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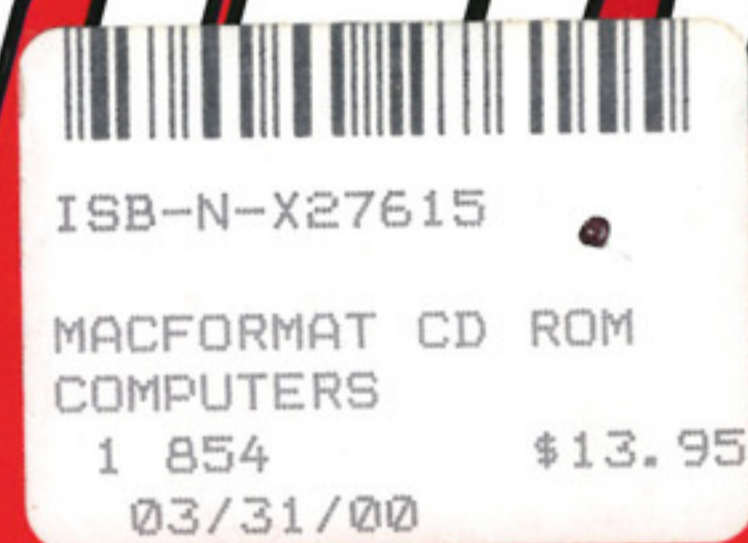
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Unreal Tournament

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LIFE IN THE OLD MAC YET

Still running

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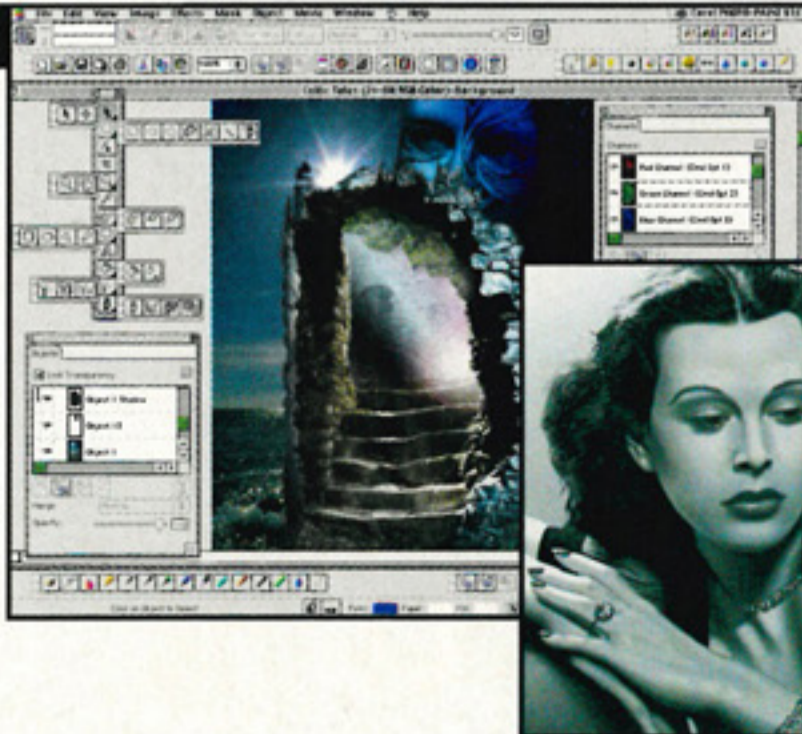
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Your Cover CD

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CD This logo in the magazine indicates programs or support files on the CD

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 **Municipal Area Police**

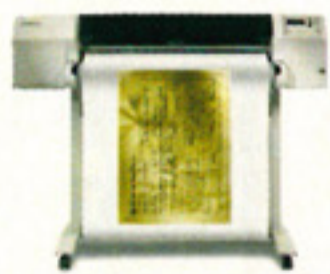
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MF Welcome

Out in the cold?

About MF

Welcome to MacFormat, Britain's best-selling Mac magazine – the magazine for *everyone* who uses a Mac at work, at home or in education.

☑ We cover the whole range of Mac uses, from graphics to games, DTP to databases, the Internet to education.

☑ We look at things from the hands-on user's point of view, so we review only the finished products you can actually buy, and we tell you straight what's worth your money and what isn't. (For more on our review policy, see page 55.)

☑ Whether you're a Mac veteran or a novice, we'll help you get more from your Mac, whatever you use it for.

Prices

We quote prices *including* VAT (currently 17.5% in the UK).

Adverts may not – check the fine print. We quote list prices (RRPs); street prices can vary widely, so check the adverts and shop around! (For more buying advice, see page 102.)

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PERSPECTIVE If you've got a Mac, are you out on a limb, missing out on the latest developments in e-commerce as well as all that enticing PC-only software? It just isn't so, says **Alex Summersby**.

Did you happen to see the article in *The Guardian* early this month about Macs and online banking?

The gist of it was that "Macs are second-class citizens when it comes to financial services on the Internet." It cited Smile.co.uk as "just the latest example" and gave the impression that banks had no interest in serving customers who happen to want to use Macs for online banking.

We're currently preparing a feature on the whole online banking question (watch for it as soon as we manage to complete our practical trials), but you won't be surprised to hear that it's more complicated than that.

You see, Macs *aren't* excluded from online banking. As our readers' feedback has made clear, some banks' online banking services can't talk to Macs, but many can – including Smile's own parent the Co-op Bank, Lloyds TSB, Nationwide Building Society, Citibank, Halifax Bank and Egg, among others.

Wake up and smell the Java

So if there's a problem, it can't be just the fact that you use a Mac. Unless, of course, these banks are perhaps less fussy and are willing to tolerate the Mac despite its technical inferiority. That's the impression you get from some Mac-unfriendly banks. NatWest's Web site, for instance, sets out the minimum Mac system requirements for using its online banking service but then confusingly adds: "Unfortunately, Apple Mac browser technology is currently incompatible with the leading security standards we have in place for NatWest OnLine Banking."

This, like so much that banks say, is *not untrue*, just misleading. The crucial thing, you see, does seem to be a "browser technology": not the fact that it's on a Mac, but which implementation of Java you use, and what a given bank's system *expects* you to use. That's why some online banking services, such as Barclays, work perfectly on some Macs but not at all on others.

Co-op Internet banking, for example, works *most* reliably on a Mac using the Java Virtual Machine (JVM) that comes



Alex could barely afford his mortgage even if he could pay it online.

with *Microsoft Internet Explorer 4*. It just won't work with version 4.5, because in IE 4.5 the Microsoft JVM was replaced by Apple's JVM. If you manually reinstall the Microsoft JVM, however, it *will* work with IE 4.5. It works fine with any Java-capable version of *Netscape*, but *Netscape's* Java implementation is less stable than both IE 4's and Apple's JVM. It is also slower.

So the real issues, I think, are these three. First, yet again, "standards" aren't so standard – *not* because Apple diverges (though it has to be said that Apple's JVMs have been of variable quality and

robustness), but because just about everyone who implements a supposedly uniform standard such as Java attempts to build in some competitive advantage by "enhancing" the standard in some way, which just results in it not being standard any more.

Second, many banks take the easy option and just blow with the wind, short-sightedly adopting whatever they think the majority of their customers use – which is almost inevitably whatever Microsoft gives them. That's ironic in this case, because (1) iMacs in particular are capturing an ever bigger market share, (2) a vast percentage of iMac buyers are going online, and therefore (3) an ever growing proportion – the *fastest* growing proportion – of the banks' potential online customers will be Mac users, whom the banks are almost wilfully not catering for. Not smart business strategy, that.

And third, even well-meant articles like *The Guardian's* serve us ill with broad-brush soundbites like, "If you're using a Mac, you are using an industry pariah", "The service is aimed at people with up-to-date equipment; it's the Macs that need to be sorted out", and "the Mac market is simply too small to be worth the development costs." Like the myth that there's little or no software for the Mac, such stereo-

typing can become a self-fulfilling prophecy. For the Microsofts of this world to succeed in bullying everyone down the One True Path, for the bankers to remain free to take the road of easiest profit instead of serving their customers, for technical obfuscation and half-truth to triumph, all we have to do is say nothing and start believing that maybe it is our fault after all.



Startup

iMac upgradable at last
Apple is rolling in it
FreeHand 9
AppleWorks 6
IBM ViaVoice

News compiled by Ed Haynes, John Parnaby, Llion Weller, Josse Bilson, Robert Todd and Alex Summersby.



466MHz upgrade for older iMacs

REPORT Some said it couldn't be done, but it seems they were wrong. iMac wasn't designed to be upgraded, but Newer now has a processor upgrade for iMac Revs A to D.

Newer Technology has managed to produce a processor upgrade for all iMacs except the current range. Compatible with the first four revisions of iMac, including the original 233MHz and the first "fruit-flavoured" range, the new 466MHz G3 upgrade has a 1MB backside cache running at 155MHz. Newer guarantees that the card is compatible with Mac OS 8.1 through to 9.0.

The upgrade, which many believed wasn't seriously practicable, is a whole

new core processor card. Although you can replace this yourself if you really want to, the procedure is fairly tricky and dealer fitting is the recommended approach. DIY-ers would have to extract their iMac motherboard, then remove the existing processor card assembly. They would then have to move all existing RAM and VRAM DIMMs to the new processor card before fitting it to the motherboard. No software is required for the new card to work. You have to return the original core card to Newer in order to qualify

for the published price.

The upgrade card will be distributed in the UK by AM Micro, who expect it to become available at the beginning of March. AM Micro will be issuing a list of approved dealers to fit the upgrade when the card ships. This will include some mail order companies who have service facilities. The cost is expected to be around £410 (after the rebate once your original card is returned). For further information, call AM Micro on 01392 426473 or visit Newer's Web site <http://www.newertech.com/>

ColorSync splash

REPORT The courts smile on Steve Jobs once again, but things get worse for EfI.

Apple has won the lawsuit filed against it by Imatec back in February 1998. The complaint was that Apple's ColorSync software infringed patents owned by Imatec, a company involved in colour matching technology. The judge dismissed the claim, saying that Imatec did not own the particular patents on which the case was based and that ColorSync did not infringe them anyway. Imatec's Dr Hanoch Shalit called the decision "misguided" and said he will appeal.

The dispute was initially kept out of the courts, but when talks between Apple and Imatec broke down, a US Federal Judge had to order Apple to stop requesting that trial dates be extended. Apple's reasons for delaying are unknown, but Steve Jobs was

pleased about the outcome of the case, calling it a "frivolous lawsuit".

Apple has been quite successful in court lately. It was awarded a patent on the iMac design and won an injunction against Future Power and Daewoo preventing them from distributing the remarkably similar "ePower" PC.

<http://www.imatecltd.com/>
<http://www.apple.com/pr/>



ColorSync

EfI has been somewhat less successful. Last issue we reported that Harlequin was filing a lawsuit against EfI about a letter that EfI sent to

its customers. Now, Splash is suing EfI, claiming that its products infringe on patents held by Splash. The claim also refers to Harlequin's complaint, alleging that EfI has been anti-competitive in its business practices.

Easier Web design

REPORT Soon there may be no excuse for boring Web sites, thanks to Adobe.

Adobe has announced a new package aimed at making life easier for ambitious Web designers wishing to incorporate animation, Java applets, interactivity, high-quality sound and video, and other advanced elements into their sites. Catching up with rival Macromedia, *Adobe LiveMotion* uses the standard Adobe interface and has an object-oriented, vector-based environment, and Adobe confidently claims that it will enable designers to "work with maximum efficiency while exercising unlimited creative freedom". The program can be used to create anything from an individual, dynamic Web graphic to a complete page with sound, motion and interactivity.

Features include auto-keyframing, auto-tweening and an animation Time-

line. Visual elements can either be created directly within the program or imported from other Adobe programs, such as *Photoshop* and *Illustrator*. They can then be enhanced using a number of design features. Combinations of creative effects can be saved as a Style and then applied to other objects. Export options include the ability to divide compositions into an HTML table, in which each cell contains a different format. The program will also export to the *Macromedia Flash* file format.

LiveMotion can be used in conjunction with Adobe's complete Web design package, *Adobe GoLive*, and should be available to buy in a few months' time. UK pricing has yet to be announced. For further information, visit Adobe at <http://www.adobe.com/>



SUITE SUCCESS The US Department of Justice (DoJ) has never hidden its view of Microsoft, but its latest move couldn't have been more pointed. While the judge in the case that the DoJ brought against Microsoft, Thomas Penfield Jackson, is still to rule on a legal remedy, the DoJ has just bought *Corel WordPerfect Office 2000* for its 55,000 employees. The deal is a three-year licensing agreement and includes *WordPerfect Law Office 2000* – a package specifically suited to legal work. The DoJ hasn't completely spurned Microsoft, though – the software will be run on Windows.

STAR QUALITY Sources report that Sun Microsystems is working on a Mac version of its freely-available *Star Office* suite, but it's not clear if the next version, 5.2, will be out for the Mac. Sun may choose to concentrate on a totally Java implemen-



Juice

Rumours and speculation from around the world

tation which could more easily be compiled to work on Mac OS X. The *Star Office* suite, like *Corel WordPerfect Office*, matches the *Microsoft Office* suite in features and can read *MS Office* files.

COOL BRITANNIA If you don't like Aqua, the new interface for Mac OS X, you can blame a British

firm! Last issue we mentioned that the interface of soon-to-be-released *Microsoft Internet Explorer 5* had been revamped by London design company Nykris. Maf Vosburgh of Microsoft's *Mac IE 5* team said on the Macintosh Web site (<http://www.macintosh.com/>) that he, at least, is convinced that seeing the *IE* design in April last year is what prompted Apple to drop the brushed metal look and go for the iMac-like stripes in Aqua.

HEN'S TEETH? A UK design house recently bought an Apple Cinema Display – the huge and hugely-expensive flat-panel – to establish whether or not they wanted to place a very large order for the company. After just two weeks the screen went blank. Apple has been unable to provide a replacement, and our source was told that the failure rate of these sexy displays is an alarming one in ten.

Merging manoeuvres

REPORT The 21st Century has already brought plenty of corporate changes.

Bill Gates has stepped down as Microsoft's Chief Executive Officer, handing over the reins to MS co-founder Steve Ballmer. Gates has created a new role for himself called "Chairman and Chief Software Architect". He wants to use this new role to dedicate his time to "helping drive the next-generation Windows Internet platform". This is what Microsoft is currently calling its NGWS (Next Generation Windows Services), which, with a new user interface, will be behind Microsoft's new products. Many key NGWS services will be hosted on the Internet and may well be derived from technologies like WinFrame.

There is nothing new in hosted services – creativepro.com and Apple's iDisk personal Web storage area are examples of services provided over the

Net. It seems Microsoft is keen that its software should be behind these sort of tools. Other pundits have suggested that, as well as reducing his managerial workload, Gates will also be out of the line of fire of the Department of Justice, where he hasn't made any friends! <http://www.microsoft.com/>

Merger mania

In announcing the changes at Microsoft, new CEO Steve Ballmer mentioned that he saw AOL and Time-Warner as potential competitors to Microsoft's business. AOL recently bought Time-Warner in a deal announced in January, to many people's surprise. It could be seen as one of the first big mergers of Internet company with media company, though where exactly the synergy lies is difficult to say. AOL gets more



Microsoft's Bill Gates has stepped down as CEO to fill a more strategic role.

"content" out of this deal and Time-Warner gets a company with Internet experience. We'll see what emerges. <http://www.timewarner.com/corp/>

Mergers and takeovers seem to be the flavour of the month. Caere, maker of OCR package *Omnipage*, has been acquired by ScanSoft. ScanSoft already owns *Pagis Pro* and *TextBridge Pro*, leaving just one source for Mac users wanting OCR. ScanSoft also recently acquired a collection of photo editing software, including *Kai's PhotoSoap2*, *SuperGoo* and *PowerShow*. These three products have been merged into a single suite called *PhotoFactory*. <http://www.scansoft.com/>

Apple is green

The Silicon Valley Toxics Coalition (SVTC), an organisation which seeks to promote good environmental practice in the electronics industry, has awarded Apple a rating of 4 out of 5 after online research into the policies of several large computer firms based in the US and Canada. None of the other firms scored as highly, apart from IBM.

The SVTC's Clean Computer Campaign focussed on the use of hazardous materials, the use of recycled materials in new products, the ability to upgrade, disposal practices, "take-back" policies and company views on responsibilities. It found that Apple provides "the best consumer information on materials used" in its Product Environmental Specifications tables for each kind of Mac, along with extensive information on upgrades. It also noted the company's Design for Environment programme, which aims to improve and conserve materials, and that it accepts used batteries and toner cartridges. <http://www.svtc.org/>



Apple makes money

REPORT Things may have looked bleak a couple of years ago, but now the firm that likes to "think different" is raking it in.

Such is Apple's continuing financial health, we can't really talk about a "recovery" any longer – hefty profits are just business as usual. Apple Computer Inc has announced a profit of \$183 million for its first financial quarter-year of 2000 (which to anyone living in the real world was the last quarter of calendar 1999). Unit shipments were up 46% compared to the corresponding quarter a year ago, and the company sold nearly 1.4 million Macs in that period (including 700,000 iMacs and 235,000 iBooks).

International sales accounted for 51% of the total, a big increase over the previous quarter, during which international sales made up only 35% of revenues – but that might have something to do with the much-

publicised supply problems back then, and the possibility that Apple managed to catch up with a lot of back-orders this quarter. Storming sales of iBooks in Japan are helping as well – seems they just can't get enough of 'em.

Sales as well as revenues have shot up again, following a relatively poor showing last quarter, when net profit was \$111 million, of which only \$90 million was operating profit and the rest was one-off income from restructuring and sales of shares in ARM Holdings. (Advanced RISC Machines was formed in 1990 out of a collaboration between Apple and Acorn, whose Archimedes computers used RISC processors as long ago as 1987; Apple went on to use ARM chips in the Newton MessagePads and still owns a big

shareholding in ARM Holdings, which was floated in April 1998). Apple officially attributed that previous quarter's poorer-than-expected results to "limited availability" of G4 processors from Motorola, "costs associated with product transitions", and buyers delaying their purchases because they'd heard there were new products due soon and wanted to wait and see.

The figures for this quarter just announced included some one-off costs and gains as well: Apple sold a few million more shares in ARM, for a profit of \$101 million, but spent \$6 million on "restructuring charges" (a lot of severance pay, maybe?). The Board also spent a total of \$90 million on "executive compensation" for Steve Jobs: ten million share options, plus his own

Gulfstream V executive jet. His salary, however, remains \$1 a year.

Other financial ups and downs

Macromedia, maker of *Dreamweaver*, *Flash* and *Fireworks*, has announced record revenues of \$65.5 million and a net income of \$8.2 million for the last quarter of 1999. The firm reached a total of 93 million downloads of *Flash* and *Shockwave Player* over the period.

MetaCreations recorded a fourth quarter net loss of \$39.5 million. The firm attributed the result to its decision to focus exclusively on developing e-commerce products through its subsidiary, MetaStream.com, which we reported on last issue.

UK Internet giant Freeserve announced mixed results for the 12 week period ending 13 November 1999. The company increased registered accounts by 12% and its average weekly turnover by 49%, but made an operating loss of £3.6 million. If Britain's biggest ISP can't make any money, you've got to wonder if all the financial interest in Internet firms is really justified...

Macromedia FreeHand 9

PRODUCT PREVIEW Macromedia's famous vector illustration tool gets a Web-related makeover as well as other significant improvements.

FreeHand 9 includes a number of new features and enhancements, including closer integration with Macromedia's *Flash*, plus increased productivity features and new tools.

Flash Player is widely recognised as the Web standard for vector graphics, so being able to export to it is key to persuading designers to use your software for creating Web site graphics. With the *Flash* file format support, you can output small file-sized Web animations and graphics directly.

As well as *Flash* integration, *FreeHand 9* offers new features for Web graphics production, including Integrated HTML publishing with URLs, embedded *Flash* files, and *Dreamweaver* formatting for easier cross-media publishing – so, essentially, you can make a Web site within *FreeHand*.

A new feature called Release To Layers is also included – for making animations effects without a timeline. Also introduced is the Macromedia Symbol Library, which can be used for placing master elements across multiple-page projects.

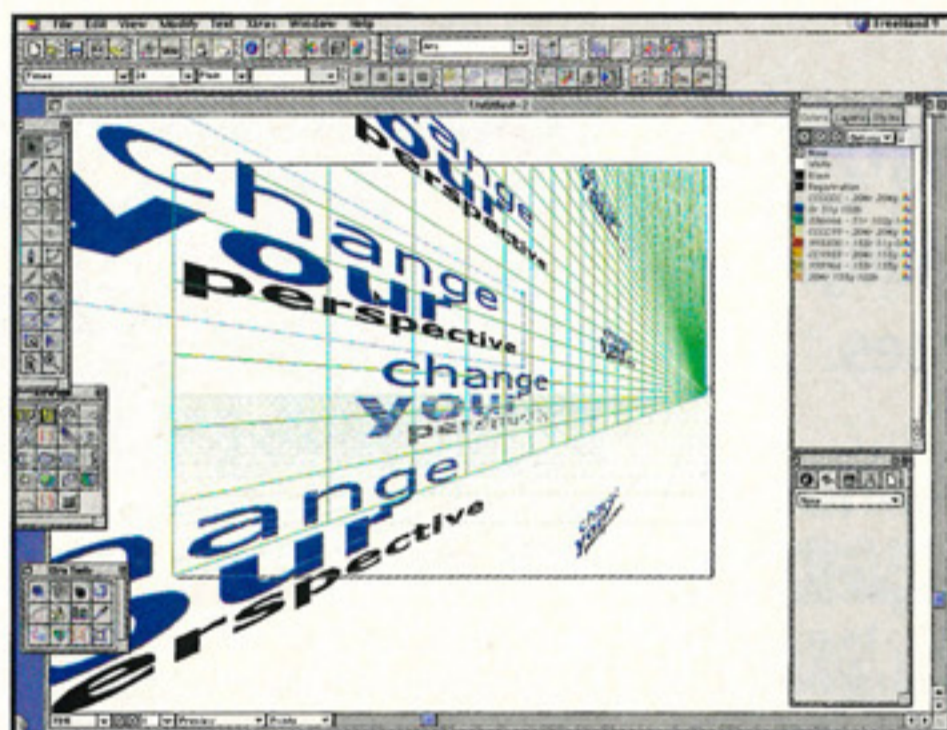
Besides the Web-related improvements, there are also a number of new illustration features (*FreeHand* is, after all, primarily a drawing package), such as 3D Perspective Grids and Live Enveloping. The Perspective Grid is one of those features you'd expect Macromedia to receive a number of requests for. It enables you to represent 3D

graphics on a two-dimensional page, and includes snap-to-grid guides, customisable vanishing points, plus live grid manipulation.

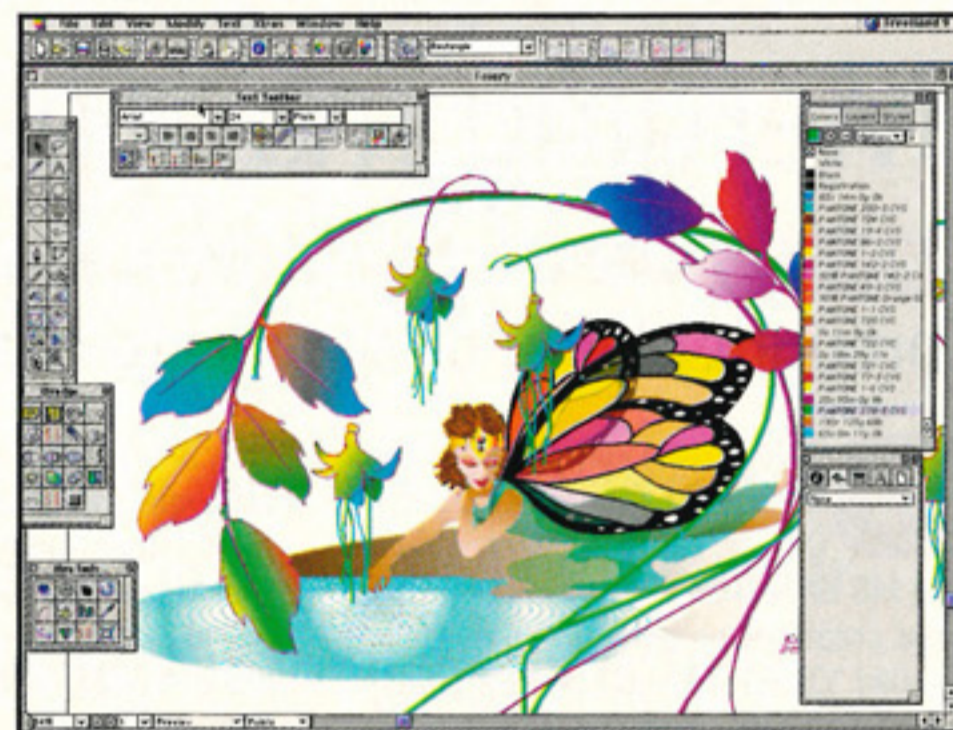
With the Live Enveloping tool you can warp and distort graphics in real time. There's also an Autotrace feature. You'll also find a customisable interface, multi-page documents, Website

storyboards, new colour management options, and tweaks to blending, typographic controls, transformations, and a more precise freehand tool.

FreeHand 9 costs £328, or upgrade from older versions for £116. The *FreeHand 9 Flash 4 Studio* costs £469 and upgrades start at £163. More from <http://www.macromedia.com>



FreeHand 9 offers a totally new feature called the Perspective Grid. This tool enables you to snap objects to it.



Sample files supplied with *FreeHand 9* show just what is achievable with this remarkable graphics package.



Friday chip

REPORT Transmeta announces intelligent chip to revolutionise the mobile market.

The Transmeta Corporation has ended speculation about what it's been up to for over four years with the release of the Crusoe family of processors. Targeted specifically at the mobile computing market, Transmeta's chips are designed to be ultra-efficient, resulting in long battery life for portable devices. Although the chips are x86 compatible – meaning

they will run applications designed for Intel machines – they aren't actually using Intel instructions. Rather, the Transmeta technology uses "Code Morphing" to convert x86 instructions for the chip's own instruction set.

The code morphing is done in software and is not too unlike the way that PowerPC chips can convert 680x0 (pre-PowerMac) code for use on

PowerMacs. Since so much is done in software there has been speculation that Crusoe could be used to emulate a PowerPC processor as well as an Intel chip, but no party has yet announced that as their intention.

Revealing the low-power chip, Transmeta produced sample data comparing a Pentium III processor and Crusoe chip running a DVD movie without

cooling. The Transmeta device was able to function happily at 48°C, whereas the P3 cooked at 105°C. The code-morphing software can also alter the chip's operating voltage, resulting in further savings of power.

Transmeta expect the chips to begin appearing in portable devices by the middle of this year. More information from <http://www.crusoe.com/>

ADOBE ANNOUNCEMENTS The Seybold graphics fair opened in Boston as we went to press. Adobe used the opportunity to announce its *InProduction* package. This is a set of five plug-ins for *Acrobat* designed to improve PDF workflow environments. The package includes a pre-flight, a colour separator, colour converter and tagger, trim/bleed controls and Adobe in-RIP trapping functions. Many of these tools are available via third-party plug-ins (see our feature in *MacFormat 87*), but a single integrated package from the makers of *Acrobat* will be very attractive. *InProduction* will be available in the Spring for £704 (or £529 for registered users of *Acrobat 4*). <http://www.adobe.co.uk/>

FONTS ONLINE Bitstream has used Seybold to announce its online font source, MyFonts.com. Bitstream believes it to be the largest single collection of fonts ever assembled and has many



Mac Arts

News from the creative and design world.

foundries involved, including Agfa, ITC, Letraset and Monotype. The handy *Identafont* utility on the Web site enables users to upload a scanned sample of a font to the Web site for identifying a close match. Other facilities include *TypeXplorer*, enabling you to adjust typographic parameters online to find the font you like best. The site fits well into Apple's plans for Mac OS X's ability to purchase fonts directly over the Internet. Try it out at <http://www.myfonts.com/>

GETTING ANIMATED Beatware has announced a new version of its Web graphic animations package *e-Picture*. *e-Picture 2.0* can work with a huge variety of graphics formats, including some 3D ones. It can also export resultant animations as *Flash* files, animated GIFs or videos. *e-Picture 2.0* is probably going to be one of the most comprehensive animation packages available on the Mac. *e-Picture* can be ordered from <http://www.beatware.com/> and is expected to ship by the end of March this year.

SOLID VALUE Tektronix has upgraded its line of solid-ink colour printers. The Phaser 850 printer has PostScript level 3, Pantone certification and can manage 14 pages per minute. Using solid-ink sticks rather than toner, the printer can print on a variety of media including transparencies. Buyers of the Phaser 850 will even receive free black ink sticks for life. <http://www.tek.com/>

IBM ViaVoice

REPORT IBM's industry-standard voice-recognition software appears on Mac.

In yet another display of confidence in the Mac as a serious business tool, IBM will be launching the UK version of *ViaVoice* around the end of Spring this year. Expected to cost well under £100, *ViaVoice* has already established itself of the standard voice-recognition package on the Wintel PC.

Although the Mac has long enjoyed voice recognition, most recently in the guise of *VoicePower Pro* from GT Value, *ViaVoice* will be the first continuous-speech package available on the Mac. This means that can understand your dictation at normal speaking speed. It can also understand context, for example distinguishing between "their" and "there". The hardware price for this power is that *Via-*

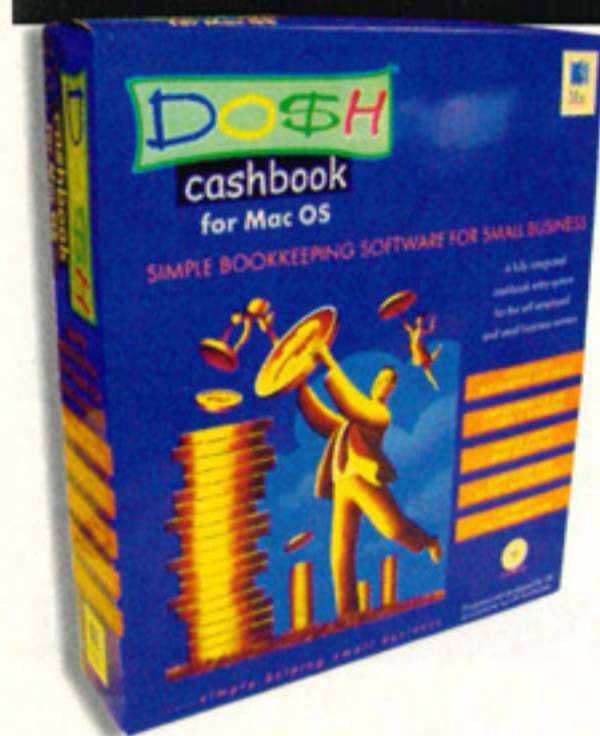
Voice requires a minimum of a G3.

The US version is already available, and in our tests it looked extremely promising. The quality of recognition was better than any voice-recognition product that we've seen so far. The intelligent context recognition worked well, often successfully guessing the correct spelling. Longer use is supposed to improve quality even further, as it learns the speech patterns that you use most frequently.

The UK version promises even better accent recognition, along with a greatly expanded built-in dictionary. It will also be primed with English phrases, names and a number of proper nouns, such as Tim Henman, Tony Blair and "England batting collapse." For more details visit <http://www.ibm.com/>



IBM's *ViaVoice* comes with a headset complete with interchangeable iMac-coloured bits to personalise it.



Like to do the accounts for your small business in ten minutes a day? That's the promise of *DOSH Cashbook*, a new accounts program made in the UK and costing just £59. Its makers, Dosh Software, say that

Mac and DO\$H

REPORT UK-based small business cashbook takes the pain out of book-keeping.

unlike other financial programs, *DO\$H Cashbook* assumes no prior accounting knowledge, and does away with complicated features that businesses with fewer than ten employees shouldn't need. It comes with a full tutorial and a comprehensive manual that, as well as explaining the program, provides more general advice on organising and running your business (worth the price of the package on its own!).

Users can create any number of cashbooks, access sets of transaction

codes (designed for sole traders, partnerships and limited companies) and edit them to suit their needs. They can then enter receipts and payments to obtain cashflow summaries, VAT accounts, etc, which can be printed out or sent on to the firm's accountant.

Dosh developed the original, PC version of *Cashbook* in conjunction with Lloyds Bank, which now says it will support the Mac version as well. Further information is available at <http://www.dosh.co.uk/>

Microtek £89 bargain

Continuing the "more for less" trend, Microtek is asking just £89 for its new flatbed scanner, the ScanMaker 3600. The 600dpi, 42-bit scanner offers colour, greyscale and black-and-white single-pass scanning modes, with a maximum original size of 8.2 x 11.7 inches. Also included is a suitable software bundle: Microtek's own *ScanWizard*, Adobe's *PhotoDeluxe*, and *Caere OmniPage LE*. Full specifications and further information can be found at <http://www.microtekeurope.com> and for sales, call Johnsons Photopia on 01782 753300.

Getting Ticed off

If you're bothered about your children spending too long on the Internet, British inventor Andrew Goodwill has come up with a new way of keeping control. His "Timed Interent Connection" (TIC) device replaces the modem to phone socket cable with a password-protected box with user-configurable timers. Once an Internet session starts, the timer commences countdown. After the preset time, the Internet surfer gets a few minutes' warning before the connection is cut off. The "owner" can choose how long before the user re-connects. The device costs £47 and is available from Pulse Design Ltd 01243 827179.

Hansol's budget 710D

Hansol is now shipping its new budget 17-inch CRT monitor, the 710D. With a 16-inch viewable area, maximum resolution of 1,600 x 1,200 (at 75Hz), a dot pitch of 0.25mm, and a "virtually flat" screen thanks to its Dynafiat tube, the 710D sounds good value at £210. For more information, visit Hansol's Web site at <http://www.hansol-uk.com>

Adobe enables ASP

Users of the Web authoring package *Adobe GoLive* will now be able to produce sites with Active Server Pages (ASP), thanks to the new *Adobe GoLive Dynamic Link for ASP*, available from <http://www.adobe.com/products/golive/>

ASP technology is most often used to create e-commerce sites. Over the coming months, Adobe plans to add support for other server-side scripting languages, databases and e-commerce servers, including solutions from Oracle, Sun Microsystems, Mercantec and Open Market.

New-look library

Fairfield Language Technologies has announced a new 2000 interface for its *Rosetta Stone Language Library*, a series of programs which aim to recreate the natural process of learning language by using thousands of photographs and the recorded voices of native speakers.

Students can now log on under their own names, and their work is automatically bookmarked. Exercises are now organised around four key skills: listening comprehension, reading comprehension, speaking and writing. More information is available from <http://www.rosettastone.com/>

Apple Certifiable?

REPORT Distance-learning course for Mac techies, but not official status supplied.

Apple has begun opening up its Apple Certified Engineer status by selling an AppleCare Technical Training package on its US Web site. Until now, the only way to become an Apple Certified technician was to study under the umbrella of an Apple Authorised Service Organisation or Provider.

The course is a three-part bundle which contains a CD of the self-paced course using HTML and PDF files. The second "Service Source" CD contains information from Apple's Technical Information Library as well as

resources such as troubleshooting flowcharts and exploded-view diagrams of Macs. The final CD set is known as the MacTest Pro diagnostic CDs, which contain software tools to help diagnose problems with Macs and their peripherals.

After completing the course, students are encouraged to take the AppleCare service certification exams (at extra cost). However, even on successful completion of these you are not allowed to set yourself up as an Apple Authorised Engineer, nor will you have access to Apple's Technical

support CDs or Web site.

The package, which costs \$299, is currently only available to US residents. We were unable to get information from Apple about European availability. Even Canadian residents appear to have been excluded for the time being.

So, currently the benefit of the course is to individuals who wish to better their technical knowledge. We'd like to see Apple offer a more accessible course like Microsoft's MCSE which engineers find is often a requirement for employment.

Academic Mac



The latest
in the
world of
education

LAPTOPS FOR HEADS: Head teachers in England are to receive laptop computers under a new Department for Education and Employment initiative, but it seems that they may receive a computer of the Government's choosing rather than one tailored to their needs – or one that they want.

BECTa, the DfEE's ICT agency, concedes that heads can choose the machine they want, but this hasn't been made entirely clear to headteachers. Unless heads specify that they want a Mac or some other platform (and, what's more, do so by a deadline they hadn't even been told about), they will probably be given a Wintel portable of the Government's choice.

Commentators on IT education have stated that the DfEE's bias towards Wintel is not a deliberately anti-Mac stance, but is more likely to be the by-product of lazy or uninformed thinking. At the eleventh hour, Tony Blair's pro-Mac education ICT advisor, Professor Stephen Heppell, has become involved with the scheme, so the prospect of Wintel domination may not be quite so certain.

MATHS HELP: Leading educational software supplier Logotron has launched *BBC Maths Workshop* CD-ROM Series for Key Stage 2.

The set of three CD-ROMs is linked to the National Numeracy Strategy and is specifically aimed at helping teachers to plan and teach their lessons as well as keeping records of pupils' achievements. Subjects covered include number, money, measurement, calculation, problem solving and information handling.

The cost per title is £58. Further details from Logotron on 01223 425558: <http://www.logo.com/>

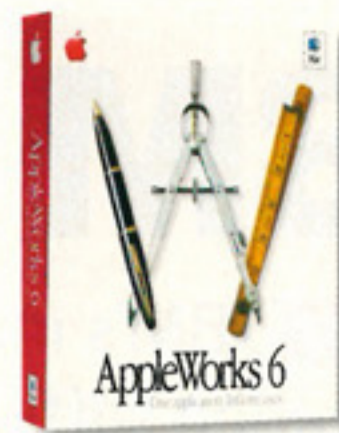
GET UP TO DATE: The Learning Company has announced the release of *Grolier 2000 Multimedia Encyclopedia*. This latest version for the Mac is available as a Deluxe two-CD edition at £29.99, or as a Standard edition at £19.99.

The Deluxe edition has 37,000 articles, including 6,000 new and updated entries. There are also 113 videos and 12 hours of sound.

Details from The Learning Company on 01239 651300 or <http://learning.co.uk>

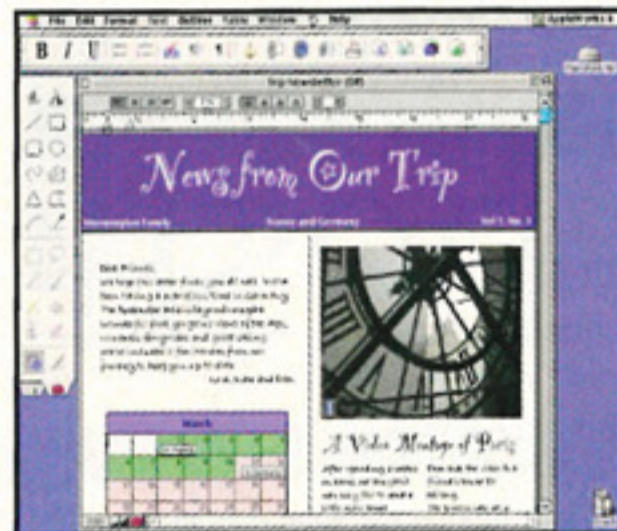
AppleWorks 6

PRODUCT PREVIEW Everyone's favourite Mac integrated application reaches version 6.



By the time you read this, *AppleWorks 6* should be shipping – at least in the US, where it retails for \$79. This is the first full upgrade to come from Apple's stable, rather than the Claris home where the product grew up.

Gone is the communications module from the integrated package, but a new presentations module has been added. The six components of the package are now: word processing, drawing, painting, spreadsheet, database and presentations. Apple has started referring to the drawing module as a page layout tool as this is its most common use, and the integration of other parts of the product makes layouts particularly

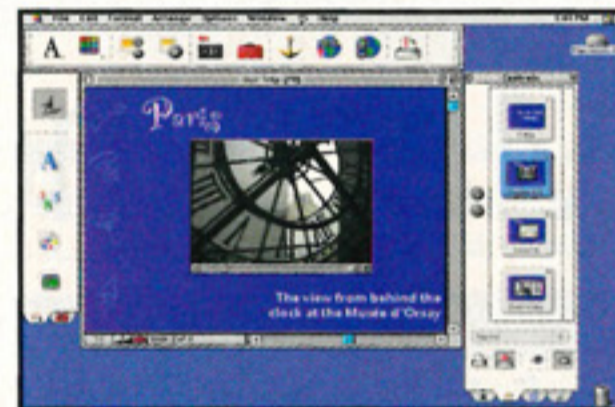


AppleWorks 6 sports a whole new user interface. The comms section has been replaced by a presentation package.

easy. Tables can now be added to any document by dragging a table tool from the tool bar – a la *Microsoft Word*. Merging cells or editing the shape of the table is done as if you were using a pencil and ruler. Each table cell can contain all the usual objects such as pictures, movies, sound and so on. Mail merge and spreadsheet facilities have been upgraded, and *AppleWorks* now includes an auto-save feature for all documents.

A major addition to the suite has been the inclusion of the presentation module which enables "slides" to be projected on the screen (or via an output device) with up to 25 different transitions between them.

The whole package has been made Mac OS X ready and sports a completely revised user interface. However,



The control palette lets you manage your slide-show presentation including up to 25 transitions.

perhaps the most noticeable addition is going to be the extensive use of templates. Just like their iCards and Home-Page web sites, *AppleWorks* users now have a huge variety of templates to choose from to create birthday cards, invitations and the like. Some 30 templates and 100 clip art images come on the CD, and a further 150 templates and 25,000 clip art images are available online, accessible directly from *AppleWorks* via an Internet connection. The templates have been designed by professional graphics artists. As well as all this, Apple has licensed 50 fonts from ITC to be included in the package.

We'll be looking at *AppleWorks 6* as soon as it hits European shores. Watch this space! Apple: 0870 600 6100 <http://www.apple.com/uk/>



The new tables don't have to follow a basic grid pattern – cells can be any size and contain any type of object.

Talking of DVDs

PRODUCT PREVIEW EuroTalk announces DVD-ROM language programs to teach languages as they are really spoken.

EuroTalk Interactive has released a new way of learning languages. Their new language courses come on DVD-ROM disks, and incorporate DVD Video with interactive sections. The idea is that you watch a movie in the language you want to learn, and then use the interactive parts to help learn the language.

This is one of the first products to use DVD-ROM to its full potential. So far, most products on DVD have just treated the media as a bigger CD-ROM. EuroTalk mix both interactive sections and movies, to create a new way of learning languages. Because the package isn't just a DVD movie, it needs a Mac or PC to run and is incompatible with stand-alone DVD players.

The first to be released is *Advanced English*. This features an entire episode of *Inspector Morse*, specially licensed from Carlton International. The learner watches the movie, and can choose to

have the script running in a window at the same time. Once they've watched the movie, the student can take part in activities which help teach the various words and sentences used.

The various activities include games and quizzes, which are designed to help the user understand the language. There is even a section where the user can record their voice in place of the



Various games and exercises help to reinforce the points being taught in EuroTalk's *Advanced English*.

real actors', so they can compare their intonation and pronunciation.

The *Advanced English* DVD will soon be joined by *Advanced French* and *Advanced Italian*.

Advanced English is available from EuroTalk directly, and costs £34.99. For more information or to order, give them a call on 0171 3717711 or <http://www.eurotalk.co.uk/>



Choose to have text running alongside the scene you're watching – or just sit back and enjoy the show.

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MacGamer



News and
inside info
from our US
correspondent
**Marty
Dodge**

GOOD NEWS *Summoner*, a fantasy RPG, is coming to the Mac platform in the autumn. Apple's adoption of OpenGL is responsible for this encouraging development. This game is set to establish new standards in RPG immersive environments. The game will be published by THQ and developed by Volition, creators of the *Descent* series. More information from <http://www.summoner.com/>

CHILLS WITH THRILLS The Call of Cthulu RPG-based title *Dark Corners of the Earth* will soon be unleashed on the world. There is some hope that this dark fantasy title will appear on the Mac as well as on PC and PSX II. Headfirst Productions, UK-based developers of *Simon the Sorcerer*, will be creating this game, an obvious competitor in the horror RPG genre to Gathering of Developers' *Nocturne*, which, alas, is not heading for the Mac. Screenshots and further information can be found at <http://www.headfirst.co.uk/mainframe.htm/>

OUT OF DATE Logicware has stopped selling *Shattered Steel*, *Redneck Rampage*, and *Tempest*. The licence for these titles has now reverted to Interplay, so you might be seeing resellers heavily discounting these older titles in the coming months.

Stephen King's F13

INCOMING! Prepare to be scared witless by the master of horror and his piranhas.

Fans of Stephen King should look out for a new multimedia package from the master of horror himself, calling itself *F13*.

The main feature of the package is an unpublished novel by Stephen King. Called "Everything's Eventual", it has never been published in book form. Featuring a character called Dink Earnshaw, it draws you into the story with impressive illustrations and music.

Also included in the package are three mini games. Designed as time-killers, they feature such joys as blood-

thirsty piranhas, breeding cockroaches and zombies trying to escape from their graves. In the first game, you must feed the zombies. In the other games, you must kill as many cockroaches and zombies as possible.

There are six horrific screensavers included in the package. You can watch the master of horror at work, or watch as terrible crimes take place in a villa. Alternatively, let a creature creep through a bedroom as its occupant sleeps unaware.

A true test of Stephen King's fans



Stephen King's F13 brings fear and horror direct to your computer screen.

comes in the form of *Frightware Trivia*, which tests the player on all aspects of King's work.

To turn your computer into a true house of horror, the package includes ten Desktop backgrounds and plenty of System sounds.

Stephen King's F13 is Mac- and PC-compatible and costs £19.99. It is available from computer game shops.

Infogrames buys GT Interactive

French software giant Infogrames has bought out a large part of GT Interactive Software, giving it control of the company. Infogrames claims that the transaction has left it as one of the top entertainment companies worldwide. Meanwhile, GT Interactive will benefit from enhanced financial, distribution and managerial resources.

GT Interactive will still be listed separate on NASDAQ.

Infogrames has produced popular games such as *Mission: Impossible* and the popular *Test Drive* series (but not on the Mac). Its line-up will be combined with popular GT Interactive titles such as *Unreal Tournament* and *Driver*, which is due on the Mac in March.

The news is positive for Mac users, since GT Interactive and MacSoft will now have access to Infogrames' back catalogue. This will mean they will be able to port popular Infogrames titles.

The two company Web sites can be found at <http://www.infogrames.com/> and <http://www.gtinteractive.com/>



MacDiary

MacWorld Tokyo

What: Steve Jobs is giving the keynote at this major Asian Mac event. Everyone expects to see the new PowerBook unveiled. Look out for our report next issue!

When: Wednesday 16 - Saturday 19 February

Where: Tokyo, Japan

Web: <http://www.idgexpo.com/macw/>

Internet World

What: A huge event dedicated to e-business and Internet technology. Keynote by Steve Jobs - at the expense of losing him from the now defunct Apple Expo UK.

Where: Los Angeles

When: Monday 3 - Friday 7 April

Web: <http://events.internet.com/>

spring2000/index.html

Digital Solutions

What: A major trade show for designers, publishers and marketing professionals. Exhibitors include Kodak, Quark, Indigo, Stockbyte and many more and there will be seminars and masterclasses.

When: Thursday 17 - Saturday 19 April

Where: Olympia, London

Contact: 0171 357 6161

Web: <http://www.digital-solutions-show.com/>

MacHack

What: The year's highlight for all budding Mac programmers. Cutting-edge software development with well-known names from the software industry as well as new programmers. Workshops, talks and live coding around the clock.

When: Thurs 22 - Sat 24 June

Where: Dearbourn, Detroit

Web: <http://www.machack.com/>

MacSoft thrives

While Impressions games are having problems with the Mac market (see right), the picture is a lot rosier for leading Mac games publisher MacSoft.

MacSoft returned triumphant from the Macworld Expo in San Francisco having broken all previous sales records. MacSoft sees this as proof that the Mac is still a worthy gaming machine. The Expo itself also broke records with 95,000 attendees.

MacSoft sold out of many of its games, and had to reorder more copies of *Unreal Tournament* three

times, during the four day show. Other titles also sold well, including *Seventeen Style Studio* and *America's Greatest Arcade Hits 3D*.

There was also a positive response

to the games that MacSoft announced. *Driver* (GT Interactive), *Worms Armageddon* (Microprose), *Monopoly* and *Scrabble* (Hasbro Interactive) were all confirmed as being in the pipeline.

Driver has been a tremendous success on both the PlayStation and the PC, and MacSoft is predicting it will be a big hit on the Mac too. *Worms Armageddon* was one of the most requested games of last year and should do well too. (We previewed both these games

in our ECTS show report in MacFormat 83.)

These four titles will be available by the end of spring, with four more games coming later in the year.

For more information on MacSoft and its game titles, and other information, visit their Web site at <http://www.wizworks.com/macsoft/>

MacSoft

Pharaoh deposed

Pharaoh, the new strategy game from the creator of *Caesar III*, will not now appear on the Mac. Impressions Software was disappointed with sales of *Caesar III* on the Mac.

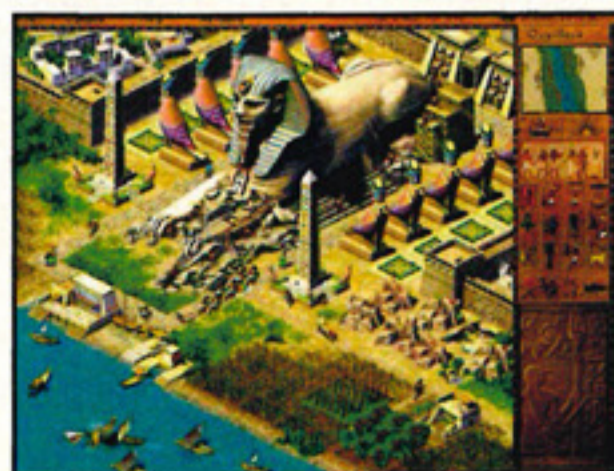
By Christmas 1999, *Caesar III* on the Mac sold only 12,000 copies, compared to the 600,000 on the PC.

Impressions says that the difference in sales between the two platforms doesn't match up to the number of home installed systems. Mac users make up 10% of the computer market, and the sales figures don't relate to this. Impressions says it's confused about why this should happen, since *Caesar III* was welcomed by both players and reviewers. The result of all this is that Impressions has had to re-evaluate its commitment to the Mac platform. The company has decided to concentrate on products which will

reach the largest audience - that is, games for the PC.

Older Impressions games will remain available, including the *Caesar* series, along with older games such as *Lords of the Realm 2*.

Information about Impressions Software can be found at <http://www.impressionsgames.com/>.



Impressions was disappointed with poor sales of *Caesar III* on the Mac.

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MacFormat



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MacWEEK



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Macworld



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Digital cameras

PRODUCT PREVIEW Canon launches first digital camera to smash the 3.3-megapixel barrier.

The start of the year 2000 has seen quite an upheaval in the digital camera market. Kodak has dropped the prices on all of its models, with the top-of-the-range DC290 now at a suggested retail price of £699, while the DC215 (reviewed in MacFormat 87) comes in at £249. Expect street prices to be even lower. The reduction is no doubt due to the pace of advancement in the digital camera world. <http://www.kodak.com/>

Canon has launched the PowerShot S20, claiming to be the first firm to market a 3.3-megapixel camera. The PowerShot accommodates IBM's Microdrive in its Compact Flash card slot and features new manual settings, including "slow shutter" and a black-and-white mode. The PowerShot S20 should be available now, but UK pricing had not been announced when we went to press. <http://www.canon.co.uk/>



Nikon's long-serving and well-respected CoolPix 950 is staying put, but Nikon is expanding the top end of its range with the CoolPix 990. It should be on the shelves by May, but pricing hasn't yet been set. Also a 3.3-megapixel model,

the 990 incorporates many manual override features, including spot focussing, and boasts a battery life of 90 minutes. <http://www.nikon.co.uk/> However, Fuji has surprised everyone by announcing a product that will be on the market by April with a 4.3-megapixel resolution. The FinePix 4700

What's New

PRODUCT NEWS IN BRIEF

Green printers

Kyocera has re-committed to the Mac. Models in its EcoSys laser printer range have 10/100 Ethernet and come with PostScript level 2 emulation as standard. The FS-1200, priced at £938, is aimed at small workgroups with a monthly duty cycle of 20,000 copies. The "1200" in the name is a bit confusing, as this is a 600dpi printer, but it has a PowerPC processor which gives it 12ppm performance and hence the number. Kyocera is proud of its environmentally-friendly range – they all use a permanent drum and developer, so you only change the toner cartridge and could potentially save a lot of money. All Kyocera printers come with a two year warranty as standard. <http://www.kyocera.co.uk/>

New HP models

Hewlett Packard has simplified its product range to incorporate the PhotoREt III technology in most of its desktop printers. The inkjet system got a MacFormat Classic award a few months ago with the top-of-the-range HP 970 Cxi printer. HP has now added the 950 and 930 versions to the DeskJet range. The DeskJet 950C still has the ability to

use an optional duplexing unit, but is priced at £234 and has a slightly slower speed. The £175 DeskJet 930C has a stowaway paper tray to give it a smaller desk footprint. All new models come with a built-in 10 x 15cm paper tray for easily printing photos without having to remove the A4 paper first. The new printers work with USB-equipped Macs. <http://www.pandi.hp.com/>

Brother is back

Brother has also re-entered the Mac market with its USB-equipped laser printers. The HL-1250 is a 12ppm, 1,200dpi monochrome laser printer priced at just £315. With optional Ethernet and extra paper tray, the laser can even print on A6-sized paper. The HL-2400C is an A4, workgroup colour laser printer with prices starting at £2,115. The networked version uses a Web browser for configuration and set-up rather than the usual two buttons and an LCD display. <http://www.brother-uk.com/>

Combination hardware

Epson has introduced two new products for the small office and home user that will save space. The "multi-function" Stylus Scan models combine Epson printers and scanners into one unit that works as a copier, printer, scanner and, with a modem, fax machine. The Stylus Scan 2000 is a printer with a bit more. For £279 you get the ability to copy at the touch of a button – your Mac doesn't even have to be switched on. You can also scan with the 2000 when your Mac is on. It comes with interchangeable iMac-coloured lids.

The Stylus Scan 2500 looks much more like a copier, and is derived from



One of Sony's four new monitors, which benefit from FD Trinitron technology.

the GT-7000 scanner and the Stylus Color 740 printer. It will cost £399. Look out for a review of many of these multi-function devices in an upcoming MacFormat feature. <http://www.epson.co.uk/>

CTX 19-inch monitor

CTX has just unveiled its latest addition to the ProFlat range, the 19-inch PR960F. It boasts a USB hub and has a maximum resolution of 1,920 x 1,440 at 70Hz refresh, and a recommended resolution of 1,600 x 1,200 at 87Hz. This gives a viewable size of 18 inches, with a dot pitch of just 0.24mm.

Using a Sony FD Trinitron tube, CTX's "perfect flat" CRT glass is externally flat, but has a concave curve on the inside. While literally flat structure fails to counteract light refraction, which naturally occurs within the glass, this solution gives a visually flat image and minimises glare and reflection. For more information, visit <http://www.ctxmonitors.com/> or call CTX on 01923 810800.

Mitsubishi revamp

Mitsubishi has announced its revamped desktop monitor portfolio, which sees existing models badged in four categories "to help customers with their purchasing decision and provide a clear upgrade path for the future," according to Mitsubishi Electric's Alistair Duthie.

The entry-level Diamond Scan range includes 15-inch and 17-inch Diamond Scan 50 and 70 models, with prices



ViewSonic's space-saving GS790, with its 18-inch viewable screen.

starting at £139. The mid-range Diamond Plus models include Plus 91 and Plus 200 Diamondtron CRTs (from £405), while the "professional-level" Diamond Pro range includes the 710, the 900u and the mighty 2020u 22-inch model, listed at £880. Top of the pile is the LCD range, with its neat 15-inch and 18-inch flat screens. For more product details, visit <http://www.mitsubishi-monitors.co.uk/> or call 01707 278684.

Hitachi's 21-inchers

Hitachi has introduced not one, but three new 21-inch monitors. The firm is aiming to combine high screen resolution with efficiency of space, and claims that its new range of models are some 11% shorter than similarly-specified competitors.

The CM811ETMPlus replaces the CM811ET and CM812ET models, has a 1,600 x 1,280 resolution at 75Hz with a 20-inch viewable screen, and costs £704. The CM813ETMPlus replaces the CM813ET, boasts an 1,800 x 1,350 resolution, also at 75Hz, and weighs in at £821. Meanwhile, the flagship CM815ETMPlus model takes over from the CM814ET, delivers an impressive 2,048 x 1,536 resolution, and will set you back £1,115. <http://www.hitachi-eu.com/>

Four from ViewSonic...

Two thoroughly affordable CRT monitors from ViewSonic are to be complemented by a space-saving 19-



The DeskJet 950C, one of two new additions to HP's DeskJet range.



The price of digital cameras is falling even further, now that improved, higher-resolution models are on the way.

will cost £699 and is the first camera to use Fuji's new "Super CCD".

Fuji has found that image quality can degrade as more and more pixel sensors are packed into a tiny space, due to "noise" – that is, interference

between pixels. The Super CCD therefore uses larger sensors in a honeycomb pattern. Fuji will also be launching a "pro" model with a staggering 6.1-megapixel sensor that takes standard Nikon F-mount lenses in July. <http://www.fujifilm.co.uk/>

incher and an intriguing lightweight 21-inch LCD. The 19-inch PF97 and 17-inch PF77 CRTs both display a recommended resolution of 1,280 x 1,024 at a refresh rate of 85Hz, with a 0.25mm aperture grille pitch. Prices are set at £410 and £293 respectively.

Next up, ViewSonic's space-saver. The GS790 is a 19-inch monitor (with an 18-inch viewable screen) designed with a footprint "similar to a conventional 15-inch monitor" to save your desk space. With resolutions of 1,600 x 1,200 maximum and 1,280 x 1,024 recommended, and a creditable 0.26mm dot pitch, the GS790 is expected to cost £395.

ViewSonic has also been busy with its LCD flat-panels. The new offering is the VP211hd, a high-density 20.8-inch TFL LCD unit. "The VP211hd offers a high degree of clarity and crispness," said ViewSonic Europe's Aaron Fright, "and users can expect to suffer less eye fatigue than when using traditional displays." The maximum resolution of 2,048 x 1,536, multiple swivel functions and integrated speakers should be worth keeping a fatigued eye out for in the second quarter of 2000. You can visit ViewSonic at <http://www.viewsonic.com/europe/> or call them on 0800 833648.

...and four from Sony

Not to be outdone by its rivals in the burgeoning monitor market, Sony has also taken the wraps off four new models – the Multiscan E400, E500, G400 and G500.

Employing Sony's famous FD Trinitron flat-screen technology, the "E" series is the entry-level price range, and these new offerings see that range extended to 19- and 21-inch models. The 19-incher has a maximum resolution of 1,600 x 1,200 at 76Hz refresh, while its 21-inch sibling employs "corner-landing technology" to ensure clarity at 1,600 x 1,200 at 88Hz.

The "G" series is the professional range, with significantly higher specifications and price tags to match. The 19-inch G400 returns 1,600 x 1,200 at 87Hz, while the G500 delivers up to

1,800 x 1,440 at 80Hz. Both benefit from Sony's MALS (Multi-Astigmatism Lens System) and EFEAL (Extended Field Elliptical Aperture Lens) focussing technology, designed to give the smallest possible (and most perfectly rounded) dot.

The E400 has a recommended retail price of £469, the G400 costs £558, the G500 is £910, and the E500's price is yet to be announced. You can find out more by calling 0900 424424 or visiting <http://www.sony-cp.com/>

Epson 1600 scanners

Epson, meanwhile, has been busy itself further up scanning's evolutionary scale. Its two latest additions, the Expression 1600 and Expression 1600 Pro, feature four of Epson's latest scanning technologies: Micro Step, for higher resolution, Dynamic Range Control, for getting the most out of trannies, Simultaneous RGB Scanning, for gathering maximum colour info, and Precision Optical Lenses, for that added sharpness of edge.

Each features 1,600 x 3,200 dpi scanning, 36-bit output, USB and SCSI interfaces as standard (plus optional IEEE1394 for G3s/G4s), and a raft of software including *Photoshop LE* and *Epson Twain Pro*. The prices are £750 for the 1600 and £985 for the Pro. For more information, visit <http://www.epson.co.uk> or call 0800 220546.

New ADI monitors

A host of new MicroScan monitor models are coming your way soon from ADI: 15- to 19-inch CRTs using Sony Trinitron tubes, plus LCDs.

The 15-inch G500 CRT costs £147, the 17-inch G700 CRT £234, the 17-inch G710 is £280, while its 19-inch G910 big brother is also £280. Also new are the 21-inch G1000 "short neck" CRT, with a maximum resolution of 1,920 x 1,440 at £629, the A610 15-inch LCD flat-panel screen, priced at £833, and the delayed flagship LCD, the 18.1-inch MicroScan 9L, which costs £2,349. For further details, visit <http://www.adimicroscan.com/> or call 020 8327 1908



Timeline

OUT NOW

AppleWorks 6

This should be shipping by the time you read this. See our preview on page 12 to discover what extra features Apple has packed into this redesigned flagship product.

COMING VERY SOON

"Pismo" PowerBook

As we go to press, most people are expecting the new Apple PowerBook to be revealed in Tokyo this month... but then, we expected to see it in San Francisco in January too! The new portable is certain to include AirPort and FireWire, but we can only speculate as to what else might be in store.

IE5

Internet Explorer 5 is Mac OS X ready, as demonstrated by Steve Jobs at San Francisco. Its new Netscape-compatible rendering engine and British-designed interface will appear in February.

A LITTLE LATER

iSub

Harman-Kardon's new bass speaker system for the iMac DV has proved somewhat elusive. Tweaks to the sound system on Mac OS 9 have caused no end of trouble, so maybe it's best to wait until the summer.

OS X

The first developer look at the Aqua interface on Mac OS X is due in February – then Apple will be working very hard to get it into our hands by the summer. Next issue we'll be having a closer look at what we're likely to see...



Bookmark

Mac Treasures

<http://www.mactreasures.com/>

If you've been hunting around for a rare piece of Mac software or an old piece of hardware without much success, then this is the place to go. Mac Treasures specialises in rare and unusual hardware and software. Its range extends from ancient Apple II software supplied on 5.25-inch disks right up to hard-to-get software for the latest iMac and G3 machines.

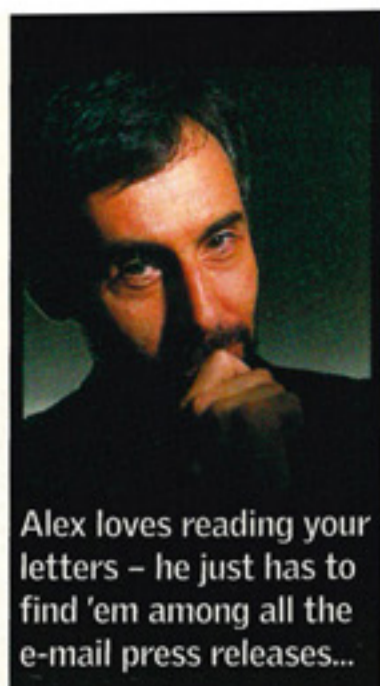
The Mac Treasures site offers all kinds of software, including games, business programs, publishing, programming, and scientific utilities. Mac Treasures can also supply you with unusual hardware, such as a device which enables you to use a PC key-

board on your ADB Mac or a touch-screen for your iMac.

One of the more interesting items is the pre-made Macquarium kit, which includes just about everything you need to build your very own Mac-based aquarium – even a genuine all-in-one Macintosh shell, which saves you from having to gut your own old Classic or SE. (There's much better uses for it!)

If you can't find the specific piece of software that you're looking for, you can even send Mac Treasures an e-mail so they can hunt for it on your behalf. You can also download a Sherlock plugin to make searching Mac Treasures a part of your Sherlock setup.

AppleTalk



Alex loves reading your letters – he just has to find 'em among all the e-mail press releases...

YOUR LETTERS Share your views and win a MacFormat slipcase! Write to Alex Summersby, AppleTalk, MacFormat, 30 Monmouth Street, Bath BA1 2BW, or e-mail macformat@futurenet.co.uk

Have your say, and get a MacFormat binder to boot! Send us your thoughts on Apple, MacFormat or anything Mac-related, and if your letter is published here you win an exclusive MF slipcase to hold your copies of MF!

The shock of the new

I have never felt so disappointed in an Apple product! What product? The new Mac OS X Finder – it's hideous! I'm not going to upgrade to this ugly NeXT-ish thing. I hope this FileViewer isn't the standard and irreversible way of accessing things. I hope I still can use my Desktop as my workspace for my files, folders and disks. It's very comfortable. If Apple are smart, they'll let us do things the old way. If not, I don't give a dime for Apple's future. They are busy killing the best interface in the world. That would be a shame – a real shame. I had to write you this letter to vent my anger and start discussion. I hope they are willing to listen in Cupertino.

Tom Van Caekenberghe, Belgium

I confess I'm a bit disappointed by the Aqua interface myself, especially the way there doesn't seem to be a Desktop any more (not even a Trash can, except in that "Dock" thingie. Watch for more details of Mac OS X in MacFormat soon – and comments and

reactions are always welcome!

It's a RAID

I found your article on disk upgrades in MF87 very useful from the point of view of the performance of the various disk technologies available (SCSI, IDE, USB, FireWire, etc). However, your explanation of RAID levels was incorrect. You got RAID 0 and 1 the wrong way around. RAID 0 is striping and RAID 1 is mirroring. RAID 0 is not strictly speaking RAID (hence its designation

(eg, for a server), your best bet is to invest in a hardware RAID 5 system. LaCie and BlueDisk both have excellent hardware RAID offerings for the Mac. **Chris Upton, Technical Consultant Media Information Solutions**

Thanks for setting the record straight!

Bigger than Y2K!

I remember reading about how the Mac can deal with dates between 30,081BC and 29,940AD. As I use

grammers can set dates beyond 2019 by using a core Mac OS routine, but the Control Panel deliberately constrains dates for compatibility with System 6!

Forward delete

In MacFormat 86, a reader asked how to "Forward Delete" on a PowerBook keyboard. I have a "solution", knowing full well that it isn't for everyone. After I bought my G3 Series PowerBook (what a beauty!), I sold my desktop Mac. I did not, however, sell the extended keyboard that I used with it. I use it with my PowerBook. What a joy. I recommend this to anyone doing a fair bit of text work. Even if you have to go out and buy one, it's worth it. **Rama Prem, Germany**

Any bets that the new PowerBook, due any day now, won't have ADB?

How could we!?

Stunning graphics! Unbelievably addictive! *Star Wars Racer* is great! The kids are driving me crazy to buy it, pestering me to the point of getting my credit card out. But can I buy it? I can't! I searched the Web site, I enquired via the UK agent, I sent e-mails, all to no avail. Why did you bother putting the demo on your Cover CD? You've just inflicted untold heartache and grief in my direction and I've been sent to Coventry by my kids. Many before me

"The Mac OS X Finder is hideous and I'm not going to upgrade to it"

as "0") because it provides no redundancy and as such is not a Redundant Array of Independent/Inexpensive Disks. In fact it has less redundancy than no array at all because if one disk in a RAID 0 array fails you lose all of the data on all of the disks in the array.

I'd hate to think of a reader configuring a RAID 0 array thinking they are setting-up mirroring, then have a disk go belly-up and wondering what happened to the data they were trying to safeguard.

Of course, if you've got lots of money and you really want to get the best redundancy and have good performance

ClarisWorks 4 for all my business letters, faxes, accounts, invoices, mailing lists, etc., I thought I'd better check its Y2K compatibility and I've found that it can only display dates from 1 January 9,999BC to 31 December 9,999AD. So we're heading for a Y10K problem. I suppose we need to read MacFormat nearer the time for updated reports. **Lester Peters, High Wycombe**

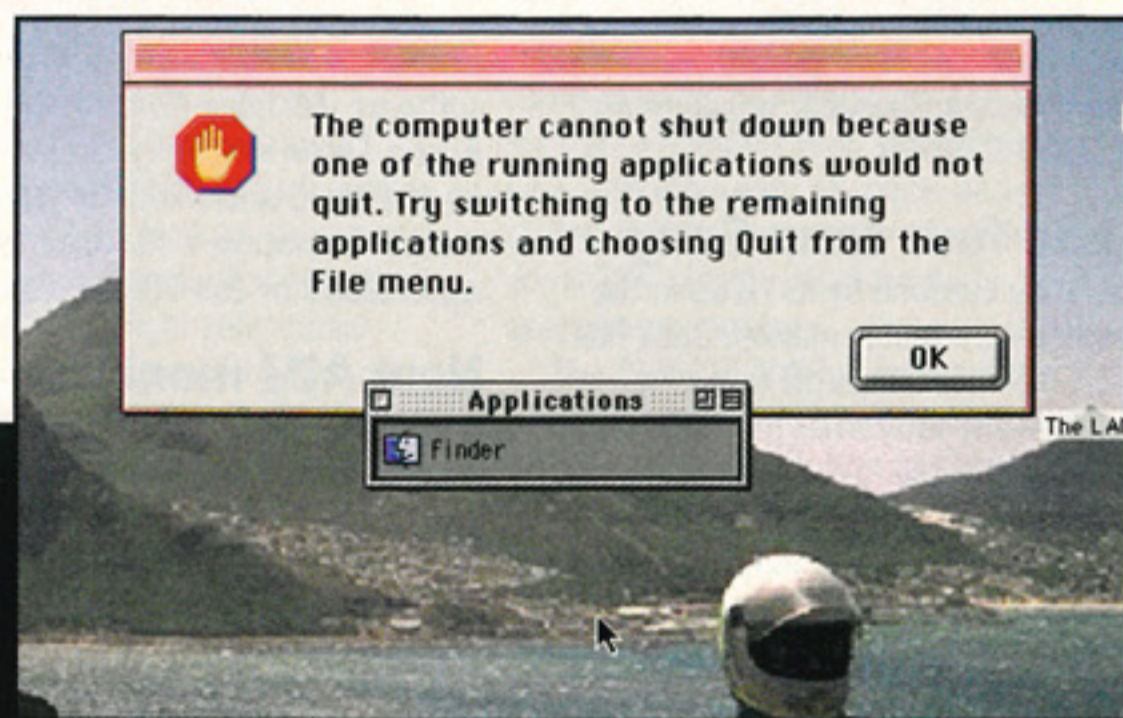
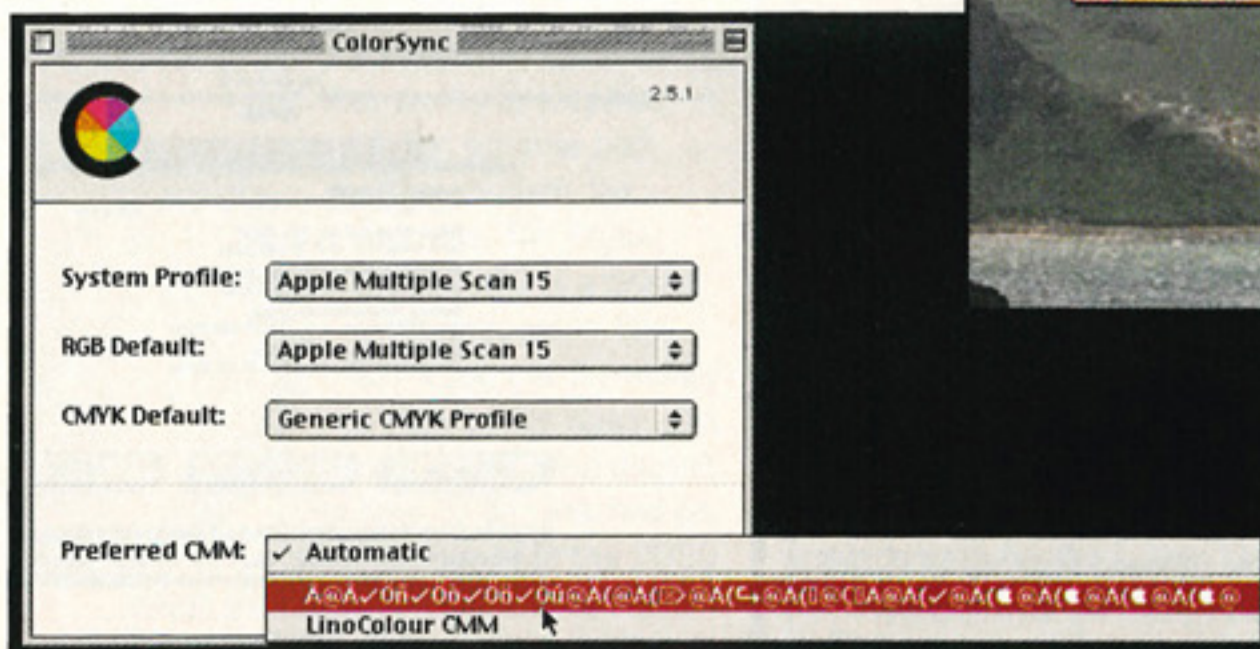
More urgently, the current Date & Time Control Panel can handle dates only between 1920 and 2019. Apple's got only two decades to sort that out! (Apple's tech info notes add that pro-

SILLY THINGS YOUR MAC SAYS



Silly Things Your Mac Says, number 816. Left: you can say that again! Nathan Clark of Stanford in the Vale, Oxfordshire, reports: "After I quit *Picture Shuttle* – Fujifilm's photo-grabbing software – every item in the File menu was doubled!"

Right: "The Mac refused to shut down," says Hoddy Hodson. "I tried to find out why..." but evidently ended up none the wiser!



Left: we've heard of RGB, CMYK and even HSB colour, but this is a new one on us! Tim Wyles says he was just "trying to modify the ColorSync settings, but I'm not sure what benefits this option will provide me with!"



Prize letter: can you have too much power?

Oh dear, oh dear. How regrettable to see you pour scorn on older Macs [in a recent *Mac Answer* and in the letters pages]. How unwise. Yes, I know that new Macs are so many hundreds of times faster than old machines. But what you are really saying is: "Forget what you need, buy what we think you need."

Consider your requirements, and save yourself a packet. If you just want to do word processing, spreadsheets, Internet, DTP and light games, a 68K Mac will do. Buy one with monitor and warranty for much less than £200 including VAT from any second-hand Mac dealer. And if you want to play 3D games too then buy a PlayStation. There – a complete setup for less than £300. What will you spend the £400 you've saved by not buying a iMac on?

Aha, you say (realising that I will scorn your games-playing plea by recommending a PlayStation), but I want to work with *Photoshop*. Fine. Buy a second-hand NuBus or early PCI PowerMac for £400 including a monitor. The only reason to buy a brand new Mac is if you want to use the latest flight simulators, heavy emulation work, 3D modelling or film. Everything else can be catered

for as capably and for much less money elsewhere.

Besides, as computers get more powerful most programmers get more sloppy – so the power you pay for isn't the power you get. Ambrosia are a case in point. Many years ago they released an excellent game called *Bubble Trouble* (download it now!). Currently they are promoting a game called *Slithereens*. *Slithereens* doesn't do any more than *Bubble Trouble* graphically – actually, it does rather less. But the power of modern Macs allowed Ambrosia to program shoddily. So the inferior *Slithereens* takes up more than three times the resources of *Bubble Trouble*. It's not that Ambrosia couldn't do the job. They just couldn't be bothered.

My credentials for offering this advice? I'm a professional software developer. I have several Macs. But the one I use most is a friendly little PowerBook 180. It isn't even PowerPC, but it runs Internet, e-mail, a suite of business applications, programming languages, *SoftWindows* and my favourite games – *Civilization*, *Syndicate*, *Marathon* and *Populous II*. Do you really do more



Our prize letter wins a year's Internet access account with leading service provider Direct Connection, worth over £160, plus a copy of Dircon's new *Internet Introduced* guide to help get the most from the Net. Your Dircon account offers access speeds up to 128Kbps ISDN or 56Kbps (V.90), 20MB of free Web space, unlimited e-mail addresses, global roaming, seven-day-a-week technical support and UK-wide Net access at local call rates. For more about Direct Connection services, call 0800 072 0000.

than me? I thought not.
Pascal Harris, Cyberspace

We certainly wouldn't scorn older Macs – our feature on page 30 this issue spells out just how useful they can still be. But I make no apology for being enthusiastic about the latest Macs – their speed and power are just intoxicating. I'm a bit of a Luddite myself, but surely you can't deny their appeal! Any more views on older Macs, or ideas for what you can do with them?

have complained at the lack of software for the Mac in the High Street and even Mac-friendly outlets like John Lewis, but this one just slaps you in the face. I'm not impressed. Do Apple believe this is in their best interest?

Rob Hancox (in Coventry)

It's not down to Apple, really: they're doing all they can to get Mac software widely available – and visible. Check with a specialist retailer like MacGold (01723 582100) or watch for news in MacFormat as soon as we have any.

Bright lad required

The reality of business is quite worrying when perfectly good equipment is made redundant for lack of a simple piece of software – an up-to-date driver! My Umax UC840 will not work with my newly acquired G4. While we are grateful for the way in which companies do keep writing free updates for recent OSs, the answer might be to

make a commercially viable charge for long-term updates or for some private bright lad to write such drivers.

**Raymond F Smith
Doncaster, Victoria, Australia**

Sure-fire business opportunity, anyone?

Hidden talents

I have just discovered that Apple's Network Browser can be used as a fully-functioning, Keychain-compatible FTP client. Simply type in the FTP address of the site in the **Connect to others** box (from the Finger pull-down menu) and away you go! You can upload too, and it hasn't even crashed yet!

Steve Day, Watford

I wonder if they meant to do that...?

REALbasic: a correction

In a MacAnswer in MacFormat 86, we said "REALbasic is a Macintosh version of Visual Basic, and is shareware." We

were wrong on both counts. Geoff Perlman of REAL Software, Inc., writes: REALbasic is a commercial product, and a very powerful programming environment for application development. To say it is "not as powerful as CodeWarrior" is not really fair since you haven't defined what "powerful" means. If your definition of powerful is "you can build System Extensions, plug-ins and applications with it" then you are correct. However, if your definition of powerful is "new or professional programmers can build applications in one-tenth the time (or less) it takes with other environments" then you are incorrect. There are thousands of applications built with REALbasic that would not have existed without it. Now that's powerful.

We apologise for the confusion. More information about REALbasic is available at <http://www.realsoftware.com/realbasic.html>. REAL Software's UK distributor is Nova International,

<http://www.novaint.com/>, and REALbasic can be purchased direct at <http://real.iworldstore.com/>.

MacSpotting!

Did you notice that in Geri Halliwell's World Walkabout on BBC 1 she used a tangerine (or is that "Ginger") iBook?

Billy the Wonder Kid

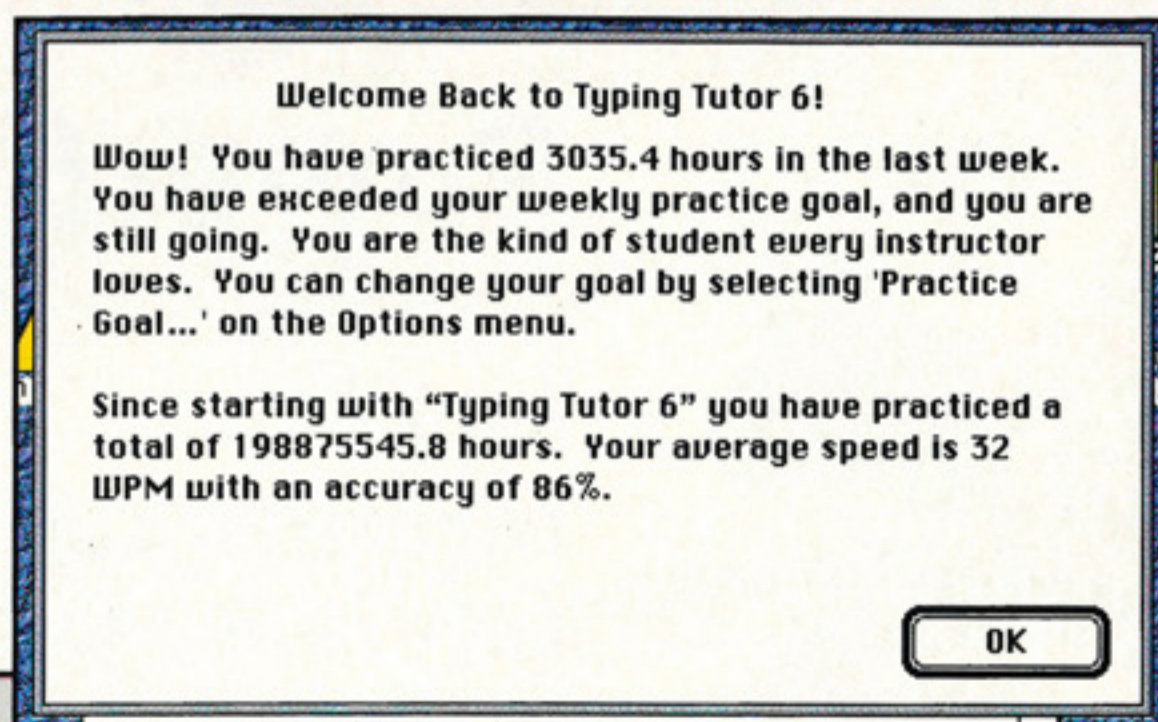
Thursday night on Sky 1 is prime MacSpotting territory. The Student Counsellor in *Roswell High* uses an iMac. Later that evening, in *Veronica's Closet*, Perry has an iMac in his office. In between there was an ad for the Aquafresh flex-tip toothbrush which clearly showed an iMac and its mouse, but a distinctly PC keyboard! In the same break there was a financial services ad with a whole bank of multi-coloured iMacs. So there you go, if you want to spot an iMac, get Sky 1!

Ian Ellery, Wallington, Surrey

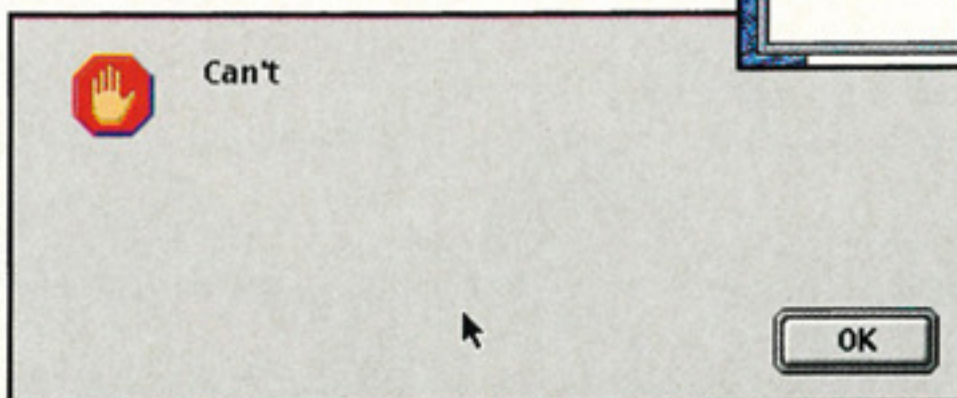
Anyone spotted any more Macs?



Left: Luke Roberts of Liskeard, Cornwall, says: "I got this message trying to run the *Bugdom 1.0* demo for a second time – it worked very successfully the first time. Ancient indeed!"

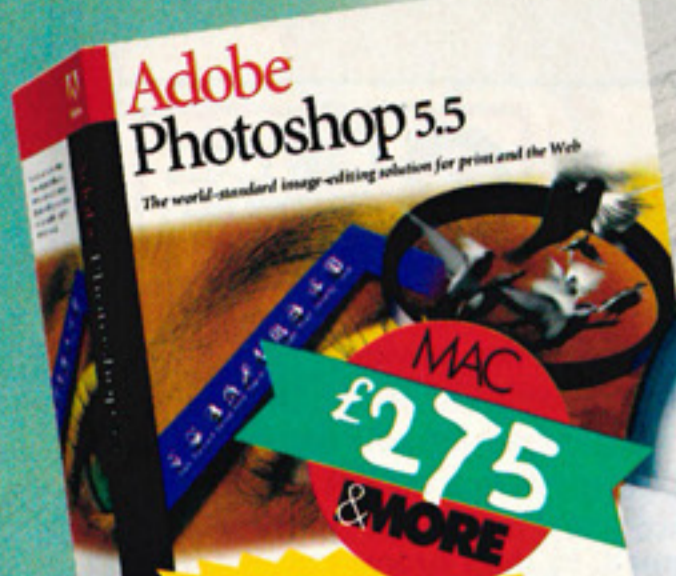


Right: terse, but to the point. Sam Bailey of Bournemouth explains: "This friendly message appeared when I accidentally tried to save an AIFF file as an 'Instrument' file in *Macromedia SoundEdit 16* version 2.0.7. Needless to say, I 'Didn't'." Has your Mac given you a Silly Message? Grab it by hitting $\text{⌘} \text{⌘} \text{3}$ and send it in to us on a floppy, or by e-mail with the word "Silly" in the Subject line.



Above: Chris Gordon of Dundalk, Co. Louth, Ireland, got this message from his typing tutor software... which he's apparently been using a lot – over 126 days last week. But then, it's little wonder the program's not so good at counting any more: it must be tired. After all, Chris has been using it for about 22,687 years...

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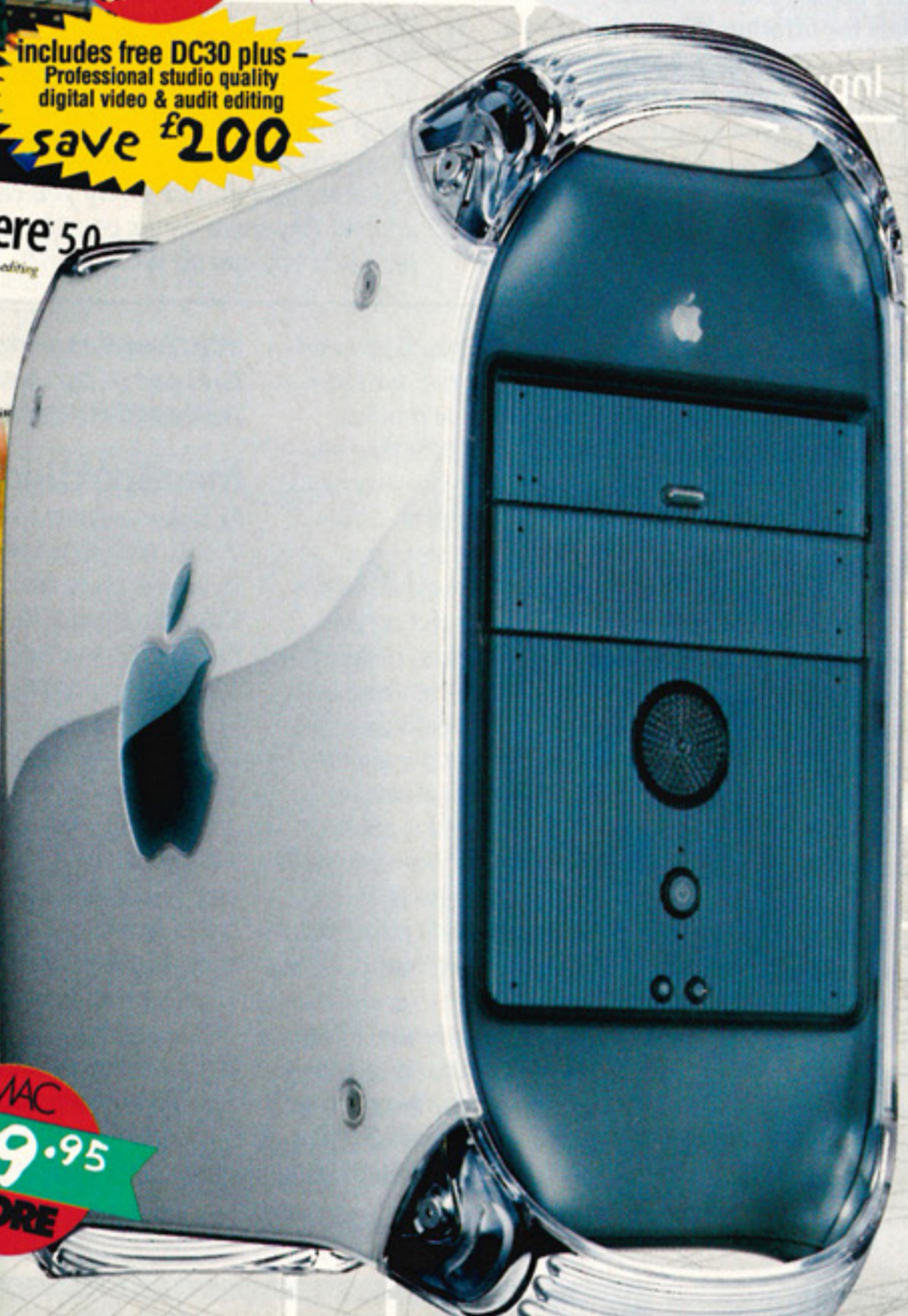
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£2349

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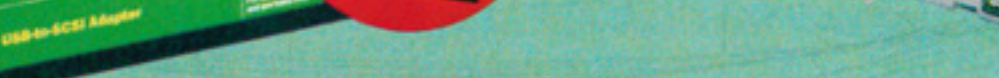
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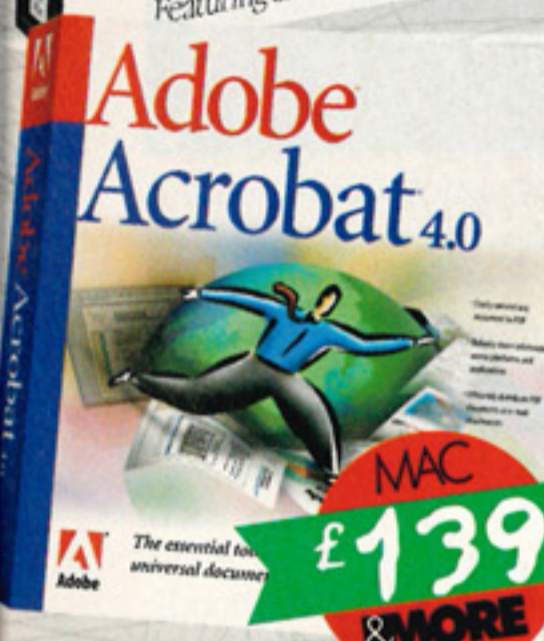


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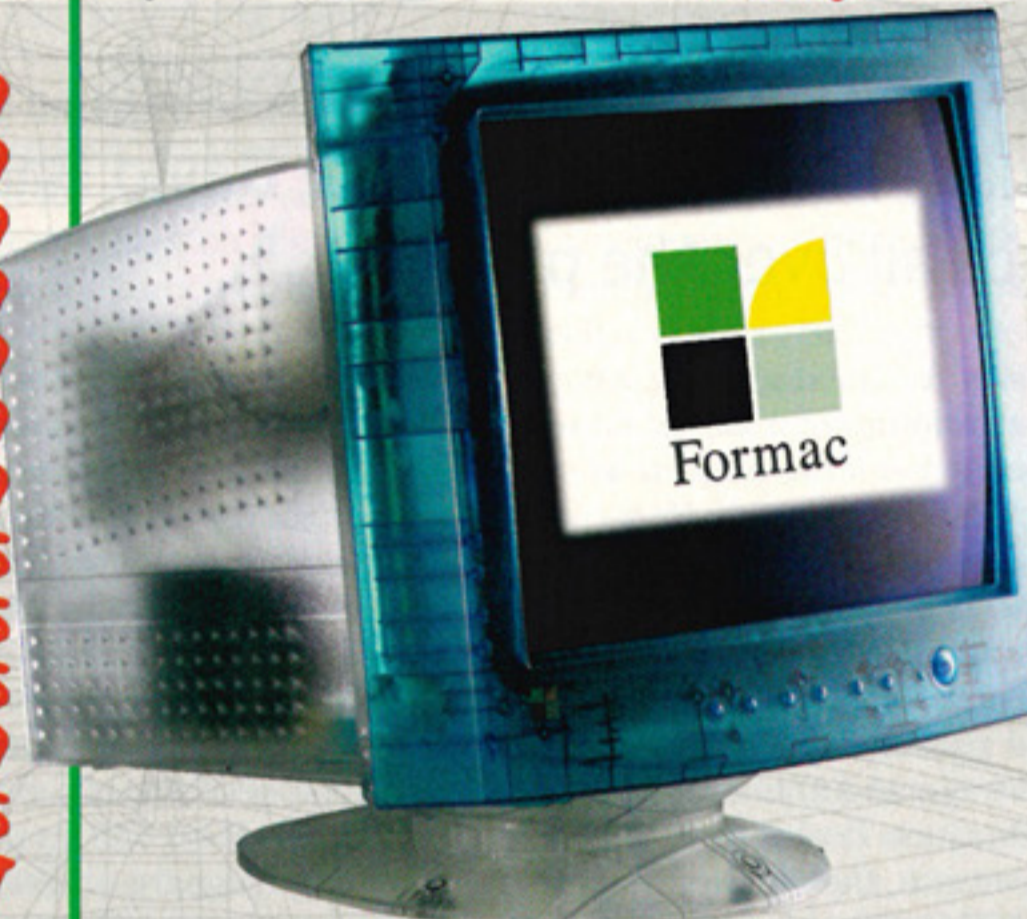
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- ## Formac
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 - 19/550 £389
 - 21/650 £525
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 - TV tuner card £59

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 - 8 port 10 base T hub £48 (includes BNC port)
 - 5 port 10 base T hub £35
 - 10/100 base T card £39

- ## Fax modems
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 - MacSurfer 56k PCMCIA £89

- ## Mitsubishi
- flat screen technology
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 - 22" Pro 2020U £585
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- ## Printers
- Elite 12/600 £499 (USB/A4/600dpi/12ppm/8Mb)
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Memory Call for prices

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 - TDK CD 80 ten pack £10.99
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BETT 2000

The Education Technology Show

EDUCATION SHOW REPORT The great and the good in education technology descended on London's Olympia for four days in January. Teacher **David Baugh** wandered among the stands and saw Macs all over the place...

