's right side. It colourizes selection outlines by layer, so you always know where you are. It provides on-screen hints telling you which key to press to get any tool. It also hides interface elements at the touch of the tab key, leaving just you and the illustration, artist to artwork.

Illustrator also now opens FreeHand and CorelDraw files, so your artistic experience isn't interrupted by technical difficulties. As always, Illustrator also opens and saves native and EPS files that have been saved in any previous version of the program – a claim to backward compatibility that neither FreeHand nor CorelDraw can make.

**Customizable disorder** When compared with Illustrator 8.0's orderly atmosphere, FreeHand 8.0.1's interface is best described as unkempt. Unless you have a second monitor, mismatched palettes either overlap or obscure your view of the illustration window. Granted, you can collapse the palettes you aren't using, but it's far easier to pile them up in a heap.

FreeHand is not without its advantages over Illustrator – which include smoother scrolling, faster screen redraws, and more opportunities for customizing the interface.

However, there's no full-screen drawing mode; no graphic navigator; and no helpful hints built into the default tool shortcuts, which include such oddities as pressing F10 for the scale tool (you can choose to use built-in Illustrator or CorelDraw shortcuts, though).

FreeHand does a great job of opening Illustrator artwork but has problems with FreeHand 2 files and can't even see FreeHand 1 files. As a result, I have a drawer full of floppies with FreeHand files that I can't open with this version – and you may, too.

**Strange ways** CorelDraw 8.0.1 presents a more streamlined

front than FreeHand 8.0.1, with regularly sized palettes and a context-sensitive Properties bar that changes to suit the selected object. It also offers the most extreme zoom range, from 1 per cent to several thousand times normal size, for when you need to be really precise.

If you've spent any time in Illustrator or FreeHand, however, using CorelDraw feels like a trip to a foreign country. I've been using CorelDraw since version 1, yet I still shudder at anchor points called “nodes”, masking called “power clipping”, and the common arrow unpleasantly labelled the Pick tool.

There are also inconvenient aspects to the interface. There's no shortcut for the hand (or Pan) tool, although you can scroll by pressing option while using the arrow keys. You can hide all interface elements by pressing F9, but you can't do anything with your artwork until you press the esc key to bring back the clutter.

CorelDraw 8's interface is original, but there's work to be done before it will bridge the gap with Mac professionals.

■ **INTERFACE/COMPATIBILITY CHAMP: Illustrator 8.0**

## Drawing and editing

Once the exclusive domain of Illustrator, drawing and editing is now handled competently by all three applications. This is a good thing, since drawing is the central capability of a drawing program.

All three programs let you draw and edit complex paths, automatically trace scanned line art, and establish custom guidelines that apply order to even the most sophisticated illustrations. That said, each program has strengths that suit specific kinds of artists – with Illustrator focusing on precision drawing, FreeHand on tracing, and CorelDraw on plans and schematics.

**Precise power** Despite its competitors' improvements, Illustrator still dominates in a few areas. Its geometric-shape tools can't be beaten, letting you draw, move, and edit shapes on the fly so that you get them right the first time.

The pen tool is now smarter, permitting you to add and subtract points without switching tools or pressing keys. Illustrator 8's numerous path operations are conveniently collected in a single palette. Timesaving smart guides ensure that your straight lines are absolutely straight and in

line with every other path in your drawing.

The one continuing failure of Illustrator 8 in this category is the program's Stone Age autotrace tool, which traces only one path at a time, and does so badly. If tracing is important to you, purchase a dedicated program such as the £95 Adobe Streamline. Better yet, get FreeHand instead.

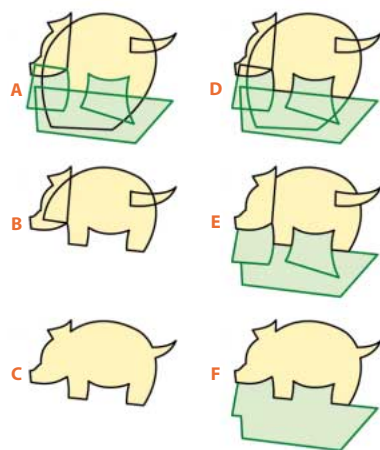
**Efficient flexibility** Despite Illustrator's popularity among working artists, FreeHand is every bit as good at drawing and editing and includes some true time-savers to boot.

For example, where Illustrator makes you trace one path at a time and CorelDraw makes you launch a separate program (CorelTrace) if you're doing complex tracing, FreeHand alone can automatically draw hundreds of paths anytime you draw a marquee around a bitmapped image with the tracing tool.

FreeHand likewise expedites the selection of objects, so you can quickly access any shape you want to edit and even replace all occurrences of it globally. I'm not a fan of how FreeHand makes you regularly press tab to deselect objects before making a new selection, but the ability to select down a stack of overlapping objects by control-clicking still beats what you can do in Illustrator.

FreeHand also offers a welcome break to artists who simply want to draw. If you're tired of editing paths by pulling on little control handles, FreeHand's Freeform tool will offer some relief – it lets you modify outlines by brushing up against them.

**Schematic standout** CorelDraw's drawing features take some



### Plentiful pathfinder

*Illustrator 8.0 offers more ways to combine paths than any other program. For example, starting with some simple shapes (A), you can make a pig by subtracting the green ones (B) and then uniting the yellow ones (C). Alternatively, you can divide (D), trim (E), or merge (F) the original shapes to achieve other effects.*



### On the road: Illustrator

Artist John Ritter usually sticks to pens, paint, and Adobe Photoshop. After experimenting with Illustrator 8.0 to make this drawing, however, he was pleasantly surprised. “It took me awhile to get the hang of it,” he said, “but once I did, I was amazed by all I could do.” Ritter was particularly impressed by Illustrator 8's new Gradient Mesh tool, which let him blend multiple colours in different directions within the same object. He used it to quickly create complex shading that would normally require a trip to Photoshop, such as those in the rider's helmet.

**1 Combine paths** No program lets you make complex paths out of simple ones like Illustrator. FreeHand and CorelDraw let you unite paths, find the intersection, and punch out holes. But only Illustrator lets you exclude intersections, merge all similarly filled paths, crop, trap, and more.

**2 Create brushstrokes** Illustrator 8 lets you attach any collection of objects to a curve. The result is undulating artwork, wavy type, and traditional-looking brushstrokes. The effects are live – just edit the path and the brushstroke changes with it.

**3 Mask objects** Unlike FreeHand, Illustrator lets you mask objects with editable text. Unlike CorelDraw,

you can edit the contents of masks without hiding everything else on the page. It offers the best of both worlds.

**4 Draw geometric shapes** Illustrator is known for its free-form curves, but even more impressive are its geometric shapes. While you draw, you can change the number of sides on a polygon, increase the pointiness of a star, and move an ellipse to get it exactly in place.

**5 Trade artwork with Photoshop** Drag-&-clipping paths between the two programs, calibrate the programs (using shared ColorSync profiles), and export Illustrator artwork to the Photoshop format with all layers intact.

JOHN RITTER

getting used to, but ultimately they make sense. For example, to edit points, you use a dedicated reshape tool or click on buttons on the Properties bar. Illustrator and FreeHand provide more-dynamic controls, but the advantage of CorelDraw's approach is that it's easy for novices to learn.

Where CorelDraw really distinguishes itself is in schematic drawing. It lets you specify a scale of measurement – say, 0.25 inch equals 1 foot – essential when drawing plans or schematics. You can then use the Dimension tool to automatically label the length of line segments according to your scale.

This feature – inexplicably missing from both Illustrator and FreeHand – makes CorelDraw an appealing option for artists who do a lot of technical or architectural illustrations.

■ **DRAWING/EDITING CHAMP: Three-way tie**

## Transformations, masks, and blends

When you're creating professional-level artwork, it's not enough to just push around your polygons. The next stage of creating and editing your artwork involves using three very practical effects – transformations, masks, and blends.

**Convenience** The most commonly used transformation is scaling. Illustrator 8 lets you increase or decrease an object's size by simply dragging a corner handle. However, this may hamper your

*The saving grace of CorelDraw is that you can tug and bend outlines in ways not possible in Illustrator and FreeHand.*

ability to snap objects into alignment – for example, when attempting to align the corner of one shape to another – so if you don't like the feature, turn it off.

Illustrator's Transformation palette is unequalled for convenience. It puts scale, rotate, and skew options with a centre-point control in a single location. The program lets you apply editable type as a mask as well as blend

between any two shapes filled with any number of colours. Finally, you can also edit blends dynamically.

The bad news is that you can repeat just one transformation at a time, which means you can't rotate and scale in one duplication when you want to create, say, a pattern of objects spiralling toward the viewer. If you managed to put up with Illustrator back before live blends, however, this is probably small potatoes.

**Uneven Abilities** FreeHand loses points in this category for its lack of distortion capabilities, its poor enveloping feature, and its inability to blend between two gradations unless they contain exactly the same number of colours.

On the other hand, FreeHand's mask-editing functions are every bit as good as Illustrator's, and FreeHand lets you repeat a long series of transformations to quickly create swirling tailspin patterns that simply aren't possible with blends. FreeHand's transformation effects also have some efficient touches. For example, you can double-click

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On the Road: **FreeHand**

Adobe Illustrator is Ron Chan's "everyday tool," so we asked him to take FreeHand 8.0.1 for a spin. He was surprised how difficult it was to make the transition, but as he created this drawing he did find some features he thought were keepers. To make sure his colours look just right, Chan always previews his drawings in Photo-shop. Usually, fixing colours that have shifted is a pain, but Free-Hand's powerful find and replace tool gave him a new way to do so quickly and thoroughly – he could select a colour and change it everywhere (even in the gradients) within seconds.



**1 Trace scanned images** Kudos to CorelDraw for bundling the stand-alone CorelTrace, but FreeHand's integrated tracing tool is more reliable and easier to use. It traces multiple paths, fills them with up to 256 colours, and offers expert edge-control. No tool measures up to hand-tracing, but this one comes the closest.