BETT is the major education technology show in Britain, with over 20,000 visitors a year and 380 exhibitors. With the demise of Apple Expo in the UK, BETT has become a major opportunity for Mac users in education to see new products, seek advice from Apple experts and meet like-minded educators. It's the show where the Government, computer companies and software houses like to make announcements, launch products and generally show off their best products.

This year's show had its fair share of high-profile visitors and speakers. Michael Wills MP, the minister for ICT in schools, announced that teachers in England would be elig-

ible for a 50% subsidy for buying their own computer, up to a maximum of £500. A similar scheme has already been announced in Scotland. Apple Education (formerly Xemplar) is one of the approved suppliers, with the iBook, iMac and iMac DV included in the list of approved computers. To comply with the rules of the scheme, Apple Education is marketing a special package including extra RAM, removable storage and anti-virus software. (Ask your education dealer for details.)

Lord Dennis Stevenson, the chairman of the Government's ICT in Schools commission, announced a new and innovative awards scheme from BECTa to recognise good use of ICT in the classroom. He said, "The new ICT

in Practice awards are aimed at rewarding quality practice. Technology needs teachers more than teachers need technology. Together they will transform the way learners are taught, and spearhead the UK's ability to develop and thrive in the 21st century."

The awards scheme will be split into four categories: ICT in practice in school management (primary and secondary), ICT in practice in special educational needs (primary and secondary), ICT in practice in subject teaching (primary and secondary), and advice and support for ICT in practice. Each winner will receive £2,500, with £2,500 going to their school or organisation.

Lord Stevenson was positive about the state of ICT in schools, citing Internet connection rates in Britain and the fact that ICT in schools was now taken for granted. Looking to the future, he observed that the groundwork has been done and that schools are starting to take the initiative in ICT for themselves. He concluded, "I believe we are now at the point where you should see the baton being handed from the centre to the schools - with schools taking charge of their own destiny." This will be welcome news to schools who feel that they are under pressure to comply with Wintel-biased initiatives from "the centre".

Award winners

During BETT, awards were announced for ICT products and services. Nominations for these awards were selected by a committee and then voted for by teachers. Apple Education's General Manager, Robbie Hanlon, was delighted with the iBook scooping the award for Best Secondary Hardware, and iBook was also in the running in the Primary category. Lego Mindstorm's *RoboLab for Schools* won the Secondary Software category, and Neil



There were impressive demonstrations of the AirPort's abilities at BETT. Look carefully at the large screens and you can see the other wireless networks at BETT and just make out the photographer captured by the iBook.



Neil Rhind of Lego Dacta proudly shows off the BETT award for *RoboLab for Schools*, and stresses the firm's continued support for the Mac platform.

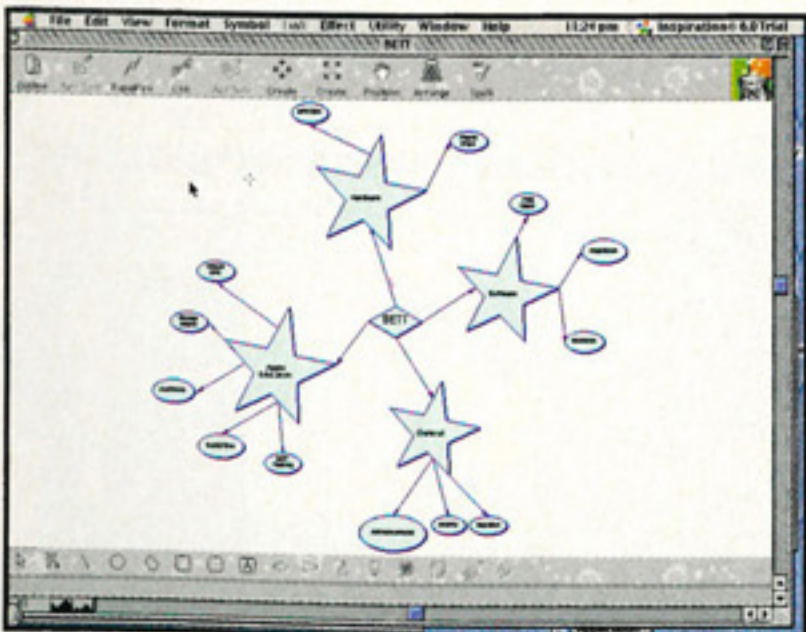
Rhind, Lego's UK Education Division Manager, said, "It was absolutely fantastic to receive recognition for this highly educational product against about 350 rival products." He went on to say that Lego Dacta would continue to support the Mac platform in view of its strong showing in the education sector.

In the Primary area, Sherston scored a success with its *Rhyme and Analogy* from Oxford Reading Tree Software. Russell Mabon, Sherston's Managing Director, said, "We are very proud of this product; not only does it look great and provide fun activities, but it has a high educational pedigree." Sherston has long been a supporter of the Mac platform, and Russell added, "The arrival of the iMac last year has made a big difference to demand, and we make a lot of friends by supporting the Mac platform."

Crick Software picked up the Special Needs software award for its *Clicker* software. *Clicker 4* is soon to be released on the Mac, shortly after the program's launch at BETT. This is a further indication of the Mac's resurgence in education, as developers see a point in developing software for the platform.

One of the most commented-on aspects of the show was the sheer number of Macs on the exhibitors' stands. Almost everywhere you went there seemed to be iMacs, iBooks and G4s. This was no accident – Apple Education had decided to aggressively encourage developers and software houses to have Macs on their stands. It advertised a loan scheme for BETT through the trade association BESA which resulted in huge demand. In fact, the plan proved to be so successful that most of the borrowers decided to buy the machines at the end of the show, with many asking for more!

The impact of having Macs on stands other than Apple's own cannot be underestimated, as it's a clear indication that there is something for Mac users on these stands to look at. One exhibitor complained to us about the lack of support they got from Apple, but they were very shamefaced when we asked why they hadn't taken up Apple's offer of a loan.



One of the finds of the show was the brain-storming software called *Inspiration* from TAG Development, which enables you to order your thoughts.



Jeff Orloff from Apple Education US (right) chats with John Rudkin of Apple Education UK. Jeff was surprised at the number of educational products available for the Mac in the UK.

Apple Education's stand was very successful, showing off iBooks and AirPort wireless networking, and highlighting the educational uses of Mac OS 9. The stand also featured QuickTime in education, iMac's video capabilities and the recently launched Apple training for Scottish teachers, which utilises a localised version of the excellent Apple Staff Development Online (ASDO). Apple wasn't the only company demonstrating wireless networking at BETT, however, and radio frequency conflicts in the confined area caused some friction on the first day. AirPort proved to be a success as its networking encryption was tested to the full. Other wireless networks were clearly visible via the AirPort Control Panel, and the security of these other systems has to be questioned. One of the most impressive demonstrations of AirPort was when a Webcam was attached to an iBook outside the Apple stand and the picture was projected via QuickTime onto a screen in the Apple theatre. AirPort's other winning factor is cost. Many of the rival wireless solutions cost up to four times more (see page 67 for more on AirPort).

One high-profile visitor impressed by the show and the Mac presence was Jeff Orloff from Apple in the US. Jeff is Senior Manager of Worldwide Education Product Marketing. He was surprised at the size of the show and the number of developers producing educational products for the Mac in the UK market. He believes that Apple in education stands for ease of use and creativity. He pointed out

that only a company like Apple could create a product like the iBook, and that this philosophy of creativity flows through everything the company does. He considers the aim of ICT in education to be to get children asking questions and trying things out.

On show at BETT Inspiration

Price: £70.44

Contact: TAG Development on 0800 591262

Web Site: <http://www.inspiration.com/>

Minimum Requirements: 68040 or any PowerMac, System 7.0

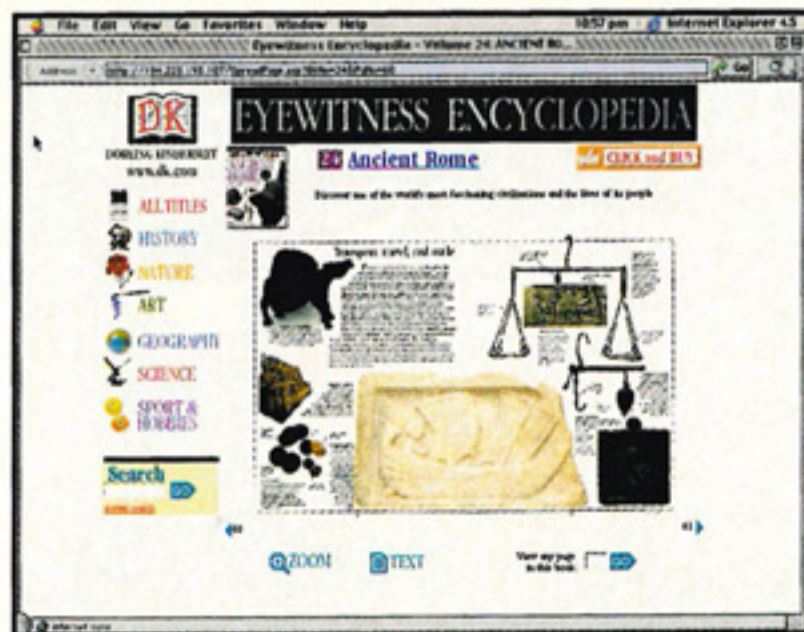
Looking around BETT, it's possible to become a little blasé about new software for education. Then you see a product which jumps out at you with the educational possibilities it has to offer. *Inspiration* uses a technique all teachers use in the classroom every day. It's "brainstorming" software that enables you to get your thoughts in order, quickly and simply, for use on the Web, in stories, articles, essays, presentations – you name it. Look out for a full review in Mac-Format soon.

DK Eyewitness Online

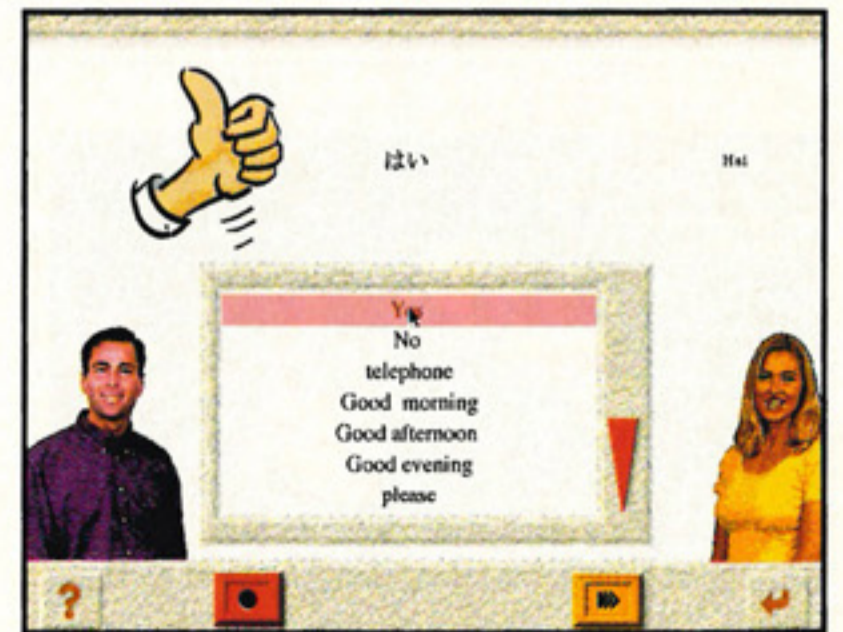
Price: Free

Web Site: <http://www.dk.com/eyewitness/>

It's not often you get something for nothing, but Dorling Kindersley announced the



The complete *Eyewitness* range of books is now available in digital form for free at <http://www.dk.com/eyewitness/>



EuroTalk's huge collection of Mac-friendly titles makes language learning fun and addictive. They cover languages as diverse as Arabic and Zulu.

An interview with the Minister for ICT

Michael Wills MP is Parliamentary Undersecretary of State for Learning and Technology. His areas of responsibility include ICT in education and employment, the National Grid for Learning, and "Overcoming exclusion in the information age – the gap between the haves and have-nots." Our education correspondent David Baugh asked him about ICT, NGfL and Macs...

MF A projected £1.7 billion is being spent on the National Grid for Learning scheme up to 2002. Do you have an estimate of how much of this funding ends up in schools?



His first computer was a Mac, he still uses one, and he insists that the government has no Wintel bias. MacFormat talks to Michael Wills MP.

"The NGfL is a key element in a co-ordinated programme of £1.7 billion investment up until 2002 to realise the potential of educational ICT. As part of that, we are spending £657 million specifically in schools through the NGfL Standards Fund programme. This funding is made available to schools via their local education authority (LEA), which performs a management and evaluation role. LEAs must devolve at least 95% of the grant allocated to their schools. Other elements of this programme, such as the New Opportunities Fund's £230 million scheme to offer serving teachers training in the use of new technologies in the classroom, will not result in funding being directly made available to schools, but should see both teachers and their pupils being able to reap the benefits in terms of improved delivery of the National Curriculum."

MF There are large variations around the United Kingdom for NGfL funding. Who has the final decision on how NGfL funds are spent: the schools, the LEAs or BECTa?

"The amount of NGfL grant allocated to individual schools is made with reference to the terms of their LEA's ICT strategy, and to their own ICT development plans. It is then for schools to determine how best to use their grants to implement their plans in the light of advice from their LEA, and from agencies such as the British Educational Communications and Technology Agency (BECTa). The differences in levels of funding around England

reflect the competitive process used to assess proposals from LEAs in both 1998-99 and 1999-2000. This has stimulated a clear improvement in the quality of local ICT planning, and as a consequence, the majority of the £205 million funding available through the NGfL Standards Fund in 2000-01 will be allocated to LEAs using a formula based on school and pupil numbers."

MF The Government's action in the field of ICT is welcomed by the vast majority of teachers, parents and children. What research has been carried out to verify the impact of ICT on pupil learning?

"Research released by BECTa in summer 1997 demonstrated both learning gains and improved motivation and attitudes to learning. It seems clear that the Grid and the Internet can provide rapid access to learning resources and advice – and, of course, the learning can take place at a time which suits the learner. The Grid also provides the opportunity for long distance learning, allowing young people to communicate with each other and with teachers despite being hundreds of miles apart.

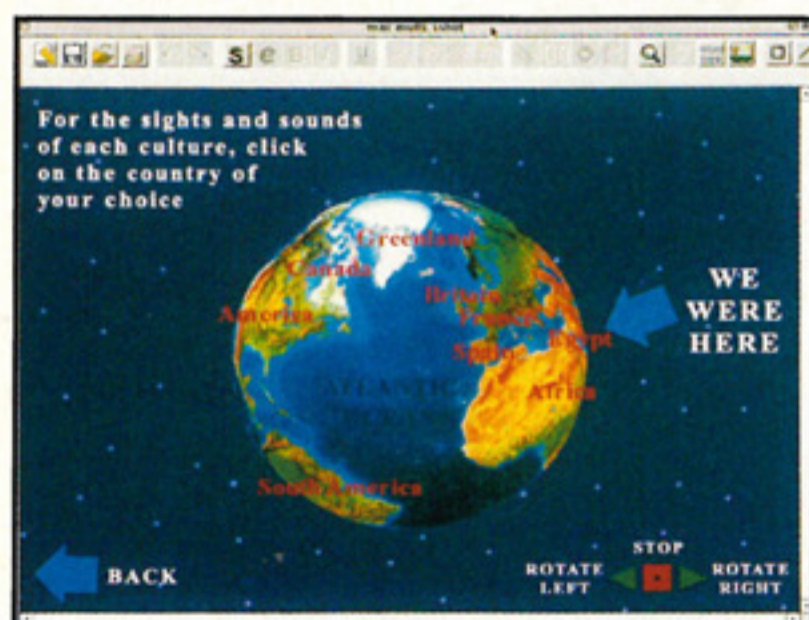
"However, with total investment reaching £1.7 billion, it is essential that the Government ensures that effective use is made of taxpayers' money. Several measures are currently being set in place to ensure that this is the case, including: an independent evaluation of the development of the Grid in schools which will focus on developments in local education authorities, including designated "NGfL Pathfinders" because of their innovative approaches;

launch of its complete *Eyewitness* collection of books online. The collection can be downloaded in picture and text form for inclusion in work at school or as homework. Navigation is simple using the contents pages of all the available books in the series, and you can then zoom in on a page or simply go to a text page for cutting and pasting into a child's document.

EuroTalk Language Learning

Contact: EuroTalk on 020 7371 7711
Web Site: <http://www.eurotalk.co.uk/>

EuroTalk has an impressive 90 language titles on offer, covering a diverse range of languages from Arabic to Zulu. All are Mac-compatible, and are in fact authored in the Mac-only package *SuperCard* (which we looked at in MacFormat 85). EuroTalk is just about to launch its first DVD title, which includes a full-length movie to assist language learning (see our News pages this issue). Director Richard Howeson said, "We discovered that most people who started to learn a language the traditional way gave up very quickly, so we decided to make learning fun and addictive to get quick results."



BETT veterans Softease unveiled three revamped products for the Mac at this year's show.

Textease 2000

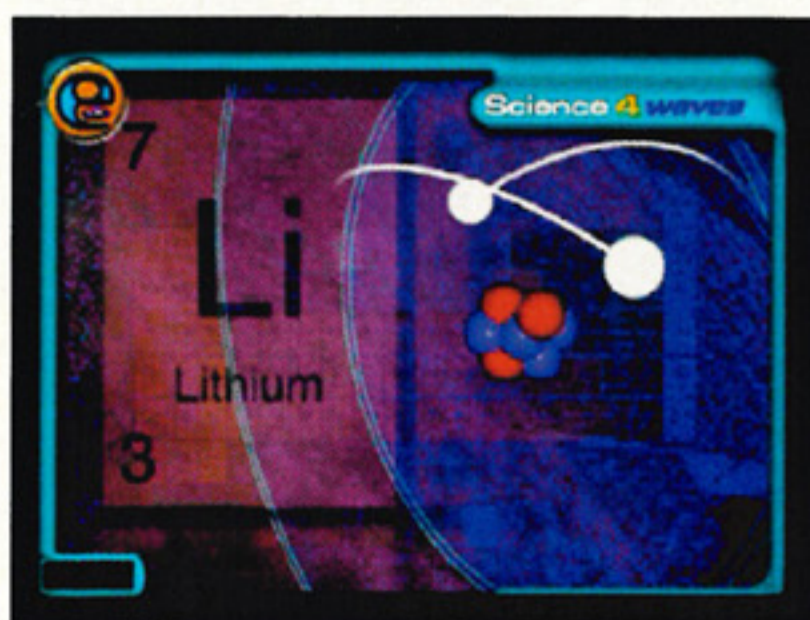
Price: Textease 2000, £99.85; Primary, £57.56; Spreadsheet, £45.82
Contact: Softease on 01335 343421
Web Site: <http://www.textease.com/>

After its success in last year's BETT awards, Softease has been busy preparing three new products for the Mac. *Textease 2000* is a development of *Textease Multimedia*, making it a fine program for word processing, desktop publishing and multimedia. The interface can be simplified to make it look like the cut-down version, *Textease Primary*, for younger children. The *Textease* spreadsheet can run on its own or integrate with *Textease 2000*, enabling the package to meet the requirements of the Numeracy Strategy. The language packs will be welcomed in modern language departments, as will the soon-to-be-released database.

Anglia Multimedia

Contact: Anglia Multimedia on 01268 755811
Web Site: <http://www.anglia.co.uk/>

Anglia Multimedia made BETT the launchpad for no less than 20 new titles. The firm



Anglia Multimedia announced 20 new titles at BETT including some interesting-looking science programs.

is a strong supporter of the Mac platform, with a solid educational background stemming from the company's experience as the education arm of Anglia Television. The *Science* series of titles looks particularly impressive for Key Stage 3 and 4 pupils.

Site Central

Price: £46.94
Contact: TAG Development on 0800 591262
Web Site: <http://www.sitecentral.com/>

Site Central is a simple Web authoring package from the makers of *HyperStudio*, and it supports the use of *HyperStudio* stacks within a Web page simply by dragging and dropping. This makes sharing multimedia projects on the Internet a reality. Users have to download a *HyperStudio* plug-in to view the stacks, but this facility makes *Site Central* a powerful tool for schools to use of the Web. In addition, *Site Central's* user-friendly environment enables teachers and students to drag and drop into place every Web page element and special effect. This title also includes an extensive resource library of templates, sounds, graphics, and animated GIF images. **MF**



Site Central enables you to drop *HyperStudio* multimedia stacks into a Web page.

- ☑ annual statistical surveys which, coupled with the Ofsted inspection process, will monitor schools' progress towards the Government's targets for ICT;
- ☑ mechanisms for monitoring and recording use of the Grid and for providing feedback through the Grid itself;
- ☑ a programme of public-private partnership projects piloting emerging technologies and evaluating their educational potential.

"Our survey of ICT in schools for 1999 asked headteachers whether they thought that ICT had made a contribution to the quality of teaching and learning, pupil motivation and the efficiency of school administration. In all cases, the proportion who agreed that ICT had made a substantial contribution had increased since the introduction of the Grid."

☑ Things have come a long way in ICT over five years. Where do you think ICT in the classroom will be in another five years?

"There are both commercial and technological reasons why Government should not attempt to second-guess technological developments. But it's clear that the convergence of digital technologies and increase in bandwidth available to schools will inevitably have an impact in the way that schools use ICT in the classroom. The programme that we are currently putting into place will underpin these technological advances. By 2002, for example, all state schools will be connected to the Internet, and will have benefited from the investment in equipment and infrastructure being made through the NGfL Standards Fund. All new teachers will

have to be ICT competent as a condition of successfully completing their training, and the entire existing teacher force will have had the opportunity to undertake training in the use of ICT in the classroom."

☑ My pupils, like most other children in Britain's schools, use more than one computer platform (Acorn, Apple or Windows) almost seamlessly. Do you believe that the computer platform used by a child in school affects learning or a child's computer literacy after they have left school?

"I believe, above all, that computer literacy, transferable skills and flexibility learnt at school stand students in good stead for further learning and the world of work. The pace of change in the technology industry is so fast that the platforms or applications used by pupils at school will inevitably alter radically in a number of years. We must aim at equipping children with the skills to approach a range of unfamiliar situations with confidence, be that a new technology, platform or application.

It is for schools to decide, in consultation with their LEAs, which platform or mix best serves their needs, as identified in their ICT development plan. It is not Government policy to promote one platform or exclude another. I am happy to say that Apple Xemplar Education are one of 12 consortia approved so far under the NGfL Managed Services Initiative, which gives schools a one-stop shop from which to buy computer networks at value-for-money prices and with built-in guarantees of quality.

The Computers for Teachers specification also enables an Apple option."

☑ After the well-publicised meeting between the Prime Minister and Bill Gates it would seem that Microsoft has the ear of the Government. What influence does Bill Gates have on Government policy? Is the PM going to meet any other leaders of the computer world - say, Steve Jobs of Apple?

"The Prime Minister takes a personal interest in the Grid and has already visited other ICT companies over the past two and a half years. Indeed, there is a continuing and healthy dialogue maintained with all sectors of the industry at Ministerial and official level. It would be a misapprehension to believe that this contact was only extended to Microsoft. For instance, the Prime Minister recently met Lou Gerstner of IBM with a view to welcoming IBM's investment in an educational project designed to share good practice between beacon schools and other schools. He has also set a target of making Britain a world leader in the development, use and export of digital learning services, and aims to deepen and strengthen the relationship with many companies as inward investors with significant business interests in the UK."

☑ I believe that you were at one time a Macintosh user. I'm sure the readers of MacFormat would be interested to know about your Mac experience. What do you use now? If it's not a Macintosh, what would persuade you to "think different"?

"My first computer was the first Apple Macintosh and I still have it - and fond memories of using it to start my television production company in 1985. I still use a Mac as well as a PC."



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Comic capers

In the first of a new series, **Brad! Brooks** of *Les Cartoonistes Dangereux* introduces the Mac's role in producing comic art.

Comics and Macs have made a fine pairing almost since the introduction of the Macintosh in 1984. In recent times, however, the use of computers – particularly Macs – in creating comics has increased almost exponentially. Over the next few issues of *MacFormat*, we'll take you through the major uses of Macs in comics, and provide tutorials and tips that you can use in your own work. Along the way, we'll be covering a few of the fundamentals of production for print with specific application to the world of comics publishing. But first, this issue, a little history lesson...

Shatter

The first artist to really see and exploit the potential of the Mac in regard to comics was the American Mike Saenz. As we'll see, Saenz pops up several times in the history of comics and Macs, but initially he approached comics publisher First Comics (now, sadly, defunct) with his idea of a comic created entirely on a Mac. First's Publisher Rick Oliver and Editorial Director Mike Gold liked the idea and, after assigning writer Peter Gillis to write the book, gave Saenz the go-ahead. The result was *Shatter*.

With a story not unlike *Blade Runner*, *Shatter* was

released in September 1985 with a (for comics) massive PR campaign. The level of hype surrounding this book was far-reaching, and *Shatter* made news around the world, particularly in the computer and technology press, thanks to First playing up the fact that it was created almost entirely on a computer (Gillis used an Apple III computer to write the book, but the colouring was done the traditional way – we'll get to this in a moment).

Unfortunately, the critical reception wasn't quite as forthcoming. While the concept was golden for filling column inches for news, the critics mostly took a dim view of the book. The main thing the critics latched on to was the fact that, aside from being a thinly veiled knock-off of *Blade Runner*, the book looked pretty awful.

Remember, this was just a year after the Mac had been launched, and the technology we have today, like graphics tablets and *Photoshop*, just didn't exist. Printing from a computer was primitive too, with anything but dot-matrix or even daisywheel being extremely expensive and the first laser printers being incapable of anything more than about 150 dpi. The result was a comic book that looked pixellated – there were no curves, just stepped dots. The text in



Mark Harrison's breathtaking artwork shows what Macs can bring to the craft of cartooning: the artist's style shines through, but the richness of effect is astonishing.

the captions and balloons looked badly typeset (it used only the Mac's then small range of fonts). Thanks to the low resolution of the output methods of the time, the book looked muddy and it was quite hard to distinguish who was who.

Nevertheless, the *Chicago Tribune* reported that the book had sold over 100,000 copies and was a big success. Purists were shocked, though, and it was looked upon with little more than idle curiosity by the comics industry.

Advances in graphic novels

After *Shatter* there was a long hiatus before the next computer-generated comic. Saenz went on to creating his own computer games company, Reactor, coming out with such "gems" as *MacPlaymate* and *Virtual Valerie* (the first pornographic Mac games, for the uninitiated) as well as working on the animated adventure game *Spaceship Warlock* (also very *Blade Runner* like, with a touch of Dan Dare retro spacecraft designs). He never lost sight of creating comics on the Mac, however, and after taking on an assistant named Pepe Moreno (who was an accomplished cartoonist in his own right), he created an Iron Man graphic novel for Marvel called *Crash*. This was a vast improvement over the crude *Shatter*, featuring as it did full colour and much better resolution. Moreno then took up the baton and produced *Batman: Digital Justice* for DC in 1990.

Batman: Digital Justice was probably the first computer-generated graphic novel that was taken on its own merits rather than the novelty value, and sold reasonably well. Moreno too moved into computer games, where he worked on titles like *Hell Cab*. Saenz made one more attempt to interest the comic-buying public in what he termed "Digital Comics" with *Donna Matrix* in 1993. Unfortunately it again failed to live up to the hype that Saenz created around the project (surely his greatest talent), and the project was canned after one rather bad issue.

Colour separations

And that's where fully computer-generated comics have been left, at least in the mainstream. Instead, certain people latched onto the idea of using the computer as just one of the tools involved in the creation of comics rather than the only tool. One area in which Macs definitely gained a rapid stronghold was in the automation of what were then



menial and thankless tasks. The first of these was producing colour separations.

The steps involved in colouring a comic book page (and here I'm referring to the US industry only – the European industry had its own method of colouring comics, which we'll get to later) were complex and a lot more involved than the layman gives credit for. After the page was inked, the colourist received photocopies of the pages on which to work. The colourist first painted the pages with a range of heavy watercolour dyes, and then had to mark up the pages with a series of notations that showed the separators and the printers the exact mix of colours used to complete the page. These notations took the form of a letter and number combination and restricted the colour palette to only 64 colours; this notation system was called the "Y2R2" system (after the colour mix to create a flesh-tone for a white person – 2 parts red to 2 parts yellow).

Due to the extremely cheap method of printing comics used up until the late '80s, the colour separation of the pages was also very basic and time-consuming. Often farmed-out to housewives on a piece-work basis, the separations were done by rubbing down Letratone patches in 25%, 50%, and 75% screens onto acetate or vellum overlays placed on the artwork to match the colour tints on the coloured page. For each page there were a number of overlays corresponding to the Cyan, Magenta and Yellow printing inks. If a 100% colour was needed on the page – say 100% blue – then photo-opaque fluid would be painted on the relevant overlay.

The overlays were then shot along with the black line art and made into the printing plates for the

Left, from the Judge Dredd role-playing game: CGI modelled buildings, video-grabbed explosions and computer colouring. Middle: a *2000AD* cover with Bryce spaceships and a "stained-glass" window created in *Illustrator*. Above: 3D-modelled armour and guns, Bryce backgrounds, and lens flare!

All art & characters are copyright. Judge Dredd, Durham Red © 2000 Egmont Foundation. Batman, Superboy, Superman, Clark Kent © 2000 DC Comics. Martha Washington © 2000 Frank Miller & Dave Gibbons. *Shatter*, *Donna Matrix* © 2000 Mike Saenz. If we have failed to acknowledge your copyright, please get in touch; we'll be happy to correct any oversight.

Macs in comics



Traditional comics colouring: simple flat colours and hand separations in a 1960s *Superboy* comic. And yes, that skintone must be Y2R2.



An imaginative colourist could use colour to suggest forms, as in Clark Kent's shirt here, but only with fairly crude blocks of flat colour – because that was all that was technologically feasible.



four-colour press. As you can see by looking at any US comic before the early '80s, this method was very hit and miss and often resulted in ugly, muddy-looking comics. It should also be noted that, until the early '80s, the printing techniques used to print US comics were the cheapest (and hence poorest quality) available.

The European method

In European comics, the methods of colouring and separating comics were more advanced and subtle than the US method from about the 1950s onwards. Developed by a man named Vittorio Leonardo, the European method of colouring comics used a technique called bluelines. After receiving the finished line art, the publisher would get two copies of the artwork made – one on an acetate overlay in black, and the other on a good-quality watercolour paper in a non-reproducing blue or grey colour. The colourist would then paint on the blue/grey line copy using watercolour or gouache. At the repro house, the artwork would be photographed using a process (or "PMT") camera with different filters and line screens to create the colour separations.

In this way, the colours that could be printed in comics were far bigger in range and capable of far more subtlety than the US method. It was still time-consuming, however, and perversely more expensive considering that the actual man-hours involved to produce the separations were a lot less.

It was the combination of the two drawbacks in

the traditional methods of colouring comics that led to the introduction and the eventual take-over of the computer in this area. The opportunities for using computers, and more specifically Macs, to colour and separate comic art were spotted first by the colourist Steve Oliff. Famous for his work on titles like *Akira*, Oliff formed a company called Olyoptics specifically to colour comics and provide computer separations for other companies. It was an immediate success, and led to the formation of other com-

“The use of Macs to create all elements of comics will increase as time goes by”

panies providing these services, notably Lovren Kowinski's Digital Chameleon and Graphic Color Works in Ireland.

The use of the computer also meant that the advances weren't just in the speed of producing comics. It also meant that far more subtle colouring was possible, as well as spectacular effects and texture modelling. These improvements in both speed and quality led to individual colourists taking up the reins and investing in hardware and software to do the job themselves. Nowadays there's barely a comic or graphic novel that isn't coloured by computer.

Lettering

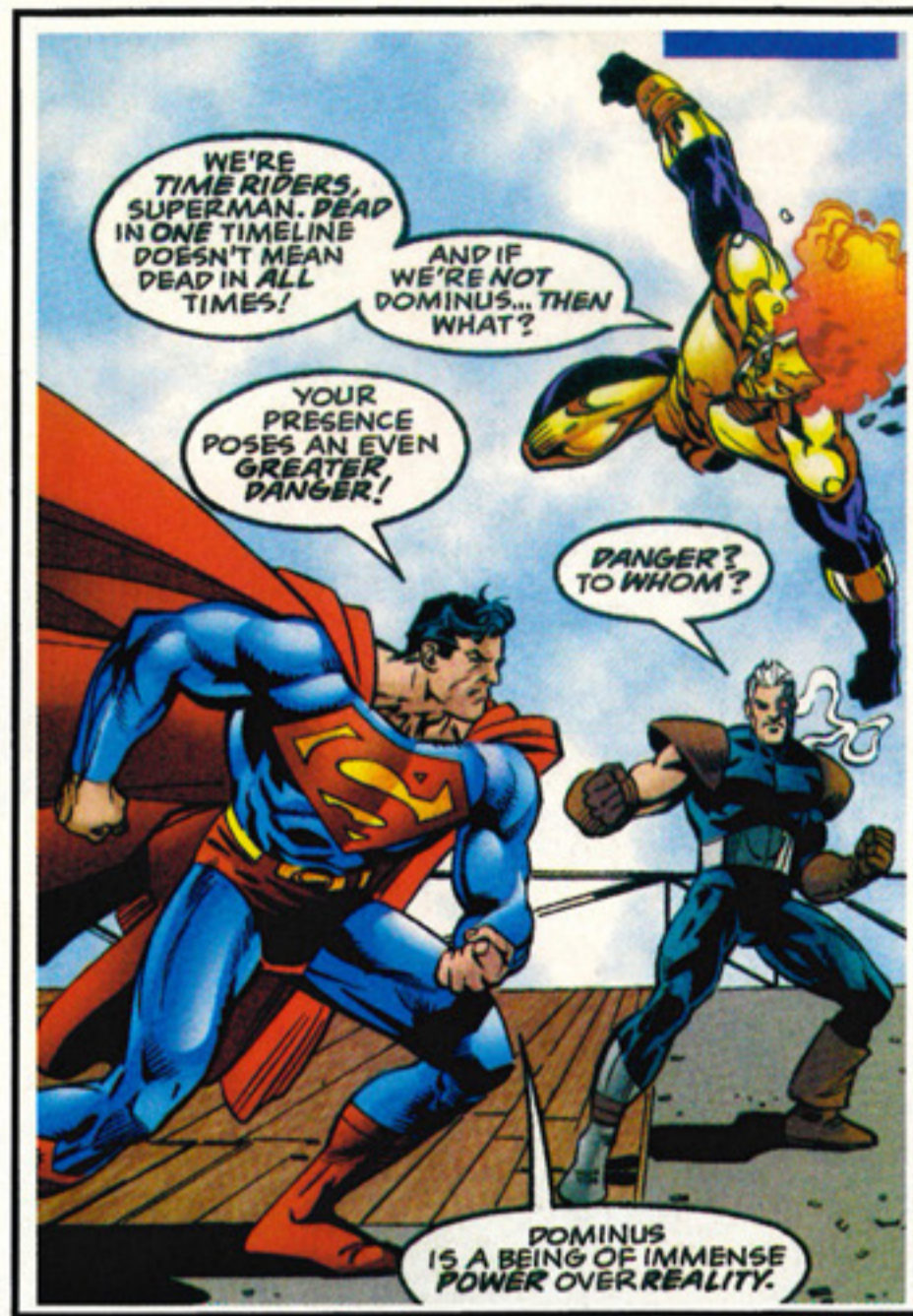
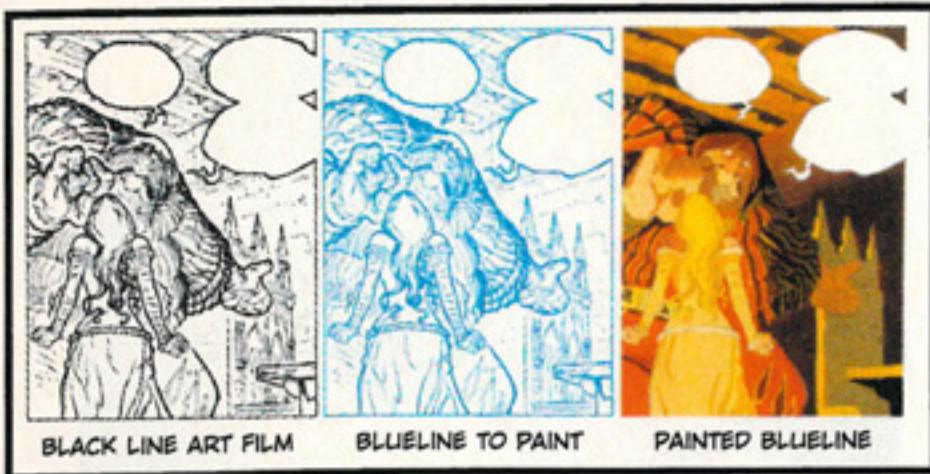
Almost simultaneously with the take-up of the computer for colouring, computer technology was adopted for another of comics' less-considered elements: lettering. Richard Starkings, an English-born comics



Shatter (above) was the first wholly-computer-generated comic, and was a fair exemplar of the state of the art at the time, but the *Batman: Digital Justice* graphic novel only a few years later (art by Pepe Moreno, published in the UK by Titan Books) showed how fast Mac-based art had evolved.



In turn, a few years after *Batman: Digital Justice* appeared, the artist behind the pioneering *Shatter*, Mike Saenz, created *Donna Matrix*. No, she's supposed to look plastic...



The European blue-line-based method of colouring (far left) allowed for greater subtlety, but today's computer-based methods enable the colourist to use a photo-realistic sky and wood texture, as well as to "sculpt" forms with colour and highlights (Glenn Whitmore, colourist; separations by Digital Cham-eleon). Centre: Dave Gibbons and Angus McKie's *Martha Washington* blends traditional line art with Mac-generated trees and CGI scenery to startling effect.

fan, entered the comics industry by working for Marvel UK as an editor and designer. While he was there, he started to get freelance work as a letterer on a number of Marvel US titles after the regular letterers were lured away to the then-fledgling Image Comics company. The real breakthrough for Starkings was when he discovered how to create a font using a Mac. From then on he started to letter using his font and found that his productivity levels increased, leading to more work. By late 1992 he had hired an assistant, John Roshell, and Comicraft was born. Today, Comicraft letters a large number of US comics and also has a successful business designing and selling fonts for comics lettering.


The effect that Starkings and Comicraft had on the comics world was immense. While a number of letterers decried the use of fonts to letter books, a larger number of letterers jumped on the bandwagon and most comics in the US are lettered using fonts, many designed by the letterers themselves.

The future

The use of Macs in creating comics is progressing rapidly. Most comics are written using a word processing program and, as we've seen, a Mac to do all the ancillary tasks like lettering and colouring. The next step – and indeed the area that has been progressing fastest – is the use of the computer to pencil and ink the artwork. Using programs like *Painter* and *Photoshop*, cartoonists such as Mark Badger and

Mark Harrison are creating almost completely digital comics. While the use of the traditional tools like brushes and India ink will never die out, it's fair to say that the use of Macs to create all elements of comics will increase as time goes on.

As for the actual publishing side, these days all comics, just like magazines and books, have their production and pre-press done on a computer – usually a Mac. The tools and techniques are now well entrenched and have had the effect of bringing publishing to the masses. Anybody armed with a Mac can make their own comics – and indeed this has led to far more professional-looking fanzines and "small press" publications. As technology moves on, the publishing side of comics will become more accessible to everybody.

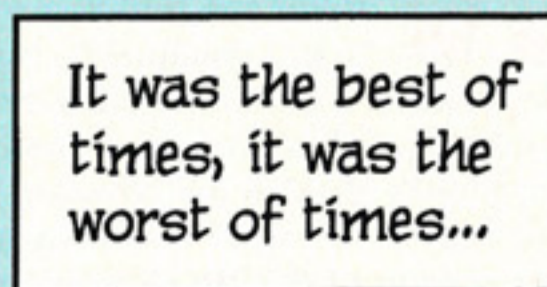
In a few short years we've seen the advent of imagesetters, flatbed scanners and computer-to-plate technology. There are already rumours of "print-on-demand" services being made available through bookstores like Barnes and Noble. How long will it be before you'll be able to walk to your local comics shop, order a number of comics and then see them printed before your very eyes? Don't scoff: shopping is already going that way. Following successful trials in several WH Smith shops, you should soon be able to buy software using iMac-based kiosks which burn the programs of your choice onto a CD-ROM while you wait, so maybe "comics-on-demand" aren't as far away as you think... 

Letter perfect

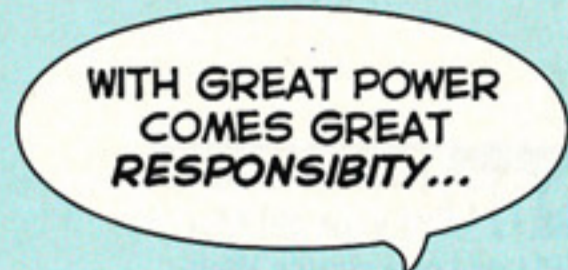
With all the fuss made about the Mac's graphics, it's easy to forget that the graphic display of text remains one of the Mac's greatest strengths. It made DTP possible, and it has been used to good effect to take the tedium out of one of the most exacting aspects of comics, lettering.



SPOOKYTOOTH



Pulp Fiction



ASTRO CITY

Artists including John Byrne (above), Jim Lee and Dave Gibbons use custom fonts based on their own hand-lettering, which thus preserve an individual character. Lettering font specialists Comicraft are renowned for fonts with a distinctive look, which are as easy to use as Times or Helvetica but successfully avoid giving the lettering any mechanical flavour.



Back to life

OLD MACS No, you don't have to throw out your beloved Classic or SE/30. **Llion Weller** explores what you can still do with all those pre-PowerMac models and proves there's life in the old Macs yet!

What can you do with an old Mac? The obvious answer is, of course, everything you're doing with it right now – it will continue to run the same software, using the same operating system version, at the same speed as always. If it does the job for you now, there's absolutely no reason it can't keep doing it. It's only if you want *more* – new software, the latest version of the Mac OS, more bells and whistles or more speed – that its age becomes a problem.

What if you've just bought a new Mac? You've got that nice new iMac or G4 sitting on your desk. It's wickedly fast, it looks great, and you love it. So what about your old, unfashionably beige Mac? There must be something you can do with it. Of course there is! Macs can be useful for many years after they've supposedly become obsolete. Older models such as the Mac II or SE/30 might not be able to run

the latest commercial software, but there's still many years of useful life left in them:

- ❑ Even the earliest Macs provided sterling service as word processors, and they're still fine for that. There are also plenty of good shareware applications that will still run on them.
- ❑ Plug a big hard disk into it, network it up to your new Mac, and use it as a cheap server, particularly if it's got Ethernet.
- ❑ Use it as a dedicated host for old applications or for a device (an old serial-interface scanner, say) that you can't connect to your new USB Mac.
- ❑ Put some basic applications on it and give it to your kids to use for homework or essays, or so they can get the hang of the Mac OS before you let them loose on your iMac.
- ❑ Donate it to your local school, charity or community group – lots of education software is designed

CD Look up the details of your old Mac in *GURU*, or try a simple Web browser suitable for older Macs – you'll find them in the **Old Mac** folder inside the **How-to's** folder on this issue's Cover CD.

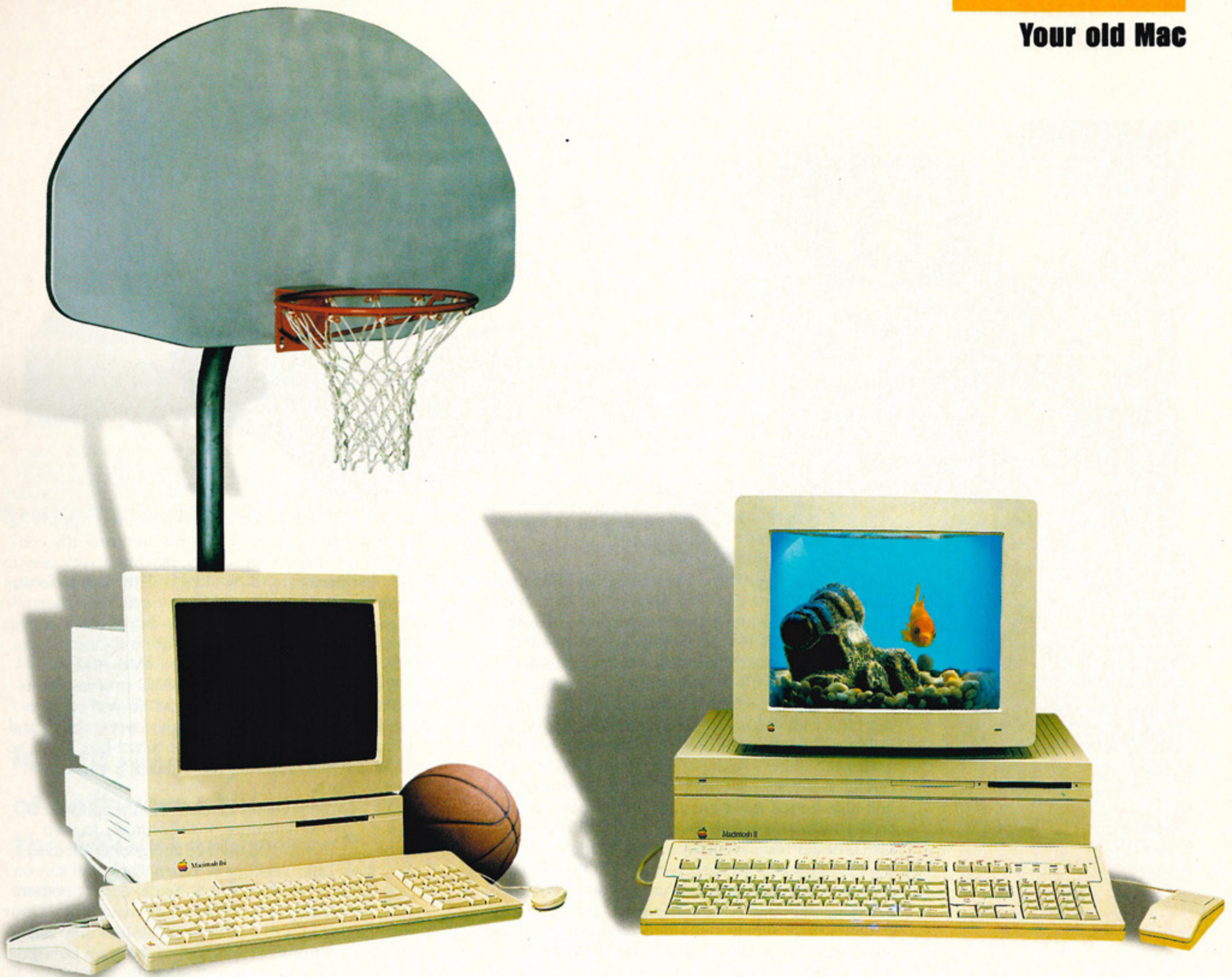


Illustration by Rob Bowen using a Power Macintosh G3/350 and Adobe Photoshop 4.0

to run on more modest setups than (for instance) the latest games demand, though these days most will expect at least a 68030, or possibly a 68040 processor. Almost all software comes on CD-ROM today, but bear in mind that a Mac as old as a Plus can support a CD-ROM drive, so long as it has enough memory to load the necessary CD-ROM driver Extensions and run the software on the CD as well!

❑ Keep it as a backup just in case your new one breaks down – it won't be fast, but it might get you out of a jam.

❑ Keep a Compact Mac in your kitchen and store recipes on it...?

❑ Even if it's dead, you could try recycling your Mac by turning into something useful like an aquarium... but do make sure you disconnect it from the mains before trying anything like that.

Exactly what you can do on *your* old Mac will depend on its specifications. If you aren't sure, look your model up in *GURU* (it's on the Cover CD). This useful little program contains the specifications of all Macs ever made, right up to the blue-and-white G3s.

The amount of RAM and size of the hard disk are important, but what matters most is the processor. Until 1994, when the first PowerMacs appeared, all Macs used one of the 68000 (or "68K") series of processors from Motorola – the 68000, 68020, 68030 or 68040. The higher the number, the newer and more powerful the chip. (There was some overlap between 68K Macs and PowerMacs: Apple continued to use 68K processors until June 1996, when the PowerBook 190 finally went out of production.)

Some entry-level and educational applications still support the 68040, but the number is rapidly dwindling. The Mac OS stopped supporting '040 machines

with the release of Mac OS 8.5, which requires a PowerMac. So what can you do with *your* old Mac?

68000-based Macs

The 68000 was used in the original Macintosh 128K, and continued to be used in many subsequent models up to the PowerBook 100, which went out of production in 1992. Compare the eight-year life-span of the 68000 in the Macintosh to the short life-span of today's processors!

Most Macs which used the 68000 processor were the Compact Macs. These are the originals, with built-in nine-inch black-and-white displays. The earliest in the series, the 128K and 512K, are really too old to be any use. They have unique ports and you can't add a hard drive or upgrade the memory. They are now collector's items, especially in original condition with disks and manuals.

The oldest Mac which can still be usefully employed is the Mac Plus. It was the first Mac to include SCSI and it had 1MB of RAM, upgradable to 4MB. This might sound paltry now, but at the time it was a revolution. The adoption of SCSI by Apple was a masterstroke and enabled users to add hard drives and other peripherals to their Mac with little fuss. There are plenty of Plus machines around, as they were made from 1986 right up until 1990.

The SE and Classic were similar to the Plus, but added support for internal hard drives and the Apple Desktop Bus – the then-new technology for connecting keyboards and mice to the Mac. The Compact Macs still have a great following, with people doing almost anything to breathe life into their old Plus, SE or Classic.

A 68000 machine can still be used for word ▶

Your old Mac



68000 Macs like the Macintosh Plus and Portable might be old, but they can still be useful. Don't give up on them yet!

processing or even basic Internet access. The Compact Macs in particular take up very little room, and their black-and-white screens are crystal clear. Most Plus, Classic and SE machines will have 2 to 4MB of RAM, and a 20-40MB hard drive. These machines have a limit of 4MB RAM, but that is probably enough for a small System and applications. On a machine with 4MB, you can run System 7.1, which is stable and takes up little space. Macs with less than 4MB need to be looking at System 6.0.8. You can run System 7.5.5 on a 4MB 68000 machine, but it will take up too much memory to be of much use.

The most you can realistically expect from a 68000-based machine is word processing. Perhaps the best option is an early version of *ClarisWorks* – version 3 or earlier will run happily on a 68000 machine, although finding a copy might be a bit difficult. Early versions of Microsoft applications will also run, such as *Word 5* and *Excel 4*. However, these need quite a lot of memory and hard-drive space and aren't really recommended.

A good word processor which will run on 68000 Macs is *Nisus Compact*, available to download for free from <http://www.nisus.com/>. This is a remarkably small word-processing package, with plenty of features. It is a mere 1.1MB download, including a dictionary and thesaurus.

Internet applications which will run on the 68000 are scarce. Early versions of *MacWeb* and *Mosaic* will run, but they will be slow and don't understand some of the newer features used in Web pages. Text-only browsing can be achieved with a program called *MacLynx*. Try the Cover CD programs.

68020 based Macs

Apple used the 68020 processor in only two Macs. The first of these was the Macintosh II. At the time, this machine was revolutionary, being the first "open" Mac, with expansion slots, colour graphics capability and no built-in monitor. The '020 chip was backed up with a 68881 Floating Point Unit, and a full 32-bit bus. The Mac II featured an amazing six

expansion slots, which used Apple's 32-bit NuBus technology. The cards automatically configured themselves on startup, making it very easy to add new hardware to the Mac II. The huge case was easily opened to add expansion cards and other upgrades, a complete contrast to the closed Compact Macs. The Mac II can however use only the older 800K floppy disks, not the later 1.4MB kind.

The second Mac to use the 68020 processor was the LC, a low-cost Mac which had several compromises in its design. It was designed to be cheap and affordable. It came in a slimline "pizza-box" case, so it had very limited room for expansion and a RAM limit of 10MB.

The 68020 machines can run more applications than the 68000 machines, mainly thanks to their Color QuickDraw capabilities and greater memory capacities. Later versions of *ClarisWorks* will run on these, such as version 4 or 5. Again, *Nisus Compact* is a good word processor for these Macs. The colour capabilities of these machines mean that they can run early versions of *Netscape*, so they can be used for Internet access, although it will be slow.

68030 based Macs

The 68030 was a significant step forward for the 68K line, with improved performance and the ability to use virtual memory. The 68030 was used in Macs ranging from the Classic-styled SE/30 and Classic II to the 40MHz IIx. Apart from the original Mac II, all II-series machines used the 68030 processor, as did several LC and 500 series all-in-one machines. The Mac II range were workstation machines, most with expansion slots and plenty of processing power. The LC range was designed as low-cost home machines, and some were intentionally "crippled" to prevent them competing with other, more expensive models. Most of the LC range lacked any form of expansion, except for a special "LC-slot" or PDS slot. The 500 series machines were basically LCs with an all-in-one design, featuring a built-in 14-inch monitor.

Most 68030 Macs will have 8MB RAM, possibly more. Most can easily be expanded beyond this. Some 68030 Macs also came with an FPU, while on others it was an option. Some, like PowerBooks,

Connecting old to new

If you've got your older Mac doing something useful, you might need to get data from the older Mac to your newer one. The most obvious way is to use a floppy disk to copy the data across. But there are some problems. Older Macs used 400K and then 800K disk drives, and some newer drives can't read these. To be exact, if you have a beige PowerMac running Mac OS 8.0 or later, you will not be able to access 400K or 800K disks.

Later Macs had a more advanced disk drive called a Superdrive, capable of storing 1.4MB on a disk. However, if you own a newer USB Mac, you won't have a floppy disk drive. USB disk drives are

also unable to read 400K and 800K disks. If the older Mac has a 1.4MB Superdrive, then the disks can be read on newer Macs either with internal floppy drives or USB external floppy drives.

A much more convenient way to link an older Mac to a Power Mac is via Ethernet networking. Some 68040 Macs and PowerBooks had Ethernet built-in. Once you have connected it up, you can easily use File-sharing to transfer files between the two machines.

Otherwise, all serial Macs are networkable using the serial ports, via LocalTalk. LocalTalk is an old Mac networking standard, which is very easy to set up and use. However, it is slow. LocalTalk can transfer data at up to 230Kbits/s, but usually transfers at much slower speeds than this.

How can this be used to connect old and new Macs? LocalTalk and Ethernet aren't compatible. Or are they? Farallon makes a device called the EtherWave, which acts as a bridge between a LocalTalk device and an Ethernet network. This is the easiest way of connecting newer and older Macs, since it lets you have a permanent connection between the two machines. (If you only have the two machines, a cross-over cable will also be necessary to go between the newer Mac and the EtherWave device.) This might not be as fast as true Ethernet, but it makes up in convenience where it lacks in speed. The only problem is cash – EtherWave costs nearly £200, a lot to spend on an old Mac. For more info on Farallon devices, contact Softline Distribution on 01372 726333.



didn't even have an optional FPU. Older 68030 Macs have ROMs that aren't "32-bit-clean" (they contain some 16-bit code), so they can only run up to System 7.5.5. Newer '030 Macs can run up to Mac OS 7.6.1, which needs at least 12MB to run well.

These Macs can run quite recent versions of applications. *ClarisWorks 4* or *5* will run well on these

“Until recently, quite a lot of software still supported the 68040 processor”

machines. A good word processor suitable for use on 68030 Macs is *Nisus Writer 4.1.6*, available for free from <http://www.nisus.com/>.

68030 Macs can run *Netscape Communicator*, but it is slow and takes up lots of memory. If you are determined to browse the Internet on a 68030 Mac, a smaller browser like *iCab* (<http://www.icab.de>) is more suitable. For a more minimalist view of the web, *WannaBE* offers a text only view, ignoring all graphics. *WannaBE* is on the Cover CD, or check for the latest version at <http://mindstory.com/wb2/>.

68040/68LC040 based Macs

The 68040 was a great advance in the 68K series. It offered a built-in FPU, and a 25MHz 68040 machine outperformed a 40MHz 68030 machine. The 68040 was used in the Centris and Quadra ranges, and later models of the 500 series all-in-one machines.

There was also a cut-down version of the 68040 known as the 68LC040. This had no FPU, and used less power. It was used in the PowerBook 500 and 190 ranges, and some desktop Performa series. LC040 machines are incapable of running anything which needs an FPU (3D graphics, mainly). Later Macs which used the '040 had their clock speeds

doubled so the computer would be running at 33MHz while the processor would be running at 66MHz. This gave improved performance while bypassing the limitations of the bus and memory of the time. Although Motorola followed the 68040 with considerably more powerful 68060, Apple did not use it in any of its machines, instead switching to the PowerPC line. Apple stopped supporting the 68040 when it released Mac OS 8.5, which requires a PowerPC processor to run. (If you have an older Mac that is simply incapable of running the latest Mac OS versions, Apple hasn't abandoned you: you *can* still buy 8.1 if you ask your friendly local Apple dealer nicely.)

Until recently, quite a lot of software still supported the 68040, though fewer and fewer new applications do. 68040 machines can run recent versions of applications such as *Claris Works* and *Microsoft Word*. Most will have 4-12MB RAM, but some will have more. *Netscape Communicator* will run reasonably well on this, but will be slow. Earlier versions of *Netscape* will run well on these Macs.

PowerBooks

Only three portable Macs ever used the original 68000 processor. The Macintosh Portable was quite a powerful machine, but was unpopular because of its large size and weight. It also cost a lot, thanks to the active matrix display. Plus points included the 16MHz processor, maximum memory limit of 9MB, the very clear active-matrix display and superb keyboard. It came in two versions, the second of which had a backlit display

The Macintosh II and LC were the only Macs to use the 68020. The Mac II was a real Power User's machine in 1987, while the LC was a budget machine, released in 1990.



The Compact Macs had a small case, with an equally compact footprint and a tiny nine-inch black-and-white display. The SE/30 on the left was the most powerful of the Compact Macs, with a 68030 and up to 128MB of RAM. The Colour Classic on the right brought colour to the Compact Mac design, with a restyled case and an excellent ten-inch colour Trinitron screen.



An older PowerBook such as this can make a cheap mobile companion to your modern Macintosh.



Web resources

MacFormat's Reader Ads are a great place to find or sell old Macs, software and parts. By far the deepest resource for the older Mac is the Internet. Here are some sites where you can find out how to keep your older Mac running and useful.

<http://www.lowendmac.com/>

Visit Low End Mac for information about every Mac ever made, along with links to software and information.

<http://asu.info.apple.com/>

Apple's software support site. Here you can search for and download System 6.0.8, 7.0.1 and 7.5.3 for older Macs.

<http://www.pure-mac.com/>

A vast software site, with plenty of shareware and free-ware for download, much of which supports older Macs.

<http://www.nisus.com/>

Nisus offers the amazingly small *Nisus Compact* word processor, available for download free from this Web site! The download is a mere 1.1MB, complete with dictionary and thesaurus.

and other minor tweaks. The PowerBook 100 was the first "true" PowerBook, though, and set the standard for all portable Macs to come. It was actually built by Sony, who took the Portable and refined it into a lightweight, stylish laptop.

The 140 and 170 were released not long after the 100, and featured the 68030 processor. They offered more power than the 100, but still had only mono screens. The 160 and 180 replaced these models, with greyscale screens, built-in microphones and other enhancements. The 68030 was also used in the PowerBook 150, a final update to the 140 model.

There was also a range of 200-series PowerBooks called Duos, which were sub-notebook style machines. They had no standard ports, and needed to be connected to a Dock to use peripherals. Their light weight and power means they are still desirable machines, even today. The range went on to include faster 68040 based Duos and colour screens.

The first PowerBooks to use the 68040 processor were the revolutionary 500 series. They offered built-in Ethernet networking, stereo speakers in the lid, dual-battery capability, a full keyboard with Function keys, and even 16-bit colour. There were two main models, the 520 and 540, both available in greyscale and colour versions. The PowerBook 190 used the 68040 in a new case, and provided two PC Card slots for expansion.

One feature shared by almost all PowerBooks is "SCSI Disk Mode". If you link one to a SCSI desktop

<http://www.nd.edu/~jvanderk/sysone/>

For people with newer Macs, the first-ever version of the Mac OS we know and love today can be a bit of a culture shock. This page explains it all.

<http://www.xs4all.nl/~rdingema/html/system6.html>

Ruud Dingemans from the Netherlands explains exactly why you should be running System 6 on your older Mac.

<http://www.eden.com/~arena/jagshouse/jagshouseone.html>

Jag's House is a superb site containing vast amounts of information and software, mostly dealing with the original Compact Macs. It also has a complete guide to getting a 68000 Mac on the Web. (Er, which of course you'll already need to be online to access...)

<http://www.applefritter.com/>

Apple Fritter, a collection of Apple II and Macintosh oddities. How do you build a working Mac from Lego? Find out here!

<http://macplus.schoolvision.com/>

Would you believe a Web site actually hosted on a Macintosh Plus? Well, here it is, and it works!

Mac using a special cable connected to the PowerBook's SCSI port, the PowerBook pretends to be a standard SCSI hard drive – it appears on the desktop machine's Desktop just like an external volume. This makes it very easy to transfer files and data to and from the PowerBook. This feature was introduced on the PowerBook 100, but not the 140 and 170, which were released at the same time. It reappeared on the 160 and 180 models, and it can be found on all PowerBooks right up to the latest G3 models.

In terms of performance, PowerBooks mostly have the same capabilities and limitations as their desktop counterparts. The areas which can matter are the screens and keyboards. The mono screens used in the earliest PowerBooks were prone to odd artifacts appearing on them, but the later greyscale and colour screens on later PowerBooks were mostly very good. One feature which is useful on greyscale PowerBooks is the ability to turn off the backlight in good lighting conditions. This can save a considerable amount of battery power.

PowerBooks have of course one major advantage: portability. If you only need to use a simple word processor on the move, then you can manage with an old PowerBook. One thing to bear in mind is that the batteries on older PowerBooks have often become unusable due to their age. But even if you have to plug it in, it is still useful to have a machine which you can easily pick up and take with you.

Upgrade?

Whether it is worth spending money on upgrading an older Mac is open to debate. But Apple's adoption of new standards means older parts can be bought cheaply. By today's standards, a one-gigabyte SCSI hard drive is peanuts. But for an older Mac, it can be vast compared to what the Mac originally shipped with. Other devices like external 2x CD-ROM drives can be picked up equally cheaply. SCSI has changed little since its introduction on the Macintosh Plus, and so you can connect modern hard drives to almost any old Mac.

Macs with NuBus slots are at an advantage. NuBus cards for older Macs can be a problem to get hold of, but they can add facilities such as Ethernet and video, making

your older Mac more useful.

How easy it is to get into a Mac varies wildly between models. Macs with expansion slots like the Mac II and Quadra ranges are generally very easy to open up. Upgrading these machines is usually a doddle. "Closed" Macs like the Compact Macs are usually a nightmare. They need special tools to open the case and, once you are inside, there is major risk from components like the CRT and power supplies. Definitely not a job for the faint-hearted or technically inexperienced.

The best way to get old Mac parts is to advertise in our Reader Ads pages, or phone around Mac dealers, since they might have obsolete parts lying around. Quite often, they will be glad to get rid of them. But with new Macs so cheap, the question always has to be: is the cost of upgrading worth it?



68040 Macs such as these are still very usable. As long as you don't want to run *Quake III*, they can still fulfil most needs

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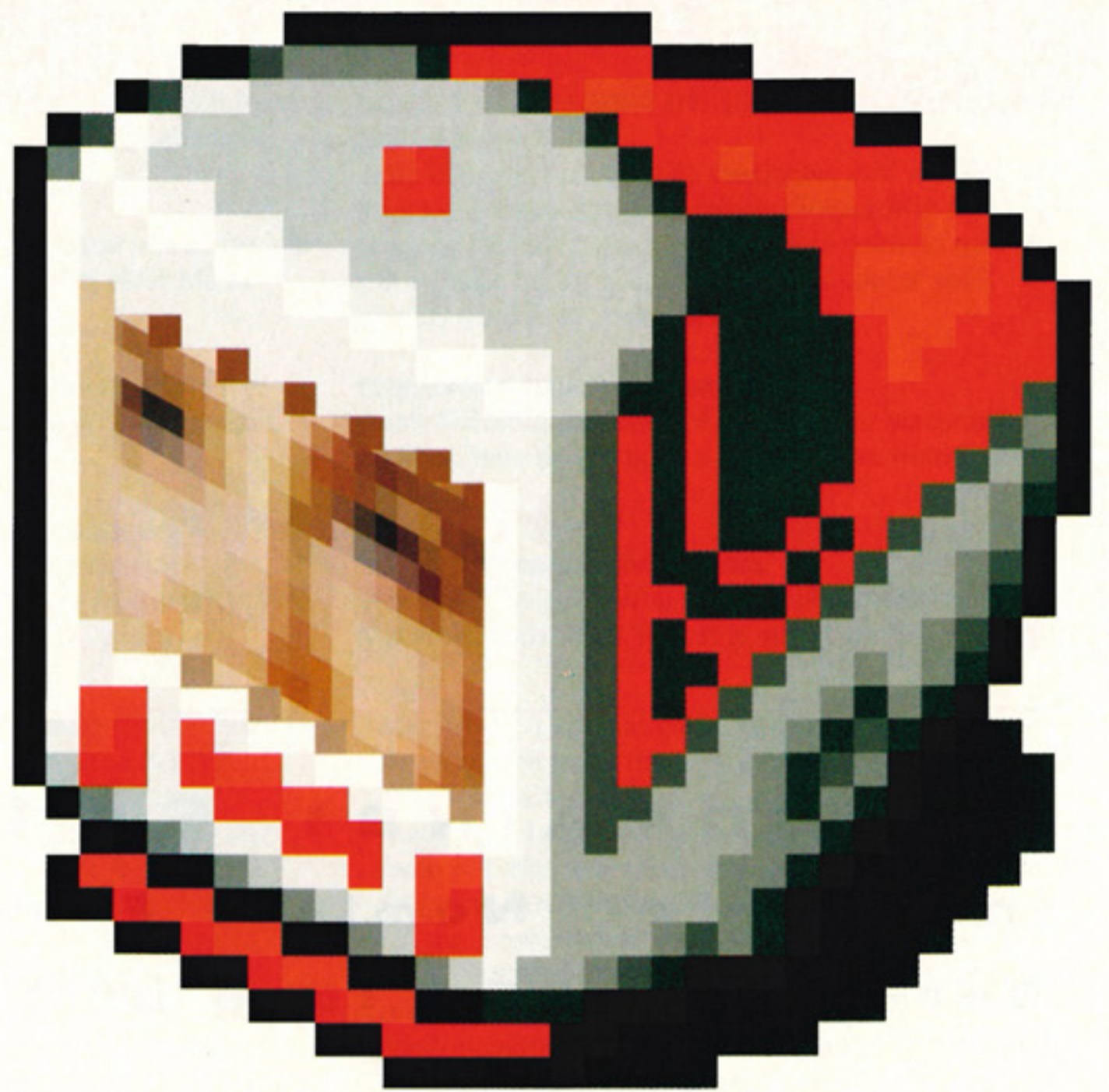
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Howto...

Personalise the Finder this page
Get started with CorelDraw 8 LE page 42
AppleWorks spreadsheets page 44
Get more from the Internet page 46
Your problems solved page 48



Have it your way

MAC OS TIPS Your Mac is the most personal of computers, and you can customise far more than just the Desktop pattern. The MacFormat team show you how to set up the Finder to suit the way you work, and reveal some clever tricks and hidden options...

When your Mac's started up, what you're looking at – the screen with icons all over it and the Wastebasket in the bottom right corner – is the Desktop, right? So why does it say "Finder" at the top right, in the menu bar? In fact, the Finder is one of the most important pieces of software on your Mac: it generates that familiar graphical interface and enables all the functions you use on the Desktop. Without it, you wouldn't be able to double-click to load applications or files – and a lot more besides.

Although the Finder looks like an integral part of the Mac OS, it is in fact merely an application (though admittedly a special one, and one that normally continues running in the background when you're working with anything else). Once the Mac OS finishes loading at startup, it loads the Finder, which then presents you with the familiar Macintosh interface. In other words, when you do anything at Desktop level you're working with the Finder more than with the Mac OS.

Why is this important? Well, the Finder,

like every other application, offers built-in shortcuts or alternative ways of working. Like every other application, the Finder can be configured to suit your preferences and working habits. For example, you might prefer to have tabbed folders at the bottom of your screen for easy access to your files, while someone else might prefer having aliases on the Desktop. Some people like to double-click on a file to open it, others prefer to drag a file onto the application they want to open it with. Some can't get on with double-clicking at all and prefer using Button view, so all they need to do is single-click.

Beyond that, the way the Finder is set up can have a huge effect on how you use your Mac. If you have to hunt through your hard drive for the applications and files that you want to use, for example, it can eat into your working time. Far better to use the Recent Documents shortcut in the Apple menu, or an alias on the Desktop, or any of several such options. The Finder has many ways that it can be configured, to make it both easier and more efficient to use.

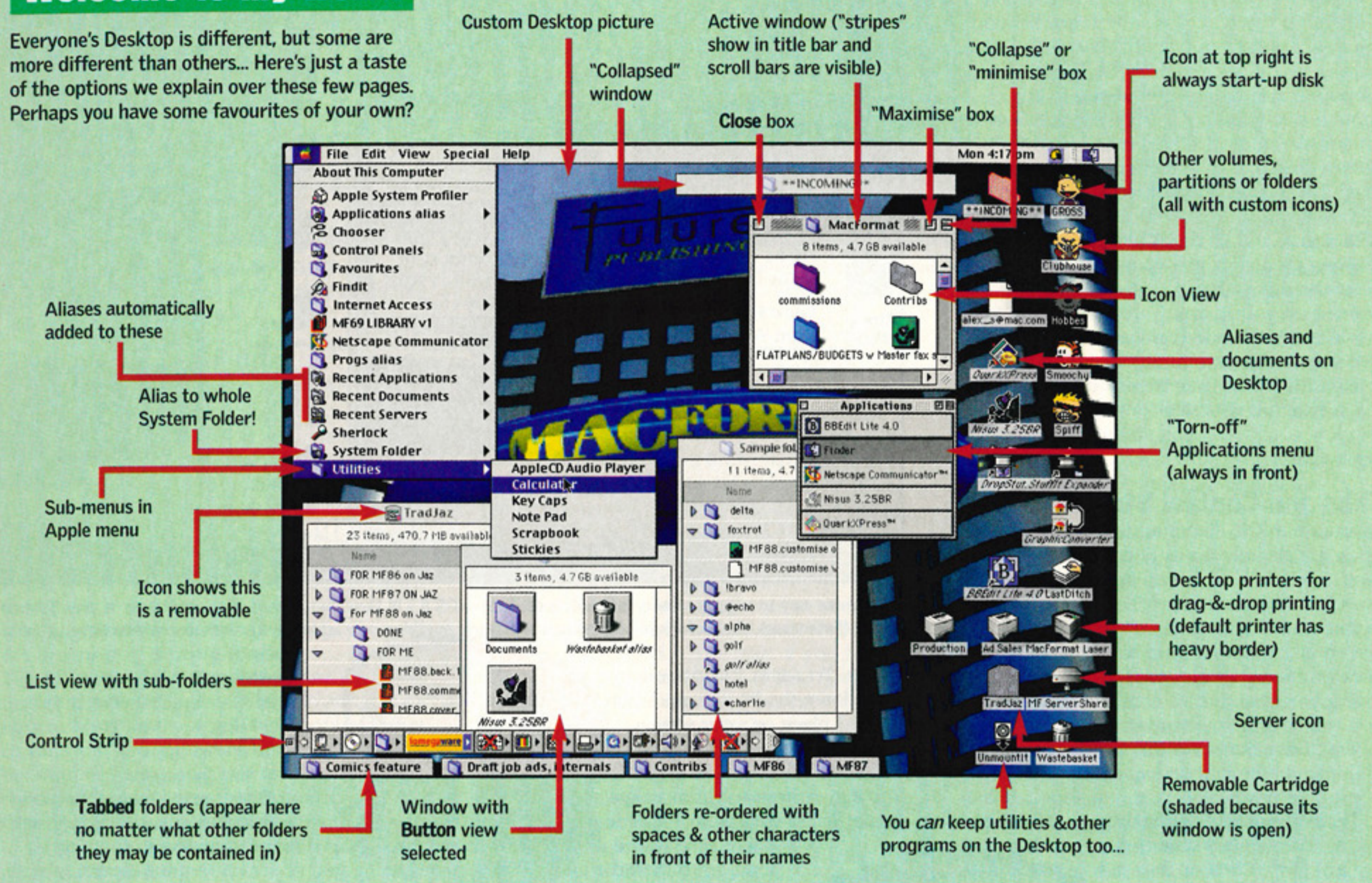
Here we'll explain some of your options, suggest ways to make using the Finder both easier and more efficient, and reveal some of the more obscure features that you might not have discovered. We'll also look at the latest version of the operating system, Mac OS 9, which has extra features for multiple users of one Mac. With this enabled, you can set up the same Mac in several very different ways, so that everyone in the family (for instance) can use the Mac in their own favourite way.

Using the Apple menu

The Finder gives you lots of options to make it easier to get to the files and applications you need. One of the most accessible places to put commonly-used applications is the Apple menu. Since the Apple menu remains the same no matter what application you are in, you can quickly start up a new application without having to go back to the Finder. How do you make items appear in the Apple menu? Inside your System Folder, there is a folder called **Apple Menu Items**. Anything you put in this folder will appear in the

Welcome to my world

Everyone's Desktop is different, but some are more different than others... Here's just a taste of the options we explain over these few pages. Perhaps you have some favourites of your own?



Apple menu – applications, folders, files, you name it.

The items will appear in alphabetical order, and this can't be changed. However, if there is an item that you want to appear at the top, you can put a space at the beginning of its name (in the Mac alphabet, a space comes before any letter). If you want to customise the order still further, you can use other non-alphabetical characters instead of just a space – try the punctuation marks along the top of your keyboard (⇧ plus the number keys). To sort items *after* the alphabet, experiment with the other non-alphabetical characters scattered around the keyboard, or ~-characters.

Using lots of bizarre characters, however, can make things *more* confusing, so a good alternative is to use more than one space at the start of items' names: anything starting with two spaces comes before items starting with one; anything starting with three comes before items starting with two, and so on.

If you really want to organise your Apple menu, you can even add "separator lines" between groups of related items (applications and documents, for instance): just create a folder in the Apple Menu Items folder and type in a row of hyphens or underscore characters as its name, with the appropriate number of spaces at its start!

By this stage, your Apple menu might be getting a bit crowded. So here's a useful feature: so long as you have switched the **Submenus** option on in the **Apple Menu Options** Control Panel, you can access items contained within folders within the Apple menu. This means you can group programs in an Applications folder, organise utilities inside a sub-folder within that, and so on.

It's best to use aliases of items to do all this, rather than place the entire contents of

your hard disk in folders within folders within your Apple menu – but you can even place an alias of your System Folder, or your hard disk, in the Apple menu for quick access to almost anything anywhere.

The Apple menu also contains sub-menus which automatically record the last few applications and documents you used, so you can easily resume work on a particular document without having to locate it again. You can set how many recently-used items are recorded using the **Apple Menu Options** Control Panel, which you can access by selecting **Control Panels** in – you guessed it – the Apple menu.

Making the most of aliases

The one problem with using the Apple menu like this is if you like to drag-and-drop. Drag-and-drop is an excellent alternative to double-clicking if, for instance, you like to open files using a different application from the one which created them. (This is useful if, say, you don't have the creator application on your Mac, or if you've got a Web page and want to edit it in a text editor rather than open it in your browser.) The problem is, the Apple menu doesn't pop open if you drag an item over the menu bar.

Unfortunately, it isn't a good idea to keep applications on your Desktop – not only does it clutter things up, but some applications aren't happy unless they stay in their own folders (or at least in the same folder as their support files, plug-ins folder, and so on). However, you can leave your appli-

cations where they are and place aliases of them on the Desktop.

Aliases are files which represent the original and "point to" it – double-click on an alias and the original launches; drag-and-drop files onto a folder alias and they're moved to the original; drop a document on an application and it opens it. You can make an alias of a file or folder by selecting it (clicking once on it) and pressing ⌘ M. You can distinguish aliases from their originals by their names: even if you've chosen a new font for the standard display, alias names are always in italics. In Mac OS 8.5 and newer, alias icons also have a little arrow at the bottom left.

Aliases are a convenient way of having frequently-used applications on your Desktop, ready to drag-and-drop files on – and it's particularly useful for utilities that are designed to work that way, such as *StuffIt Expander* (which automatically decompresses archives dropped on it) or *DropStuff* (which does the opposite).

Spring-loaded folders

In Mac OS 8.0 and later, you can even drag items into folders that aren't visible, thanks to spring-loaded folders. Drag a file over a folder's icon and hold it there, and after a

second or so, the folder will spring open. Without releasing the mouse button, move your file over another folder within this new window and *that* will spring open. You can keep going in this way right down your folder hierarchy, which enables you to get to a folder deep in your hard drive without having to double-click hundreds of times. ▶



Work Smarter

How to...

This means spring-loaded folders are a very useful feature, but it can be annoying to hold a file over the folder, waiting for it to open. So here's a shortcut: press the spacebar, and the folder will open immediately.

In fact, you don't need to be dragging a file to use spring-loaded folders. If you "double-click and hold" (that is, click once on a folder, then click again and hold the button down), the pointer turns into a little magnifying glass. Any folder you then hold this over will spring open, and any folder within that, and so on. When you have reached the folder you wanted, you can let go of the mouse button. Any folders you opened on your journey are closed, and you are left with the one you wanted. If you decide you didn't want any after all, don't release the mouse button: just drag the magnifying glass pointer out of the opened window completely and all the folders will close again.

Tabs and Control Strips

If you are in the Finder and have a window open, try clicking on its title bar, keeping the mouse button held down, and dragging it all the way to the bottom of the screen. It will become a little tab at the bottom of the screen, like an index card tab. If you then click on the tab, the window will pop up, giving you access to its contents. This means you can have many windows open without having them clutter up the screen. You can drag files to the tabbed window and it will pop up automatically.

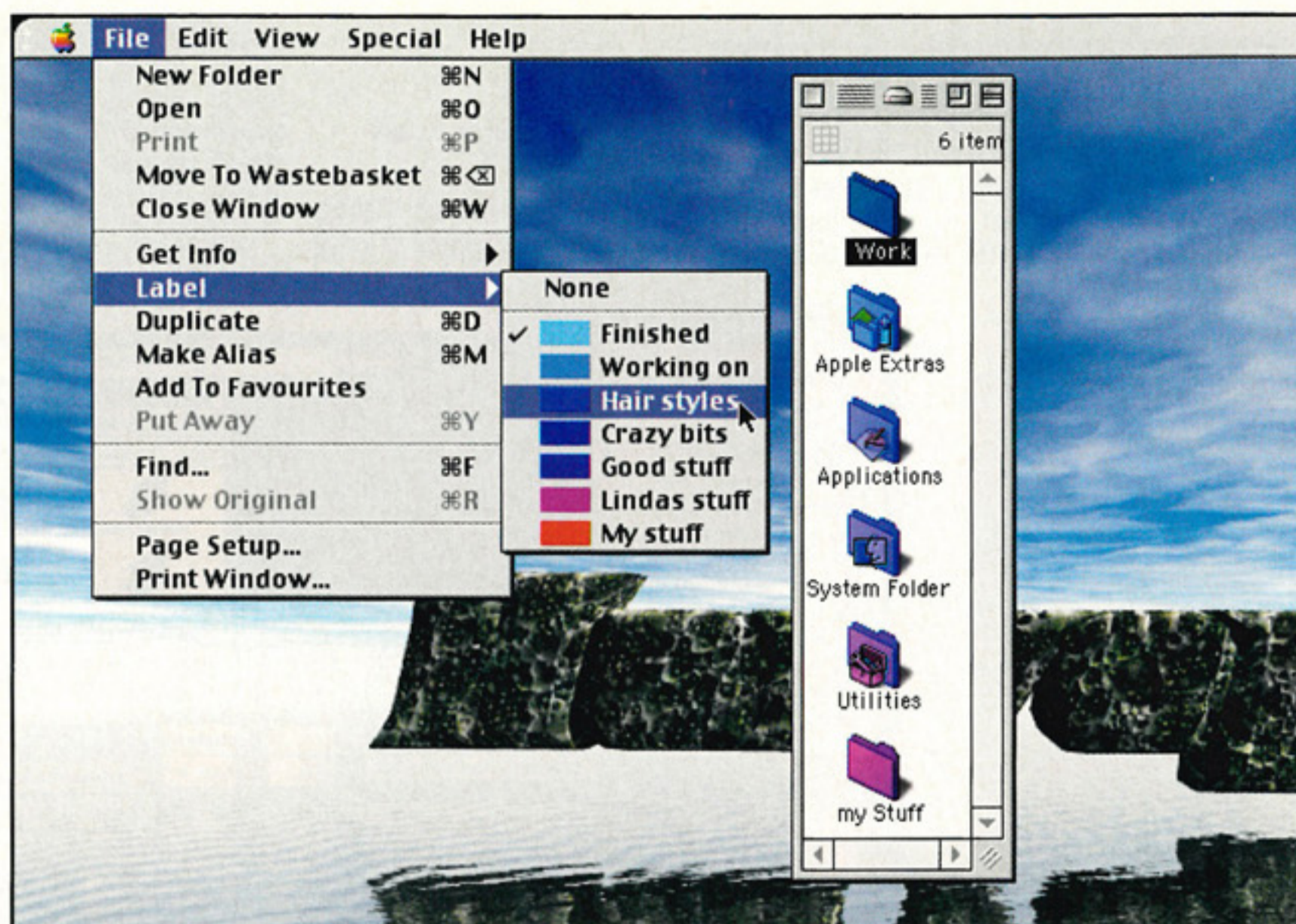
There's another useful tab you might find on the side of your screen: the Control Strip. Click on it or drag it out, and you'll see various icons. These don't represent files or folders, but instead enable you to adjust various settings on your Mac – usually settings which would normally be found in a Control Panel, such as the monitor resolution and colour depth, speaker volume, Audio CD Player, and others. You can customise the Control Strip by adding and removing "modules" in the **Control Strip Modules** folder inside the System Folder.

(Unfortunately, modules have to be specially written – you can't just add your own).

To configure aspects of the Control Strip, there is the **Control Strip** Control Panel, which enables you to select whether the Control Strip is shown or hidden, change the font used in it, and even set a "hot key" you can use to pop it open at a keystroke. You might not realise it, but the Control Strip can be placed on either side of the screen, at any



Work Faster



One simple way to organise items is Labels (before Mac OS 8.1 in their own menu). Tip: label items in your System Folder (Extensions, etc) before you install new software; anything new added by the installer will be easy to spot.

height. To adjust its position, you need to hold down the \mathcal{C} key, and then drag it to the desired place on your screen.

Customising the Finder

You can customise various aspects of the Finder using the Finder Preferences dialogue box: make sure you're in the Finder, then go to the **Edit** menu and select **Preferences**. In Mac OS 8.0 and 8.1, all the information is in one place. In Mac OS 8.5 and later, the dialogue is divided into separate screens that you access using three tabs.

The General tab is where you can select options such as the Spring Loaded folder delay and Grid Spacing – that is, how close together the icons on the Desktop are put by default. We'll look at the third option in a moment.

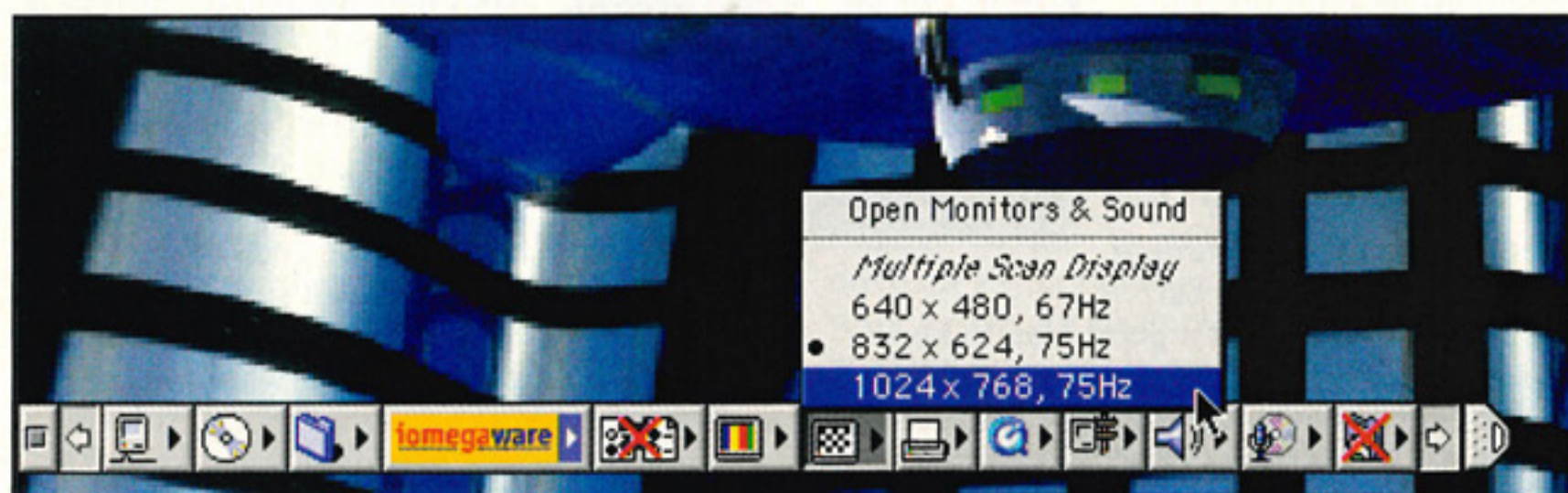
Inside the Views tab, you can set the options for the various modes in which the Finder can display information. You can change the characteristics for each of the Finder's main views – Icons, Buttons and Lists. You can set things like icon size, for example – but if you've got your icons arranged just as you like them, beware: click on any of the options here ("Keep arranged by Name", for instance) and it will instantly take effect, moving all your icons about –

and this can't be undone. All you can do is switch this off again and painstakingly put your Desktop back the way you had it.