**2 Create tables** FreeHand still creams the competition in the text department, and its tabs and tables are the crème de la crème. Besides supplying the widest array of tab-stop options, FreeHand lets you divide a text block into editable rows and columns for spreadsheet-like control.

**3 Repeat a series of transformations** Clone a path, rotate it, scale it, rotate it again, and transform it in a hundred different ways. Repeat the whole shebang by

pressing ⌘-D. Unlike CorelDraw, FreeHand doesn't make you clone and transform according to a prescribed ritual. If you just work naturally, FreeHand keeps up.

**4 Search-&replace objects** FreeHand is the king of the graphic search, select, and replace. Search according to font, colour, stroke weight, and even path shape. This has handy applications – look for speedy draft-quality blends that have 10 steps or fewer, and then replace them with the slow-drawing, smooth-printing, 100-step variety.

**5 Create animated Web graphics** Illustrator is the better all-around Web-graphics app, but only FreeHand lets you create Web animations. Blend a series of objects, expand the blend to layers, and export the layers as frames in Macromedia's Flash format.

on an object to quickly toggle between scale and rotate modes.

**Erratic rewards** You can do the same in CorelDraw, but the program does tend to suffer from disorienting inconsistencies. For example, to scale height and width proportionally in one operation, you must press the shift key while dragging.

But if you use the dedicated Free Transform tool, things suddenly change – disproportional scaling is the rule, and you press ⌘ to scale proportionally. CorelDraw doesn't do things the way they've been done for years on the Mac and, in the process, the program ensures that many artists will be frustrated.

The saving grace is that CorelDraw excels when it comes to distortions. You can tug and bend outlines in ways simply not possible in Illustrator and FreeHand (see the sidebar "Five tasks CorelDraw does best"). If you're willing to put in the time to learn the Corel Way, there are rewards.

■ **TRANSFORMATIONS/MASKS/BLENDS CHAMP: Illustrator 8.0**

Formatting and manipulating text

The logos and designer-type treatments we see around us in magazines and posters all started out in drawing programs. Programs like Illustrator, FreeHand, and CorelDraw are unique in the software world for permitting you to fit text to a curve, stroke character outlines, and convert letters to editable paths. For many

designers, these are the very reasons they own a drawing program.

**Modest but solid** Illustrator lags behind FreeHand for type-handling abilities mostly because it lacks style sheets, it doesn't let you change the slant of type on a curve, and it offers

only rudimentary support for multipage documents.

What Illustrator does, however, it does right. Instead of offering style options such as bold and italic, which have no bearing on the many typeface families that include stylistic variations such as black, condensed, semibold, and a wealth of others, the Character palette presents you with two pop-up menus: one for the font and the other for the true designer-defined styles. You can even create custom variations on Multiple Master fonts, just the thing if you need picture-perfect copyfitting.

Illustrator is also the only Macintosh program I've seen that lets you access the pre-built fractions (such as ¼) included with most PostScript typefaces. And like FreeHand, Illustrator lets you modify most formatting attributes, such as kerning and leading, directly from keyboard shortcuts – a helpful time-saver.

**Unmatched excellence** Be that as it may, FreeHand still dominates this category as it has since FreeHand 1.0 first beat Illustrator to market with a feature that let you put type on a curve. FreeHand's style-sheets rival those in Adobe PageMaker and QuarkXPress and are much easier to use. Just option-click on a style

name and you can edit every attribute, from typeface to paragraph spacing, all in a single dialogue box. Unlike Illustrator, FreeHand also lets you link a standard text block to type on a curve – great for free-form layouts.

If you ever need to create a list or catalogue, FreeHand is also clearly your buddy. It's the only drawing program that accommodates multiple lines of type between tab stops. FreeHand also supports multipage documents – even with varied page sizes and orientations – an essential feature for those who use their drawing program to design brochures or complex packaging.

**Glitz without guts** When it comes to type-handling features, CorelDraw delivers the glitz – all its special effects, from masking to enveloping, are applicable to editable type. Unfortunately, it chokes on the workaday routine.

Basic time-saving features are missing from this program. For example, you can't kern from the keyboard. Instead you drag little handles to adjust letterspacing – a terribly imprecise and tedious approach. When you edit text, tab stops conveniently appear in the horizontal ruler, but to simply change the alignment of a tab stop, you have to visit a dialogue box, switch panels, hunt down the tab stop in a list, and choose a different alignment option. Strangest of all, there's no command or shortcut for selecting all the words in a text block, a simple matter of ⌘-A in FreeHand and Illustrator.

■ **TEXT CHAMP: FreeHand 8.0.1**

Fill, stroke, and colour

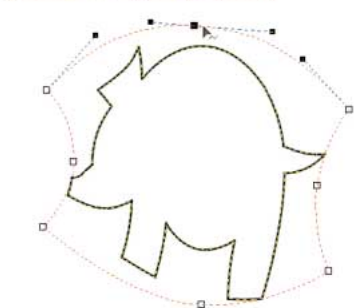
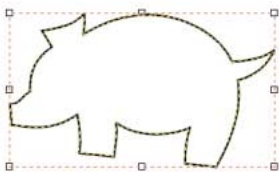
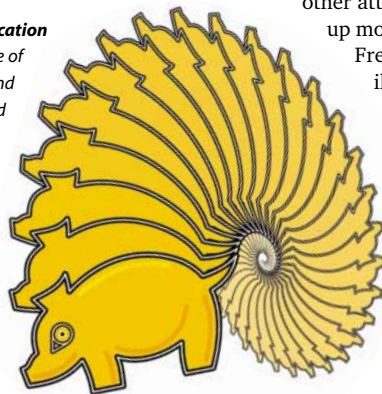
You'd think assigning colour would be an open-and-shut matter in a drawing program – after all, it's just a question of filling the interior of shapes and stroking the outlines. But there are still lots of variations among the Big Three. Name any fill, stroke, or colour feature, and you'll find one program that's out of step.

Take arrowheads, for example. CorelDraw conveniently lets you convert any shape into an arrow and fit it to a stroked path. FreeHand provides an editor that lets you build and catalogue arrows on the fly – also nice. All Illustrator can muster is a lame plug-in that serves up a handful of Zapf Dingbats characters.

Illustrator isn't the only offender. FreeHand's fill and stroke options

**Power duplication**

Repeating transformations has long been one of FreeHand's strengths. After rotating, scaling, and skewing a clone of a small pig outline in FreeHand 8.0.1, I simply pressed ⌘-D to repeat the transformations, resulting in a spiral of pigs.



**Dynamic distortions**

No drawing program compares to CorelDraw 8.0.1 when it comes to distortions. After selecting the Interactive Envelope tool, you can drag at eight points around the boundary of a shape. You can even add points and adjust control handles to get exactly the effect you want.

are strewn among five different palettes, and its eyedropper tool lacks a keyboard shortcut. CorelDraw refuses to show you Pantone numbers unless you visit a dialogue box that just so happens to let you apply only one colour at a time.

**Different strokes** Lest you grow sour and disillusioned, we should inform you that each application is innovating in new directions. Illustrator's hot new feature is the Brushes palette. After saving a series of paths as a brush, you can use the brush to create traditional-looking paint strokes or twisting images. Edit any of the paths that make up the brush, and Illustrator automatically updates the brush to fit. This approach is simple, dynamic, and very effective – a boon to artists trying to give their drawings a different look.

**Power with pizzazz** To expedite the editing of your art, FreeHand lets you search and replace according to fill, stroke, and other attributes. Not only is FreeHand's Search-&Replace palette set up more conveniently than CorelDraw's equivalent wizard, but the FreeHand palette also lets you sample colours from an illustration – the only sure way to get the search criteria right.

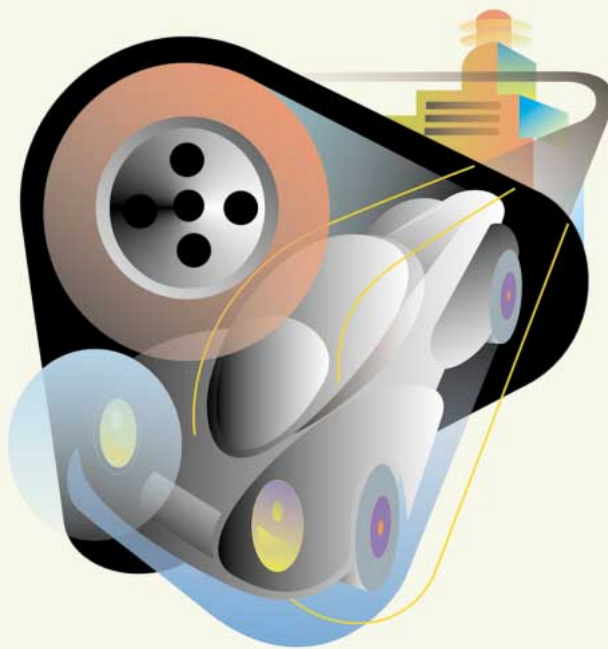
FreeHand 8 also adds a new feature – lens effects. The most useful aspect of this is that you can fill a shape with translucent colour. You can likewise magnify an area and centre the effect anywhere in your artwork, just the ticket if you want to draw, say, an offset refraction in a pair of glasses.