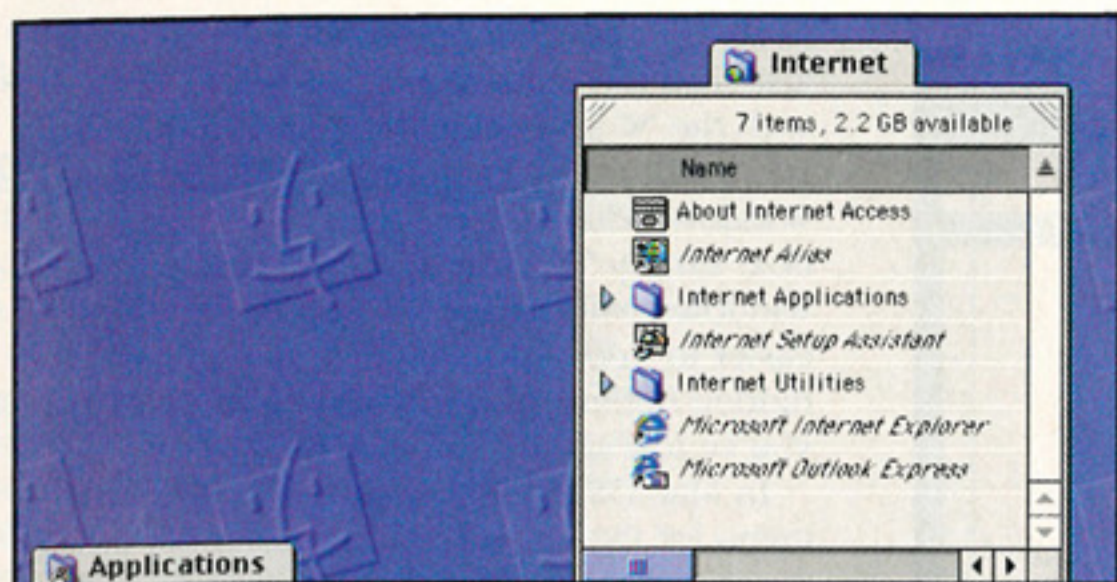
In the "Standard View Options" for Icon view, you can set whether icons "snap to grid" by default. This means that when you move icons roughly into line, they'll pop into the right position (according to the Grid Spacing you've set under the General tab). If you don't want this to happen in a particular instance, hold down the \mathcal{C} key as you release the mouse button; if you subsequently want to tidy things up, you can always use the **Clean Up** command in the **View** menu to automatically arrange the icons in the currently selected window. (If you've set "snap to grid" off by default, holding down \mathcal{C} activates it for that moment).

Also under the Views tab, in the settings for List view, you can decide whether or not to have "folder sizes" calculated. This means that when you view a window in list form with the Size column showing, you should see how many kilobytes (or megabytes) each folder takes up; otherwise, you normally see only the size of files, not folders. Be careful of this option: if you have a lot of files inside these folders, it can take even the fastest Mac a few seconds to add up the total size of each one, and this slows down the window display. You might find that your Mac starts feeling perceptibly sluggish, because the processor is wasting all that time each time you open a window. If you find you need to know things like folder size or any other of the options here, you can always set view options for specific folders one by one: open the folder, go to the **View** menu and you can not only choose whether to view its contents as icons, as buttons, or in a list, but you can also go to the bottom of the menu and set **View Options** for that window individually.

The last tab in the Finder Preferences dialogue is the **Labels** tab. This is where you define the Labels you can apply to files and folders to help organise them. There's a default set, but these can be customised if you want to create your own set – you can change the names of the labels or the colours (click on any of the colours and the Colour Picker pops up). However, we don't know how to create more than seven labels.



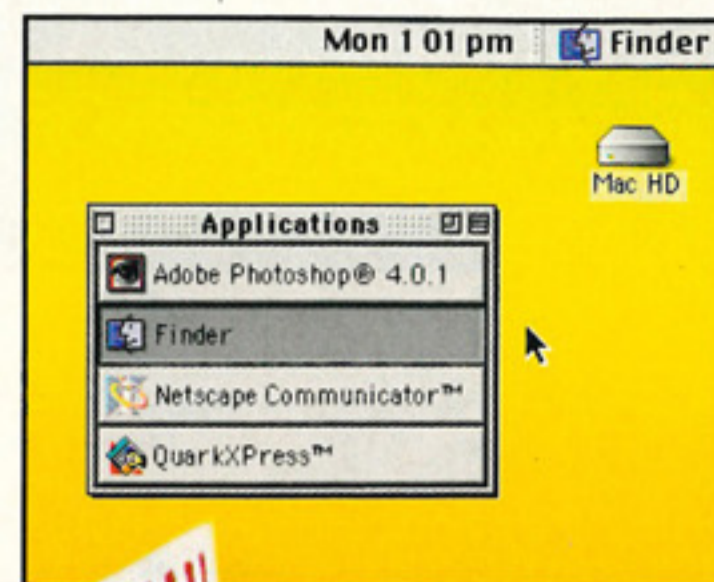
The pop-out Control Strip gives you easy access to various settings. Third-parties can add controls for their software (like Iomega here) by providing a module to go in the Control Strip Modules folder in your System Folder.



Tabbed folders provide a neat way of keeping things to hand but out of the way till you need them – click on the tab and they just pop up.



Where have all your options gone? Your Mac's been set to Simple Finder!



Why bother mousing right to the top of the screen to switch applications? Bring 'em to you!

Simplifying the Finder

Does all this sound horribly daunting? In Mac OS 8 and later, there is an option which enables you to “remove” several commands from the Finder, leaving only the essentials behind. Called “Simple Finder”, it removes commands from the menus which could be hazardous, such as the **Erase Disk** option. You can turn on the Simple Finder option by going to the **Edit** menu (make sure you're in the Finder, not in any other application), selecting **Preferences**, and clicking the box next to **Simple Finder**. This is a good way of making sure that someone (such as children, rampaging Windows users, etc) can learn to use the Finder without inadvertently doing any damage. It can also be useful for experienced users who just want to simplify the menus so they can get around quicker.

There is also a setting which makes the files and folders on the Finder appear as buttons. These need only one click to open, which can be easier for novice users to get used to. Those who are used to double-clicking, though, may find it annoying. Another problem with them is that they can't be drag-and-dropped. The buttons are larger than standard icons, so take up more room, but the visually impaired might find them easier to decipher.



Work Smarter

of each one to display its contents. You can now \uparrow -select any visible items, even if they're inside different folders!

Of course, sometimes List view won't be what you want. Fortunately, you can set windows to different views individually, whatever your default setting (and don't overlook the individual window settings under **View Options** in the **View** menu).

Can't see quite enough of a window's contents? No need to maximise the window and block out everything else, or even fiddle about with the scroll bars: under Mac OS 8.5 or later, if you hold down the \mathcal{H} key and click in the window (not *on* any of its contents, but in some “vacant” space), the pointer changes to a little “grabber hand” with which you can “move around” as if you were using the scroll bars.

The \mathcal{H} key has another useful function: hold it down and click on the name of an open window (in its title bar). If the window is the currently active one (the one with its title bar “stripes” and scroll bars showing) this gives you a little pop-up display of the folder hierarchy it's sitting inside, which you can use as a shortcut to any level you want to go to – just release the mouse button when the one you want is highlighted. If you hold down the \mathcal{H} key and

click on a window that *isn't* currently active, you can move it without making it active – invaluable if you need to move it out of the way, for instance, without deselecting items you've already highlighted.

Another useful trick when you're moving items: if you're dropping several items (especially if they're from different source folders) into a window that is *not* set to “snap to grid” in icon view, you could end up with a whole clump of items on top of each other. To avoid this, simply hold down the \mathcal{H} key before you let go of the mouse button and they'll automatically snap into line.

If you're dropping items into a window with List view selected, it can be quite tricky not to end up accidentally putting items within the folders *inside* the window. The easy solution: instead of dragging the items into the open window, drop them on its title bar (or the header which displays the number of items in it, or the scroll bars – anywhere, really, that isn't inside the window). Your items will be put loose in the folder!

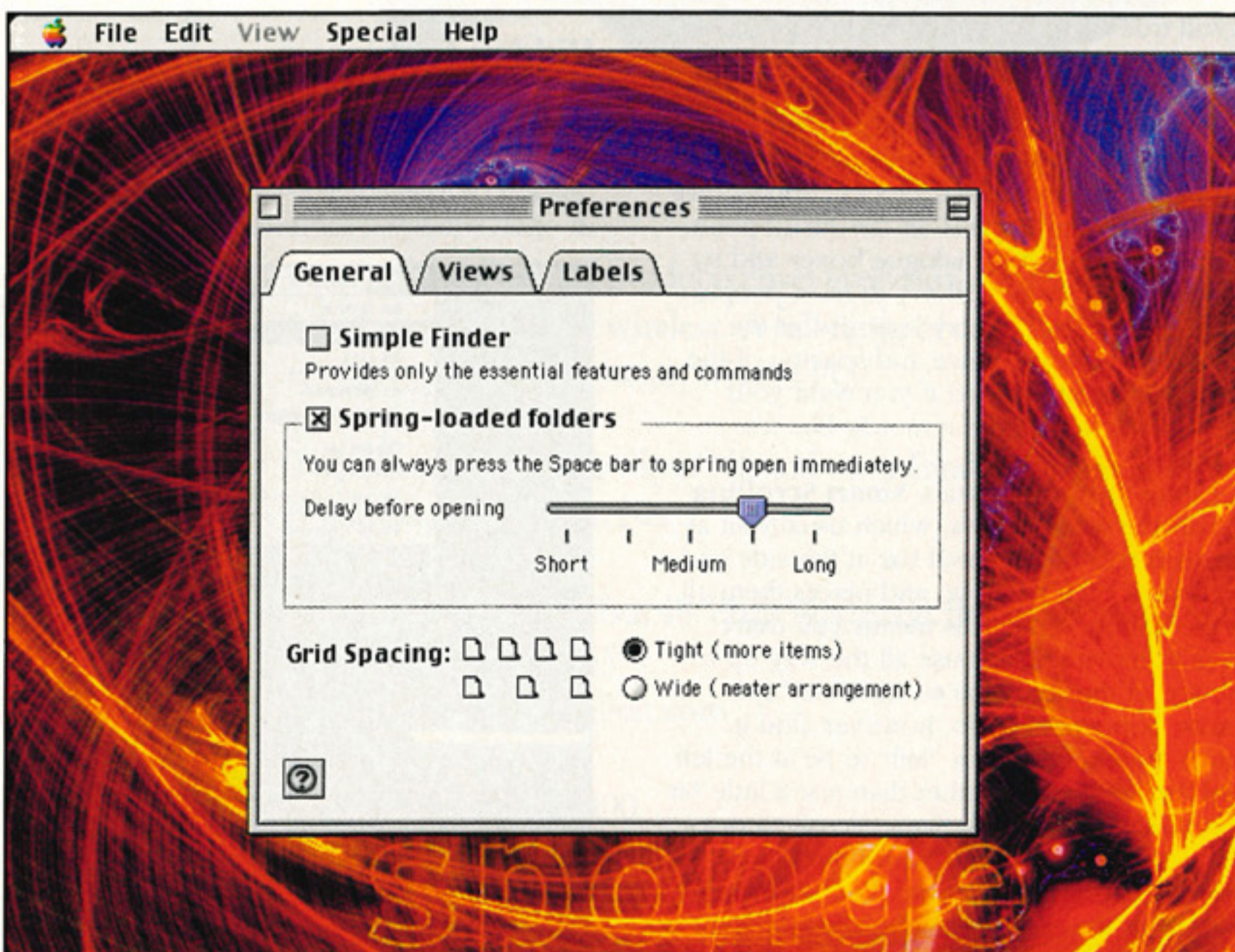
Personal touches

We're not really talking here about customising just the look of your Desktop, but of course you have lots of options in this regard – particularly in Mac OS 8.5 and newer through the **Appearance** Control Panel. This enables you to change the Desktop pattern, the fonts used for displaying text in the Finder, highlight colours and other

Managing items

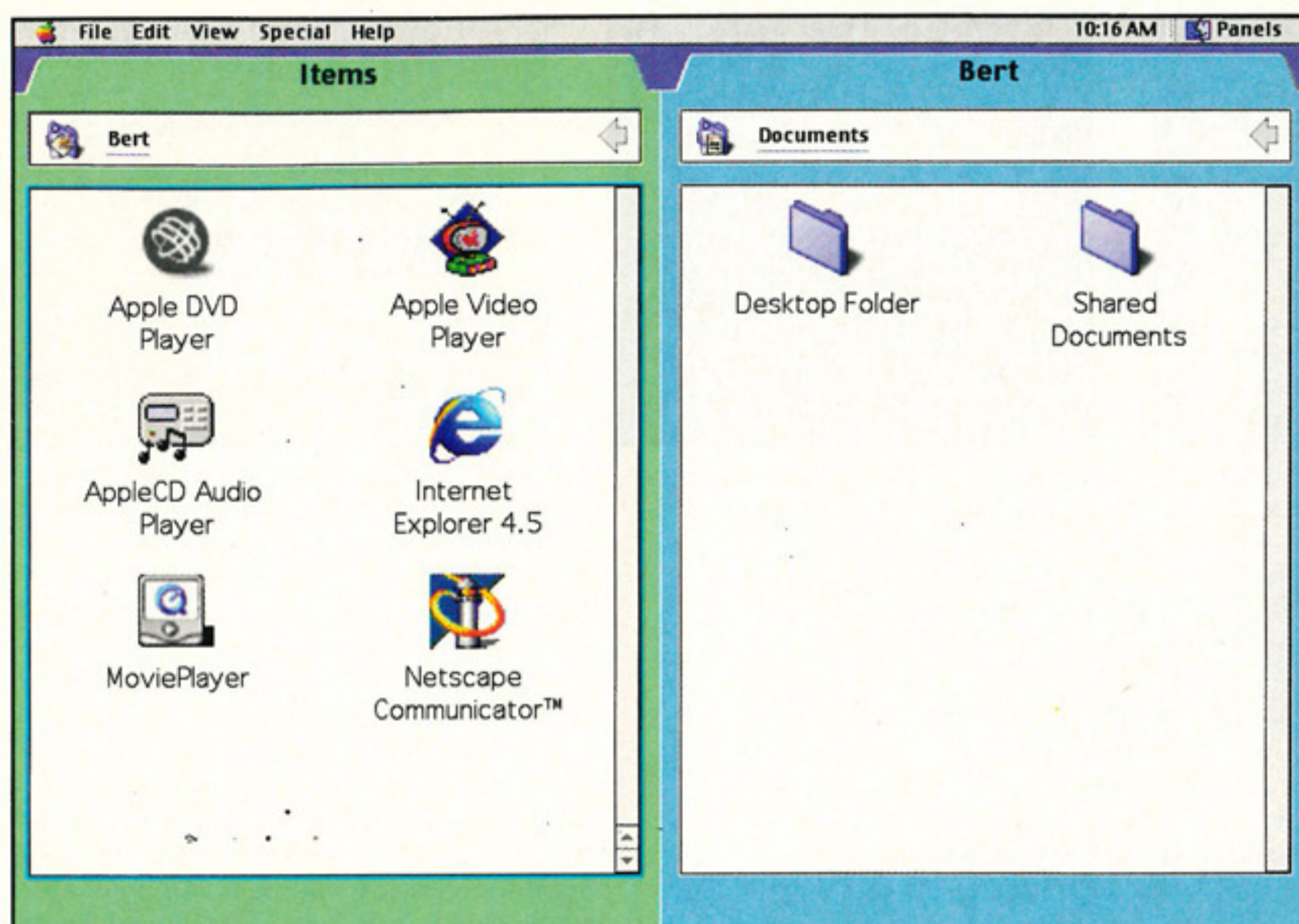
Navigating around the Finder isn't difficult – just double-click on the item you want to launch or open. To move it, single-click and drag it around with the mouse button held down. To copy it, hold the \mathcal{C} key down first, then click and drag (though dragging from one “volume” to another – say, from a CD-ROM or filesaver to your own hard disk – copies rather than moves by default). To select several items, you can hold down the \mathcal{S} (Shift) key as you click on the second and subsequent items – or alternatively, you can draw a box around the items you want: simply click and hold in a blank area of the Desktop near the items and drag; any item that falls within the outlined box this creates will be selected. You can combine the two methods: drag-select a few items near each other, then add others by \mathcal{S} -clicking.

This all works fine so long as the items you want are all in the same folder (or all on the Desktop), but what if you want several items in *different* folders? As soon as you click in a different window, all the items you've selected are de-selected. There is one neat solution, though: go back to a folder that encloses all the items you want, whether they're within further sub-folders or not, and switch to List view. Instead of opening any sub-folders, click the little triangle to the left



When my office Mac got upgraded, I was puzzled why I couldn't fit as many icons down the side of the screen as on my old Mac. The price of progress, I shrugged. Then I discovered you could edit the Finder Preferences...!

How to...



No, it's not Mac OS X (though, come to think of it, it still could happen!)... If the admittedly rather office-like concept of the Desktop is too daunting, Mac OS 9 enables you to view things as Panels. Nah, it'll never catch on.

things, and save all these settings as "Themes" which you can switch between as the mood takes you. (Before Mac OS 8.5, you could change the Desktop pattern using – logically enough – the **Desktop Patterns** Control Panel; before *that*, you could make fairly crude colour changes using the **General Controls** Control Panel, but you needed a shareware Extension such as *DeskPicture* to add a custom picture.)

There are a couple of options here which could have more than cosmetic effects, though (that's apart from the psychological effects of having a sound play every time you select a menu item!). First, you get a limited choice of "system fonts" for menus, headings and the like, but for list or icon views you can choose any font you have installed on your Mac, at any size. It used to be the case that selecting anything but the system fonts here resulted in a performance hit, but if this is still true on today's Macs it's imperceptible. More important is the fact that not every font is equally legible at 10pt size – but hey, it's *your* eyesight!

The **Smooth all fonts on screen** option is supposed to remove the "blocky" appearance of fonts, but turning this on for the 12-point text used for menus, dialogue boxes and so on makes them seem blurry to most people's eyes, and will at the very least distort the characteristic appearance and spacing of the font. Not recommended if you want your Helvetica to look even remotely like it's supposed to.

Under the **Options** tab, **Smart Scrolling** moves the scroll arrows, which usually sit at the extremes of the scroll bar at the side and bottom of each window, and places them all at the bottom right. This means you don't have to move your mouse all the way up to the top of the scroll bar to click the "up" arrow. Some people do, however, find it much more intuitive for "left" to be at the left and "up" at the top, rather than just a little bit less down, so to speak. Smart Scrolling does also alter the size of the "scroll box", however, to give you an indication of what proportion of the contents of the window are visible, which can be handy.

While we're talking about appearances, it is also possible to customise the icons which

are displayed for files and folders. Highlight the folder by single-clicking on it, then select **Get info** in the **File** menu (or press **⌘ I**). Click on the little icon in the top left of the Info box and you can paste a new icon into its place. The new icon can be anything, from a meaningful picture to your favourite cartoon character (er, copyright permitting, of course!), and after changing the Desktop pattern this is perhaps the easiest way of giving your Mac a really personal look. The Internet is a good place to look for icon resources, with plenty of sites offering replacement icons for your Mac. (These often come on folders – Get Info on one of these and you can copy the custom icon from the Info box, ready to paste into the Info box of the folder of your choice.) And, of course, we showed you last issue how to create your own custom icons – if you missed that issue, turn to page 116.

Hidden features

The Finder has several features and commands which aren't immediately obvious. Some of these make certain operations quicker or easier. If you've got a Desktop full of open windows, for instance, you don't

need to close each one individually, you can just click the "close box" of any one of them with the **⌘** key held down, and all the windows will close. The same applies to the WindowShade (or "collapse" or "minimise") box: simply **⌘**-click on it, and all the open windows will roll up. This could make it a lot easier to find a window that has become hidden behind all the others, or an icon you've lost sight of on the Desktop.

In Mac OS 8.5 and later, the Applications menu (at the far right of the menu bar along the top of the screen) becomes subtly different. Instead of displaying just the icon of the current application, it also shows the full name. There is a small control (like a vertical bar) next to the icon, however, which enables you to shrink the display back down to just an icon – or back up again.

Another change to the Applications menu is that it can be "torn off" from the menu bar: hold down the mouse button, move the pointer down to the bottom of the list and then keep dragging down. The menu then becomes an Applications "palette", which you can position anywhere you like on screen. Clicking on the zoom box changes this into a narrow column of icons, making it take up very little screen space. Not only can you then switch between the various applications you have running at a click, but a feature which is particularly useful about this is that the palette always floats *in front of* any other windows. This means that you can drag-and-drop files from the Finder on to your selected application's icon, even if the icons on the Desktop itself are inaccessible.

The **⌘** key can have useful effects here too: if you hold down **⌘** while you select another application in the Applications menu (or when you just click on any visible window belonging to the other application), all the open windows in the first application are hidden – very convenient.

Also usefully, you can switch to the Finder at any time simply by clicking on any part of the Desktop showing behind all your open windows – provided you haven't unchecked the **Show Desktop when in background** option in the **General Controls** Control Panel (and if you ask us, this is a good reason to leave it). If you hold down the **⌘** key as you click on the Desktop, the application you were working in is hidden. (Note, though, switching or hiding doesn't *quit* the application, it only *bides* it. It's still running, still hogging memory; so if you're not going to be needing to use it again, you can free



Some people just can't get the hang of double-clicking, so the option of Buttons can make the Finder much simpler to use: one click and they activate. Unfortunately, it also makes highlighting or moving items impossible.

up that memory and keep things running smoothly by quitting instead.)

Changed your mind?

One of the best things about the Mac is the Undo command (⌘ Z) – and one of the worst is that you can't undo Finder actions. That is, you can't undo moving an icon, or opening a window, or Saving – but you *can* undo text-based or editing actions, which at Finder level pretty much means changing a file's, folder's or icon's name.

And then there's dragging actions. Suppose you start to drag a file – or worse, a whole bunch of files – in order to move or copy them, and then change your mind. If you let go of the mouse button, the files will end up somewhere else – and if you try to put them back, you know it won't be quite where they were. Don't panic! The answer is pretty easy: move the mouse pointer over the menu bar at the top of the screen and let go there; the drag will be aborted and all items that you were dragging will magically zip back to their original locations.

Oh, and if you've thrown something away but change your mind, you can retrieve it (so long as you haven't selected **Empty Wastebasket** yet!): open the Wastebasket by double-clicking on it, highlight the item or items you want to restore (that is, single-click on them), and hit ⌘ Y for "Put Away" – they'll all magically return to where they came from, each to its original location!

Mac OS 9

Mac OS 9 introduced several new features, including the ability to have multi-user setups. If you share a Mac with another user who prefers a different setup from yours, it can be a nuisance to adjust everything to how you like it. With Mac OS 9, each user of the machine can save their own configuration, with their own Desktop pattern, view preferences, and even their own Documents folder for storing files. Each user can have a password, but the system isn't the most secure, and is really meant mainly for homes where several members of the family use one Mac.

It is, however, also possible to limit the amount of access each user has to the computer – useful for children or those who are learning to use the Mac and don't need the more advanced options. They can also be denied access to specified applications, so they can't make use of your Web browser, for instance. For children (and anyone else who prefers it, really), there is also the Panel view. This replaces the conventional Finder appearance with friendly coloured panels and large icons. Again, this limits the number of applications the user has access to.



Work Faster

Over to you!

We've only scratched the surface here, really. Do you have any favourite Finder tricks or techniques? Perhaps you've found some novel ways to set up your Desktop that help you work more efficiently. Share them with us and help demonstrate just how personal a personal computer can be! Grab a picture of your Desktop using ⌘ ⌘ 3 and send this screenshot, with your tips and comments, by e-mail to macformat@futurenet.co.uk with the words "My Desktop" in the Subject line, or on a floppy disk to "My Desktop", MacFormat, 30 Monmouth Street, Bath BA1 2BW.

YES YOU CAN

Surf Without Wires

Surf the web...

collect your emails...

print documents...

download newsgroups...

connect to servers...

share files...

move around the office...

browse, file, save, search, send, receive, backup, collaborate, explore, network and do more... Without Wires.

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 fax 07092 020953
 email ukinfo@farallon.com

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www.farallon.com

Corel Graphics 8 LE



Brian Smith is our graciously grateful graphics guru

GRAPHIC BASICS Generous to a fault, those nice people at Corel have allowed us to bring you the complete *Corel Graphics 8 LE* suite on this issue's Cover CD. **Brian Smith** helps you get started.

Info We know you'll love *CorelDraw 8LE*, but the "grown-up" program offers even more, including support for an unlimited number of open documents, EPSs and professional CMYK printing. To find out more about Corel products, visit <http://www.corel.com/>. To upgrade to *CorelDraw 8*, call Guildsoft on 01703 871142.

The Mac has always had a reputation for being the favourite computer platform of artists and designers. That's partly because of the huge range of powerful yet affordable graphics software available.

Well, now it's become even more affordable because Corel is generously giving away the LE version of its popular *CorelDraw 8* drawing and layout package, complete with the powerful image-editor and painting program *Corel Photo-Paint 8LE*, on this issue's Cover CD.

Since they are LE versions they do have a few limitations. In *CorelDraw 8 LE* you can have only one document – with a maximum of three pages – open at a time, while *Corel Photo-Paint 8 LE* can have two documents open simultaneously. Both programs are limited to saving documents in GIF or JPEG formats, although they can import most of the popular file formats, including *Photoshop* and *Illus-*

trator files and EPS (Encapsulated PostScript) files saved out of other drawing software.

The two programs actually operate separately, so you'll be looking at one screen or the other. The annotated screenshots below describe the packages' basic toolbars and palettes. You can toggle them on and off by ticking the relevant options in the applications' Window menus.

You can access further on-line help in both programs by choosing the **Help Contents** option from their Help menus (or pressing **⌘ ?**).

A folder of sample files is installed to your hard disk with the *Corel Graphics 8 LE* applications, and *Acrobat Reader* PDF format versions of their manuals are provided on the MacFormat Cover CD.

Watch for a step-by-step guide to using *CorelDraw 8LE* in MacFormat next issue – reserve a copy with your newsagent now, or turn to page 98 for details of our special discount subscriptions offer.

CORELDRAW 8 LE INTERFACE

There's an awful lot to fit in, but you'll soon find your way around the *Draw* interface, since it's quite intuitive...

Property Bar
Context-sensitive command bar that enables you to view and edit the document or currently selected object's settings.

View Manager
Store preferred views of the document.

Internet Objects Toolbar
For manipulating the Internet objects in a document such as Web links and image map hotspots.

Standard Toolbar
Gives quick access to frequently-used commands for handling files, undoing, setting the document display quality and scaling the document view.

Colour Styles
Create custom families of colours for specific jobs.

Colour Palette
Choose colours from predefined colour sets such as the Pantone Matching System.

Colour Selection
Select new colours using the RGB, CMY, CMYK, HSB, HLS, YIQ or Lab colour systems.

Drawing Window
Where you interactively draw and edit your documents. The drop shadowed rectangle is the Drawing Page, which shows the document's edges.

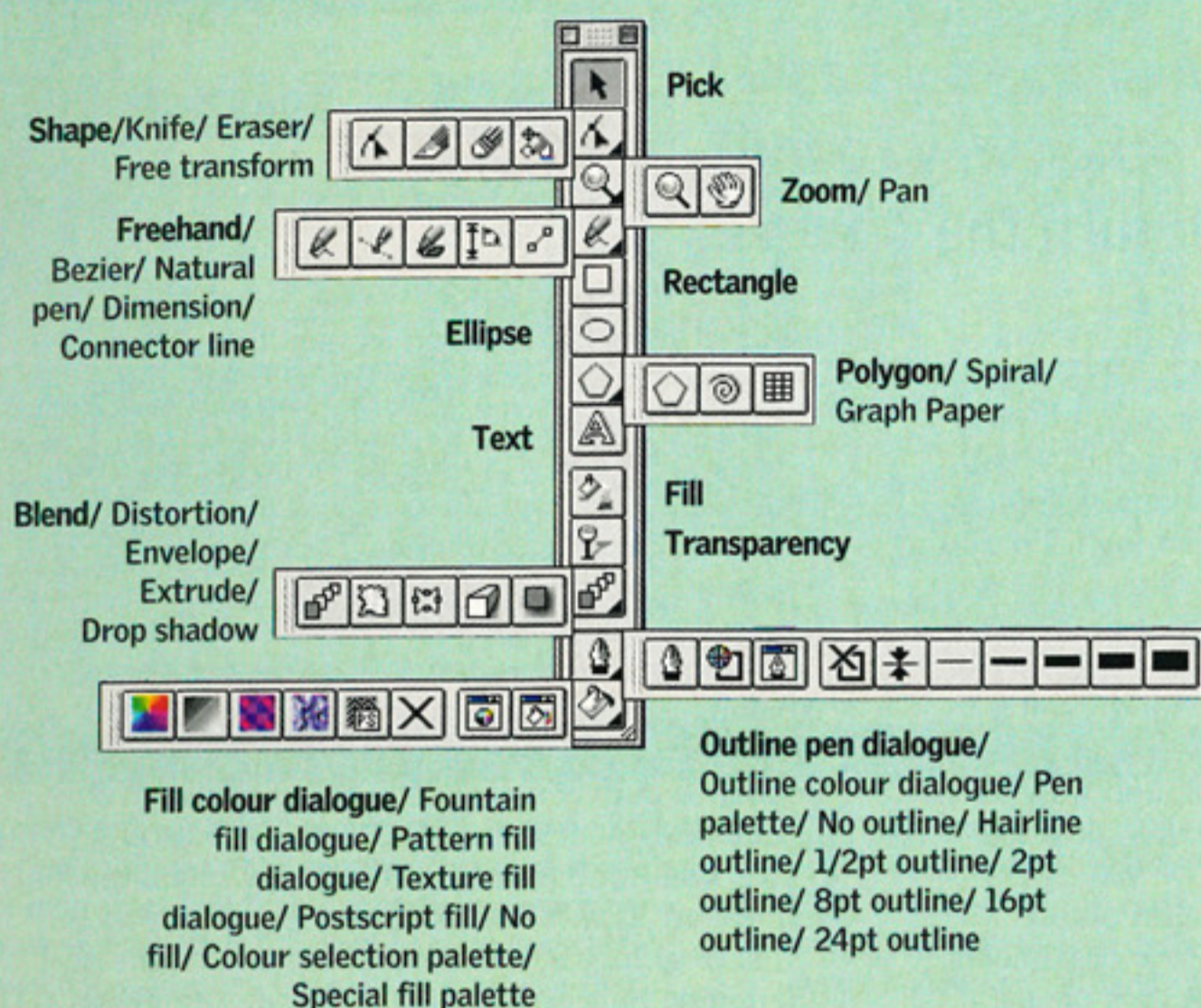
Status Bar
Displays the mouse pointer's coordinates and a description of the currently selected object, including its line and fill settings.

Object Manager
Lists the active document's hierarchical structure of pages, layers and graphical objects.

Main Toolbox
For details, see the annotated diagram on the opposite page.

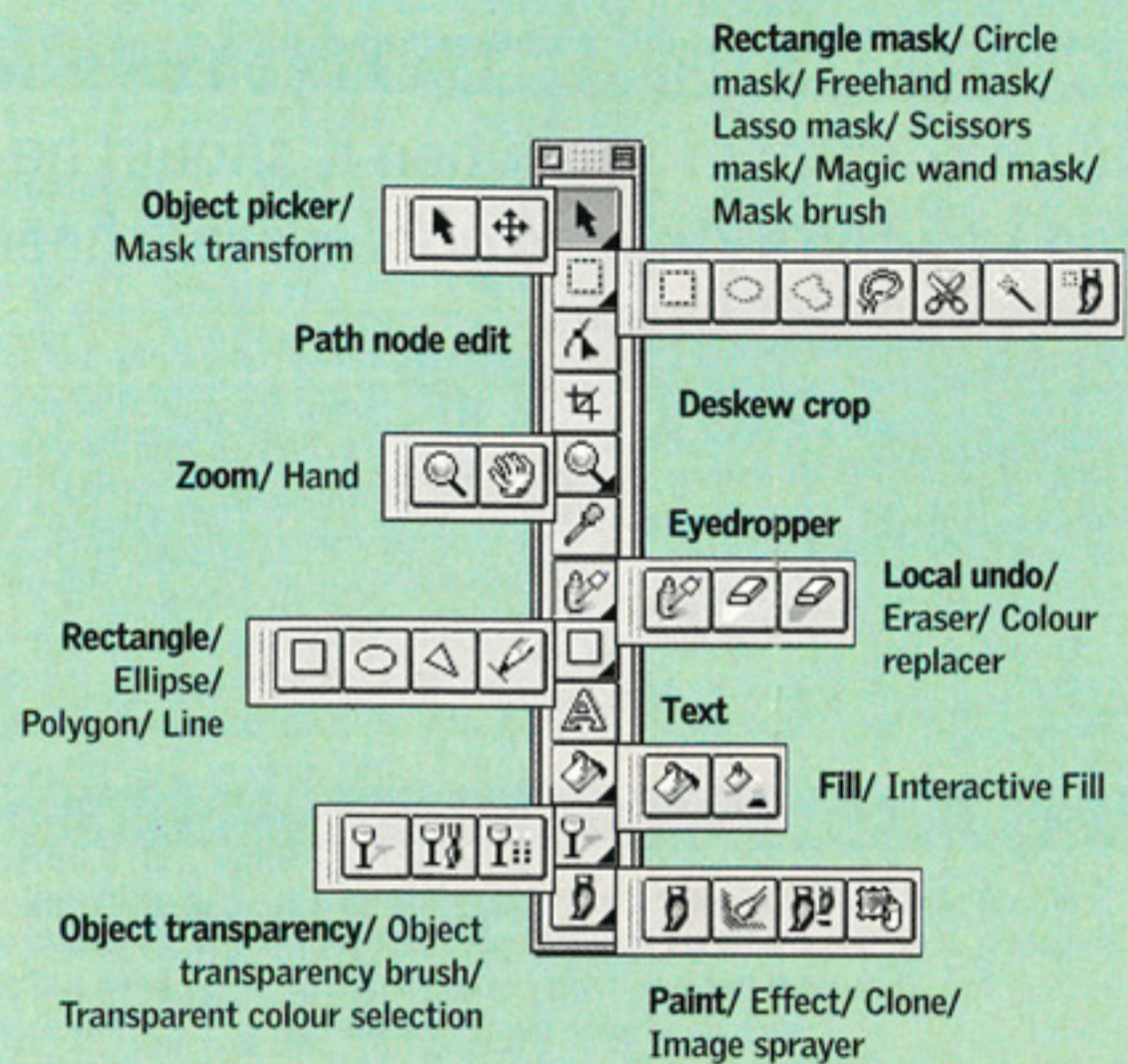
CorelDraw 8 LE toolbox

The pop-out submenus contained in the toolbox are as extensive as you're likely to find anywhere. The style is similar to *Adobe Illustrator*, and having so many options makes working on complex drawings much faster.



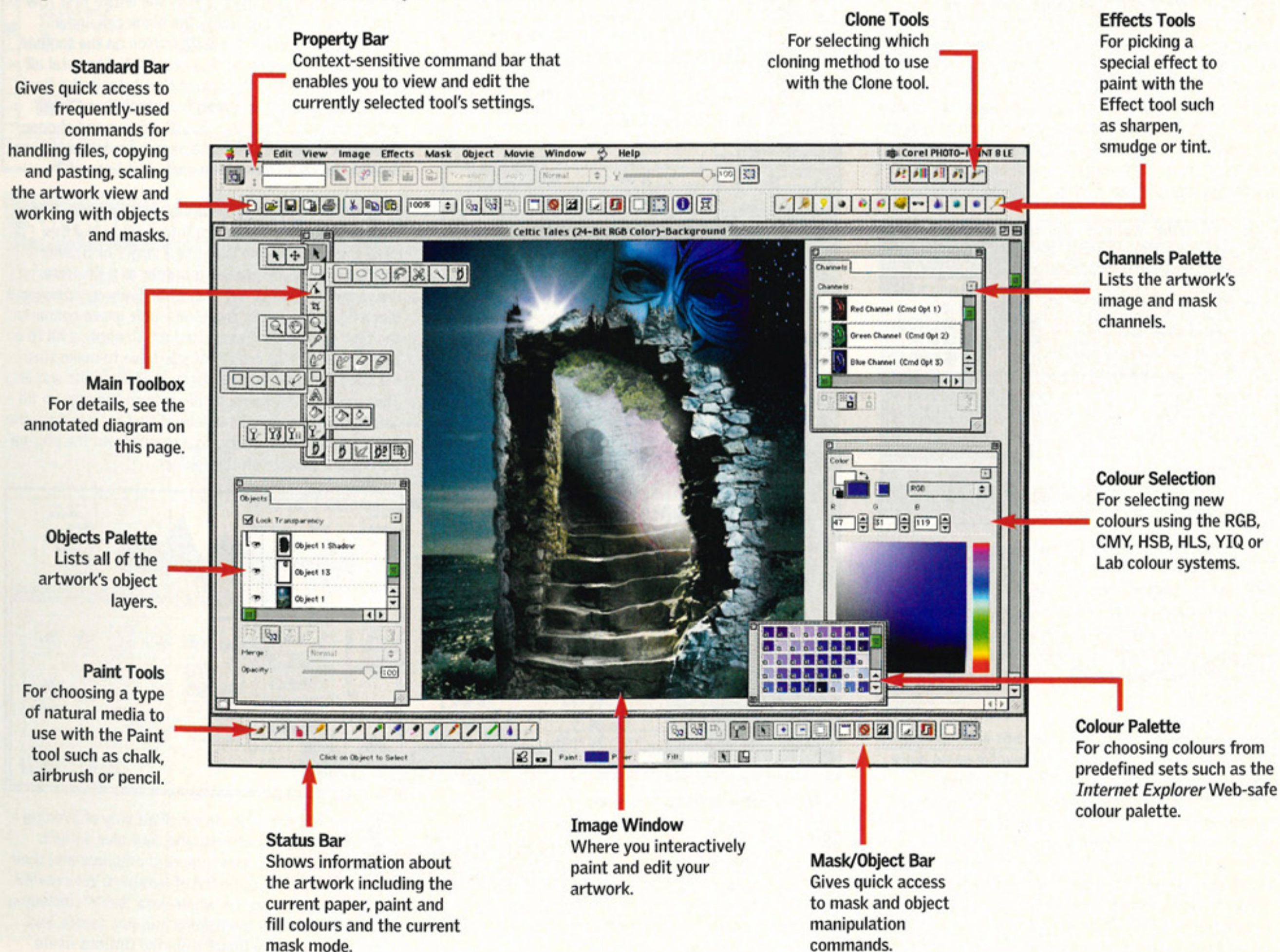
Corel Photo-Paint 8 LE toolbox

All the standard photo-manipulation tools are here, including the eyedropper and the magic wand. *Corel Photo-Paint 8 LE* is probably the best LE photo package currently available on the Mac.



COREL PHOTO-PAINT 8 LE INTERFACE

Corel Photo-Paint 8 LE has more tools than you can shake a spanner at. This is a photo-manipulation program that can give even the market leader a run for its money...



Control your cash



Rod Lawton is your *AppleWorks* guru – and financial mentor

APPLEWORKS TECHNIQUES Do you ever feel your money has taken control of you when it should be the other way round? Rod Lawton's *AppleWorks* spreadsheet will turn the tables...

The spreadsheet we've designed here will keep track of all our standard household expenses, totalling up each month's outlay and also the annual total for each category. Not only can we keep track of what we're spending, we can keep track of what we're spending it on, too. This is actually a fairly basic spreadsheet, and if you were designing one for your own use you'd no doubt want to fiddle with the categories and maybe the organisation of the whole thing. But it's still a good example of how easy it can be to keep track of your outgoings with a spreadsheet, and how to organise a spreadsheet so that you can look at it without getting a migraine.

Many people lavish hours of attention on the formatting and layout of word processor documents, but just accept the defaults whenever they create a spreadsheet. In reality, one type of document

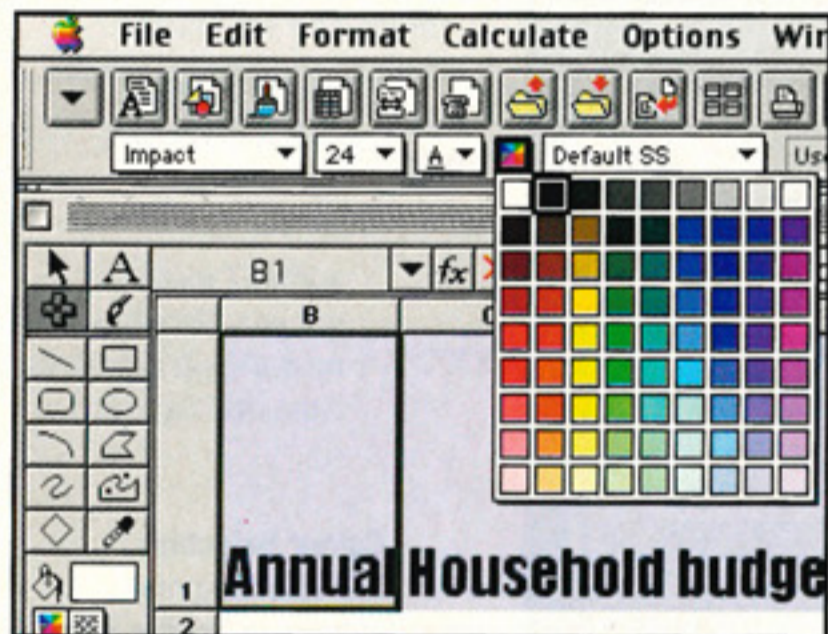
requires as much attention as the other. After all, they both have to communicate information as clearly as possible.

Here are some ideas, then, for laying out and organising your spreadsheets so that they look good and they're easy to decipher. They're also "live" documents with lots of calculations going on behind the scenes, so it's especially important that it should be obvious how they work. That means lots of labelling, separating data which isn't connected and differentiating between one kind of information and another – between raw data, for example, and calculations which have been carried out on it.

We also hope to demonstrate how much layout control an *AppleWorks* spreadsheet offers you, in terms of graphics, text formatting, fill colours and alignment. Successful spreadsheet design needs DTP as well as accountancy skills!

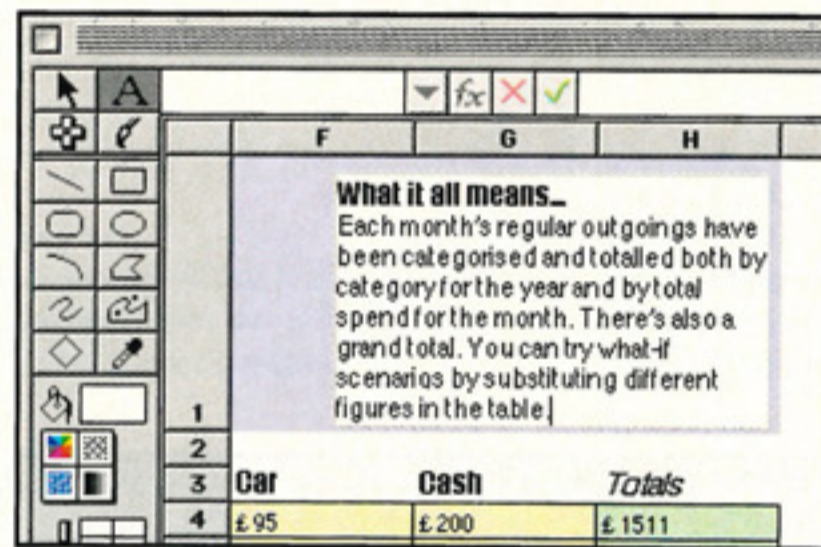
YOUR COMPLETE STEP-BY-STEP GUIDE

1 Graphics Spreadsheets don't have to look boring! You can put a friendly face on your data by adding clip-art images from *AppleWorks*' libraries, drawing your own illustrations or adding photos. To add a photo, open the image as a painting, select and copy the whole image area, then paste it into your spreadsheet. Click twice on it to edit its resolution via the **Format** menu – 200-300dpi is about right for printing. Any graphics you add to your spreadsheets sit on top of the data, and can be moved around at will – they don't interact with or interfere with the data at all, though they will obscure it if you put the graphic directly on top.



2 Contrasting fonts Don't just stick to the default display font. To format text in a cell, click on the cell to select it and then use the pop-up menus on the toolbar. Any formatting changes you make will affect all the text in the cell. Use the same techniques you'd use in a word-processor document to make your text look good, choosing bold font and size contrasts for headings.

3 Text frames One of the problems with spreadsheets is that they generally involve some quite complex formulas and interrelationships between the data. You might know exactly how your spreadsheets work when you create them, but six months later, when you need them again, you may not remember. Why not draw a text frame and type in a description of the spreadsheet or some instructions on how to use it? You just click the text tool on the toolbar and drag out a box in a blank area of your spreadsheet. Instructions and descriptions will make



your spreadsheet a lot more user-friendly later on if you need to change the data or someone else wants to use it.

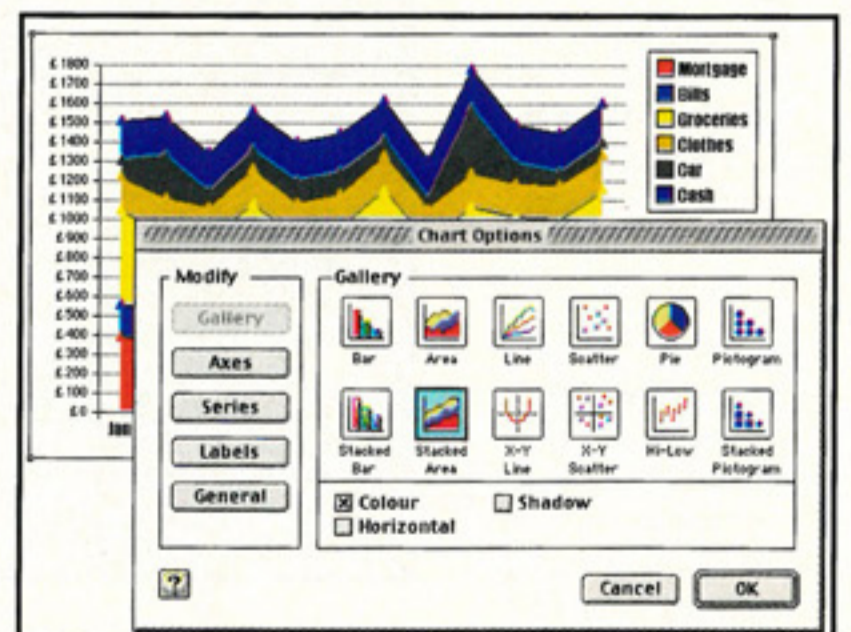
4 Labels Always label your data! Spreadsheet cells can contain text as well as numbers, so make use of this to identify all the information in your documents. Again, it might seem blindingly obvious to you right now, but later on you may not remember what those columns of figures mean and what those calculations actually calculate.

	Bills	Groceries
1	£ 175	£ 480
2	£ 160	£ 395
3	£ 89	£ 421
4	£ 201	£ 506
5	£ 103	£ 432
6	£ 78	£ 459
7	£ 223	£ 512
8	£ 89	£ 377
9	£ 201	£ 445
10	£ 103	£ 489
11	£ 422	£ 377
12	£ 422	£ 445
13	£ 422	£ 489
14	£ 422	£ 502
15	£ 422	£ 498
16	£ 4859	£ 5516

5 Borders and fills Borders and fills are very useful for separating and organising the data in tables. Here we've used them to separate the columns of data from their labels, and from the numbers around them. We've also used two different fill colours to visually distinguish between the raw data itself (yellow) and the totals we've asked *AppleWorks* to calculate (green).

6 Duplicating formulas When you're totalling a whole series of rows or columns, you only need to apply *AppleWorks*' **SUM** function once. Here, for example, we dragged across the entire first row (Jan) of our table, including the blank cell under "Total". When we hit the **SUM** button on the toolbar, *AppleWorks* recognised that we wanted to total all the cells in the row, then place that total in the final blank cell. Now we can drag from that first "Total" cell all the way down the "Total" column and choose **Fill Down** from the **Calculate** menu. *AppleWorks* then inserts the same formula in each row. Easy, eh?

7 Reversed text There are a number of ways of highlighting important information like this grand total. One is to use a larger or heavier typeface; another is to use a border or a fill. Here we've made it stand out very effectively by applying a black fill to both cells and then a pale green colour to the text so that it's "reversed out". To apply a fill to a cell or selection of cells, first you have to make sure the tools palette is displayed to the left of the screen. Then you simply choose a colour from the pop-up fill palette. You change the colour of text by selecting the cell it's in and then choosing a colour from the pop-up text colour palette on the toolbar.

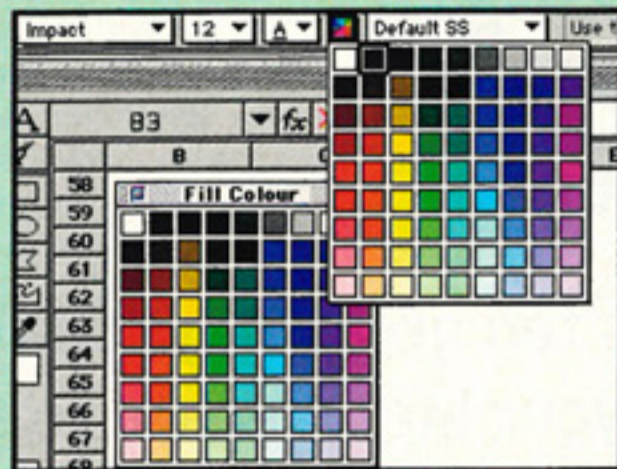


8 Charts Charts are an excellent way of livening up your spreadsheets, and they give a much better visual impression of the figures and their significance than a table full of numbers. We created this one by selecting the whole data "table", including the cells containing the column and row labels, and then choosing **Make Chart** from the **Options** menu.

Cut a dashing figure

You probably won't want to spend hours and hours "designing" your *AppleWorks* spreadsheets, but here are four quick tips for adding that little bit of finesse in double-quick time.

	B	
2		
3	Mortgage	Bills
4	£ 381	£ 175
5	£ 381	£ 160
6	£ 381	£ 89
7	£ 381	£ 201



A thick, black, condensed font like Impact will not only contrast well with Helvetica or Geneva (standard default spreadsheet fonts), but it will enable you to get longer headings in narrower columns without diluting their impact.

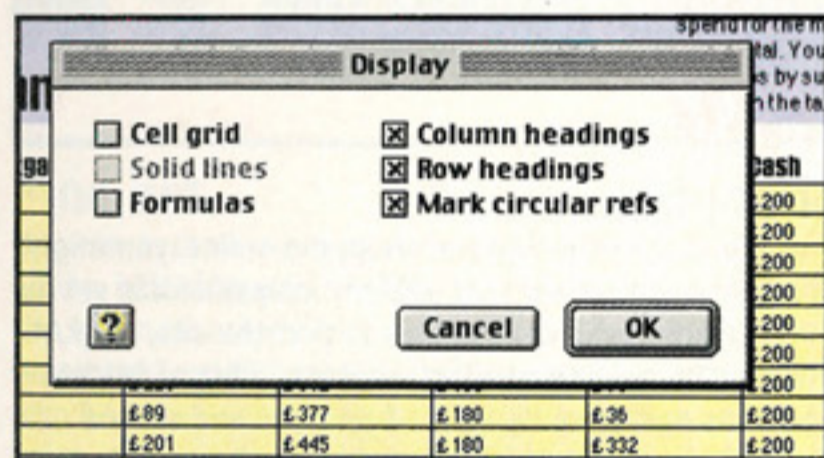
All your documents will look better if you stick to a consistent colour scheme. *AppleWorks* spreadsheets use a standard 64-colour palette for fill colours, text colour and line colour, so it's easy to standardise on a couple of different shades.

Annual House		
	Mortgage	Bills
Jan	£ 381	£ 175
Feb	£ 381	£ 160
Mar	£ 381	£ 89
Apr		

Annoyed that the rigid array of rows and columns in a spreadsheet cramps your creative style? Don't be! Tight alignment is one of the keys of successful design, and we didn't have to do anything at all to get these rows and columns to line up perfectly.

Okay, what if you want the design flexibility of an *AppleWorks* drawing but the number-crunching of a spreadsheet? Simply cut and paste your data into a spreadsheet frame in your drawing! You can also insert spreadsheet frames in word-processor documents.

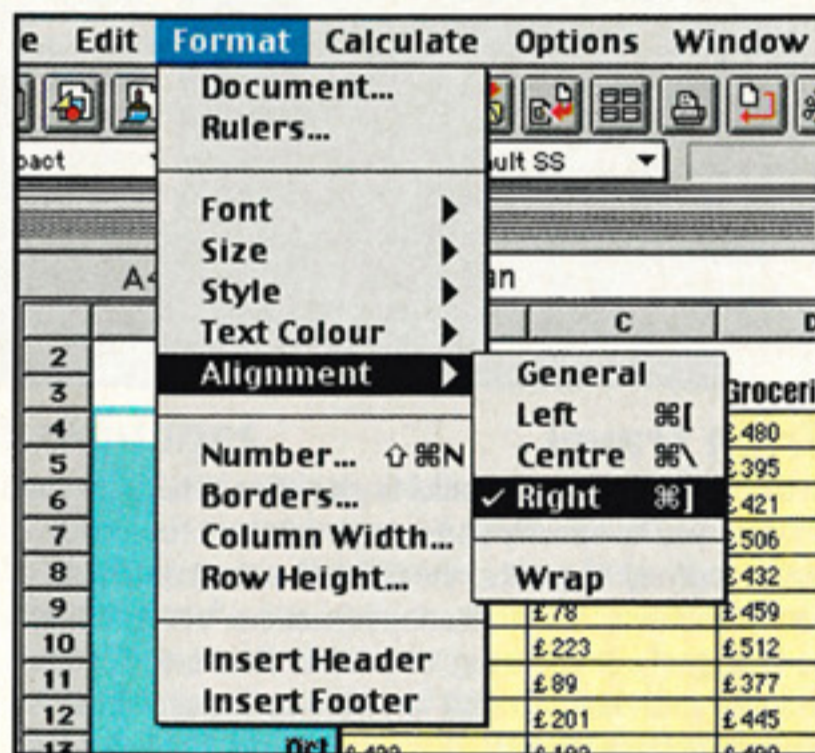
AppleWorks will offer a whole gallery of chart styles, and we've chosen a stacked area chart to summarise our data, since it indicates not only how much we've spent each month in total, but how the costs break down into categories. Once you've created a chart, you can drag it around like any other graphic and drag on the handles to make it whatever size you like. Double-clicking on a chart enables you to edit its properties - there will be more on these type of charts in a future issue of *MacFormat*.



9 Hide the grid One of the reasons spreadsheets look so impenetrable is that they display an on-screen grid of rows and columns. This helps you design your spreadsheet in the first place, but it makes it look very unfriendly and cluttered when you come to view it or show the figures to anyone else. Choose **Display** from the **Options** menu to hide the grid - you can still click on cells to edit them, but your spreadsheet looks less like a mass of accounting mumbo-jumbo and is far more approachable.

10 SUM columns They always tell you at school to "show your workings out". This helps your maths teacher make sure you've got some idea what you're doing and haven't just guessed at the answer. You should show your workings out in spreadsheets, too. This isn't for the benefit of some imaginary maths teacher, though, but for your own information later on. It's always good practice to set up subtotals when you're heading towards a grand total and if, for example, you were designing an

invoice you should include (and label) cells for the amount, the VAT due, and the grand total. It may seem obvious right now, but it saves a lot of ambiguity and uncertainty later.



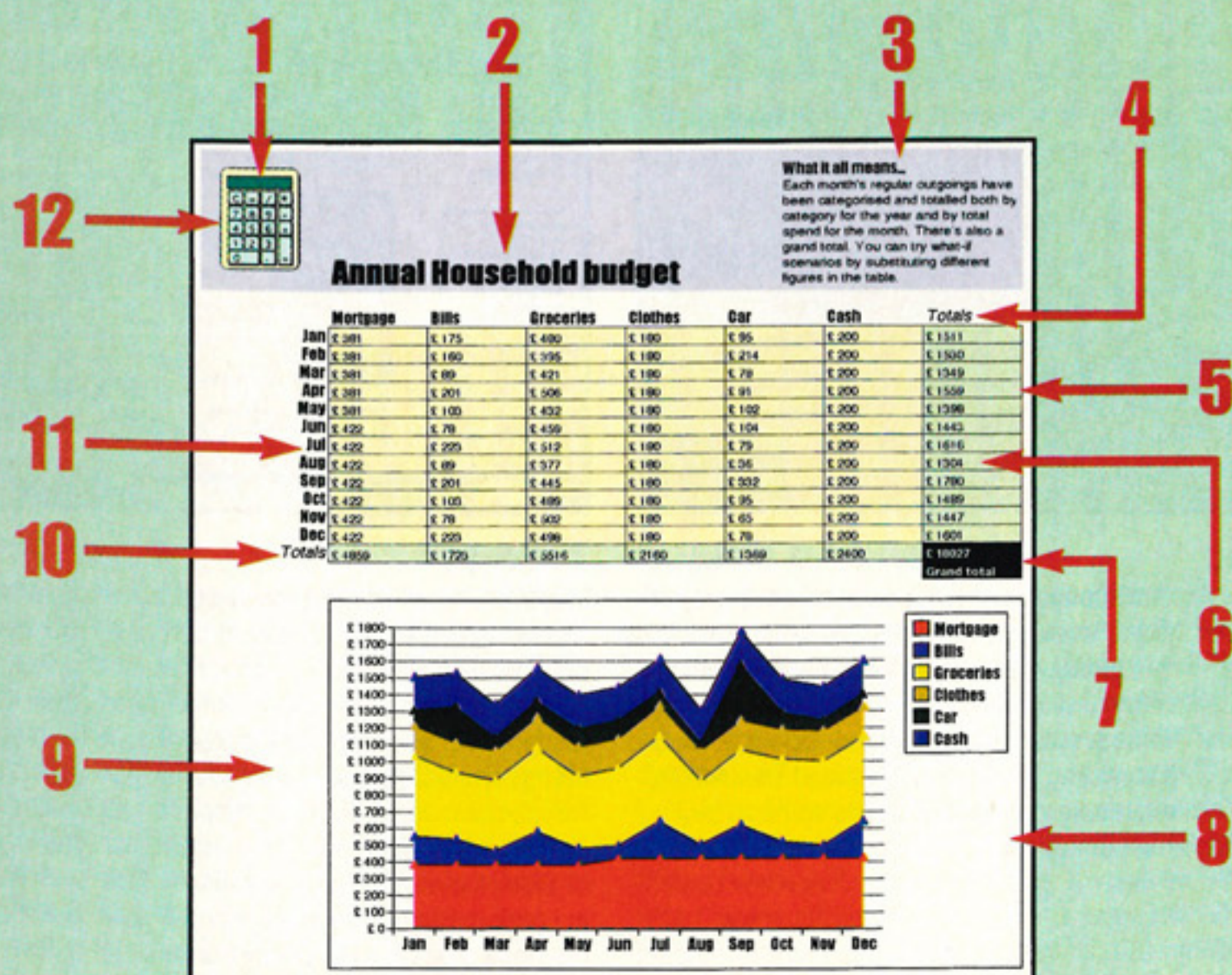
11 Alignment options By default, *AppleWorks* will use a "general" format which aligns text to the left of a cell and numbers to the right. There was at one time, presumably, some good reason for this, but as a rule this mixed alignment just makes your spreadsheets look messy and all over the place. You can set your own horizontal alignment by selecting the cell or cells and choosing **Alignment** from the **Format** menu. Here, we've aligned all the numbers in our table to the left to match the column headings, then aligned the row headings to the right so that they butt right against the rows they're identifying.

	A	B	C
1			
2			
3		Mortgage	Bills
4		Jan	...

12 Varying row heights It would be quite a coincidence if the default row heights and column widths were perfect for all your documents, but of course they won't be. You can easily change either by dragging on the dividers between row and column labels. Here, we've made the first row much taller than the rest and then applied a lilac-coloured fill to create a thick title bar for our expenses spreadsheet.

Spreadsheets by numbers

Use this graphic of our completed spreadsheet to guide you through the process of building your own monthly expenses tracker. The numbers refer to corresponding paragraphs in the main text.



Get more from the Internet



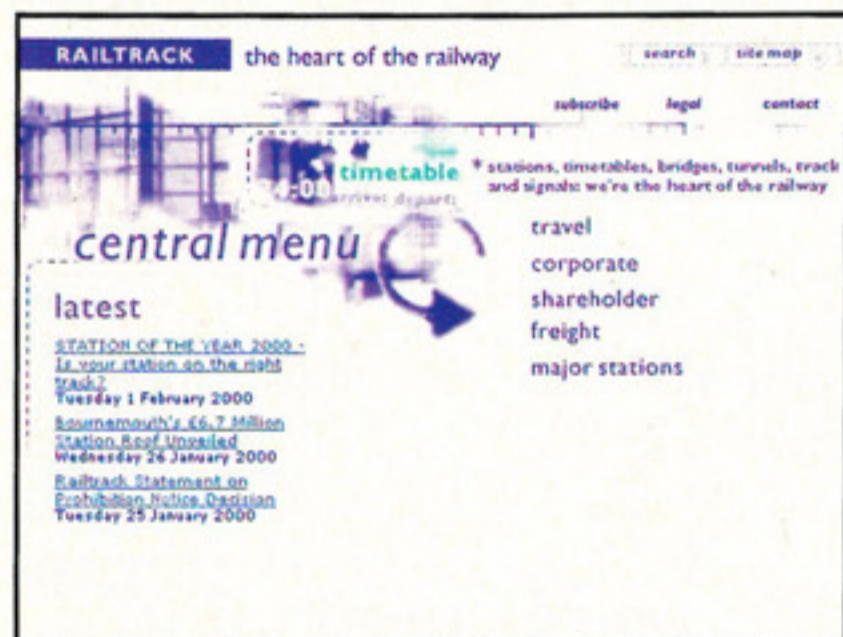
Nic Rodgers and the MF Team pooled their best-of-the-Net lists...

E-SERVICES GUIDE Here's ten great ways that the Internet can positively improve your life. Prepare to surf...

The Internet has been with us for quite some time now, and in recent years it has matured considerably. Yet many people still regard the Net as being little more than a vast international library that you have to read on-screen. While it is undoubtedly the best place to

search for obscure information, reading Web pages barely scratches the surface of the Internet – and that's true whether they're "dynamic" or just pages of text. Far from being an on-line library, the Internet can genuinely enhance your life and make even the most routine chores enjoyable. Here are our top ten

WALK-THROUGH HEADING



Train travel

<http://www.railtrack.co.uk/> is an online timetable that enables you to specify various parameters for a proposed journey: the date, the time, the start and destination stations, and limitations (such as "via Reading, no changes"). If you want to book tickets online, though, you'll need to visit the well-publicised <http://www.thetrainline.com/>. This "train finder" enables you to book tickets for collection at a station, or have them delivered to your door. Currently the site offers a £1 discount on tickets priced over £10.



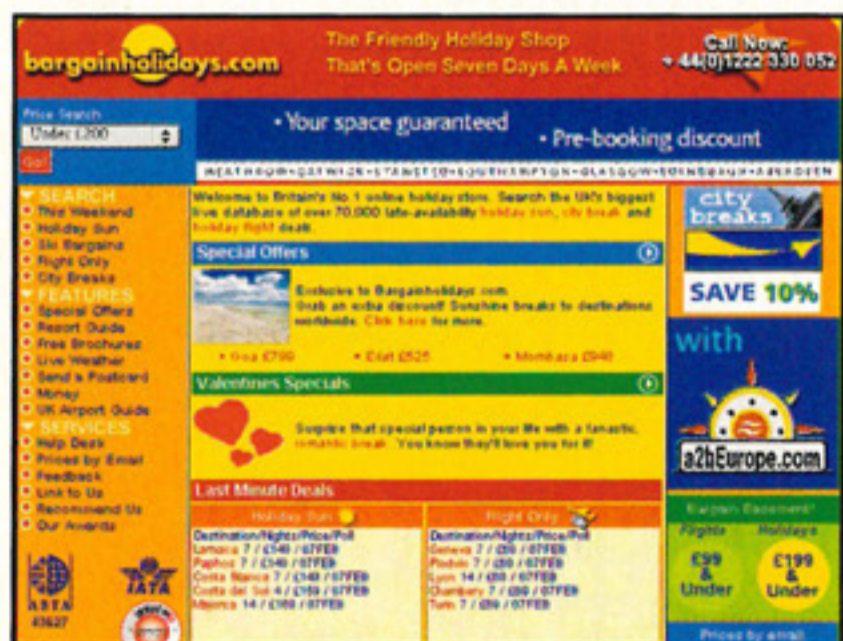
Road travel

Before setting off on yet another epic journey or meandering detour, you might want to check out <http://www.mapquest.com/>. This site contains maps you can zoom in on to check your route, and can also provide driving directions from one postcode area to another. <http://www.a2btravel.com/> is a site with even more scope. Here you can not only plan journeys and calculate the mileage involved, but also book holidays, view airport guides, and receive live information on flight arrivals.



Shopping

If you're still a little wary of shopping online, you might be interested to learn that *Which?* magazine has set up a Web Trader scheme. The idea is that the site, <http://www.which.net/webtrader/>, contains a list of traders who have agreed to its code of practice and should therefore be reputable and provide excellent customer service. Other sites worth visiting include <http://www.qxl.com/> and <http://www.shopsmart.com/>. The former is a massive online auction site; the latter enables you to compare prices in seconds, and has a directory of 1,200 UK shops.



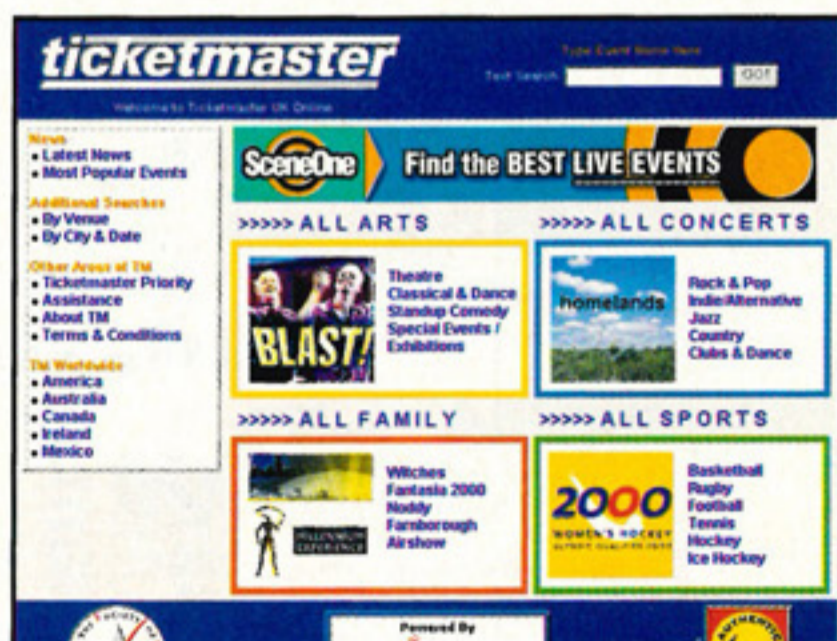
Holidays

Why not get the same information that travel agents have by visiting <http://www.bargainholidays.com/>? Search from a database of more than 70,000 holidays by destination, price, date or a combination of all three. <http://www.lastminute.com/> lists special offers on last minute flights, hotels and more. <http://www.teletext.co.uk/holidays/> gives you the teletext holiday information just as it appears on TV, except here you can view up to eight screens at a time.



Music

<http://www.nme.co.uk/> is at least as good as its paper equivalent. <http://www.clickmusic.co.uk/> also provides UK music news, along with a selection of MP3s, which are available from a number of sites, like <http://www.mp3.com/> (some less legal than others). One site that provides a space for users to legally upload free MP3s is <http://www.peoplesound.com/>. If you want to buy CDs, <http://www.amazon.co.uk/> is still worth a look.



Tickets

<http://www.whatsonstage.com/> and <http://www.aloud.com/> are two similar sites that enable you to book tickets and either collect them at the venue or have them posted for an extra fee. The former covers theatre performances; the latter deals with gigs. <http://www.ticketmaster.co.uk/> is another straightforward box office service. <http://www.concertbreaks.com/> and its sister site Theatre Breaks offer packages of tickets plus hotel accommodation for performances in London, Paris, Amsterdam and Dublin. Both guarantee good seats for UK performances.

ways the Internet can make life easier.

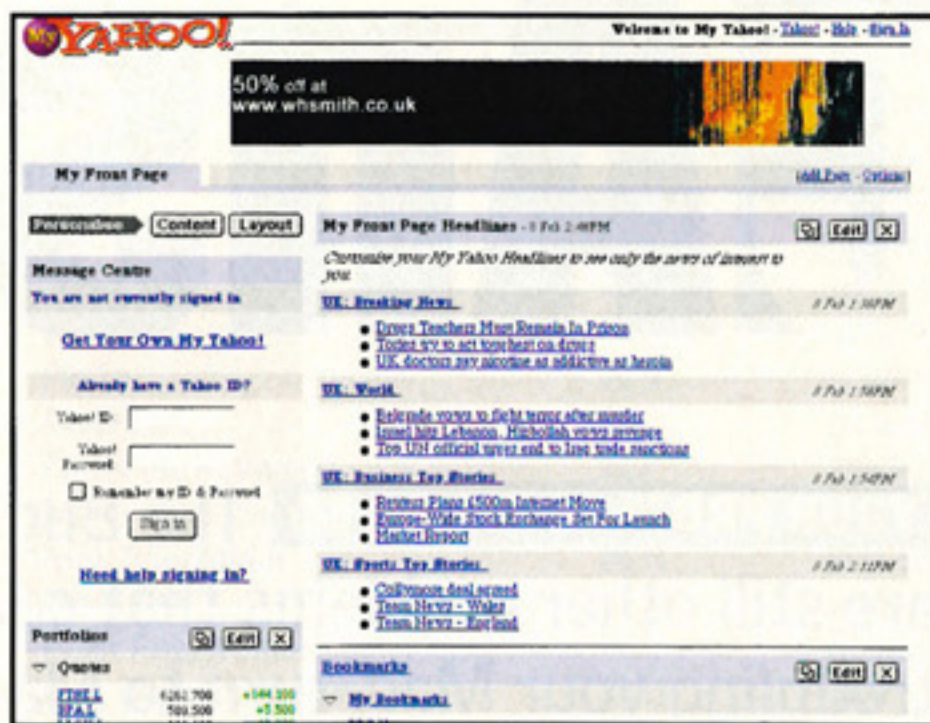
For instance, you can arrange your holidays or book a train ticket on the Internet. Or if you don't want the train to take the strain, you can use the Net to plan your car journeys and check for possible roadworks and traffic holdups.

Everyone loves shopping, but using the Internet you can browse from the comfort of your home – no more parking problems, just make your selections online and have them delivered the next day.

Even the world of music is being shaken up by the Internet. The format used for distributing music on the Web, MP3, has taken off in a big way. You can even buy albums by downloading high-quality sound files.

There's no end to the usefulness of the Net. Whatever you want to do, whatever you're looking for, the Net probably has the answer – you just have to find it. Fortunately, the Net will even help you with that. There's a whole host of search engines that will scurry off and find whatever you're looking for.

How about you? Let us know what you use the Web for, which are your favourite sites, and what are



"My Yahoo!" will filter out the dross and show you just the information you've selected, on your own personal page.

the best services you've found online. Write to "My Net", MacFormat, 30 Monmouth Street, Bath, BA1 2BW or e-mail us at macformat@futurenet.co.uk with the words "My Net" in the Subject line.



Fine art

You can explore many of the world's greatest galleries online. <http://www.louvre.fr/> affords you a glimpse of the Mona Lisa and other masterpieces, and <http://www.tate.org.uk/> and <http://www.metmuseum.org/> also house some impressive collections. There are also many virtual galleries, like <http://www.gallerychannel.co.uk/> The Museum of Web Art (<http://www.mowa.org/>) and the Institute of Visual Arts Online (<http://www.iniva.org/>) show how the Internet is becoming a medium in its own right.



Finance

We took a look at <http://finance.yahoo.com/> in MacFormat 86; <http://www.londonstockex.co.uk/>, <http://www.eft.com/> and http://www.ft.com are also pretty handy. <http://www.bloomberg.co.uk/> has a wealth of general financial information, and links news stories about specific companies to their price quotes. It also has a nifty Java window to help you track your ten favourite shares in real time. <http://www.fool.com/> will help you learn complex financial jargon, and hosts forums in which you can converse with other investors. <http://www.barclays.co.uk/> is one of a handful of Mac-friendly online banking sites.



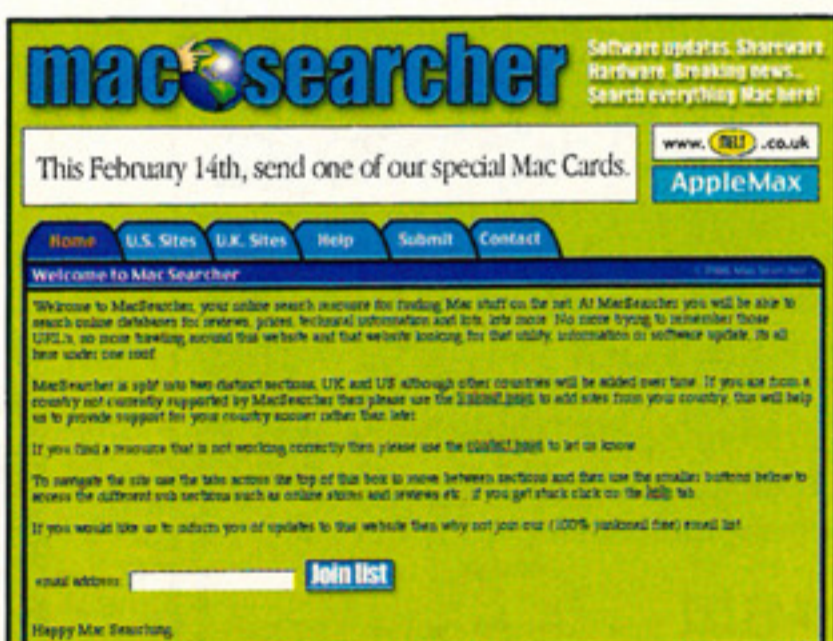
Languages

If you want to translate plain text or Web addresses between various languages – English, French, German, Italian, Portuguese and Spanish – then <http://babelfish.altavista.com/> is the place to go. <http://www.babylon.com/online/> handles these languages too, along with Dutch, Hebrew, Japanese and Chinese. <http://www.dictionary.com/> provides definitions for any words that you enter, and also has a thesaurus, a translator and a section on grammar and style. Also worth a visit are fact-packed sites <http://www.britannica.com/> and <http://www.m-w.com/>



Artists' tools

<http://www.mediabuilder.com/> is quite a useful resource. The site offers free image files, free fonts, free online font and image tools, and a more general software library. It also has a tutorials library, with advice on how to design your first Web site or improve an existing one. <http://www.creativepro.com/> offers a range of e-services including preflighting for your DTP documents over the Web, as well as links to companies like MetaCreations and Quark, directories of publishers, ad agencies and the like, news, product reviews, tips, downloads, features, forums and more.



Search engines

There are plenty of decent search facilities out there, but everyone has their own favourite. We reckon <http://uk.yahoo.com/> is a good starting point for research into general topics (it's kept up to date by real people entering what they find), while <http://www.lycos.co.uk/> is perhaps better at finding specific bits of text. <http://www.scoot.co.uk/> is a useful business directory, and the online version of the Yellow Pages (<http://www.yell.co.uk/>) lists over 1.6 million UK firms. <http://www.alltheweb.com/> claims to be the world's biggest search engine, with access to 300 million pages. <http://www.directhit.com/> uses a "popularity" engine to highlight good sites.

Let us help...

Fingers getting cramp from trying to type in all those addresses? Let us help! Bookmark just one address, <http://www.macformat.com/> and use our handy links to these sites and on to the very best Mac-related stuff on the Web. You'll also find our comprehensive, searchable online Mac Buyer's Guide, with our reviews and the latest product information – and watch for exciting new developments in the very near future!

Start your visit at MacFormat Online and let us show you the highlights of the Mac-related Web.

MacAnswers

YOUR PROBLEMS SOLVED The Bug may have passed us by but there are still other problems that can rear their ugly head. Whatever is troubling your Mac, turn to MacAnswers for help and advice.

Our experts

Our writers will go that extra mile to address your Mac-related problems...



Tech Ed **John Parnaby** just had time to answer your questions before taking a well-earned holiday.



Ian Waugh goes back to the classroom to explain the ins and outs of the mysterious world of MIDI.



Net expert **Nic Rodgers** has such excellent connections, he doesn't even need to leave his room... ever.

Our Macs don't often give us much trouble – at least not as much as PCs do – but occasionally they can decide to go a bit bolshy in the hardware and software departments. It's at times like these that you need to take a deep breath and then contact MacAnswers for the solution to your Mac problem.

If you have a Mac-related problem, drop us a line at MacAnswers, MacFormat, 30 Monmouth Street, Bath BA1 2BW. Alternatively, you can e-mail us at macformat@futurenet.co.uk with "MacAnswers" in the subject line; or fax us on 01225 732295. Our handy MacAnswers form is on page 53, or you can use the electronic text version which is in the **Resources** folder on the Cover CD.

We're sorry that we are unable to answer questions over the phone or send personal replies because we're all far too busy getting ready for Easter. Whenever that is.

Refusing to budge

The tail of a frozen mouse

Q I bought a new iMac a month ago. On three occasions I have found my mouse cursor stuck at one horizontal level. I can only move it right or left at that level. I can't even Force Quit when this happens. I can only switch the computer off at the mains and then start up again.

Dominic DeSouza, Surbiton

A This could be nothing serious. First check to see that your mouse doesn't just need cleaning. There may be fluff or other material jamming up the innards of the mouse in the vertical plane – twist the coloured panel in the middle of the underside of the mouse a half-turn anticlockwise and tip the ball out to access the rollers. If there doesn't appear to be any gunk inside, and the problem goes away after a restart or unplugging and re-plugging the mouse, then it sounds like your mouse might be broken. Contact Apple technical assistance on 0990 127753. You can quote Apple's Tech info note <http://til.info.apple.com/techinfo.nsf/artnum/n25066> and they should replace it for free. JP

Mad about MIDI

Connecting a Mac for music

Q I'm a music student, and, having recently invested in a new (Roland) keyboard, I want to use it as MIDI input device. What do I need (MIDI interface, sequencers, and the like) to let my creative juices flow onto my beige G3 minitower, which is running Mac OS 8.6?

Andrew Nowacki via e-mail

A First you'll need a MIDI interface. There are dozens to choose from, depending on how many Ins and Outs you want or whether you want any other bells and whistles such as SMPTE or synchronisation. Assuming you only want something

basic, check out the MidiMan range (from £45 from Midiman, 01205 290680), MotU's FastLan (£59 from Musictrack, 01767 313447), and some of the Opcode range (from £49 from SCV London, 020 7923 1892).

There are several sequencers to choose from. Most now include digital audio recording as well as MIDI – whether you want it or not. *Cubase* (from £329 from Arbiter Pro Audio, 020 8207 5050) is one of the "standard" sequencers in common use. *Emagic Logic's* series (from £199 from Sound Technology, 01462 480000) is the other. Frankly, I'd stick to one of these but there's also Cakewalk's *Metro 5* (£189 from Et Cetera, 01706 228039) and MotU's *Performer* (£349). With the exception of Cakewalk and Metro, all the other companies have "lite" versions of their software for around £100-150, which you might like to consider.

Get two proper MIDI cables from a music shop (don't get the cheapo DIN cables from a hi-fi shop), plug 'em in, add a dose of inspiration and you're away....! Well, spend a few days reading the manual and getting to know the software first. IW

Netting a result

Mac network won't copy files

Q I am a teacher in charge of Computing Studies in a fairly large Scottish secondary school and have worked with various models of Macs starting with the Mac Plus. I now have five coloured iMacs alongside ten Power Mac 4400s and five Performa 5260s in the one classroom. I have relied upon using AppleShare over LocalTalk to copy software around the room before and was looking forward to how well this would work with the five iMacs now that I have Ethernet cables and a 10/100 Base-T Dlink installed.

I am extremely disappointed as File Sharing does not work in the same straightforward way that it used to and still does on the "old" network (linked with TurboNet connectors). The setup procedures and



Cubase from Steinberg is probably one of the most popular pieces of music sequencing software. See "Mad about MIDI".

the volumes mount okay and I can open the files by double-clicking, but I cannot get files to copy over onto the client hard disk the way I can with older hardware. The usual Copy window opens and a copy bar appears but that is it. Three minutes later the message that the file server has unexpectedly closed down / is no longer connected appears and that's it.

The five iMacs have been updated to Mac OS 8.6.1. I print to a LocalTalk 4/600 laser printer using the Farallon iPrint. Someone suggested taking this device out of the Dlink but this made no difference. Another person suggested the cables may be at fault, but as I can open files this can't be the problem. Looking through the Extensions folder, I notice that the File Sharing Extension and library are both from Mac OS 8.5. Is this relevant? According to the ReadMe file on the Mac OS 8.6 CD, my version of AppleShare is also fine. What is going on here? This is ruining the point of having iMacs if I have to get a floppy drive out the whole time!

Sue Ferguson, Fife

A Your problem is unlikely to be connected to the hardware in use on your network as all the machines can correctly "see" and mount each other across the network. There are several things you can try to ensure that all the software in use is up to date and correctly configured.

Most importantly, you've said your iMacs are updated to Mac OS 8.6.1. There is no Mac OS 8.6.1 - there is a Mac OS 8.6 and a Mac OS 8.5.1, so I suspect you mean Mac OS 8.5.1. In which case, first of all you should update your iMacs to Mac OS 8.6. The update is free and can be downloaded from Apple's Web site. Also download and apply the *iMac Firmware Update 1.2* and *Mac OS ROM Update 1.0*, which are all available from <http://www.apple.com/swupdates/>.

If the updates don't help, disable file sharing on all the Macs on the network by clicking the **Stop** button within the **File Sharing** Control Panel on each Mac. Next, delete the **AppleShare Prep** file within the **Preferences** folder in the System Folder of every Mac and restart. You can then re-enable file sharing on the Macs of your choice. The AppleShare Prep file can become corrupted and cause havoc with your AppleShare volumes. By deleting it, you force your Mac to rebuild a new file from scratch, which with luck should solve your networking problems. You should verify that your sharing permissions remain unchanged, and re-configure them if necessary. (This can easily be done by choosing **Sharing** from the **Get Info** sub-menu of the **File** menu within the Finder.)

Alternatively, it may be that an Extension or Control Panel installed on the iMacs is conflicting with the networking Extensions required to connect and use AppleShare services. Use the Extensions Manager to make the **Mac OS 8.6 Base** set active on each of your iMacs, before restarting.

If you're still having problems, contact your nearest Apple Authorised Service Provider, who will be able to diagnose the problem for you. Telephone 0870 600 6010 to find the one nearest to you. NR

Going Down Under

Will my Mac work on Aussie power?

Q I am migrating to Australia quite soon and would like to take my trusty Mac with me. I am wondering if I will be able to use my Mac on their voltage system, which I believe is 210-220v. Peter W Knight, via e-mail

A You don't say which trusty Mac you have! Most desktop Macs have universal power supplies that will work with any country's voltage system. Some of these automatically configure themselves, but with most you have to move a small switch at the back of the Mac with a screwdriver. Australia's voltage system (240v +6% or -11%, so 214-254v) is similar enough to the UK's that a Mac with one of these universal supplies will work

Keyboard shortcuts

Command	Keystroke
Clear	[delete]
Close File/Window	⌘ W
Cut	⌘ X
Copy	⌘ C
Paste	⌘ V
Duplicate	⌘ D
Find File/Keyword	⌘ F
Make alias (System 7.5 upwards)	⌘ M
New File/folder	⌘ N
Open file	⌘ O
Print File/window	⌘ P
Quit (Application only)	⌘ Q
Save file (Application only)	⌘ S
Select all	⌘ A
Undo	⌘ Z

Cancel: ⌘ • (that is ⌘ plus the full-stop key).

Force Quit: ⌘ ~ [escape]. If an application crashes or gets stuck in what's called a loop, and the menu bar just won't respond, use

this to force the application to quit - that is, to stop an execution of the program's code dead and return immediately to the Finder.

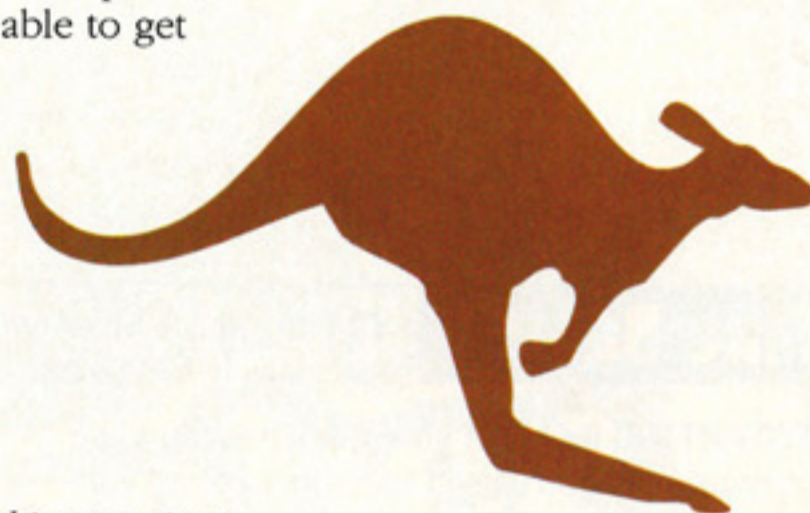
Reset: ⌘ [control] [power key] (except on iMacs and PowerBooks - see box on page 50 for those). This (almost) never fails to restart your Mac, even after a really bad crash. Use it when your Mac has frozen or "hung" (that is, when the cursor won't move and none of the keys appears to do anything).

Interrupt: Hold down ⌘ and press the power key on your keyboard. This drops you into the mini-debugger, which looks like an empty dialogue box with a prompt (the > character). To return to whatever you were doing, type **G** and then press [return]. Don't type anything else in: you may crash your Mac.

The interrupt command halts everything in its tracks - even the operating system - so it's handy if you suspect you have a virus or if your Mac is caught in some arcane process and you need to think about what course of action to take.

unaltered over there as the tolerance in the power supply is 200-240V. You will need a different power lead to plug into the Mac, but you'll be able to get those in Australia.

If you have an older Mac, a printer or scanner and you're unsure about its voltage capabilities, you can check out the details at Apple's Tech Info Library <http://til.info.apple.com/techinfo.nsf/artnum/n267> JP



Banking on it

Can Macs bank online?

Q I'm trying to use several online banking services, but am not having much luck with any. Apparently, all the services use "Global Server Certificates" to set up a 128-bit SSL session with export-grade browsers. In theory, this should work with any version 4.x browser (and it certainly does for me on my Linux and Windows machines). However, I have tried both IE 4.01 and Netscape 4.08 on my Quadra but both result in the Web sites giving me error messages that my browser does not support sufficient encryption. It's not that I can't log in to these services, I can't even get the login page to display! Any ideas? Mustafa Arif via e-mail

A Online banking has boomed over the last year, with most High Street banks offering some form of electronic account management. ☑





Whether you can use these with Macs is more complex than just security – some banks expect you to install some custom software (inevitably Wintel PC only); others require a specific version of Java that your browser might not support. Watch for a full discussion of these issues in MacFormat soon. For now, let's look at the question you raise: security.

It is obviously considered extremely important and banks are very specific in their requirements before a secure connection can be made. Because the Internet is a public network, it's possible for a third party to read the data in transit between your computer and the intended destination. If you encrypt the data before it leaves your computer, third parties may still intercept the data, but it won't be in a readable form and would prove very difficult to decrypt. The receiving server, however, can decrypt it because it has the required secret key.

There are three common standards for encryption used by Web browsers today: 40-bit, 56-bit and 128-bit. The higher the bit rate, the stronger the encryption, meaning the harder it is to break into. Most online banking sites require your browser to make a 128-bit encrypted session with their server before enabling you to access your account. If your browser doesn't support encryption, or supports encryption weaker than 128-bit, the server will try to send you a Global Server Certificate to temporarily upgrade your browser to 128-bit encryption. This is a relatively new technology and requires an up-to-date browser. You need at least *Netscape Navigator 4.6* or *Internet Explorer 4.5* for this to work. Both of these

can be found on the MacFormat Cover CD – but the versions you get outside the US can support only 56-bit encryption.

Why don't even the latest browsers support 128-bit? Unfortunately, US law prevents the export of strong cryptography products ("strong" being higher than 56-bit). This makes it illegal for US companies like Netscape and Microsoft to electronically distribute (or make available for download) software that incorporates 128-bit encryption, including Web browsers, outside the US.

Thankfully, though, it's possible for companies outside the US to create and distribute stronger software, so long as it's not exported to the US. *Fortify* is a program that patches existing "export-grade" copies of *Netscape Navigator* to support 128-bit encryption. Because *Fortify* was created outside the States, it's perfectly legal to use it to patch your *Netscape Navigator* for secure transfers.

So if you plan on making secure transactions over the Internet, it's well worth using *Fortify* as it'll save you from having to download the temporary Global Server Certificate every time your browser enters secure mode. *Fortify* can be downloaded from <http://www.fortify.net>. NR

On the right tracks

Floppy drive seems to be dyslexic

Q When I try to load floppy disks (my own, commercially produced and blank formatted disks) the computer says it cannot read them and offers to reformat them. Disk First Aid refuses to help.

iMac Basics

Our regular MacAnswers column provides tips and advice exclusively for owners of Apple's trail-blazing iMac.

RESTARTING iMAC: If your iMac freezes while you're using it, you'll need to restart before you can fix the problem. There are three ways of doing this safely; try them in the following order:

1. Try the keyboard combination $\text{⌘} \sim \text{⌥}$ and the power key on the keyboard – hold all four down at once, then release them together.
2. If this doesn't work, you'll need to use iMac's reset button. On a new model iMac or iMac DV, this is recessed, but accessible, at the right-hand side where you plug devices in. It's the button with the small triangle on it. You may need a blunt instrument like a ballpoint pen to depress it.

On older iMacs you'll need to straighten out a paperclip. Then open the hatch at the side (where you plug in devices): there's a hole between the Ethernet and modem ports, with a small triangle icon beside it. Gently insert the paperclip into the hole until you feel the button inside. Just a gentle nudge will restart your iMac.

3. If both options fail, you'll have to unplug iMac from its power socket. Make sure you wait for 30 seconds before re-applying power: this gives iMac time to settle, so you'll restart without a hitch.

USB DEVICE TROUBLE: If any device plugged into one of iMac's USB ports isn't working properly, try this troubleshooting procedure:

1. Make sure the device is receiving power; try unplugging it and plugging it back in to ensure that the connection is robust.
2. Use *Apple System Profiler* to check that your iMac can detect the device. *ASP* can show you which devices are currently plugged in and, typically, which other devices (like hubs) they're connected through.
3. Check that you've installed the specific software driver for the device; try re-installing it and then restarting the iMac in case it's become corrupted.

Still no joy? It's time to try Plan B:

1. Disconnect all your USB devices; plug your keyboard into your iMac's Port 1, and your mouse into the keyboard's Port 1.
2. Plug the questionable device into your iMac's Port 2; make sure it's plugged into a wall socket if

it has its own power supply.

3. Restart your iMac with only standard System Extensions and the driver for your USB device.
4. If the device now works, there is a problem with the keyboard or hub that it was first connected to. If you're still getting the same hardware fault, the likelihood is that there's a problem with the device; contact your dealer for advice.