**Flashy effects** CorelDraw is no slacker in the competition for flashy fill and stroke effects. Its lens effects were, after all, the inspiration for FreeHand's. While

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Illustrious implementation

	EDITORS' CHOICE ILLUSTRATOR 8.0	FREEHAND 8.0.1	CORELDRAW 8.0.1
COMPANY	Adobe Systems	Macromedia	Corel
STAR RATING	★★★★/8.7	★★★★/8.6	★★★★/7.5
PRICE	£299	£279	£395
BUNDLED SOFTWARE	Adobe Acrobat Reader	(Design in Motion Suite, £379) Design in Motion Suite includes Flash 3, Insta.html 2	Canto Cumulus Desktop 4, CorelPhoto-Paint 8, CorelTrace 8, Font Reserve 1.02
DISTRIBUTOR	Adobe	Computers Unlimited	Corel
PHONE NUMBER	0181 606 4001	0181 358 5857	0800 581 028
Interface and compatibility champ	●		
Drawing and editing champ	●	●	●
Transformations, masks, and blends champ	●		
Formatting and manipulating text champ		●	
Fill, stroke, and colour champ	●	●	●
Web graphics champ	●		



## On the road: CorelDraw

Artist Hank Osuna loves shapes. So much so that before PostScript drawing programs existed, he cut templates out of Mylar and then traced the edges with a pen to make his curves really smooth. When we asked Osuna to put CorelDraw 8.0.1 through its paces, he found himself somewhat confused by its interface but impressed by ways it made experimenting with shapes easy. He used the Interactive 3D tool to quickly create the buildings in the background of this illustration by drawing squares and extruding them. He appreciated being able to rotate, extrude, and experiment with light without taking time to create the illusion of 3D space himself or having to work in another program.

- 1 Blend paths** Only CorelDraw lets you adjust the acceleration of a blend with separate control over the pace of intermediate steps and colours. Also unique: you can convert any step in the blend to an independent anchor path, which means that you can change the shape of a blend in its centre.
- 2 Distort type and graphics** CorelDraw's Interactive Envelope tool lets you stretch a complex group of paths in eight directions at once, and it's even applicable to fully editable text. FreeHand's Envelope Xtra isn't in the same league.
- 3 Create translucent objects** CorelDraw 5 for Windows introduced dynamic lens effects years before FreeHand did, and Corel has been improving

them ever since. Add and subtract colour values, colourize, and magnify with a fish-eye lens. But even that pales in comparison to the Interactive Transparency tool, which fades and blends objects with any background.

**4 Draw plans and diagrams** CorelDraw lets you specify a scale of measure and automatically labels the height and width of objects, essential for creating schematics and architectural plans.

**5 Explore 3D effects** Can Illustrator extrude type and graphics into 3D space? Can FreeHand bevel the edges of editable letters and apply realistic lighting? No, but CorelDraw can. The redraw is as slow as molasses, but that's the price you pay for true 3D.

HANK OSUNA

CorelDraw lacks FreeHand's automatic updates – you're forever having to click on the Edit and Apply buttons to see the result of your changes – its effects are more numerous, including a fish-eye magnifier.

If you're smart, however, you'll ditch CorelDraw's Lens palette and focus on the program's Interactive Transparency tool. This is one of CorelDraw's most compelling features – it lets you use linear and radial gradients to fade an object into nothingness. You can even apply Photoshop-like blend modes such as Multiply, exactly what you need to create a coloured cast shadow.

■ **FILL/STROKE/COLOUR CHAMP: Three-way tie**

## Web graphics

Drawing programs were never designed with Internet output in mind, but it's just too trendy a topic for them (or us) to resist. The category is so new that there's very little overlap in features.

**Bang-up basics** Illustrator's Web features deliver practical support to artists exporting work for the Web. You can open the Web-safe colour palette in an independent window without closing other colours. The program's image-map support is excellent – after you assign URLs from the handy Attributes palette, Illustrator even

## Illustrator's Web features deliver practical support to artists exporting work for the Web

generates the client-side HTML.

There's also easy access to essential GIF and JPEG export options (although unlike in FreeHand, you're on your own to manually append vital extensions such as .gif). The program does the

best job of exporting PDF pages. Finally, if you care to finesse your artwork in Photoshop – which you probably will – only Illustrator lets you export complex artwork with every layer intact. If you're primarily interested in creating basic Web graphics as efficiently as possible, Illustrator delivers.

**Animation innovator** On the other hand, FreeHand's approach to Web graphics focuses on Web animation, primarily in the form of Shockwave Flash output (Macromedia's proprietary vector-graphics standard for the Web).

FreeHand makes animation easy. After blending among a few paths, for example, you can automatically assign each step in the blend to a layer and then export the layers as frames in a Flash animation. You can also export the pages in a FreeHand document as frames. If you have the £379 Design in Motion Suite, you can also use Insta.HTML to export artwork as Dynamic HTML (DHTML).

FreeHand's more basic Web-graphics features, however, don't

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# On the drawing board: Canvas 6

**F**or those shopping for a drawing program, FreeHand, Illustrator, and CorelDraw are certainly not the only options. Deneba ([www.deneba.com](http://www.deneba.com)) is now shipping the £399 Canvas 6, which is certain to offer high-quality drawing tools and features.

Comparing the packages in this shoot-out directly to Canvas is like comparing apples to, well, the whole basket of fruit. Canvas isn't just a drawing program; it's an image-editing, page-layout, Web-design, and presentation program, too. We reviewed Canvas 6 in full in the March issue of *Macworld*.

## Innovative effects

Canvas 6's best features spring directly from Canvas's signature strength – the marriage of bitmap and vector technology.

Deneba's SpriteLayers technology lets you create some interesting transparency effects that would be difficult – if not impossible – to make in a dedicated drawing program. The effects can be applied to anything – bitmapped images, vector-based drawings, and text. For example, you can create a vignette in which your artwork becomes gradually more transparent near the edges. Apply a vector-transparency gradient mask (or a custom mask) to experiment with the size and positioning of the vignetted area.

You can also place the transparent area in the interior of a graphic to create cutaway views. For example, you can layer a scanned photograph of the Statue of Liberty over an illustration of its supporting structure and then make the uplifted arm of the statue transparent to reveal the beams underneath. The elements always remain editable even after you've applied the effect.

## A tidy new look

We were also impressed by Canvas's new face-lift, which helps your workspace stay better organized and perform more efficiently. Stash floating palettes in Canvas's new docking bar – a thin horizontal strip, just above the drawing area, that displays only the tabs of each palette. Click on a tab to make a palette unfurl. You can rearrange the tabs along the bar at will. Also new is a customizable tool bar. Canvas



## A new image

Canvas 6's spiffy new look includes a streamlined interface with a customizable tool bar and a docking bar.

6 also addresses a gripe users had with earlier versions, namely that the drawing tools weren't robust enough. New tools include a knife for slicing vector objects, as well as others for drawing arcs and ellipses by defining three key points.

Other complaints centred on Canvas's limited set of supported file formats – this also appears to be remedied.

## A promising future

We'll have to wait for the shipping product to see just how Canvas 6 rates. But it's already clear that in the competition of the graphics titans, Canvas 6 is fighting with a unique set of weapons.

– Shelly Cryan

shine as much as Illustrator's. FreeHand makes you import Web-safe colours into the Colours palette, where they can become confused with unsafe colours. The program cannot save Photoshop files with layers intact.

If you want to create Web animations, FreeHand can't be beat. Otherwise Illustrator's more modest but well-implemented Web features are your best bet.

**Limited control** CorelDraw comes at Web graphics from a completely different angle – in addition to creating dynamic drop shadows and 3D extrusions (handy for making all those navigation buttons), CorelDraw lets you assign URLs to objects and then output them as full-blown Web pages.

Many of these features are tricky to use. Although you can export full-blown Web pages, you have little control over the output of individual images.

There's limited GIF colour-palette control. File-size estimates are often inaccurate. CorelDraw offers no PDF support and cannot save images as layered Photoshop or CorelPhoto-Paint files.

■ **WEB CHAMP:** Illustrator 8.0

*The politics of drawing tend to be pretty darn partisan – Illustrator users regard FreeHand as clumsy and disorganized, FreeHand users see Illustrator as awkward and incapable, and so on.*

## Macworld's buying advice

The politics of drawing tend to be pretty darn partisan – Illustrator users regard FreeHand as clumsy and disorganized, FreeHand users see Illustrator as awkward and incapable, and so on.

If that's the way you feel, then buy the drawing program that appeals to your politics and how you work. For once, you can't go wrong – Illustrator 8.0 and FreeHand 8.0.1 are both excellent, so who cares how

the competition shapes up? And while Corel doesn't have much of a following on the Mac, CorelDraw 8.0.1 may earn one.

For those who are apolitical or new to the drawing scene, however, we recommend Illustrator. It wins or ties in five of our categories and performs well in the sixth.

FreeHand is a better choice for artists who create multipage, text-rich work or Web animations. But for the general artist, Illustrator is a solid overall program with more new features than loyal Illustrator users have seen in years. CorelDraw is right on the heels of both.

The fact is, the competition has never been closer. I'm happy to say that we've most certainly entered drawing's golden age.

MW

## Editors' choice

Adobe Illustrator 8.0 ★★★★★/8.7

This program's streamlined interface and excellent feature set make it the strongest overall drawing choice. Company: Adobe Systems ([www.adobe.com](http://www.adobe.com))  
Estimated price: £299.

# Compressing issue

Web or CD video *can* be high-quality. By Jim Heid

**P**reparing video for distribution on the Web or a CD can be downright depressing. You use top-notch gear to shoot your footage, digitize it onto a high-speed disk array, and edit and polish the final product until it glitters.

But to put your video on the low-bandwidth realms of the Web or a CD, you have to compress it into a grainy, jerky clip that will make viewers wince. So, how is a quality-minded CD or Web-video producer meant to cope?

Well, having more control over the compression process is part of the answer, but you also need to master the black art therein. Currently no program provides more control over compression than Terran Interactive's Media Cleaner Pro (MCP), whose broad array of features enables you to get the highest possible quality and the smallest possible file sizes.

MCP also dovetails particularly well with Apple's QuickTime 3 and the Sorenson Video compression technology that accompanies it.

On the following pages are a multitude of tips, tweaks, and techniques for mastering the finer aspects of compression with MCP 3 to achieve the ultimate balance of clean, lean, and beautiful video. Unless otherwise noted, everything here applies to both CD and Web-video production.

## Beyond the wizard

If you're a compression newbie, MCP's Settings Wizard walks you through the process of specifying compression settings, asking you questions about a movie's destination and content.

But the wizard doesn't give you access to MCP's best quality controls; you access these via the Advanced Settings window (see "Where the tweaks live"). To display the Advanced Settings window, choose Advanced Settings from the Windows menu.

**Saving settings** Media Cleaner Pro lets you save collections of compression settings so you can apply them instantly to other movies. A saved collection of settings is called, remarkably enough, a setting. MCP includes dozens of canned settings for common tasks, but the chances are you'll want to fine-tune them for your specific needs. When you do, use the Advanced Settings window's Save As button to save your customized setting under a

## Masking and watermarking

Simplify your codec's chore: eliminate hard-to-compress noise by creating a mask and using Media Cleaner Pro's Static Mask feature. You can also create a watermark – for example, add your company logo to a movie's lower-right corner – using a similar technique.

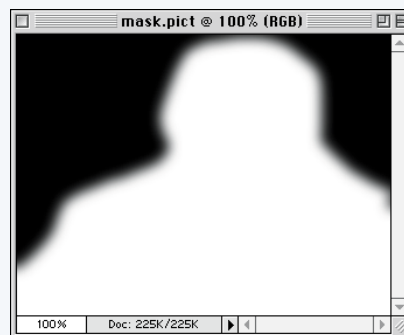
**1** From within a video-editing program, Apple's MoviePlayer utility, or Media Cleaner Pro, export a representative frame of your movie as a PICT file.



**2** Open the PICT file in Photoshop and create a new layer. In this layer, use the paintbrush tool to paint out areas in the background layer that don't change between frames.



**3** Hide the background layer by clicking its eye icon in the Layers palette, and use the Save A Copy command to save this mask as a PICT file. In Media Cleaner Pro's Advanced Settings window, click on the Image tab, check the Static Mask box, and use the Set button to specify the PICT mask you just created.



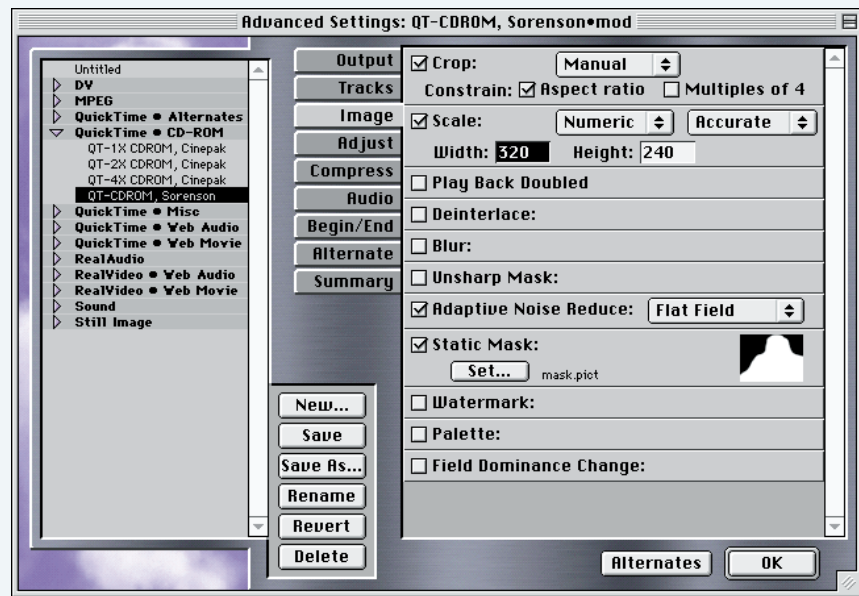
new name. This keeps the original setting intact as a starting point for future efforts.

**Sharing settings** If you have multiple machines running their own copies of Media Cleaner Pro, you can move customized settings between machines. Simply copy the appropriate settings files from the Media Cleaner Settings folder,

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## Where the tweaks live



### Clean up

Media Cleaner Pro's Advanced Settings window is the gateway to the power tools; each tab provides options for compression, cropping, audio processing, and more.

found in the Media Cleaner Pro 3 folder. Better still, stash a Media Cleaner Settings folder on a file server, create an alias of it, and replace each machine's Media Cleaner Settings folder with the alias. Now each machine's copy of Media Cleaner Pro will access the settings folder on the server.

**Locking settings** You've arrived at the perfect combination of settings for a given project and created a new settings file. To ensure that you don't accidentally change the settings, use the Finder's Get Info window to lock the settings file.

### The gamma gap

Web designers are (or should be) intimately familiar with Windows' gamma issue: Mac-created graphics often look too dark in Windows, because PC monitors have a different gamma curve than Macs. The same applies to video clips.

Media Cleaner Pro makes gamma adjustments a cinch. With the desired setting selected in the Advanced Settings window, click on the Adjust tab and check the Gamma box. Move the slider to the right to brighten the movie.

**Start at thirtysomething** What's the best gamma adjustment for optimum Windows playback? That depends on your movie, but a good starting point is 30. In general, if the movie looks a bit too light on your Mac's monitor, it will look good on a PC.

**Consider platform-specific movies** If you're creating movies destined for playback in QuickTime 3, consider creating two separate gamma-corrected movies, one for the Mac OS and one for Windows. Page 114 of the Media Cleaner Pro manual contains a cool tip for using

QuickTime 3 reference movies to deliver separate movies transparently to Mac OS and Windows users.

### Harnessing a new codec

The Sorenson compressor/decompressor from Sorenson Vision ([www.s-vision.com](http://www.s-vision.com)) that accompanies QuickTime 3 provides smooth, sharp playback at much lower data rates than the venerable Cinepak codec does. But Sorenson brings new issues to the table, and applying Cinepak techniques to Sorenson often yields disappointing results. Getting the best results from Sorenson means, well, thinking different.

**Where's it going?** For a Web-destined movie, first decide whether it's important for it to stream in real time – that is, to begin playback almost immediately and to play without pause as the file downloads. For short movies – say, 30-second clips – consider forgoing immediate gratification in the interest of better compression quality.

A movie compressed with a data rate of about 10K to 20K per second and a frame size of 240-x-180 pixels might take about a minute to load before playback begins. But the larger frame size and higher image quality may make that wait worthwhile. And if you put text on the page containing the movie, viewers will have something to distract them while the movie loads.

For movies destined for CDs, try a data rate of about 100K per second, with a 320-x-240 frame size and a 15fps frame-rate.

**Keep the red out** A strange quirk of Sorenson's underlying compression scheme is that brightly saturated reds compress poorly. Titles consisting of red text against a black background are likely to look particularly bad. Consider avoiding bright reds in clips that you'll be compressing with Sorenson.

**The key to Keyframes** With Cinepak, it's common to specify one keyframe every second. (A keyframe contains the complete video image; between it and the next keyframe are delta frames containing only those pixels that change.) Sorenson doesn't need as many, and actually gives better results if you specify one keyframe every ten seconds or so.

**Going upscale** The Sorenson codec that accompanies QuickTime is just a sub-set of the compression marvels that Sorenson Vision has created. The £300 Sorenson Developer Edition provides several additional compression features, some of which are accessible only through Media Cleaner Pro.

The most noteworthy of the goodies in Developer Edition is variable bit-rate (VBR) encoding, which adjusts data rates on the fly to deliver the best quality for the scene at hand. VBR works particularly well with material that alternates between periods of low and high activity – for example, a title dissolving into a fast-motion scene.

One caveat you should be aware of is that VBR can increase compression time by

## Now previewing

Media Cleaner Pro 3.0's Dynamic Preview evaluates the effects of your compression and optimization settings before you actually compress the movie. Its split-screen approach provides a before-and-after view of your settings.

To display the window, choose Dynamic Preview from the Windows menu (or press **⌘-D**). The window shows the same frame that's displayed in the Source window; to display a different frame, activate the Source window by clicking on it and drag the QuickTime controller bar to the desired frame.

Drag the slider (A) to the left or right to change where the screen splits. Media Cleaner Pro also displays the approximate size of the currently displayed frame (B) so you can assess the shrinking skills of your chosen codec.

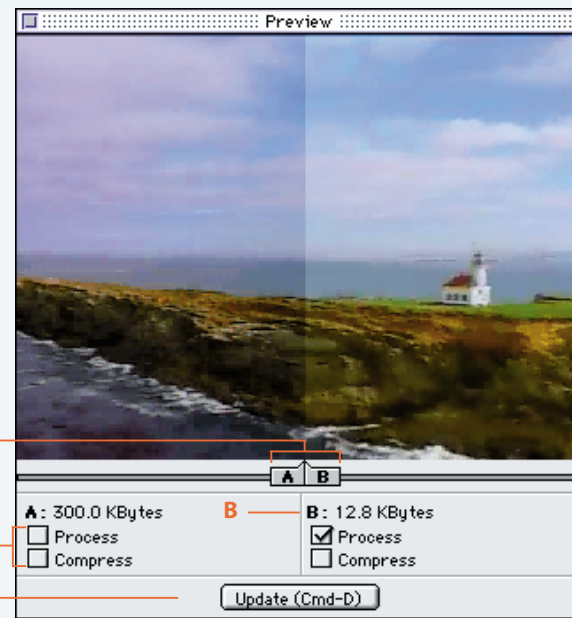
To preview the results of your optimization settings, check the right-hand Process box in the collection of four check boxes (C).

To preview noise reduction, check both Process and Compress on the right. Now both sides of the preview show the clip in its compressed form, but only the right side shows optimization and image-tweaking results. This lets you see how your settings will affect the quality of the final output.

To preview everything, check the Compress box on the left and both the Process and Compress boxes on the right. Now the left side of the preview window shows the original clip, and the right side shows how the final output will look.

This preview mode is the slowest but gives the most accurate glimpse of your final product.

**TIP** If you see that your chosen codec is altering the image's colour balance, go into the Advanced Settings window



### A handy sneak peek

Media Cleaner Pro's Preview window lets you see how your selection of settings will affect the final output before you commit to them.

and tweak the Hue and Saturation sliders under the Adjust tab until the colour balance of both sides is the same. Then click on Update (D) or press **⌘-D** to update the preview.

a factor of three, so build a little extra time into your post-production schedule if you plan to use it.