SOFTWARE UPDATES: Apple has released a succession of software updates since the first iMac was released, to solve known problems or prevent potential difficulties arising. Always read the installation instructions carefully, and back up your important data if you can. Make sure you install updates in the exact fashion that Apple instructs. All the updates are available through the Web site <http://www.apple.com/download/>. If we've indicated that local versions of the software are available, use only the version that's been localised to the same country as your copy of the Mac OS (prefix B for "British", for example).

If you have a **Bondi-blue iMac and Mac OS 8.1**, you should install:

- Apple Modem Updater 1.3 (local version only)
- iMac CD Update 2
- iMac Firmware Update 1.2
- iMac Update 1.0 (local version only)

If you have a **Bondi-blue iMac and Mac OS 8.5**, you should install:

- iMac CD Update 2
- iMac Firmware Update 1.2
- iMac Update 1.1 (local version only)
- Mac OS 8.6 Update (local version only)

If you have a **Blueberry, Grape, Lime, Strawberry or Tangerine iMac**, you should install:

- iMac CD Update 2
- iMac Firmware Update 1.2
- Mac OS 8.6 Update (local version) if wanted

All iMacs running Mac OS 8.6 must have Mac OS ROM Update 1.0.



Swapping keyboards between different iMac models can cause problems. See below for more details.

If you have a **DV iMac**, iMac DVD Update 1.0 improves the DVD drive's ability to read CDs (including the MacFormat Cover CD!).

If you're already running **Mac OS 9**, **DO NOT** apply any of these updates (they may cause a freeze at startup!) unless it's a DVD-equipped machine, in which case you need only iMac DVD Update 1.0.

KEEP YOUR KEYBOARD: Apple warns against switching USB keyboards between different models of iMac or the blue-and-white PowerMac G3. Apple says it has modified the keyboard design with successive Mac releases; using the wrong one may affect your Mac's performance.

Three different keyboard configurations have been released to date:

1. The original Bondi blue iMac's keyboard;
2. The keyboards supplied with Grape, Lime, Strawberry and Tangerine iMacs;
3. The Blueberry keyboard supplied with Blueberry iMacs and blue PowerMac G3s.

Don't switch keyboards outside of these groups, and you won't risk any problems arising.

Apple hasn't published any warnings about the Graphite keyboards supplied with G4s and iMac DV Special Editions, but it is best to assume they are a group of their own too, for now.

If I do reformat a disk I can then use it to store and retrieve data. It's as if the machine has reinvented itself. I've tried a disk cleaner to no effect.

Revd John Lindsay, North Berwick

A It sounds like your floppy disk drive has not so much reinvented itself, but re-aligned its heads. Although there are no actual grooves in floppy disks and other magnetic media, they have notional "tracks" and the read and write heads of the floppy drive have to follow them. Tracks are laid down when the disk is formatted. It appears that your drive is using tracks of its own so that it cannot read other media, but it can read disks that it has created itself. I'm afraid the best solution to get hold of a replacement floppy drive if you intend to continue using it. Alternatively, a SuperDisk drive will read your old 1.4MB floppies (but not 800K ones) and give you 120MB alternatives. See page 56. JP

The Word is out

Reading and writing to Microsoft Word

Q *I am a contract worker, undertaking inspections for a variety of contractors. I get sent information prior to an inspection, analyse the data, make a pre-inspection commentary, e-mail this to the contractor, do the inspection, return home and write up the report, which I then e-mail to the contractor.*

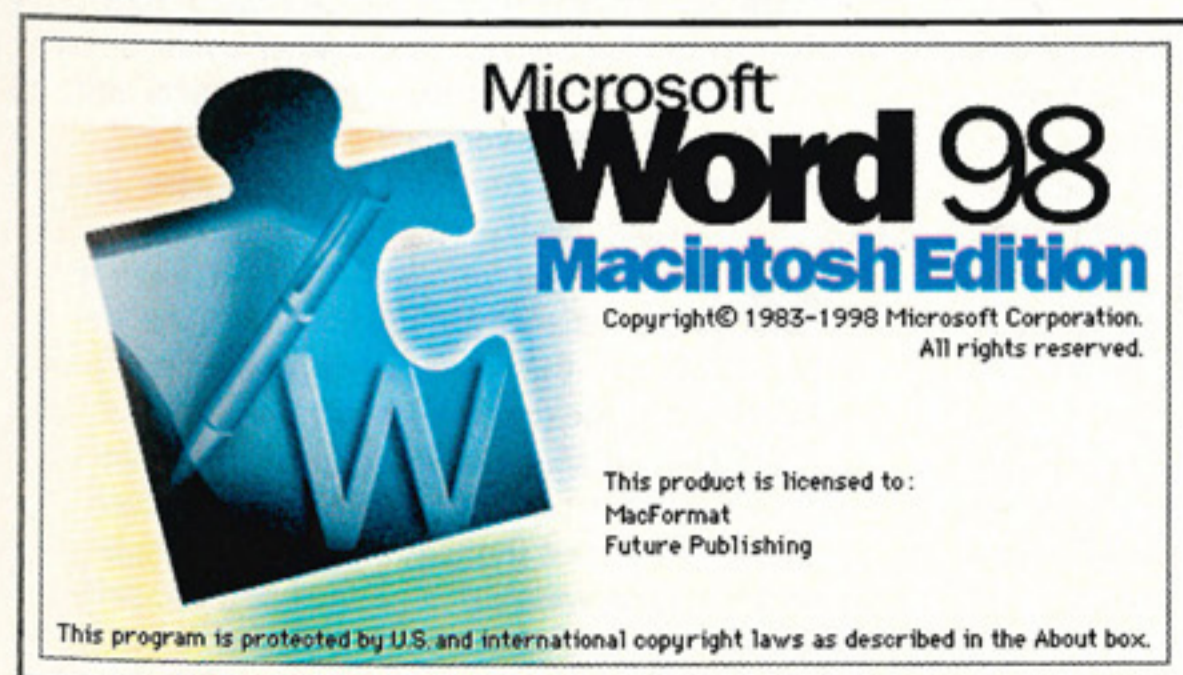
This has worked reasonably well up until recently. The contractors have been sending me information either by snail mail or e-mail and I have managed to find ways of replying to their e-mails and sending my reports to them, generally using RTF or putting the text in the body of the e-mail message. Now, however, all contractors have been told by their employer (HM Government) that all documents must be sent by e-mail and must be written in Microsoft Word 7. So now I am receiving huge files with frames, formatting etc that I suddenly can't unscramble.

When I download the files as attachments with Claris EMailer 2 and try to open them, my Mac tells me the document is too large to be opened by SimpleText, and if I then go into my copy of Word 5 for the Mac, I end up with hundreds of pages of symbols - typically, a 26-page e-mail document becomes up to 356 pages of boxes, accented letters etc.

I must amend this document, add information to it and send it back, again as a Word 7 document, by e-mail. One of the contractors I've been in contact with has already suggested that I must buy myself a PC, which, after 12 years a dedicated Mac-user/PC-phobe, I'm not willing to consider... but I've got my livelihood to consider also. Will the latest version of Microsoft Word for the Mac be able to decode these files without all that gobbledegook showing up on the screen? And will I then be able to e-mail those documents to a PC-user without losing all the formatting information? Would a PC-emulator be the answer? Or is there possibly a simpler solution?

Clive Lewis, Swansea

A It is interesting to hear that HMG have chosen Word 7 as their default file format. As you have noticed, the files are much larger than



Microsoft Word produces bloated, messy files that nothing else can fully cope with, especially if they're "Fast Saved".



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plain text files – not just because people have a habit of embellishing documents with unnecessary graphics etc when they get a chance (and they do), but because *Word* notoriously incorporates all sorts of extraneous data into files. But if HMG don't care...

The answer to your problem is simple. The *Word* 7 format is the same as the *Word* 8 format used by *Microsoft Word 98* for the Mac, so the easiest solution is to buy yourself a copy. You will not even have to "Save as" for a PC to read the file. You will have to ensure you don't use filenames with strange characters that PCs can't use in a filename (such as * or /). With the possible exception of a few font irregularities, you should be able to send *Word* files between PCs and Macs with no difficulty.

You should be aware, though, that using *Word* does open up a can of worms, so to speak: viruses. *Word* macro viruses are virulent and can affect Macs as much as PCs. Even if they don't affect your Mac, your Mac can become an "asymptomatic carrier" of a virus, spreading it within your documents without your knowledge. When you go out to buy *Word*, be sure to invest in commercially updated anti-virus software such as *Norton Anti-Virus* (best value is to download from <http://www.symantec.com/> for £40) or *Virex* (£175 from Dr Solomon's, 01296 318700). Perhaps you can charge the cost of the virus software to your employers, since they're the ones insisting on using *Word*! JP

Give these a spin Transferring LPs to CDs

Q I want to transfer LPs (you know, that old kind of records) to CDs. To do that I want some quality equipment. What should I buy? I think a *Plextor 8220* may be the right solution when it comes to the CD-writer, since it uses a caddy to keep the disc steady. I would choose the external SCSI version. Is this a good choice? I will probably need a soundcard, but I have absolutely no idea what I should get. What would be appropriate for the quality of the CD-writer? (I will spend a fair amount of money, but I'm not a professional.) What software would you recommend? I would like to be able to edit out scratches from the LPs and fine-tune the music to my liking.

Martin Røkke, via e-mail

A Adaptec's *Toast Deluxe* (£49 from Adaptec on 01276 854500), now up to version 4, is pretty much the standard CD burning software for the Mac. It includes *Spin Doctor*, which is designed

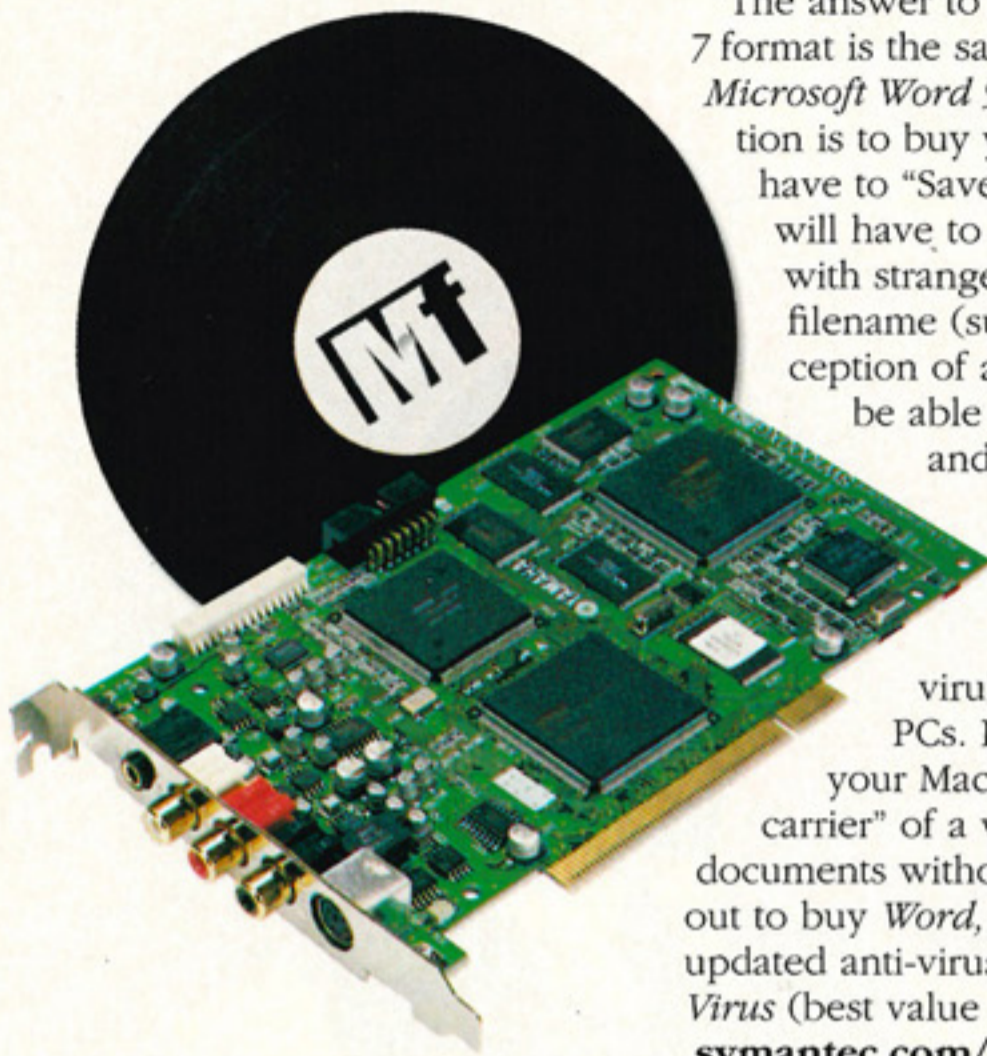
specifically for improving vinyl recordings, and this may well do the job for you. If you want something more sophisticated, you're looking at a dedicated audio editor such as *Peak* (£349 from SCV London) or *Spark* (£299 from Arbiter Pro Audio on 020 820 75050), even though it is rather OTT for simply tarting up vinyl recordings. Incidentally, both of these include a version of *Toast* in the bundle (although not the Deluxe version).

Peak has a Repair Clicks function and *Spark* has an Expander which can help reduce noise, but neither has all the tools you really need. However, they both support plug-ins, although *Peak* doesn't currently support the VST plug-in format, which is the most popular, so we'd have to suggest you look at *Spark* and Arboretum's *Ray Gun* plug in (£99 from Unity Audio on 01440 785843). There are even more dedicated plug ins – like Steinberg's *De-Clicker* and *De-Noiser* (£299 each from Arbiter) – should you want to get really serious.

Most CD-Rs come with CD burning software, often a version of *Toast*, so see what facilities that offers first. The *Plextor* drives have an exceedingly good name among the music fraternity, not least because they are able to transfer audio data from a CD to a hard disk with an accuracy other drives can't match. However, most mid-range CD-R drives ought to do a good job of simply writing CDs. Check out <http://www.tardis.ed.ac.uk/~psyche/cdda/> for details of drives which have been tested for their audio data transfer capability. The use of a caddy in a CD-R drive is immaterial and most drives these days simply use tray loading. We do like SCSI (for one thing, it's much faster than USB) but whether it's internal or external makes no difference to performance. Internal is cheaper, but external is easier to connect (even if you enjoy DIY electronics).

Before spending money on an audio card, you could actually try using the Mac's built-in audio facilities. The quality can vary from Mac to Mac, and although it's not recognised as being "pro" quality, many people considerate it quite adequate for music demos. If you do opt for a card, the choice depends on your requirements and your pocket. There is something of a dearth of simple stereo audio cards, most manufacturers reckoning that if you're going to spend a few hundred quid on a card you want it for serious music use, so most cards have four or more Ins and Outs and a digital connection to boot.

Call Midiman on 01423 886692 and ask about the new range of audio cards, in particular the *Delta 66* (£349). They were originally released for the PC but Mac drivers are in the offing and may be available by now There's actually not many cards much



A Yamaha sw1000 card makes an ideal link in the chain between old vinyl and shiny new digital copies of those old tunes. See "Give these a spin".

Bug Bytes: bug reports and fixes

Apple's Mac OS 9 audio update has had a chequered history. Version 1.2, which supported the iSub speaker system was pulled from Apple's Web site almost as soon as it was up. Now version 1.3 is available, includes better DVD sound playback, and this one has got it right, they say. <http://asu.info.apple.com/swupdates.nsf/artnum/n11573>

Are you annoyed that *Outlook Express* no longer keeps your mail folders separate in the Finder like it used to? Don't worry, Steffano Capello has updated his utility that enables you to turn your e-mails from *Outlook Express 5* into simple text archives. Version 1.1 can be found at <http://digilander.iol.it/capste/oea/info.html>

QuickTime 4.1 improves things for users of the streaming server but causes a number of problems. The Sound Manager file that QuickTime 4.1 installs is meant to improve DVD sound playback, but makes some audio CDs skip if Virtual Memory is switched on. Users of

Adobe Premiere are having problems with some DV cameras, and if you want to create QTVR scenes that use URL hotspots you'll find they don't work with QuickTime 4.1. An Apple tech info note explains a workaround: <http://til.info.apple.com/techinfo.nsf/artnum/n60694>

Atelier, maker of *MacConnect* and *PsiMac* for connecting Macs to palmtops, reports that its software has certain incompatibilities with Mac OS 9. You can still perform backups and restores, but the Psion icons won't mount on the Desktop. Atelier is working on a fix, which will be posted on Psion's Web site. <http://www.pSION.com/downloads/index.html>

Nikon, on the other hand, is on top of its OS 9 problems and has posted a fix for its Coolpix camera connection software, *Nikonview*. You'll find it at <http://www.nikontechusa.com/OS9Updates.htm>

Apple has posted a huge amount of informa-

tion about its language kits now that they are included in the Mac OS. You can search the Tech Info Library (<http://til.info.apple.com/>) to find out more. Apple has also now posted PDF versions of all its manuals! <http://www.info.apple.com/manuals/manuals.taf>

There's a patch available for the full version of *Star Wars Episode I Racer* (not the demo we gave you on the MacFormat Cover CD) which gives you more joystick control and works better with Voodoo3 chipsets. <http://support.lucasarts.com/patches/racer.htm>

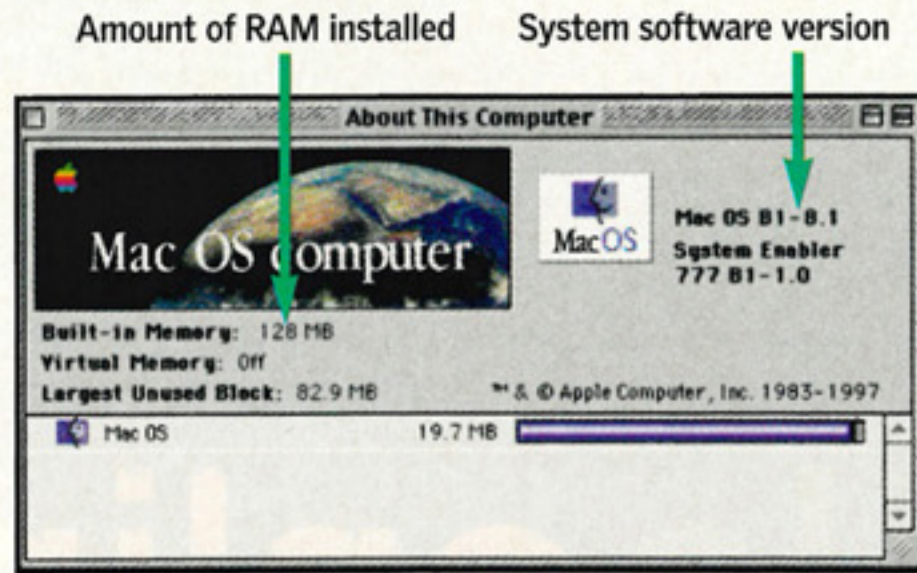
Want to look for aliens? The Seti@home project is a way of using individual computers all over the world to analyse signals from outer space, looking for any signs of extra-terrestrial intelligence. It works as a "screen saver" on your computer and downloads data over the Internet (not continuously, just now and then, but watch that phone bill!). The software has just been updated to version 2.0. You can download the new software for SETI from <http://setiathome.ssl.berkeley.edu/mac.html>

The do-it-yourself problem-solving guide...

One of the most common causes of problems on your Mac is Extensions or Control Panels clashing in your System Folder. It's easy to check if this is the case. Restart your Mac and hold down the **⇧** key (it may be **[shift]** on your keyboard). Release the key when you get the message, "Welcome to Macintosh. Extensions off" (or in newer versions of the OS, "Welcome to Mac OS. Extensions Disabled"). If everything now works, then the problem is likely to be an Extensions conflict.

The only way to work out which item is the culprit is by trial and error. Remove a few Extensions or Control Panels, then restart your Mac without holding down **⇧**. Keep on doing this until the problem no longer occurs and you've found the offending software.

If this doesn't work you can try rebuilding your Desktop. As you start up, hold down the **⌘** and **⌘** keys. You'll get a message asking if you want to rebuild the Desktop. Click **OK**, wait for the process to finish and see if this works.



If you're still stuck, use the form at the bottom of this page to write to us. We'll need to know a few facts about your Mac, so, when you're in the Finder, select **About This Computer** from the Apple menu (**About This Macintosh** for System 7.x) - the crucial things to note are shown above.

cheaper. Look at the Lucid PCI 24 (£345 from SCV London, 020 7923 1892). If you'd like some on-board sounds and effects too, and an all-round darn good music card, we can recommend the Yamaha SW1000XG (£449 from Yamaha, 0198 366700). IW

Locked out

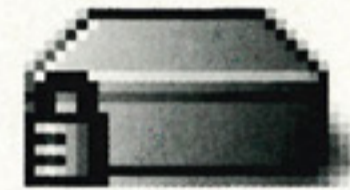
Freeing up a locked hard disk

Q One day, upon starting up as normal my Mac could not find the startup disk. So I started up from the System 7.5 CD and noticed that the hard disk is locked. I was unaware this was possible, and have looked around but as yet have not found any logical reason for this.

Up until this date, the machine has served me well and has never had a problem. It is used for graphics with Photoshop, QuarkXPress, FreeHand, GoLive, etc. and has been running fine since I bought it new three years ago. The hard disk is four gigabyte and all the information is still intact, but not modifiable. Any information would be hugely helpful. Steve Connolly, Nottingham

A Very few hard disks can be physically locked, so it's probably a software problem. Apple hard drives can be software-locked by utility and security software. Have you used anything like this?

Thankfully, it's a fairly trivial task to unlock your hard drive. Start up from your System CD by making sure it's in the CD drive and holding down **⌘** **⌘** **⇧** and **[delete]** after pressing your Mac's power key. When your Mac has finished starting up, open the **Utilities** folder from the System Software CD and launch the *Apple HD SC Setup* application. Make sure your hard drive is selected (by clicking Choose if it's not) and click the **Customize** button. You'll see a graphic representing the partitioning structure of your hard drive. Click once on the largest segment ("Macintosh HD" or the name of your hard drive) to highlight it. Click the **Unlock** button and press **Done**, then quit *Apple HD SC Setup*. Restart (not from the CD this time) and your hard drive should be unlocked and back to normal. NR



My Mac HD

Ask MacAnswers

If you send in a question for the MacFormat experts, please fill in and include this form (or a copy of it - you'll find a *SimpleText* version in the Resources folder on the Cover CD). And please make sure that you include all the relevant details - version numbers of software and so on - so that we have the best chance of helping you. Send your form and question to: **MacAnswers, MacFormat, 30 Monmouth Street, Bath BA1 2BW** or fax it to us on 01225 732295.

If you have Mac OS 8 or later you can use Apple System Profiler to collect all the necessary system information you require and send it to us on a disk or by e-mail.

Sorry, we can reply in the pages of the magazine only.

Name

Address

.....

Your Mac
(For example, Performa 475, PowerMac 7300/200, PowerBook 5300):
.....

System version
(see About This Computer screenshot above):

Amount of RAM
(see About This Computer screenshot above):

Are you using virtual memory? YES/NO
(Check this with the Memory Control Panel under System 7 or Mac OS 8)

Do you have 32-bit addressing or Modern Memory Manager (PowerMacs only) turned on? YES/NO
(Check this with the Memory Control Panel under System 7 or Mac OS 8. In the latest Macs this is always on, so don't worry if you can't find it!)

Details of any relevant hardware which could help us to answer your question:

.....
.....

Now, use this space to describe your problem or question. Please include as much relevant information as possible, and continue on a separate sheet if necessary.

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VST's FireWire 250MB Zip drive: not just a data storage device but a fashion statement...

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This means there's a demo version, preview or sample on our Cover CD

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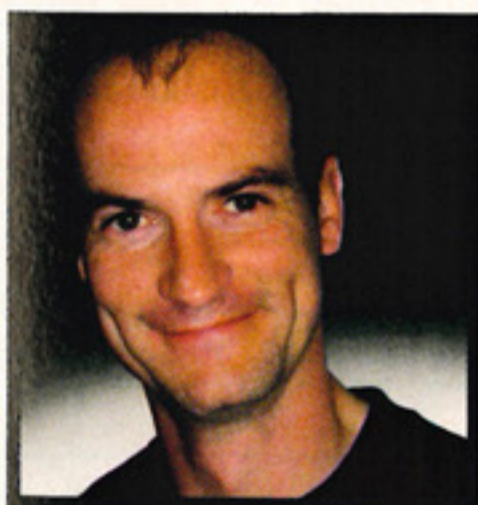
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MacFormat's reviewers this issue



MacFormat's technical wizard **John Parnaby** cuts a swathe of light through the murky world of removable storage.



Resident berserker **Ed Haynes** wields *Dreaweaiver 3* and *Fireworks 3* like a sword. Or possibly an axe.



Creative **Josef Morrell** carries a brush in one hand and a pen in the other to test the unique vector-plus-bitmap *Canvas 7*.



MIDI music-man **Ian Waugh's** weapons of choice this issue are comb filters, ivories and micro-splicing. Sounds painful.



Weapons? **Brian Smith** tried the lot in *Unreal Tournament* - from plasma rifle to fatboy mutator. Sounds terrifying!



Matthew Richards travels through the Warsaw Ghetto on his way to challenge Yoda. Now *that's* bravery!

Group Test

Removable data storage options from floppy to DVD-RAM

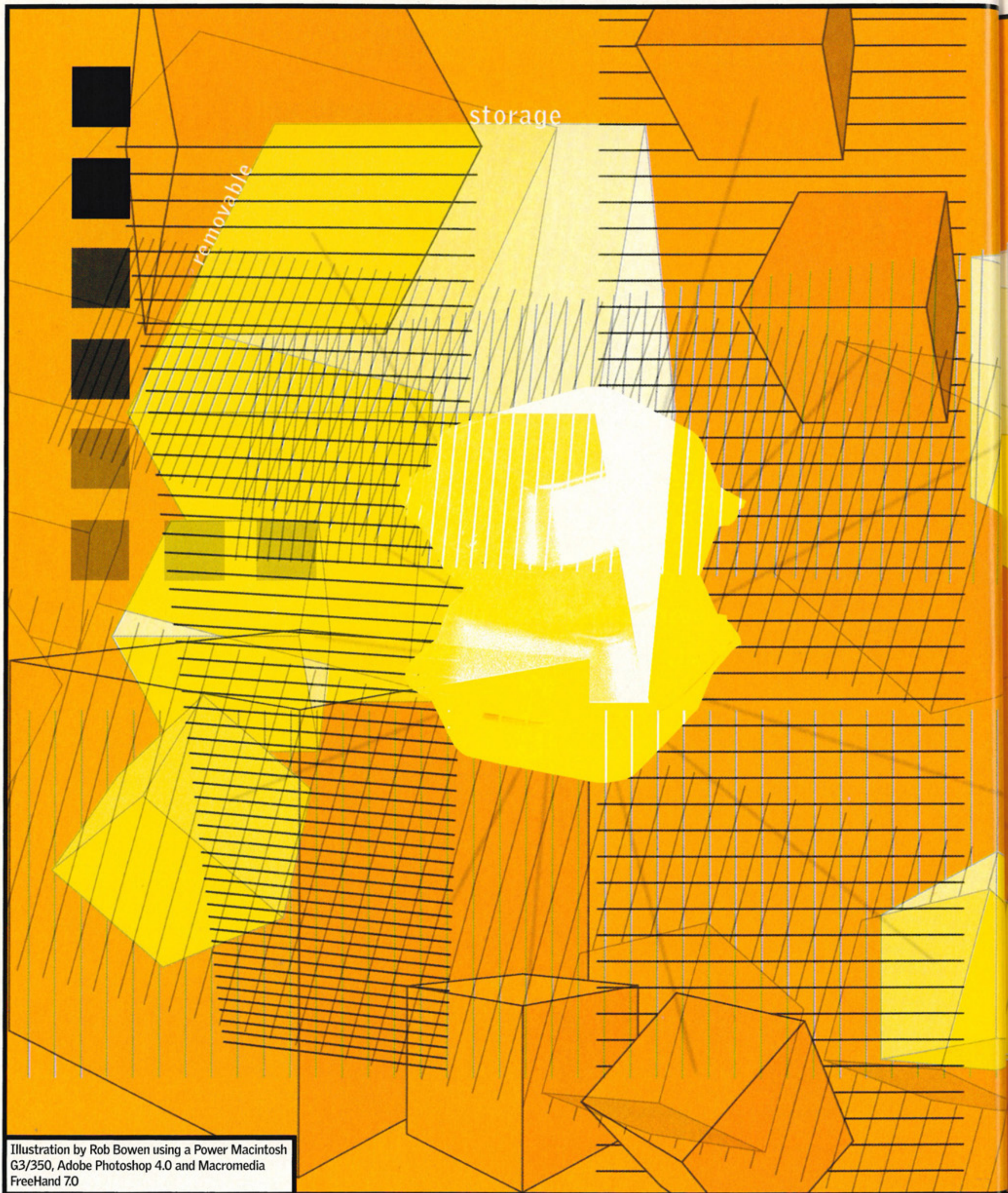


Illustration by Rob Bowen using a Power Macintosh G3/350, Adobe Photoshop 4.0 and Macromedia FreeHand 7.0

Take Away

REMOVABLE STORAGE Need some way of backing up your precious data, or just something on which to bring work home? We take a look at the huge range of possibilities.

Apple's iDisk is the beginning of what might become the future of storage – available anywhere, always backed up, always online. But at the moment all iDisk users have is just 20MB of slow-to-get-at storage space. A good replacement for the floppy, but it's no answer for the gigabytes that games require. Until infinite, high-speed and instantaneously accessible Internet storage becomes a reality, we are still going to need removable media to transport and back up our valuable data.

There's a vast range of removable options available, so we've split them into four categories, defined by capacity: floppy sized, Zip-sized, CD-sized and "gigabyte or more". What you choose depends on your circumstances, and it may be that you need more than one solution for your pattern of working.

Removables are principally used for back-up and for transferring data. As we saw last issue, external hard drives have huge capacities and are very good value. (If you missed that issue, see page 116.) FireWire and USB are making these devices easy to use and portable, but they are not so cheap that you want to shove them in the post to send to a repro house for printing your work. For such things Zip disks and CD-R remain very popular, but in this roundup we've also taken a look at some older and newer technologies.

Removable media are generally never as fast as hard disks. They don't have the luxury of being housed in vacuums and manufactured to tolerances that fixed storage systems can support. A removable product has to cope with dust in the office, sticky fingers, coffee spills and being dropped. This means

that the actual media need to be housed in a case that is robust but can be opened in the drive mechanism so that the read heads can access the media. The majority of media use a "window" with a sliding door that opens as the cartridge or disk is inserted into the drive.

The exception to much of this is CDs (and now DVDs). Since they are read and written to by light, the actual media layer is held inside the transparent protective coating. Although the plastic exterior of the disk is pretty tough, however, it is still susceptible to scratches and imperfections which can make your precious data indecipherable. ▣

ON TEST

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How we tested them

Although we could use benchmarking type tests to look at the relative performance of the drives, we decided to test them with procedures that were analogous to real-world usage appropriate for the different capacities and media of the different formats. We used a Blue-and-White G3 with 128MB RAM and a "vanilla" installation of Mac OS 8.6. Virtual Memory and AppleTalk were switched off, and we used an Adaptec SCSI-2 card for the SCSI devices. Data to be copied was on the internal, "optimised" hard disk drive.

For Zip drives we looked at the time it took to copy 90MB of mixed size files to and from the drives in both 100MB and 250MB versions using Finder copies in Mac OS 8.6. We also had a look at copying single files of the same size and averaged the results.

For the CDs, we looked at time taken to write a nearly full CD. Note with CDs that a 4x drive should write 650MB in 18.5 minutes, but there is some time at the beginning and end of writing each disk that all drives take up,

and this will vary depending on the Mac and system being used. For larger drive sizes like opticals and DVD, we give performance figures for copying 600MB of mixed size data and a single file of that size. It is also important to note that if you're using re-writables for backup with software such as Dantz's *Retrospect*, backup times are usually better than Finder copies – usually half the write speed. *Retrospect* comes with some drives like the Fujitsu optical and LaCie DVD we tested, or is available separately for £46. For details, contact Computers Unlimited, 020 8358 5857.

Limp lettuce

Apple's iMac shocked the world, not just with its innovative consumer design but because of its lack of a floppy disk drive. Critics – particularly in the PC world – predicted the lack of a floppy would be the death of any sales. But Apple realised that the floppy was one of the least-used parts of a computer these days. Virtually no software was being distributed on the 1.44MB floppy disk (actual capacity 1.3MB) and it was pretty useless as a medium for backing up large amounts of data. While most Wintel PCs still ship with a floppy drive installed, its use is on the wane and diskette manufacturers confirmed to us that sales of blank floppies have plummeted over the last few years: sales of blank diskettes dropped 18% last year, and if you include the floppies sold for software distribution the drop is 42%. The floppy should have died by now.

But it won't quite let go. If you have an acreage of floppies containing old shareware or archives of your work, you will still need a way to get at them with a new iMac, G3 or G4. One option you have is to use an older Mac to transfer everything across over a network or to a new medium. Alternatively, you can get a floppy drive for your Mac. We've looked at these before and they are a pricey answer to a very particular problem.

The other option is to use SuperDisk – this is a development of the technology from

Imation (a spin-off of the 3M Corporation). SuperDisk drives can read 1.44MB floppy diskettes – but not 800K ones – as well as their own LS-120 (120MB) disks (which hold 118MB data formatted). Despite having stiff competition from the well-established Iomega products, SuperDisk is not as dead as the floppy. It is quite popular in the PC world, and Imation says it has shipped more than a million drives for the Mac – that's enough for one in every two iMacs!

Magnetic milkshakes

However, SuperDisk is unlikely to become as popular as Zip on the Mac. Apple – trail-blazing as usual – was the first computer manufacturer to ship machines with Zip drives pre-installed, in early 1997. Sadly, the huge success of the technology has not been mirrored in the Iomega company itself. After serious losses, it is only now starting on the road to financial recovery.

Zips work by spinning a floppy sheet of magnetic material at very high speeds. The disk spins so fast that it becomes more rigid and can behave a bit like a hard disk. How-

ever, the remaining flexibility is beneficial when coping with contaminants. Disks with a nominal capacity of 100MB can store around 94MB of data when formatted and are widely used in both the Mac and PC worlds.

Macs can also read the PC versions of Zip disks, which makes them a handy method for transferring data between the two platforms.

There is also a 250MB version of the Zip, but we have been unimpressed with its performance when writing 100MB disks. Also, the 250MB drives can't "Long Erase" 100MB disks. The 250MB disks are more expensive and less popular.

Zips come with virtually every interface option: drives fitted to new G3 and G4 Macs have an IDE interface – the same as in PCs – but external SCSI, USB and FireWire options are available too.

Double-speed cheeseburners

It is only eight months since our last CD-writer review and the technology has really become quite a standard. The key things that are changing are speed and price – both in the right direction for the consumer.

CD writers can burn CDs of virtually every kind. The different standards are all known

Tape it

One of the truths that users of Apple's new *iMovie* video software discover is that video tape can hold a heck of a lot of data. Full DV stream movies occupy around 250MB for every minute of footage. That's 15GB for an hour of video! But hang on, a small video cassette can hold three hours easily, and they are cheap. So why not use tapes for removable data storage? Well, you can. But along with the advantages of high capacity and cheap cost, tapes have a couple of huge disadvantages. They are very slow and, unlike disks, run "sequentially". To access something stored at the end of the tape, the drive has to fast forward to the correct point to retrieve it. This lack of "random access" means that tape drives are generally used for backup and archiving, where instant access and time aren't the pressing requirements.

DAT (Digital Audio Tape) is a small cassette that can hold 4GB of data without compression. There are various standards of DAT drive, the most recent being DDS-4. With this version, a single 180m tape can hold about 20GB of data when used with "hardware" compression – this is where the circuitry in the tape drive does the necessary calculations to compress the data. While this is impressive, the DAT drives are expensive and backing up 20GB of data will take

about four hours. So it is the sort of thing you would do overnight. Even so, 20GB is not much when you consider the size of disks around today.

DLT is becoming much more common in places that used to use DAT. Digital Linear Tape is more like a short fat video cassette, and it comes in capacities that start at 15GB without compression. DLT tapes can also be loaded in auto-changers that hold racks of tapes for backing up huge quantities of data – terabytes. DLT drives are very expensive, but surprisingly fast since they can "fast forward" to the right place for restores very quickly.

Other standards include tapes with names like Colorado and Travan, but these are most popular in the PC world. A new contender on the block is VXA. As DAT has become less capacious and DLT remains high-priced, VXA may offer a backup solution for small offices or even home users with a lot of data. VXA tapes offer 33GB capacity (uncompressed) and the manufacturer, Ecix, has introduced a range of Mac compatible ones. It's not yet an "industry standard", but this is less important for a backup medium where you don't have to exchange data with other people. The tapes are pretty cheap too. It'll be one to watch.



Tape drives can back up very large quantities of data, but you can't dive in just to access a single piece of data.

by coloured books – Red Book, Yellow Book, etc. CD writers can create CDs from blank CD-R discs in most of the formats. However, some CD types cannot be created by these consumer recorders, essentially for copyright-protection reasons.

Ordinary CDs represent the 1s and 0s of data as pits in the surface of a reflective aluminium layer. CD-Rs work by having a layer of dye between the transparent surface and the shiny reflective layer so that, by altering the dye, its reflectivity changes in the same way it would if a pit was there.

The "x speed" refers to the multiple by which a CD writer is faster than a single-speed drive. Single speed relates to 74 minutes, and double speed to 37 minutes, and so on. For a while, 8x speed seemed like the probable limit for CD writing because the media gets hot as the dye is being burned and needs time to cool. However, a new way of writing disks that varies the speed of the drive will soon see 12x and faster drives on the market. The CD-RW process is different and there aren't drives on the market yet that can write to re-writables faster than 4x speed.

Gigabyte gherkin

But even at 12x or 16x, CD writing is pretty slow. What if you need gigabyte capacity that is fast? For a long while the Jaz has been a very popular solution. Initially a 1GB drive, the available model is now 2GB in capacity.

The drive media is actually very like a hard drive platter in a housing. There are in fact two platters inside the rigid case and the drive heads enter the cartridge when it is inserted into the drive. Because of the removable nature of the drive platters, the drive cannot match hard drive performance tolerances, but they are very fast.

Although we had no problems with our test drive, reports of data loss through unreliable Jaz drives are not uncommon. Almost invariably, this is due to contaminants getting into the drive or the cartridge. If the cartridges get treated as roughly as floppy disks, then this is inevitable. Although the drive is fast, the important thing to do is not to think of it as a hard drive – removable media will never be quite as dependable.

Jaz now has a rival in the form of the Orb drive, a new removable manufactured by Castlewood (<http://www.castlewood.com/>). It also uses a technology similar to a hard drive and offers a capacity and speed to rival the Jaz. However, the Orb cartridges are much cheaper. Unfortunately, despite trying since before Christmas, we still haven't been able to get hold of an Orb to test, but we'll let you know as soon as we do.

Reliable Relish

If you are nervous about entrusting your data to the magnetics of Jaz and Orb, MO –

Useful Web sites

Optical Storage Technology Association – <http://www.osta.org/>

DVD Demystified – <http://www.dvddemystified.com/>

Software Architects – makers of Mac DVD software – <http://www.softarch.com/>

Iomega – home of the Zip – <http://www.iomega.com/>

Home of the SuperDisk – <http://www.superdisk.com/>

VST USB FLOPPY DRIVE

Price: £69
Contact: Computer 2000 on 01256 847032
Web site: <http://www.vsttech.com/>
Min requirements: Mac OS 8.1
Connection: USB



This slim unit comes with interchangeable colour schemes to match your iMac. There's a sober graphite option for those without the fruity colours. The software doesn't remind you that you must "put away" a floppy disk every time you need to remove one and performance is as you'd expect for a USB device... but it's a lot of money for a simple task.

Macformat rating

75%

TEAC USB FLOPPY DRIVE

Price: £69
Contact: Mac & More on 01442 870300
Web site: <http://www.teac.com/>
Min requirements: Mac OS 8.1
Connection: USB



We looked at this device in MacFormat 78. Again, this does exactly as you'd expect. Not having a motorised eject mechanism, it does present a dialogue box every time you "eject" a disk saying you can now manually eject it. It is a lot of money to pay for reading the old technology of floppies – especially when all these can't read 800K ones.

Macformat rating

80%

IMATION SUPERDISK

Price: £119
Contact: Imation on 01344 402200
Web site: <http://www.imation.com/>
Min requirements: Mac OS 8.1
Connection: USB



Interchangeable colour schemes are also an option with the SuperDisk drive. It isn't powered by the USB port, meaning there is a fiddly trailing wire and power adaptor. Floppy read speed is super-fast, though, and the whole thing has motorised eject like old Macs have. DOS disks don't show up with the normal PC icon when they should, but SuperDisk's versatility makes this drive a better buy than just a floppy.

Macformat rating

87%

IOMEGA 100MB ZIP USB

Price: £99
Contact: Iomega on 020 7365 9527
Web site: <http://www.iomega.com/>
Min requirements: Mac OS 8.1
Connection: USB



Also needing a separate power supply, Iomega's first USB device is just plain ugly – making it in translucent plastic was a bad idea. However, USB is not a bad interface considering the speed of the Zip technology. You get the usual Iomega software bundle, which includes a "QuickSync" utility for backing up regularly-used folders. Pretty much a standard accessory on iMacs these days.

Macformat rating

87%

Hardware Group Test

IOMEGA 100MB ZIP SCSI

Price: £89
Contact: Iomega on 020 7365 9527
Web site: <http://www.iomega.com/>
Min requirements: Mac OS 7.1
Connection: SCSI

The one that started the revolution and sounded the death knell for the floppy is still going strong. You can get internal SCSI and IDE versions too for older and newer Macs alike. Zip isn't the fastest technology around, but it makes for a very handy way of transporting a reasonable amount of data.

MacFormat rating

85%



100MB ZIP VST FIREWIRE

Price: £233
Contact: Computer 2000
Web site: <http://www.vsttech.com/>
Min requirements: Mac OS 8.5.1
Connection: FireWire

The only FireWire Zip available and what a beaut! It is not much bigger than the Zip disks themselves. Just one FireWire lead powers the device and carries the data from your G3, G4 or iMac DV. It is superfast - VST must have been tweaking those drivers as it doesn't use the standard Iomega software. All in all, a classy product - it would earn a MacFormat Classic Award if it weren't for the high price!

MacFormat rating

89%



IOMEGA 250MB ZIP USB

Price: £149
Contact: Iomega on 020 7365 9527
Web site: <http://www.iomega.com/>
Min requirements: Mac OS 8.1
Connection: USB

Now this is what the original Zip should have looked like. Iomega gets its USB styling in order with the 250MB version of its USB product. There won't be SCSI or other interface options of this design, though, unfortunately. The blue wonder does need a separate power supply, too. It looks great and performs adequately... except with those original 100MB disks.

MacFormat rating

83%



IOMEGA 250MB ZIP SCSI

Price: £129
Contact: Iomega on 020 7365 9527
Web site: <http://www.iomega.com/>
Min requirements: Mac OS 7.1
Connection: SCSI

Not much different from the original 100MB version, the 250MB SCSI option doesn't have the style of new USB product from Iomega. It also suffers from the same problem as all 250MB Zips do when it comes to 100MB disks - very slow write speeds. We would recommend you stick to 100MB versions for now.

MacFormat rating

78%



magneto optical - has plenty to offer. It is re-writable an almost infinite number of times and it's as robust as anything else available, so it's well worth considering. MO is certainly not at the end of its life yet. The current maximum capacity of the 3.5-inch disks is 1.3GB. The 5.25-inch versions have a current two-sided maximum of 5.2GB, and plans for the formats could make these larger.

MOs often use glass-based platters covered with a polymer protective layer. The magnetically sensitive particles that record the data are made of what is called "low coercivity" material that doesn't like to change much. This makes them resilient to degradation, so they're very suitable for long-term archiving. Writing data to an MO is achieved by heating the disk's surface with a laser to about 200°C - usually in two passes. Consequently MOs write quite slowly, but the low-power laser that's used to *read* the data is much faster.

Vinegary Versatility

DVD (Digital Versatile Disk) is best known for movie videos. Nowadays, the iMac DVs and G4s all ship with what are called "fourth generation" DVD-ROM drives. DVD in its various incarnations is capable of storing a whopping 5.2GB of data. The format currently in use includes the ability to play CD, CD-R and CD-RW, but there are a number of different standards - so be wary.

DVDs are similar in manufacture to the shiny 12cm CDs we all know and love. They come in various forms, but the standard allows for double-sided versions and dual layers on each side. This, together with smaller pits in the reflective layer and a shorter wavelength laser, means that the DVD-ROM standard can store up to 4.7GB.

The DVD-ROM drives supplied in today's Macs can also read DVD-Video disks, and the MPEG decoding necessary to watch movies is now achieved using software. Hardware decoders are also available for third-party DVD-ROM drives which you can use in your Mac (<http://www.wiredinc.com/>).

As well as playing movies, Apple DVD-ROM drives can play one- and two-sided single- and double-layer DVD disks - in other words, all the current standards!

The plethora of standards for DVD is an absolute minefield. DVD-R uses a dye technology that's similar to that used in CD-R, and so DVD-R drives can write 3.95GB and 4.7GB disks that can then be read in DVD-ROM drives. DVD-R drives are mostly used for DVD production. There's also a DVD-RW drive, but this may not develop a great following because DVD-RAM has had a year's head start on it!

There is yet one more DVD format: DVD+RW, which is a standard in its own right. These 4.4GB disks will be readable in many - but not all - DVD-ROM drives. DVD+RW drives will read most standards of DVD except DVD-RAM - which is quite another story...

Wobbled Whoppers

DVD-RAM ships with some Macs and uses cartridge-based removable media with a double-sided capacity of up to 5.2GB. There are two types of cartridge. Type I is sealed. The Type II cartridge, while having a single-side capacity of only 2.6GB, can be opened up and read by DVD-ROM drives. In effect, this means you can save 2.6GB of data onto the cartridge, extract the disk from it and use it in the slot-loading DVD drives of modern Macs. DVD-RAM can be re-written to around 100,000 times. DVD-RAM version 2 (yes, mad, isn't it?) has just been published and these drives will start appearing during 2000.

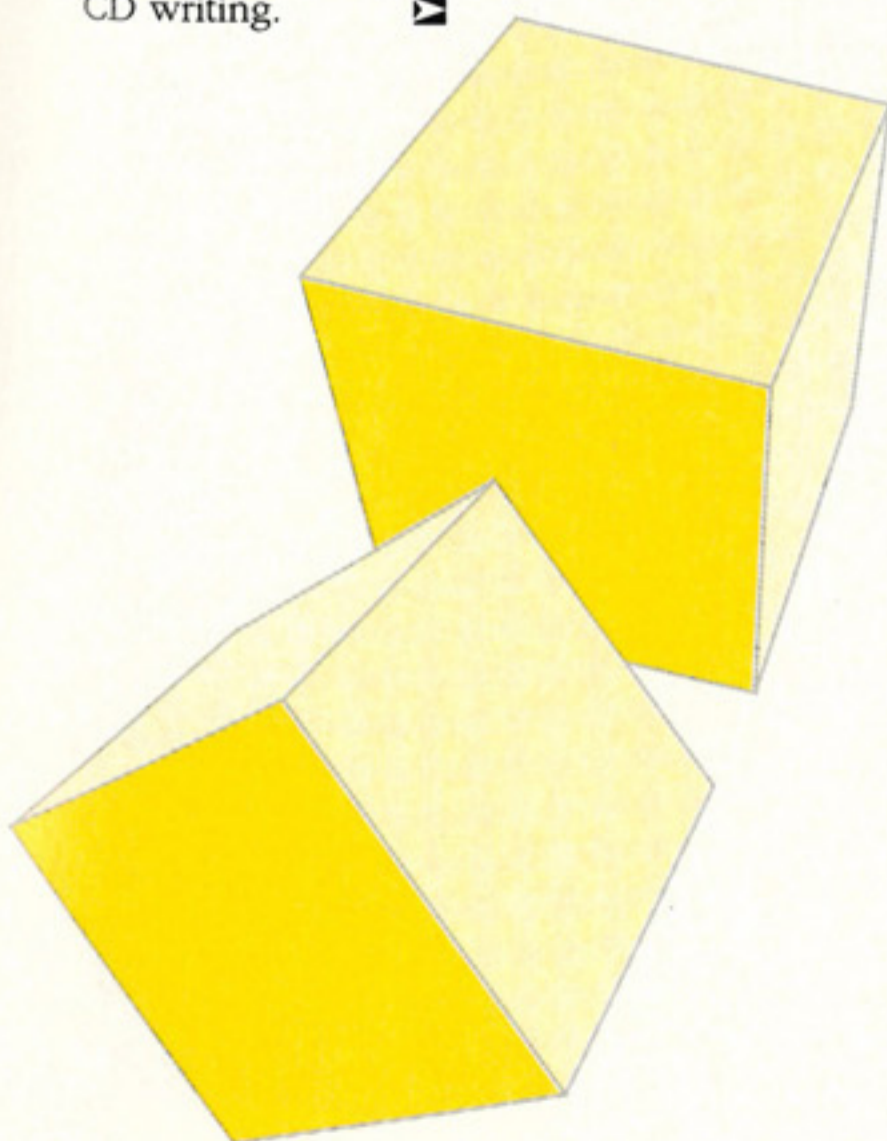
DVD-RAM is made differently from DVD-ROMs. First of all it can be re-written. Rather than using the high-temperature lasers of the MO method for achieving this in two passes, the media's "phase" is changed from a transparent to a reflective crystalline structure by a lower temperature laser. Second, the media uses a "wobbled groove" which is already moulded onto the disk during manufacture.

The drives we look at here are DVD-RAM version 1 drives, and you can use them for storage for yourself or for making DVD-ROM disks suitable for current Macs equipped with DVD-ROM drives.

Fast food

For some media, the speed of the mechanism is so low that sending the data between drive and computer by pony wouldn't be much slower! Writing data will never be as fast as reading data, and some technologies, such as optical for example, write four times more slowly than they read. Nevertheless, choosing a faster interface can make a significant difference to writing speeds.

SCSI is generally the fastest option around if you have it. USB isn't that bad, depending on the drive mechanism used. For Zip disks it is perfectly adequate – and barely slower than its SCSI and FireWire rivals. However, for CD-writing USB is temperamental. The most you can expect to achieve is 4x speed, and even then you must be careful not to use any other devices on the USB chain – even moving the mouse can result in a CD not being burned properly. We couldn't get a single successful 4x burn from one of the test USB CD writers. If you have a Blue & White G3, don't even consider using a USB CD-writer – even a cheap SCSI card will make all the difference to your CD writing. ▣



VST 250MB ZIP FIREWIRE

Price: £292
Contact: Computer 2000
Web site: <http://www.vsttech.com/>
Min requirements: Mac OS 8.5.1
Connection: FireWire

Although it beats the performance of the SCSI version, and has curvy, fiery looks, VST's 250MB option is less appealing than its excellent 100MB FireWire product. You won't be able to "Long Erase" old 100MB Zip disks or create a "rescue disk" for booting an injured Mac with this drive.

Macformat rating

80%



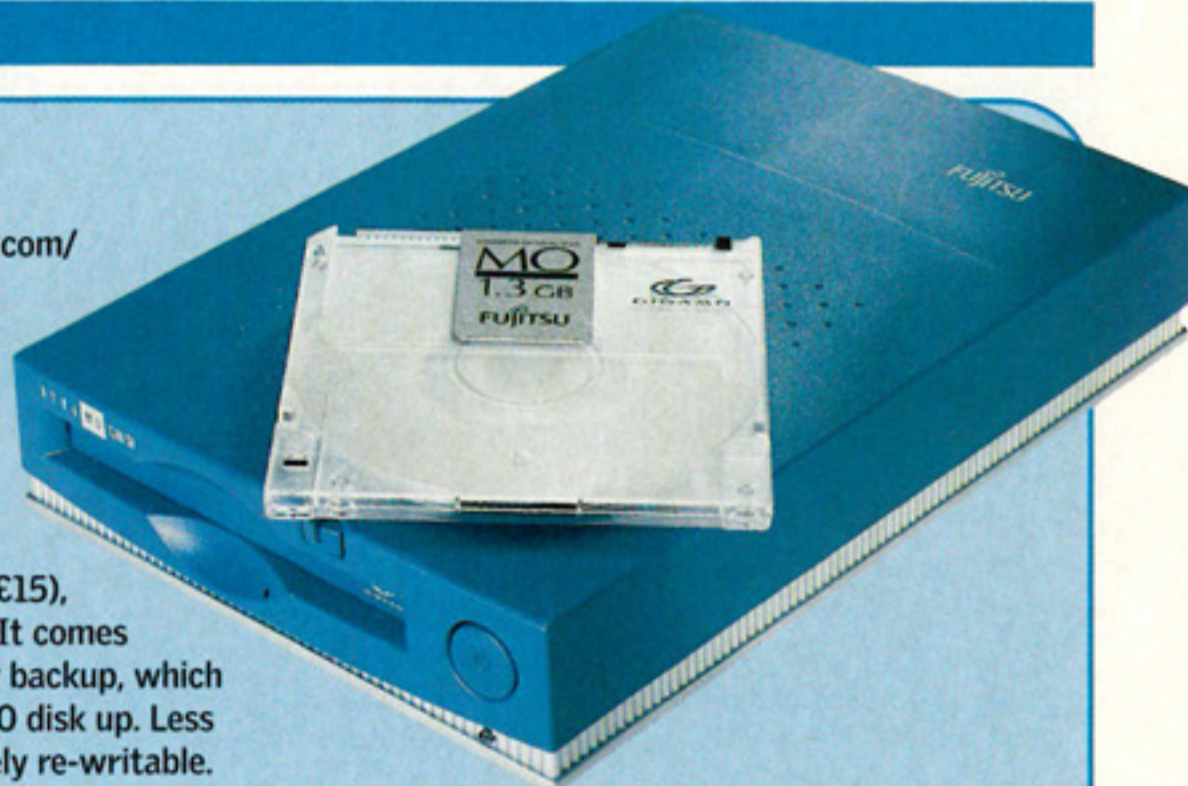
FUJITSU GIGAMO SCSI

Price: £367
Contact: AGP on 01794 528000
Web site: <http://www.fujitsu-europe.com/>
Min requirements: System 7.5.1
Connection: SCSI

We had a look at the GigaMO in MacFormat 85, and fast and reliable it certainly is. Capable of reading and writing up to 1.3GB optical disks (which are only around £15), it makes an excellent backup device. It comes with Dantz's *Retrospect* software for backup, which can halve the time it takes to fill a MO disk up. Less popular than cutting CDs, but infinitely re-writable.

Macformat rating

85%



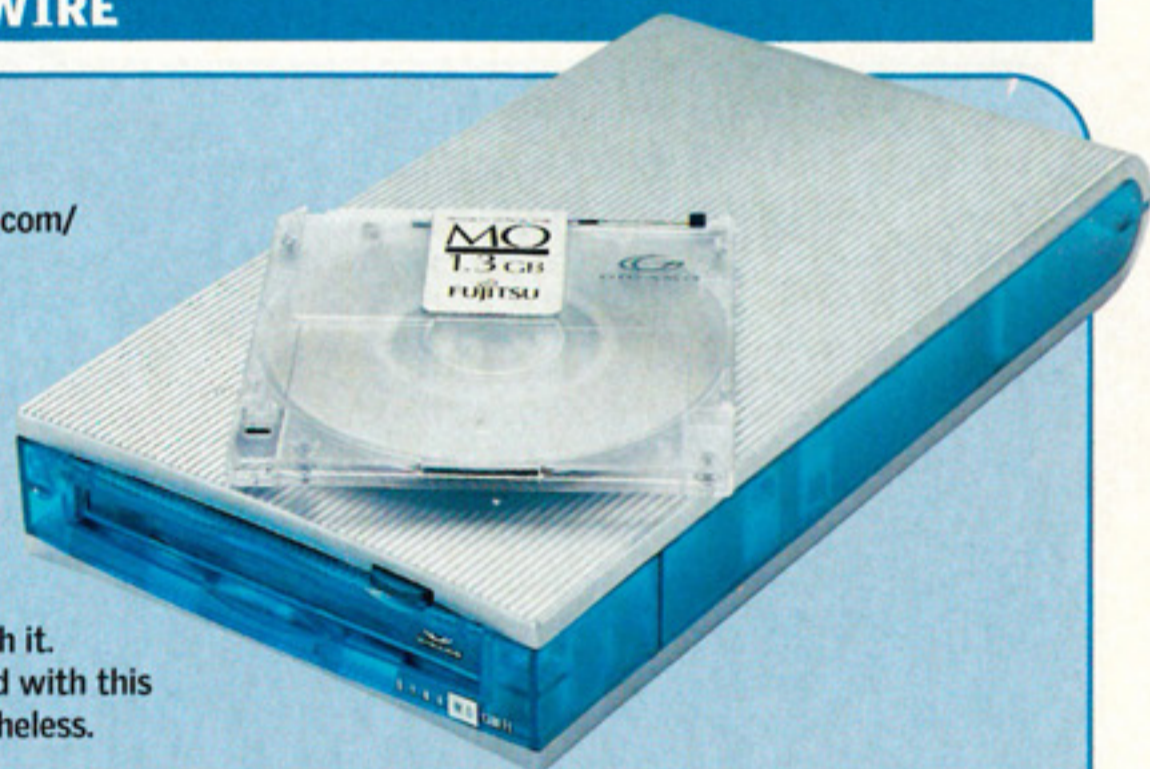
FUJITSU GIGAMO FIREWIRE

Price: £405
Contact: AGP on 01794 528000
Web site: <http://www.fujitsu-europe.com/>
Min requirements: Mac OS 8.5.1
Connection: FireWire

Fujitsu has taken the GigaMO mechanism and stuck it in a very cool-looking casing for the FireWire version. Since it's FireWire you don't need to plug it into power as well – but a power supply is provided for those who intend to go travelling with it. Surprisingly, *Retrospect* isn't included with this version, but a worthy product nevertheless.

Macformat rating

87%



LACIE 1.3GB MO SCSI

Price: £492
Contact: LaCie on 020 7872 8000
Web site: <http://www.lacie.co.uk/>
Min requirements: System 7.5.1
Connection: SCSI

LaCie's spin on the Fujitsu standard is, as you'd expect from LaCie, well done. The strange casing is one that allows horizontal or vertical mounting, and the SCSI interface has simple-to-get-at ID switches and terminator settings. Performance is almost identical to Fujitsu's – these aren't high-speed writing devices, but read speed is very good and they make good backups.

Macformat rating

80%



IOMEGA JAZ SCSI

Price: £269
Contact: Iomega on 020 7365 9527
Web site: <http://www.iomega.com/>
Min requirements: System 7.5.1
Connection: SCSI

2GB of high-speed removable is an attractive option and Jaz has long been the only such product available, making it popular in repro houses across the country. Contaminants in the cartridges can really mess the drive up, though, so you have to look after them. Nothing is as fast, short of a hard disk, but don't depend on them for long-life archiving.

Macformat rating

85%



Preservatives

Nothing lasts for ever, and if you're using removable media for archiving purposes you need to be particularly aware of this. How long the different media formats last depends a great deal on how they are stored. Magnetic storage, like floppy disks, tape and Zip cartridges, are susceptible to temperature changes, humidity and dust, as well as to magnetic fields. Optical-based storage is more robust, but is still sensitive. Manufacturers of media will often give you a "lifetime guarantee" of the media. This does not guarantee your data, only the disk it is on. For secure, long-term storage of archive material you should be looking at a proper strategy for this.

Always keep disks and tapes away from sunlight, moisture and dust. If you haven't been doing this, don't expect anything to be reliable – floppy disks in particular. CD-Rs are more resilient, but they *are* susceptible to scratches and dust. If they're properly stored, however, manufacturers predict a life of around 30 years.

Unlike CD-Rs, MO disks are encased and therefore less susceptible to damage from scratches and dust. Their estimated life expectancy if properly stored is about 70 to 100 years. The best figure we could get for DVD-RAM was 30 years.

However, you should note that all these figures are purely guesstimates because manufacturers are still undecided about the best way to run accelerated wear tests. One thing is pretty certain: the media you choose is likely to outlast its popularity. You might find that in practice your drive conks out before the cartridge does.

QUE USB CD WRITER

Price: £293
Contact: Channel Dynamics on 0870 607 0540
Web site: <http://www.qps.com/>
Min requirements: Mac OS 8.1
Connection: USB

It looks the part with its specially designed case, and the Que even comes with a carrying case for drive, CDs and fiddly power supply. However, performance was sadly lacking. Although 4x write speed was theoretically possible – and Adaptec has posted a patch specifically for this drive – we couldn't get faster than 2x CD writing. The drive is now reported to be shipping with the Mitsumi 4084 mechanism, as used by LaCie – so things should improve.

Macformat rating

55%



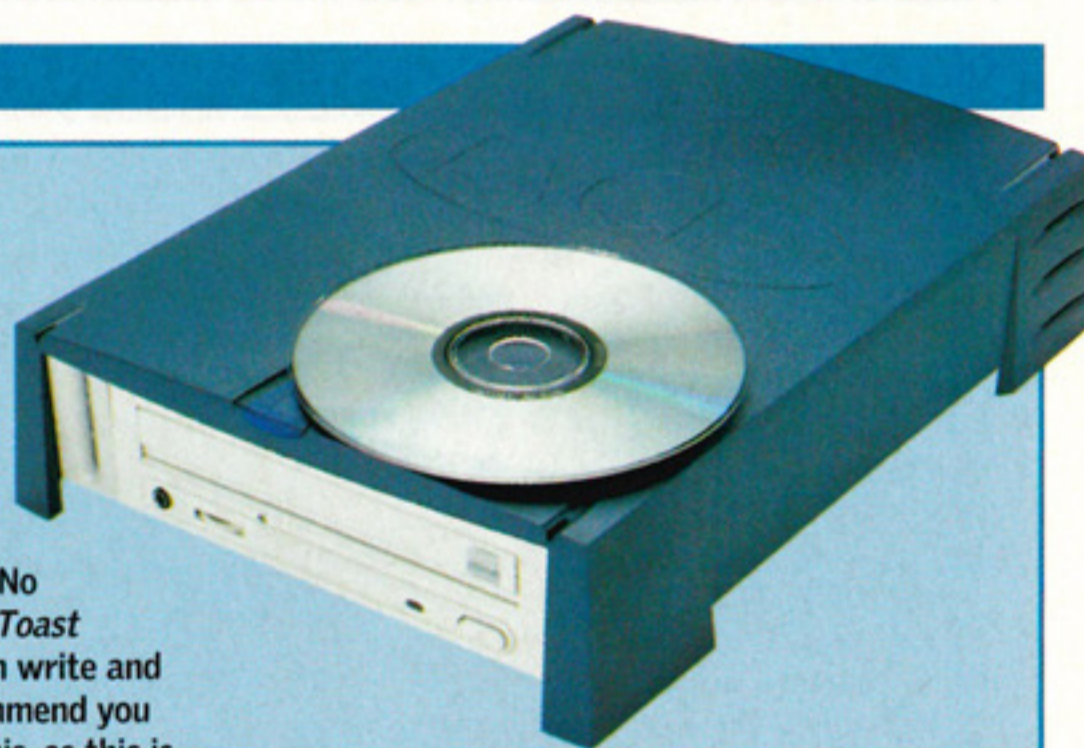
LACIE USB CD WRITER

Price: £253
Contact: LaCie on 020 7872 8000
Web site: <http://www.lacie.co.uk/>
Min requirements: Mac OS 8.1
Connection: USB

LaCie's USB writer worked flawlessly – which is strange as it uses a mechanism only slightly different from the Que offering's (Mitsumi 4804 vs 4802). No special drivers are needed (the supplied Toast software spots it immediately) and it can write and re-write at 4x speed. We wouldn't recommend you even breathe on your Mac while doing this, as this is the limit for USB, but it worked flawlessly for us.

Macformat rating

83%



Just desserts

There's a saying that the only thing you can be sure of in life is death and taxes. In the computing world you can also be sure of the need for more storage! But higher capacity has not always been the saving feature for many removable technologies.

SyQuest cartridges were once the staple of repro houses across the country. Now they are mostly found in dustbins. They used a mechanism akin to that in Jaz drives. At the peak of their sales SyQuests had a capacity of 88MB and were slow and clunky. They are now seen as archaic.

Some of their replacements didn't fare so well either. SyQuest's own replacement, SyJet, died shortly after its birth, as did the slightly more popular EZFlyer 110 and 230MB drives. The floppy isn't dead yet, but it is

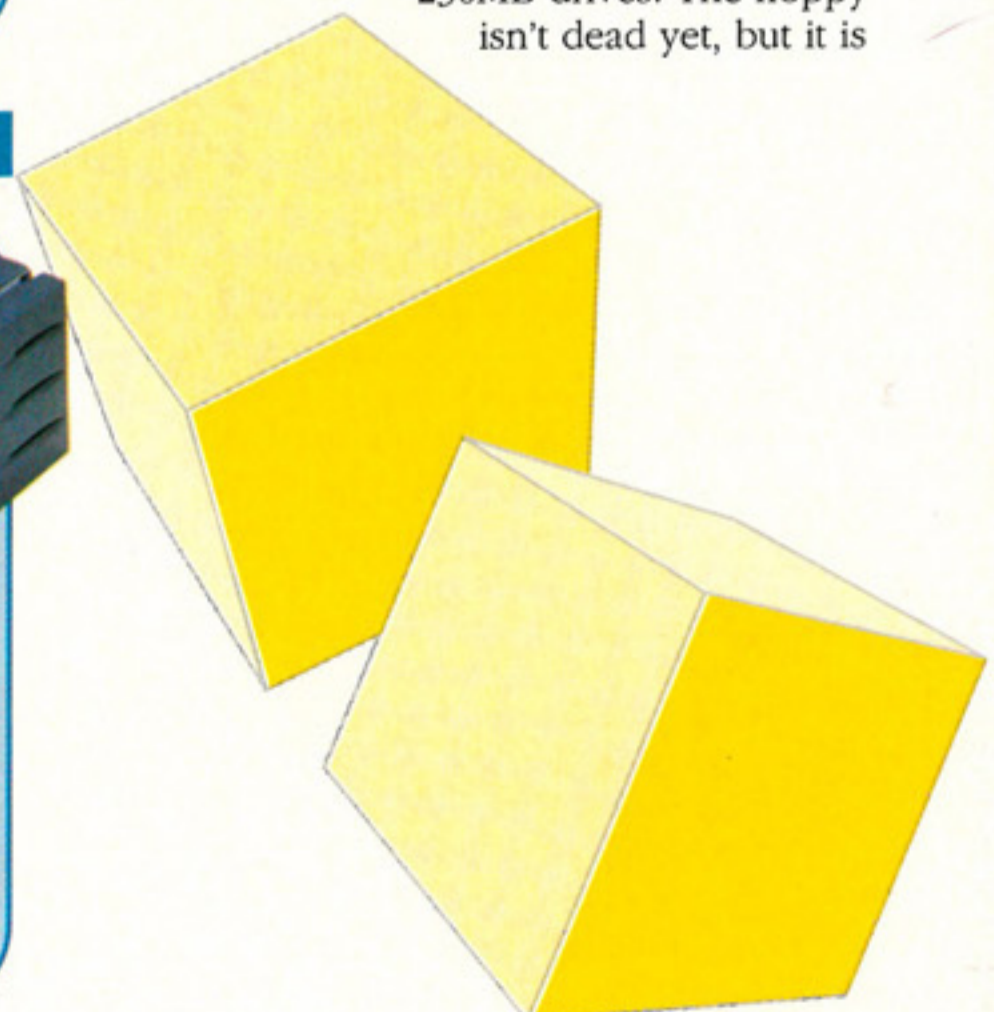
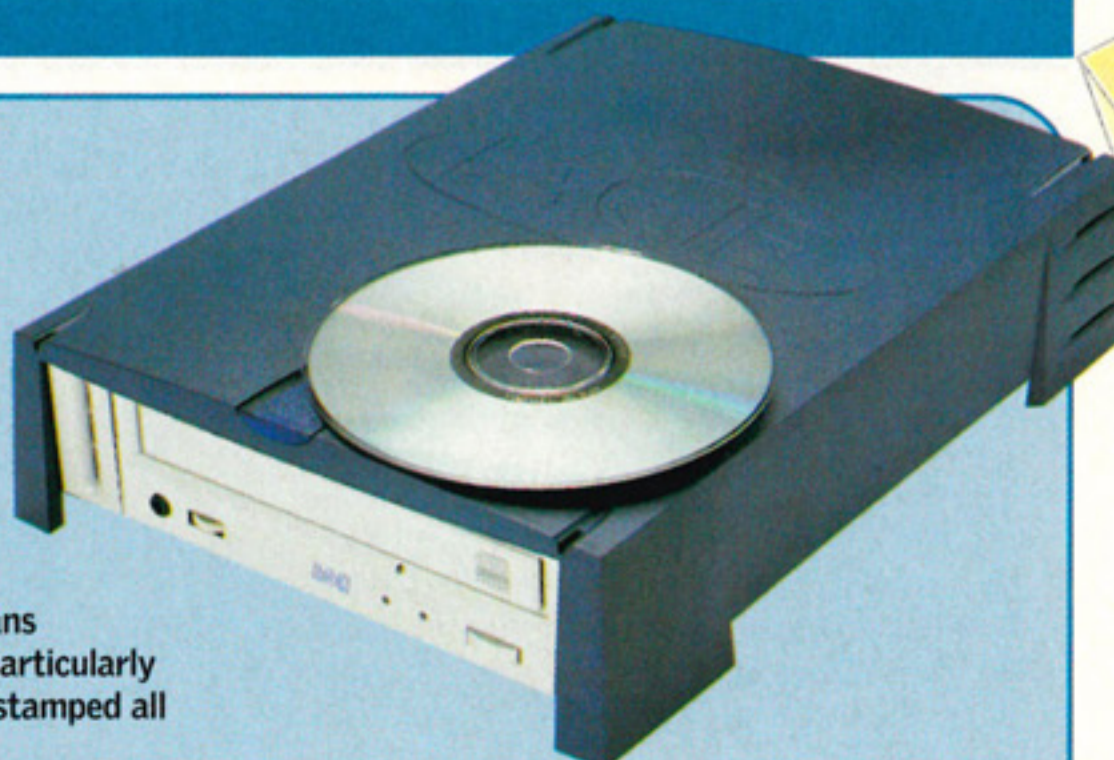
LACIE CD WRITER SCSI

Price: £257
Contact: LaCie on 020 7872 8000
Web site: <http://www.lacie.co.uk/>
Min requirements: System 7.5.1
Connection: SCSI

A 6x writer in SCSI clothes means that this has no trouble burning all the CDs you could want – usually in around a quarter of an hour. It is a Yamaha mechanism inside and comes with the usual Adaptec Toast that means everything works as planned. It's not particularly exciting, but it has rigorous efficiency stamped all over it!

Macformat rating

85%



on life-support.

There may yet be a more solid-state storage devices appearing in areas other than cameras and PDAs. Compact Flash, Smart Media and Memory Stick are all options that have no moving parts and can hold (at the moment) 128MB. But right now they are very pricey and are mainly found in the niche market of digital cameras.

The prices of solid state storage are likely to fall in the medium term, but solid state devices still have a limited read/write life, as does all re-writable media.

To further confuse matters, countless other "standards" appear from time to time, like Floptical, Bernoulli and PD. So what are the most future-proof options?

For transferring data, 100MB Zips are still going to be here for a while. They are pretty reliable and widespread. If you have the option, go for the fastest interface you can (remember, internal is an option on many machines) and you won't be disappointed. Go for the 100MB option rather than the 250MB, unless you really feel that is the optimum size for you. We really liked the look and feel of the new Iomega Zip, but USB performance is, as always, lacking. VST's FireWire Zip offering is a champ, though.

For archiving, CD writing is so common now that it is making itself almost a necessity. With street prices of less than £1 for a blank CD, you don't have to worry too much whether or not you get the CD back when you send a colleague your data. Five years ago, a floppy disk might have cost that much. USB users should never try to break the 4x speed limit, but it is a handy medium. Look out for more FireWire CD-Writers soon.

The increasing prevalence of DVD-ROM is going to make DVD-RAM popular too. Although it doesn't even have the speed of an optical, its popularity is likely to make it more useful in the future.

If you aren't too concerned about being popular, MO drives still offer the most robust data storage around – yes, more reliable than Jaz, and handier than cutting a CD.

Bearing all of the above in mind, the results of our tests will help you decide which is the right removable storage product for you. However, just remember that in five to ten years' time all these technologies are going to look about as high-tech as floppy disks appear today.

Price per megabyte

The price of storage has been falling for some time. CD-R, for example, is in reach of most pockets and offers a cheap way of archiving data. Long term, DVD looks a good bet for capacious cheap storage. This table compares the cost of media, not the initial cost of drives.

Media type	Unit cost	p/MB	(Note)
Floppy disk	£0.27	20p	
SuperDisk	£10.00	9p	
Zip disk	£7.00	7p	
CD-R	£1.75	0.27p	(1)
CD-RW	£10.00	1.56p	
MO (1.3G)	£29.00	2.17p	
Jaz cartridge	£75.00	3.66p	
DVD-RAM	£34.00	0.64p	
DAT (4GB)	£6.75	0.16p	(2)
DLT (15GB)	£29.00	0.18p	(2)
VXA (33GB)	£61.00	0.18p	(2)

Note (1): One use only

Note (2): These are MAX costs as compression is not included in the price per megabyte.

EZQUEST CD-RW FIREWIRE

Price: £340
Contact: Channel Dynamics on 0870 607 0540
Web site: <http://www.ezq.com/>
Min requirements: Mac OS 8.5.1
Connection: FireWire

The first FireWire CD writer that we've looked at performed as expected at 4x speed. Unfortunately, the transparent casing adds nothing to the drive's looks. A SCSI card for your G3/G4 would cost the extra asking price of this drive and might prove useful in other ways too. For new iMacs, however, this is a darn sight quicker than USB for burning CDs...

Macformat rating

85%



MAC & MORE CD REMIX SCSI

Price: £529
Contact: Mac & More on 01442 870300
Web site: <http://www.macandmore.co.uk/>
Min requirements: System 7.1
Connection: SCSI

Mac & More has chosen Teac mechanisms to fit out its Re-mix range. Blazingly fast 8x writing worked flawlessly, but you wouldn't buy this drive for just writing CDs – it is made for duplicating CDs. You can even run it without the Mac attached to churn out multiple copies of your band's master recording session. Also available with blueberry front bezel, if you like that sort of thing.

Macformat rating

85%



MAC & MORE DVD-RAM SCSI

Price: £704
Contact: Mac & More on 01442 870300
Web site: <http://www.macandmore.co.uk/>
Min requirements: System 7.1
Connection: SCSI

Using the multiple-bay housing again, a CD-ROM joins the Matsushita DVD-RAM mechanism in this SCSI offering. Software for DVD optimising comes from Software Architects – as it does for all the DVD-RAM drives on test – but it will take some tweaking to get your cache settings perfect. Don't expect high-speed writing from this or any other DVD-RAM.

Macformat rating

77%



LACIE DVD-RAM SCSI

Price: £570
Contact: LaCie on 020 7872 8000
Web site: <http://www.lacie.co.uk/>
Min requirements: System 7.5.1
Connection: SCSI

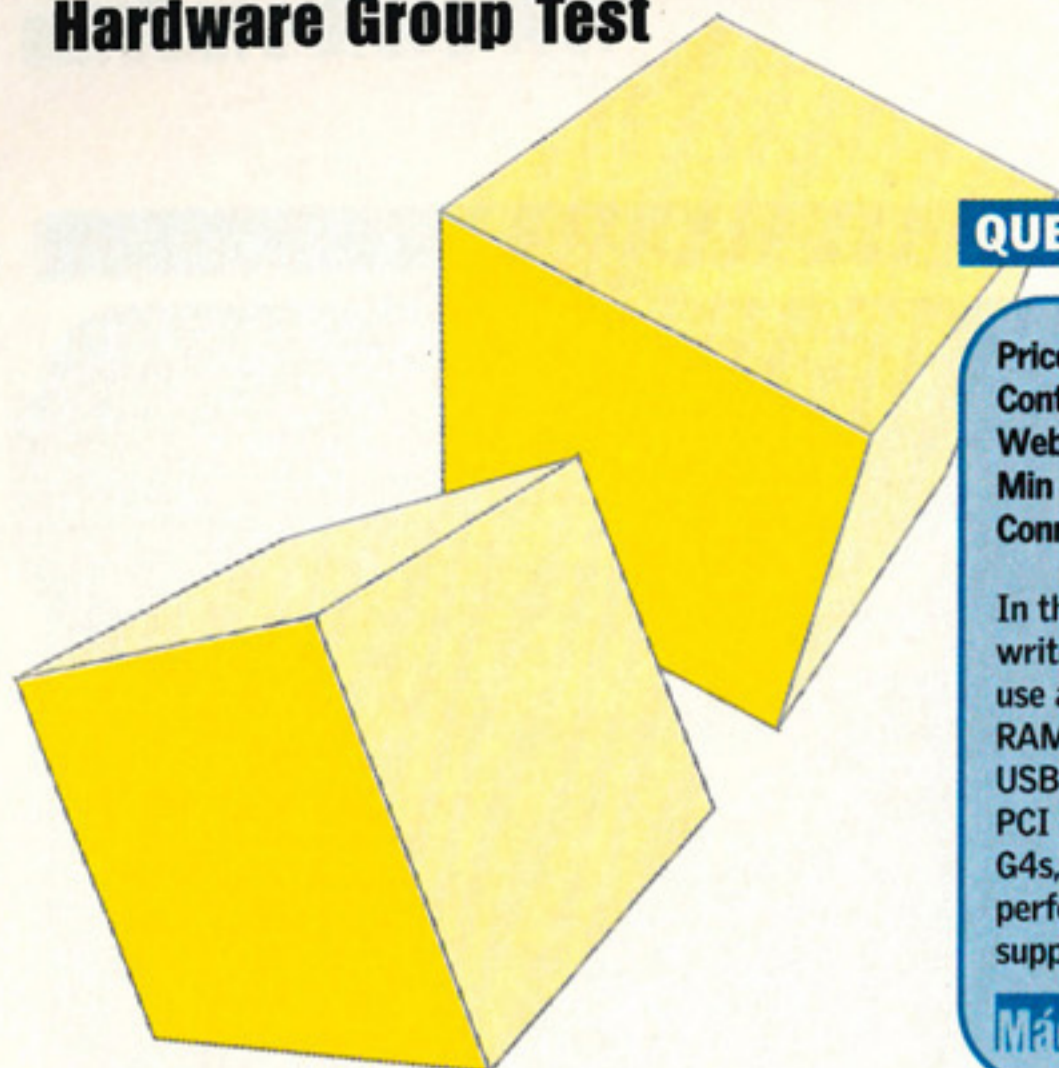
Using the same mechanism and software as Mac & More, the LaCie drive actually delivered better performance. To improve things even more, LaCie supplies *Retrospect* software, which can halve the write times or even quarter them (if you turn off verification). If you were planning on using DVD-RAM for backup, then *Retrospect* is a must.

Macformat rating

80%



Hardware Group Test



QUE DVD-RAM SCSI

Price: £622
Contact: Channel Dynamics on 0870 607 0540
Web site: <http://www.qps.com/>
Min requirements: Mac OS 7.1
Connection: SCSI (card included)

In the same housing as Que's CD-writer and also with a carry bag, Que use a Hitachi mechanism for its DVD-RAM and it is an improvement on its USB device. Que throws in an Adaptec PCI SCSI card for owners of G3 and G4s, which gives the DVD-RAM adequate performance and adds value. Cables and power supply are still unnecessarily fussy, though.

Macformat rating

70%



Removables to go

Owners of portable Macs needn't feel left out of the removable race. All of the removable media formats we've discussed have SCSI versions which will work with PowerBooks. But you don't necessarily have to carry around a big box and dangly cable. Some PowerBooks have removable drive bays. Although Apple has only ever made CD-ROMs, floppies and the odd DVD-ROM for these bays, other manufacturers offer more.

100MB Zip drives are the most common, but you can also get SuperDisk, and some third party DVD options even enable you to play DVD movies (with a PC Card decoder). You can even add additional hard drives to these bays, giving a new spin to the idea of removable media.



PowerBook owners can add drive bay devices and even use FireWire peripherals with cards like Newer's FireWire 2 Go or VST's FireWire Cardbus card.

How fast is fast?

As we've mentioned, we compared devices in four distinct categories, divided according to capacity. The different coloured bands in this table represent quite distinct tests, so results *should not* be compared across categories - CDs shouldn't be compared to Zip for speed, nor DVD with floppy! Times are in minutes and seconds, and you'll see that write times are always longer. Note how the 250MB drives suffer when writing to 100MB media.

	Read	Write
Floppy storage		
1.4MB Floppy in Desktop G3	0:46	1:07
1.4MB USB Floppy drive		1:04 1:26
1.4MB Floppy in SuperDisk	0:16	1:03
Zip sized storage (100-250MB) copying 90MB		
100MB Iomega USB		2:38 3:10
100MB Iomega SCSI	1:51	3:21
100MB VST FireWire	1:33 1:50	
120MB SuperDisk		2:46 3:50
250MB Iomega USB		2:26 2:46
250MB Iomega SCSI	1:05	2:24
250MB VST FireWire	1:08 1:27	
250MB Drives read/write times with 100MB Disks		
250MB Iomega USB	2:27	11:06
250MB Iomega SCSI	1:35	11:27
250MB VST FireWire	1:35	10:50
Gigabyte storage copying 600MB		
Fujitsu Gigamo SCSI	4:20	18:23
Fujitsu Gigamo FireWire	4:33	18:00
LaCie 1.3GB MO	4:24	18:30
Iomega Jaz SCSI (with 2GB disk)	3:53	9:10
Iomega Jaz SCSI (with 1GB disk)	4:23	24:27
CD writing 600MB		
Que USB (Couldn't manage 4x, only 2x)		40:00 2x
LaCie USB		21:02 4x
LaCie SCSI		14:40 6x
Mac & More SCSI	10:12 8x	
DVD-RAM drives copying 600MB data (Write speed is halved if using Retrospect for any drive)		
Mac & More	8:06	30:37
LaCie	7:45	22:35
Que	8:45	37:12



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A4 EDGE TO EDGE MONO LASER

ELITE 12/600 USB- 600 dpi, 8 MB RAM, 12 ppm,
USB & Parallel.

ELITE 12/600N- 600 dpi, 8 MB RAM, 12 ppm,
USB, Parallel & 10BaseT Ethernet.

ELITE 12/600- 600 dpi, 8 MB RAM, 12 ppm,
AppleTalk, Parallel & 10BaseT Ethernet.

ELITE 1212- 1200 dpi, 16 MB RAM, 12 ppm,
AppleTalk, Parallel & 10BaseT Ethernet.

ELITE 12/1200N- 1200 dpi, 16 MB RAM, 12 ppm,
AppleTalk, Parallel & 10BaseT Ethernet.

A3 OVERSIZE MONO LASER

ELITE XL 20/600- 600 dpi, 16 MB
RAM, 20 ppm, AppleTalk, Parallel &
10BaseT Ethernet.

ELITE XL 20/800- 800 dpi, 24 MB
RAM, 20 ppm, AppleTalk, Parallel &
10BaseT Ethernet.

ELITE XL 20/1200- 1200 dpi, 64 MB
RAM, 20 ppm, AppleTalk, Parallel &
10BaseT Ethernet.



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AirPort

NETWORKING It's taken six long months to reach these shores, but affordable wireless networking is finally here. John Parnaby takes a closer look at Apple's silver wireless wonder.

Price: Card £79, Base Station £239
 Contact: Apple on 0870 600 6010
 Web site: <http://www.apple.com/uk/>
 Minimum requirements: iBook, slot-loading iMac or PowerMac G4

Surfing the Internet is generally thought of as a deskbound occupation. You need power for your computer and a wire to the phone line or office Ethernet connection. If you have a PowerBook or an iBook you could dispense with the power cable and use a battery – but you still need that wire to stay connected to the outside world. That is until now. Apple's AirPort is a wireless connection specifically aimed at the home user who wants to surf the Web from the comfort of their living room sofa.

AirPort comes in two parts: the AirPort card and the AirPort Base Station. The card looks very much like any Type II PC Card that you could slot into a PowerBook – but you mustn't do this. Although it is based on the PC Card form factor, it is a proprietary Apple product. At the moment it works only in iBooks, new iMacs and G4 computers. When the "Pismo" PowerBook (due soon) is released, it will work in that too. If you have a PowerBook now, see page 69 for details of Farallon's wireless solution. Farallon has also hinted that it is looking at bringing AirPort to older iMacs by using an adaptor.

Fitting AirPort into an iBook is a breeze. You unclip the keyboard retainers and lift it out of the way. Underneath is the space for the card, along with the antenna. The antenna is built into the three Mac models that can work with AirPort, so you simply connect it up, slot in the card and clip the keyboard back into place. On iMacs, access to the AirPort slot is underneath the memory expansion slot. Space is limited but you can fit it yourself. On G4s the AirPort slides right into a bracket on the motherboard. Again, it is pretty easy to do it yourself – just follow Apple's diagrams and instructions.

The AirPort Base Station requires even less fiddling with the hardware. You plug in a



telephone jack (a cable is supplied) and the power adaptor. The lights on the silvery UFO-like object flicker until you get a steady green indicating that the device has started up. In use, the bottom of the Base Station can get quite warm. Apple has provided a mounting bracket that enables you to fit the Base Station on a wall out of the way and this also lets the air circulate around it.

If you have an Internet connection via Ethernet there is an Ethernet socket on the Base Station to use instead of the modem. If you don't, you can always use this Ethernet socket to attach one other computer. Using this you can share your modem between any number of computers – the Base Station does all the work.

Up and running

Depending when you bought your iBook the software may well be installed already. If it isn't, you can run an installer from the CD. This adds a couple of System Extensions a folder called AirPort in the Apple Extras folder and a Control Strip module – once set up this will be all you need to manage your AirPort connection.

IP addresses to anything on its wireless network (using a thing called DHCP). IP addresses are needed for every computer on the Internet, but the Base Station cleverly just appears as one computer on the Internet – all the others connected to it with private addresses are invisible. When a wireless computer asks for a Web page from the network, the Base Station sends the request itself, and when the Web page is returned the Base Station passes it on to the Mac that requested it. So, everything passes through the Base Station's connection. This is called Network Address Translation (NAT). To users on the private network it is as if they each have a modem doing the connecting for them when, in fact, it is just one.

The easiest way to set up an AirPort arrangement is to have your iBook, iMac or G4 already configured for an Internet connection. If this is already sorted, all you have to do is run the AirPort Setup Assistant. This gives you the option of copying your Internet connection details to the Base Station. This is the easiest way and handles everything with the built-in defaults. You are prompted to enter a password for both the wireless network and (preferably) a different password for the Base Station itself. Only people who knew this password would be able to change the wireless settings. The Base Station can then use its modem to connect to your ISP, and your iBook is then connected automatically – wire free!

If you have more specific requirements you can manually change settings via the AirPort Utility software. This offers a lot more options for administrators – you can choose which channel your AirPort is using (if you have more than one Base Station, you need to pick these carefully). You can also decide if you want AirPort to share the Internet connection, what IP addresses it should use, and so on. We found we had to change some settings to improve performance.

Once it's set up you use the Control Strip menu to join available wireless networks (with password if necessary) and you can then initiate an Internet connection yourself. Only a wirelessly connected Mac with AirPort software can hang up ▣



How it works

The AirPort Base Station has in it a 56K modem, an Ethernet connection and a wireless LAN (Local Area Network) card (actually made by Lucent Technology). The wireless network works at 2.4GHz. There are 14 channels to choose from but only 13 can be used in Europe – and only four in France, where the French military use the others. The wireless network is best compared to cordless home telephones rather than mobile (cellular) phones and the range is a bit better – about 150 feet. The wireless environment created behaves like Ethernet and is supposed to operate at 11 Mbit/s – as fast as standard 10BaseT networking.

The Base Station works by doling out private



Is it a UFO? No, it's AirPort – Apple's wireless networking solution. On the back, there's just three sockets – Ethernet, power and a phone line. Connect it up and your AirPort-equipped iBook can surf on the move!

the phone line, so if you are using the Ethernet port you might want to set the "time out" figure to less than the default ten minutes.

Performance

When surfing the Internet with an iBook, the AirPort worked great. We were able to wander around our building, even two floors down, and get a good connection speed. The Control Strip informs you of how strong the wireless signal is. The AirPort utility includes a function to work out the best placement of the Base Station. However, the wireless net-

work is only having to work at modem speeds with an Internet connection. When we tested it for sharing files in the office, things were much less impressive.

Mounting a filesaver on the Desktop we tried to copy 90MB of files – a Zip's worth – to the iBook and were astonished to find that it took 28 minutes. With a 100Mbit per second Ethernet connection the same task takes just over one minute. We discovered that the encryption was the important factor here. Switching off encryption speeded up a wireless copy enormously – only five and a half

minutes for that Zip's worth of data – but it still wasn't quite as fast as a 10Mbit/s Ethernet. Our LAN

tester utility reported the slow rate as 70KB/s – the fastest achieved was 333KB/s without the encryption turned on.

Clearly there is a compromise to be made here. If you are happy switching off encryption then wireless networking becomes a possibility for reasonably small file sizes, but is that wise? (See the box on security below.) The other thing to realise is that you are likely to have larger files on your main desktop computer and wanting to work from your sofa on them is going to prove slow without the wires, regardless of whether or not the encryption is on.

If you are setting up more than one Base Station then you will find yourself using the AirPort Utility more often than not. We found that changes to its settings weren't always remembered and that we had to "reset" it more than once. This will require a cross-over Ethernet cable and if you are going to be installing a lot of these, you'll definitely want one.

AirPort

AirPort is a cool product. It is great for sharing a modem Internet connection between two or three computers but we have reservations over its usefulness for creating a wireless office.

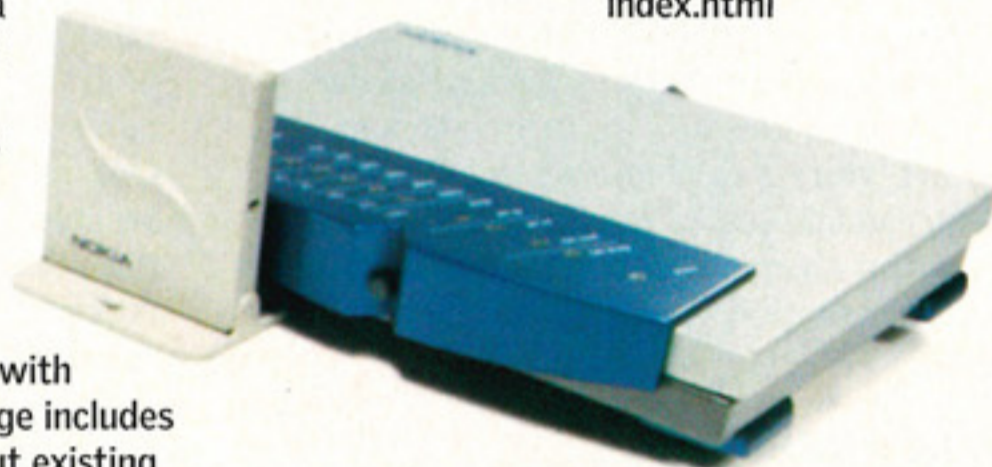
Macformat rating **75%**

Air surfing

So what if you don't have an iBook? The world of wireless networking is still available to you. Since AirPort uses is an industry standard, you can use other products. Nokia has fitted out key points in some airports (the ones with aeroplanes) with its A020 wireless base stations. This provides roaming access for anyone with an 802.11 compatible computer. We had a quick look at it and although it doesn't support "classic" AppleTalk, it will work with Appletalk-over-IP. Since it's aimed at large workgroups this is the protocol you would be expecting to use with it anyway.

Major networking specialist 3Com has also joined the wireless revolution with its Air Connect product range. The range includes a PCI wireless card, so you could kit out existing

PCI-slot-equipped Macs with wireless options. 3Com has said that Mac compatibility is a priority for it (though there are no drivers available at present), so there is now a growing range of options for Mac fans who want to wander. <http://www.nokia.com/corporate/ipmobility/> <http://www.3com.com/promotions/wireless/index.html>



Security

When AirPort was first announced, a reader wrote to our MacAnswers section asking about its security. We stressed then, and still stress now, that security is not simply a technology issue. It is as much about human behaviour as it is to do with gadgets. However, our initial impression of what AirPort was doing was that it would be reasonably secure – that is, Government agencies could eavesdrop on it, but someone in the street couldn't. Since then, information has come to light which leads us to reconsider.

Again, we must first emphasise that there are human factors at play here. If you need secrecy, you shouldn't rely solely on technology. The PIN number for your credit card is most susceptible to cracking not by some clever gadget, but because people choose easy numbers for their PIN – birth dates, car registration numbers, etc. You don't need fancy technology to crack those, just a little lateral thinking. It's the same with networking. It's foolish to put highly sensitive data on a computer

that everyone can log in to or that a thief can walk out of the office with. Being wireless effectively makes the office bigger.

We spoke to an expert who felt that Apple had done a great job of making wireless networking cheap to buy and easy to use. But AirPort is a great consumer product – it is not intended for banks or defence agencies. AirPort uses a publicly available standard (802.11), which means you can go and look up how to listen in on it. Doing so isn't easy, but it is possible.

Dropping those eaves

To make things harder, AirPort's range is limited, but an eavesdropper could use a "yagi antenna" to increase the efficiency of their snooping equipment. With the correct radio gear they could pull out encrypted signals between your iBook and Base Station... assuming you have them encrypted. If you were using a 2Mbit/s card as well, you'd have turned off the encryption.

But if the signal is encrypted, that would be okay, right? Although Apple uses a 40-bit Wireless Encryption Protocol, a serious hacker with enough

computing power should be able to crack this in a few minutes. The 802.11 standard allows for 128-bit encryption too (in the US), which makes things trickier for the eavesdropper... but not impossible.

We should emphasise that this vulnerability is not peculiar to AirPort, but all wireless LANs. System managers of companies or institutions thinking of deploying a large wireless network would do well to look more into the security implications.

Of course, reading what's travelling over the airwaves isn't necessarily the same as reading all your data – most of that is on your hard disk. AirPort and other wireless products have methods that can prevent eavesdroppers actually logging into your network, such as restricting access, allowing only machines with known IP addresses. The AirPort utility can restrict access in this way.

You have to remember that the key market for AirPort is homes and schools. C'mon, just how important are you that someone is going to put a lot of effort into reading your e-mail? That said, if you are worried about the safety of your credit card details and other sensitive data, don't miss our feature on security in MacFormat next issue.

Farallon Skyline card

NETWORKING Feeling left out of the AirPort world with your old PowerBook? There's no need to, says **John Parnaby**, with Farallon's Skyline.

Price: £270

Contact: Farallon on 0800 731 8929

Web site: <http://www.uk.farallon.com/>

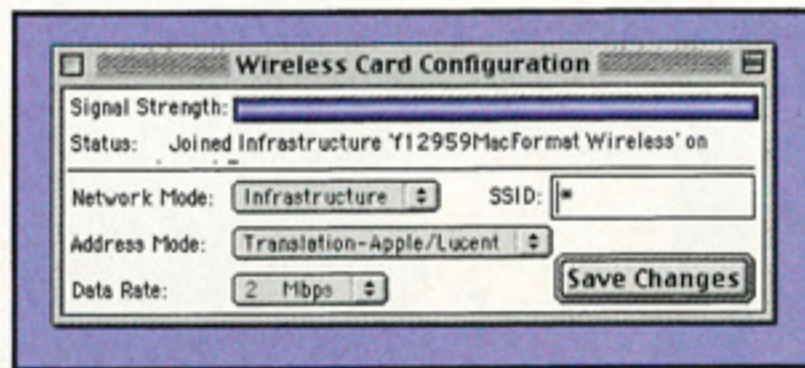
Minimum requirements: PowerBook

Farallon came to market with Skyline quite a while before AirPort. This product uses the original wireless network standard, 802.11a – compatible with AirPort but capable of operating only at 2Mbps per second.

The Skyline card is like any other PC Card but with a bulge at the end for its antenna. Installing the software for it puts one Control Panel in your System Folder and means it is recognised when you slot it into a Type II PC Card slot. After restarting you can now choose to log onto the wireless network instead of a wired Ethernet one. The Skyline software has a special setting for joining an existing AirPort network, and the signal strength meter – a thermometer-style display

– is real-time and reacts quicker than the five dots on AirPort's Control Strip.

We found the range on Skyline to be as good as AirPort's and the signal strength meter is very helpful. Skyline's biggest drawback is that you have to turn off encryption on your AirPort Base Station in order for Skyline to join an AirPort network. Copying files over AppleTalk is



The real-time signal strength meter that comes with the Farallon wireless software is a great boon.



faster than AirPort with encryption – but not as fast as AirPort when it isn't encumbered with its default 40-bit encryption.

Farallon has said it will offer an 11Mbit/sec upgrade at some time in the future which will be compatible with AirPort. No pricing has yet been announced.

Farallon Skyline card

If you really want to tune in to the wireless networking revolution with your PowerBook, then this is an effective solution – but only at the slower 2Mbit/sec standard and at quite a high price.

Macformat rating

75%

Microtech CameraMate

DIGITAL CAMERA ACCESSORY Do away with those camera-to-computer cables with this multi-card reader.

Price: £81

Contact: New Century Computers on 020 8795 1177

Web site: <http://www.microtechint.com/>

Minimum requirements: USB port, Mac OS 8.5

The digital camera revolution has resulted in a flurry of different media for storing electronically captured snaps. Sony's backing of the "memory stick" may make it increasingly popular in time to come, but for now the two most popular storage cards are Compact Flash and Smart Media.

If you have a digital camera, there will be a way of connecting it to your Mac to download photos so you can manipulate them. This may be by serial lead or USB cable, but whichever you use it means you have to plug in all the wires, plug your camera into power (to save batteries) and fire up an application on the Macintosh. Card readers make all this unnecessary, and Microtech's CameraMate is an excellent example of this technology.

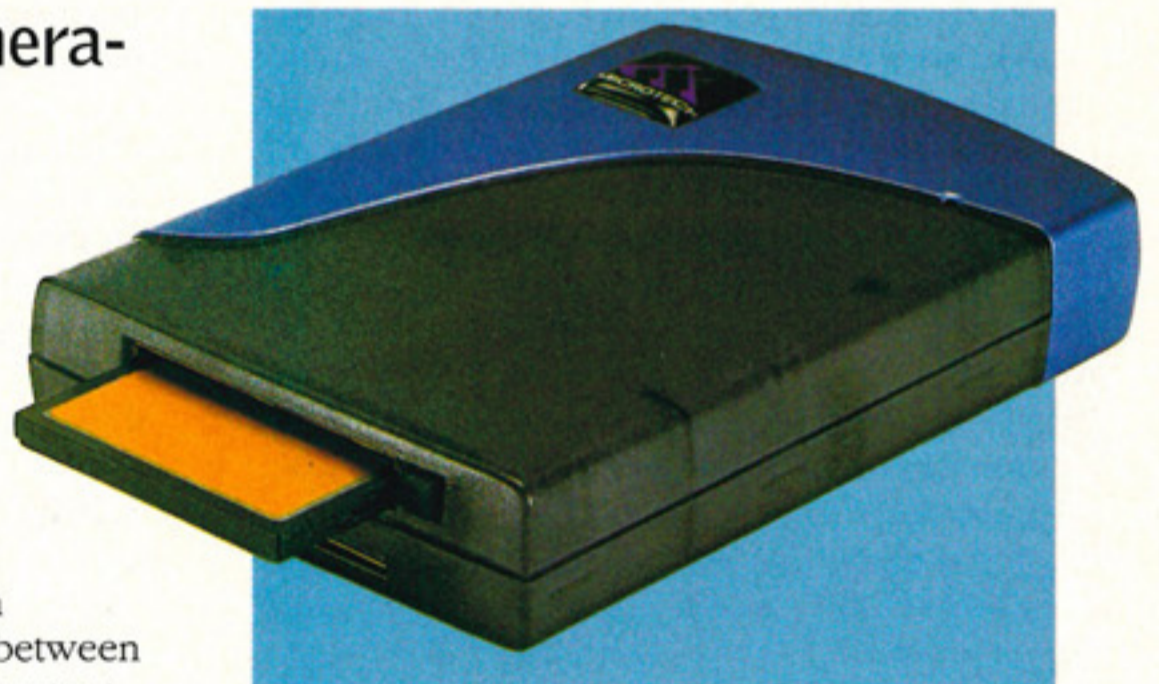
The Microtech card reader is elegantly designed, with only a subtle nod to the fashion for translucency. With its metallic finish and strong build quality you could be forgiven for thinking it was made of solid metal but it is actually made of polycarbonate. It connects directly to a powered USB port and can take an external power supply if necessary (not supplied).

To use it you first have to install the driver from the CD into your System Folder and

restart. The only application on the CD is *PhotoFolio* – a simple application for presenting photos and movies. Anyone who likes *KPT QuickShow LT* will love *PhotoFolio*. Like *QuickShow*, *PhotoFolio* presents a slideshow of the contents of a folder. However, *PhotoFolio* includes over 35 transition effects such as swipes and dissolves between images. You can include movies and even a sound track too. The licence with it permits you to distribute the viewer application with your portfolio of work. Like the hardware, this is a neat package that does one simple job very well.

Also on the CD is Microtech's product catalogue and a full PDF manual for the product – which isn't particularly necessary since it is so straightforward to use. Perhaps the only thing you have to check is which way round to insert the media. Pop in a Compact Flash card or Smart Media card and it appears on the Mac Desktop like any removable drive. It behaves like a floppy or Zip disk, too: as well as copying, you can erase images from it. You can also format Compact Flash cards, but you'll notice that this results in the card being a "DOS" volume – don't worry, that is the only type you can have for this sort of media. Note also that you cannot format Smart Media cards with any device like this – you have to do that in a camera.

The CameraMate takes both 3.3V and 5V Smart Media up to 128MB, and both the



Compact Flash formats – CF and CF II. CF II includes the IBM Microdrive – a 340MB miniature hard drive. We didn't have one on hand to test it with, but Microtech guarantees that the CameraMate works fine with it.

USB means file transfer from card to Mac is fairly fast. Of course, if you are just using this to transfer photos from digital film, you don't get the chance to preview and select what you want as you do with a specific downloading application – but that isn't what this is really designed for. We have no reservations about recommending this if you think you need it (if you must keep your camera "on the road" at all times, say) – but is £80 worth it to save the hassle of connecting up your camera and Mac with a short lead?

Microtech CameraMate

If your camera already has a USB cable connection, this may seem like overkill. But keen digital photographers will love its simplicity and convenience.

Macformat rating

80%

Canvas 7

GRAPHICS Ever wished you could manipulate images and draw vector-based art at the same time? *Canvas 7* does this and more, as **Josef Morrell** found when he took the latest version of this unique graphics package for a drive.

Price: £464; upgrade from *Canvas 6* £175; "competitive upgrade" £234.

Contact: Guildsoft on 01752 895100

Web site: <http://www.deneba.com/>

Minimum requirements: PowerMac, Mac OS 8.5, 32MB free RAM, 80MB hard disk space, 800 x 600 display, CD-ROM drive

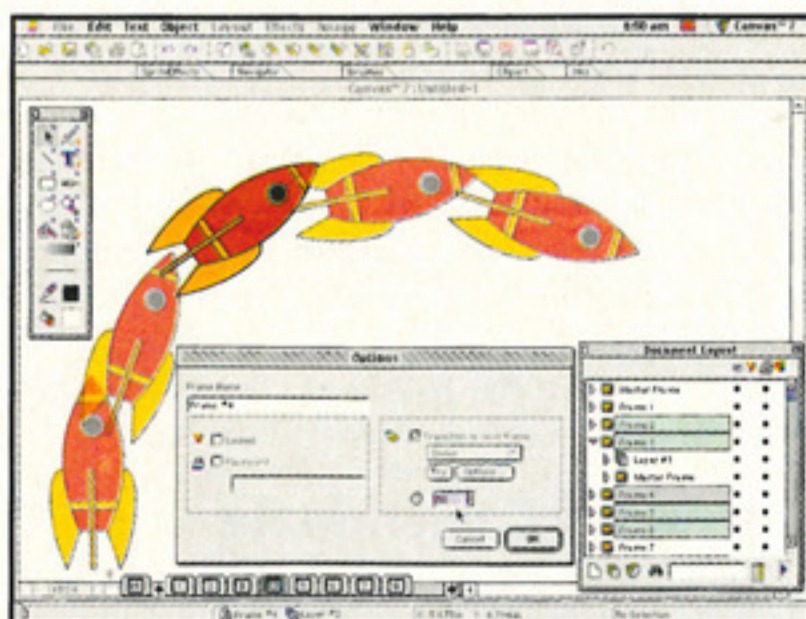
Deneba's *Canvas* has never been treated as seriously as other mainstream graphics applications, at least not in the UK. It is often regarded as a reasonable illustration package with some interesting support for editing placed photos, but never a strong competitor to *CorelDraw* or a combination of *Adobe Illustrator* and *Photoshop*. This attitude started to change when *Canvas 6* appeared just over a year ago. And if you thought *Canvas 6* made you sit up and take notice, you'll find *Canvas 7* to be a real barnstormer.

The program presents a printable canvas area surrounded by a large pasteboard just

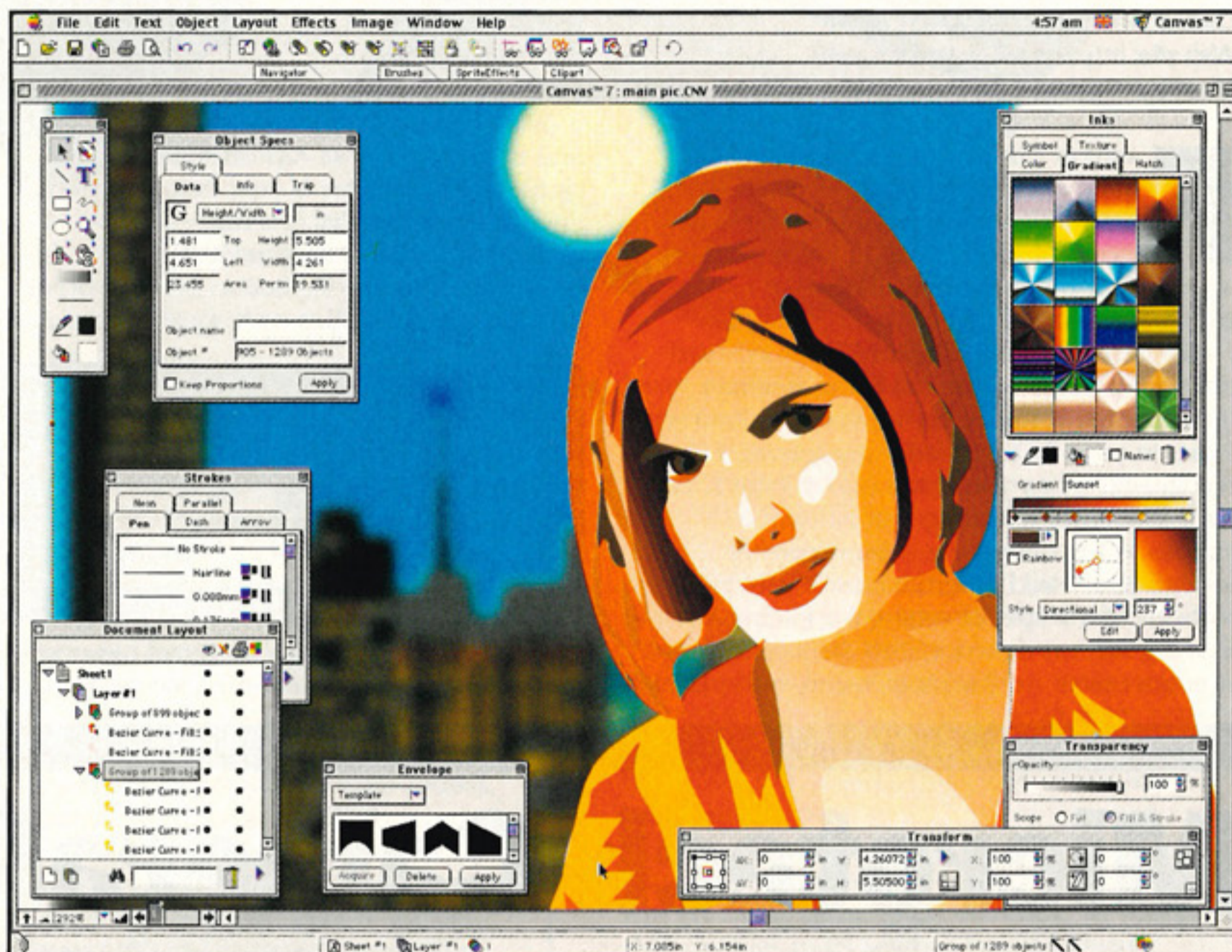
CD Try *Canvas 7* for 30 days with the fully-working, time-limited version in the Demos folder on this issue's Cover CD.

like any vector illustration package, yet you can work with vectors and bitmaps together. Sure, other illustration packages let you place and, to some extent, edit bitmaps, but *Canvas* goes the whole hog with a full set of brush tools and support for *Photoshop*-compatible plug-in filter effects. Most of the things you can do in *Photoshop* or *Photo-Paint* can also be conducted in *Canvas 7*, but often in a decidedly different way. The same goes for vector illustration: you have access to professional Bézier pen, fill and envelope tools, but it's not like any other illustration package you may have used before.

The reason for this is that Deneba has not opted for the increasingly dominant Adobe interface style. Flyouts from the main toolbox can be torn off as separate floating palettes. These can be minimised to their title bars (except they have no titles) or dragged out of the way to a Docking Bar just under the main tool ribbon bar under the menus. Palettes can be arranged as tabs along this Docking Bar;



Build animated GIFs using a logical multiframe interface, complete with timing controls and a very useful onion-skin option to preview adjacent frames.



The *Canvas* interface borrows elements from *Illustrator*, *FreeHand* and *CorelDraw* but is ultimately unlike any of them. The blurred cityscape in the background is a vector graphic, by the way.

clicking on any tab pops open the palette, and dragging it off the bar refloats it. This is an extremely efficient use of screen space, and definitely the easiest and most intuitive system we've seen in any graphics package.

One drawback of this tear-off method is that you can end up having to drill down several levels of flyout palettes in order to find what you want, and some of the palettes are unwieldy. You may have to hang on to the Quick Reference Card for quite a while when learning *Canvas 7*.

In general terms, the interface itself is unchanged since the last release. But a major addition is the SpriteEffects palette. SpriteEffects make use of Deneba's SpriteLayer technology for applying those *Photoshop* plug-in filters – except that you can apply them to vector artwork as well as bitmaps. You read that right: whether it's a Noise filter, a Gaussian Blur or a Twirl, you can now apply them to live vector illustrations without having to render them to bitmaps first.

What does it do?

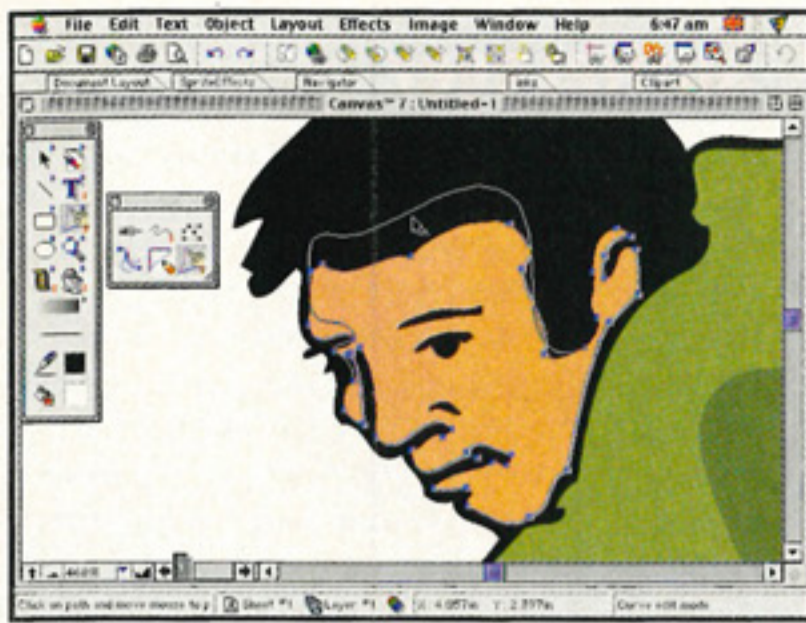
Canvas 7 is a single graphics program which can create and work with vector-based illustrations and bitmap-based images in the same place – literally on the same "canvas". Vector illustrations are drawings made up of editable lines and curves ("strokes") and coloured or textured areas ("fills"). Bitmap images are pictures made up purely of coloured dots ("pixels"), such as you might obtain from a scanner or digital camera.

This means *Canvas 7* can be used as an illus-

tration package or a photo-editor without swapping between two programs or even program modes. You can create and edit both types of graphic in the same document and using the same tool palette. What's more, *Canvas 7* comes with multipage layout features for creating print publications, electronic documents and Web sites. The integrated nature of the graphics you can create also means that *Canvas 7* opens and saves to a huge number of different file formats.

Infinite changes

Attached to the bottom of the SpriteEffects palette is a section labelled **Lens**. This initially works like the zoom Lens effect in *Free-Hand* and *CorelDraw* – great for breakout diagrams – but with several extra benefits. For a start, *Canvas* Lenses can contain SpriteEffects as well as a zoom value. You can also



The new Push tool enables you to nudge paths intuitively instead of editing Bézier nodes, and the push "radius" is adjustable.

detach and save Lenses and apply them to other artwork. And since any vector object can be turned into a Lens, you have one effect-filled Lens overlapping both vector and bitmap artwork at once.

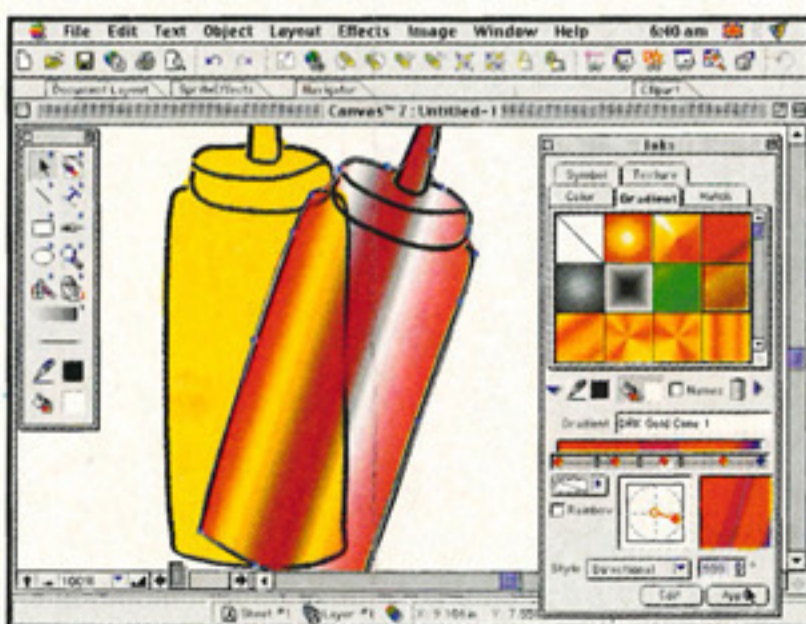
Add these new features to *Canvas*'s existing SpriteLayer technology, which supports virtually unrestricted transparency across vector and bitmap selections (see the "SpriteLayer" box on page 72), and you have one mother of a graphics package. You'll be able to create artwork in *Canvas 7* that would be impossible in anything else without rendering to bitmaps first. Being able to retain editable vector objects throughout completely changes the way you work. Another benefit is that the Document Layout palette enables you to manage bitmap selections as named objects as well as across layers and channels, just like you do with vector objects.

Deneba has added a clutch of useful new drawing tools which bring the program up to par with other illustration packages. For example, the new Reshape and Push tools offer alternative ways of editing Bézier paths without having to worry about nodes and handles. There is also an Auto Curve tool which generates a smooth Bézier path as you

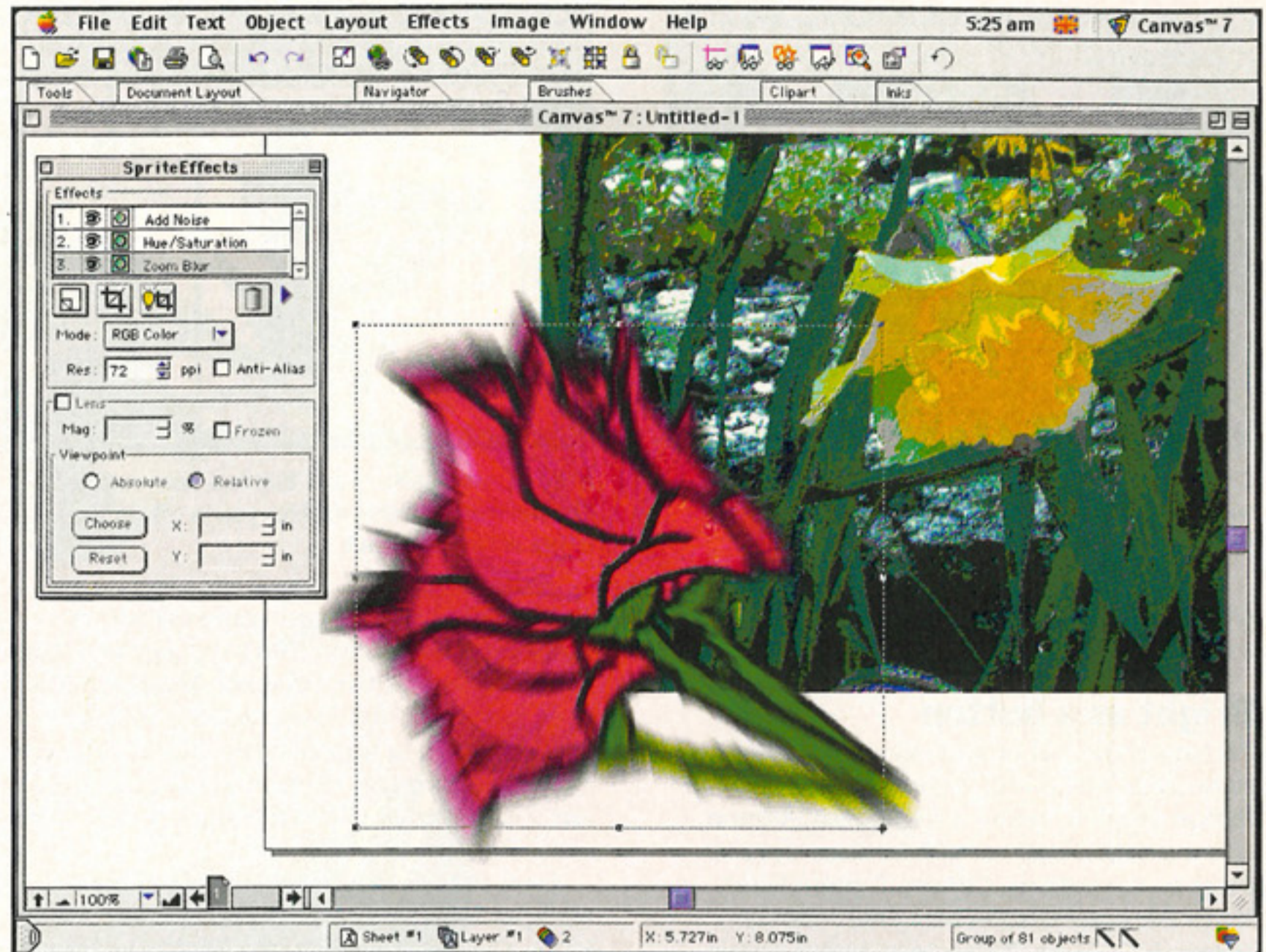
"There's more than enough for advanced graphics users"

click individual nodes without having to drag at each node to fix direction and curve radius as you would normally have to.

Beyond standard Pen tools, *Canvas* comes with an astonishing array of CAD-like tools including Arc, Cube, Concentric Circle and Spiral, not to mention CAD editing features such as Fillet and Cusp. To complete the picture, *Canvas 7* comes with a whole range



Gradient fills can now incorporate "no fill" as a colour step, effectively allowing transparency and 100% opacity in the same object.



SpriteEffects provide a single approach to applying *Photoshop*-compatible plug-in filters to both bitmap images (such as the posterised daffodil) and vector graphics (zoom-blurred rose).

of precision dimensioning tools for adding scaled measurements to technical drawings. At the other extreme, you could use *Canvas* for little more than flowcharts and business diagrams, dragging arrows, speech bubbles and preset flow objects from the various EasyShapes palettes.

Bags of tools

Previous versions of *Canvas* were sluggish performers when it came to strict photo editing, but a rebuilt graphics engine in *Canvas 7* appears to have speeded things up quite a bit. *Photoshop 5.5* users wouldn't be advised to switch, but *Canvas 7* is way more powerful than *Photoshop LE*, and there's more than enough here for advanced graphics users who haven't yet invested in a dedicated photo editor.

Unlike *Photoshop* – or indeed *Illustrator* for that matter – *Canvas 7* is a multipage program in the *CorelDraw* style. You could therefore use *Canvas 7* for limited page layout work, and to this end the program comes with DTP features including frame-based and multicolumn text flows, a spellchecker and thesaurus, paragraph and character style sheets, and a grid editor. As well as a huge number of graphics formats, the program can also export pages to HTML format, complete with embedded Web address links – again, rather like *CorelDraw*.



It's not all about professional illustration, as *Canvas*' many flowchart, diagrammatic and cartoony EasyShapes prove.

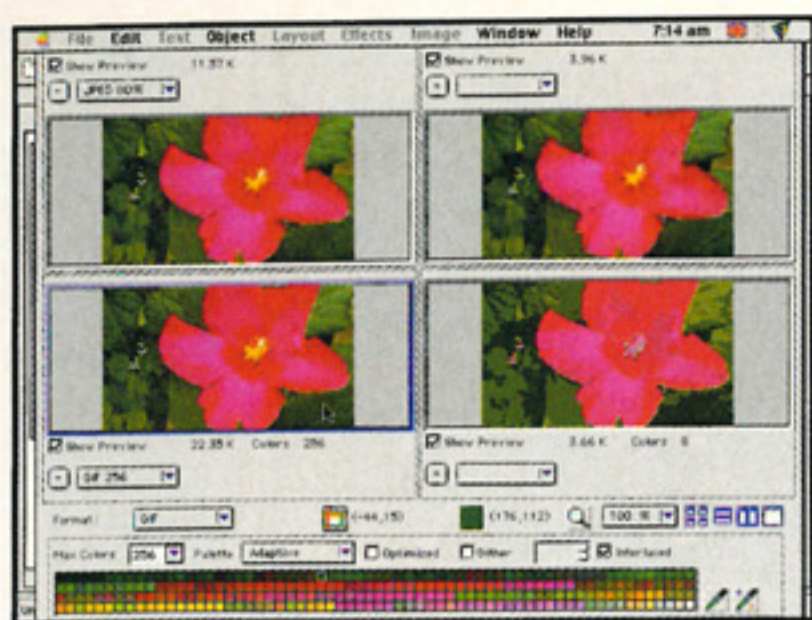
But *Canvas 7*'s Web support surpasses *CorelDraw 8* in several ways. This is the only mainstream graphics package on the market to provide an intuitive frame-based interface to generating animated GIFs. You get full timing and onion-skinning features, and don't forget that you can apply SpriteEffects such as motion blurs to vector objects as you work, and not have to render to bitmap until the very last moment. For static Web graphics, *Canvas 7* provides an ImageReady-style interface for visually evaluating the quality-compression ratios of JPEGs and GIFs at the point of saving. This applies to vector artwork as well as bitmap originals. There is also a new Camera tool which enables you to quickly render any marquee selection

Alternatives?

Because *Canvas 7* integrates vector and bitmap graphics in one program, its principal competition comes from graphics bundle packages. The most obvious of these is *CorelDraw 8*, which comprises a powerful and extremely well-featured illustration program (*CorelDraw* itself), a *Photoshop*-like bitmap-editing program (*Photo-Paint*) and a host of utilities, fonts and clip media extras. Pricing is competitive too, at around £350 from some mail-order suppliers.

Otherwise, you can take advantage of special manufacturer bonus bundles, such as *Adobe's Design Collection*, which is made up of *Illustrator 8* (vector), *Photoshop 5.5* (bitmap), *Acrobat 4.0* and *InDesign* (publishing), and costs around £1,200.

These packs bring you fully featured applications at a reduced "per-app" price, but they still cost more than *Canvas 7* alone. More importantly, they don't offer the integration between vector and bitmap design that *Canvas 7* can. Nor does the transparency support within *CorelDraw* and *FreeHand* (there isn't any in *Adobe Illustrator*) come anywhere close to *Canvas*'s SpriteLayers. As for applying photo plug-in filters to vector graphics in anything other than *Canvas 7*, just forget it.



Compare the effect of different JPEG compression levels and GIF colour tables side-by-side, along with projected file sizes.

(not just whole objects) in your artwork to a standalone bitmap.

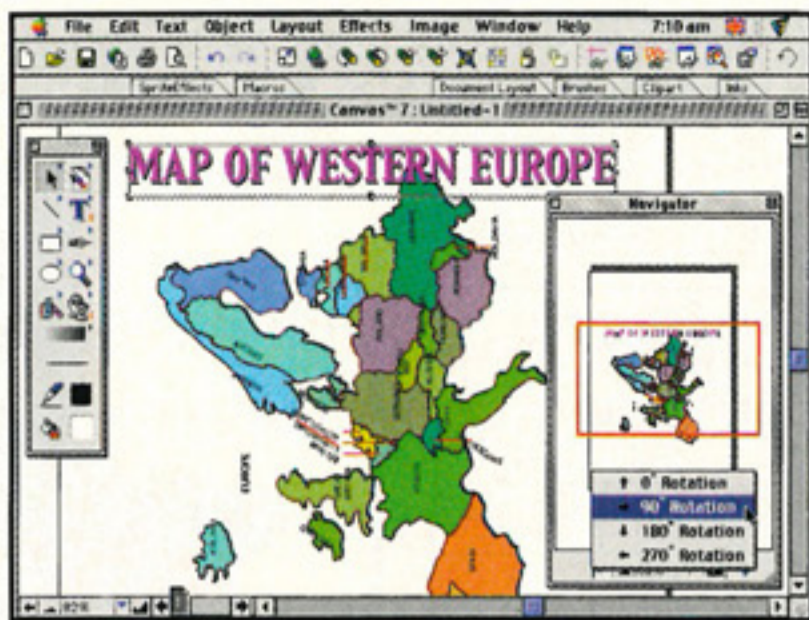
Bright as a button

Perhaps most fun of all is the new Web Buttons palette. Once you have created a button graphic, create a highlighted-button and a pressed-button version, then drag all three to the palette. *Canvas 7* immediately saves the combination as a Java rollover button for use on Web pages, either within *Canvas* or for exporting to a proper Web design package. If working within *Canvas*, these button actions can be previewed in the palette and even on your layout.

Macformat Classic "You can create artwork that would be impossible in anything else"

As you may expect from big-value graphics packages these days, *Canvas 7* comes with a generous clip art bundle (some 30,000 items) on three CDs. It includes some very good graphics and a lot of ready-made Web buttons and textures, but unfortunately no photo images whatsoever. Also welcome are nearly 2,500 high-quality Type 1 and TrueType URW fonts which frankly knock *Corel-Draw's* free fonts into a cocked hat.

Deneba might need to rethink its docu-



Need to work on an object that has been rotated? The Navigator palette enables you to rotate the entire artwork instead.

mentation next time and come up with a task-based user guide to fill the gap between the tutorials and the reference manual. However, we award full marks for the inclusion of a CD containing introductory videos, and can highly recommend Deneba's *Advanced Canvas 7 Techniques* CD (available separately for around £30).

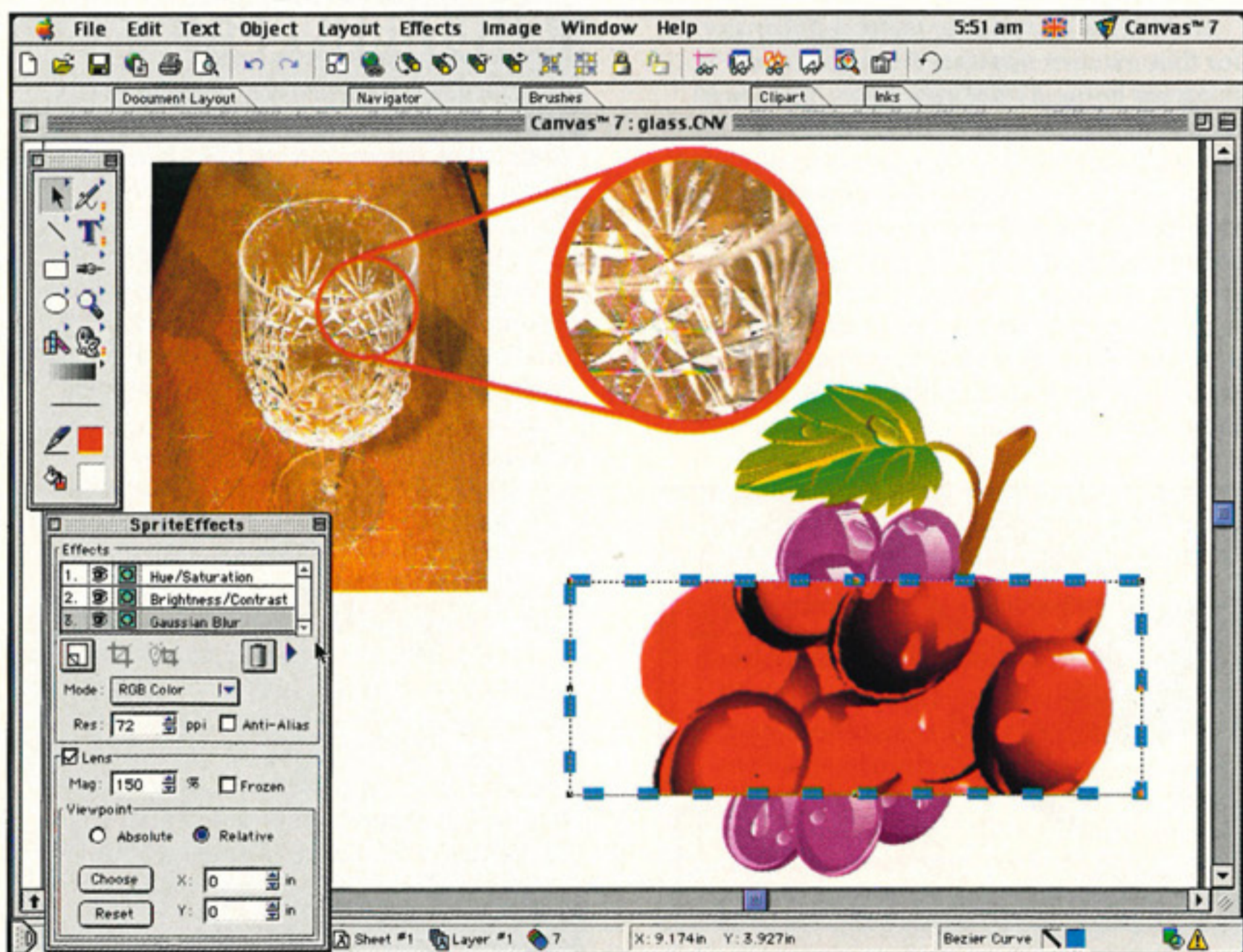
Even though the product is significantly cheaper in the US (\$375 instead of £395 + VAT), *Canvas 7* is definitely worth the money whether you are an advanced user at home/business or professional graphic artist. There are so many effects you can produce in *Canvas* that simply aren't possible in other graphics packages that you'd be sorry to miss out. Try to take advantage of the lower competitive upgrade price and use *Canvas 7* alongside your existing design software. You won't regret it.

Deneba Canvas 7

Improved vector drawing tools, better bitmap performance and unique transparency and image effects make *Canvas 7* a giant of a design package that no one should let pass by.

Features	90%
Ease of use	80%
Documentation	70%
Value for money	90%

Macformat rating **90%**



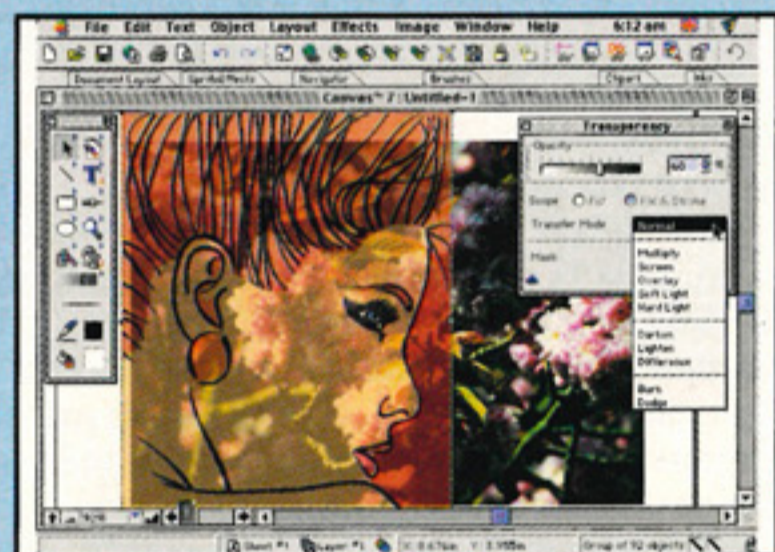
Any shape can be turned into a Lens, which can then be used to magnify anything behind it in situ or relationally. Lenses can also contain SpriteEffects.

SpriteLayer

Deneba first introduced its SpriteLayer feature in *Canvas 6*. The name's a bit misleading: it's not an object or artwork layer so much as a core technology which supports transparency across vector and bitmap graphics. There are several types of transparency supported: you can reduce the opacity of an entire object or group (vectors or bitmaps) to reveal whatever is behind it; you can make transparency values graduate smoothly across the object; or you can paint transparency through the object using any bitmap brush or masking tool.

What's more, *Canvas 7* enables you to manually adjust the transition nodes within a transparency gradient, and even use 100% transparent steps within any standard colour gradient fill. Transparency is "live" and doesn't interfere with the editability of artwork.

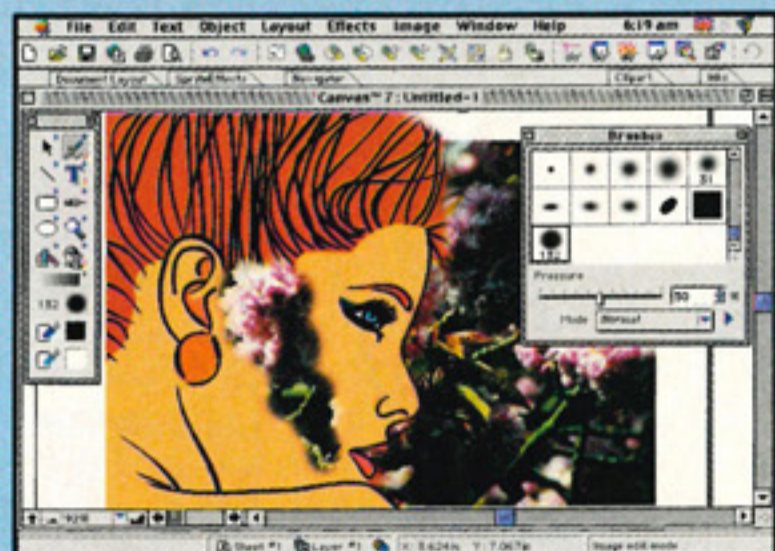
The loose link in the chain is PostScript, which does not support vector transparency. So when printing to a PostScript device, or saving as an EPS file, *Canvas 7* renders all areas of your artwork affected by SpriteLayer transparency to bitmaps. It sounds like a recipe for disaster, but the program produces surprisingly reliable EPS graphics for placing in *QuarkXPress* and *InDesign* page layouts. As long as you keep your original artwork file in *Canvas* format, you can re-edit and re-export it as often as you like.



Entire selections can be made transparent according to various transfer options for combining with background objects.



Transparency can be applied in radial, directional, rectangular and elliptical gradients and adjusted manually with on-screen nodes.



Most impressive of all, you can brush transparency masks over vectors, just as you might in a photo-editing package.

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www.madasafish.com for details

Kai's Power Tools 6

PHOTOSHOP PLUG-INS MetaCreations wheels out a brand new set of filters for graphic designers to play with. Denise Wilton sharpens, distorts and splatters away with the best of them.

Price: £116

Contact: Digital Toolbox on 020 8896 5600

Web site: <http://www.metacreations.com/>

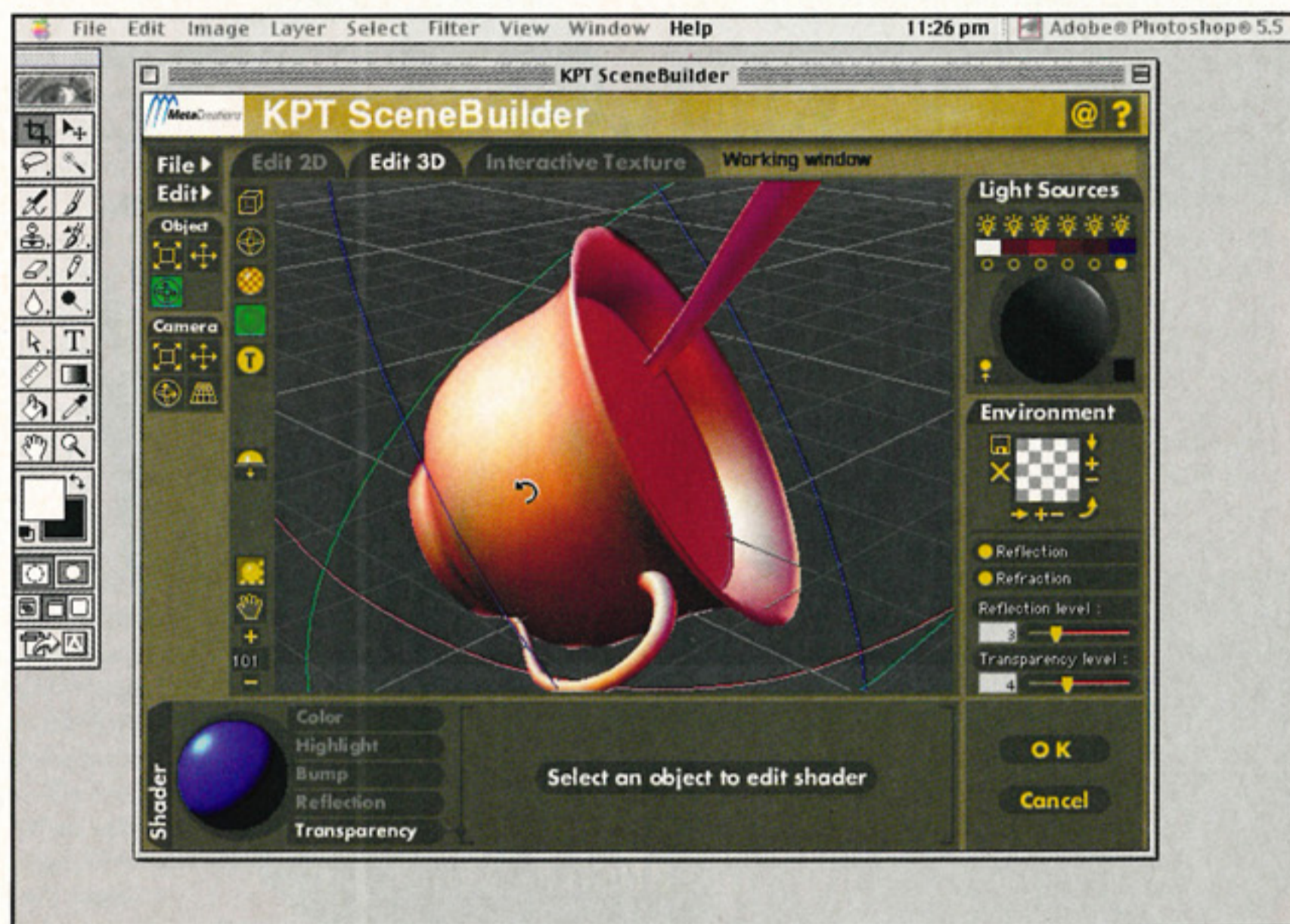
Minimum requirements: PowerMac 180MHz, 56MB RAM, Mac OS 7.6.1, 65MB of free hard disk space, *Photoshop 4* (or compatible host), Millions of Colours, CD-ROM drive

Kai's Power Tools (*KPT*) are, if not the most widely used, then the most widely known of all plug-ins. Designed to work with host applications like *Photoshop* and *Painter*, they can create amazing effects in real time. Like previous versions, *KPT 6* will leave design professionals itching to find a reason to apply them to serious graphic work, and provide everyone else with lots of fun too.

Like its predecessor, *KPT 6* consists of a completely new set of filters, not upgrades. Unlike *KPT 5*, however, *KPT 6* and its successors won't include earlier versions as part of the deal, but individual filters (*KPT X*) are available at a discount to MetaCreations customers from their Web site <http://www.metacreations.com/products/kptx/> You'll also find online support and tutorials here.

KPT 6 is an odd mixture, including filters already widely sold and publicised as plug-ins in their own right. *Goo* is included, as are the "bonus" filters *SceneBuilder* and *SkyEffects* – formerly known as *RAYfect Photo Tracer* and *RAYfect Four Seasons*. You can't help but feel MetaCreations is packing everything up neatly before it moves off in another direction. Despite this, the ten filters in total bring the usual fun and frolics – with the occasional genuinely useful feature thrown in for the graphics professional.

Like its predecessor, *KPT 6* takes over the entire screen from the host application, bringing its own environment with it. There are floating panels spawning functions as you rollover and a button giving you instant access to the presets library. The "memory dot" introduced in *Bryce* and then in *KTP 5* helps you store settings. There are also the obligatory "www" and "help" buttons, both linking you to information online. If you want, buttons can be changed to smileys – including a happy face for "OK" and a sad one to cancel commands. The bonus filters,



There are a variety of shapes in the *SceneBuilder* library. Open them – or a *3D Studio* file of your own – to render them in 3D. You can even change lighting and camera angles, and add texture maps and environments.

SceneBuilder and *SkyEffects*, have a look all of their own, with more detailed functions.

Kai's Power Tools have always seemed more about fun than function, and you can't help but instantly bond with *Goo* and *Gel*. While not a new feature, *Goo* is still fun and easy to use, creating smooth, photorealistic real time distortions.

Crushing heads

The main problem with *Goo* is when to stop. Sure, you could create a visual masterpiece, but it's more fun to squash someone's head into unrecognisable oblivion. Better still, you can animate as you go, saving the key frames and letting *Goo* create the frames in-between.

Gel is as instantly gratifying as *Goo*, enabling you to paint with a gel that can resemble metal, plastic or liquid. Brushes similar to *Goo's* enable you to twirl, smooth, smear and splatter. What's more, the gel seems to have a life of its own, shrinking back from the eraser

as if it were slowly evaporating.

Other filters are fun too, but seem to have less purpose. *Reaction*, for example, creates organic textures from your original image, which then tile seamlessly. Great for zebra-style stripes as a background for the Web, but it's hard to imagine what else.

Turbulence is a wave distortion engine that animates as you watch. When you see a ripple you like, pause the animation to capture the image. Colours can be changed and, as with *Goo*, movies made. *Materializer* helps you add surface texture to your image. You can emboss, distort and tint it using sophisticated directional lighting. The photorealistic results are so good that it makes you wonder why *Photoshop's* own filters are lagging behind. *Projector* lets you warp your image to infinity. Tiling as it goes, it enables you to rotate your 2D image in a 3D space.

There are more serious filters that can be used as an addition to *Photoshop's* core functions – for example, *Lensflare* and *Equalizer*. *Lensflare* improves on *Photoshop's* own lens flare filter. "Glow", "streaks" and "halos" can give images a sparkle previously unimagined. Print designers shouldn't get carried away, though; as with all filters that use light to great effect, some of the sparkle will be lost in translation from RGB to CMYK.

Equalizer brings you three new ways of sharpening and smoothing a weak image, the "equalizer" command itself being the most useful, throwing up a detailed graphic-equalizer-style palette. It requires patience, though, and a little experimentation in *Photoshop* alone might produce similar results.

SceneBuilder and *SkyEffects* do stand out from the other filters. They look different and have extra tutorials available as PDFs on the



Clicking on the preview window starts an animation of realistic ripples. You can pause it and adjust the variables shown. When satisfied, click on the tick.



Lensflare improves on *Photoshop's* own filter with an amazing range of effects. You can choose from a list of cameras, lenses, colours and intensities.



Create chrome type in seconds with *Gel*: make a selection, open the filter, select a chrome effect and it's done! Add splatters, twirl, smooth or erase.

application disc. Handy, but it's best to print them out, as once in a filter, you can't switch back to the Desktop to read the next step.

SceneBuilder, as the name suggests, helps you create a 3D scene. It has a handy library of shapes – from buttons for the Web to teapots – and it enables you to rotate objects in space and adjust camera angles, lighting, reflection and refraction. You can add texture and environment mapping, allowing light to bounce off the environment onto surfaces.

Alien landscapes

It's possible to import your own 3D objects to play with too (this filter supports only *3D Studio* files), but it does require at least 12MB of free memory. 2D objects can be imported in PICT format. Once your scene is ready, you can add a realistic sky using *SkyEffects*. With sun and moon editors it's even possible to create sunsets on imaginary worlds.

KPT 6 is a mixed bag. Some people may already own *Goo* and the bonus filters, so will need to think about whether the others add anything much. Professionals should be aware that while *KPT* is a lot of fun, a fair amount of thought needs to go into the serious use of anything with such a strong identity. That said, there are few filters that give such amazing results with so little work.

Kai's Power Tools 6

Some of the *Tools* are less useful than others, but all are powerful and entertaining. Perhaps too entertaining if there's work to be done...

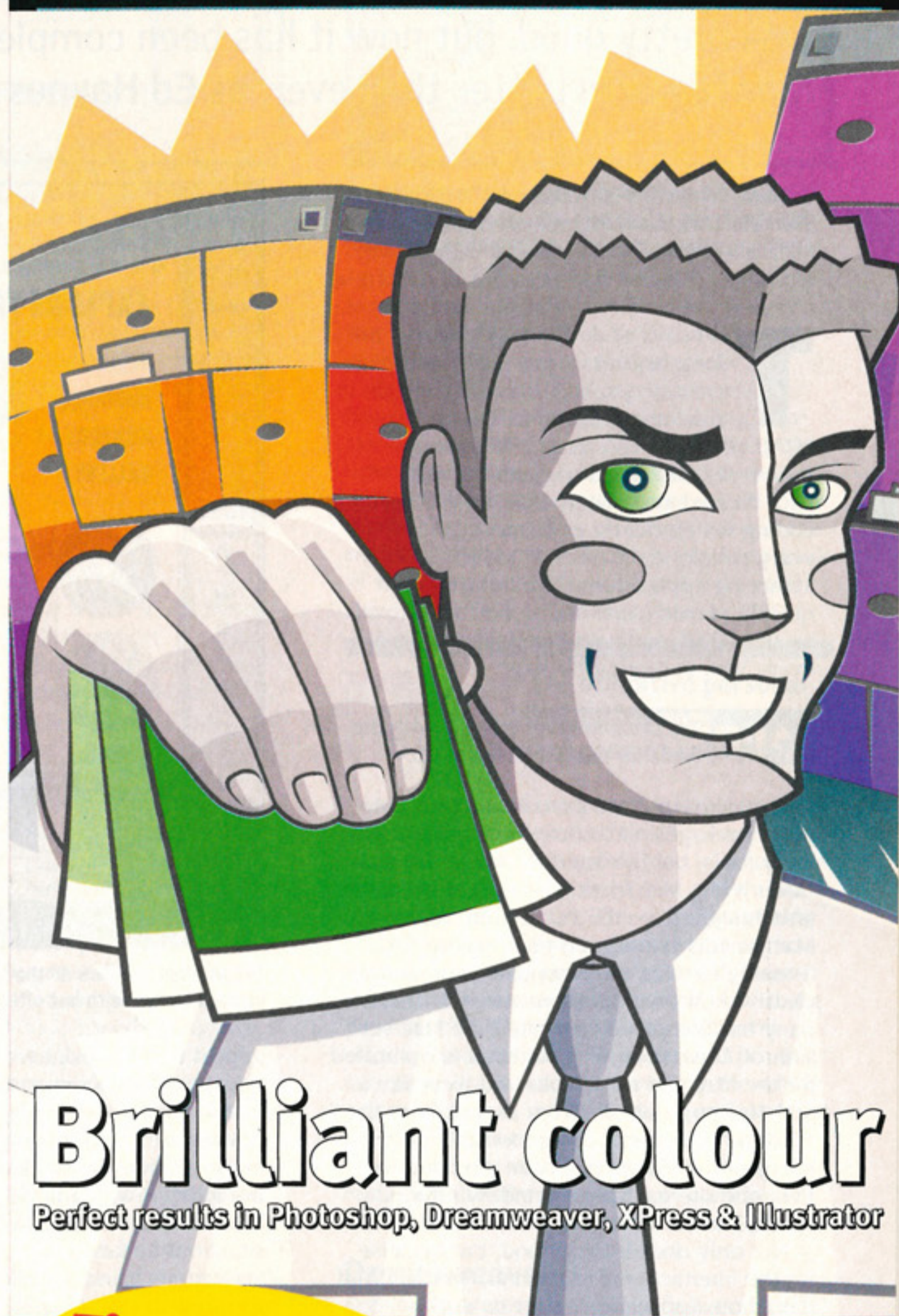
Features	78%
Ease of use	80%
Documentation	85%
Value for money	80%

Macformat rating

85%



SkyEffects' sun and moon editors enable you to alter the direction of light, while colour choices can bring you a whole new range of effects.



Brilliant colour

Perfect results in Photoshop, Dreamweaver, XPress & Illustrator

Fireworks 3
tutorial & demo

Also this month,
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▶ Optimising techniques in
Photoshop 5.5, *Dreamweaver*
3 review, *FreeHand 9*
unveiled, bags of
inspirational artwork...

Issue 42


on sale now

Dreamweaver 3

WEB AUTHORIZING PACKAGE Even in its earlier versions *Dreamweaver* was pretty good, but now it has been completely rewritten for the Mac it's even better than ever, as **Ed Haynes** discovered...

Price: £269
 Contact: Computers Unlimited on 020 8358 5857
 Web site: <http://www.macromedia.com/>
 Minimum requirements: PowerMac, 32MB RAM, Mac OS 8.1, 20MB of free disk space, CD-ROM drive

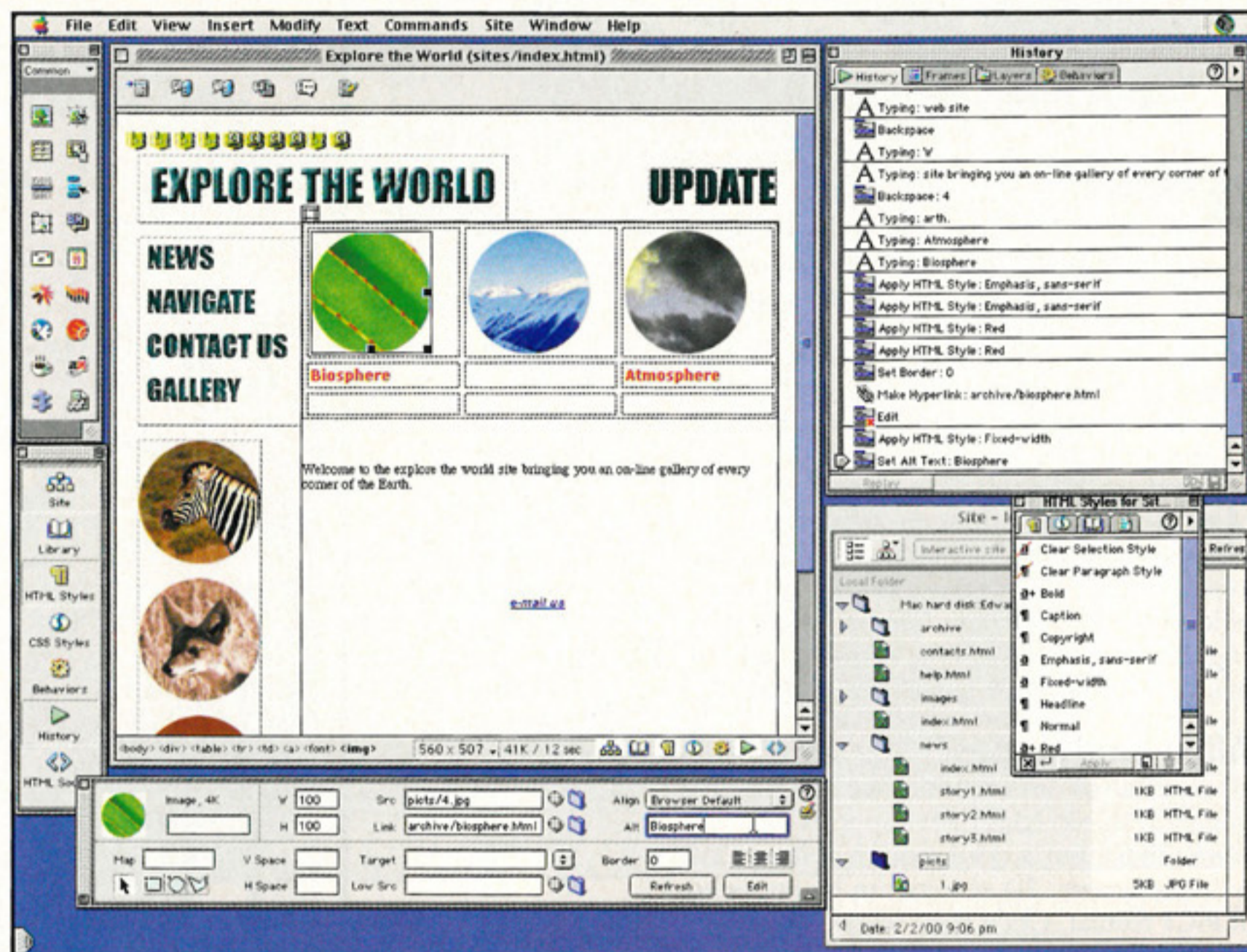
The days of dodgy HTML output are long behind us now: any Web page creation package worth its weight in sand should produce good clean HTML. Back in December 1997, *Dreamweaver* was launched to clean the slate of bad, bloated and plainly inaccurate HTML coding which clearly embarrassed nearly every developer of other WYSIWYG Web authoring applications. The industry then quickly played catch-up, trying to improve on the HTML coding which is the heart of every Web authoring package.

 Try *Dreamweaver* yourself with the demo on this issue's Cover CD.

Dreamweaver and *Dreamweaver 2* were good packages with competent site-management tools, but the interface was slow and never really Mac friendly – it seemed like an afterthought from the PC version. However, Macromedia has a good track record for listening to what its customers want, and this clearly shows with *Dreamweaver 3*. The company has completely rewritten the Mac version of *Dreamweaver 3* so that it is optimised for the Mac and now looks and feels like a real Mac application. Every aspect, from the window and palette design to the Finder navigation services, has been attended to. Even the site navigation window offers spring-loaded folders.

Not only does it look good, but because it's the interface you're used to, you will find the whole application easier to work with. Now that it uses "real" native Mac code, it even goes as far as using QuickTime to render images so the performance is significantly better than using *Dreamweaver 2*.

Dreamweaver 3 is targeted at the professional end of the market and certainly its features are those that professional Web authors require for day-to-day use. However with the new Mac interface it should certainly



Dreamweaver offers all the tools you will need to create any Web page. The new native Mac interface is not just easier to work with but offers a substantial performance increase over previous versions.

appeal also to designers who are making the transition from print to the Web. The interface is easy to get to grips with after just a few hours, and the manual is fairly easy to follow. If you get stuck, the excellent electronic help, which is viewed through a Web browser, should guide you through most situations as key features are demonstrated in animations using Macromedia *Flash*.

Customisation

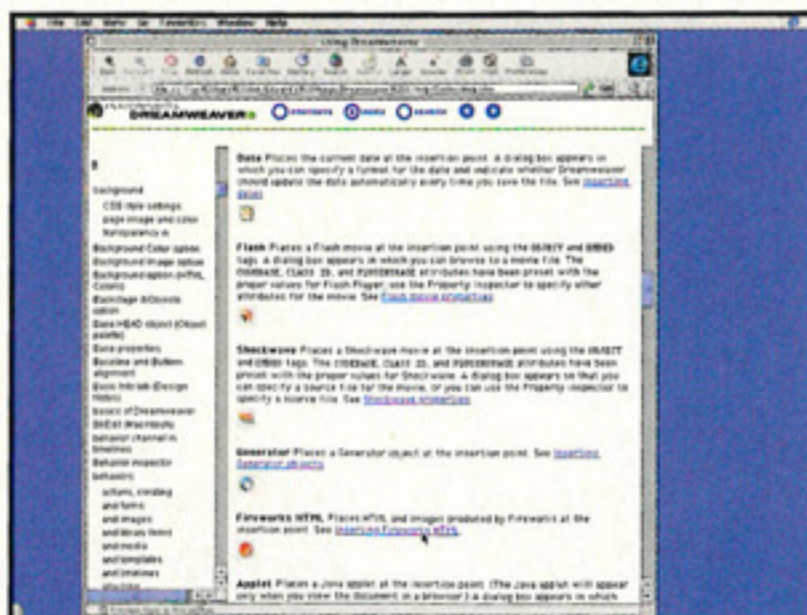
What if you still find the program tricky to get to grips with, or just prefer doing something differently? *Dreamweaver 3* has an answer. Over the last few years Macromedia has concentrated on making its applications more customisable. Tabbed palettes which enable you to dock and undock other palettes to suite your own working style have

proved popular; but this goes even further. Everyone uses programs in slightly different ways. You may never need to use some features, yet you may curse a program for having different keyboard shortcuts from the packages you're most familiar with. Well, here you can customise the menus in the menu bar, add and remove items, add keyboard shortcuts for functions or add whole new menus.

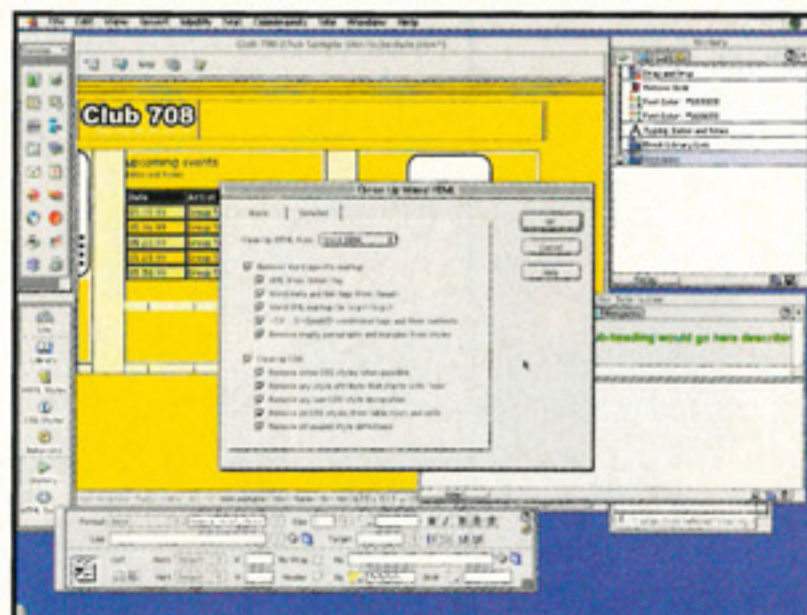
There is a slight catch, though: you have to edit the XML file which stores all the menu information. If you are used to looking at the tag-based structure of HTML code and can work out what things do, then you should be able to figure out how to edit the XML file to create custom menus. We recommend though that if you are going to give this a go you make a backup of the menu file.

It's just history

One of the features in *Photoshop* that appeared as a great innovation was the History



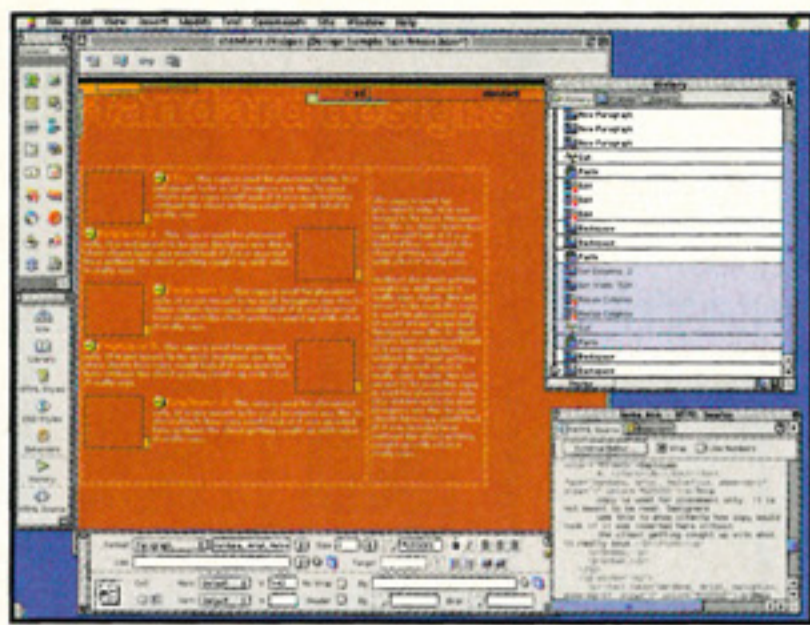
The electronic help in *Dreamweaver* is comprehensive, offering *Flash* movies and tutorials to show you how to make the most of the program's features.



The "Clean up Word HTML" command is a useful option, and you can find even more ways to extend *Dreamweaver* at <http://exchange.macromedia.com/>

Upgrade offers

Dreamweaver and *Fireworks* have been designed to integrate so seamlessly together that Macromedia is offering both packages together as a bundle as well as selling them individually. The *Dreamweaver 3 / Fireworks 3 Studio* costs £351. If you already own both packages, you can upgrade to the Studio for £175; if you own either of the packages you can up also upgrade to the Studio for £210.



Dreamweaver's History palette records every move. By selecting steps in the History you can save them as a command to reuse whenever you like.

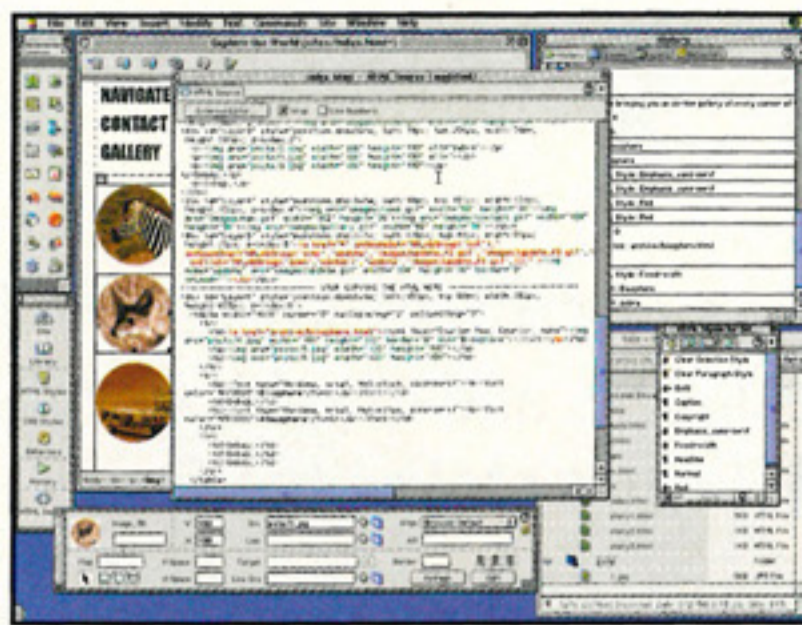
palette, which enabled you to skip back through the changes you'd made. *Dreamweaver* previously offered unlimited Undos, but now with the History palette you can see what steps you have taken. Repetitive tasks are quite common in Web page layout, so now, as well as unlimited Undos in a History palette, you can redo the last command. Whether it's reapplying the same style or recreating yet another identical table, you can now repeat your action. And there's more: you can now save out a series of operations from the History palette and save them into a JavaScript command. Think of this as like *Photoshop* Actions or macros: you can now take care of those boring, repetitive tasks simply by selecting Actions and saving them as a JavaScript command! A powerful and highly useful feature.

Because the commands are written to a JavaScript file, anyone familiar with JavaScript can adapt any command to new or more exact specifications, and can pass them on to other Web authors who may not be so familiar with creating their own commands.

HTML styles

Dreamweaver 2 introduced quickly-produced cascading style sheets. However, if you wanted to use the rather more widely-compatible HTML styles to include the font name, size and style, then it had to be done in a long-hand form. Now there is a separate palette for creating and amending HTML styles, which can be applied to paragraphs or selected chunks of text. Again this is a huge time-saver, and one which you'll wonder how you managed without.

It has always been necessary to be able to access the HTML code when you're working on a Web page. Even if you have no idea how HTML works, some things, like dimensions of tables, are easier to amend if you can just look at the code. *Dreamweaver* has always created the best HTML code of any WYSIWYG package, and this version is no exception. The HTML code window is now dockable into any of the palettes, so you don't have to shut the window down but can dock it out of the way. If you want greater



The heart of every Web authoring package is the HTML. *Dreamweaver* produces clean HTML, which you can view and edit in its own tabbed window.

control over your HTML code you can launch your code directly into *BEdit* from the HTML window. If you find HTML code a little hard to cope with but you know that you still need to edit a specific HTML tag, then you can work with the Quick Tag Editor, which enables you to edit the HTML code for the specific object you are working on.

Clean up your act

A great deal of content destined for the Web originates from *Microsoft Word*. *Word 97, 98* and *2000* all offered HTML export, but the output is not optimal for the Web as it can only be viewed using *Internet Explorer* because it uses custom tags and is three to five times the size of hand-coded HTML. *Dreamweaver 3* has a built-in "Clean up" command which removes all the rubbish so you won't have to spend hours cleaning up overblown code.

Word isn't the only program *Dreamweaver* integrates with: Macromedia has worked hard to integrate as many of its programs together as possible. The code generated from *Fireworks 3* (see overleaf) is completely editable in *Dreamweaver 3*, which speeds things up markedly. To work even faster, you can operate *Fireworks* from inside *Dreamweaver*. For example you could create a script that takes the text you entered in *Dreamweaver* and automatically launches *Fireworks*, applies a template style and returns the graphic and HTML code from *Fireworks* back into *Dreamweaver 3* – all at the click of a button.

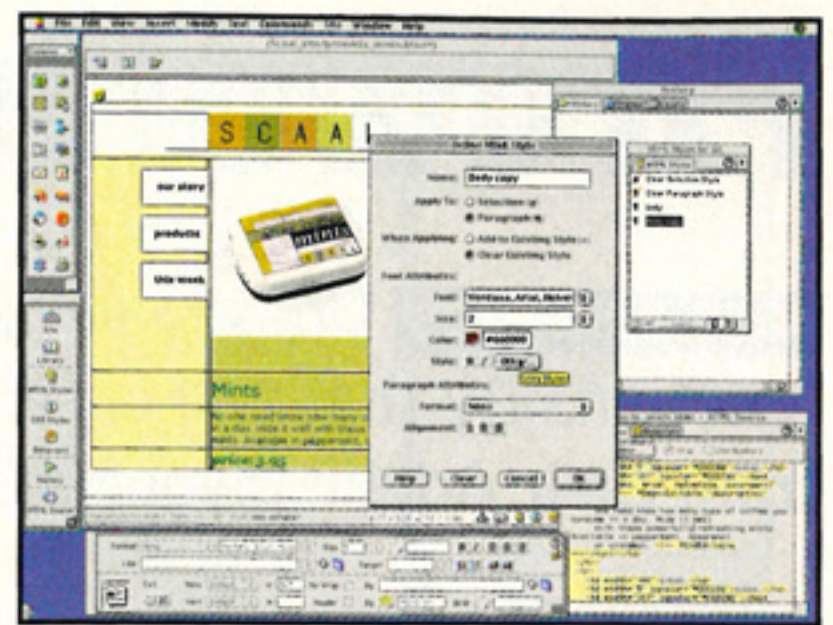
For further integration with other packages *Dreamweaver 3* can now import data directly into a table from files such as comma- and tab-delimited data files, which you can create from any database or spreadsheet.

Management

If you work as part of a team creating content for the Web, you may find it difficult to keep track of what elements other members of your team may require you to work on. *Dreamweaver 3* offers design notes which are linked to the file you work on but are not embedded within them. This means you can add notes without bulking out the code.

tag which another can then read, then the information becomes portable and reusable.

This is great because it beats the restrictions of proprietary file formats. Does this mean XML is not likely to be adopted by big software companies anxious to protect their own file formats? Not at all: *Microsoft Office 2000* applications save file information within XML, making the content open to other applications. Quark hopes to utilise XML as the method of storing page information. Macromedia enables you to customise *Dreamweaver* using it. XML is here to stay.



Dreamweaver still offers fully editable cascading style sheets, but you can also create standard (and more compatible) HTML styles for styling your text.

Instead, the notes are stored as an XML file that can be read on Mac or PC and transported with the pages making up the site.

Dreamweaver 3, like previous versions, has a built in FTP client for uploading your site to your Web server. *Dreamweaver 3* can now synchronise your local site with the one on the Web server, or vice versa. It can even remove orphaned files no longer used in the site. This means you don't have to keep track of what files have been updated over your site – essential as your sites grow in size.

Macformat Classic "The definitive personal Web authoring and site management solution"

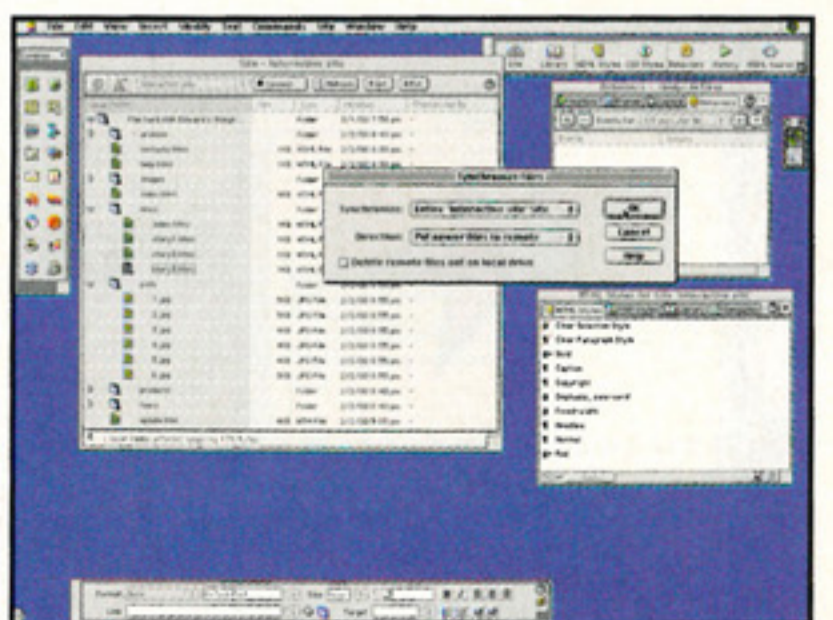
A great deal of credit is due to Macromedia for listening to what Web developers have been asking for. The native Mac interface has considerably boosted the speed and the stability of the application. The close integration of *Dreamweaver 3* with *Fireworks 3*, particularly via scripting, provides you with huge potential for improving your Web publishing productivity. With luck, Macromedia will offer free scripts on its Web site and provide extensive documentation covering the whole customisation of the *Dreamweaver 3* package on-line. We have never seen such customisation abilities within or between programs. Someday all software will be as comprehensively customisable as *Dreamweaver 3*.

Dreamweaver 3

Dreamweaver proves to be the definitive professional Web authoring solution and now stands out clearly above the competition, with incredible scope to increase your productivity through customisation.

Features	97%
Ease of use	93%
Documentation	95%
Value for money	92%

Macformat rating **95%**



Maintaining your site is now much easier with the new Synchronize command, which will update only the files you change to the FTP server.

What is XML, anyway?

XML is anything you want it to be. That's probably not what you wanted to hear... It's a tag-based human-readable language that includes information. Different programs may search for tags such as a title tag. The information (often text) within the tags can then be extracted and used in another program. There are no limits to what the tags may be, or the content in between them, but if a program writes information using a

Fireworks 3

WEB GRAPHICS Does Macromedia's *Fireworks 3* offer the features and functionality that will entice designers and graphics professionals from their Adobe favourite? Ed Haynes stokes the fire.


Price: £163

Contact: Computers Unlimited on 020 8358 5857

Web site: <http://www.macromedia.com/>

Minimum requirements: PowerMac, 64MB RAM, Mac OS 8.1, 60MB of free disk space, CD-ROM drive, ATM 4 for using Type 1 fonts

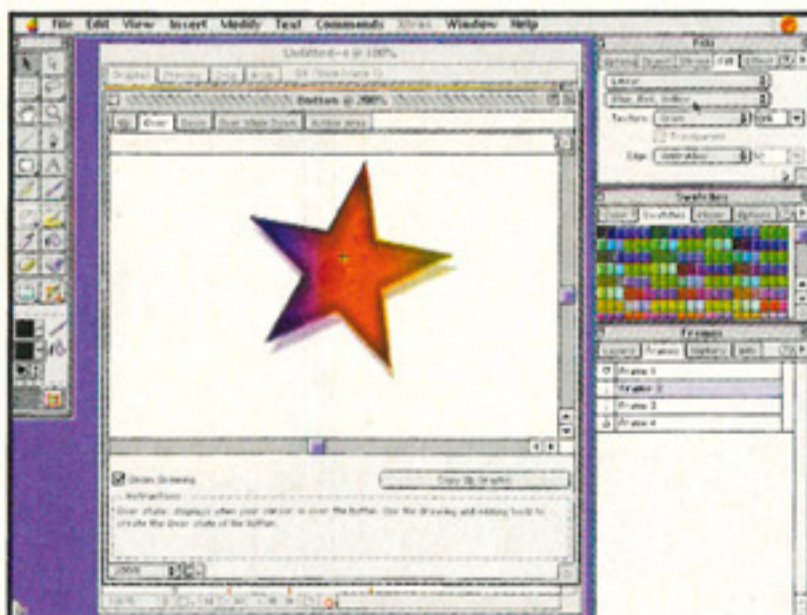
The target market of *Fireworks 3* is professional designers who are used to working with graphic and design tools such as *Photoshop* and *FreeHand* and who are now trying to develop for the Web. The Web graphics workflow is very different from that of print media. The limited export formats and restrictions on file size are genuine problems when creating Web graphics. When a graphic is finished, it has to be compressed as a GIF or JPEG and embedded in a Web page using HTML coding. Creating interactive rollovers requires careful slicing of the image, and the appropriate JavaScript code must be added to the HTML code. This procedure is long-winded, taking potentially longer than the designing stage. If amendments to the design are required, the whole

 Try *Fireworks 3* yourself with the demo on this issue's Cover CD.

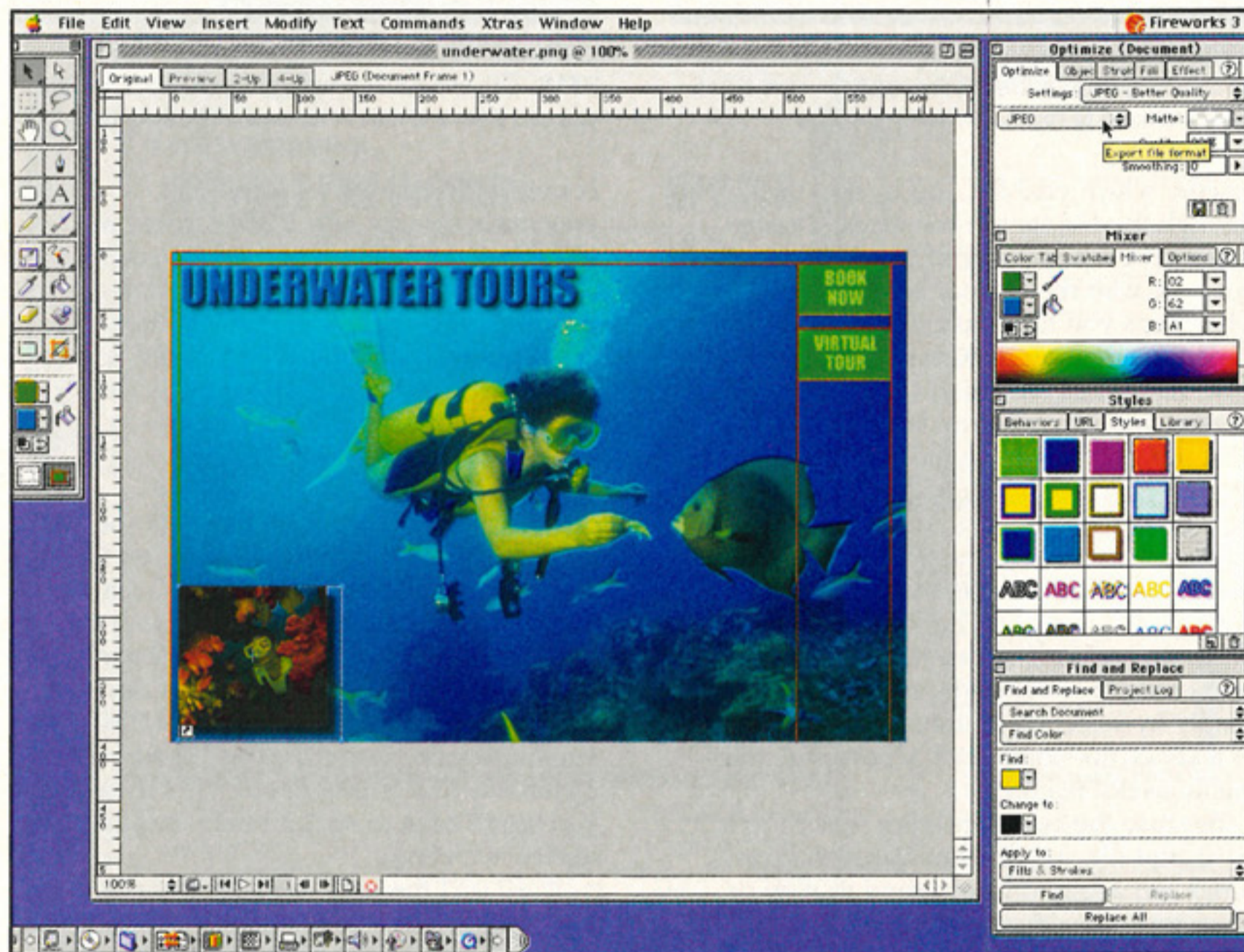
conversion process to get the images ready for the Web needs to be started from scratch. *Fireworks* addresses these issues, providing the tools to design while taking complete control of making your graphics Web-ready with the appropriate HTML.

Vectors and bitmaps

Fireworks is an unusual kind of graphics application because it offers a complete set of tools for editing both vector and bitmap graphics. Any graphics you create can have both vector and bitmap components. All graphics you view on screen are rendered as bitmap, yet the vector path information is always retained with the vector object, thus providing full editability at any time. *Fireworks* can also import graphics from packages such as *FreeHand*, *Illustrator* and *Photoshop* while maintaining full layers to retain complete editability. Images can also be sourced directly from digital cameras and



Creating rollover buttons is made easy with the new buttons editor, which enables you to work on each button state individually.



Fireworks enables you to work with existing graphics to make them ready for the Web, or start a design from scratch using a comprehensive selection of vector and bitmap editing tools.

scanners without leaving *Fireworks*. Because it maintains vector components' editability, you can edit your vectors within *Fireworks* and then export them back to other vector packages. This is particularly useful if you want to export your work in the SWF Flash file format, which *Fireworks* exports directly.

Whenever you edit or move a component within *Fireworks*, the new History palette records your every move and action. Just as in *Dreamweaver 3*, you can then select the processes from the History palette, select **Create Command** and it creates a JavaScript action which it adds to the Commands menu in the menu bar. This enables you to apply identical effects to objects or create identical objects with identical styles, including text. For example, you could copy and paste text from another application onto your *Fireworks*

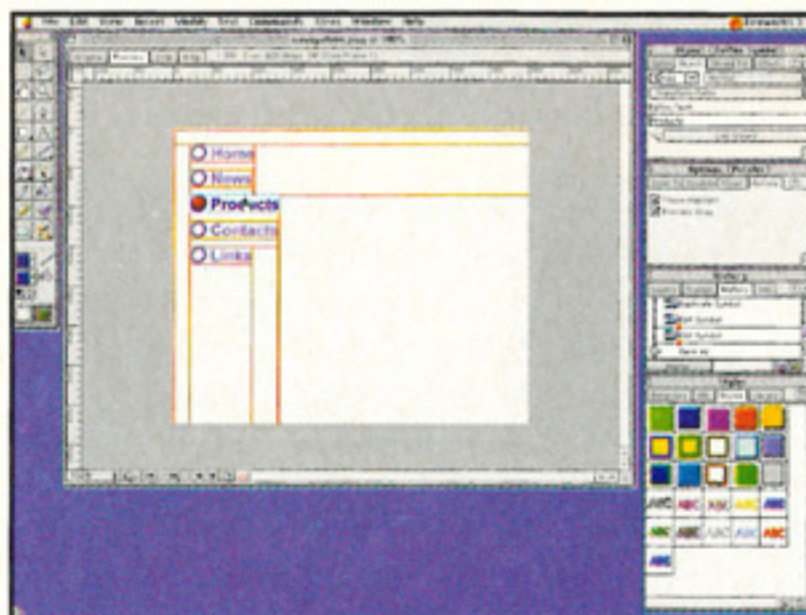
document, then apply a Command you've created that will add a drop shadow to text, set the correct font and font size, all using a JavaScript. If you are familiar with JavaScript, you can also edit the files in the Commands menu, so you can customise and automate all those repetitive tasks normally associated with producing Web graphics.