### Bonus refinement tactics

There are additional ways to improve compression and minimize its artifacts. Assess the results of each tweak in Media Cleaner Pro's Dynamic Preview window (see "Now previewing").

**Turn down the noise** Video noise – especially apparent in dimly lit scenes – compresses poorly. In the Advanced Settings dialogue box, check the Image tab's Adaptive Noise Reduce box to apply a noise-reduction filter. The default option, Flat Field, is usually best.

You compression old-timers may be tempted to check the Blur box, since applying a slight blur to a clip was a common technique to improve Cinepak compression. But resist the urge to blur – adaptive noise reduction provides the same benefits but does a better job of preserving edge sharpness.

**Tweak the contrast** Boosting a clip's contrast slightly can improve compression by making almost-black areas completely black. Check the Adjust tab's Contrast box, and drag its slider to the right 10 to 15 units.

**Mask your talking heads** For talking-head movies, consider using the Image tab's Static Mask feature (see "Masking and watermarking").

By masking out areas that don't change from one frame to the next, you eliminate

hard-to-compress video noise, enabling your codec to concentrate on compressing the movie's main subject.

**Crop the garbage** When you capture video from an analogue videotape, the resulting movie is likely to have several rows of dancing pixels at the bottom.

This garbage gives your movie an amateurish look, and those dancing pixels are hard to compress. Use Media Cleaner Pro's crop feature to remove extraneous junk; you can enter numeric values in the Advanced Settings window's Image tab, or open the movie's Source window and draw a crop rectangle.

**Get inflatable assistance** So few software developers use the Mac OS's balloon-help feature that you probably have never bothered to try it.

Well, surprise: Terran Interactive has filled Media Cleaner Pro's balloons with tips and succinct instructions. Check them out. One of the best bits of advice, naturally, is to aim high right at the outset. Media Cleaner Pro is a power tool, not a miracle worker. What it can't compensate for is a bargain-basement camcorder, inadequate lighting, or a camera operator struggling to combat a severe bout of morning-after delirium tremens.

So, keep in mind the standard rules of Web and CD video: use quality gear, light well, minimize panning and zooming, and use a tripod.

**Jim Heid writes and lectures about Web, video, and multimedia development.**

create graphics

# Strokes of genius

Illustrator 8.0's Brushes palette is a real delight. By Deke McClelland

**T**he PostScript stroke is a draftsman's dream: always smooth, forever precise, never varying in width. It's everything you want in a schematic-design tool. But for creating expressive artwork, the uniform weight of a PostScript stroke is downright inhuman.

Like a key on an old-fashioned synthesizer, it produces an inert tone immune to artistic interpretation.

As Adobe invented the fixed-width stroke, it's only fitting that Adobe Illustrator 8 provides a way to escape it. The program's new Brushes palette lets you create strokes that change in response to variables, such as stylus pressure and path direction. But by far the most interesting type of new brush in Illustrator 8 is the Art Brush, which lets you stretch a collection of shapes along the length of a path. The result is a new class of graphics that you can bend and distort by manipulating a central spine.

The Art Brush's underlying concept dates back to MetaCreations' Expression, which serves as the vector equivalent of Painter, MetaCreations' natural-media painting program. The idea is that by taking a graphic that looks like a dollop of paint and fixing it to a path, you create what appears to be a traditional brushstroke (see "Create traditional brushstrokes"). But because you're working with vectors, you can still edit the brushstroke after you paint it.

And the benefits of Art Brushes don't end there. Like Expression, Illustrator 8 lets you take any graphic or piece of clip-art and turn it into a brush.

This means that you can distort an image or adjust its size and shape via the image's central spine. Text can also be a brush, going beyond the usual text on a path to where letterforms fold and splay as they round a curve (see "Make flexible type").

Once you define a brush, you can paint with it using the paintbrush tool or apply it



to a path you've drawn with the pen or pencil tools. Then, rather than rendering the brushstroke into its myriad shapes – as Illustrator 7 did with path patterns – Illustrator 8 converts PostScript info to screen QuickDraw and presents only the spine for editing. Simply reshape the spine, as you would any path, to change the angle and sway of the brushstroke.

You can also scale the brushstroke's width or flip the brushstroke along its spine to reverse its direction.

The creation of more intuitive tools to make vector drawing more responsive to the natural habits of artists and designers is a welcome development.

And, although Adobe can't take credit for inventing the vector brushstroke, the simple structure of Illustrator 8's Brushes palette makes the feature very accessible. Brushes represent vector drawing as it ought to be – applicable and fun. **Contributing Editor Deke McClelland has been creating artwork on the Mac 1985. His publications include Real World Illustrator 8 (Peachpit Press, 1999).**

See "Paint with Graphics" on Macworld Online, at [www.macworld.co.uk/examples/examples.html](http://www.macworld.co.uk/examples/examples.html) for ideas on using different graphics as a brush.

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online

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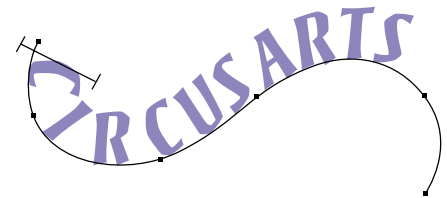


## Make flexible type

In a drawing program, text becomes a graphic. When you apply text as a brush in Illustrator 8, the letters are editable as shapes but not as ASCII characters. This means that you should know exactly how your text

should read before you create the brush. While it's not impossible to correct the spelling of a word, it's not exactly convenient either. In return, you'll get unique effects that you can't achieve any other way.

**1** I wanted to create a radically wavy logo featuring the words Circus Arts. If I created the type along a curve, the type would look fine along the soft curves but would separate and gap around bigger curves. Distorting the letters would fill those gaps, and the only way to distort type on a curve in Illustrator 8 is to make it a brush.



**2** After entering Circus Arts with the type tool, I cloned the type to have an editable version as a backup. Then I converted the words to a path outline by selecting the type and choosing Create Outlines from the Type menu. Then I filled the outline with 50 per cent black so that I could colour it more easily on the fly.



CIRCUS ARTS

**3** So long as Illustrator forces users to work with text as a graphic, I thought I might as well take full advantage of it. I added a drop-shadow and filled the type with circles of lighter gray, using the Intersect option in the Pathfinder palette. The result is a logo that would be impossible to attach to a curve using anything but a brush.

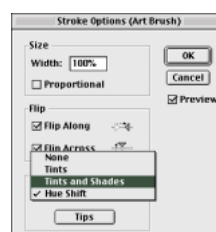
CIRCUS ARTS

**4** After dragging and dropping the type into the Brushes palette (see step 2 of "Create traditional brushstrokes"), I assigned the brush to my wavy path. Then I changed the stroke to red to colour the logo.

**TIP** To change the text, edit the backup text and option-drag it onto the old brush in the Brushes palette. In the dialogue box that appears, click on Apply To Strokes to update all paths painted with the brush.



**5** Illustrator painted my circles the same shade of red as the text, but luckily I could change this without making a new brush. I clicked on the Options Of Selected Object icon in the Brushes palette, and in the Stroke Options dialogue box selected Tints And Shades from the Colorization pop-up menu. This told Illustrator to lighten and darken the colour according to the gray values, bringing my circles to life.



# Create traditional brushstrokes

Painterly brushstrokes are hardly what you expect to create in a vector-based drawing program.

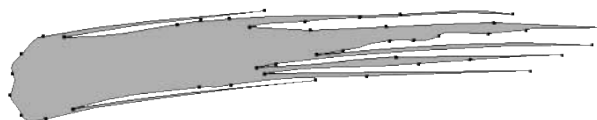
But while I wouldn't go so far as to recommend Illustrator 8 for creating a full-blown painting, it's ideally suited to the occasional swash or two.

This is because paint in Illustrator is forever wet;

after you apply a brushstroke, you can modify its angle and direction, change its colour, and even swap it out for a different brush's stroke.

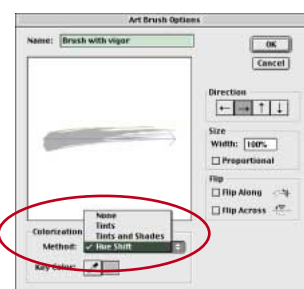
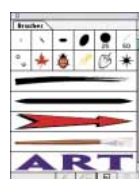
The following steps show how to make a brush in Illustrator 8, apply it to a path, and adjust the brushstrokes to achieve a desired effect.

**1** Start by drawing your brush outline. It should look like a natural paintbrush stroke, heavier on one end where the brush first contacts the surface and feathered on the end where it's whisked away. Making a believable brush outline takes a bit of practice, but the key is to be sloppy – nature is random, so you should be too. Scribbling with the pencil tool usually delivers the best results. When you're done, fill the brush outline with 50 per cent black – this makes it easier to colour later.

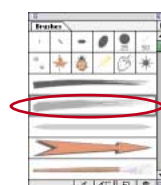


**2** Select the path, and drag-&-drop it onto the Brushes palette. In the New Brush dialogue box, select the New Art Brush option and click on OK. In the Art Brush Options dialogue box, select Hue Shift from the Colourization Method pop-up menu. This colours the brush according to the standard stroke colour specified in the Toolbox. Click on OK to add the brush to the Brushes palette.

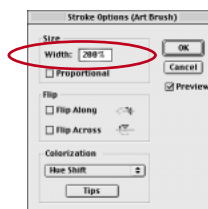
**TIP** If you want your new brush to be available inside all new illustrations, copy the brush outline, open the Adobe Illustrator Startup file found in the Plug-Ins folder, and paste. Then drag the outline into the Brushes palette as directed in step 2. Finally, press **⌘-S** to save the Adobe Illustrator Startup file.



**3** Using the pen or pencil tool, draw paths you want to paint with your new brush. Then select the paths and click on the brush in the Brushes palette. Alternatively, you can paint directly with the active brush, using Illustrator's paintbrush tool. Because you selected Hue Shift in the previous step, the brush automatically subscribes to the stroke colour (the fill colour should be set to None).