Creating interactive rollovers within *Fireworks* is simple using the Insert Button tool, which opens a new window with the different states of a Web button. Just create a simple button in one state and either use onion-skinning to the next state, or else click the Copy Up Graphic button to copy the graphic from the previous button state ready to alter. When you close the button creator your new button is positioned on the page and you can move it about freely on the page. If you want to edit it, just double-click on the button to open up the button editor again.

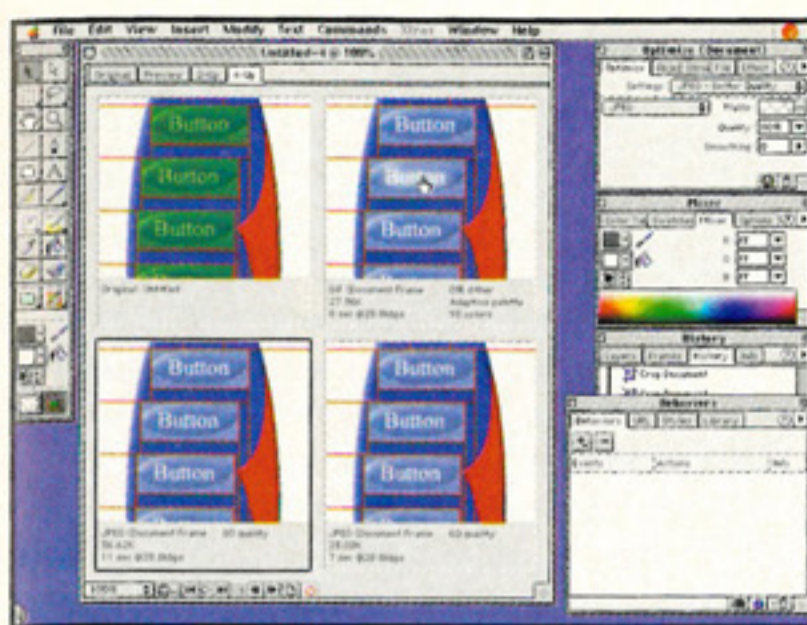
Put it on the tab

Fireworks offers four types of document views, which you can swap between by clicking on the appropriate tab at the top of your working document. The working editing view is called the "original", and it's the main working window. If you want to test how your rollovers will work, click on the preview tab for a genuine preview of how the compressed graphics will appear in a Web browser. Even animations in rollovers will work in the preview window, so you won't need to swap back and forth from a browser to see your final graphic pages.

The next tabbed palette enables you to



Once you have created your interactive navigation buttons just copy and paste them and change the text to create a navigation bar.



You can preview up to four views of your work so you can choose the optimum compression level and format quickly.

compare the differences in image compression between two previews side by side, while the final tab enables you to preview four different levels of graphic compression against each other. Either of the preview compression types, JPEG or GIF, can be altered or, as you create specific graphics in the main working window, you can allocate what file type is to be used for individual objects. *Fireworks* then takes care of dividing up the graphics and creating all the appropriate HTML and JavaScript to generate the completed page. As you would expect, the HTML is native to *Dreamweaver*, so editing between both packages is seamless.

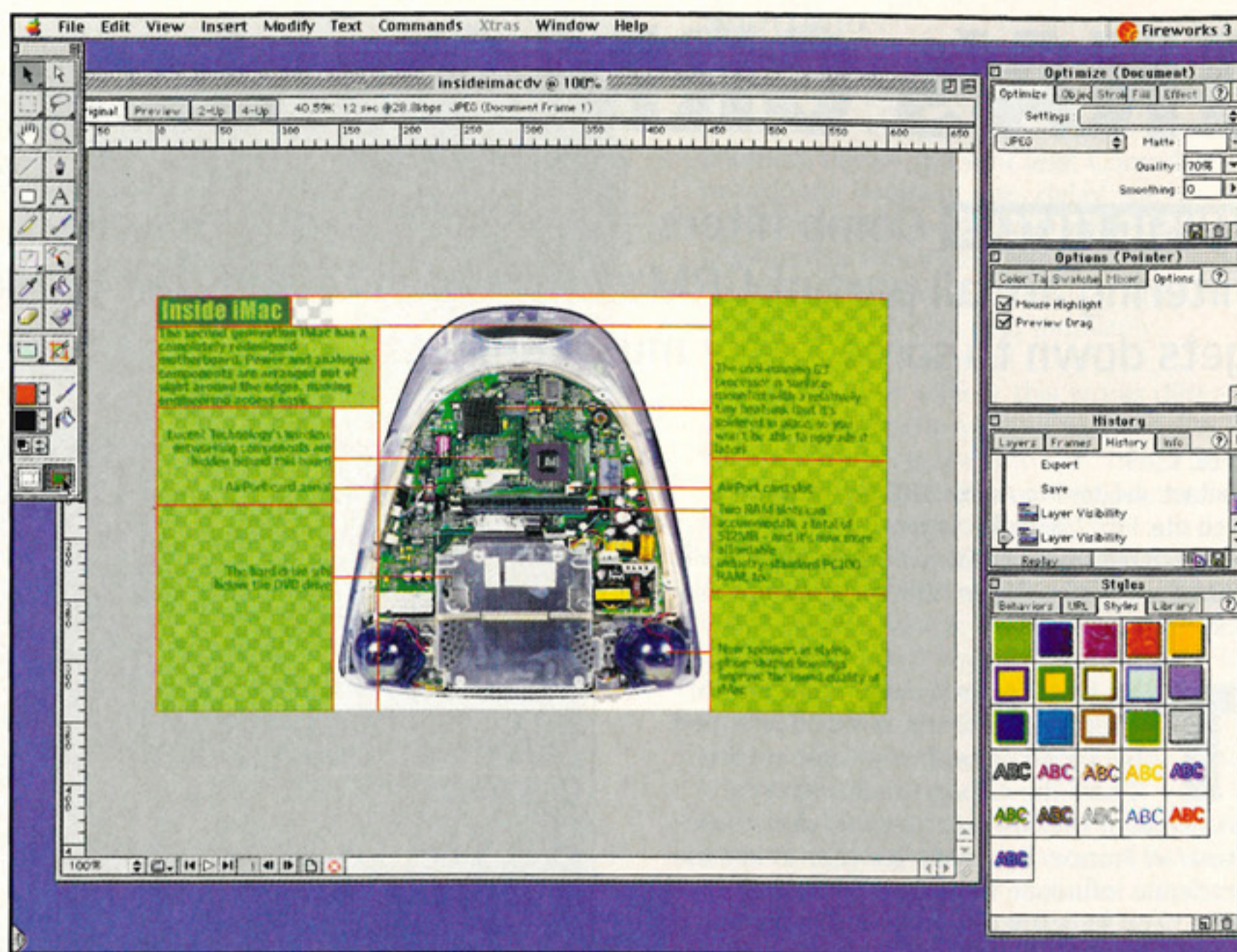
Update in a flash

Many graphics used on a Web site are reused from page to page, so *Fireworks* offers a symbol library just like the one in *Macromedia Flash*. You can store any graphic, logo or button you want to use later, along with its associated JavaScript behaviour, within the library. Simply drag them to your document window when you want to use them.

Fireworks enables you to use third-party plug-ins to apply effects to both vector and bitmap images in your work. What's special is that the effects are created live with the object, so the shape of a button, say, is linked to its other attributes, including fills and effects. If you change the shape of the button, both the fill and the effect will update, so a drop shadow will automatically work round the object's path. This saves time and makes experimentation much easier.

You can apply multiple effects to an image and alter every element from transparency or saturation to curves and filters, such as blurs, drop shadows and any third-party filters, to create complex effects. At any time you can alter any component of a multiple effect, providing a level of flexibility that even *Photoshop* cannot match.

When you've finished creating your graphics, *Fireworks* enables you to slice up the



Complex page layouts can be sliced up for faster and more optimised image loading. Fortunately *Fireworks* creates all the HTML and JavaScript, which is also native to *Dreamweaver 3* for easy editing.

images on the page yourself or will do it automatically. It then optimises the image or images, and if an image is sliced up it will create the HTML to display all the images in their correct locations so that the page looks the same in the Web browser as it did in the original. *Fireworks* offers excellent optimisation tools, giving you complete control over the level of compression used for each of your graphics, which you can view using the preview tab on the document. You can use a

Macformat Classic "Apply multiple effects to vector or bitmap art and they're updated live"

number of preset compression levels for GIF or JPEG, or you can create your own.

Macromedia has included a lossy function for the GIF compressor which jiggles the pixels about so they compress better. The difference between this and the lossless version is hardly noticeable, but it substantially reduces the size of the GIF files – particularly useful for animations. The quality of compression tricks is certainly a match for *Adobe ImageReady's* – give or take a few bytes.

Fireworks still enables you to create great graphics from scratch as well as giving you increased import options from other applications, retaining their full original editability. If

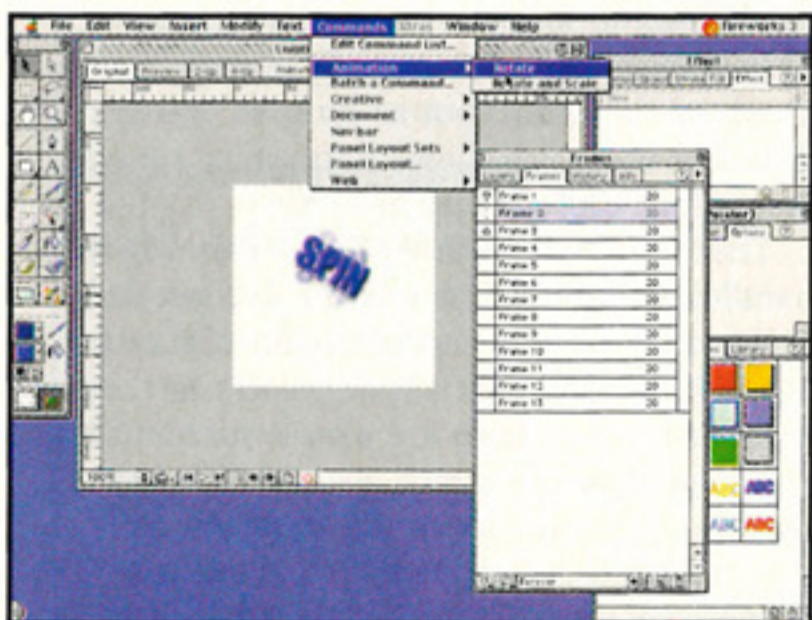
you're stuck for ideas, *Fireworks* includes libraries of pre-made buttons and navigational designs for you to adapt. There's an enormous level of flexibility in the effects you can apply to shapes, text or graphics, and because every effect you apply is treated as a separate object, every stage of your designs remains fully editable at all times – clearly an advantage in the changing world of Web designs. The creation of the HTML and JavaScript is seamless, so you don't even have to know it's happening – or at the other extreme you can edit it in *Dreamweaver* as native code. Like *Dreamweaver*, *Fireworks 3* is fully scriptable by simply recording your actions in the History palette. Because amendments or styles can be recorded, it's easy to create your own style and object styling commands, which can be accessed with one click, vastly increasing productivity.

Fireworks 3

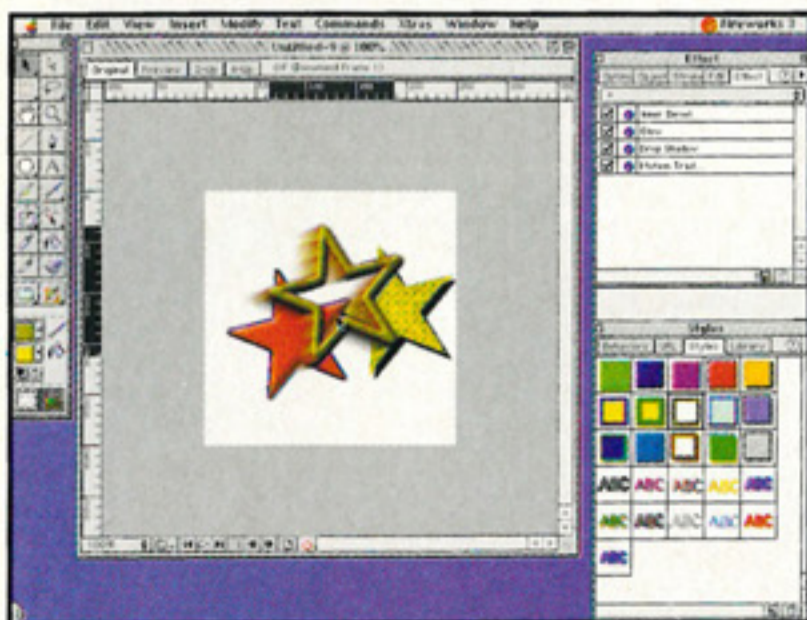
Fireworks has targeted the problem areas in the Web graphics workflow and has eradicated them by providing solutions that really work. It frees you to do what you do best, create and design.

Features	92%
Ease of use	94%
Documentation	93%
Value for money	90%

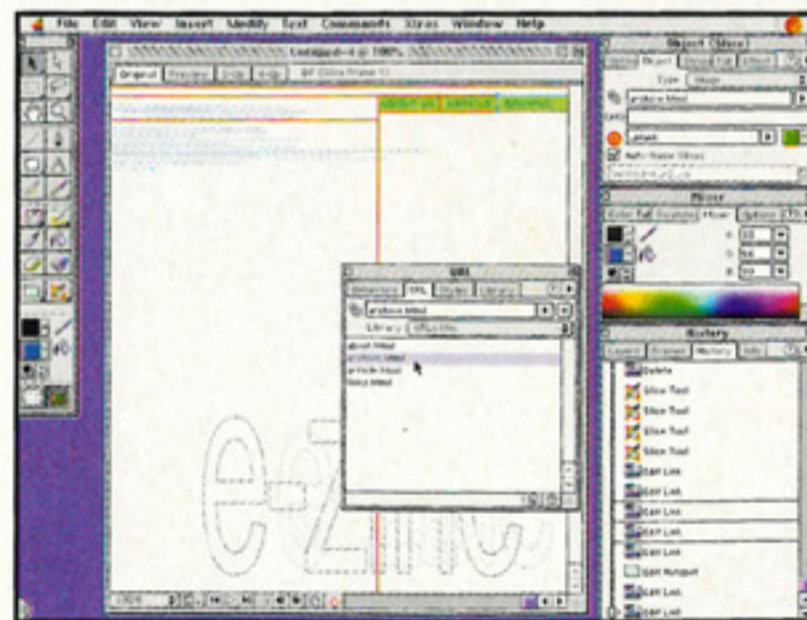
Macformat rating 92%



By creating JavaScript commands you can automate repetitive tasks such as turning a static image into an animation in one click.



Fireworks' live effects enable you to create any combinations of graphic effects, and they remain fully editable independent of the object at all times.



Web addresses can easily be added to objects, and you can create a library of the ones you use on a day to day basis to save you time.

INA's GRM Tools

MUSIC FILTERS Comb filters, micro-splicing and extreme filtering are all part of GRM's impressive toolkit. Ian Waugh gets down to some heavy music processing...

Price: £149
 Contact: Arbiter Pro Audio: 0181 207 5050
 Web site: <http://www.ina.fr/grm>
 Minimum requirements: PowerMac 150MHz, 24MB RAM, System 7.5 or higher, VST plug-in-compatible host software

This is not your average collection of effects. For starters, it was developed by a load of boffins – GRM at INA. That's the *Groupe de Recherches Musicales* at the *Institut National de l'Audio-visuel* in France. But while it's easy to see the academic influence in these effects, they have been expertly designed and programmed and you don't have to be a quantum physicist to use them – just sober...

The *GRM Tools* pack contains four VST plug-ins and we'll introduce you to them right now – Shuffling, Comb Filters, Band Pass and PitchAccum. Most digital audio software supports the VST plug-in format and there is also a PC version of the effects on the same CD. Installation is easy, although they use a hard disk install for copy protection, which is a nuisance.

The effects are more for processing sound than "tarting up" a music recording although those involved in the creation of certain types of music such as Industrial, Grunge and Ambient will love it.

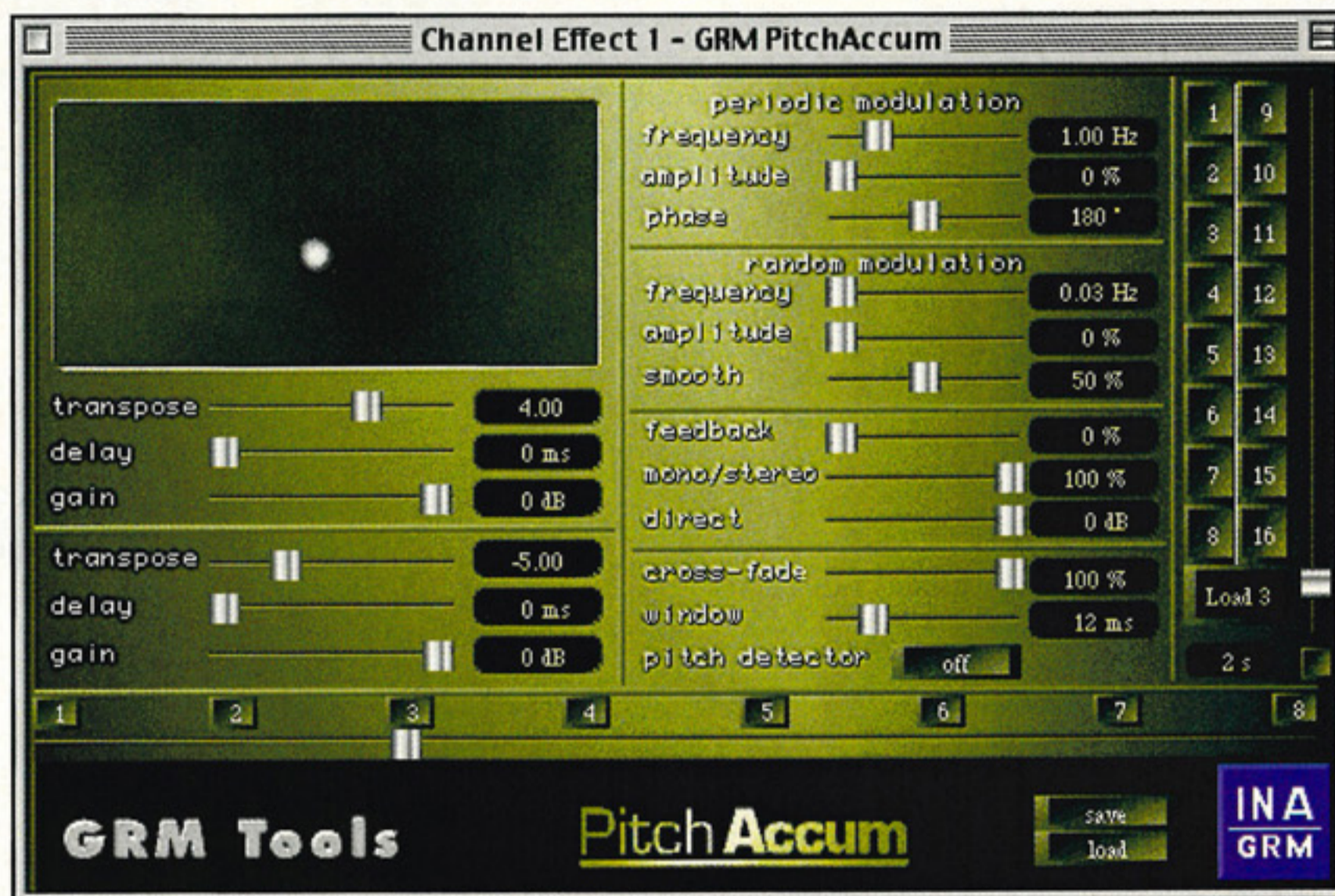
Band pass

All four effects share several common features and the easiest way to get a flavour of how they work is to look at one effect. We'll use Band Pass, as that's closest to a "normal" effect. As its name suggests, Band Pass passes a band of frequencies and removes or rejects the others. The band is shown by a bar below the main window (the one with a ball in it) and you can set the upper and lower frequencies of the band with a couple of sliders. Clicking on a toggle switch reverses things so the frequencies which were going to be passed are rejected – turning it into a band reject filter.

Now here's the clever bit. All the effects have what the manual calls a super handle –



The stereo Band Pass effect can process the left and right channels in different ways.



PitchAccum's transposers can change the pitch of the sound in real time. They cover a pitch range from -24 semitones to +24 semitones and all points in between.

it's actually the ball we mentioned above – and dragging this around the window changes the parameters. Moving it left and right lowers and increases the frequency band. Lowering it and raising it decreases and increases the width of the band. You can play with this in real time during playback, creating all sort of filter sweeps and tonal changes – it's very easy to get carried away.

If this gives you a sense of *déjà vu*, you're probably thinking of Arboretum's *Hyperprism* (reviewed in *MacFormat* 78) and its Blue Window, which also allows you to change several parameters at once in this way.

Here's another clever bit. On the right are 16 preset buttons. These are pre-programmed although you can store your own presets in them yet revert to the factory set later, if you wish. To the right of the presets is a transition slider which can be set to a time value up to 30 seconds. Let's say you set this at 10 seconds. Now, clicking on a button to change the preset moves each of the parameters from their current setting to the new preset setting over the duration of the transition period. In other words this morphs between the two settings. And here's yet



Shuffling cuts the audio into micro-slices and stitches it back together again in a slightly different way.

another clever bit. Running along the bottom of the window is an interpolation slider and eight interpolation buttons which can each be set to one of the 16 presets. As you drag the slider with the mouse, the settings morph from one preset to another as the slider passes beneath the buttons. This is filtering in the extreme. The sweeps you can produce both manually and automatically are mind-bogglingly amazing.

All four effects have 16 preset buttons, a transition slider and an interpolation slider, and all but the Comb Filters have the super handle, so once you know to control one effect, you know how to control them all. The only thing to do now is to see what sort of effects the other three produce...

Comb filter

A comb filter is used to create harmonic effects such as flanging and phasing (both produce a sort of wooshing sound). The Comb Filters in *GRM Tools* have a very high resonance. This amplifies the frequency at a certain point, along with various harmonics of that frequency. It's actually a wee bit more involved than that, but as long as you get the drift that there are weird harmonics being generated, that's the main thing.

There are five of these filters running in parallel. Each one has a control to set the frequency and this can run from 45Hz up to 20,000Hz, which just about covers our entire hearing range. There are also resonance and low pass sliders.

Although you can create some pretty unusual filter effects just by playing with the sliders, the most interesting effects are produced by "transitioning" between presets. The outcome is very dependent on the source material. As the effect plays about a

Shuffling

Imagine taking an audio file, chopping it up into very small slices and then reassembling the slices in a different order. That's what Shuffling does – more or less. Controls include the fragment size, delay, pitch, feedback and density. Used in various combinations they can transpose a sound, create varying pitch shift effects, harmonies, chattering, stuttering, and ultimately, complete sonic mayhem!

Like the other effects, this works differently with different types of material. Try it with a rhythmic sound file and then a file containing just a simple melody line and the results will be quite different.

If you have a background in synthesis, particularly software synthesis, some of the functions in some of these effects may be familiar. However, even if it sounds like some of the ideas have been pinched from the engine room of the Starship Enterprise, don't worry too much about understanding exactly what each one does. The manual is very helpful (although we would still like to have seen more detailed explanation of the more technical functions) and includes suggestions about how you might use the effects.

The effects themselves are not at all difficult to use and it's very easy to experiment with them, particularly with transitioning between the presets. Try the same settings on several types of material and you'll soon discover what they do.

As we said, these are not the sort of effects you'd think of using with traditional songs, but if you enjoy processing sounds or want to create new sounds from old ones, you sure have come to the right place. The transition and morph functions make it so easy to create dynamically changing sounds which traditional filtering and processing techniques simply cannot do. And they're fun, too!

GRM Tools

An individual collection of sound processing effects with many unique features, and well implemented. Perfect for anyone involved in sound design and interested in alternative forms of music production.

Features	92%
Ease of use	76%
Documentation	84%
Value for money	90%

Macformat rating

86%



You can get down to some extremely serious filtering with the Comb Filter. The frequency range covers approximately the same spectrum as human hearing.

lot with harmonics you will hear the greatest changes with harmonically-rich sounds.

Because of the harmonics it generates, many of the effects have a metallic edge. For the technically-inclined, the harmonics it generates share a similarity with the harmonics produced by ring modulation, which also produces metallic sounds and, in fact, some of the effects are very like ring modulation. Other settings can add a kind of reverberation but it's not the sort of reverb you'd want to apply to vocals. Rhythmic material responds to the Comb Filter very well – drums, guitar riffs and so on.

PitchAccum

PitchAccum is slightly more complex – well, you didn't come here to read the *Beano*, did you? It consists of two transpose and two modulation sections. The transposers can change the pitch of the sound in real time. They cover a pitch range from -24 semitones to +24 semitones and all points in between. The effect does not have formant control, so you probably wouldn't want to use it on vocals (although that's not specifically what it was designed for) but, using the two transposers you can simultaneously transpose the sound both up and down in pitch.

Each transposer also has a delay parameter which works as you'd expect and they can create delays of up to three seconds. There is also a gain slider which controls the volume of the delayed signal.

The two modulation sections each have frequency and amplitude controls which determine the speed and depth of the effect and the result can range from subtle to wacky. This can have such an effect on the audio that it removes all vestiges of pitch (in a warbling, bubbling sort of a way) so that a melodic line is almost turned into something of a monotone.

One of the modulation sections has a phase control which determines how the modulation is applied to the two transposers. With a setting of 0 the two transposers are "in phase" and receive exactly the same

Jargon busters

Formants: Determine the gender characteristics of a voice. Without formant control if you raise the pitch of a male voice it sounds like Mickey Mouse. Formant control helps preserve the male characteristics through pitch changes.

Ring modulation: A process which takes two input frequencies and outputs a complex tone made from the sum and the difference of the input frequencies.

signals from the modulator. At a setting of 180 they are in opposite phases so one is receiving a modulation signal telling it to move up, while the other is moving down. And you can have settings in between, too.

The other modulation is random. Need we say more? On top of that there are six other

"The effects are more for processing sound than 'tarting up' a music recording"

sliders, of which we'll mention only three. Feedback adds feedback to the delay, causing the echoes to repeat. The Window and Pitch Detector sliders determine the size of the audio chunk that the transpose function uses. Altering these changes the quality of the transposed material and can add rhythmic pulses to the output.

What does it sound like? Well it can combine extreme types of transposition, delay and modulation, but do remember that it's not compulsory to use everything, all at the same time. Piling everything on can certainly add lots of complex harmonics to a sound, but if you're gentle in how you use it, you can also create some interesting spacey sort of sounds.



The Band Pass is easy to use and quite simple to understand, and it's more than capable of producing some truly wicked filter sweeps. Results are limited only by your imagination.

BitHeadz' Black & Whites

MUSIC SAMPLES Want a grand for a ton? Like to put a piano inside your Mac? Is it really possible or are they just playing us along? Ian Waugh is the man tinkling the ivories for us...

Price: £129.99
 Contact: Turnkey on 0171 379 5148
 Web site: <http://www.bitheadz.com/>
 Minimum requirements: PowerMac 200MHz,
 System 7.6.1, 64MB RAM, CD ROM drive

This isn't a new idea and it isn't innovative – but it is the first for the Mac and that always counts for something. *Black & Whites* is a mammoth collection of piano samples, the likes of which you may have bought years ago on an audio CD to load into a hardware sampler.

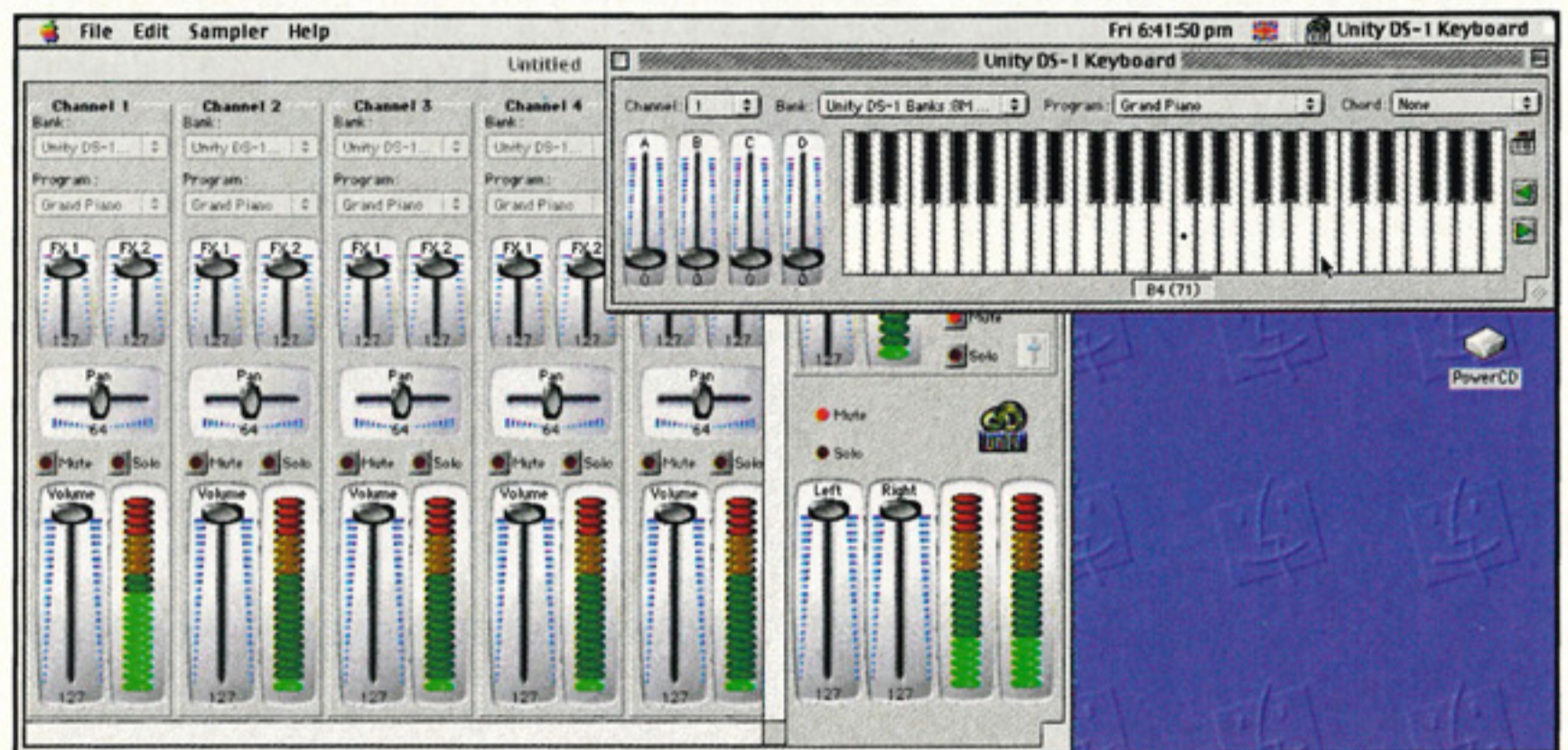
But we've moved on a few notches since then. These samples are designed to run in software and *Black & Whites* uses BitHeadz' *Unity DS-1* soft sampler (reviewed in MacFormat 75) as its host program. This enables you to play the samples from within the Mac and, much more usefully, from an attached MIDI keyboard. If you don't have *Unity*, worry not because the installation routine will install a mini version of it which includes the Keyboard and Mixer modules. If you happen to have a PC lying around, there's a PC version on the CD, too.

If you have the full version of *Unity*, you can edit and process the *Black & White* samples just as you can any sample. You can't do much editing with the mini version but you may not want or need to. The *Black & Whites* collection contains over 300MB of samples arranged into around 50 banks. These, in turn, are organised into hundreds of Programs – most of which are pianos. The biggies are the Steinways and there are several versions here with the samples recorded at different volume levels. There are mono and stereo versions, too.

There are also several banks of electronic pianos and a bank of strings, and there are several Programs which combine piano and strings – always a popular combination.

As well as "straight" piano Programs, many have been processed with *Unity* effects – reverbed, flanged, chorused, phased, modulated, EQed and otherwise tweaked to provide a wide array of piano types. If you have *Unity* you can customise the samples even further, but there are so many variations you needn't buy *Unity* too... unless you want to.

The quality of the samples is excellent, up to 24-bit 96kHz quality providing your sound



If you don't have *Unity* then *Black & Whites* will install the Keyboard and Mixer part of the program.

card supports it. But even playing through a "normal" CD-quality card – 16-bit 44.1kHz – the sound is excellent. You can even run the program on a PowerBook. Carry it around, plug in a MIDI keyboard and there's a superb range of piano sounds at your fingertips. The latency (the delay between pressing a key and hearing the sound) is so low that the response is virtually instantaneous, so you can really play it live.

Multi-timbral

Unity – and, therefore, *Black & Whites* – is 16-part multi-timbral, which means you can play 16 different sounds on 16 MIDI channels at the same time. You may not want to play more than couple of piano sounds at once, but it's certainly essential if you move up to the full version of *Unity*.

Many users will want to use the sounds in a recording in a sequencer running on the same Mac. As *Black & Whites* is *Unity*-based, this is easily done. Well, "easily" is a relative term. The MIDI instructions to play *Unity* are transmitted internally from the sequencer to *Unity* via OMS (Opcode's Music System) and once set up it works well. We set it up to run with *Cubase VST* and a *Unity DS-1* option appeared in the track Output section of *Cubase*. See, easy. But you won't be able to do this with just 64MB RAM.

The program also supports ReWire. This is an internal audio routing system implemented by Steinberg initially for *ReBirth* (the Roland analogue drum and bass machine emulator). ReWire enables soft synths and

samplers to route their audio output to the audio channels in *VST*'s audio mixer. Here, of course, you can adjust the volume and pan position, and apply effects, all within the *VST* environment.

For this to work, the soft synth or sampler has to specifically support ReWire (*Unity* does). A quick tip – in the *Unity* Control Panel you must specify the output as Plug-in; otherwise the routing won't work. Up to 18 audio outputs can be routed from *Unity* to *VST* via ReWire – the left and right stereo channels plus the individual 16 MIDI channels. This gives you a lot of control over individual sounds, although most users will be happy with just the stereo connections.

With a good sound card you can sit down at a MIDI keyboard and play a "grand". If you want pianos to use in your music this is the place to come. It beats trying to make your own from sample CDs and it's far cheaper than the real thing!

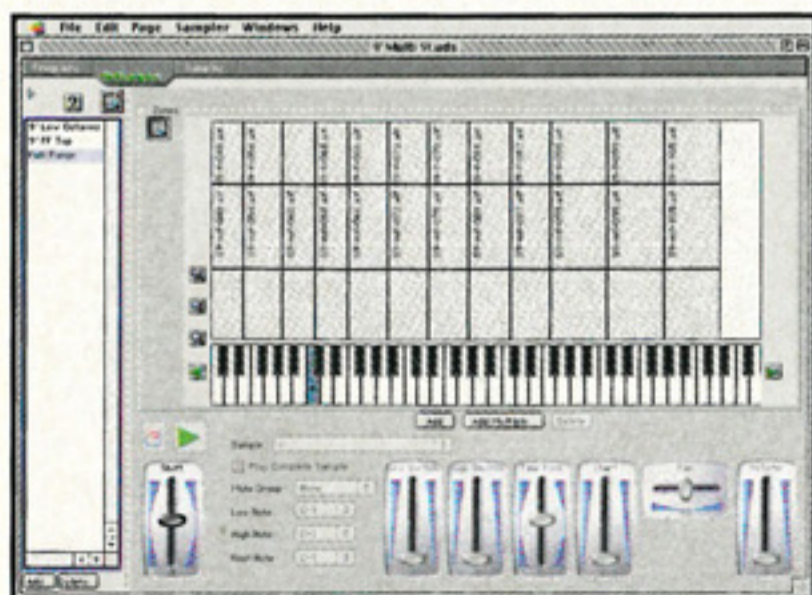
Black & Whites

A super set of piano samples that really does put a grand inside your Mac, although you need a fairly nifty Mac to run it alongside a sequencer.

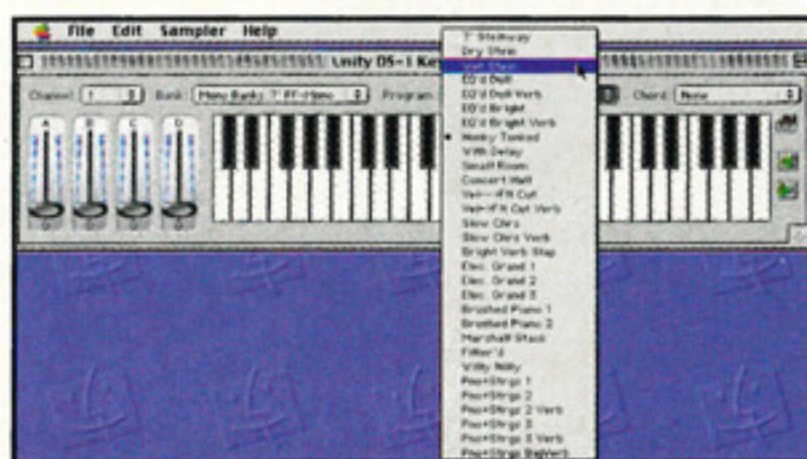
Features	90%
Ease of use	84%
Documentation	78%
Value for money	86%

Macformat rating

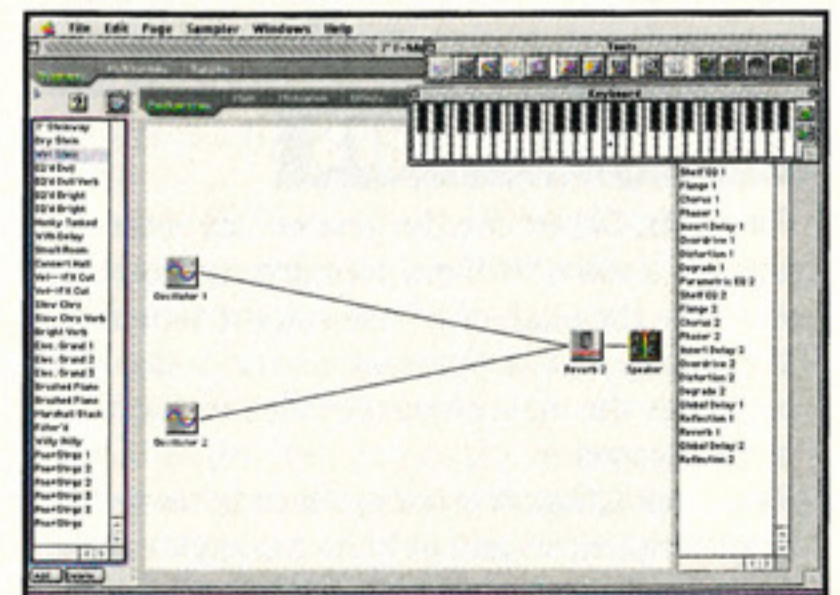
85%



The *Black & Whites*' multi-samples are used to create a nine-foot Steinway Grand – that fits in your lounge.



A drop-down menu of preset programs derived from the samples in *Black & Whites*.



Some of the Programs in *Black & Whites* and a configuration in *Unity*'s Editor.

Star Wars: Yoda's Challenge

KIDS' MULTIMEDIA A long time ago, maths, reading and music used to be dull and tedious to learn. Matthew Richards tries for better luck in a galaxy far, far away...

Price: £19.99

Contact: Ubisoft on 020 8944 9000

Web site: <http://www.yodaschallenge.com/>

Minimum requirements: 160MHz PowerMac 603e, 32MB RAM, Mac OS 7.6, 30MB of free hard disk space, Thousands of Colours, 4x CD-ROM drive

Age range: 6- to 9-year-olds

The only trouble with Star Wars is that you can't get stuck in and join in with the fun – or can you? This new disc, based on *Episode 1*, reflects George Lucas's 15-year commitment to finding ways of using interactive technology to harness children's natural enthusiasm to learn. It looks like the time and effort have paid off, for hot on the heels of the excellent *Droidworks* (reviewed back in MacFormat 79) and *Pit Droids* (reviewed last issue) comes *Yoda's Challenge Activity Centre*. The previous kings and queens of this particular genre have all been characters from another movie stable, as it were, dressed up and set to music by Disney Interactive. Can Lucas Learning really hope to out-Disney Disney?

Yoda's Challenge gets off to a breathtaking start, as the crashing opening chords of the Star Wars theme make you glad you bought external speakers for your iMac, or sorry if you haven't. The chunky yellow text scrolls back into the starry void and you're treated to an intro sequence that, for once, you won't be hitting the space, escape and return keys to try and cut short.

As you'd expect from quality software, multiple log-ins are provided, so children can begin a new adventure or pick their name on the screen to carry on where they left off. As you fly in above the Council Chambers of the Jedi Palace, Yoda greets you. If you watched *French and Saunders* at Christmas and can't ever take Star Wars seriously again, and even the characters have become a jumble, let's just say that Yoda is the chubby, green, bald one with big pointy ears, who always gets his sentences back to front. With us now, are you? Anyway, he's a good sort and, as a special treat, he has no less than six separate activities for children to try.

The first (though you don't have to take them in any particular order) is "Race at



Playing as Queen Amidala and Jar Jar in turn, make the best of your aptitude for different types of terrain to get to the finish line first.



Capture the droids by copying drum rhythms to activate the traps. Annoyingly, you have to turn Virtual Memory off for both the musical activities to work properly.

Threed". Here, your character alternates between Queen Amidala and Jar Jar. They have different strengths and weaknesses in the races, especially concerning different types of terrain, so the task at hand is to find the best way through and come out ahead.

Macformat Classic "The six activities are well crafted and border on the addictive"

Like the other activities on the disc, this offers many different levels and four different skill levels to choose from. All in all, the program makes a great job of matching itself to a child's current skill levels and carrying them forward, which is after all the main point of the exercise.



Down in the caves, the search is on for Gungan relics. Follow all the directions to the letter and you'll soon return, bearing gifts.

Another neat trick is that, while children think they're enjoying the thrill of the race, they're actually making lots of mathematical calculations and estimations to try and win. Other "stealth maths" activities include unscrambling the Queen's computer and exploring Gungan caves. In the former, you need to fill in complex shapes by selecting and rotating simpler shapes – tricky, but fun. In the latter, you follow left/right or compass-bearing directions, along with "number of paces" and other directions to find Gungan relics. Like the other activities, these are well crafted and border on the addictive (astonishing for an educational program).

Reading skills are coached in an activity to program C-3PO. Choose the words from a data bank and build them into sentences on a screen. As a reward, once you've successfully completed all the pages you'll be read the story. Last but not least, there are two musical puzzles, one inviting you to emulate drum rhythms in order to catch droids, and the other an all-singing, all-dancing affair with complete built-in synthesizers.

If your 6- to 9-year-olds are Star Wars fans, they'll absolutely love this CD. If they're not, buy it anyway, and the chances are they'll soon come round. As it says on the box, this is "a force for young minds".

Star Wars: Yoda's Challenge

Six cunningly designed activities which bridge the gap between education and good clean fun. Plenty of skill levels will keep kids coming back for more.

Macformat rating

94%

World War Two

MULTIMEDIA HISTORY A good research tool can make all the difference between success and failure in the battle for good exam results. **Matthew Richards** prepares for combat.

Price: £29.99

Contact: Computer Bookshops, 0121 778 3333

Web site: <http://www.computer-manuals.co.uk/>

Minimum requirements: 68040 or any PowerMac, 16MB RAM, 1MB hard disk space, System 7.1, 2x CD-ROM drive.

It's strange to think that World War II can now be consigned to the history of the last century... but for school-children studying history at Key Stages 2 and 3 of the National Curriculum, WWII is all too current. Forming a major part of the study of 20th-century history, the backdrop of events that led up to the war, the fighting itself, and the after effects of the war and how it shaped Europe and the rest of the world are all on the agenda. It's a massive topic, going far beyond a potted history of a few years in the late 1930s and early '40s.

But if a CD-ROM is going to have any hope of doing justice to this broad canvas, it needs to be planned on a grand scale and it needs to be put together by a heavyweight, international publisher with seriously deep archives and resources. All this makes *World War Two* from Montparnasse Multimedia an ideal candidate.

Unlike some shamelessly parochial reference works that start their WWII coverage in September 1939, with the invasion of Poland, this CD takes its entry point as 11 November 1918. It's an optimistic note to start on, with the signing of the armistice that signalled the end of "the war to end all wars". Photographs of young women laughing and waving British and French flags from balconies, awaiting the return of the men from the horror of the trenches, make what follows all the more poignant.

And the bleak future isn't long in coming. This CD quotes a young soldier in its section on The Treaty of Versailles: "I was ruined, of course, and I shared with 60 million men a total lack of a future."

The disc makes an excellent job of plotting the history between the wars, with inclusions for every year from 1918 onwards, except for 1925, when it seems not much happened. The easiest way to follow the action is by using the "Path" feature. This is a kind of timeline of events with branches for each year which you can expand with a simple



The Path feature gives a global timeline with expanding, clickable branches, or you can narrow the list to cover any one of five geographical areas.



The Research tools on this detail-packed resource CD are pretty good, with a healthy selection of different media up for grabs, though a simple search for topics like "Battle of Britain" would have been a huge bonus.

mouse-click. With the over-complication of so much going on throughout the whole world, it's good that you can limit timeline inclusions to one of five different regions if you want to – Africa, Asia, East Europe, America/Atlantic and South/West Europe. The Path feature also doubles up as a history of where you've been and what you've seen on the disc, thanks to a very handy "Path Travelled" option.

Searching questions

The other main way of getting at any particular areas of information is by using the "Research" facility. In some ways this is great, in others it's only mediocre, slightly letting down the otherwise excellent standard of the CD. What the Research section does very well is enable you to choose main categories of Biographies, Material, Country, Military Units, Dossiers and Period (year and month). With any of these as a main search criterion,

you can then home in on Events, Archive and Reference inclusions on the CD, steadily whittling down your search and pinpointing what you're after. So far so good, but what's really lacking is a simple search tool that enables you to say, "Give me all you've got on the Battle of Britain", for example. It's a bit of an oversight.

What you can do, though, is to go to the "Theatre of Operations" section of the disc, which offers a panoramic collage of events that you can scroll horizontally across the screen. Even so, while this helps to get different events into context, it still relies heavily on following a chronological order, which still doesn't help if you want to follow a particular theme and ignore what's happening on the periphery.

The only other niggle with this disc is that, while the narration is good and adds to the documentary feel of the production, it's a shame that many of the spoken passages are not presented as text as well, for the purpose of speeding things up and aiding the memory. At least there is a huge amount of text, as well as quality images to back up the narrated sections – and, with the built-in "Publisher" feature, you can create your own documents by entering your own text or borrowing heavily on the work already prepared on the disc. Just don't try and pass it off as your own homework – teachers are getting very good at spotting that!

World War Two

An excellent and comprehensive history of WWII with superb picture, video and text archives. Slightly let down by imperfect search and find tools.

Macformat rating

85%



The "Theatre of Operations" screen is a scrolling panorama that you can use to pick out elements of interest from a collage of images.

Stories from the Warsaw Ghetto

MULTIMEDIA HISTORY They were shut behind a wall, and starvation, disease and death were just the beginning. Matthew Richards learns more.

Price: £29.99

Contact: Computer Bookshops, 0121 778 3333

Web site: <http://www.computer-manuals.co.uk/>

Minimum requirements: 68040 or any PowerMac, 8MB RAM, System 7.0, 2x CD-ROM drive.

It's almost too easy to be sensationalist, to create a disc which caters to our ghoulish interest and dark desires to be shocked and horrified. It's almost impossible to adopt a level-headed approach in making a multimedia production which chronicles the plight of the Warsaw Jews at the hands of the Nazis. And yet, that is exactly what Montparnasse has managed to do. Perhaps it's for this reason that the content, based on eyewitness accounts and personal testimony, is so much harder-hitting than most films and documentaries on this gravest of subjects.

Using photographs, written archives, narration and video clips, the disc is divided into three main areas. In the first of these, Destinies, you can follow the paths of 71 people who feature in the disc's history of the Warsaw Ghetto, like Adina Szwajger, a paediatrician at a local hospital. She recalls how when the Ukrainians and Germans came to round up the patients at the hospital, Szwajger was asked by one of the nurses to give her mother one last, final injection of morphine. She did this and, almost unbelievably, went on to have the idea that they



The Tales section offers eyewitness accounts from the seven dark phases of life and death in the Warsaw Ghetto.



Young paediatrician Adina Szwajger ended up poisoning the children she had promised not to abandon, rather than hand them over to the Nazis.

Macformat Classic "Powerful and moving, this disc is as thorough as it is disturbing"

should do the same for the children. Along with another doctor, she poisoned the children to prevent them being taken.

The Tales section of the disc contains seven narratives of events, spanning the time from the invasion of Poland, through the creation of the ghetto, the deportations, first armed resistance, uprising, concentration camp and, finally, insurrection. The Memories

section offers an even more poignant reminder of what happened, through narration built around some 50 objects and symbols from the annihilated city. With full search facilities and extensive archives, this disc is as thorough as it is disturbing. Load this onto your Mac and you really will find yourself thinking differently.

Stories From The Warsaw Ghetto

A powerful and extremely moving account of the terrors of the Warsaw Ghetto and the suffering of its inhabitants.

Macformat rating

90%

Poetry for All

GCSE POETRY RESOURCE Fed up with wandering lonely as a cloud, Matthew Richards looks for some assistance in appreciating poetry.

Price: £19.99

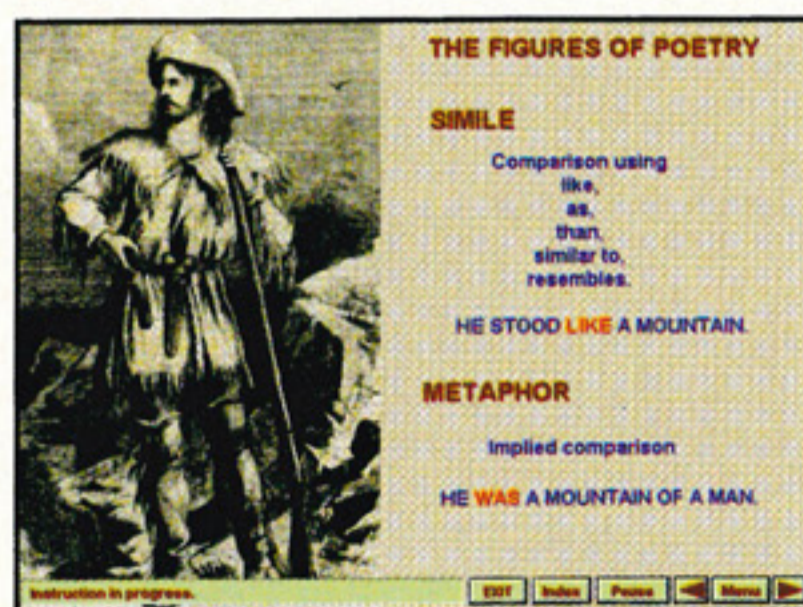
Contact: Euopress, 01625 855000

Web site: <http://www.euopress.co.uk/>

Minimum requirements: 68040 or any PowerMac, 8MB RAM, System 7.0, 2x CD-ROM drive.

So why exactly does poetry tend to rhyme? According to *Poetry for All*, there are four reasons: it assists in memorising long poems, emphasises the musical quality of language, shapes the lines into verses, and draws attention to words and syllables as musical sounds. These nuggets come in one sub-section (Rhyme) of a major section of this CD called "The Sound of Poetry". Elsewhere in this section you can learn about euphony, cacophony, alliteration and onomatopoeia. In the "Figures of Poetry" section, you can check out personification, allusion, hyperbole, apostrophe, metonymy, pun, oxymoron, bathos and pathos.

And so it goes. The mechanics of poetry are taken apart, measured, greased and put back together again. For a more esoteric look at the subject, you can try the "Spirit of Poetry" section, which boldly proclaims that "Poetry comes in all types, shapes and sizes". Sure enough, there are examples of narrative,



The content is okay but terse, and the presentation is not exactly cutting-edge multimedia...

sonnet, concrete, dramatic monologue, haiku and "other types" including limericks.

If this is beginning to sound like a bunch of lists gathered together under a sprawling range of headings, that's exactly what this disc is. It's a perfectly systematic approach to the subject which works well enough, but you can't help thinking the treatment would be better suited to explaining the workings of the internal combustion engine. You certainly don't get any sense of beauty or wonder as

you click your way around ugly text boxes and Microsoft Windows™ style grey buttons. Even the background pictures for most of the screens look like someone's holiday snaps.

In the audio recordings, the voices are distinctly American (even in "some corner of a foreign field that is forever England!"); one is so badly recorded you can hear every "p" pop, and one sounds so bored you think he's about to nod off. You can view any of the 46 poems via the index screen – but what a pity so very few are from poets actually listed in the GCSE National Curriculum guidelines.

While there's a reasonable depth to the information on this disc, the presentation is so lacklustre that most of it will be forgotten. Indeed the only lasting impression it's made on us is the way it insists on repeating the overly-long narrated options to each and every sub-section menu every time you revisit that part of the disc. Have developers learned nothing over the past few years?

Poetry for All

A methodical but plodding explication of poetic techniques. More likely to put students off for life.

Macformat rating

47%

Unreal Tournament

FIRST-PERSON SHOOT-EM-UP What do you get if you take *Unreal* and remove its plot, improve its graphics and add lots of new weapons and arenas? **Brian Smith** has the answer.

Price: £39.99

Contact: GT's online store, <http://www.gtvalue.com/>

Web site: <http://www.wizworks.com/macsoft/>

Minimum requirements: PowerMac with 200MHz 603e processor (G3 recommended), 64MB RAM (96MB recommended), Mac OS 7.6, 120MB hard disk space, graphics card with 4MB VRAM (Voodoo 3 or Rage 128 Pro graphics card recommended), CD-ROM drive, 28.8Kbps modem for Internet play

The first-person shoot-'em-up has been with us since '92 when id Software released the groundbreaking *Wolfenstein 3D*. Since then the genre has slowly evolved with emphasis placed on more realistic graphics and a better multi-player experience at the expense of the story-led single-player game. Now the sequel to *Unreal*, a game that received critical acclaim for its well-realised plot, has followed *Quake II: Arena's* lead and disposed of a traditional single-player mode altogether.

CD Try it for yourself with the playable demo in the Demos folder on this issue's Cover CD.

Unreal Tournament's intro sequence explains that the tournament was founded in 2291 by the Liandri Mining Corporation to satisfy the violent urges of their deep space miners. Their public matches soon became more profitable than their mining operations and a professional league was formed. The game takes place in 2341, where you have been selected to compete for the championship. All this is basically just an excuse for a succession of bloody deathmatches, as if we needed a reason to frag!

Let the games begin

Unreal Tournament has three modes of play: the single-player tournament where you have to complete a series of challenges against computer controlled bots, the multi-player game where you compete with human players over a LAN or the Internet, and a practice mode where you can familiarise yourself with the game's many arenas.

As well as standard and team Deathmatches there are Last Man Standing, Capture



What better way is there to unwind after a stressful day at the office than stalking your friends through labyrinthian arenas, and then blasting them to bloody pieces with a plasma rifle.

the Flag, Domination and Assault team games on offer. Last Man Standing matches are like normal Deathmatches except players have a limited number of lives and when those are lost they are out of the game. In Capture the Flag games your team has to steal the enemy's flag and take it back to your base a set number of times while preventing the opposition from doing the same.

In a Domination game the aim is to capture and maintain command of an arena's control points for as long as you possibly can. You score one point for every five seconds a control point is held, and the first team to reach the required points total wins the match.

Assault games are objective led with missions that may have several goals such as infiltrating an underwater base and then

disabling its computer system. Each team takes turns attacking and then defending.

To spice up the gameplay both multi-player and practice games may have Mutators applied to them. These can limit the types of weapons available or provide special effects, like making players invisible or giving the arena low gravity.

Lock and load

To help you fight it out in the arenas an impressive arsenal is at your disposal, including updated versions of most of the weapons from the original *Unreal*. Joining them are the chainsaw and Impact Hammer melee weapons, a sniper rifle with 8x telescopic sight and the Redeemer thermonuclear missile launcher. The hydraulic Impact Hammer is the default close-quarter weapon. You



With the aid of the sniper rifle's telescopic sight you can safely pick-off the opposition from a distant vantage point.



Your character's appearance in the single-player tournament game can be customised by selecting a gender, team uniform and face.



Camping has nothing to do with tents or Julian Clary, it sets how likely bots are to lay in wait to ambush other players.



The bizarre fatboy Mutator makes players grow fatter every time they score a frag and thinner each time they're fragged.

just keep the fire button held down to charge it up and it fires automatically when you touch another player. One hit is normally enough to pulverise an unshielded opponent. The alternative chainsaw melee weapon is available as a Mutator. The sniper rifle will be of interest if you indulge in the contentious activity of "camping" – hiding in dark areas of a level and sniping at passing players. It fires a high-powered bullet that ensures an instant kill with a head shot. The Redeemer can be thought of as *Unreal Tournament's* answer to *Quake's* BFG – it's a one-shot weapon but that's all you'll need as its huge blast radius can clear an entire room.

Macformat Classic "The graphics are even better than those in the original Unreal"

Most of the weapons have a secondary fire mode which either increases the rate of fire while sacrificing accuracy or activates a special feature. So for example, with the sniper rifle it zooms in the telescopic sight.

Another handy piece of equipment is the Translocator personal teleporter. You just fire its destination module to where you want to go and press the secondary fire button to instantly warp there. It's great for getting into those hard-to-reach nooks and crannies around arenas where power-ups are often hidden. It also comes in very useful for travelling around quickly in Domination and Capture the Flag games.

The single-player tournament is a good place to jump into *Unreal Tournament*. You begin with access to just the standard Deathmatch games. After playing through a brief tutorial to learn the rules, it's time to take on your first opponent. Each bot has its own background story which gives you hints about their behaviour and how best to take them out. If you successfully complete the challenge your rank is increased and the next arena with a new challenge becomes playable. By raising your rank higher you also unlock the different team game challenges. Win all the challenges and you'll become the undisputed champion!

The practice sessions are similar to the single-player game, except all the arenas and team games are playable immediately and you can edit the bot opponents' appearance and behaviour. The realistic way the bots act is one of the strongest points of *Unreal Tournament*. As opponents they are challenging to defeat and as fellow team members they take an active part in missions.

But fragging a bot is nowhere near as satisfying as beating a human player, which is where multi-player games come in. *Unreal Tournament* supports LAN and Internet play,



This assault multi-player level is based on that mainstay of Hollywood action films, a shoot-out on a speeding train.

but as few people have access to a room of networked Macs most will experience multi-player games via the Internet. A high speed connection, preferably ISDN, is needed for trouble free play. It's just about playable on a 28.8/33.6Kbps modem, but the screen update gets choppy when there are a lot of players around and you may even suffer occasional freezes. (More on this next issue.)

Connecting to Internet games is easy. Opening the *Unreal Tournament* Server Browser automatically connects you to the master server. By clicking on the relevant tab in the browser you can join any of the Deathmatch or team games taking place on a listed server. From the browser you can also view the latest news about *Unreal Tournament* and enter IRC chat rooms to discuss tactics with other players.

Quaking in their shoes?

Everything in *Unreal Tournament* has been polished until it shines. The highly detailed arenas believably recreate locations as diverse as a deep space research station, a monastery perched on a mountain top and a wooden galleon. The graphics are even better than those in the original *Unreal*, with much cooler-looking weapon designs that even have real ammo readouts on them! The ambient sound effects work well accentuating the feel of the various arenas and



To win at Capture the Flag your team has to snatch the enemy's flag and return with it to your base three times.

there's support for 3D surround sound systems such as the one built into the latest revision of iMac.

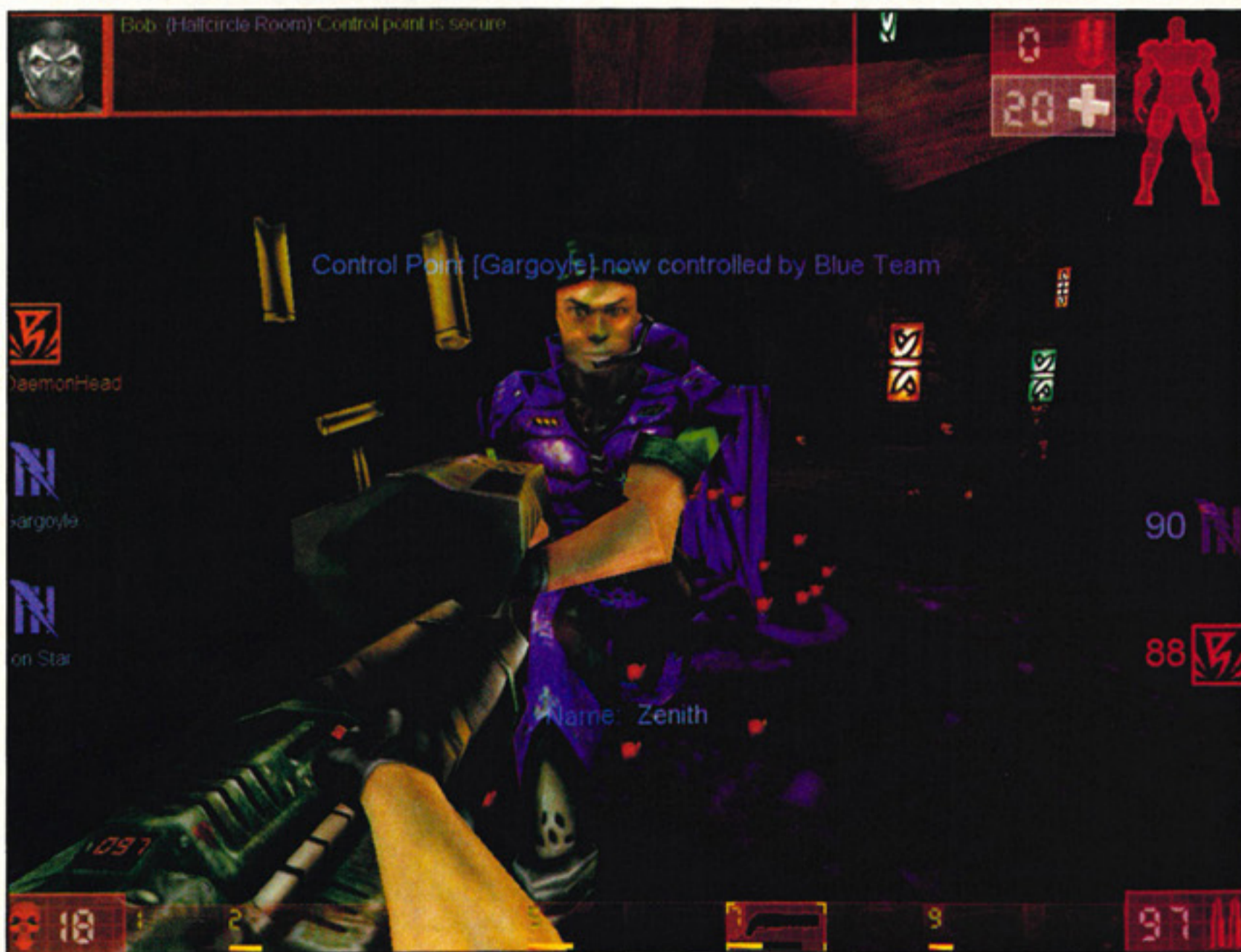
But the question everyone's asking is: how does *Unreal Tournament* square-up to *Quake III: Arena*? With the amount of time needed to master these games you'll probably want to buy only one of the two. Well, *Quake III* undoubtedly has the best 3D-graphics engine with its support for curved surfaces. But do you really care if the columns you flash past at 60 frames per second are truly cylindrical or just faceted approximations? In terms of originality *Unreal Tournament* has the edge with some very well-conceived team game modes and diverse battle arenas. Ultimately the choice between titles comes down to which you prefer: the techno-gothic arenas and outlandish competitors of *Quake III: Arena*, or the pseudo-realistic settings and gang member cannon fodder of *Unreal Tournament*.

Unreal Tournament

Unreal Tournament is an almost perfectly formed package of top-notch graphics and sound effects, realistic bot AI and gripping gameplay.

Graphics	94%
Sound	89%
Gameplay	95%

Macformat rating 95%



The aim of Domination is to capture and then maintain possession of the level's three control points for as long as possible. You'll collect one point for every five seconds that you hold the control point.

Civilization: Call to Power

STRATEGY GAME Some of us falter in the face of adversity; others rise to meet a challenge. **Miriam McDonald** rules the waves, lets slip the dogs of war, sees and conquers.

Price: £39.99

Online store: <http://www.gtvalue.com/>

Should be available by the end of March – see the news item on page 14

Web site: <http://www.wizworks.com/macsoft/>

Minimum requirements: PowerMac 180MHz 603e, 48MB RAM, Mac OS 7.6, 300MB of free hard disk space, Thousands of Colours, CD-ROM drive, 28.8Kbps modem for Internet play

This is an odd sort of game. It's got *Civilization* in the title, and appears to have been designed as a follow-up to *Civilization II*, but it's not actually part of Sid Meier's *Civilization* family. The basic idea is the same, though. You begin with two settlers who, in this game, have only the ability to found cities, and have to build an empire better than those of your rivals. Once you have a city you can build new units, city improvements (such as a granary or a university, depending on how much your civilization has studied) and Wonders of the World, and you can study new ideas and trade with your neighbours. You'll also have wars and barbarians to contend with. As this game goes on to 3000AD and you can build in space, it's pointless making a successful voyage to Alpha Centauri one of the ways of winning – this time round you have to make your own alien. Even so, given that *Civ II* is itself incredibly addictive, what has *Call to Power* got to offer?

Well, as far as gameplay goes, you're no longer confined to playing on land. You can now spread your empire over the sea and up into space. There are more units, more weapons, more Wonders of the World and more civilization advances, and the rules governing diplomacy and trade have been made more complex.

To help you get started there's a tutorial game, which is probably the best way you could have of learning everything. It gives you a chance to learn the elements of the game in sequence, with each new aspect explained to you in turn. If you're an experienced *Civ*-type game player, you might be tempted to skip the tutorial and start on the lowest level of the game straight away, getting to grips with the game's idiosync-



It's great – you can build an empire and conquer the world without any feelings of guilt until you hit the 20th Century and suddenly realise how many people you're oppressing.

rasies as you go along, but it's still probably best to try the tutorial first. Once you've worked out what everything does, all the complexity makes this game very satisfying and gives it a potentially long life, although it isn't something you can just play around on for half-an-hour at a time. That said, if you enjoy really cerebral strategy games, this is sure to be right up your street.

Inspecting the troops

The look of *Call to Power* is also very different from that of *Civ II*. If anything, the main screen looks more like *Age of Empires*. As in *Civ II*, you've got a world map that's revealed gradually as you explore it. You also still get movies shown to you when you've finished constructing a Wonder of the World. They're full-screen, as opposed to *Civ II*'s small-

window affairs, but they're computer-generated and disappointingly blocky. It's a shame, because the graphics in the game as a whole are excellent. The icons are more detailed than *Civ II*'s, and are pleasant to look at. They have to be detailed, given the range of units you can have.

Sadly, the comments that units tend to make when you move them can become very, very annoying. After hearing "On my way" for the seventh time in a row, you'll wish you could strangle the sprites! Also, if you've got a large number of units stationed in one area, it's quite possible to get confused and end up sending one off on a journey to somewhere you don't want it to go. The sleep function comes in very handy here, and also saves you a lot of time. It would be nice, though, if the screen shifted



When you've got more than one unit fighting another, you see the whole battle depicted on an animated battlefield.



The movies you see when you build a Wonder of the World are full screen, but they're rather poor quality and not very interesting either.



As you advance through the years, your cities' architecture changes accordingly. One day, all our cities will look like the 1950s vision of the future.



As in *Civilization II*, you can check to see what advances you need to learn in order to do certain things. Like build tanks...

so that each unit was at the centre when it was active, and there are times when you have to look closely to work out which unit you're actually moving (there's a green box around it, but it's hard to find if your background is green as well).

The screens and tabs that replace the different menus in *Civ II* also replace the advisors. Diplomacy is now done through messages, not through little animated movies of ambassadors. This makes *Call to Power* feel closer to a board-based wargame – and therefore slower – than *Civ II*. In *Civ II*, almost everything you need to know about a city is visible when you click it. Production, the number of specialist workers, what buildings and units you've got and more are all visible in one window. In *Call to Power* you need to flick through several windows to see all these things, and you've got lists of words rather than icons to deal with. It's more adult, but it's less immediate.

New lamps for old

The trade aspect of *Call to Power* is radically different from trading in any of the other versions of *Civilization*. In *Civ II* you simply had to build a caravan or freight unit and then move it across to a city where the goods were in demand. In *Call to Power*, you begin by building a caravan, but then you have to go to the trade tab and decide which of your own cities to send it to, or whether you want to put it on the open market and see if anyone wants it. If another nation wishes to buy something, a small icon of a camel will appear on-screen and you can decide whether to sell to them or not.

The goods you make depend on what icons you have in the area around a city. If it's swampland, you might be able to sell alligators, whereas a mountainous area will be more likely to produce diamonds or rubies. If you've got cities in several different environments, your nation could produce a wide range of things. You can achieve a



This is pretty much how you begin, with two settlers in the middle of nowhere. One of mine has just built my first city.



The chap with the green square around him is a Corporate Branch. He takes part of other cities' production. Attacking him using military means is an act of war – it takes a lawyer to get rid of this guy.

monopoly on certain goods by routing them all through the same city. To control the pearl market, for instance, route three extra lots of pearls through a city that's already producing them, and then you'll be able to export pearls from that city at four times the usual price.

Whereas in other versions of *Civilization* your caravans could be attacked, in *Call to Power* you don't actually move your caravans, you get a blue line running across the map with an icon moving along it to denote the goods being sent via that route. Military units can pirate trade routes, though, stopping the transport of goods.

Crank it up a notch

Most *Civ*-type games are reasonably lengthy, but this is one game you can really sink your teeth into, especially when you're at a higher level and have the fiendish skills of your Mac to play against as well as all the elements of your empire to think of. You can also play against other Mac and PC users over a LAN or the Internet. To be honest, though, if you want to play strategy games with other human players via a LAN or the Net, you're still better off playing a real-time game like *Age of Empires*, because the more complex the game, the longer each turn takes. *Civ II Gold's* multiplayer game is tedious enough, but it's got nothing on the amount of waiting

around you'll do playing *Call to Power* against a bunch of friends.

On the whole this is a very good game, but it's not quite as addictive as a number of other similar titles – *Civ II*, *Caesar III*. This is possibly because you have to think much harder about what you're doing, so everything takes a bit longer, and it takes more time for you to see any signs of achievement. As this game has done away with the chance for you to take a 3D close-up look at your city and the high quality of *Civ II's* movies, you get very little sense of reward for doing anything. The ambassadors and advisors in *Civ II* make you feel like you're actually part of the action. In *Call to Power* you're remote, above and beyond the action, and you don't feel too bothered by the prospect of turning the game off and doing something else. If you're bored with other *Civ*-type games, then perhaps you should try this; but really, it's just a bit different, not an improvement.

Civilization: Call to Power

A nice try at improving a classic, but it hasn't made *Civilization* any more playable than it was before. You feel a bit too far away from the action.

Graphics	90%
Sound	89%
Gameplay	86%

Macformat rating **85%**



One of the tabs at the bottom-right of the screen accesses the diplomacy window. I'm about to have a heated political dialogue with the Native Americans.



A window pops up telling you when you've made an advance and giving you a selection of new advances to study for next.

The Forgotten

ADVENTURE GAME An interactive affair full of puzzles to solve and beautifully rendered locations to visit. It's a very well-trodden gaming path, so **Derek Smith** asks if there's anything new in the garden.

Price: \$19.99
 Online store: <http://www.dreamcatchergames.com/>
 Web site: <http://www.forgotten.com/>
 Minimum requirements: PowerMac 133MHz, 32MB RAM, System 7.5, 130MB of free hard disk space, Thousands of Colours, 24x CD-ROM

You wake with no memory of who you are, where you are, or how you got there. Perhaps not unusual, but strangely, you're not lying on top of a half-eaten kebab this time. The full horror of the situation comes into focus as you realise you haven't been drinking. This must be harsh reality, untainted by the forgiving comfort of alcohol.

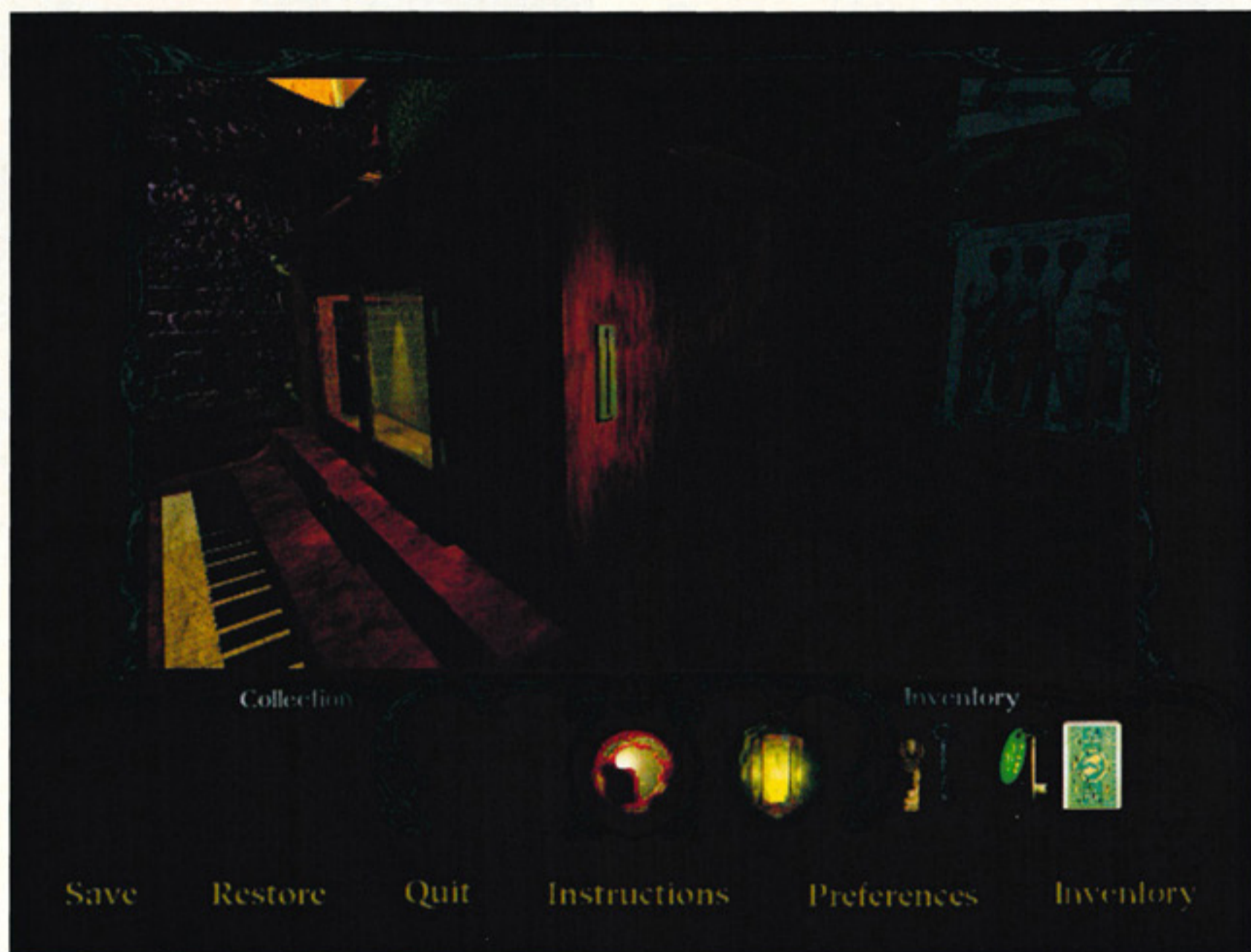
And so it begins. Indeed, that's the subtitle of this interactive adventure game, the reason being that this is planned to be merely the first of seven instalments of *The Forgotten*. Each game will progress the storyline, with luck building the tension like a kind of digital soap.

Adventure games have been around as long as home computers have. However, a games historian might point to *Myst* as a turning point in the genre. One of the first CD-ROM games, this introduced sumptuous graphics and set a new standard.

Since then, so many games have followed in its footsteps that they have carved a rut. With small variations, the gameplay always involves moving around a virtual world by clicking on a scene to move from one point of view to another. Most scenes will include an area of interest which you can zoom in on to investigate the items there. Some will give you clues, some are red herrings, and other objects can be stowed for later use.

There are also the obligatory puzzles to be solved. These can be logic puzzles, such as you might solve to get into Mensa, or in my case, not. Alternatively, they can involve using stowed items in the correct way and in the correct location. Solutions, such as slapping the gorilla with a wet ironing board, can be frustratingly obscure.

So, does *Forgotten* follow the old formula? Well, not quite. The essentials are all the same, and the puzzles are as silly as ever. However, it does address the crucial element



You need good eyesight and lateral thinking to succeed. A while back I found a card with some strange slits in it. Here's a sheet-fed piano, but you'll have to search hard to find the necessary slot to put the two items together.

of realism. Often, the stilted method of movement in other adventure games hinders any feeling of really being in a virtual world.

On the QT

The major innovation in *Forgotten* is the use of Apple's QuickTime VR. For those unfamiliar with this technology, it enables a series of still images, taken from a single standpoint, to be merged together. This creates a virtual reality where the viewer can look around freely in a 360° panorama, with a little vertical movement. I must admit to being quite a fan of QTVR ever since discovering a virtual tour of Scotland's smallest whiskey distillery on the Net using this technology.

However, the view is still from a single point in the landscape. Movement is achieved by clicking a pre-defined hotspot in the

picture, which jumps you to that location, where you view the same scene from a different standpoint.

Usually, this technology is applied to photos of real places. For example, Apple has used it to create a virtual tour of its campus. Here, the designers have used it on a series of computer-generated pictures, rendered using 3D design packages.

The result is a computer-generated 3D world which you can stroll around in QTVR. The rooms have typically been rendered from four different locations, and you can jump from one standpoint to another. This certainly isn't complete freedom of movement, but with a clever zoom trick, the transition from one location to another is quite smooth.

Mind you, the designers have definitely missed out on an opportunity. Not only does QTVR create a virtual reality of a scene, it can also create virtual reality objects. From a series of still images of a single object, you can smoothly rotate that object and view it from any angle. Some car manufacturers have used this to enable the viewer to examine their products from any side. Incorporated into the game, this could have provided even greater interaction, with clues stuck to the bottom of vases, for example.

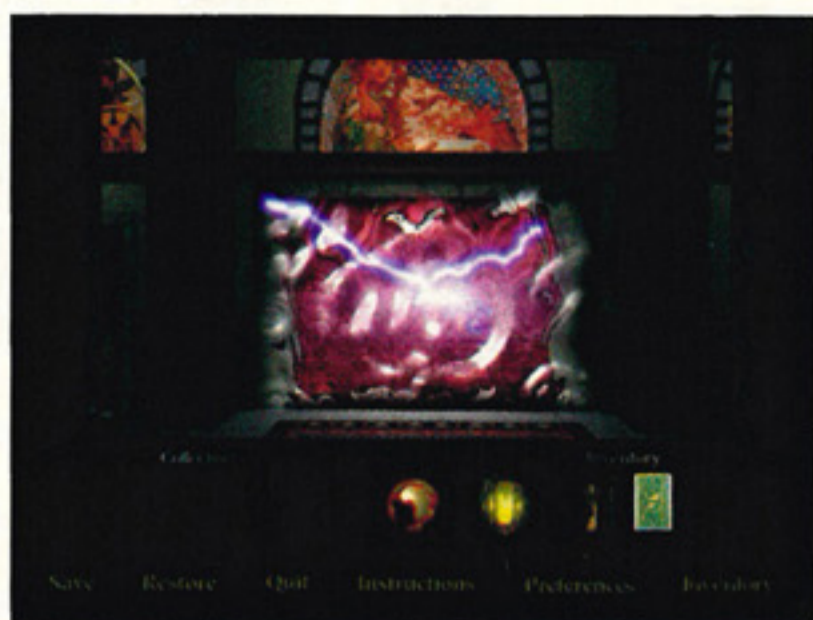
Perhaps we'll see this in future episodes, though, as each instalment will take advantage of new technologies as they come along. For instance, episode three, which is already in production, will make use of DVD movie action. It should be released around the time when the majority of Mac owners will have



There are plenty of written clues to be found and read. Unfortunately, it's all just a little bit pretentious and long-winded.



You can zoom in and out from a scene, which can lead to a fisheye effect such as this. However, the transition from one location to another is smooth.



As you progress through the game you'll discover that many doors are blocked. These may become active in later episodes.

DVD capabilities.

Of course, the series will only make it to episode three if it generates a following, so how good is this game? Well, the storyline is pure nonsense. It involves a mysterious race who have created a deck of playing cards with strange mystical powers. They enable you to achieve, well, whatever the plot demands in order for you to progress in the game. There's also a missing archaeologist, who has conveniently left you a series of notes to find, and a character who presumably will turn out to be Amelia Earhart.

The game is set in New Orleans in the 1930s, mainly to borrow some atmosphere from the voodoo cult. As in most adventure games, the place is strangely deserted. This is supposed to add eerie tension, but is purely to avoid the technical problems that would be caused by meeting the public. The genre just isn't ready for artificially intelligent characters to chat with. Indeed, the absence of people is skipped over in much the same manner that TV sci-fi programmes fail to explain how aliens can speak English.

Room service

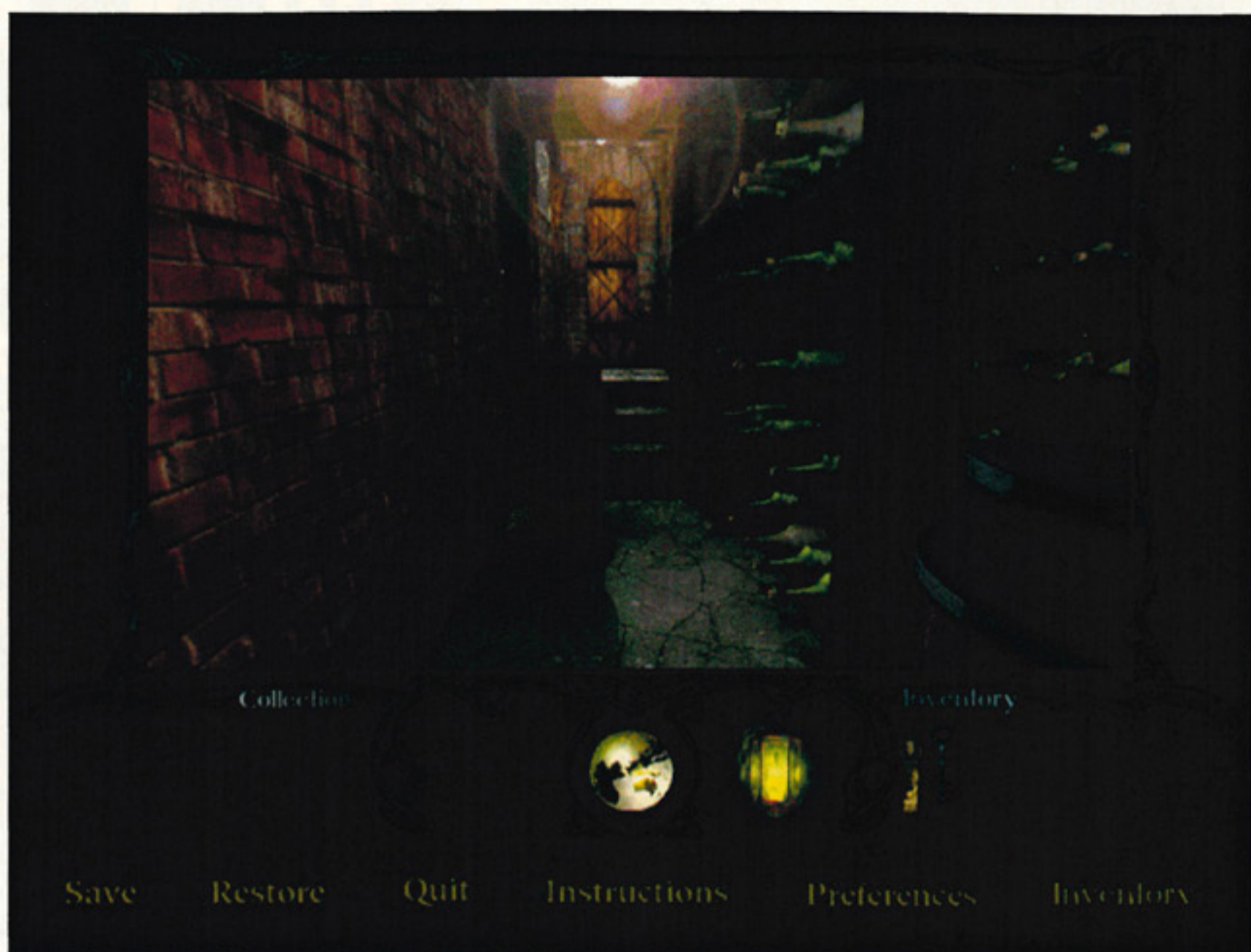
After a few puzzles and clues, you find yourself in a long-deserted hotel. In a scene very reminiscent of *The Shining*, you're transported back in time to a period when the hotel was at its prime, although conveniently equally deserted. The game then involves searching the hotel, as you continue to work out who you are and what the hell is going on anyway.

As well as the beautifully rendered QTVR graphics, the sound is extremely atmospheric, adjusting to where you stand in a room. Indeed, the game makes good use of stereo effects as you turn around.

The puzzles are a little less impressive. Often they involve searching endlessly for a key that's hidden somewhere obscure. When you do discover a logic puzzle, it's often banal and incongruous. You'll also come



You can stop and examine the items in your inventory at any time, and receive clues as to what they might be used for.



All scenes start with a QTVR view. Click on a hotspot to zoom in on a static image showing an area of interest. You can often zoom in yet further to see items close up, which may provide clues to the game.

across many buildings and rooms that you cannot enter, as well as objects you'll pick up but never use. This is because they are placed there for future episodes.

On the positive side, the hardware requirements are extremely reasonable by modern standards. The game will run on any PowerMac produced in the last few years. This is partly because QTVR is inherently fast and efficient, designed as it is to work on the Internet. It's also because the game is played

"The storyline involves a mysterious race who have created a deck of playing cards"

in 640 x 480 monitor mode. This means that G3 and G4 owners with a large monitor might feel that they're wasting all that power.

Perhaps future episodes will see completely free movement in a 3D environment, as seen in first-person-perspective shoot-'em-ups such as *Quake* and *Unreal*. Of course, free movement around *Forgotten's* rooms will require the most powerful Macs, as its graphics are obviously far more detailed, but



The time and effort that have gone into creating the 3D locations is quite apparent, with wonderful renderings such as this.

with the lack of semi-intelligent enemies shooting at you, it should be possible.

So, who should buy this game? Those who don't consider thinking a leisure activity, and therefore have never been enthused by adventure games, won't find enough here to change their minds. However, those who have outgrown shoot-'em-ups and are now looking for something new should find this a good first adventure, and thankfully it's almost impossible to get terminally stuck.

Diehard adventure game fans will be intrigued by the use of QTVR. However, they won't get excited by the stunningly unoriginal puzzles. They might also be frustrated by the many locations that are off-limits until the next episode. However, the wonderful graphics give you a large incentive to solve the puzzles and progress to the next scene. *Forgotten* is certainly a step in the right direction, but there is a risk that the game might live up to its name.

The Forgotten

A enjoyable adventure which makes good use of QTVR. However, it suffers from a fatuous plot and a definite lack of originality, especially in the puzzles.

Graphics	90%
Sound	91%
Gameplay	75%

Macformat rating

79%



Both the sound effects and the music are good throughout the game. Here, a music box plays a well-known piece of classical music.

Rugrats Mystery Adventure

KIDS' ADVENTURE GAME Not content with cable, satellite and terrestrial television, the Pickles family want to set up home on your Mac. **Matthew Richards** prepares for a little babysitting.

Price: £29.99

Contact: Mattel Interactive on 01664 481563

Web site: <http://www.learning.co.uk/>

Minimum requirements: PowerMac 150MHz, 16MB RAM, System 7.5, 25MB of free hard disk space, 4x CD-ROM drive

Age range: 7-year-olds and above

Kids, nippers, sprogs, brats – of all the collective nouns for children, “rugrats” hardly sounds the most endearing. And yet, for any parent whose television has been hijacked by youngsters, *Rugrats* is quite a treat. Amidst the dross of mass-produced American animation for children, *Rugrats* is probably the best and most genuinely funny cartoon series since *Tom and Jerry*. Indeed, following the success of last year’s hit movie, the Rugrats went well and truly interactive, with the release of three CD-ROMs. And now they’re back, with an all-new adventure game that’s even better than the first batch of CDs.

Tommy Pickles, the most heroic of the babies, takes on the role of private detective, or “private defective” as he proudly calls himself. The only trouble is that he’s the only law in town, so when little Lil gets framed for stealing the Jack out of Phil’s jack-in-the-box, he needs a little help. That’s where you come in – or your kids do, if you’ve been daft enough to let them get a sniff of the disc.

The adventure begins with all the babies gathered around in the living room, but, as Tommy points out, the truth is “out there” and you need to get out and find it. A click on Mr Pickles results in a mission to “Home Heaven” in search of some duct tape to fix the vacuum cleaner, whereas a click on Mrs Pickles gets the babies down to the park for a little outdoor recreation.

The plot thickens with every new character you come across. You navigate the park and fix-it store scenes by using the cursor keys, which control Tommy’s movement – the rest of the babies just tag along. When you meet up with another character in the storyline, something very cute happens. The scene flips to “film noir” mode and everyone dons trench coats and suitable hats – you almost expect Sam Spade to crawl out of the wood-



It’s amazing how much fun you can have with a paint shaker and a few balls. Your job is to move Phil and Lil back and forth to catch all the bouncing balls.

work. It’s an excellent touch which has the advantage of helping children to separate the general coming and going from the business of gathering clues to solve the mysteries.

Naturally, children aren’t queuing up to give you clues for nothing – mercenary

Macformat Classic “The plot thickens with every new character you come across”

creatures that they are. No, they’ll only spill the beans in return for treats, which come in the form of Reptar Bars. Where do you get these? You have to earn them by proving your prowess at playing more arcade-style computer games. Each environment (Home Heaven or the park) has three games which

you can play to earn Reptar Bars. Successful completion of one game earns you one Reptar Bar, which you can trade for one clue. The idea is to keep on playing, keep on winning and keep the informants talking until you’ve solved the crime and confronted the villain (who isn’t always Angelica!).

The games themselves are simple but fun enough to provide lasting pleasure, thanks mainly to their comedy. For example, in *Worm-A-Licious*, you help Phil and Lil (the twins) catch as many worms as possible and stuff their pockets in the time allowed. After they’ve finished, they’re “all out of pocket” and there’s nothing else for it but to eat the wriggling snack food you’ve collected.

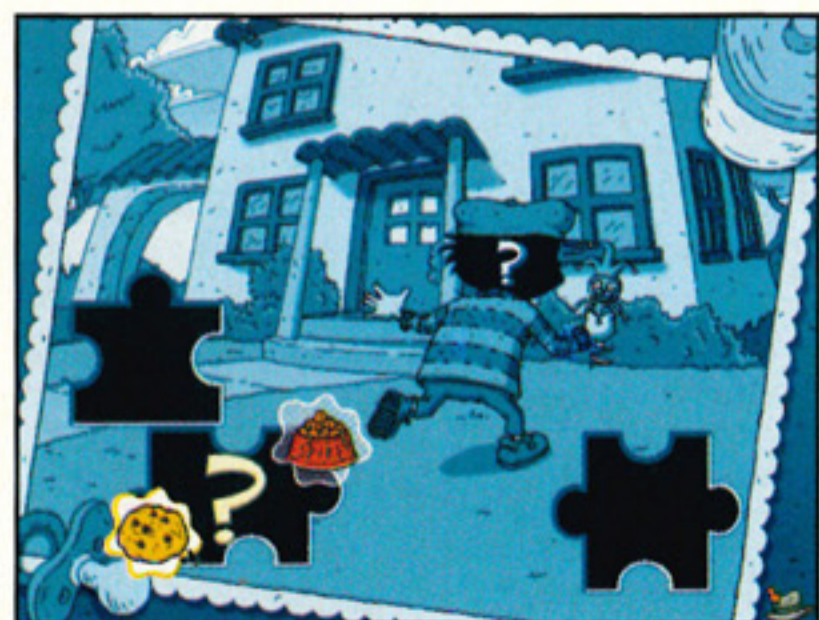
When you solve your first puzzle, the humour goes into overload and, while the illustration and animation are well up to the TV quality of the series, it’s the script that really makes it a winner. In the first escapade, Angelica gets a “Cynthia’s Wedding Dress” but no “gloom” to go with it. That’s why she’s stolen the Jack from the jack-in-the-box. The moral of the story, as Angelica discovers, is that you can’t hurry love, but you can buy it for \$19.99. You just have to wait two weeks for delivery of the appropriate gloom suit.

Rugrats Mystery Adventure

Ten different mysteries combine with six arcade-style games to provide an animated super-sleuth adventure which is sure to impress, with much hilarity along the way.

Macformat rating

90%



Play a game and win a Reptar Bar. This will loosen the tongues of your informants and help you fit the missing pieces into the plot, like so.



Tommy and Co go “film noir” each time you get down to the serious business of collecting and sifting through clues. It’s a neat touch.

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FOR IMMEDIATE CONNECTION USE THE FREE CD ATTACHED TO THE COVER OF THIS MAGAZINE

Shareware



Colin Dalziel looks at some of the latest shareware releases from the Internet.


LOW-COST AND NO-COST SOFTWARE

Great games, useful utilities and simply stunning software in this issue's shareware selection.

Colin Dalziel takes a closer look.

Central

This issue's shareware brings together just about as wide a range of software as you could ever expect to see, with everything from tools for creating your own batch-processing utilities to games that teach you how to play poker. One thing that is particularly interesting about several programs reviewed is how they offer unique features. The interesting thing is that when you see how useful these features are, you wonder why no one thought of adding them in larger, multi-featured applications. I guess it's probably a case of the original programming teams being a bit too close to their product to notice that they had missed an almost obvious feature. Apple has often incorporated clever ideas from shareware into the Mac OS, so it's very likely that the world of shareware will help commercial developers improve their products by giving them some very good ideas for the next version or upgrade of their packages.

 Try out all the shareware reviewed here on our Cover CD.

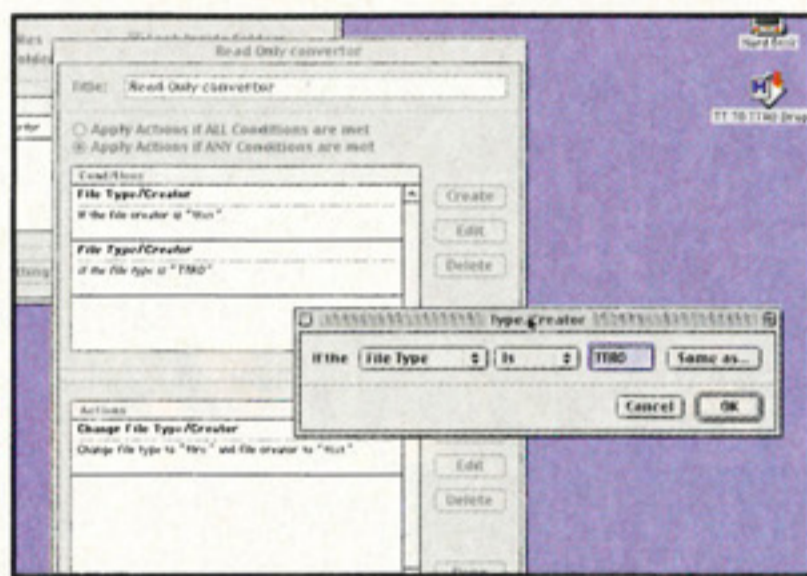
The rating system

Every piece of software reviewed in Shareware Central is rated with a percentage. This rating covers the quality of graphics and sound, ease of use, addictiveness and value for money (you are paying your shareware fees, aren't you?) As a rough guide, here's what the ratings indicate:

- ☐ 25% Less welcome than a virus.
- ☐ 50% If only they'd fix that bug...
- ☐ 75% Almost worth paying the fee.
- ☐ 100% That's incredible! I'll buy ten!

What's shareware?

In a nutshell, shareware enables you to "try before you buy" – if you intend to keep using the program, you should pay the fee. The text files that accompany the program will tell you how much it costs and where to send the money. It'll typically cost between US\$5 and US\$40, and when you do pay, the author will often give you something in return, such as a manual or updates. Freeware means there's no fee, but you are not allowed to alter the program or sell it on.



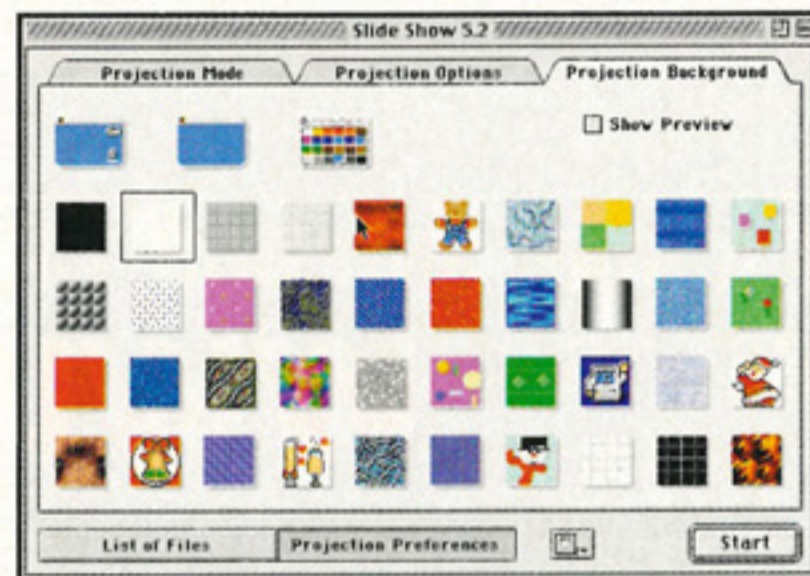
A simple menu system enables you to set up the options for your own manipulation tool.

File Manipulator

Batch-processing utility
Shareware, \$20

Manipulator may not appeal to every Mac owner, but the tools you can build with it probably will. Basically, *File Manipulator* enables you to create small standalone applications, known as Droplets, for batch-processing files. The tools available offer a wide range of options for performing a variety of tasks such as moving, copying, deleting or renaming files as well as changing file types and creators. You can also set parameters so the Droplet works only on certain files – files above a given size, say, or of a certain type. For example, one of the Droplets included in the package sorts files downloaded from the Internet. All you have to do is drag your downloads folder onto the Droplet and it will sort all the file types into different folders – one for Web pages, another for images and so on. You can create your own custom Droplet via a menu-driven system which enables you to select the parameters you want to set from a list. There are some useful options to help you, including a "same as" facility which enables you to specify a file type by locating a similar file on any disk attached to your Mac. The real beauty of this tool is how quickly you can create your own custom utilities that can process specific files with impressive speed.

Macformat shareware rating 90%



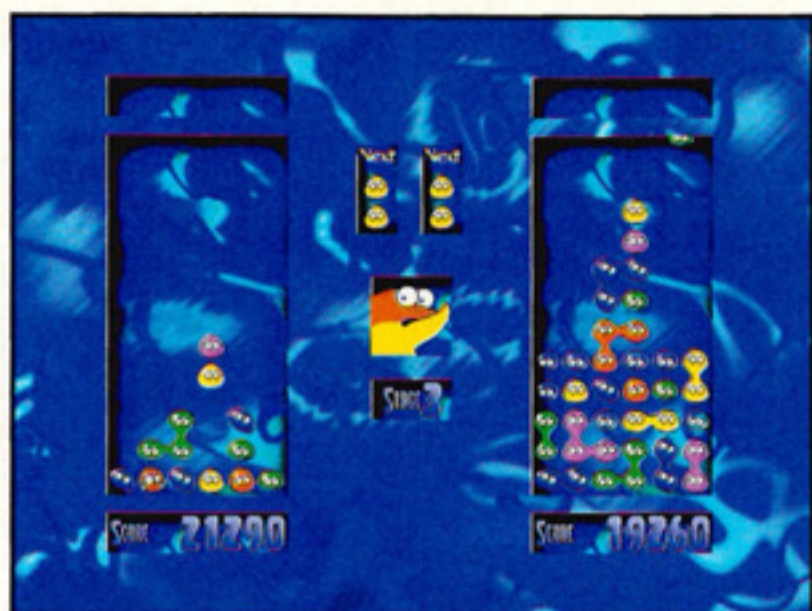
No more boring backgrounds for your slideshows...

OneApp Slide Show

Presentation package
Shareware, \$25

There are plenty of shareware and freeware slideshow tools you can use to create presentations, so why would you want to shell out \$25 for this one? *OneApp Slide Show* offers more features than the average package in this field. First, the ease of operation makes it very straightforward to set up your slideshow. You are presented with a dialogue window that enables you to select either an image or a folder full of images to display. You can select up to 100 individual images or 100 folders for your slideshow. Each folder can hold as many images as you require, so in theory you could have an infinite number of images in the show. You aren't limited to images either: *OneApp Slide Show* fully supports all QuickTime formats, so you can also include movies and soundtracks. When it comes to displaying the media, you can have each item display for a pre-set time or you can display a control box to enable you to move forward and backwards through the sequence. You can also display a text message window at the end of the presentation, choose from over 40 different background images and even create standalone slideshows to distribute to others who do not have their own copy of *OneApp Slide Show*. The range of options in this package has been well thought through. The only downside is the price: at \$25, some people who need only a basic tool to display a sequence of images may find *OneApp Slide Show* a bit on the expensive side.

Macformat shareware rating 88%



These friendly little blobs are sure to send you mad with frustration.

Skittles 2

Tetris-alike game
Shareware, \$25

Originally released in the mid 1990s, *Skittles* was instantly recognised as a great game, well-programmed by someone who obviously knew how to get the most out of a Mac. *Skittles 2* has now taken a leap forward with even higher-quality sounds and graphics. *Skittles* uses a similar format to *Tetris*, but instead of coloured shapes you have coloured circles which look like the American sweets Skittles. The idea of the game is to try to get four like-coloured Skittles to land adjoining each other by manoeuvring them with keyboard controls as they drop from above. The Skittles can be aligned either vertically or horizontally or in a combination of the two. When you achieve four adjacent Skittles they disappear from the board. Of course the Skittles keep raining down and you keep juggling them around to progress. If you manage to get more than four Skittles connected, you hamper your opponent by raining down several blank Skittles to block their progress. Of course, they do the same to you at every possible opportunity, which all adds to the fun and frustration. The big question must be was it worth all the effort to give *Skittles* a make-over? The answer is a resounding yes. The game oozes quality from the simple yet slick graphics, the stereo sound and the attention to detail. All of these factors go to make *Skittles* a game that is hard to wrench yourself away from.

Macformat shareware rating 90%

Netzee		Callus	
Ones	2		
Twos			
Threes	12		
Fours	12		
Fives	15		
Sixes			
3 of a Kind	22		
4 of a Kind			
Full House	25		
Small Straight	30		
Large Straight			
Vatzee			
Chance	17		
Upper Section	41	0	0
Bonus (63+)	0	0	0
Lower Section	94	0	0
TOTAL SCORE	135	0	0

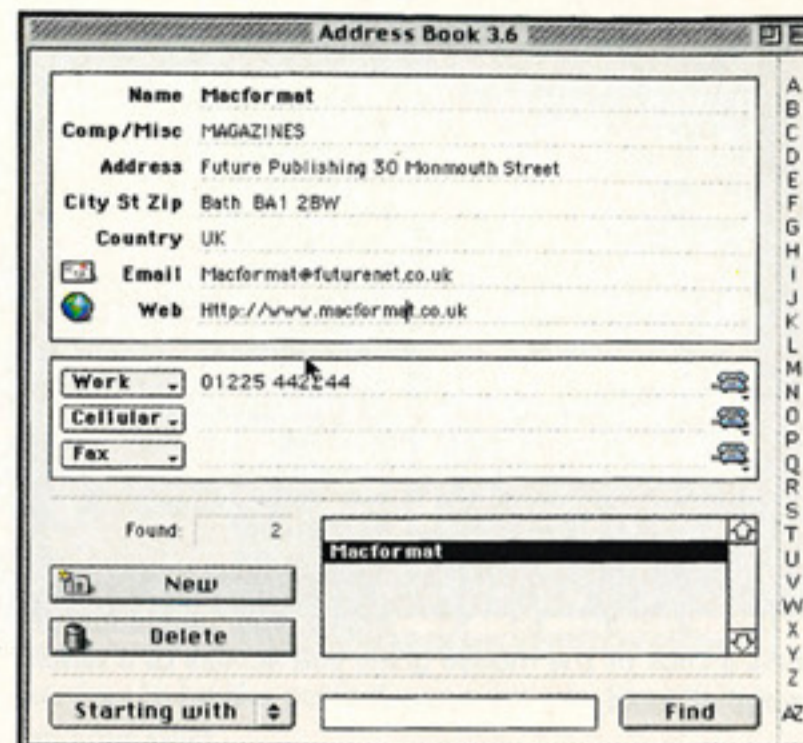
Why play alone when there are other people on your network with better things than work to do!

Netzee

Game
Freeware

Software authors are always looking for games to convert from the traditional board format to the Mac monitor. One of the problems with this approach is that it isn't always easy to get several people around a monitor to take their turn. *Netzee*, based on the dice game Yahtzee, aims to solve the problem by enabling each person on a network to join in with this familiar game. The game is easy enough to learn. Each player takes turns in rolling five dice, trying to make pre-defined combinations of the dice or get as many dice as possible to show the same value. A turn is made up of three throws of the dice, and after the first throw you can keep any of the dice to one side and throw only the dice which do not fit in with your aims for the throw. There are 15 different combinations to try to get and you have 15 turns to get them in, so you must score on each turn or return a zero score for one of the combinations. The idea of playing over a network is a good one which has the potential of making the game much more interesting than playing solo. People who are not on a network can still crowd around their Mac and play, but perhaps for them an Internet version would make this dice game more fun. Maybe in the next version?

Macformat shareware rating 82%



A simple interface is all you need to add entries in your address book.

OneApp Address Book

Address book
Shareware, \$25

Mac-based address books have several advantages over their paper-based counterparts. For a start, they are easily updated. They are also fully searchable, so if you can't exactly remember an entry you'll be able to find what you're after so long as you get part of it right. Also, if you've got a good program, you can link into external resources such as Internet and e-mail. This is one of the key features of *OneApp Address Book*. Via an index-card-style interface you can click on an entry's e-mail address and your e-mail software will launch, with a new message window open with the required address inserted. The same facilities work with Web addresses for instant Web page access via your default Web browser. All the usual address book features are there, such as simple indexing, searching and options to include all sorts of details about your contacts. You can have the program dial through a modem or through the speaker for tone dialling; or if you have Apple's Text-to-Speech technology installed you can even get your Mac to read out phone numbers for you as you dial. There are several other useful features, including a pop-up calendar and the ability to put your own titles next to the text entry boxes. *OneApp Address Book* is a very good address book, although \$25 may be a bit more than some people will want to pay.

Macformat shareware rating 87%

Best on Test

PageThing

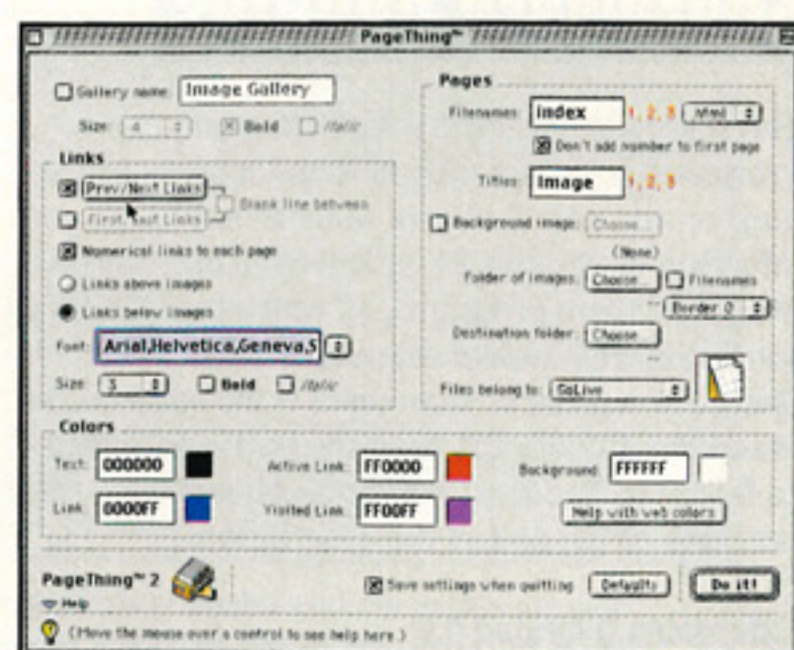
Web page creation tool
Freeware

Not so long ago the only way to create a Web site was to learn how to write HTML code and sit down with a simple text editor and bash out the code. Now of course things are very different, thanks to the host of tools available both in the commercial market and from the world of shareware. One option that is missing from all of these packages, though, is a quick and easy way to create image galleries. The only option is to create a series of pages each with an image on, one page at a time, and link them all together. If you are reasonably quick using a Web page editor you

could probably have a page created in a minute or two. *PageThing* speeds things up for you by scanning through a folder of Web-friendly images, GIF or JPEG format, and creating a page for each one. All the pages can be linked automatically via buttons which take anyone browsing your collection to the next or previous page in the sequence. Even large image collections won't take long to process: an average-spec Mac will be able to create about ten pages a second with *PageThing*.

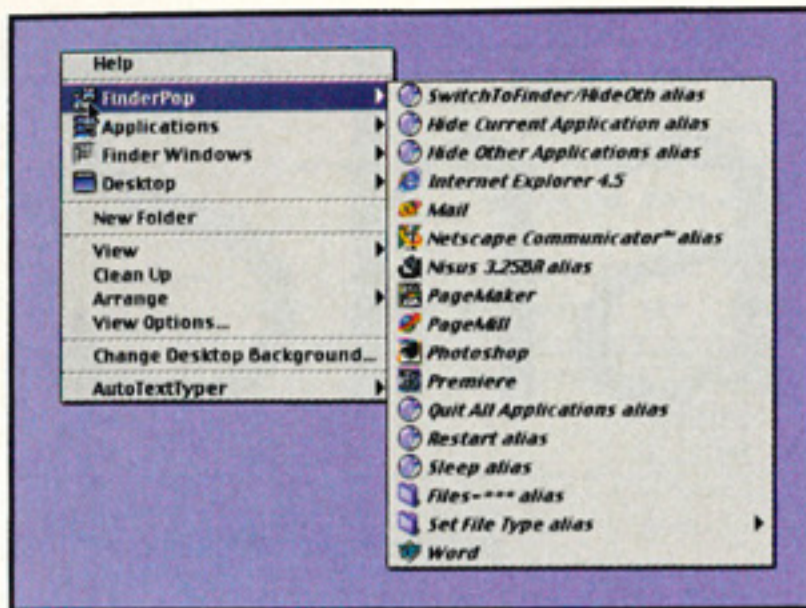
Other options include facilities to change the way the page looks by specifying titles, background colours and fonts used on the pages. With its speed and ease of use *PageThing* will be a real boon to anyone wanting to create a Web-based photo album - and, best of all, it's free!

Macformat shareware rating 94%



Lots of options for you to configure to generate Web photo albums in seconds.

Shareware reviews



Just a click of the mouse gives you access to a whole range of tools.

FinderPop

Contextual menu utility
Shareware, \$8

Contextual menus were introduced with Mac OS 8. If you haven't discovered them yet or don't use them, they really are a great tool to help you speed up working in the Finder. To activate contextual menus all you have to do is hold down the **[control]** key and click the mouse button. A whole range of options will appear to give you quick access to commonly-used tools. *FinderPop* takes contextual menus a stage further by adding several new items and more handy shortcuts to your contextual menus. Installation is a matter of dragging the *FinderPop* Control Panel and the *FinderPop* Extensions onto your System Folder and restarting your Mac. Once it's installed the *FinderPop* submenu will give you access to a range of scripted System operations such as closing all open applications and sending your Mac into Sleep mode. Several other submenus are added, including: an Applications submenu, which monitors what's running and how much RAM you have available; the Finder Windows submenu, which gives you instant access to the contents of any open window; and the Desktop submenu, which lists all the items on the Desktop. For quick access to your favourite applications you can add them to *FinderPop*'s contextual menu by placing an alias in the *FinderPop* Items Folder, which is created within your System Folder. After a bit of use, *FinderPop* really does help speed up using your Mac. Our Tech Ed reckons it's indispensable, and he's a hard man to please.

Macformat shareware rating 90%



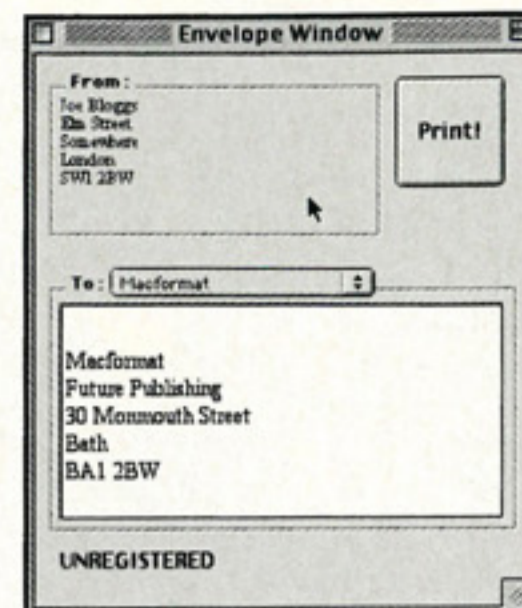
Just enter your text, assign a key combination to it and your Mac will take care of your typing for you!

AutoTextTyper

Text entry utility
Shareware, \$10

Typing repetitive items such as your Web or e-mail address can be a real pain, especially as they are often awkward to get your fingers round. *AutoTextTyper* is a great tool to save you from getting your fingers in a tangle over repetitive words or phrases. For example, if you are writing about Web pages and have to enter **http://www.** for every address, you'd be much quicker setting up a keyboard shortcut to type it in for you. *AutoTextTyper* has a macro facility so you can set up any string of text to be typed just by hitting your chosen key-stroke shortcut. If the application you are using supports contextual menus you can go a stage further and build up a list of common phrases and addresses which you can select from a pop-up contextual menu. To install *AutoTextTyper*, you just drag the Extension onto your System Folder and restart your Mac. If you then access your contextual menu by **[control]**-clicking you can access a list of your defined phrases to quickly insert into the document. You probably won't be able to use *AutoTextTyper* to write a complete document, but you can really speed up the process by getting the basic opening and closing of letters and e-mails out of the way with a very quick single operation.

Macformat shareware rating 88%



The controls are few but the result are excellent with *Envelope Window*.

Envelope Window

Printing utility
Shareware, \$10

Printing envelopes is often not as straightforward as it should be. Sometimes the alignment goes wrong, or the return address falls off the edge of the envelope. Worst of all, it always seems to take much longer than it should just to do what is basically a very simple task. *Envelope Window* is a great tool to take the hassle out of printing envelopes. The controls are few in this simple application. First you need to use the **Page Setup** option from the **File** menu to select the size of the envelope, then just type in the required address and click on **Print**. There are options to include a return address, which is printed in the top left of the envelope. You can build up a bank of addresses, so you never have to type them in again, just select them from a pop-up list. There are also options to select the font and font size, but no options to select exactly where on the envelope the address is printed. This is a minor inconvenience, but it could also be seen as a strength as you are not tempted to endlessly fine-tune the position of the text. *Envelope Window* makes printing envelopes just about as easy as it could be, and it's a great tool to have tucked away in your Apple menu ready for when you need it.

Macformat shareware rating 88%

Shareware updates

The shareware scene is a fast-changing one. Programs are constantly updated, mainly to fix bugs or add new features. MacFormat keeps you informed of updates to widely-used and popular Mac shareware programs, as well as spotlighting some less well-known shareware titles. If an update of a piece of shareware is included on the MacFormat Cover CD, then the path you'll need to follow to find it on the disc is shown in brackets at the end of the description.

Extensions Overload 4.8

This useful utility provides you with detailed information on Extensions and Control Panels as well as enabling you to activate and disable them. Version 4.8 contains the descriptions of over 2,600 Extensions and Control Panels plus

more useful Web addresses. Support for G4 processors has been added, as well as a few cosmetic changes to the interface.

Shareware Plus: Utilities

Folders Synchronizer 1.8.3

If you ever need to keep exact copies of work on more than one disk, then *Folders Synchronizer* will be a great help. Choose two or more folders or disks and they are synchronised so each one has copies of the other's files. It's ideal if you work on team projects and want to ensure that everyone has the latest copies of everyone else's work. This update fixes a problem that prevented the deletion of folders with custom icons. *Folders Synchronizer* also remembers the parent folder of the last series of folders you chose to synchronise.

Shareware Plus: Utilities

HTML Optimizer 2.7

Remove any unnecessary characters from your HTML pages to save up to 10% space and therefore decrease the length of time the Web pages take to download. This version fixes some small bugs and optimises pages 50% faster than earlier versions.

Shareware Plus: Internet

iAddress 3.5

Here's an address book that offers great functionality yet has a low RAM overhead. This version introduces the ability to program a default action to each record within your address book. The new password field enables you to save passwords alongside bookmarks which are then automatically copied to the clipboard when you revisit that site.

Shareware Plus: Applications



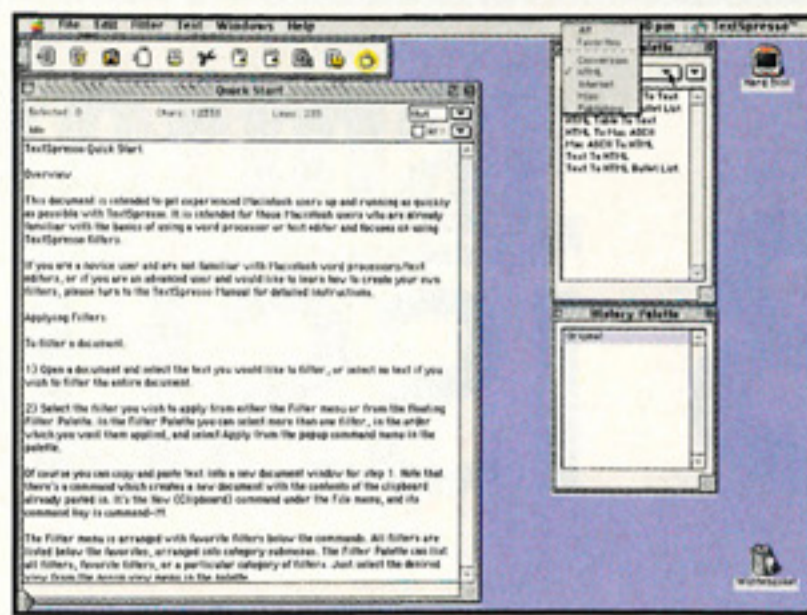
Hone your baser gambling instincts with this expert game of Blackjack.

Expert Blackjack

Card game tutor
Shareware, \$10

Like most card games Blackjack is more than just a game of chance. There is a fair amount of skill involved in knowing when to take a card and when not to. The key thing with Blackjack is that it is more than a social game played in the living room. Blackjack is played in casinos all around the world, so if you ever plan to have a flutter on the cards it's a good idea to know how to maximise your chances. The game is played out around a card table with you being one of six players. Each card counts for its face value, and picture cards count for ten each. You start with 500 units of currency and you bet these against the bank as you try to get a card value total nearer to 21 than the banker. You can take a card to increase your value and of course you can "stick" at any time to avoid going over the magic 21 value. As you play this Mac version, there are all sorts of clever processes going on in the background which monitor your playing style. These enable you to evaluate how different strategies are working. For example, if you try to bet aggressively you can compare this with a more moderate approach via bar graph displays. If, however, you aren't worried about learning how to win or lose your entire stake, *Expert Trainer* is as fun a card game as any available on the Mac.

Macformat shareware rating 89%



Whichever format you want a text file converted to, just select it from a list and away it goes.

TextSpresso

Text/HTML converter
Shareware, \$29

Many Web pages are basically conversions of existing word-processed documents, but it can take a great deal of work to convert even simple files if you do the conversion manually. Some word processors have "Save As HTML" features but *TextSpresso* offers more options than any other package currently available. First, you have a number of conversion options which enable you to convert almost any text file to HTML. You can also assign a wide range of file types to your converted file. For example you can make the file a *Netscape* file, a *Claris Home Page* or a *ClarisWorks* document just by selecting the file type from a pop-up list. You are not restricted to converting files from text to HTML; you can also do it the other way around, so you can strip out all the HTML tags and convert a Web page to a text file for editing. One great feature which really makes this package a cut above others is a Batch Filter option which means you can set up your required parameters and leave *TextSpresso* working on a folder full of files while you go and do something more interesting. On the downside, there are some basic features missing from the text processor, such as the ability to format text with characteristics such as emboldening and colours, but even this shortcoming does not stop this package being worth the registration fee just for the conversion tools.

Macformat shareware rating 86%



iPoker has to be the perfect game for you to practise losing your shirt.

iPoker

Card game
Shareware, \$25

Poker must be one of the most famous card games in the world, but the one that fewest people know how to play properly. The problem is that a casino or card school is almost the only place where you can practise your skills and really learn the ins and outs of the game. Of course ideally you don't want to be betting your hard-earned cash on a game as you learn it. So a much better option is to try a Mac-based version. *iPoker* is a very good example of a Mac card game that takes advantage of the processing power of a modern Mac. This game uses QuickTime movies to bring the characters involved in the game to life, spoken information about the cards on the table, and stylish animation while the cards are being dealt. If you don't own a high-spec Mac you can switch off most of the more demanding features, so you can still join in the fun. Your Mac will automatically suggest a course of action to take regarding how to play the game and advise you how much money to bet, but if you prefer you can ignore the advice and do your own thing by hitting the appropriate numerical key on the keyboard. There's a wide range of variations on the basic game of poker, and this version enables you to play several of the most popular. So whichever flavour of poker you want to learn you'll be able to master it without having to lose your shirt.

Macformat shareware rating 89%

ImageViewer 5.16

ImageViewer enables you to catalogue and view all your images. Earlier versions of *ImageViewer* introduced the ability to save your catalogues as HTML. This version fixes problems that have arisen from the addition of these features.

Shareware Plus: Graphics

MacZip 1.04

MacZip is a cross-platform-compatible tool that includes both Zip (for compression) and UnZip (for extraction). Zip is the cross-platform compression standard. If you need to send files to someone on a Windows PC, Unix or any other computer, if the file is Zip they will be able to open it. This version is now final after nearly a year in progress to use the latest Zip source code and to ensure it is fully Mac-compatible.

Shareware Plus: Utilities

ViaHTTP 1.7.4

If you have ever tried downloading a large file just to have it "time out" at the last moment then you will know how annoying and expensive it can be. *ViaHTTP* can start or resume any download. Just give it the Web address - both HTTP and FTP are supported. This version enables you to download the contents of folders as well as individual files, and fixes a few bugs.

Shareware Plus: Internet

Web Devil 4.9.2

Browsing can be a lengthy process and can cost you a lot of money when your telephone bill comes in. *Web Devil* is a Web page and Web site downloader which enables you to view sites offline at a later date. This version offers you the full functionality of the package for 15 days. There is also support for links embedded within



ImageViewer enables you to catalogue your images and even output the results as HTML.

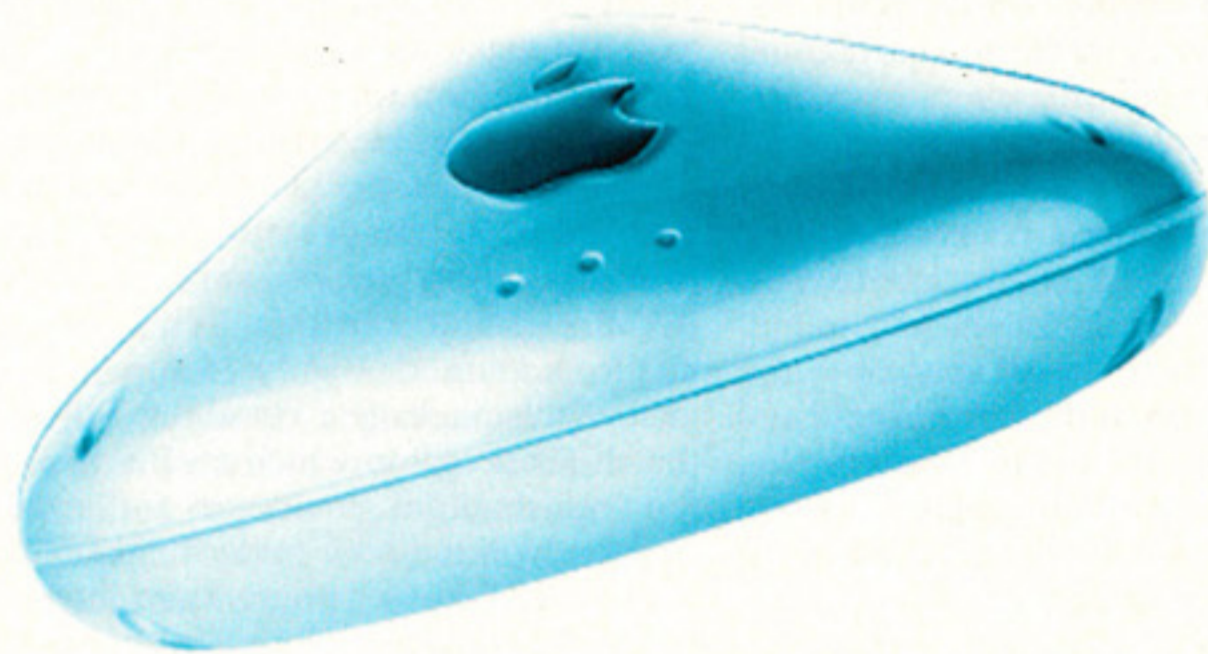
image maps. This version also has improved handling of filenames which have encoded characters in them.

Shareware Plus: Internet

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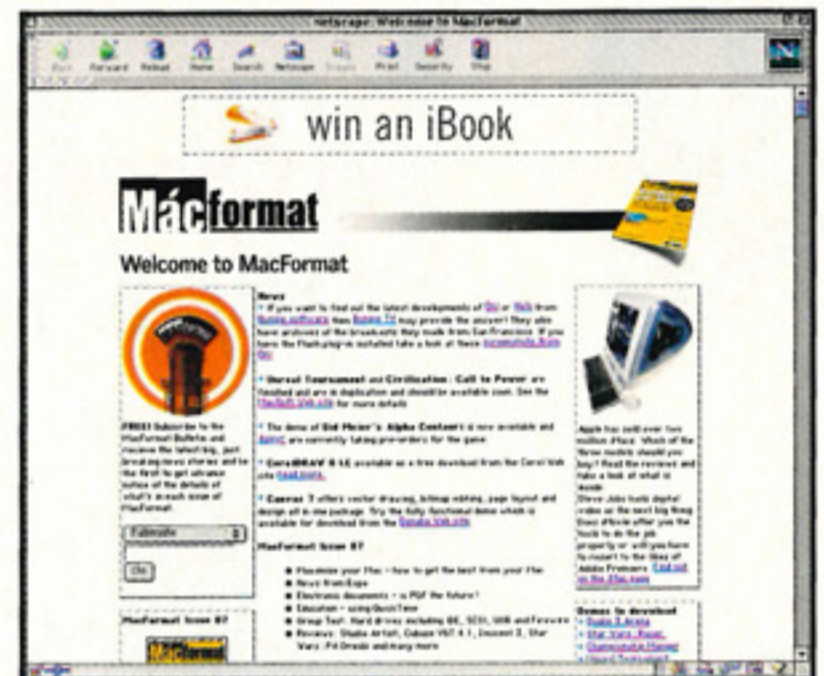
The Web version of the Buyer's Guide is expanded from our regular buying section in MacFormat (starting opposite). It brings you an extensive guide to the hardware and software products on the market today. You'll find MacFormat's no-punches-pulled reviews with contact details, including live Web links to further company information.

There's also information on user groups to

put you in touch with other Mac owners near you, and details of new products not yet reviewed in the magazine, plus access to related resources. There's also a table of all the current Mac models you can buy in the UK, with in-depth information.

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Is the back issue you're after sold out? Did the dog eat your prized MacFormat collection? Fear not, help is at hand with the MacFormat Fax-Back service. Just call us on your fax machine, key in the code for the review, how-to or Group Test you want, and it's faxed right back to you automatically. (Note that you need a combined phone/fax.)


There's a selection of recent articles available to the right, and there's a full listing on this issue's Cover CD in the form of a PDF (*Adobe Acrobat*) file in the Resources folder. (*Acrobat Reader* is on the Cover CD too.)

How to use the Fax-Back service

1. Dial **0906 302 1462** and wait for a fax check
2. Then key in the **three-digit code** listed here or in the Cover CD listing for your chosen feature
3. Press **Start/Send** to receive your Fax-Back

If you run into any difficulties, contact our Fax-Back helpline on **0870 120 1240** (Helpline open Monday to Friday, 10am-5pm; calls from the UK charged at local rate)

Fax-Back calls cost 50p per minute at all times. The service takes between two and eight minutes per page, depending on the quality of the phone line, your fax machine's specifications and the number of photographs on a page. Introductory pages with illustrations only won't be included, only pages with text. **Note:** UK Premium-rate numbers may not be accessible from overseas - if you can't use this service, sorry, it's BT, not us!

 Find the complete listing of documents available through this Fax-Back service in the Resources folder of this issue's Cover CD.

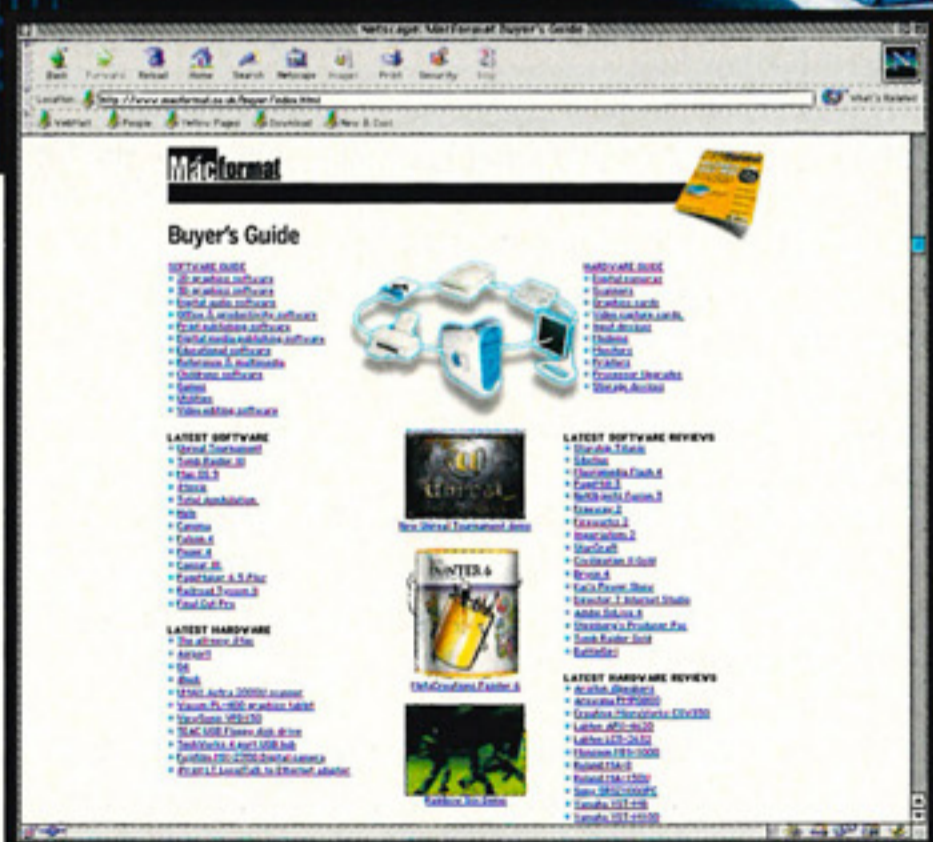
Features by fax! (Complete listing on Cover CD)

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PowerMac G3/400	(4 pgs)	MF74	167
Corel Photo-Paint 8	(3 pgs)	MF74	168
Canvas 6	(3 pgs)	MF75	170
Kai's Photo Soap 2	(2 pgs)	MF76	172
Apple Studio Display monitor range	(2 pgs)	MF77	185
Iomega USB Zip & 250MB SCSI Zip	(1 pg)	MF77	186
Director 7 Shockwave Internet Studio	(3 pgs)	MF77	187
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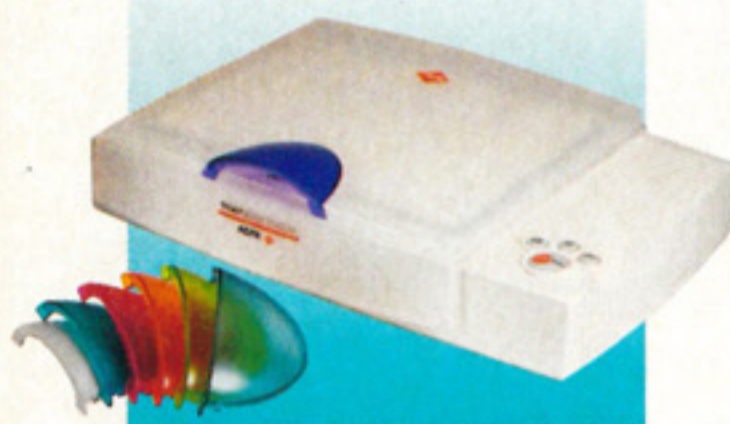
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Join a Mac community near you	

Buying Advice

Where to buy and what to do if something should go wrong.

MacFormat Choice

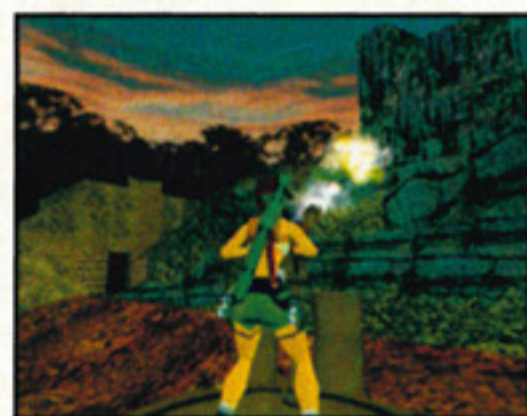
Tested and commended in recent issues...



Agfa SnapScan Touch

MF86, 90%

MacFormat Classic Excellent repro quality at a reasonable price, with good looks to boot.



Tomb Raider III

MF85, 90%

MacFormat Classic Lara Croft returns in the third incarnation of this classic game.



iMac DV

MF84, 95%

MacFormat Classic Still under £1,000 and you can have a superb and cool-looking Mac.

Whether you're buying in person or by mail order, here's how to make the transaction go smoothly and put things right if they go wrong. Note all the advice here applies to buying from a business; most of it does not apply if you're buying from a private seller in MacFormat's Reader Ads.

Where to buy

- ❑ **Mail-order companies** are ideal if you know what you want and how to set it up, and just want the best price.
- ❑ **Authorised Apple resellers** or **AppleCentres** may not always offer the best price, but you can expect to find a wide choice and considerable expertise.
- ❑ The major retail chain **John Lewis** is another, sometimes more accessible, source of hardware and software.
- ❑ **PC World**, along with flagship branches of Dixons and Currys, stocks iMac and some Mac software.
- ❑ The entertainment chain **HMV** now carries Mac games in some branches, especially in the Oxford Circus store.
- ❑ **Independent retailers** may stock Mac products. Check your local Yellow Pages for more information.
- ❑ MacFormat will occasionally review programs sent direct from the **United States** or **Canada**, as they don't have an official UK distributor. Some mail order dealers will have limited stocks of the most outstanding programs or games. Scan the adverts in MacFormat for import bargains.

Planning your purchase

Shop around for the best price and check what is included. Packing and delivery? Any necessary cables? VAT? By law, an advert must say explicitly if VAT is not included; if it doesn't, VAT is included. But this can be in the small print, so do check.

If you're **buying by mail**, ring first to confirm price and availability. Explain what you want the product for and satisfy yourself that you're getting what you need – you can't return something just because you've changed your mind. Ask what the dealer's policy is should you have problems – few mail-order dealers offer "on-site" service. Find out when you can expect delivery. If you've ordered by mail, check the goods carefully when they arrive. If the driver's in a hurry, mark the delivery note "Goods not inspected". If there's any part of the product you're not happy with, don't use it. If you do, you could be deemed to have accepted it.

If you're **buying in person**, check that everything works before you leave the shop.

Whether you bought it by mail or in a shop, **the law** says a product must be:

1. "Of satisfactory quality" (that is, broadly speaking, it must work);
2. "As described" (in the advert or in person – and this criterion applies also if you're buying from a private seller);
3. Fit for the purpose for which it was sold or which you specified.

If it fails to meet any or all of these criteria, you are entitled to return the product for a full refund, get compensation for all or part of the value, or get a replacement or free repair, depending on the seriousness of the defect. These are the "statutory rights" that adverts always say are "not affected" by any extra guarantees.

A dealer cannot deny these rights or add conditions (such as "provided goods are returned to us at your expense within seven days").

How to protect yourself

If you are buying goods worth more than £100 in total, use a **credit card** if possible, for the whole or even just a part of the price. In the unlikely event of anything going wrong, you'll be legally entitled to claim against the credit card company as well as the seller. (You won't get your money back twice, of course, but the credit company will be there to claim against if the seller has gone bust.) You might also get extra insurance for your purchase – check with your credit firm.

If you don't have a credit card, pay by **cheque** or **postal order** (ask for details at your post office). Never send cash through the mail, even by registered mail. Apart from any risk of theft, you can't stop payment if you need to, and even if you have proof of posting, it is impossible to prove how much you sent.

Keep records. If you're paying by credit card over the phone, keep a note of the exact time of the order and the name of the person who took it, and ask for an order number. If you're paying by cheque, make sure you fill in the details of the date, amount and payee's exact name on the stub – and keep it somewhere safe! Always keep all receipts, and make notes of all correspondence by mail or phone.

How to complain

If you're not happy about something, contact the supplier first and politely **explain your concerns**. Be patient; if there's some technical problem, it may genuinely take some time to find a solution. Most difficulties are sorted out at this stage without further fuss.

If yours isn't, put your complaint in writing, clearly stating your problem and what you'd like done. Give the firm a reasonable time to reply – say 14 days or so.

If your complaint is not resolved, you may need to take some sort of **legal action** to enforce your rights. This need not cost you a lot of money: you can seek advice from a solicitor (ask about the free advice scheme – you may not have to pay for the initial consultation) or contact an advice organisation.

❑ There are over 700 **Citizen's Advice Bureaux** across the UK able to give free consumer rights advice. Look for your nearest in your Yellow Pages or visit the Web site <http://www.nacab.org.uk/>, where you can search for the nearest branch on-line.

❑ **Trading Standards** administers consumer protection schemes in the UK and can provide advice on where to start. Look for your nearest Trading Standards office in the local council entry in your Yellow Pages or visit Trading Standards Central at <http://www.tradingstandards.gov.uk/> for general advice; it can't advise on specific cases.

❑ **The Office of Fair Trading** is another consumer protection group which can help you find out who you should speak with to solve your problem; it can't advise on specific cases. You can get general advice through the Office of Fair Trading helpline on 0345 224499 or through the OFT Web site at <http://www.offt.gov.uk/>

MacFacts

Full specifications of every Mac model on the UK market.

CPU: What type of processor is fitted? All G3 Macs use a PowerPC 750 chip, and the G4s use a PowerPC 7400.
Speed: What's the clock speed at which the processor runs?
Cache: All Macs use a system of caches, temporary stores that help the processor run more efficiently. We list the size of the backside cache, an enhanced system running at high speeds that gives you three cache levels in total.
Bus: This is the bridge between data flowing from the processor to other parts of your Mac's motherboard. A higher bus speed enables more data to get through at once.
Upgrade: Are you able to upgrade the processor with a faster version? *Later* indicates that there are no upgrades available today, but future options are expected. Check our processor upgrade listing on page 107 for availability.
RAM: How much RAM is installed?
Max RAM: ... And how much could you install in total?
Video RAM: How much extra RAM is devoted to displaying the screen image? Built-in graphic acceleration cards show your Desktop in more detail and with smoother animation.
HD: How big is the hard drive? Most hard drives use an IDE or ATA mechanism. The G4s use ATA/66 mechanisms, so they're twice as fast as regular ATA drives.
Drives: Your Mac could have a combination of CD-ROM (or

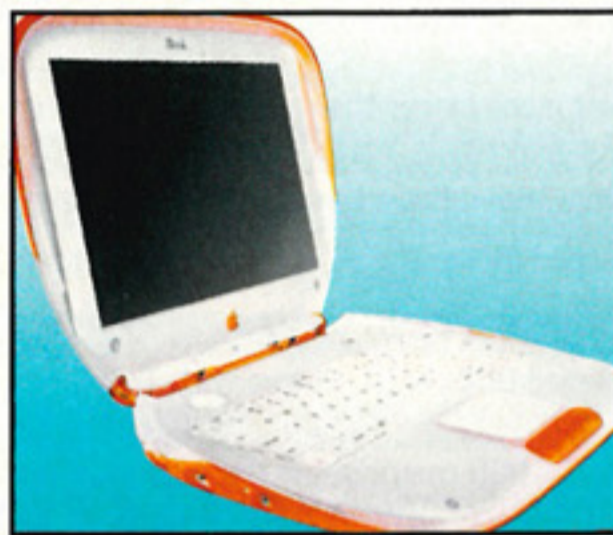
DVD) and Zip. No Macs now include a floppy disk drive.
Expansion: What are the main expansion slots and how many are there? The PowerMac G3 and G4 use PCI expansion slots, while PowerBooks use the PC Card system; but iMac and iBook don't have any internal expansion slots, relying instead on their external connections, mainly USB.
Ethernet: Every new Mac includes a high-speed Ethernet connection port for linking to networks and some printers. 10/100BaseT is a superior form of Ethernet that is now standard in all Macs.
Connect: All Macs now use USB as their standard connection system. The PowerMac G3 and G4 ranges, and the new iMac DV models (but not the base-model iMac), also include FireWire, a high-speed connection system for devices like storage devices and video cameras; the G3 also included an ADB port, but this is for use with some monitors' colour-calibration and is not recommended for keyboard use. The PowerBook G3 range offers a combination of SCSI and USB.
Monitor: Is a monitor included in the machine's price or do you have to pay extra? iMac uses a built-in 15-inch CRT display. PowerBooks use high-quality 14-inch TFT screens.
Price: The estimated street price including VAT. Always confirm the latest prices with your dealer before buying.

Info **MACWATCH:** Prices and specifications hold steady this month.

iMac



iBook



PowerMac G4



PowerBook G3



Apple Computer

0870 600 6010

iMac Includes Mac OS 9, ATI Rage Pro Turbo 2D/3D graphics accelerator card, 56Kbps modem, *AppleWorks*, *Bugdom*, *FaxSTF*, *KidPix*, *Microsoft Internet Explorer*, *Microsoft Outlook Express*, *Netscape Navigator*, *PageMill*, *Palm Desktop Organizer*, *World Book*. DV and DV Special Edition iMacs also come with *iMovie*

Model	CPU	Speed	Cache	Bus	Upgrade	RAM	Max RAM	Video	HD	Drives	Expansion	Ethernet	Connect	Monitor	Price
iMac ¹	PPC 750	350MHz	512K BS	100MHz	N/A	64MB	512MB	8MB ²	6GB	24x CD	None	10/100BaseT	2 USB ³	15-inch	£799
iMac DV ¹	PPC 750	400MHz	512K BS	100MHz	N/A	64MB	512MB	8MB ²	10GB	4x DVD-ROM	None	10/100BaseT	2 FireWire, 2 USB ³	15-inch	£999
iMac DVSE ¹	PPC 750	400MHz	512K BS	100MHz	N/A	128MB	512MB	8MB ²	13GB	4x DVD-RAM	None	10/100BaseT	2 FireWire, 2 USB ³	15-inch	£1,199

¹iMac now comes in Blueberry only, iMac DV comes in the familiar five fruit colours, and iMac DVSE comes in Graphite (grey) only. ²2x AGP graphics slot. ³AirPort wireless networking optional

iBook Includes Mac OS 9, *Adobe Acrobat Reader*, *AppleWorks*, *Bugdom*, *FaxSTF*, *Microsoft Internet Explorer*, *Microsoft Outlook Express*, *Nanosaur*, *Netscape Communicator*, *Palm Desktop Organizer*, *QuickTime 4*, *World Book*

Model	CPU	Speed	Cache	Bus	Upgrade	RAM	Max RAM	Video	HD	Drives	Expansion	Ethernet	Connect	Monitor	Price
iBook ¹	PPC 750	300MHz	512K BS	66MHz	N/A	32MB	160MB	4MB	3.2GB	24x CD	None	10/100BaseT	1 USB ²	12.1-inch TFT	£1,249

¹Choice of Tangerine or Blueberry ²AirPort wireless networking optional

Power Macintosh G4 Includes Mac OS 9, ATI Rage 128 2D/3D graphics accelerator card

Model	CPU	Speed	Cache	Bus	Upgrade	RAM	Max RAM	Video	HD	Drives	Expansion	Ethernet	Connect	Monitor	Price
PowerMac G4	PPC 7400	350MHz	1MB BS	100MHz	Later	64MB	1.5GB	16MB ¹	10GB	DVD-ROM	3 PCI	10/100BaseT	3 FireWire, 2 USB ²	Extra	£1,291
PowerMac G4	PPC 7400	400MHz	1MB BS	100MHz	Later	128MB	1.5GB	16MB ¹	20GB	DVD-ROM, Zip	3 PCI	10/100BaseT	3 FireWire, 2 USB ²	Extra	£1,996
PowerMac G4	PPC 7400	450MHz	1MB BS	100MHz	Later	256MB	1.5GB	16MB ¹	27GB	DVD-RAM, Zip	3 PCI	10/100BaseT	3 FireWire, 2 USB ²	Extra	£2,819

¹2x AGP graphics slot. ²AirPort wireless networking optional

PowerBook G3 Series Includes Mac OS 9, ATI Rage LT Pro 2D/3D accelerator, 56Kbps modem

Model	CPU	Speed	Cache	Bus	Upgrade	RAM	Max RAM	Video	HD	Drives	Expansion	Ethernet	Connect	Monitor	Price
PowerBook G3	PPC 750	333MHz	512K BS	66MHz	Later	64MB	384MB	8MB	4GB	24x CD	1 PC Card	10/100BaseT	1 SCSI, 2 USB	14.1-inch TFT	£1,996
PowerBook G3	PPC 750	400MHz	1MB BS	66MHz	Later	64MB	384MB	8MB	6GB	2x DVD	1 PC Card	10/100BaseT	1 SCSI, 2 USB	14.1-inch TFT	£2,819

Hardware Guide

Over 80 of the finest Mac-compatible devices available now.

Here are over 80 of the best Mac buys on the market, based on MacFormat's own authoritative, independent product tests. If you want more information on any product, ring the contact listed or refer to our original review – if you need to order an issue you missed, turn to our back issues service on page 116. All prices quoted include VAT – check the ads in this issue for the best current deals. The information in these listings has

been thoroughly checked and is correct as we go to press, but prices and specifications can change at any time. Always make enquiries before you buy, to verify that the product you're considering will meet your needs.

MF CLASSIC We give the MacFormat Classic award only to products that set the standards for others to follow.

STORAGE DEVICES

It's become pretty much essential to supplement your Mac's hard disk with additional storage, whether it's for holding images, video, multimedia or just more games.

The type of storage device you should go for will depend on your individual needs to some extent. You could just replace your hard drive with a larger-capacity version, or add an external drive. **Hard drives** continue to give the fastest access to your data.

Removable cartridge drives have come a long way from the clunkiness of devices like the SyQuest 44MB systems. Today's removables offer low-cost convenience for a set-up where you'll want to increase your total capacity regularly.

Magneto-optical or MO drives use removable disks of an entirely different design, which makes MO disks extremely durable. The drives themselves remain expensive compared to other solutions, but MO provides a superior solution for long-term, high-capacity storage needs.

CD writers are becoming a more common storage option. Standard CD-Rs use gold CDs you can write into just once, but the discs are cheap and you can also play CD-ROMs. CD-RWs use customised CDs you can erase and write on up to around 1,000 times, and will typically also be able to write CD-Rs. Both options are slow compared to other solutions.

Name	Price	Contact	Telephone
Fujitsu L3 MO drive SCSI MO drive	£351	Fujitsu	0191 296 1500
MF85, 85%: A good implementation of a solid technology, this 3.5-inch drive makes a worthy backup device.			
Imation SuperDisk USB removable	£151	Imation	01344 402200
MF85, 87%: A very versatile drive that enables you to access floppy disks and 120MB SuperDisks.			
Iomega Zip 250 SCSI removable	£129	Iomega	020 7365 9527
MF77, 83%: Great little drive, now at a more reasonable price.			
LaCie IEEE1394 20GB hard drive	£328	LaCie	020 7872 8000
MF CLASSIC MF87, 90%: Not as quick as a SCSI drive, but cheaper – and it's hot-pluggable.			
LaCie Ultra2 SCSI 18GB hard drive	£492	LaCie	020 7872 8000
NEW MF87, 87%: A dull exterior, but around twice the speed of FireWire drives.			
LaCie USB 10GB hard drive	£269	LaCie	020 7872 8000
NEW MF87, 82%: Solidly built and easy to install. A good buy if USB is your only option.			
TEAC USB Floppy Disk Drive	£71	Simply Computers	020 8498 2100
MF78, 80%: An external USB floppy drive. Comes in a range of colours to match iMac.			
VST FireWire 14GB hard drive	£689	Computer 2000	01256 847032
NEW MF87, 84%: Not much bigger than a pack of cards, this can be powered by the FireWire port.			
VST USB 6GB hard drive	£280	Computer 2000	01256 847032
NEW MF87, 80%: Only 18mm thick. Handy for transporting data (slowly) between older iMacs.			

Also available

LaCie 4x4x24x USB CD-RW	£253	LaCie	020 7873 8000
Replaces the well-designed DCDLW2A. Comes with <i>Toast</i> .			
LaCie 5.2GB MO	£1,857	LaCie	020 7873 8000
Uses massive 5.2GB and 2.6GB cartridges in the 5.25-inch format.			
LaCie 8x4x24x SCSI CD-RW	£288	LaCie	020 7873 8000
One of the replacements for the already speedy CDRW4416S.			

SCANNERS AND DIGITAL CAMERAS

The ready availability of **scanners** makes the ability to convert photographs into electronic form an increasingly commonplace part of any decent Mac setup. Ask what bundled software is included in the price; you may not want to pay for an extra copy of *Photoshop*, for example.

Digital cameras provide image capture on the move – and the market is on the move, too, with new models and price cuts a regular event. You'll still have to pay more to get anywhere near the resolution and quality of even a basic scanner. Cameras are great if you're producing material for a Web page, for example, rather than print, where you'll need the crisp results of a professional scanner.

The latest buzzword in digital cameras is **mega-pixel**, which indicates that the model can take pictures of one million pixels or more.



Ricoh RDC-5000

MF87, 93%
Some exceptional features. Shots are crisp and colour-accurate.

Name	Price	Contact	Telephone
Agfa ePhoto CL50 camera	£499	Agfa	020 8231 4903
MF CLASSIC MF80, 92%: A good selection of features, easy to use, with a realistic price tag.			
Agfa SnapScan Touch USB scanner	£152	Agfa	020 8231 4903
MF CLASSIC MF86, 90%: Excellent repro quality at a reasonable price, with good looks to boot.			
Epson Perfection 610 USB scanner	£119	Epson	0800 220546
MF86, 86%: Looks like a concrete block, but scans very fast for USB.			
Epson Perfection 1200 Photo USB scanner	£239	Epson	0800 220546
MF86, 87%: Even faster than the 610, and comes with an excellent software bundle.			
Kodak DC215 ZOOM digital camera	£300	Kodak	0800 281247
NEW MF87, 85%: Reasonable sharpness and colour-accuracy. Ideal for the newcomer and younger users.			
Kodak DC240 digital camera	£500	Kodak	0800 281247
MF78, 89%: Outstanding – easy to use, and has a good range of colours and excellent detail.			
Kodak DC265 digital camera	£750	Kodak	0800 281247
MF78, 87%: The DC240's big brother also has good colours and sharpness, and a higher resolution.			
Microtek Phantom C6 USB scanner	£93	Microtek Europe	01908 317797
MF86, 89%: Slow, but good image quality at a low price. Has a good manual too.			
Microtek ScanMaker V6 USL scanner	£175	Microtek Europe	01908 317797
MF86, 79%: Slow despite the SCSI option, but a good software bundle for the price.			
Nikon Coolpix 700 digital camera	£499	Nikon	0800 230220
MF80, 89%: Easy to use, feature-packed camera. Comes with <i>Photoshop LE</i> but no power adaptor.			
Olympus C-2000Z digital camera	£750	Olympus	0800 072 0070
MF CLASSIC MF83, 92%: Not cheap, but fair value for professional quality photos.			
Ricoh RDC-5000 digital camera	£549	Ricoh Europe	00 31 205 47 4508
NEW MF CLASSIC MF87, 93%: Some exceptional features. Shots are crisp and colour-accurate.			
Umax Astra 2400S SCSI scanner	£351	IMC	0845 844 0146
MF83, 89%: Extremely good picture quality for the price with easy-to-use software.			

MONITORS

Name	Price	Contact	Telephone
Apple Studio Display 15.1-inch flat-panel	£1,045	Apple	0870 600 6010
MF CLASSIC MF77, 90%: State-of-the-art and remarkable value for money.			
Apple Studio Display 21-inch DiamondTron	£1,139	Apple	0870 600 6010
MF CLASSIC MF77, 93%: One for the professionals. Expensive and heavy but brilliant.			
Formac ProNitron 17/600 17-inch Trinitron	£304	Formac	020 8533 4040
MF CLASSIC MF 82, 91%: Excellent 17-inch picture quality at a bargain price.			
Formac ProNitron 19/550 19-inch Trinitron	£475	Formac	020 8533 4040
MF82, 80%: Good picture and easy to use. Not the latest flat Tron technology, but fine for the money.			
Mitsubishi Diamond Pro 900u 19-inch CRT	£491	Mitsubishi	01707 278684
MF82, 85%: Excellent image quality with high refresh rates, but adjusting features can be confusing.			
Samsung SyncMaster 700 TFT 17-inch flat-panel	£2,191	Samsung	0800 521652
MF76, 80%: Best-quality TFT display we've seen to date, and a serious alternative to CRT displays.			
Samsung 900SL 19-inch FST	£448	Samsung	0800 521652
MF85, 84%: Despite using unfashionable FST technology, this is good for home or small office use.			
Sony 19-inch FD Trinitron 19-inch Trinitron	£786	Sony	0990 424424
MF82, 87%: A superb-quality monitor with some handy and well thought out features, but pricy.			
Sony Trinitron Multiscan 200PS 17-inch Trinitron	£410	Sony	0990 424424
MF82, 80%: Good picture with slight loss of focus at the edges. Easy to use.			
Taxan ErgoVision 980 19-inch FST	£586	Taxan	01377 484646
MF CLASSIC MF 82, 92%: 1,600 x 1,200 monitor with built-in USB hub. Excellent picture quality.			
ViewSonic VP 140 14-inch flat-panel	£852	IMC	01344 871329
MF68, 89%: Images are impressively sharp and the colour range is excellent.			
ViewSonic PT795 19-inch FST	£593	ViewSonic	0800 833648
MF CLASSIC MF 82, 89%: A well-designed, well-built monitor with built-in USB hub.			

Apple Studio Display 21-inch

MF77, 93%

One for the professionals. Expensive and heavy but brilliant.



You could benefit more than you'd suspect by replacing your current screen. A larger screen size yields the more obvious benefit of providing a bigger work area. If you have enough video RAM, you could increase your Desktop space by plugging in a second monitor.

Most monitors are based on the CRT (cathode ray tube) technology standard TVs use, but these screens will give you a more precise image. Look out for the screen frequency (measured in Hz), which tells you how stable the image will be at a given resolution. 80Hz or above should give a very solid picture. CRT technology has been adapted in various ways: **FST** screens are simply flatter, so the picture is less distorted, while **Trinitron** (or one of its many Tron variations) gives a superior, crisper image.

The new trend in monitors is the **short-neck** model, which offers a shallower case than normal to save space.

Flat-panel monitors, which are dramatically thinner and

lighter than CRTs, have sci-fi appeal but an offputting price tag, although prices are falling fast now. Don't be misled by smaller screen sizes in the literature: flat-panel pictures go right to the edge, making a 15-inch flat-panel broadly the equivalent of a 17-inch CRT screen.

GRAPHICS CARDS

Name	Price	Contact	Telephone
Mactell Vision 3D Pro II 8MB graphics card	£328	Channel Dynamics	0870 607 0540
MF78, 83%: All-purpose graphics card giving great 2D and average 3D acceleration.			
VillageTronic MacMagic 3dfx card	£76	Blittersoft	01908 561297
MF75, 82%: Awful installation procedure, but great for speeding up 3dfx graphics in games.			

Also available

Formac ProFormance 3 graphics card	£199	Formac	020 8533 4040
Boosts 2D and 3D performance on all PCI PowerMacs.			
ixMicro Pro Rez graphics card	£206	ixMicro	http://www.ixmicro.com/
All-purpose graphics card with QuickDraw 3D support.			

Adding a graphics card to your Mac is an easy way of exploiting its potential. Graphics cards use their own processor to produce your Mac's picture. The result should be much improved, with more detail and colour.

Many cards will improve your basic 2D images and patch into 3D technology to give you better 3D animation. All new Apple Macs already include accelerators.

3dfx cards accelerate 3D graphics drawn using the Glide technology, devised specifically for game graphics. Check that your games are 3dfx-compatible before you buy.

VIDEO-CAPTURE CARDS

Name	Price	Contact	Telephone
XLR8 InterView USB video digitiser	£117	Interex UK	01923 263108
MF CLASSIC MF81, 91%: Looks like a cable with bits on, but plugs in to your USB port and provides a video-in solution for Macs without PCI slots.			

Also available

Aurora Fuse analogue card	£399	Channel Dynamics	0870 607 0540
Enables you to view and edit full-motion, full-screen video at 9MB per second.			
Aurora Igniter analogue card	£1,175	Channel Dynamics	0870 607 0540
Handles up to 13.3MB per second. Custom designed for QuickTime and Mac OS.			
miroMotion DC30 plus analogue card	£699	Pinnacle Systems	01895 424228
Handles up to 8MB per second. Includes <i>Adobe Premiere</i> .			
MyTV USB analogue card	£115	IMC	01344 871344
A cheaper option for those with an iMac or a PowerMac with USB.			

Unlike graphics cards, video cards include a socket that enables them to accept material from a source like a video recorder. The card converts the data into digital form that your Mac can display and you can edit using software.

Analogue cards feature sockets to accept material from standard recorders and video cameras. To get broadcast-quality video, look for a card capable of producing video frames of 720 x 576 pixels.

A new breed of **DV cards** enables a recording and editing process that's 100% digital. DV cards use high-speed FireWire connections to transfer data from DV cameras.

PROCESSOR UPGRADES

Name	Price	Contact	Telephone
Interex 350MHz G4 ZIF/Carrier card	£645/739	Interex UK	01923 263108
MF85, 80%: Reasonably simple to fit, and effective. ZIF version costs £645, Carrier version is £739.			
Newer MAXPowr G4/400 Daughtercard	£716	AM Micro	01392 426473
MF86, 79%: Pricy but technically sound upgrade for processor-upgradeable PCI PowerMacs. Easy to install and use.			
Newer MAXPowr G4/400 ZIF	£705	AM Micro	01392 426473
MF86, 83%: Turns a G3 into a G4. Pricy, but easy to fit and effective.			
PowerLogix PowerForce G3 300MHz	£340	Channel Dynamics	0870 607 0540
MF74, 84%: Upgrade for processor-upgradeable PCI PowerMacs with dials to set the processor's clock and motherboard speeds.			
XLR8 MACH CarrierZIF G3 400MHz	£680	Interex UK	01923 263108
MF81, 89%: A fast card that enables you to upgrade two Macs using your older processors.			

Also available

Sonnet Encore G3 500MHz	£586	Computers Unlimited	020 8358 5857
A speedy ZIF upgrade for the PowerMac G3.			

Losing out to a newer, faster Mac is the fate every Mac must face at some time; but it's easier than ever to keep up with the G4s by replacing your current processor with an upgrade. Most of Apple's PCI-slot-equipped PowerMacs also accept processor **daughtercards** designed to one format, making swapping easy.

You can upgrade older Macs and many PowerBooks, but you'll need to seek out **customised solutions** for your particular model. The **PowerMac G3** will accept a new design of **ZIF-socket** processor upgrade.

PRINTERS

See how long you can get by for without a printer: it's a crucial purchase for communicating through your Mac, even in the age of the Internet and desktop video. Modern inkjet printers can give spectacular results, with software technology enhancing the printer mechanisms to provide images that look just like photos at first glance.

Alternatives to inkjet technology include bubblejet, where the difference is slight, and more esoteric options like dye-sublimation and thermal. None of these is intended to replace the professional-level proofing a print bureau can provide, but they're a more-than-acceptable alternative for instant proofs or home and school use.

Laser printers remain the best solution for offices and other locations where colour isn't required, but crisp, legible results and dozens of printouts a day are called for.



GCC Elite 12/600

MF86, 89%
Very fast printer capable of 12 pages per minute. The Ethernet model costs £880.

Name	Price	Contact	Telephone
Canon Bubblejet BJC6100 bubblejet printer	£210	Canon	0500 246246
MF84, 89%: Astonishing text quality, even at small sizes. Banding is apparent in photos, though.			
Epson Stylus Color 760 inkjet printer	£152	Epson	0800 220546
MF84, 89%: Speedy USB printer. The output quality is almost as good as dedicated photo printers.			
Epson Stylus Color 860 inkjet printer	£203	Epson	0800 220546
MF CLASSIC MF84, 90%: Very fast with good photo quality. Good option for small workgroups.			
Epson Stylus Color 900 inkjet printer	£279	Epson	0800 220546
MF84, 89%: Speedy 1,440 x 720dpi printer, this is connectable to just about everything.			
Epson Stylus Photo 1200 inkjet printer	£340	Epson	0800 220546
MF84, 88%: A3-capable printer. Costs more because it's A3, but you do get superb photo quality.			
Epson Stylus Photo 750 inkjet printer	£196	Epson	0800 220546
MF84, 88%: There's virtually no evidence of grain in photos thanks to the 750's extra colours.			
GCC Elite 12/600 mono laser printer	£645	GCC	020 8754 6000
MF86, 89%: Very fast printer capable of 12 pages per minute. The Ethernet model costs £880.			
HP DeskJet 970Cxi USB inkjet printer	£299	Hewlett Packard	0990 474747
MF CLASSIC MF85, 90%: Not cheap, but very quiet and feature-packed. Output quality is excellent.			
HP LaserJet 2100TN laser printer	£940	Hewlett Packard	0990 474747
MF CLASSIC MF77, 94%: Network-ready high-grade laser printer with Ethernet and PostScript 2.			
OKI DP-5000 colour printer	£516	OKI	01753 819819
MF86, 85%: An unusual printer for those who do specialist work or can't afford a full dye-sub unit.			
Olympus Camedia P-330E dye-sub photo printer	£400	Olympus	0800 072 0070
MF83, 86%: A reasonably priced way to get good printed results from a digital camera.			
Samsung ML5100A laser printer	£292	Samsung	020 8391 0168
MF83, 84%: Easy to use with excellent print quality, but no colour or PostScript capability.			

Also available

Lexmark Optra E+ Mac-Ready laser printer	£417	Hewlett Packard	0990 474747
Personal-use laser printer for USB-equipped Macs; now with own Macintosh driver.			

MODEMS

The only speed of modem you can get now is 56 kilobits a second. For a while modems came in X2 and K56flex models, but now the V.90 standard is well and truly set.

Name	Price	Contact	Telephone
Global Village TelePort External 56K	£105	Global Village	0990 420422
MF84, 89%: Nice features and an easy installer raise it above other external Mac modems.			
MultiTech MultiModem USB	£116	MultiTech	01189 597774
MF84, 85%: Compact, attractive and performs well. The manual's in PDF format, though.			
Zoom FaxModem 56K USB	£79	Open Computing	0113 251 3000
MF84, 86%: Comes with FaxSTF and Ring Manager software. Noisy, but a good overall package.			

INPUT DEVICES

Your keyboard and mouse are just the beginning of the options you have for giving instructions to and entering information into your Mac. The alternatives start with replacement keyboards and mice, which may simply offer a better build quality or go further to provide extra features.

Trackballs and trackpads are mouse alternatives that make an acquired taste, but many swear by them. If you have a young child or have difficulty with the mouse yourself, the trackpad is worth considering.

The other popular input method is to use a graphics tablet, which enables you to draw with a stylus onto a prepared surface. Even the petite A6 and A5 models are surprisingly usable.



Macally iMousePro

MF80, 83%
Comfortable to use and glides along smoothly. The buttons have a nice action.

Name	Price	Contact	Telephone
AlphaSmart 2000 keyboard	£234	Chromasonic	020 8203 8989
MF70, 84%: Keyboard with built-in word-processor memory – ideal if you can't afford a PowerBook.			
Ariston Ares USB joystick	\$50	Ariston	http://www.ariston.com/
MF78, 83%: Loads of buttons, well styled and a decent price. Handling is slightly soggy, though.			
Kensington Orbit USB trackball	£40	Kensington	0800 252359
MF80, 88%: Comparatively cheap, looks good and extremely comfortable to use.			
Lindy USB Keyboard USB keyboard	£53	Lindy	01642 754000
MF82, 85%: Larger and clickier than the keyboard supplied with iMac, but feels a bit flimsy.			
Logitech USB Wheel Mouse	£25	Logitech	020 8308 6582
MF80, 88%: Has a built-in wheel so you don't have to use scroll bars to scroll down windows.			
Macally iMousePro	£35	Mac Accessory Centre	0191 296 1500
MF80, 83%: Comfortable to use and glides along smoothly. The buttons have a nice action.			
Microspeed Mac Keyboard Deluxe	£47	ComputerWare	0118 989 2777
MF80, 86%: A good solid keyboard, great if yours is on its way out or you don't like blue-and-ice.			
ThrustMaster Fusion gamepad	£20	ThrustMaster UK	01276 609955
MF77, 81%: Cheap and cheerful, but the buttons are badly positioned and you need big hands.			
Wacom Intuos Regular A4 graphics tablet	£399	Computers Unlimited	020 8358 5857
MF70, 85%: Next-generation tablet with automated pens. Other sizes available.			
XLR8 Point and Scroll USB mouse	£26	Interex UK	01923 263108
MF83, 85%: Has a very useful scroll wheel and configurable extra button.			

ADAPTORS

The Mac is making a momentous transition from traditional connection standards like serial and SCSI ports to the new USB (Universal Serial Bus) and FireWire standards, which are typically faster and easier to use. That means that many devices, from scanners and storage to printers and even replacement mice, are making the same transition.

The changeover means you've some awkward buying decisions to make: what if you can't afford a new Mac, but the device you need is only available with a USB connection? Or what if you're buying a new Mac but want to leave upgrading the rest of your set-up until later? This is where adaptors come to the rescue: they'll enable you to mix-and-match the old and the new in the vast majority of situations.

Name	Price	Contact	Telephone
Adaptec SCSI Connect 2906	£58	Adaptec	01276 854500
MF78, 82%: A good solution for the G3 owner with SCSI kit to connect. Non-bootable.			
Farallon iPrint	£109	Softline	01372 726333
MF79, 80%: Adaptor for connecting LocalTalk printers and devices to Ethernet networks and newer Macs including iMac.			
Infowave PowerPrint USB	£93	Computer 2000	01256 868008
MF77, 89%: Connects USB-equipped Macs to a huge range of parallel-port printers.			
Keyspan USB card	£76	AM Micro	01392 426473
MF CLASSIC MF73, 91%: If you want to take advantage of cheaper USB peripherals, this is the solution.			

Also available

Griffin iMate	£46	Alta	020 7622 6606
USB-to-ADB adaptor that enables you to use standard Mac keyboards and mice with iMac.			

Software Guide

Over 110 of the best programs you can buy for your Mac.

Here are over 110 of the best Mac programs on the market, based on MacFormat's own authoritative, independent product tests. If you want more information on any product, ring the contact listed or refer to our original review – if you need to order an issue you missed, turn to our back issues service on page 116.

All prices quoted include VAT – check the ads in this issue for the best current deals. The information in these listings has been thoroughly checked and is correct as we go to press, but prices and specifications can change at any time. Always make enquiries before you buy, to verify that the product you're considering will meet your needs.

MF CLASSIC We give the MacFormat Classic award only to products that set the standards for others to follow.

HYBRID CD Hybrid CD-ROMs – discs which contain the same software for both Mac and PC – are becoming increasingly common. You'll find these not only in your regular Mac outlets, but also in stores such as Dixons and Electronic Boutique, which usually only offer PC software. Look in the store's Windows or PC section for packages labelled "Mac/Windows" – and whenever you buy a hybrid disc from a store's PC section, don't forget to tell the dealer you'd like to see more Mac software in that store!

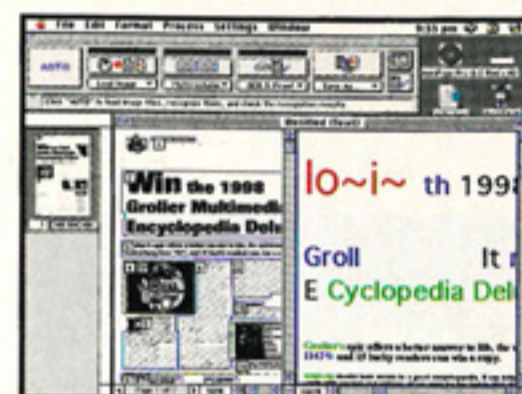
OFFICE AND PRODUCTIVITY SOFTWARE

Name	Price	Contact	Telephone
BottomLine 11	£116	Forecast	0117 950 5033
MF CLASSIC MF62, 90%: As an entry-level accounting system for a small business, it's hard to better.			
FileMaker Pro 5	£234	FileMaker Inc	01628 534100
MF CLASSIC MF85, 90%: Now has even more powerful Web features, but if you're not interested in the Net, you might want more upgrade for your money.			
Microsoft Office 98	£439	Microsoft	0345 002000
MF64, 80%: Vast professional office suite, though sluggish and complex. Needs plenty of hardware and time to learn.			
SuperOffice 4.0	£382	SuperOffice	01895 820280
MF73, 75%: Enables efficient filing of contacts and other business data. Single-user version free with MF73.			
TextBridge Pro 8.0	£70	ScanSoft	0800 035 5335
MF CLASSIC MF65, 90%: Efficient OCR package, at home with both poor-quality faxes and complex layouts.			
VoicePower Pro 3	£234	GT Value	0208 222 9700
MF83, 82%: Good-quality speech recognition at a reasonable price – but benefits greatly from a fast Mac.			

Name	Price	Contact	Telephone
4th Dimension 6.5	£243	ACI	01625 536178
MF86, 85%: A surprisingly powerful expert-level database application. The Developer edition costs £595.			

Also available

AppleWorks 5	£81	Apple	0870 600 6010
The massively popular <i>ClarisWorks</i> gets its new name – word processor, spreadsheet and more.			
HYBRID CD			
Communicator 4.7	Free	Netscape	020 8564 5100
Web browser, e-mail and Usenet, plus Web page editing software.			
FaxSTF Pro 5.0	£88	STF	http://www.stfinc.com/
Fax package now includes fax mark-up, cover page editor, custom page headers and a facility for importing archived faxes.			
Internet Explorer 4.5	Free	Microsoft	0345 002000
Web browser with <i>Outlook Express</i> e-mail program.			
Nisus Writer 5.1.3	£116	Prestige	01635 866888
Solid word processor with multi-lingual features.			



TextBridge Pro 8.0

MF65, 90%
Efficient OCR package, at home with both poor-quality faxes and complex layouts.

UTILITIES

Name	Price	Contact	Telephone
Norton Utilities 5.0	£116	Symantec	020 7616 5600
MF84, 85%: Still the best hard disk repair and data recovery package you can get for your Mac. Expensive to upgrade.			
SoftWindows 98	£116	Insignia	01429 855020
MF79, 82%: PC emulator includes complete Windows 98.			
TechTool Pro 2.1.1	£112	Softline	01372 726333
MF73, 85%: An amazing diagnostic tool covering just about every area of your Mac.			
Toast 4 Deluxe	£50	Adaptec	0800 966526
MF CLASSIC MF84, 90%: Does all things CD in one.			

Name	Price	Contact	Telephone
Also available			
Conflict Catcher 8	£81	Softline	01372 726333
Eases the drudgery of sorting out Extension clashes.			
MacLinkPlus Deluxe 11	£105	Mac Warehouse	0800 838 839
Open just about any word processor file.			
Virex 6.0	£175	Dr Solomon's	01296 318700
Small, fast virus scanner which is updated regularly but is expensive to subscribe to.			
Virtual PC 3	£147	CU	020 8358 5857
PC emulator; choice of Windows 95, 98 or DOS.			

DIGITAL VIDEO AND AUDIO

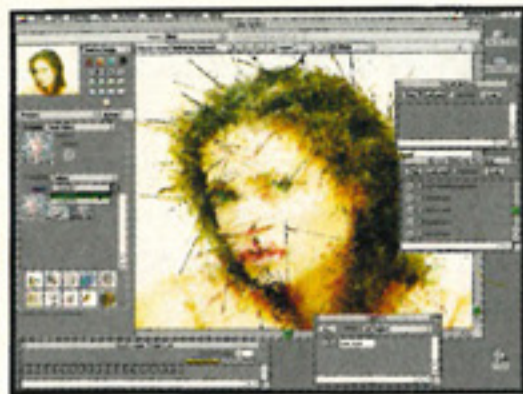
Name	Price	Contact	Telephone
After Effects 4.1	£522	Adobe	020 8606 4001
MF CLASSIC MF86, 90%: Superb for home-made special effects film-making. The Production version costs £1,204.			
Cubase VST 4.1	£329	Arbiter Pro	020 8970 1909
NEW MF CLASSIC MF87, 92%: A totally-integrated MIDI and audio music studio. VST Score costs £499; VST/24 costs £649.			
Logic Audio 4.0	£199	Sound Tech.	01462 480000
MF CLASSIC MF82, 91%: A professional-level sequencer with 34 free effects. From £199 for the Silver version.			
Media Cleaner Pro 4	£387	CU	020 8358 5857
MF CLASSIC MF86, 94%: Converts video and audio files into various sizes and formats. Incredibly powerful and useful.			
Pluggo	\$74	Cycling '74	001 415 621 5743 (US)
MF CLASSIC MF85, 90%: Plug-in capable of doing amazing stuff with guitars, drums, synth pads and even vocals.			
Premiere 5.1	£517	Adobe	020 8606 4001
MF CLASSIC MF86, 90%: With FireWire, unleashes many features previously found only on costly pro editing systems.			

Name	Price	Contact	Telephone
Reaktor	£189	Et Cetera	01706 228039
MF CLASSIC MF80, 90%: The most powerful soft synth and sampler yet released.			
ReCycle! 1.7	£199	Arbiter Pro	020 8970 1909
MF86, 84%: A superb tool for anyone who uses loops to make music.			
RotoDV	£469	CU	020 8358 5857
MF86, 80%: Sophisticated video effects and compositing program which needs a lot of RAM.			
HYBRID CD			
Sibelius	£599	Sibelius	0800 458 3111
MF CLASSIC MF81, 95%: The world's leading scorewriting package. Expensive, but you get what you pay for.			
Spark	£299	Arbiter Pro	020 8970 1909
MF84, 78%: Can be used to assemble, compile and burn audio CDs, and used as a heavier tool for audio editing.			
Strata VideoShop 4.5	£252	Gomark	020 7731 7930
MF86, 78%: Not the best interface, but has some nice features.			



Steinberg's Cubase VST 4.1

MF87, 92%
A totally-integrated MIDI and audio music studio. VST Score costs £499; VST/24 costs £649.



Studio Artist

MF87, 86%
Not ideal for beginners, but pros should be blown away by its economical power and sheer flexibility.

2D GRAPHICS SOFTWARE

Name	Price	Contact	Telephone
CorelDraw 8	£645	Channel MM	01703 871142
MF CLASSIC MF70, 92%: Graphics on an epic scale with massive suite including vector drawing, image editing and utilities.			
DeBabelizer 3	£441	CU	020 8358 5857
MF CLASSIC MF67, 90%: Intelligent conversion enabling you to batch-process hundreds of images. Sets a new standard.			
FreeHand 8	£330	CU	020 8358 5857
MF64, 88%: An excellent vector graphics program, and version 8 is superb for the growing Web design field.			
Headline Studio	£210	CU	020 8358 5857
MF79, 79%: Great for creating small animations for Web sites, especially advertising banners.			
Illustrator 8.0	£352	Adobe	020 8606 4001
MF72, 85%: Drawing package that offers a clear interface, plus tools and features you'll want to use every day.			
Painter 6	£351	CU	020 8358 5857
MF CLASSIC MF86, 93%: Combines the expressiveness of traditional media with the flexibility of working digitally.			
Photo-Paint 8	£351	Corel	0800 581028
MF CLASSIC MF74, 90%: For photo-editing without compromising on anything but price, this is your best choice. Also included with <i>CorelDraw 8</i> .			

Name	Price	Contact	Telephone
Photoshop 5.5	£528	Adobe	020 8606 4001
MF83, 89%: Has superb new tools for print designers, and is a must-have for Web designers. Includes <i>ImageReady 2.0</i> .			
Studio Artist	\$335	http://www.synthetik.com/	
NEW MF87, 86%: Not ideal for beginners, but pros should be blown away by its economical power and sheer flexibility.			

Also available

Canvas 7	£464	Guildsoft	01752 895100
Integrated page design, vector drawing, bitmap graphic editing and Web design package.			
Fireworks 3	£210	CU	020 8358 5857
Enables you to create and edit Web graphics and animations. Suited for use with <i>Dreamweaver</i> .			
Kai's Photo Soap 2	£35	ScanSoft	0800 035 5335
Digital retouching package with real-world tools gets upgrade that connects it to the Internet. New owner. HYBRID CD			
Kai's SuperGoo	£35	ScanSoft	0800 035 5335
Revamped version of <i>Kai's Power Goo</i> adds Identikit-style face-building to the fun image editor. New owner. HYBRID CD			
PhotoDeluxe	£41	Adobe	020 8606 4001
An image editor which comes with templates, sample art, and text and layout tools. Business edition costs £69.			

3D GRAPHICS SOFTWARE

Name	Price	Contact	Telephone
Amapi 3D 4.1	315	Gomark	020 7731 7930
MF80, 77%: An exceptionally powerful 3D modelling program. Has an unusual interface.			
Bryce 4	£210	CU	020 8358 5857
MF CLASSIC MF78, 92%: Create stunning landscapes and generate unique effects with this program. HYBRID CD			
Canoma 1.0	£399	CU	020 8358 5857
MF CLASSIC MF81, 91%: Take a photograph and turn it into a 3D scene. Simple and brilliant.			
Cinema 4D GO	£169	HiSoft	0500 223660
MF75, 88%: Compact, sophisticated package that produces astonishing results for the price.			
Organica	£234	POW!	01202 716726
MF71, 88%: Create 3D models quickly and easily by grouping meta balls. Requires a separate renderer for best results.			

Name	Price	Contact	Telephone
Poser 4	£210	CU	020 8358 5857
MF82, 86%: 3D modeller and renderer for creating human and animal figures.			
Ray Dream 3D	£128	CU	020 8358 5857
MF75, 85%: Cut-down version of <i>Ray Dream Studio</i> .			
Ray Dream Studio 5.5	£340	CU	020 8358 5857
MF83, 79%: Some cool new features and bundled extras, but a bit buggy. Good value if you can cope with its eccentricities.			
Strata Vision3d 5.0	£212	Gomark	020 7731 7930
MF75, 75%: This powerful package includes advanced features like high-quality raytrace rendering and animation.			