**4** To edit the appearance of the brushed paths, click on the Options Of Selected Object icon along the bottom of the Brushes palette, second from left. In the Stroke Options dialogue box, you can change the width of the brushstrokes by entering a new Width percentage value (the example here shows 200 per cent). You can also flip the brushstroke on the path.



**5** As with tile patterns, gradients, and other automated effects, the intensive use of brushes can render an illustration too complex to print. To simplify your illustration, select the brushed paths and choose Expand from the Object menu. Illustrator converts the brushstrokes to filled outlines.





# Setting your sites

There's a balance to be struck with Web-site design. By Peter Morville

Every thing about the Web seems to be growing exponentially: the market valuations of Web-based companies such as Yahoo and Amazon.com, the connection speeds, the number of Web sites and Web surfers – and the frustration of trying to find information in the sprawling chaos of cyberspace. Not only is it difficult to find the right Web site, but it's often hard to find what you're looking for within a site.

The problem is that our understanding of how to organize Web sites to help users navigate them is not increasing exponentially. As users, we spend vast quantities of time seeking but not finding. We browse through categories and sub-categories, trying to guess where

they've hidden our content; we enter terms into search engines and are amazed by the number of unrelated sites that result.

The good news is that the Web is a wonderful classroom for learning from the mistakes of others. As we browse and search poorly structured Web sites, we can convert our frustration as users into understanding as producers. The more we know exactly what it is we hate about the Web, the better equipped we are to avoid these problems and to design sites that help users find what they need. MW

**Peter Morville is co-author of *Information Architecture for the World Wide Web* (O'Reilly & Associates, 1998).**

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## Frustration 1: difficult navigation

Whether you're exploring an unfamiliar city or a new Web site, there's nothing more frustrating than getting lost. In a city, you use street signs to figure out where you are and how to get where you're going; on a Web site, you rely on navigation bars, tables of contents, and search engines. By incorporating these tools into your site's navigation system, you can prevent visitors from feeling lost.

One such tool is the equivalent of a "You Are Here" symbol on a map: hyperlinks at the top or side of each page show where the user is in your site's hierarchy and how to return to a higher level (see "Virtual bread crumbs"). Other ways to provide contextual clues are to put your organization's name on every page and carry the main page's graphic identity throughout the site.

Other navigational tools use a printed-book metaphor. A table of

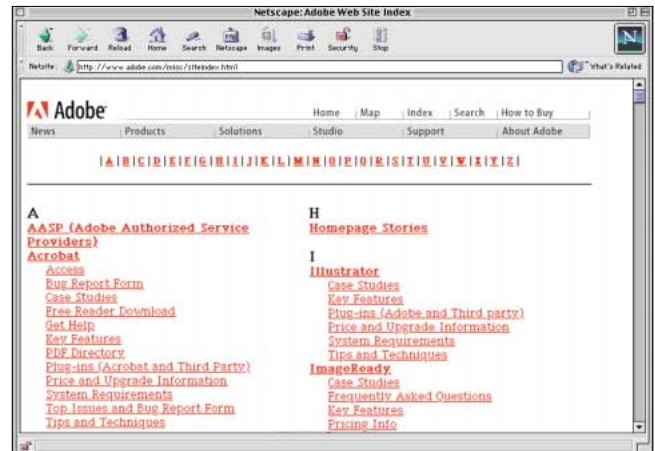
contents, for example, offers a bird's-eye view of the hierarchy, helping users navigate quickly. Indexes, on the other hand, work well for users who know the name of the item they're looking for, allowing them to bypass the hierarchy altogether (see "Take the express").

One tool that promises a lots of bang for the buck is the search engine, which automatically indexes the full text of a site. However, a search engine can actually decrease visitors' ability to find what they're looking for; users often type in a keyword and receive a list of unrelated documents or the dreaded "no hits" message. One problem is that users and authors may use different words to describe the same concept (for example, car versus automobile). If you do put a search engine on your site, use the "no dead-ends" rule: always provide links from the search-result screens to alternative ways of searching or browsing the site.



### Virtual bread crumbs

The navigation bar near the top of the screen uses hypertext links that show visitors where they are in the site's hierarchy and help them jump quickly to higher-level categories.



### Take the express

Users who know what they're looking for will find it quickly with this alphabetical site index. Notice that Adobe kept this page clean and almost image-free to get users to the desired content quickly and painlessly.

## Frustration 2: chaotic categories

Sometimes you visit a Web site knowing exactly what you're looking for, but you have a hard time guessing which link to follow from the main page.

Other times you visit a site looking for information on a more general topic or seeking help with a certain task, only to be frustrated by an organization scheme that doesn't address either topics or tasks. In both cases, the site isn't organized in a way that helps you find the information you need.

How can you learn from this frustration? The answer lies in understanding the difference between exact and ambiguous organization schemes and when to use each.

Consider the telephone book's white pages, which organize entries alphabetically by last name. When you know the last name of the person you're looking for, you know exactly where to find it.

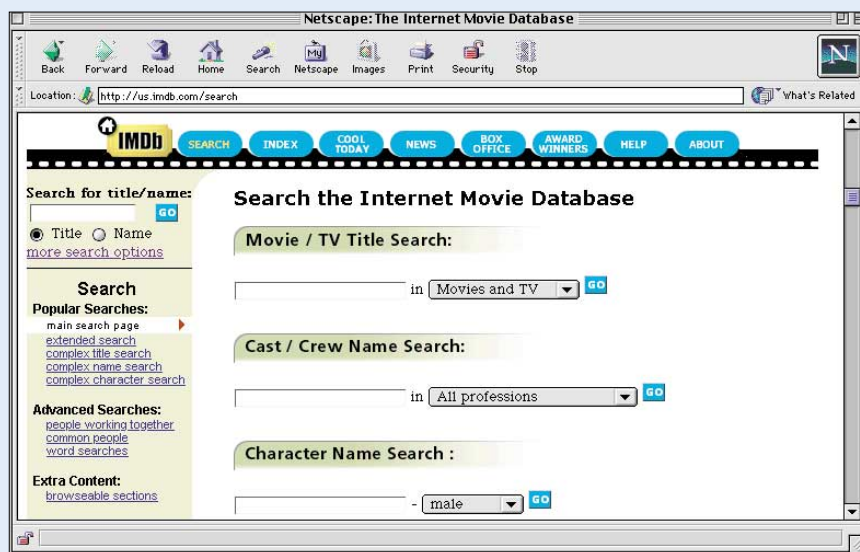
Applying this "known-item" searching to the Web, you can offer an alphabetical listing of products, services, or documents on your site to help visitors who know the name of the item they're looking for (see "Find it fast"). Sites that offer geographic and chronological organization schemes also lend themselves to this kind of searching.

An exact organization scheme won't help you if your interest is topical or task based – try finding a plumber in the white pages. In an ambiguous organization scheme like that of the yellow pages, information is structured by topic, task, or audience, or according to a metaphor-driven scheme (see "Just browsing").

By grouping similar items, ambiguous schemes suggest relationships you might not have considered.

For instance, an ambiguous scheme can effectively suggest, "If you like this product, you might be interested in these related products and services." The problem is that no two designers structure or populate these schemes in quite the same way, so for all their value, they're often challenging to design, maintain, and use.

There are obvious pros and cons to both approaches: exact schemes work best for known-item searching, while ambiguous schemes help people who need topical information. The best strategy is to anticipate having both types of users visit your site. One of the advantages of organizing information in the digital rather than the physical world is that you're not limited to a single organization scheme; it's easy to give users multiple ways of accessing the same information.



### Find it fast

The Internet Movie Database uses several exact organization schemes. You can easily search and browse by the names of movies or TV shows, cast or crew members, and characters.



### Just browsing

Online book stores like Amazon.com usually offer both exact and, as shown here, ambiguous organization schemes. This subject-oriented structure targets people looking for items on a particular topic rather than for a specific author or title.

## Frustration 3: the overwhelming main page

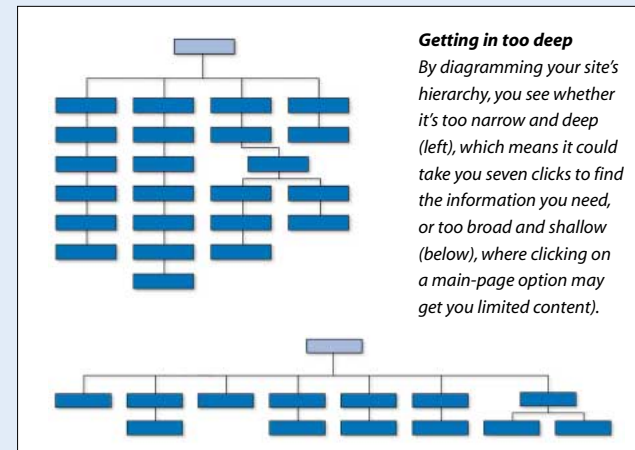
The main pages of many corporate Web sites are simply overwhelming, often crowded with 50 or more links (see "Option overload"). The effect is utter confusion – there are simply too many options from which to choose. Obviously, that's not a sensible way to welcome people to your site. Why does this happen, and how can you avoid it?

Confusing main pages are the result of poor planning. Designers of such sites have failed to ask themselves the following critical questions at the outset:

- What are the short- and long-term goals for the site? For example, will the site offer only basic marketing materials at first but evolve to integrate product ordering and customer service as well?
- Who is the primary audience and what are its members' most important needs? Audiences for your site may include existing and prospective customers, investors, the media, business partners, or employees of your company. You can't meet all of their needs equally; you need to prioritize.
- How can I define what content to include? The larger an information system becomes, the harder it is to find anything. Develop policies that focus on content of high value to your primary audience.

Instead of striving to be all things to all people apply the 80-20 rule: 20 per cent of the content can usually meet 80 per cent of users' most important needs. For example, financial-services companies find that 80 per cent of site visitors need to check the status of their accounts, so it's important to provide fast access to that information. Remaining items should be available but the focus should be on helping people quickly find the most important content.

You also need to consider breadth versus depth. An excess of options on the main page makes it difficult for users to choose the right one, and each category may contain very little content. But a narrow, deep Web site – one that requires five or six clicks to get to your destination – is even more frustrating (see "Getting in too deep"). If you present options clearly, you can have as many as 32 on a main page. Studies show that users can navigate a 32-by-16 hierarchy (32 options on the main page and 16 options on each of the second-level pages) faster than an 8-by-8-by-8 hierarchy (eight options on the main page and on the second- and third-level pages). Breadth is better when you've used alphabetical lists rather than a topical or subject-oriented hierarchy, where it's difficult to guess which category will lead to the desired item.



### Getting in too deep

By diagramming your site's hierarchy, you see whether it's too narrow and deep (left), which means it could take you seven clicks to find the information you need, or too broad and shallow (below), where clicking on a main-page option may get you limited content).



### Keep it simple

The Harley-Davidson Web site immediately establishes its primary organization scheme by presenting three major links. It's obvious that the site's designers thought carefully about what to include, how to group that content, and how to convey the right image. Another nice touch: you don't need to scroll to get to the most important information.



### Option overload

It's not just the sheer number of links on this page that causes a problem, but also the types of links and their presentation. For example, putting options in navigation bars along both the top and left doesn't clearly establish a primary organization scheme. This makes it difficult for users to develop a mental model of the overall site.



# Super clue

Sherlock is a potent search tool – online or offline. **By Ted Landau**

**O**ne of the most impressive new features in Mac OS 8.5 is Sherlock. This replacement for Apple's Find File function does much more than just find files. It also lets you search for a word or group of words within documents (see "Take your search offline").

But what is most compelling about Sherlock is the way it works with the Internet: it lets you do searches on multiple sites simultaneously, right from the desktop. All you have to do, once you're online, is select Sherlock's Search Internet tab, enter a search term, and click on the Search button. In a matter of seconds, Sherlock posts results gathered from multiple sites such as AltaVista, Excite, and Apple's Tech Info Library. Click on any item, and Sherlock displays a small portion of the selected Web page's contents. Double-click on an item, and Sherlock opens your Web browser to that page.

Searching the Internet by using Sherlock could hardly be simpler. But there's room for improvement. Here's how to customize Sherlock to make it even more powerful.

## Cast a Wider Net

Consider the list of sites in Sherlock's Search Sites window as nothing more than a starting point. Just about any Web site that has a search engine, such as Yahoo, can be added to the list. All you need is a plug-in file for the Web site.

There are a lot of plug-ins out there for the taking. Apple offers a dozen or so free plug-ins (find them at [www.apple.com/sherlock/plugins.html](http://www.apple.com/sherlock/plugins.html)), including one for Apple's own Web site. You can obtain an even wider range of plug-ins from sites such as the Sherlock Internet Search Archives ([www.appledonuts.com/sherlocksearch/index.html](http://www.appledonuts.com/sherlocksearch/index.html)) and the Sherlock Collection (<http://moriarty.mit.edu/Sherlock/All.htm>). If you can't find a plug-in for a particular site on any of these lists, check the site itself. It may have its own plug-in posted.

It's also a good idea to get the updated version of Sherlock in Mac OS 8.5.1 or later. It comes with many more plug-ins



than the original version. If even this doesn't satisfy your craving for plug-ins, you can create your own. You'll be in familiar territory if you already know something about HTML; the language for writing plug-ins uses many of the same conventions. An Apple Web page

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## Take your search offline

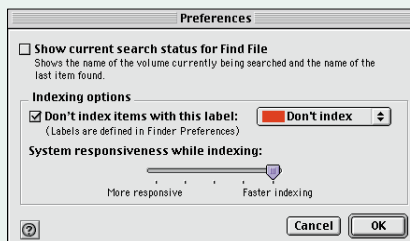
**N**ot only can Sherlock ferret out information on the Internet but it can also do some of its most powerful searching right where it sits – on your hard disk. This reinvigorated Find File program lets you search for words inside your documents (using its Find By Content feature). For instance, you can find all occurrences of the phrase "in the future" in any document. Here's how to make sure these searches are as fast as they can be.

**Create an index** Doing a search for words inside documents is amazingly fast if you've allowed your Mac to compile its own card catalogue (an invisible file which lives in your System Folder and that's called TheFindByContentIndex) of every word in every document. You do that by clicking on Index Volumes (in the Find By Content area), then your hard disk's name, and then the Create Index (or Update Index) button.

**Index in absentia** The bad news is that the indexing process can take hours. The good news is you can use the Schedule button to make the dirty work of indexing

(and reindexing, to keep the index file current) take place when you're not around – for example, overnight. (In the Find By Content window, click on the Index Volumes button, and then click on the Schedule button.)

**Time it right** If you would rather not leave your Mac on all night to do indexing, you can try another technique: use the Preferences command's system-responsiveness slider to give you the right balance between working



### Keys to speed

To speed up indexing, exclude from the index any folders you don't need to search. Also, move the responsiveness slider all the way to the right.

on your Mac and creating an index. If you move the slider to the left, Sherlock runs in the background, letting you continue to work on the Mac. This means indexing will go slowly, however. If indexing speed is important, move the slider all the way to the right (but don't expect to work on the Mac during indexing).

**Don't overdo** You can speed the indexing process in yet another way, using the Don't Index Items With This Label check box (in Sherlock's Preferences window). Before indexing, use the Finder's Preferences command to define a special label. For example, you could create a label called Don't Index. Now go on a folder-labelling spree. Apply the Don't Index label to your System Folder, the folders that contain your applications, and all other folders that contain no documents or email. Now return to the Sherlock program, check the Don't Index Items check box, and specify the Don't Index label (see "Keys to speed"). You'll be astounded at how much faster the indexing goes.

– David Pogue

# The case of the thwarted search

Occasionally, when you use Sherlock to search the Internet, you'll run into problems. For instance, search results may not appear or you'll get an error message. In the worst case, you'll freeze or a crash. When trouble strikes, work your way through this checklist.

- 1 The Find Preferences file (in the Preferences folder of the System Folder) may be corrupted. Go ahead and trash it. A fresh copy will be created the next time you start your Macintosh.
  - 2 If you've added plug-ins, Sherlock may need more memory. To increase memory, select Get Info for the Sherlock application (it's in the Apple Menu Items folder of the System Folder), select Memory from the pop-up menu, and increase the Preferred Memory size.
  - 3 You may need an updated plug-in. To check, select Update Search Sites from Sherlock's Find menu. Sherlock will search for updated versions of plug-ins and then replace old ones with the new ones it finds. (Some plug-ins will automatically update themselves when you try to use them, if a new version is available.)
  - 4 You may have a corrupted plug-in. To check, disable all but one of your plug-ins. See if the problem disappears. If so, repeat this procedure with a different plug-in each time. When the problem resurfaces, you've identified the culprit. Replace the plug-in with a fresh copy.
- If that fails and no updated version is available, notify the author of the plug-in about the apparent bug.

- 5 If you double-click on a URL in Sherlock and nothing happens (no browser launches or you get an error message), it's probably because the Mac is pre-configured to use Microsoft Internet Explorer as the default browser but you don't have Explorer installed. If you're using another browser, such as Netscape Navigator, open the Internet control panel and select the Web tab. From the Default Web Browser pop-up menu, select the desired browser.
  - 6 If you connect from behind a firewall, especially one that needs user authentication, you may have problems using Sherlock. First, make sure you have defined a Web Proxy server, using the Internet control panel. To define a server, select Advanced User Mode from the control panel's Edit menu. Click on the Advanced tab, and then select the Firewalls icon.
- Here you'll be able to enter the needed Web Proxy server data (from the specifications from your network administrator). If Sherlock still doesn't work after you've followed these steps, it may be the fault of a bug in Sherlock 2.0. To fix it, get version 2.0.2 of Sherlock, which comes with Mac OS 8.5.1. You may have a problem that you don't even know about. If you renamed the original Sherlock file or moved it out of the Apple Menu Items folder and later installed Mac OS 8.5.1, the operating system's Installer probably didn't find Sherlock. That means the new version of Sherlock may not have been installed. Check Sherlock's Get Info window to see if it says version 2.0.2.

([www.apple.com/sherlock/plugindev.htm](http://www.apple.com/sherlock/plugindev.htm)) can help you get started. Uou might want to follow Gord Lacy's step-by-step tutorial ([www.appledonuts.com/sherlocksearch/howto.html](http://www.appledonuts.com/sherlocksearch/howto.html)).

To use a new plug-in, simply download it and drag it to your System Folder icon. The next time you use Sherlock, the new site will appear in the list (see "Sherlock's homes"). As soon as you check a site's check box, it's ready to be searched. (Your Macintosh will put it into the Internet Search Sites folder, in your System Folder.)

## Make Sherlock more revealing

As your list of plug-ins starts to grow, you'll probably become increasingly frustrated with Sherlock's fixed window size.

As it ships, Sherlock allows you to view a maximum of six plug-ins at a time. To end this irritation, install the free Moriarty patch (<http://members.aol.com/appleink98/moriarty.html>), which gives Sherlock an expandable window. After installing the patch, you can view as many plug-ins as can fit on your screen. Moriarty may be unwilling to patch the new version of Sherlock included with Mac OS 8.5.1. If so, an alternative that works fine is an extension known as SherlockWindowSize ([www.ncal.verio.com/~lsr/programs/index.html](http://www.ncal.verio.com/~lsr/programs/index.html)).

*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](mailto: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.*

It automatically sizes the Sherlock Search Internet window pane, based on the number of search engine plug-ins that you have installed. Not satisfied that you get ten items in the Items Found window when you do a search? No sweat – you can also expand the hit number you get from almost any site to the maximum the site supports. An Apple Tech Info Library file shows how: <http://til.info.apple.com/techinfo.nsf/artnum/n58163>

## Cast a narrower net

Most likely, you won't want all of your plug-ins enabled all the time. For example, there's no point in searching Apple's Tech Info Library to find the lowest price on a car. It's possible that each time you do a search, you'll have to turn on and off the check boxes of different plug-ins.

To save time, you can create separate search sets for different occasions so that with one click of the mouse, you switch sets (although you still may have to enable some check boxes). There are several ways with which to do this:

- 1 If you have Conflict Catcher 8, choose the Listed by Folder view. Locate the Internet Search Sites folder. Now create separate sets using your plug-ins. If the Search Sites folder is missing from the list, go to the Folders portion of the Preferences panel and click on Add. Set the Starting Folder to the System Folder. Click on the Folder button, and select Internet Search Sites.
- 2 You can also create search sets with some AppleScripts from Apple ([www.apple.com/applescript/sherlock\\_sets/](http://www.apple.com/applescript/sherlock_sets/)). Use the scripts with OSAMenu, which are in the AppleScript Extras folder on the Mac OS CD.
- 3 Finally, you can employ a third-party Sherlock set manager. The freeware, No Shoot! Sherlock, is a popular choice (<http://members.macconnect.com/~mercyme/purplee.shtml>).

## More Sherlock secrets

Digging deeper will unearth some real treasures in Sherlock. For example, suppose you want to save a list of all the URLs in the Items Found window. Click in the Items Found window, select all (⌘-A), and then copy (⌘-C). The URLs for the listed items will be copied to the Clipboard, ready for pasting. You can also save URLs by dragging items from Sherlock's Items Found window to the Desktop. This creates Internet location files on which you can double-click for the Web sites (see "Desktop bookmark").

Is there's some document text you want to use as search criteria, simply highlight the text and control-click on it to bring up a contextual menu. Select Search Internet from the menu, and Sherlock will use the highlighted text as the search criteria. You can also use the same search criteria repeatedly by letting Sherlock save the criteria. Suppose you want to regularly check the Internet for all mentions of both Mac OS 8.5 and the iMac. Once you set up and perform the initial search, select Save Search Criteria from Sherlock's File menu.

This creates a Saved Internet Search File, on which you can double-click to open Sherlock and initiate the search. Another trick is an easy way to switch between each of Sherlock's three window panes. Rather than click on Sherlock's tabs, use keyboard shortcuts. Press ⌘-F for the Find File pane, ⌘-G to go to the Search by Content pane, and ⌘-H for the Search Internet pane.

## Case closed

With Sherlock's Search Internet feature, you are no longer limited to searching your local disks from your desktop. You can now search the entire World Wide Web. **Ted Landau has Sherlock plug-ins available on his MacFixIt Web site** ([www.macfixit.com](http://www.macfixit.com)).

# Q&A &Tips

## restarting an iMac • page defaults

## Testing Web-page design

### Tip

The Web Sharing feature in Mac OS 8.X is fine in a networked office or for someone with a full-time Internet connection but for those with a dial-up Internet connection the Mac gets a different Internet address every time you connect. Web Sharing, though, is a useful tool for Web design.

Web Sharing creates a Web server on your Mac, and you can use this server to test your Web design without uploading Web-page files to your ISP's server – a better way to test pages than by specifying a local file URL that begins with file://.

It also more closely resembles the real world. Netscape Navigator reloads images from local files every time it displays them, which takes longer than displaying the images from memory, as happens when Navigator loads them from a Web server. You will notice the difference when working with rollovers (an image that changes when a mouse pointer rolls over it), noting that testing rollovers using a local file URL either yields jerky results or simply doesn't work. To test your Web pages, connect to the Internet and start Web Sharing. In the Web Sharing control panel, click the first Select button to specify the folder that contains your Web-page files, and then click the second Select button to specify the home page (see "Mighty real"). Next click the Start button to start the Web server (shown here as Stop, its state after being clicked). Your Web address



### Mighty real

*The Web Sharing control panel enables a more realistic dry run of your Web designs by creating a local server.*

## Forcing an iMac to restart

### Q

**I use an iMac in school and a Performa 6360 at home. Whenever my Performa freezes, I just press ⌘-control-power-on key, and my computer restarts. But with the iMac, I have to use a paper clip to restart the computer. My friends and I suspect that it's because the keyboard is a USB device, so when the computer freezes the keyboard has no access to the USB drivers. Is there a way to restart an iMac without wasting a paper clip?**  
Kozo Ota

### A

Unlike the ADB keyboards used on other Macs, the iMac's USB keyboard is not wired to the computer's reset circuitry and can't restart a frozen or crashed iMac. If the iMac is not frozen or crashed, pressing ⌘-control-power-on restarts it in the same way as pressing the power-on key and clicking the Restart button in the dialogue box that appears (a technique that works on any Mac). If your iMac is crashed or frozen, you can restart it by pushing its reset button, located near the USB ports on the side of the iMac and marked with a small triangle.

On early iMacs, the button is inside a

small hole. This means that you must use a straightened paper clip to push the button. If the reset button doesn't restart the iMac, unplug the iMac for at least 30 seconds and then plug it in again and start up normally.

You can avoid killing paper clips by taking a plastic pushpin and snipping it to about 3/16 inch. Onto this stub then impale a 1/4-inch piece of double-sticky foam tape.

Thus assembled, the device fits into the iMac reset hole, with the sticky tape holding it in place.

The tape holds the pin in place and cushions it so it makes contact with the reset button only when pressed. If you dislike the do-it-yourself method, you can spend about \$10 for a similar pre-made gadget called the iButton from Joseph Lee Company ([www.imacbutton.com](http://www.imacbutton.com)). Keep in mind that whenever you force any Mac to restart by pressing 1-control-power-on or pushing a reset button, you should use Disk First Aid or another disk-repair utility to verify the start-up disk and repair it as needed. Although tedious, this precaution does keep problems from snowballing.

## Setting page-set-up defaults

### Q

**When we print from any of the Macs on our network to any of our Hewlett-Packard LaserJet printers, the LaserWriter 8.1 Page Set-up always defaults to the US letter paper size instead of A4. This happens in ClarisWorks 5, Claris Emailer, FileMaker Pro 4, and other applications. How do we change the default paper size?**  
Warren Cann

### A

Call up the LaserWriter 8 Page Set-up dialogue box from within any application (including the Finder), typically by choosing Page Set-up from the application's File menu. Change the settings as desired, and then option-click the OK button. An alert then asks whether you want to save the current Page Set-up settings as the default settings. (The alert may not appear with your old version of LaserWriter 8, but the current settings still become the default settings). This procedure sets specific LaserWriter 8 Page Set-up defaults for the program you were using, and also sets the general defaults for any programs that don't have specific defaults set. (Simply repeat the above procedure within a program to set its specific defaults).



Peter  
Worlock



Apple fans enjoying Microsoft's  
antitrust woes could be in for a shock.

# Gates' Office block

**T**he question up for discussion this month is: What's to be done about Microsoft? Those of you following the hot new soap opera that is the US government's anti-trust lawsuit against Gates & Co will know that things are looking bleak for the boys from Seattle. If you're not reading along I urge you to do so – reports from the courtroom are the best entertainment available.

The testimony from both sides is far too long and complex to even attempt a summary here. Suffice to say that Bill has not been getting value for money from his team of legal advisers – the Microsoft defence is pretty much in tatters. But even on the assumption that Microsoft will lose, the question remains: what happens next?

If you were thinking, as an Apple fan, that this is cause for celebration, might I gently suggest that we leave the champagne on ice for a while. While it's all too easy to paint Microsoft as the Mac's arch-enemy, the very personification of the Dark Side of the Force (and stealer of all Apple's best ideas into the bargain), life ain't that simple.

The fact is, Apple needs Microsoft. The future for the Mac without Microsoft Office is only a slow, lingering death. You could argue that the future of the Mac is in design and publishing, multimedia, and other creative applications, and so what does it matter if there's no Word or Excel?

Well, a lot of small creative firms running their companies on Macs require these business applications. If they have to contemplate buying a Windows PC to run Office, it's only a matter of time before they start running XPress, Photoshop, Director and their other mainstay software under Windows, too.

In the corporate market, Apple is hanging on by its fingertips. Without Office that grip will be kicked away. In education, the situation is just as precarious.

Of course, if Microsoft kills Mac Office, Apple isn't going to die overnight. But with Apple struggling to boost market share back into double figures, the reality is that an ex officio Mac would lose further, vital, sales.

That is now a real prospect. Even if Microsoft were to win the current lawsuit, its support for Apple looks shaky after Apple execs were among the most eager government witnesses. There are many who believe Microsoft has

maintained Apple support only to avoid the kind of government intervention now underway – win or lose, that justification disappears.

If Microsoft loses, the US government and judiciary then face the question of what measures to implement against the company. The most popular remedy seems to be the breaking up of the company into at least two units: operating systems and applications. A fine would be no more than a laughable slap on the wrist. Some have suggested nationalizing Microsoft, turning it into a public utility. And Bill Clinton will be the next Pope. Others recommend putting Windows into the public domain, making the OS a freeware alternative to Linux, out of the control of any one company.

With the exception of the first option, none of these will help Apple in the slightest. Interestingly, though, only the first addresses the real nature of the Microsoft problem, which has nothing to do with competition for browsers and everything to do with Microsoft's ability to leverage its operating system monopoly into application revenues.

Now suppose the breakup of Microsoft is the result of the current government action. What happens then? Well, sales of Mac applications contribute a tidy sum to Microsoft's bottom line. An app-only Microsoft might need that revenue more than the current company does. That's the only win I can see for Apple.

In the meantime, there is one thing Apple can do to help its own situation, rather than its historic reliance on the Blessing of Bill. That is to undertake an aggressive development of alternative applications outside of creative computing: we need more word processors, spreadsheets, databases, presentation graphics packages, email, groupware, contact managers and other business tools.

And if Apple has to give away G3 desktops to every startup software company to achieve it, that would be a cheap price to pay.

We must not be deluded, and must not allow Apple to be deluded, by the success of the iMac. People don't buy computers to adorn their living rooms. People buy hardware to run software. For Apple to offer a solution "as good as Windows" isn't good enough. The Mac without Office isn't even close.

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