Also available

Strata StudioPro 2.5	£607	Gomark	020 7731 7930
Professional-level package capable of amazing results.			



Corel Print House 2000

MF87, 80%
A powerful and versatile DTP tool with its own image editor and Web publishing tools thrown in. Great value.

PUBLISHING SOFTWARE FOR PRINT

Name	Price	Contact	Telephone
Corel Print House 2000	£82	Corel	0800 581028
NEW MF87, 80%: A powerful and versatile DTP tool with its own image editor and Web publishing tools thrown in. Great value.			
InDesign	£469	Adobe	020 8606 4001
MF CLASSIC MF83, 91%: Great for layout, less so for longer, structured documents.			
PressReady	£105	Adobe	020 8606 4001
NEW MF87, 82%: An excellent PostScript RIP for some inkjets.			

Name	Price	Contact	Telephone
QuarkXPress 4.0	£1,169	CU	020 8358 5857
MF CLASSIC MF61, 95%: The market leader in publishing: powerful, flexible and with more functionality than ever.			

Also available

PageMaker 6.5 Plus	£351	Adobe	020 8606 4001
DTP heavy-hitter re-aligned for business market, with loads of templates, clip art and other can-do content.			

PUBLISHING SOFTWARE FOR DIGITAL MEDIA

Name	Price	Contact	Telephone
Director 7 Studio	£1,304	CU	020 8358 5857
MF CLASSIC MF77, 92%: A must-have if you already use <i>Director</i> , but might be confusing for beginners.			
Flash 4	£304	CU	020 8358 5857
MF CLASSIC MF81, 90%: Create multimedia material to embed within Web pages. Intuitive and fast to use.			
Freeway 2.0	£199	SoftPress	0800 731 3425
MF78, 82%: Revamped HTML editor for publishing pro's used to <i>QuarkXPress</i> -style tools.			
GoClick 3.0.1	£99	TerryMorse	001 650 858 1017
MF84, 80%: Enables you to produce Web pages by converting text or DTP documents. Clever, but pricey.			
GoLive 4.0	£210	Adobe	020 8606 4001
MF CLASSIC MF77, 90%: The most intuitive professional Web authoring solution currently available for the Mac.			
ImageStyler	£100	Adobe	0131 458 6842
MF CLASSIC MF73, 92%: Takes the slavery out of mundane Web design tasks.			

Name	Price	Contact	Telephone
PageMill 3.0	£89	Adobe	020 8606 4001
MF78, 85%: An easy-to-use program with a good selection of Web page authoring tools.			
PhotoVista	£40	LivePicture	http://www.livepicture.com/
MF70, 83%: A fun tool for making basic panoramic picture files based on the QuickTime VR system.			
Web Page Construction Kit	£50	MediaGold	020 7372 9765
MF82, 89%: A budget program aimed at beginners.			

Also available

Acrobat 4	£175	Adobe	020 8606 4001
Upgrade for the PDF construction kit.			
BBEdit 5	\$119	Bare Bones	00 1 781 687 0700
Upgrade for the pro Web designer's favourite tool.			
Dreamweaver 3	£351	CU	020 8358 5857
All-in-one solution for pro Web designers.			

EDUCATION AND KIDS' SOFTWARE

Name	Price	Contact	Telephone
Babe and Friends	£25	TDK (Gauntlet)	01908 575600
NEW MF CLASSIC MF87, 90%: All the charm of Babe plus lots of practical yet entertaining activities.			HYBRID CD
Disney's Magic Artist Studio	£30	Disney Interactive	020 8222 1571
NEW MF CLASSIC MF87, 95%: Unbeatable colouring fun with many of Disney's best-loved characters.			HYBRID CD
Kid Pix Studio Deluxe	£30	Mattel	01664 481563
		Interactive	
NEW MF87, 85%: A great set of creative tools brought together with much imagination and ingenuity.			HYBRID CD
Masters of the Elements	£20	Tivola	020 8233 2860
MF CLASSIC MF82, 90%: Genuine interaction turns children from viewers into participants in scientific experiments.			
Music Ace 2	£37	Guildsoft	01752 895100
MF84, 90%: More advanced music tuition package building on the basic lessons of <i>Music Ace</i> .			
Putt-Putt Travels Through Time	£20	Humongous Entertainment	020 8222 9700
MF CLASSIC MF86, 90%: Top learning fun with a cute purple car for kids between the ages of two and six.			HYBRID CD

Name	Price	Contact	Telephone
Spy Fox in "Dry Cereal"	£20	Humongous Entertainment	020 8222 9700
MF CLASSIC MF86, 90%: A colourful adventure with plenty of puzzles, wisecracks and great gadgets.			HYBRID CD
Star Wars: Droidworks	£30	Ubisoft	020 8944 9000
MF CLASSIC MF79, 95%: Build droids for the rebels and learn the science to make your creations succeed.			HYBRID CD
Star Wars: The Gungan Frontier	£30	Ubisoft	020 8944 9000
MF CLASSIC MF79, 92%: All the strategy coaching of a god game, with eco-system learning thrown in.			HYBRID CD
The Land Before Time	£25	TDK (Gauntlet)	01908 575600
NEW MF CLASSIC MF87, 95%: A marvellous dinosaur-packed set of activities. Beautifully presented.			HYBRID CD
Timmy's Travel House	£20	Iona Software	020 8296 9454
MF85, 88%: An imaginative and well-crafted title, adding a cross-cultural element to solid literacy and numeracy teaching.			
Zoombinis	£20	TLC	01293 651300
Maths Journey			
MF CLASSIC MF83, 92%: The <i>Logical Journey</i> gets re-released. The most addictive maths fun you'll find.			HYBRID CD



Disney's Magic Artist Studio

MF87, 95%
Unbeatable colouring fun with many of Disney's best-loved characters.

REFERENCE AND MULTIMEDIA SOFTWARE

Name	Price	Contact	Telephone
Ceremony of Innocence	£25	Real World	01225 743188
MF CLASSIC MF72, 92%: A bizarre and beautiful love story told through a series of interactive postcards.			
Compton's Atlas of the Ancient World	£30	Mattel Interactive	01664 481563
MF86, 78%: A memory-hungry but entertaining source of history, with music, video and bodies to dig up.			HYBRID CD
Encyclopaedia Britannica 1999	£99	Britannica	020 8770 7766
MF74, 83%: Vast, detailed content in this mammoth project that's more suited for academic work than family reference.			
Grolier Multimedia Encyclopedia 1999	£50	Grolier	01865 264800
MF CLASSIC MF74, 90%: Double-CD guide to everything with added multimedia.			
The New Way Things Work	£40	Dorling Kindersley	0870 010 0350
MF CLASSIC MF73, 95%: New version of the CD-ROM updated to include such items as mobile phones.			HYBRID CD

Name	Price	Contact	Telephone
One Hundred Treasures	£15	British Library Publishing	020 7412 7735
MF79, 82%: Take a closer look at gems from the British Library's collection. Elegant and strong on content.			
Paris: Promenades and History	£30	Computer Manuals	0121 706 6000
MF CLASSIC MF75, 91%: A comprehensive and grown-up guide to the city on the Seine.			
Practical Food & Cookery Encyclopedia	£40	Anglia	0500 600191
MF72, 87%: Takes you through a gourmet jungle with lots of recipes to try out.			
RedShift 3	£30	Dorling Kindersley	0870 010 0350
MF CLASSIC MF73, 95%: A well-researched, superbly produced piece of astronomy software.			
Route Britain 99	£30	Softline	01372 726333
MF CLASSIC MF80, 90%: Fantastic if you travel round the country on a regular basis. Has clearly defined map graphics and an automatically generated list of directions.			



Paris: Promenades and History

MF75, 91%
A comprehensive and grown-up guide to the city on the Seine.

GAMES

Name	Price	Contact	Telephone
Age of Empires	£40	http://www.gtvalue.com/	
MF CLASSIC MF82, 90%: Diverse gameplay and detailed scenarios make for an addictive real-time strategy action game.			
Bugdom	£33	MacGold	01723 582100
MF CLASSIC MF81, 96%: Excellent Mac-only third-person platformer with fabulous graphics.			
Caesar III	£40	Havas	0118 920 9100
MF82, 89%: Very complex and involving Roman city-building sim. Needs a few more options on each level for longevity.			
Championship Manager 99/00	£35	Softline	01372 726333
MF CLASSIC MF86, 92%: Impossibly complex but utterly compelling football management sim.			
Deathground	\$33	Freeverse	info@freeverse.com
MF85, 82%: A colourful and exciting update of the classic strategy game <i>Risk</i> , which will eat up many an evening.			
Descent 3	£35	Softline	01372 726333
NEW MF87, 87%: A careful balance of the original dizzying <i>Descent</i> and the values of today's best games.			
Duke Nukem 3D	£15	http://www.gtvalue.com/	
MF CLASSIC MF76, 95%: One of the best first-person shooters on the Mac gets a budget-priced relaunch.			
Fly!	£40	MacGold	01723 582100
MF84, 89%: You'll need a powerful Mac to play it, but this flight sim gives a great feel for the thrill of light aviation.			
Pro Pinball: Big Race USA	£30	Empire Interactive	0800 783 0156
MF79, 87%: Quite simply the best pinball sim yet.			

Name	Price	Contact	Telephone
Quake II	£40	Softline	01372 726333
MF83, 85%: A classic, but its graphics can't compete with the likes of <i>Unreal</i> . Good design and excellent gameplay, though.			
Railroad Tycoon 2	£35	Take 2	01753 854444
MF CLASSIC MF80, 90%: A compulsive strategy romp around the world of the railway. Great graphics and huge scope.			
Rainbow Six	£40	http://www.gtvalue.com/	
MF86, 85%: Painstaking preparations are needed to fight terrorists in this strategy-action game of the Tom Clancy novel.			
SimCity 3000	£35	Electronic Arts	01753 546465
MF CLASSIC MF84, 90%: A welcome revamp of a classic game that will keep you playing well into the night.			
Star Wars Pit Droids	£25	Ubisoft	020 8944 9000
NEW MF CLASSIC MF87, 91%: A challenging, educational puzzle game with beautifully detailed graphics.			HYBRID CD
Starship Titanic	£30	Zablac	01626 332233
MF CLASSIC MF79, 91%: An adventure that'll tantalise and torment you in equal measure.			
Tomb Raider III	£40	Softline	01372 726333
MF CLASSIC MF85, 90%: An enthralling game with brilliantly designed levels and varied gameplay, spoiled only by a slightly clumsy control system. Great value, good longevity. <i>TR Gold</i> and <i>TRII</i> cost £35 and £45 respectively, also from Softline.			
Total Annihilation Gold	£40	http://www.gtvalue.com/	
MF CLASSIC MF85, 94%: <i>Total Annihilation</i> plus two expansion packs - a fantastic strategy game at a great price.			
Traitors Gate	£35	Zablac	01626 332233
MF83, 80%: <i>Riven</i> -type puzzle game. Steal the Crown Jewels before someone else does.			



Star Wars Pit Droids

MF87, 91%
A challenging, educational puzzle game with beautifully detailed graphics.

Plug-In Guide

Add-ons to extend your favourite graphics programs' abilities.

For many designers and artists, the duo of image editor *Photoshop* and page-layout program *QuarkXPress* is the bedrock of their Mac-based work. Both packages have come to dominate their respective fields to the point where their names are synonymous with computer-based graphic design.

But the evolving demands of graphic design mean that sometimes even these programs' features aren't enough, and customers demand further tools to get the job done better or with greater efficiency.

Adobe and Quark have each developed an answer to this challenge by designing their respective programs to accept extra tools. These tools are generically referred to as plug-

ins, after the way they seem to slot seamlessly into the host software, appearing as part of the existing menu command structure. The success of both *Photoshop* plug-ins and *QuarkXTensions* has enabled a healthy variety of firms devoted to publishing plug-in software to grow.

Every add-on you install will demand extra RAM on top of what the host program is using whenever you run it, so it's best to invest in extra memory to get the best out of these plug-in applications.

Photoshop plug-ins

To install any *Photoshop* plug-in, simply drag the file into the Plug-Ins folder that you should find within your *Photoshop*

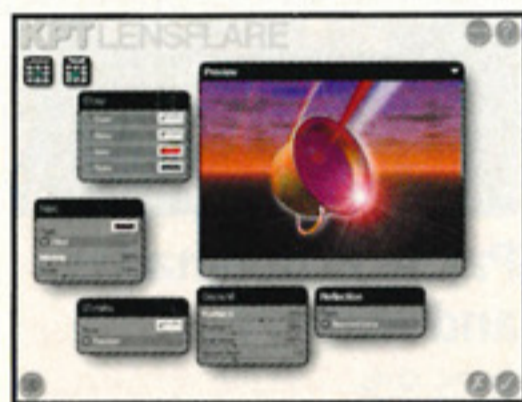
PHOTOSHOP PLUG-INS

Name	Price	Contact	Telephone
Andromeda Cutline	£81	XChange	020 7588 5588
Replaces grey tones in an image with lines and dots to make a photo or an illustration look like an engraving.			
Andromeda Series 1	£81	XChange	020 7588 5588
Collection of effects filters for photography, including diffract, prism, rainbow and reflection.			
Andromeda Series 2	£81	XChange	020 7588 5588
Collection of 3D effects filters, including surface wrapping, shading and scene building.			
Andromeda Series 3	£93	XChange	020 7588 5588
Collection to help you work with monochrome images, including mezzotints, line patterns and straight-line screens.			
Andromeda Series 4	£81	XChange	020 7588 5588
<i>Techtures</i> provides over 900 tile designs you can modify using effects like blending and texturing.			
Andromeda Shadow	£93	XChange	020 7588 5588
Create drop-shadows; controls include perspective, multiple light sources and altering the shadow's plane. Also available as part of <i>Andromeda Bundle</i> along with <i>Andromeda series 1-4</i> .			
Chromatica	£129	Softline	01372 726333
Two plug-ins: <i>ChromaColor</i> enables you to select colour ranges, change the colour within them and place an object back in your image; <i>ColorPalette</i> helps you rework one image with the colours from another.			
FotoPage 1.3	£14	VBase	01248 671621
Enables you to create on-screen 24-bit contact sheets more quickly than you could in <i>Photoshop</i> alone. For <i>Photoshop 3.0.5</i> and higher, the new <i>Photoshop LE</i> , <i>PhotoDeluxe</i> and <i>ImageReady</i> .			
FotoPage Pre-press	£73	VBase	01248 671621
Contact sheet maker designed for CMYK, RGB and greyscale colour proofing. Includes <i>FotoPage 1.3</i> and <i>FotoPage Pro</i> .			
FotoPage Pro	£51	VBase	01248 671621
<i>FotoPage</i> for people using and printing out large numbers of images every day. Includes <i>FotoPage 1.3</i> .			
HexWare	£269	Pantone	01303 269666
Two plug-ins: <i>HexVector</i> (for <i>Illustrator</i>) and <i>HexImage</i> , which enables you to make six-colour Hexachrome separations from <i>Photoshop</i> documents.			
IntelliHance 4.0	£153	CU	020 8358 5857
Automatic enhancement of contrast, brightness, saturation and other key aspects of your image; fine-tuning controls.			
Kai's Power Tools 5	£129	CU	020 8358 5857
Collection of effects filters with powerful selection of tools; <i>ShapeShifter</i> adds 3D effects like bevels to objects, while <i>Fiber-Optix</i> attaches fibre-like extensions to shapes.			
Kai's Power Tools 6	£116	Digital Toolbox	020 8896 5600
Not a replacement for <i>KPT 5</i> but ten additional filters, including <i>Goo</i> , <i>Gel</i> , <i>SceneBuilder</i> and <i>SkyEffects</i> .			
Lens Flare Pro	£93	BIT UK	01420 83811
A tool for creating lighting effects such as sun flares, light bursts and explosions, plus lens flares, of course. It comes with 40 preset effects and controls so you can tweak these or create your own.			
Magic Mask	£129	Softline	01372 726333
Create precise masks around objects; pick out particular colours; work with objects of varying density, such as hair.			

Name	Price	Contact	Telephone
Mask Pro 2.0	£153	CU	020 8358 5857
Simple object masking: the program's Magic Brush enables you to paint over the object you want a mask around, with <i>Mask Pro</i> creating the clipping path automatically.			
OttoPaths	£105	Digital Toolbox	020 8896 5600
Vector drawing tools within <i>Photoshop</i> ; create paths for text or shapes; generate new layers automatically.			
Paint Alchemy 2	£116	Digital Toolbox	020 8896 5600
Painterly effects: 75 styles and 36 brush types, including coloured pencil, pastel and Impressionist.			
PhotoFrame 2.0	£153	CU	020 8358 5857
Custom-designed frames for use in montage images: choose level of opacity, blur and more. Two separate £116 collections: <i>Volume 1</i> offers frames with a hand-made feel, while <i>Volume 2</i> provides frames with a computer-generated feel.			
Photo/Graphic Edges	£187	XChange	020 7588 5588
10,000+ Enables you to apply over 10,000 edge effects to an image.			
PhotoGraphics 1.0	£117	CU	020 8358 5857
Vector drawing tools within the bitmap editor <i>Photoshop</i> ; familiar drawing tools like line, pen, polygon and starburst.			
PhotoSpray 2.0	£65	Digital Toolbox	020 8896 5600
Spray images onto other images or layers: precise controls include adjustable shadows, opacity and perspective.			
PhotoTools 3.0	£117	CU	020 8358 5857
Designer-oriented collection featuring six plug-ins: create shadows, format text, add embossing, glows or bevels and build buttons for Web or multimedia projects.			
Segmentation	£105	Digital Toolbox	020 8896 5600
Enables you to posterise any image. You can specify the number of colours to split an image into and then edit each colour at will.			
Squizz 3.0	£116	Digital Toolbox	020 8896 5600
Twist and distort images in more than 30 different ways; the Squizz Brush enables you to paint over images to distort areas.			
Terrazzo 2	£116	Digital Toolbox	020 8896 5600
Symmetrical patterns based on tiles: precise control over feathering of tile edges and instant preview.			
Test Strip	£128	Digital Toolbox	020 8896 5600
Ensure accurate colour printing by setting up digital test strips with different colour variations.			
TypeCaster	£116	Digital Toolbox	020 8896 5600
3D text effects, including lighting, textures, bevels and more.			
Xenofex	£100	XChange	020 7588 5588
Collection of 16 filters, divided into groups dealing with natural effects like clouds and lightning and distortion filters.			
3D Invigorator	£175	XChange	020 7588 5588
Enables you to add 3D elements to your work.			

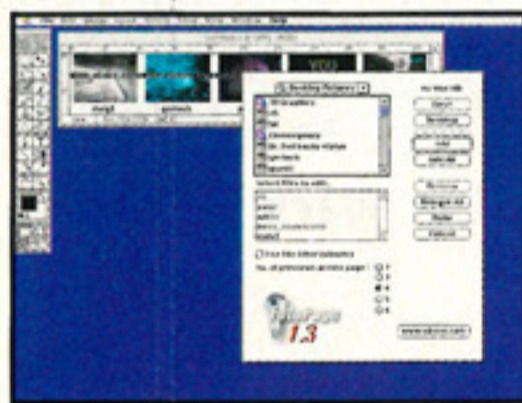
Collections

Andromeda Bundle	£464	XChange	020 7588 5588
Contains <i>Andromeda Series 1-4</i> plus <i>Andromeda Shadow</i> .			
HS Design Collection	£175	Digital Toolbox	020 8896 5600
Contains <i>OttoPaths</i> , <i>Squizz</i> and <i>Textissimo</i> .			
Kai's Power Tools Bundle	£187	Digital Toolbox	020 8896 5600
Contains <i>KPT 5</i> and <i>KPT 6</i> .			
Total Xaos	£187	Digital Toolbox	020 8896 5600
Contains <i>Paint Alchemy</i> , <i>Terrazzo</i> and <i>TypeCaster</i> .			



KPT 6

for *Photoshop*
Not a replacement for *KPT 5* but ten additional filters, including *Goo*, *Gel*, *SceneBuilder* and *SkyEffects*.



FotoPage 1.3

for *Photoshop*
Create on-screen 24-bit contact sheets more quickly than you could in *Photoshop* alone. For *Photoshop 3.0.5* and higher, the new *Photoshop LE*, *PhotoDeluxe* and *ImageReady*.



folder. The plug-in should then be active the next time you run *Photoshop*.

Most current plug-ins are designed to work with *Photoshop 3.0* or later; always check with your dealer whether a plug-in is compatible with your version before you buy.

Because of the popularity of plug-ins, other software publishers have also embraced the system, which means that their programs can also accept most *Photoshop* plug-ins too. The list includes MetaCreations' *Painter*, Micro-Frontier's *Color It* and Adobe's own *Premiere*.

QuarkXTensions

To install any QuarkXTension, simply drag the file into the

XTension folder that you should find within your QuarkXPress folder. The plug-in should then be active the next time you run *QuarkXPress*.

Most current XTensions have now been updated to work with *QuarkXPress 4*, and most of the ones that haven't been updated now come with patches so you can update them if you are running *QuarkXPress 4*.

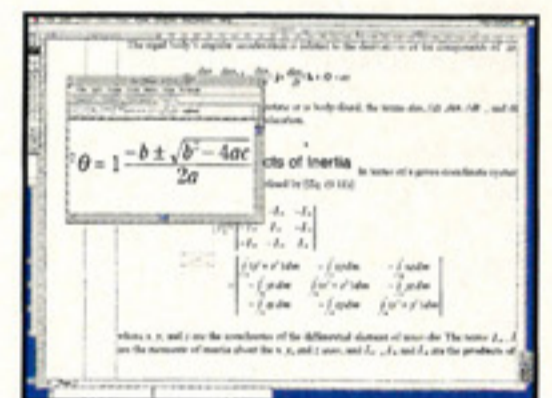
Quark has built a software emulator into *XPress 4* to handle XTensions made for earlier versions. Because it's an emulator, you may actually find that some of your favourite XTensions don't work as quickly under version 4 as they did under version 3.3; but post-version-4 XTension releases will not suffer from this problem.

QUARKXTENSIONS FOR QUARKXPRESS

Name	Price	Contact	Telephone
AutoMask	£93	XChange	020 7588 5588
Masking tool, with control over image aspects like colour and density to create accurate masks.			
BeyondPress 4.0	£235	CU	020 8358 5857
Convert your <i>QuarkXPress</i> pages into HTML code for publishing on the World Wide Web: includes settings to retain as much of existing formatting and styles as possible. Supports multimedia technologies like QuickTime, Java and Shockwave.			
BlackLining 2.0	£410	XChange	020 7588 5588
Provides an audit trail of editorial changes made to documents. Features include 98 modification levels, sidebar markings and PostScript output.			
Challenger XT 2.0	£351	XChange	020 7588 5588
Advanced Web conversion tool for turning <i>XPress</i> pages into the new Dynamic HTML code, which includes interactive features. Preserves styling and positioning from original <i>XPress</i> pages.			
EditCheck	£229	XChange	020 7588 5588
Text-editing environment with <i>QuarkXPress</i> . Attach a floating text palette to any <i>XPress</i> text box; the palette provides advanced editing tools including word count and updates the text box content automatically.			
HexWeb XT	£410	XChange	020 7588 5588
Convert your <i>XPress</i> pages into Web pages automatically. <i>HexWeb</i> analyses text styles and makes conversions itself, and can even create a structure for the Web site.			
ImagePort	£93	XChange	020 7588 5588
Enables you to import native <i>Photoshop</i> files without sacrificing the convenience of <i>Photoshop</i> layers, channels and paths.			
Imposer 2	£159	XChange	020 7588 5588
Automatically set out <i>XPress</i> documents ready for your printing firm, with control over page trim, bleed and more.			
MarkIt	£117	XChange	020 7588 5588
Alternative to <i>XPress</i> 's own registration and crop-marking preferences. Style-sheet-based system enables you to tightly control how registration marks appear.			
MarkzTools III	£140	XChange	020 7588 5588
Open documents made in later versions of <i>XPress</i> , repair damaged documents and fix preference conflicts.			
MathMagic	£645	XChange	020 7588 5588
Provides an interface for writing and editing mathematical expressions within documents. Supports import/export of TeX, the professional mathematical expressions mark-up language.			
Medley	£117	XChange	020 7588 5588
Create composite images within <i>QuarkXPress</i> .			
PreFlight Pro 2.1	£305	CU	020 8358 5857
Automatically checks documents for errors before you send them away for printing. Checks fonts, embedded images, colour accuracy and more, providing you with feedback.			

Name	Price	Contact	Telephone
Punch XT	£93	XChange	020 7588 5588
Create outline or drop-shadow text styles within <i>XPress</i> , with full control over stroke width, colour, shade and more.			
QX-Effects 3.0	£106	CU	020 8358 5857
Create drop-shadows, bevels, glows and embossing within <i>QuarkXPress</i> . Control effects accurately and burn them into underlying images.			
QX-Tools 4.0	£117	CU	020 8358 5857
Eight XTensions, including tools for using layers, creating special effects, searching and replacing, and scaling objects. The <i>QX SmartBar</i> gives you instant access to <i>QX</i> features.			
ShadowCaster	£93	XChange	020 7588 5588
Create soft drop-shadows on text and images within <i>QuarkXPress</i> . Burn your shadows so they blend into other underlying images; create shadows on bitmap images or vector drawings.			
Text Grabber	£105	XChange	020 7588 5588
Select a range of text across columns.			
Textissimo	£93	XChange	020 7588 5588
More than 400 effects to use on PostScript Type 1 or TrueType fonts within <i>QuarkXPress</i> , including drop-shadows and bevels.			
Xdata	£293	XChange	020 7588 5588
Format lists from databases and spreadsheets automatically.			
Xdream	£105	XChange	020 7588 5588
Multi-purpose XTension: create grids on the page; sort paragraphs into alphabetical order; count words; fit pictures tightly into graphic boxes; magnify documents up to 1,000%; locate obscure characters; and much more.			
XPert Tools Volume 1	£93	XChange	020 7588 5588
15 XTensions for tasks including scaling objects, using layers within <i>XPress</i> , colour management and using custom display modes, with a maximum magnification of 1,200%.			
XPert Tools Volume 2	£93	XChange	020 7588 5588
15 XTensions for tasks including using character-based style sheets, navigating around large documents, using floating rulers and working with text scaling and baseline shift.			
XPressImage	£116	XChange	020 7588 5588
Automates the conversion of documents, pages, spreads or selections into various graphic formats at any size or resolution.			
Collections			
XPert Tools 1/Imposer	£175	XChange	020 7588 5588
Includes exactly what it says in the title.			

Next Our next Plug-In Guide is in MF91. Next issue: Creative Guide for stock photos, clip art and fonts.



MathMagic

for *QuarkXPress*
Provides an interface for writing and editing mathematical expressions within documents. Supports import/export of TeX, the professional mathematical expressions mark-up language.



Xdream

for *QuarkXPress*
Multi-purpose XTension: create grids on the page; sort paragraphs into alphabetical order; count words; fit pictures tightly into graphic boxes; magnify documents up to 1,000% and locate obscure characters.

Mf Free Reader Ads

Hardware for sale

☑ **PowerBook G3**, 233MHz, 64MB RAM, 12.1-inch screen, Mac OS 8.5, 56K modem, CD and floppy disk bays, full manuals, cables, excellent condition, with case - £1,100 or offers. ☎ 01785 81117 or 0411 090677

☑ **PowerMac 7200/90**, 32MB/1GB, monitor, keyboard, mouse, LaserWriter 4/600ps, scanner, 88MB SyQuest, 1.3GB optical, excellent condition - £625 ovno. ☎ 01708 456947 or 0976 625623 or e-mail rt-uk@hotmail.com

☑ **Performa 475**, 8/250MB, keyboard, mouse, *ClarisWorks 3.0*, Performa plus 14-inch colour monitor, colour StyleWriter Pro printer, hardly used - £300 ono; PowerBook 190, 12MB RAM, 500MB HD, *ClarisWorks 3.0*, carry case, charger, as new, all manuals, system fully backed up - £225 ono. Dylan, Manchester ☎ 0161 257 0322

☑ **Performa 630**, 28/2GB, 8x CD-ROM, DOS card (16MB), Windows 95, 15-inch monitor, modem, Internet-ready, System 7.5.5, Epson 500 printer, 720dpi, manuals, software, keyboard, mouse, complete. One user, very good condition - £350. Brian, Birmingham ☎ 0121 458 2946

☑ **Performa 5200**, all-in-one, 40/800, Mac OS 8.5, Epson Stylus 600 printer, 33.6 modem, software, manuals, games - £370 ono. John ☎ 01274 488583 or 07930 484039

☑ **Performa 200**, 48MB RAM, 6.3GB HD, 15-inch monitor, scanner, printer, 56K modem, all standard software and manuals, Mac OS 8 - £500 ono. ☎ 0181 859 4781

☑ **Performa 6200**, 40MB RAM, graphics card, 4MB video card, 15-inch Apple monitor, scanner, HP printer, 33K Global Village modem, pre-installed software, Mac OS 8, *Claris 5*, *MYOB*, *Photoshop 4* -

The best place to pick up pre-loved Macs and Macintosh kit, and the perfect place to sell something you no longer need.

£400. Franco ☎ 0171 603 7677

☑ **Performa 6300/100**, CD-ROM, 16MB RAM, 525MB HD, Mac OS 7.5.1, 14-inch Apple monitor, keyboard, mouse - £200; Performa 630 mainboard, working - £60. ☎ 01772 423653

☑ **iMac**, 233MHz, 96MB, 4GB, Zip drive, Bondi-blue, boxed, mint condition - £599 ono. David, London ☎ 0181 459 4152

☑ **Performa 475**, 8MB RAM, System 7.1, without monitor - £280; Performa 630, System 7.6.1, 36MB RAM, 14-inch monitor - £540; Printers: GCC/PLP LaserWriter - £180; GCC/PLP Elite - £220. Alan ☎ 01206 728089

☑ **PowerMac 7200/90**, 16MB RAM, 500MB HD, Apple 17-inch multiscan display, Interex extended keyboard, Apple Colour StyleWriter 2400, Proscan colour scanner - £500 ono. Neil ☎ 0181 523 5105

☑ **Zip drive**, USB, PowerBook G3, bronze, 64MB RAM, Smartmedia floppy adaptor, Mac/PC, Performa 5400/180, 16MB RAM, SyQuest EZ135, plus disks - offers? ☎ 0976 431130 or 0171 226 2121

☑ **LC475**, 36/80, keyboard, monitor, CD-ROM, *ClarisWorks*, Epson Stylus colour 600 printer, all disks and manuals - £200. Harry, Lancs ☎ 01706 220745

☑ **LCII**, excellent condition, 8MB RAM, 80MB HD, 14-inch Apple Trinitron monitor, keyboard, mouse, System 7.5.5 - £75 ono. W Lothian ☎ 01506 845787 or e-mail dave@reckoning.demon.co.uk

☑ **PowerBook 1400c**, 166MHz, 40MB RAM, 1GB HD, 56K PCMCIA modem, extra power supply, *Claris 5.0*, *FileMaker 3.0* - £775 ono; PowerMac 7100/66 AV,

15-inch monitor, modem - £350 ono. ☎ 0171 580 1553 or 07867 725120

☑ **PowerBook 1400c/117 MHz**, 32MB/1GB, Active Matrix screen, disk drive, CD-ROM, StyleWriter 2200 printer, £500 worth of ink tanks, modem, monitor, expansion card, Ethernet PC Card, carry case - £700. Kevin ☎ 01926 428689

☑ **Performa 450**, Hewlett Packard DeskWriter printer, colour monitor, mouse, keyboard, all disks, cables, manuals, etc - £225 ono. ☎ 01243 778883 (eves), 0411 338794 (daytime)

☑ **Motorola Starmax 3000/200**, 603ev, 200MHz, 64MB RAM, 1.2GB HD, 8x CD-ROM, Ethernet, Voodoo card, 15-inch Apple multiscan monitor - highest bidder over £300. Antony ☎ 01276 506265 or e-mail antonyhart@hotmail.com

☑ **PowerMac 4400/160**, 96MB RAM, 512K, L2 case, 2MB VRAM, 1.2GB HD, Formac Lightning 40, 4MB VRAM graphics card, all inc. software and manuals, System 7.5.1 - £470 ono. Trevor ☎ 0376 303879

☑ **Epson Stylus 600 printer** - £70; Canon 35mm film scanner 2700F - £150. Both boxed with software and manuals, very good condition. Peter ☎ 01531 631931

☑ **Performa 5200**, 75MHz, 32MB RAM, 2.6GB HD, Mac OS 8.5.1, HP DeskWriter colour printer, *ClarisWorks 5*, *MS Office*, Gravis joystick - absolute bargain at only £299. Philip ☎ 01829 782559

☑ **Performa 475**, 20MB, CD-ROM, Mac OS 7.6, modem, *Claris Office 5*, manuals - £250; Performa 475, 12MB, CD-ROM, Mac OS 7.6, modem, *Claris Office 5*,

manuals - £200. ☎ 01764 670766

☑ **Quadra 650**, 16/500, 15-inch colour monitor, keyboard, mouse, Epson Stylus 500 printer, *Adobe PageMaker*, *Adobe Illustrator*, both boxed - £300 the lot. Richard ☎ 01225 865082 or e-mail rich@bikeshop.uk.com

☑ **PowerBook 1400**, 60MB, CD, floppy, Ethernet card, 33Kbps modem card, additional video card to support extra monitor, *Photoshop 5.0*, *Dreamweaver 2* - £750. <http://www.english-to-go.com/n/powerbook> or Manchester ☎ 07957 815525

☑ **G3 233**, beige, 192MB RAM, modem, Umax scanner, Epson 800 printer, Zip (100MB), graphics tablet (A6), mouse, keyboard - £14; 32MB RAM for G3 (beige), not used, in the box - £20. John, Glos ☎ 01453 521921

☑ **PowerMac 7100/66**, 88MB RAM, 14-inch Apple monitor, keyboard, mouse, LaCie CD-ROM - £400. Ralph ☎ 0771 2280845

☑ **Memory**: four 8MB, 72-pin SIMMs. Two new, unopened - £9 each; two used - £6 each. ☎ 01274 771349

☑ **Olympus 230 Magneto Optical Drive** with 21 discs - £150. Leeds ☎ 0113 274 3909

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Performa 6200, 24MB RAM, 500MB HD, TV card, 14-inch stereo monitor, StyleWriter 2, software, boxed, manuals, keyboard, mouse – £300 ono. ☎ 01634 966 9214 or e-mail paul.brownie@virgin.net
SyQuest drive, and six 44MB cartridges in standard half-height casing – £200; video card from LCI for a 21-inch mono screen, NuBus Formac brand – £20; MacPicasso PCI videocard, 8MB, gives 24-bit on 17-inch screen, 1,024 x 768, has two sizes of plug – £50; Apple NuBus AV video card, suitable for video cameras or just second screen, 24-bit on 17-inch monitor – £50; Internal 28/800 Apple 600 part modem, never used – £50. Sevenoaks ☎ 01959 561774
G3/233MHz, 96MB/4GB, 17-inch Mitsubishi monitor, Epson 700 printer, Epson GT 7000 scanner, Yamaha CD rewriter, Pace 56K modem, Yamaha speakers, mouse, keyboard, graphics software bundle – £2,000 ono. Paul ☎ 01752 367536 or e-mail paul.mason12@virgin.net
Mouse, USB, ex-Bondi-blue iMac, one year old – £10 inc. p&p (UK). e-mail the_tim@medscape.com
Performa 6200, 48MB RAM, Apple colour monitor, TV/tuner, 4x CD-ROM, colour StyleWriter 2400, keyboard, mouse, Pace 56K modem, Mac OS 8.5, bundled software, *ClarisWorks* etc. Complete with workstation – £600. Dorset ☎ 01747 811996
Apple Centris 650, 32/1.2GB, CD-ROM, modem, Videospigot card, Apple monitor, keyboard, mouse, boxed, as new – £250 ono. ☎ 0113 275 9715

PowerMac 9500/200, 64MB/2GB, Pace 56K modem, StyleWriter 2500 – £950 ono; MotoDV FireWire editing card, *Premiere* compatible, boxed, as new – £275; G4 wanted. ☎ 07887 840094
Fargo Primera Pro dye-sub and wax thermal printer, ideal for proofing, also does photo mugs etc – best offer secures. ☎ 01224 582636
HP 510 printer, excellent condition, with Mac software and power supply – £50. Ken ☎ 01767 316294
Quadra 840AV, 48MB/500 VRAM, Quadra 960, 50/1GB, PowerPC, microVideo and normal extras – £400 the pair. Swap or sell separately. Chris, Stratford, Warwickshire ☎ 0378 021612
LC475, 32/160, CD-ROM, 560C printer, 14-inch monitor, 14K modem, Freeserve installed, stereo speakers, manuals, disks – £250. Northern Ireland ☎ 02893 373699
Performa 630, 36/500, Mac OS 8.1, Apple multiscan 14-inch monitor, keyboard, mouse, colour StyleWriter 1500, Pace 56K voice Mac modem, software – £300. Bristol ☎ 07976 919927 (daytime)
Performa 6400/200, 136MB/2.4GB, Mac OS 8.5.1, keyboard, mouse, software, manuals, Apple 15-inch AV monitor, Pace 56K voice Mac modem – £450. Surrey ☎ 0181 715 29600 (eves)
PowerMac 6400/200, 56MB/2.4GB, keyboard, mouse, Mac OS 8.6, original manuals and receipt, many extras – £385; External modem 33.6 – £35. Oxford ☎ 01865 454790 or e-mail howard.k@lineone.net
Jade 2 scanner, plus software and *Photoshop 4 LE*, upgrade is reason for

sale – £160. David ☎ 01926 512622
HP LaserJet 6MP, 600dpi, PostScript printer, LocalTalk, new fuser assembly with Asante LocalTalk to Ethernet bridge and cables – £220; Formega Zip drive, 100MB, SCSI, includes one Zip disk and latest software – £50 plus £5 delivery. ☎ 0121 471 3431 or e-mail marlin@easynet.co.uk
Apple IISI, 10MB memory (with *RAM Doubler*), 75MB HD, keyboard, mouse, software, separate CD-ROM drive, free Apple monitor – £75. ☎ 01767 316294
PowerMac 7200/90, 500MB, 64MB RAM, 1MB VRAM, Mac OS 8.5, Internet modem, SyQuest external drive, keyboard, original graphics software – £475; 16-inch Apple ColorSync monitor – £150 ono. Wilmslow ☎ 01625 530030
Mac keyboard cable – £3; 3 x 4MB memory, 64-pin for IIFX or NTX laser printer – £30; Hard disk power cable – £1. ☎ 01480 300409
Performa 5400, 32/1.6 GB, TV and Ethernet cards – £450; Quadra 610 20/160MB and Ethernet card – £180; LC475 20/140MB – £150; MacPlus 1/20Mb – offers. All inc. keyboard and mouse. Powerbook Duo 280CS, no dock – £150 ono; 14-inch Apple multiscan – £100 ono; StyleWriter II – £50 ono; HP Deskwriter 520 – £75 ono. ☎ 01733 766619 or e-mail mike@altrion.org
LCII, 4/80, System 7.1, 14-inch Apple colour monitor, keyboard, mouse and all leads as new, hardly used – £150 ono. ☎ 01705 719685
SyQuest EZFlyer 230MB disk drive, SCSI connection, boxed with cable, three 230MB disks, five 135MB disks, mint

condition – £200 ono. Preston area ☎ 07909 673667
LC475, 8/160, colour monitor, extended keyboard, StyleWriter II printer, *WordPerfect v3a*, *QuarkXPress 3.32*, full manuals, excellent condition, boxed – £220. Bob, Worcestershire ☎ 01905 772642
G3 266 Minitower, 128MB/10.5GB, 6MB VRAM, video capture, TV card, Wacom tablet, internal Zip, 24x CD-ROM, Mac OS 9, extra internal SCSI HD – £1,000 ono. Paul ☎ 01259 214536 or email bill@stirling.almac.co.uk
PowerMac 1400c, 1MB, 64MB/2GB, Mac OS 8.6, CD-ROM, 56K PCMCIA modem, mouse, StyleWriter II – £750. Somerset ☎ 01460 240148
PowerMac 6100/66, CPU only, mint condition – £250; Apple colour StyleWriter Pro, inc. driver software, hardly used, unused for 3 years, may need servicing – £95; Performa 6200/75, 16/500, Mac OS 8, keyboard, mouse, hardly used – £425. Kent ☎ 01227 364049
Quantum 1.6GB hard drive – £30; Internal modem for Performa 33.6K with Mac OS 8 – £15. Rob ☎ 01705 690842
Brother HL 631 A4 laser printer with Mac/PC drivers – £95 ono; 16MB RAM, Computer Warehouse – £25. Rob ☎ 0181 458 2028
14-inch Apple monitor – £50; 16-inch Apple monitor – £100; 1400CS PowerBook, 64MB/3GB/188MHz – £400; 160 PowerBook adaptor – £15; Duo 270c PPC upgrade, broken screen, plus Duo Dock – £50; Internal 1400 PB CD – £100; Internal 1400 PB Zip – £100;

USER GROUPS

User groups are informal clubs of people with a common interest – in this case, the Mac. If you don't have any Mac-owning friends, user groups are a great source of information, advice and hands-on help.

Some groups simply meet every now and again; others are more structured and may even publish regular newsletters.

You can advertise your user group here in every issue of *MacFormat*. It does not need to be registered, but it must be a non-commercial, non-profit-making user group – just send us your full details.

Please note: this is a free service for non-profit-making groups. *MacFormat* does not endorse any specific group and cannot be held responsible for any problems you might suffer as a result of contacting any listed group.

Regional user groups

Call the listed contact to find out the meeting times and to get a feel of how the group operates.

Berkshire Mac UG: contact Ian Burn on ☎ 01734 813669
Blackburn Mac UG: contact Roger Moreton on ☎ 01254 670043
Cambridge Apple UG: contact Peter Stark on ☎ 01223 843429
Cumbria Mac Enthusiasts: meets monthly in Barrow-in-Furness. Contact Majorie on ☎ 01229 827169 or Alan on ☎ 01229 466266
Cumbria Mac UG: meets monthly in Ulverston. Contact Josie Farmer on ☎ 01229 588005; e-mail cmug@btinternet.com; Web http://www.btinternet.com/~cmug
Dorset Mac User Group (DMUG): serving Dorset, Hampshire and surrounding areas. A newsletter and a mailing list are sent out irregularly, and informal

meetings are also arranged. Membership is free. Contact Martin on ☎ 01202 625775 or e-mail dmug@ukmac.com; Web site <http://www.ukmac.com/dmug/>

Edinburgh Mac UG: contact Philip Williams on ☎ 0131 552 3052 or email edmug@williams.sol.co.uk; Web <http://edmug.findhere.com/>
Fife Apple Mac User Soc: contact Gordon Danby on ☎ 01334 840362
Gateway UG, Norfolk area. Contact Verne Anderson on ☎ 01638 543000
London Mac UG: contact David Thomas on ☎ 0181 306 2955 (daytime); write to LMUG, PO Box 15, Bexleyheath, Kent DA7 4ZW; Web <http://www.lmug.org.uk/>
Mac Assist: Cardiff and district. Contact Nigel Arrighi on ☎ 01222 224682
Macus: Manchester. Contact Peter Davenport on ☎ 01625 528490; e-mail davjaeger@tesco.net
Midland Mac UG: Worcestershire. Contact Ivan Knezovich on ☎ 01299 402631
NMUG – Northamptonshire MUG, county-wide and beyond: contact Bill Nickson on 01327 349669; e-mail bill@nmug.co.uk; Web <http://www.nmug.co.uk/>
North West Apple CC: contact Ken Dawson on ☎ 0151 424 8974
Norwich Mac UG: contact Dave Gudgeon on ☎ 01508 492938 or e-mail dave.gudgeon@virgin.net
Plymouth (Devon & Cornwall) UG: monthly newsletter via e-mail, meetings. Contact Paul Mason on ☎ 01752 367536; e-mail paul.mason12@virgin.net; Web <http://www.pmug.connectfree.co.uk/>
S E Essex Mac UG: contact Michael Foy on ☎ 01702 468062
Sussex UG: Hastings & E Sussex. Contact Garry Nevin on ☎ 01424 714110
West Midlands UG: contact Danny

Torbica on ☎ 01902 336172 or e-mail danny@quest-btc.co.uk
Yorkshire Mac UG: contact Dave Peppiate on ☎ 01302 330481; e-mail oldgit@dircon.co.uk; Web <http://www.yrug.york.co.uk/>

International user groups

AUSTRALIA The Apple Macintosh Association of QLD: call 61 07 3895 8103 or e-mail info@nexus.amaq.org.au
IRELAND ClubMac UG: for info, visit <http://www.clubmac.ie/>
SWEDEN MacLin, E-lans Mac UG: for info call ☎ 00 46 (0) 141 220330 or e-mail omar@motala.mail.telia.com
SWEDEN MacSweden UG: contact Ulf on e-mail abib@algonet.se; Web <http://www.macsverige.org/>

Specialist user groups

For those with a particular interest in Mac fields like design and education.
BeLine – the British BeOS UG: newsletter, meetings, discounts on software, support. Contact Nathaniel on ☎ 01271 830395; e-mail beline@bigfoot.com; Web <http://beline.home.ml.org/>
British IIGS UG: contact Peter Stark on ☎ 01223 838231
Christian Mac UG: contact Paul Wareing on ☎ 01789 490153
HebreWare: contact Mendy Scharf on ☎ 0181 802 6143
Helix UG: contact John Sandell on ☎ 01763 273379
LAW Mac UG: contact Charles Christian on ☎ 01379 88518
Lisa Users Group UK: contact Sheila Bell on ☎ 01367 710453
Multimedia UG: contact Richard Hurley on ☎ 01273 834588
Newton/eMate UG: irregular meetings,

newsletter and support. Contact David on ☎ 0113 278 0691; e-mail Pondlife@davidy.easynet.co.uk
QUAD Club (QuarkXPress): contact Philip Caplan on ☎ 0181 523 4233
Special Needs UG (SNUG): contact Geoff Hughes on ☎ 01744 24608
Young Programmers UG: programming help, resources and distribution; contact Thomas Worrall on 01663 733817

Other contacts

Mac e-zine and Web site. Download the latest issues of *Mac* and *MacTrader* from here. Visit <http://www.dotmac.com/> ☎ 01252 652079 or e-mail editor@dotmac.com
AppleEye BBS: a FirstClass BBS. Modem numbers ☎ 01234 822180 or 01234 826025. Address: PO Box 162, Oakley, Bedfordshire, MK43 7PA
Artists archive and news service: contact The Research Station on ☎ 0181 778 6547, 24 hours, 33.6Kbps; plus Web site at <http://www.metamute.co.uk/>
Becomm: a FirstClass BBS. Mac shareware and news, several discussion areas, free access and Internet e-mail. Voice phone ☎ 0121 420 1482; modem ☎ 0121 242 3944
bramhill.family@virgin.net: Colchester area e-mail support group.
MacHelp: non-profit helpbank for all Mac problems. MacHelp, Hermelynster 10, B2610, Wilryk, Belgium
MacLevel: an insanely great Mac Web site! Features, weekly columns, tutorials, discussion forums and more. Visit <http://maclevel.hypermarket.net/>; e-mail hib@avara.net
Simon Steiner's ssMac: fast growing news and info site. Home for all Mac lovers – <http://www.ssmac.co.uk/>

Reader Services

Apple 1GB drive – £30; Apple extended keyboard – £10; StyleWriter 1200 – £30; External CD-ROM drive – £30; Kensington Turbo mouse – £20; Global Village Teleport, platinum modem – £20; Apple mouse – £5; Video-out cable – £10. ☎ 0181 287 5765

☑ **Epson LCD projector EMP-7100**, full carrying case and all leads included – £2,500 ono; Very good condition G3/233MHz, 160MB/4GB, Zip, 17-inch Sony multiscan 200GS monitor, Epson Stylus 600 printer, all boxed, as new, home use – £950. ☎ 01493 751459 after 6pm

☑ **PowerPC Performa 5200**, 75MHz, 64MB/4GB, Mac OS 8.5, 15-inch screen, keyboard, mouse, Epson Stylus colour printer, start-up disks and *ClarisWorks 4* – £500. ☎ 01372 749226

☑ **Starmax 3000/200**, 603e, 200MHz, 128MB, 17-inch monitor, keyboard, mouse, manuals, modem, Zip, desk – £400 ono. Paul, London ☎ 0181 333 5598 (eves) or e-mail 586@588.in2home.co.uk

☑ **PowerBook 3400/200**, 160MB/2GB, carry case and spare battery (x2), boxed, as new, Mac OS 8.6, plus Pace 56K modem – £700 ono; PowerMac 7500/375, G3, 128MB RAM, G3 includes Pentium card, plus MP850 graphics (Voodoo) – £850 ono; Applevision 17-inch blue-and-white monitor, 10 months old, boxed – £230. Mike ☎ 01489 894057

☑ **Performa 6200**, 32MB RAM, 500MB HD, 15-inch monitor, keyboard, mouse, Mac OS 7.6.3, StyleWriter 1200 inkjet printer, as new, with manuals – offers. Stuart ☎ 01592 771951 (pm)

☑ **Blueberry iMac DV**, 2 months old, immaculate condition, still boxed – £800 ono. Richard, Newcastle ☎ 0191 281 5176 (eves), 0191 269 0143 (work) or e-mail richards@sandersons.com

☑ **PowerBook 1400cs**, 166/40/1.3GB, TDK 5660 PC Card modem, Umax Astra 610S scanner, HP DeskJet 850c – £800. Robin ☎ 01968 672122 or e-mail robin.morris@which.net

☑ **Nikon CoolPix 900**, as new – £300; IMX twin turbo graphics card – £25; Agfa Scan IIsi – £50. Ray ☎ 0181 216 4619 (office hours)

☑ **PowerMac 8100AV** with G3 card (225MHz), 2.5GB HD, LC475, LCII, all with keyboards, mice, monitors. Sensible offers please. ☎ 01525 382880

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☑ **PowerBook 540c**, Mac OS 8, PSU, carry case, internal modem, external CD-ROM – £280. Allan ☎ 0181 532 9877

☑ **Umax Apus 2000/200**, 64MB/1.5GB, ViewSonic 15GA monitor, two-button mouse, DeskWriter 540 printer, Pace 56K modem, Paperport – £650 ono. Deal ☎ 01304 373958

☑ **StarMac 200MHz**, 88MB/2GB, CD-ROM – £300; PowerBook 180, needs new battery – £100. Exeter ☎ 01392 875857

☑ **Global Village teleport**, USB, 56K V90 fax/modem, never used – £85 ono; Apple multiscan 14-inch display monitor, in original box with manual and installation software – £40 ono plus postage. ☎ 0131 440 3421

☑ **PowerMac 7200/90/500**, 128MB, StyleWriter 2500 printer, A6 Wacom Palette, 56K modem, keyboard, mouse, Tracball Turbo-TV card – £350. ☎ 01442 253 275

☑ **LC475, 8/160**, 14-inch colour monitor, keyboard, mouse, leads, StyleWriter II, all items boxed – £280 ono. Northumberland

☎ 01661 833678

☑ **Performa 6200**, 40/500, keyboard, mouse, Apple 15-inch multiscan monitor, Apple LaserWriter 4/600, *ClarisWorks*, *Microsoft Office 4.2*, Mac OS 8.1, home use only, boxed, receipts, may be split – £700 ono. ☎ 0116 269 3189

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☑ **Apple IIe disk drive**, keyboard, all original manuals in black Apple holdall, plus floppy disks and other accessories – offers. Julie ☎ 01524 702072

☑ **PowerMac 4400/160**, 80MB RAM, 4MB VRAM, CD-ROM, 15-inch Apple multiscan monitor, external Zip drive, original manuals – £500. John, Watford ☎ 01923 224315

☑ **Newton MessagePad 2100**, keyboard, case, as new, never used – £450. ☎ 07967 550575

☑ **Performa 475**, 14-inch colour monitor, mouse, keyboard, original, disks, manuals, one user, excellent condition, including external CD-ROM, 12MB RAM – £125. Matt ☎ 01273 483369

☑ **Apple Quadra 630** with 16-inch colour monitor and CD drive – £200 ono. ☎ 01865 863773

☑ **Performa 6200**, 75MHz PowerPC, 40/500, Apple colour monitor, 28.8 modem, StyleWriter II, keyboard, mouse, boxed – £300. Doncaster ☎ 01302 840386

☑ **PowerMac memory**, 2 x 32MB RAM, 168-pin DIMM, fits older Macs, would cost over £120 new – £50. Graham ☎ 0976 779253

☑ **G3 233MHz Desktop**, 64MB/4GB, 24x CD-ROM, internal Zip, 15-inch monitor, Stylus 600, SnapScan 310 – £850. ☎ 01225 446742 or 07968 733474

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☑ **Apple StyleWriter II** plus serial cable, good condition – offers. Nick, Reading, Berks ☎ 01189 222999 (day)

☑ **Apple Colour StyleWriter 2500**, excellent condition – £50; Zip drive, 100MB SCSI, good condition – £40. Deniz ☎ 07930 505613 or 0181 516 8406

☑ **PowerPC 7100/66**, 8/350, video card, 17-inch Trinitron monitor, speakers, CD drive, LaserWriter NTR, all Apple equipment – £950; Apple PowerBook 5300cs, 8/500, with TDK modem, Apple portable StyleWriter 2200 – £750. Cheshire ☎ 01244 310266

Software

☑ **Quark 4.0** – £350; *Illustrator 8.0* – £150. Both boxed with manuals. *Photoshop 4.0* – £200; *KPT 5 plus 3 Extensis PhotoTools 3.0*, both boxed – £50 each. John, Glos ☎ 01453 521921

☑ **QuarkXPress 3.32**, boxed, on CD with all manuals and documentation – £350. Andy ☎ 01432 263762

☑ *Age of Empires*, *Civilization II*, *Master of Orion II*, *Star Trek Starship Creator* – £15 each ono. ☎ 0181 252 7800 evenings

☑ **Infinti-D v3.5** – £150; *Martin Hash 3D Animation Studio*, boxed with manuals – £80; *Adobe PhotoDeluxe* – £12; *Riven* – £12; *Myst* – £10; *Zork Anthology* – £5; *Starship Titanic* – £15; *Civilization II* – £10; *PGA 3* – £5; *Monkey Island I and II* – £20 each; Mac OS 8.5 – £40. Peter ☎ 01531 631931

☑ **Mac OS 8.5, boxed** – £30; *Speed Doubler 8*, boxed – £15; *Corel Draw 6*, boxed with manuals – £50; *Norton Utilities 4* – £20. ☎ 01392 841335 or e-mail graeme@eclipse.co.uk

☑ **Mac OS 9**, brand new, inc. licence and instructions, bargain at only £49.95 inc. postage. Philip ☎ 01829 782559 evenings

☑ **Aldus FreeHand v5.0** – £10; *Monopoly* – £10; *PGA Tour Golf* – £6. All boxed originals. Others available. Woking ☎ 01483 870483 or e-mail popocar@waitrose.com

☑ **Myth II**, *Unreal*, *Duke Nukem 3D*, *Final Doom*, *Shadow Warrior*, *Quake*, *Starcraft*, *Tomb Raider II*, *Tomb Raider Gold*, *Tomb Raider III*, – £75; *Soft Windows 95 v5* – £40; *ClarisWorks 5* – £30. Franco ☎ 0171 603 7677

☑ **Macally ADB joystick** – £10; 12 Mac CDs inc. *X-Wing*, *Wing Commander 4* etc, all boxed – £30 the lot. Darren ☎ 0191 4312281

Wanted

☑ **Free Mac** for an out-of-work uncle. Must get him on the Internet to e-mail his far away daughter who he misses terribly. I can make almost anything work – ideally 25MHz LC475 or better. **James@ThorLaser.com**

☑ **Myth: The Fallen Lords** in original box with original manuals. Will pay up to £15. For collection please e-mail mad-macs@hotmail.com or ☎ 0181 748 7159.

☑ **Claris E-mailer 2.0 v3**. Don't need manual. Targa 2000 NuBus video capture card, must be in good working order. ☎ 0181 906 2057 or e-mail Martyn at webbo@netmatters.co.uk

☑ **Scenery file(s)** for *Mac Flight Simulator 4*. Usually on floppy. Woking ☎ 01483

870483 or e-mail popocar@waitrose.com

☑ **CD-ROM drive**, external SCSI, 8-speed. Will pay up to £50 plus postage to Ireland. ☎ 01353 868299882 or e-mail adam@garnerwatts.org

☑ **Mac OS 7.6** and OS 8.0 CD version. Billy ☎ 01993 703210 (day) or 700135 (eves)

☑ **Command and Conquer** CD-ROM game, any missions. Neil, Manchester Area ☎ 07957 815525

☑ **Mac OS 7.6** on CD. Daniel ☎ 01376 321282 or e-mail daniel-s@qbc91q.freestore.co.uk

☑ **Allied General**, preferably with manual. Will pay any reasonable price. Tom, Devon ☎ 01237 441490 (eves)

☑ **Soft Windows 98** or *Virtual PC*, Mac games, eg *Age of Empires*, *Rollercoaster*, *Tycoon*, for child. Pete ☎ 01508 570179

☑ **Close-up lens** for QuickTake 150 camera, memory module 100-401021 for ATI video card. ☎ 01224 582636

☑ **Copy of Minicad** for early Macintosh Performa. Cash waiting, can travel/collect. Nottingham ☎ 0115 849 0198

☑ **I bet that someone**, somewhere has an old modem cluttering up their life. I have a Performa 450. Cheap as possible please. ☎ 01420 477502 or e-mail talk2me@terrific.net

☑ **Mac OS 7.5** CD or disk. Fair price paid or swap for Mac OS 8. Paul ☎ 01785 823489 or e-mail pebble@tesco.net

Help wanted

☑ **Working for free** to help a kids art group make a CD for the new year. Neil ☎ 07957 815525 or <http://www.artsplayground.org.uk/>

Swap Shop

☑ **Swap your Mac OS 7.6** for my unopened OS 8.5. Matt ☎ 0171 733 5222 or e-mail m.parnton@iop.kcl.ac.uk

☑ **Umax Pulsar**, Apple monitor 15-inch, Zip, scanner, Epson printer tablet, Psion Series 3c organiser, design software, Mac OS plus £100 to swap for iMac. Darryl ☎ 01206 853880 or 0171 621 0733

Books and Magazines

☑ **Photoshop 4 Wow! Book** with CD-ROM – £15; *Photoshop 4 Type Magic* with CD-ROM – £15; *Teach Yourself CorelDraw 8* – £10. ☎ 01392 841335 or e-mail graeme@eclipse.co.uk

☑ **Computer Arts back issues**, 5 to 50, including original discs – £4 each, inc. postage; *Mac 3D* handbook with tutorial CD – £12. Peter ☎ 01531 631931

☑ **MacFormat magazines**, all good condition with cover discs 9, 10, 12 to 21, 27 (floppy), 28 to 77, 79 (CD) – £20 the lot (64 issues) plus postage, or collect from West Lothian. Dave ☎ 01506 845787

☑ **Director Demystified** manual, 776pp inc. Companion CD-ROM (original price £32.95) – £10. ☎ 01733 394991 or e-mail jjeff99@ndirect.co.uk

☑ **Mac OS 8** – £12.50; *ClarisWorks for Macs for Dummies* – £12.50. Post included, all as new. Bill North ☎ 01303 250466

☑ **MacFormat issues 50 to 71**, *MacWorld* July 97 to December 98 – £1 each; *Computer Arts* issues 6 to 25 – £2 each inc. CDs. ☎ 01453 756774

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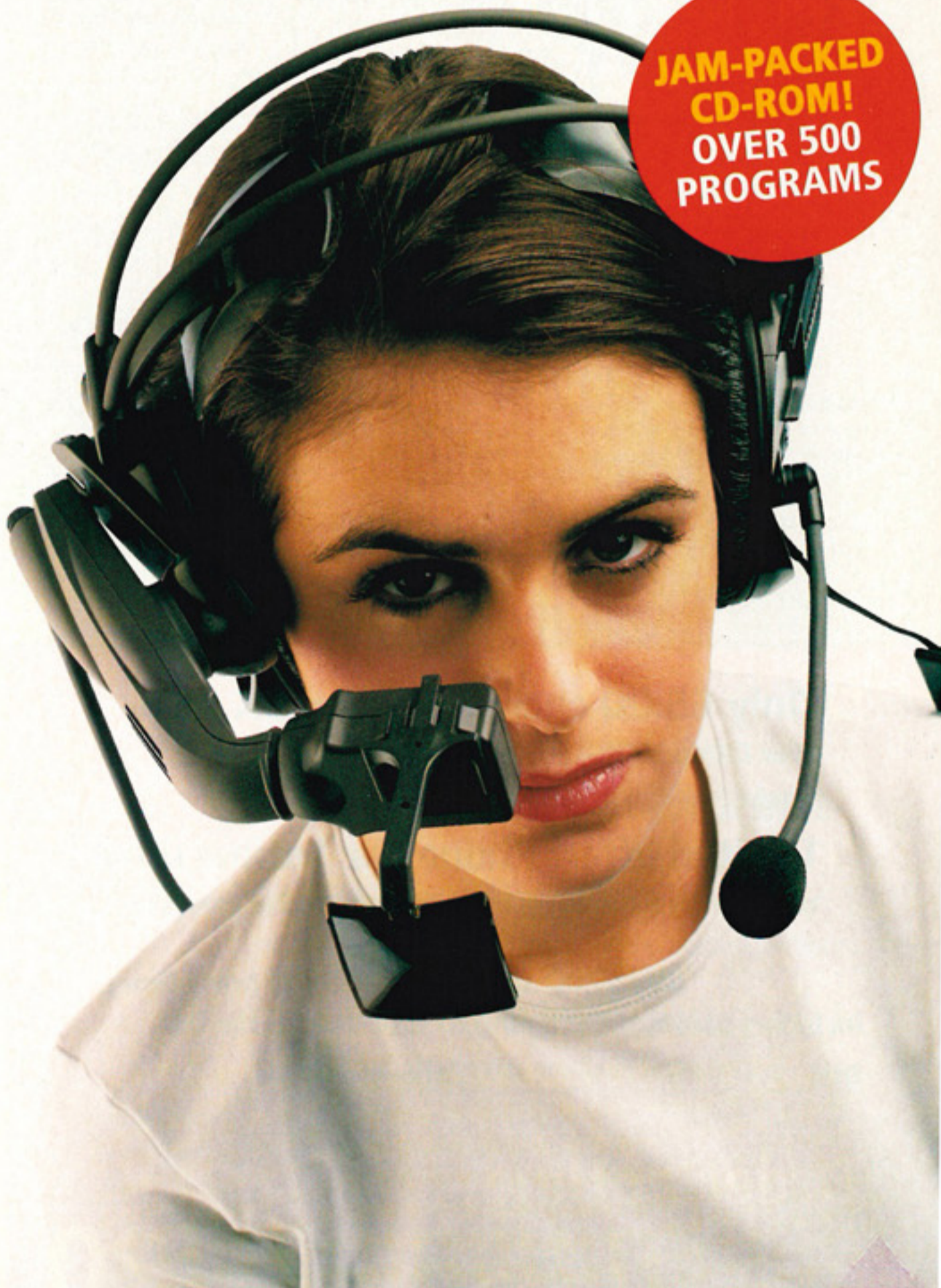
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2643...II - Toner	50.17	58.95	7903...Black Twin Pack - S020209	25.52	29.99		
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Sales: 0171 636 2200
Plug & Play Network Storage
Net RAID Array

54GB £1650
96GB £2195

DNAS Network Fault Tolerant RAID

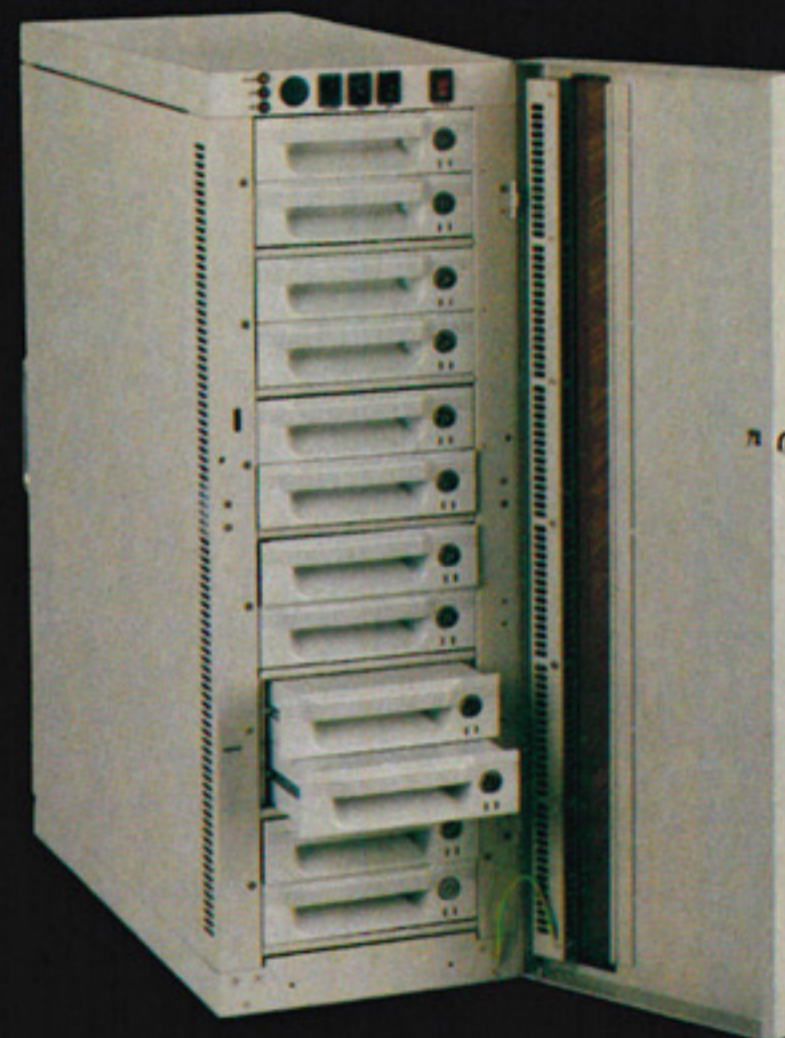
NETWORK ATTACHED * FIBRE CHANNEL * SAN

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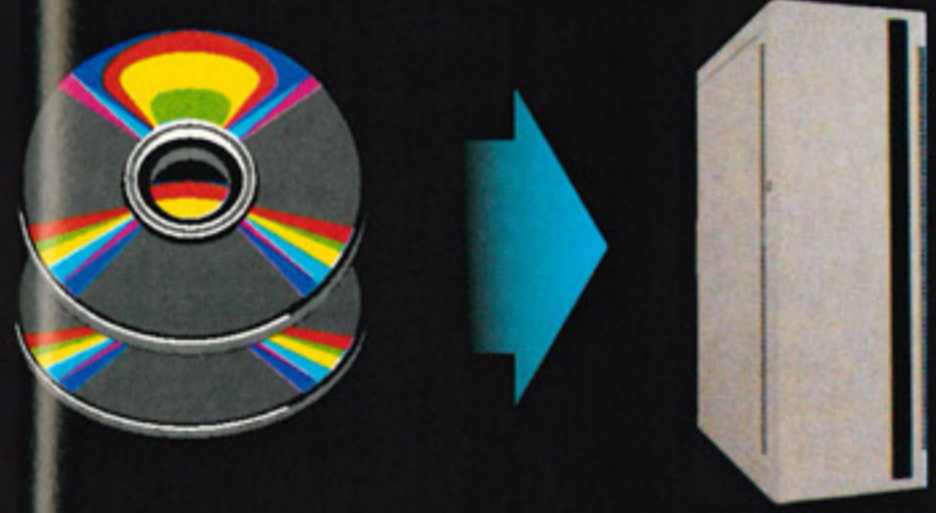
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OPTIONS:

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Gigabit Ethernet
Tape Backup



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ARC STOR CD ROM Servers are designed to allow the archive and retrieval of information on to CD/DVD media. The servers include CD writers, so attached client workstations or servers can write information to CD's across a network. Once data has been archived the data can be made available via the CD server to attached users. All the data on all the CD's are available concurrently to all the users, unlike a jukebox approach there is no waiting for CD's to load or waiting for a player to be freed. Due to the efficient caching built into the servers data is made available at greater than 50X speed. No software needs to be installed on workstations for access.

50CD	£1950	100CD	£2695	150CD	£3495	350CD	£6995
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DLT	20/40GB	£1475
DLT	35/70GB	£3150
DLT	40/80GB	£3650

TAPE LIBRARY

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DLT	140/280GB	£3750
DLT	245/490GB	£5650
DLT	770/1540GB	£7500
DLT	880/1760GB	£9200

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HP DeskJet 340c

Portable A4 colour
inkjet printer, 600 x 300 dpi,
2 ppm mono & 0.5 ppm colour
Ideal for use with PowerBook



£149

Color StyleWriter 1500

Lightweight A4 colour inkjet printer, 720 x 360 dpi,
3 ppm mono & 0.3 ppm colour

£79

StyleWriter II

Lightweight, A4 mono inkjet printer, 360 dpi,
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PowerMac 9500	(120 to 200 MHz 604/e, CD)...from	£799	£849	£949
PowerMac 8600	(200 MHz 604e, CD)...from	£899	£949	£1,049
PowerMac 8500	(120 to 180 MHz 604, CD)...from	£699	£749	£849
PowerMac 8200	(100 to 120 MHz 601, CD)...from	£449	£499	£599
PowerMac 8100	(80 to 110 MHz 601+, CD)...from	£399	£449	£549
PowerMac 7600	(120 to 200 MHz 604e, CD)...from	£599	£649	£749
PowerMac 7500	(100 MHz 601, CD)...from	£549	£599	£699
PowerMac 7300	(166 to 200 MHz 604e, CD)...from	£599	£649	£749
PowerMac 7200	(75 to 90 MHz 601, CD)...from	£299	£349	£449
PowerMac 7100	(66 to 80 MHz 601, CD)...from	£299	£349	£449
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PowerMac 5500	(225 MHz 603e, CD)...from	£499	Prices include 15" Integral Monitor, Keyboard & Mouse	
PowerMac 5400	(120 to 200 MHz 603e, CD)...from	£399		
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Desktop Mac Memory

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30-pin SIMM	£19	£29	£45	—	—	—	—
72-pin SIMM	—	£22	£35	£59	—	—	—
168-PIN 5V EDO	—	—	£39	£69	£109	£199	—
168-PIN 5V FPM	—	—	£39	£59	£99	£209	—
168-PIN 3.3V EDO	—	—	—	£79	£135	£179	—
G3 Beige	—	—	£39	£49	£115	£219	£439
G3 Blue & G4	—	—	—	£59	£119	£219	£429
iMac	—	—	£35	£55	£89	£149	—

Portable Mac Memory

	16M	24M	32M	40M	48M	56M	64M	96M	128M
5300/190	£69	£85	£89	£119	£139	£159	—	—	—
1400	£69	£85	£99	£125	£135	—	—	—	—
3400	£55	—	£85	—	—	£125	£149	£199	—
G3	£45	—	£69	—	—	£119	£179	£229	—
G3 Wallstreet	£35	—	£55	—	—	£89	—	£149	—
G3 Lombard	—	—	£79	—	—	£129	—	£229	—
iBook	£35	—	£55	—	—	£89	—	£149	—

We also sell VRAM, cache memory & RAM for older Macs and most printers.
RAM PRICES ARE VERY VOLATILE JUST NOW. CHECK LATEST BEFORE ORDERING.



Whatever kind of new Mac you're looking for, you can be sure of a bargain at Mad Macs

...oh, and there's a twist:
we take trade-ins too.

Find out how much we'll give you for your older PowerMac when you buy new from Mad Macs.
(But of course you don't HAVE to have a trade-in to buy a new Mac from Mad Macs!)

Broken LCD?

If your flat-screen monitor, PowerBook or other laptop screen has ceased to work, we can (usually) fix it*.

Call us for more details.

*But not cracked panels or failed pixels.

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Transparency hood	£179
Single pass advanced A4 Flatbed, 600 x 1200 optical dpi with 10% to 250% scaling, 30-bit colour	
Umax Astra 2100u (USB)	£89
Umax Astra 1220s (SCSI)	£119
Transparency hood	£149
Single pass ccd, A4 Flatbed, 600 x 1200 optical to 9600 x 9600 interpolated dpi, 30-bit colour, Adobe PhotoDelux	
Umax PowerLook III	£1,999
Single pass advanced A4 Flatbed, 1200 x 2400 optical to 9600 x 9600 interpolated dpi, 30-bit colour, incl. transparency hood	
Umax Mirage IIse	£1,699
Single pass ccd, A3 Flatbed, 700 x 1400 optical to 9600 x 9600 interpolated dpi, 30-bit colour, incl. transparency hood	

Monitors

Formac ProNitron 17/200	£179
17" FST, max 1280 x 1024 res., 0.25 dot pitch	
Formac ProNitron 17/600	£289
17" Diamondtron, max 1600 x 1200 res., 0.25 dot pitch	
Formac ProNitron 19/550	£399
19" Trinitron, max 1600 x 1200 res., 0.25 dot pitch	
Formac ProNitron 21/650	£549
21" Trinitron, max 1600 x 1200 res., 0.25 dot pitch	
Formac ProFormance III	£189
16mb Video Card	

Printers

Epson Stylus 760	£149
USB/serial photo-quality 1440 dpi colour A4 inkjet printer	
Epson Stylus 740	£129
USB/serial photo-quality 1440 dpi colour A4 inkjet printer	
Epson Stylus 750	£199
USB/serial photo-quality ultra-fast 1440 dpi colour A4 inkjet printer	
Epson Stylus 1520	£349
Serial/parallel CAD-grade 1440 dpi colour A3 inkjet printer	
Epson Stylus 3000	£899
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Epson Stylus 900	£249
USB/serial photo-quality 1440 dpi colour A4 inkjet printer	
Epson Stylus 1200	£319
USB/serial photo-quality 1440 dpi colour A3 inkjet printer	

How to find Mad Macs

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Fax 01284-701133

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Connect to the Internet at light speed with an ISDN PC Card (incl. cable & software)
Suits all PowerBooks with PC slots (& PC laptops too, but not iBook)
Compatible with BT Home Highway
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Storage & Media

Drive	Internal	External
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9.0 Gb IDE	£199	—
16.0 Gb IDE	£299	—

Removable Storage Devices

(All cables included)

Imation SuperDrive (USB)	£119
VST Floppy Drive (USB)	£69
Imation Drives	
250Mb Zip Drive (USB external)	£119
250Mb Zip Drive (SCSI external)	£99
Jaz 2Gb Drive (external)	£249
Teac CD Writer	
6 x 24, incl. Toast S/W	£229
Yamaha CD Writer/Rewriter	
4 x 4 x 16, incl. Toast S/W	£259

Media (all prices are for single units)

Kind	1 off	10 off	100 off
Zip Disk (100Mb)	£7.95	£6.95	£6.45
Zip Disk (250Mb)	£15.95	£14.95	£14.45
Jaz Cartridge (1Gb)	£54.95	£52.45	£49.95
Jaz Cartridge (2Gb)	£69.95	£67.45	£64.95
CD-R Disk (650Mb)	£1.45	£1.20	£0.95
CD-RW Disk (650Mb)	£18.00	£16.00	£14.00
3.5" Floppy (1.44Mb)	£1.50	£1.00	£0.75
DAT Cassette (2/4Gb/90m)	£7.00	£5.50	£4.00
DAT Cassette (4/8Gb/120m)	£14.00	£11.50	£9.00

Media prices frequently change; check before ordering.

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External	Price
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88Mb (5 1/4") Drive	£90
200Mb (5 1/4") Drive	£120

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Price	
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88Mb (5 1/4")	£20
200Mb (5 1/4")	£35

Buy now while you still can!

Also available: SCSI, USB, Video, Ethernet, Modem & other cables, adaptors, hubs, etc., incl. Modems.

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PowerBook 3400 Series

A PowerBook with a punch; this is a real professional's computer—powerful & versatile, this one does the job!

3400c/180	16/1.3Gb/CD/PC Slots/SCSI/Serial/Ethernet	£749
3400c/200	32/2Gb/CD/PC Slots/SCSI/Serial/Ethernet	£799
3400c/240	32/3Gb/CD/PC Slots/SCSI/Serial/Ethernet	£849



PowerBook 1400 Series

A popular mid-range model, incorporating a CD player for the first time.

1400cs/117	12/750/CD/PC Slots/SCSI/Serial	£549
1400c/117	16/1Gb/CD/PC Slots/SCSI/Serial	£599
1400cs/133	16/1Gb/CD/PC Slots/SCSI/Serial	£599
1400c/133	16/1.3Gb/CD/PC Slots/SCSI/Serial	£649
1400cs/166	16/1.3Gb/CD/PC Slots/SCSI/Serial	£649
1400c/166	16/2Gb/CD/PC Slots/SCSI/Serial	£699



PowerBook 5300/190 Series

The first PowerPC-powered PowerBook, still well-equipped and powerful at a budget price.

5300/100	8/500/PC Slots/SCSI/Serial (Monochrome)	£349
5300cs/100	8/500/PC Slots/SCSI/Serial	£399
5300c/100	16/750/PC Slots/SCSI/Serial	£424
5300ce/117	16/1.1Gb/PC Slots/SCSI/Serial	£449



The last non-PowerPC PowerBook, this handy computer looks like the 5300 and shares many powerful features.

190/66	4/500/PC Slots/SCSI/Serial (Monochrome)	£249
190cs/66	8/500/PC Slots/SCSI/Serial	£299

PowerBook 500 Series

A popular range of monochrome and colour PowerBooks with extended battery power and a built-in modem.

Depending on the model and how it is configured, prices range from about £199 to £299-plus.



PowerBook 100 Series

The first PowerBooks are available in monochrome and colour models and still please many devoted users today.

Depending on the model and how it is configured, prices range from about £99 to £249-plus.



PowerBook Duo Series

With the Duo PowerBook designed to be as minimalist as possible, this is the real lightweight solution. Combined with the Duo-dock, it becomes the kernel of a desktop computer system as well.

Depending on the model, how it is configured, and whether or not a Dock is also purchased, prices range from about £99 to £549-plus.



G3 PowerBook Series

At time of writing, some thirteen varieties of G3-powered PowerBooks have been released and discontinued by Apple. None are yet available in significant numbers in "pre-enjoyed" form. Because condition and configuration fluctuate greatly between individual examples, it's not yet practical to list prices as we usually do; but do call to see what's available.

All run at between 233 and 300 Mhz, all have active-matrix LCD screens ranging in size between 12.1" and 14.1", at least 32Mb RAM, 2Gb hard disk, CD player, PC Slots, SCSI & serial ports and Ethernet.

Depending on the model and how it is configured, prices range from about £900 to £1,600 plus.



Options for 5300's, 3400's, 1400's & 190's (Special prices, good only when purchased with PowerBook)

PC Cards	33Kb modem: £30	56Kb modem: £95	ISDN: £135	Ethernet: £50
Battery Options	Extra Battery: £50	Car Adaptor: £15	Desktop Charger: £15	Battery & Charger: £60
Printer Options	StyleWriter II (b/w only): £35	StyleWriter 1500 (colour): £50	HP340c (truly portable colour printer): £139	

Check RAM Shack for Memory options. Ask us about others.

I'm G4BD. Fly with me.*

Have you heard about G4BD—the unique G4 Beige Desktop Mac? The one with SCSI, serial and ADB ports...even a floppy drive? The beige one that sits on your desktop, linked seamlessly to other Macs? The 100% genuine Mac that flies with G4 power without forcing you to replace most of your existing equipment or buy expensive adaptors?

Available in two flavours:

G4BD/350MHz/1Mb B/S Cache for...	£979	(£1,099 with 17" Screen)
G4BD/400MHz/1Mb B/S Cache for...	£1,199	(£1,329 with 17" Screen)

I'm G3BD. Fly with me too.*

Then there's G3BD—the G3 Beige Desktop Mac. It too has SCSI, serial and ADB ports and a floppy drive. It too is beige and sits on your desktop, linked seamlessly to other Macs. It too is a real Mac that flies with G3 power, yet doesn't force you to replace most of your existing equipment or buy expensive adaptors.

Available in four flavours:

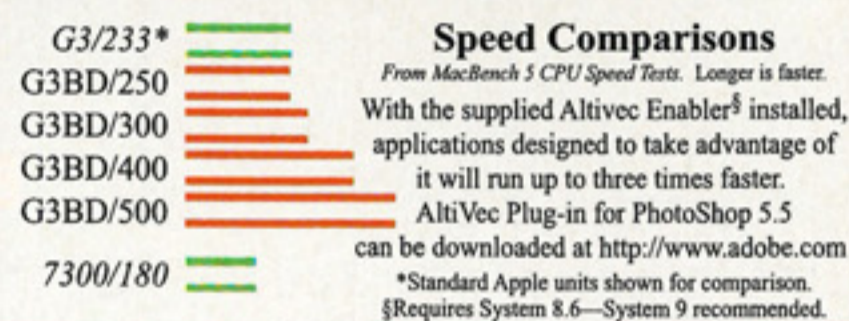
G3BD/250MHz/512Kb B/S Cache for...	£749	(£879 with 17" Screen)
G3BD/300MHz/1Mb B/S Cache for...	£839	(£969 with 17" Screen)
G3BD/400MHz/1Mb B/S Cache for...	£949	(£1,079 with 17" Screen)
G3BD/500MHz/1Mb B/S Cache for...	£1,099	(£1,129 with 17" Screen)

Also Available

PowerMac 7300/180MHz/ for...	£599	(£729 with 17" Screen)
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(sorry, no free flight with this purchase.)

G4/350*	PhotoShop with Velocity Engine
G4BD/350	PhotoShop with Altivec plug-in
G4BD/400	PhotoShop with Altivec plug-in



*Yes, it's time to fly with Mad Macs.

Order a G3BD or G4BD before March 2000 and you really can fly with Mad Macs. When you buy one of these special Macs from us before the end of February you will get a Virgin Express flight voucher. This entitles the bearer to a return flight from either Heathrow or Stansted to Brussels FREE (except for any applicable airport taxes.) Optional connecting flights to Copenhagen, Rome, Madrid, Nice, Milan or Barcelona will cost just £36.50 each way. Although the offer will expire at the end of February, the vouchers are valid through all of 2000, so you will have plenty of time to plan your trip. And there's no limit: you will get a voucher with every G3BD or G4BD you order before 1st March... unless we run out of machines first—so don't delay... Place your order with Mad Macs now! (Full offer details available upon request.)

What Else You Get

Every G3BD or G4BD is built up from a PowerMac7300. All have ADB, video (DB-15), SCSI (DB-25), Ethernet (AAUI & 10BaseT), 2 Serial ports for Printer & Modem/Geoport, 8 x 168-pin DIMM slots with room for up to 1Gb RAM. Onboard VRAM can support up to 1152 x 870 pixels in millions of colours. Computers are refurbished but G3 & G4 processors are new. Units come with 12 months warranty. Extended keyboard and mouse are supplied as standard. Ask about RAM & hard disk upgrades.

Mad Macs Ltd

Where the pre-enjoyed Macs are

Cosmetically Challenged Corner
Some units that come our way work fine but have damaged cases, etc. So, if you can bear something that looks less than perfect but works fine, we may have a real bargain for you. Phone to see what's available today.

GURU MACS
Yes, we have a resident guru. If you need software or other support with an older Mac, we will try to help. However, there is a charge for this service, so have your credit card ready!

Except when specifically excluded, all our pre-enjoyed products come with our unique 7-day no-quibble full-refund or swap-out offer, plus a 6 months RTB parts and labour warranty with optional upgrade (available at time of purchase only) to 12 months for 10% of purchase price.

Products and packaging may differ from what is illustrated. We accept official orders from Local/Central Government, Schools, Universities, etc. & Major PLCs. These business prices exclude delivery cost & VAT at 17.5%. Consumers welcome but remember to add VAT. Delivery at ANC published rates. No credit card surcharges. Sales subject to our standard terms & conditions, available upon request. Specifications may vary. All offers subject to availability & may be withdrawn or revised at any time without notice. All trademarks acknowledged. E&OE.

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Mac LC475 ...from	£145	£190
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Mac LCII* ...from	£75	£120
Centris 650 ...from	£185	£230
Centris 610 ...from	£135	£180
Quadra 950 ...from	£245	£290
Quadra 900 ...from	£225	£270
Quadra 840AV ...from	£245	£290
Quadra 800 ...from	£225	£270
Quadra 700 ...from	£165	£210
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* 30-day warranty only

Computer and Mouse only ... plus Keyboard & 1.3" Colour Screen

Screens & t c

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17" MultiScan Trinitron Screen ...from	£205
17" 1705 Colour Screen ...from	£205
17" 1710 Trinitron Screen ...from	£225
17" 1710AV Trinitron Screen ...from	£245
20" MultiScan Trinitron Screen ...from	£445

G.I. Joe's

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MACS

Pre-enjoyed and refurbished G3 Macs, including iMacs & Yosemite ("blue") G3 towers are now arriving here regularly. Numbers are still not what we'd like but steadily getting better. There are never any to put into "stock" ... as soon as they appear they get sold. But it's where to ask if you want a G3 bargain. Phone us anytime to find out what's available on the day.



Printers



Storage LACIE

Scanners



Epson 740	£128
Epson 750	£167
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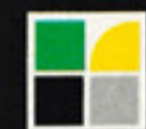


15" TFT DIGITAL STUDIO DISPLAY

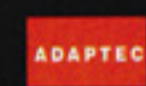
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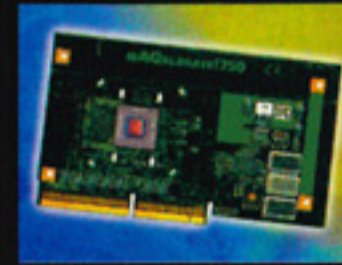


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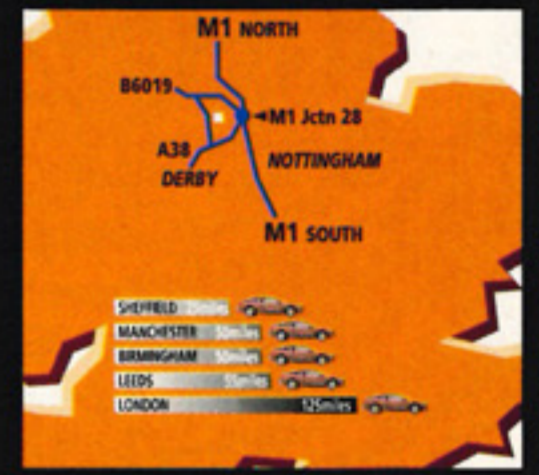
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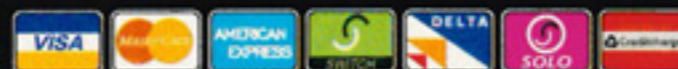
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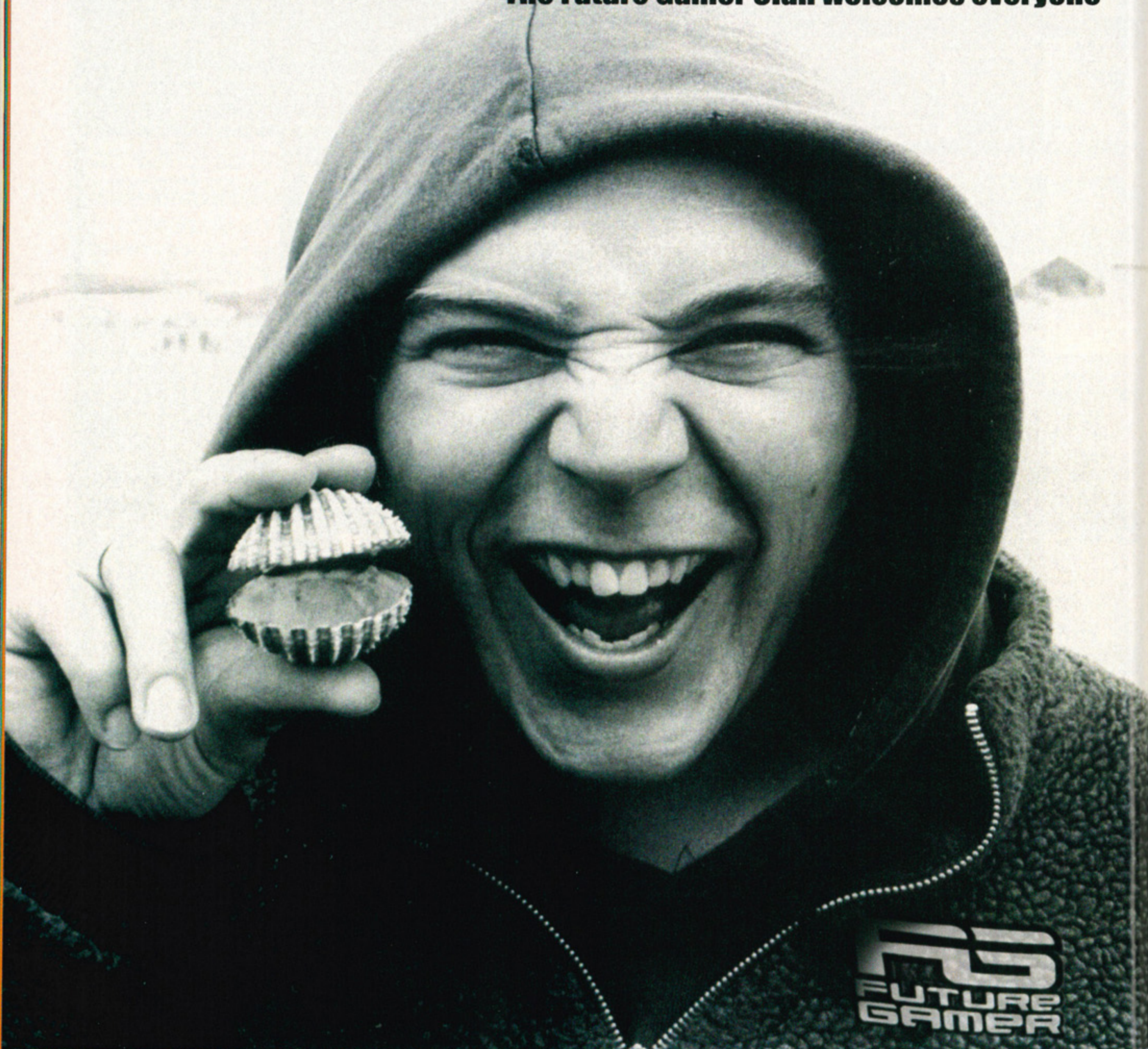
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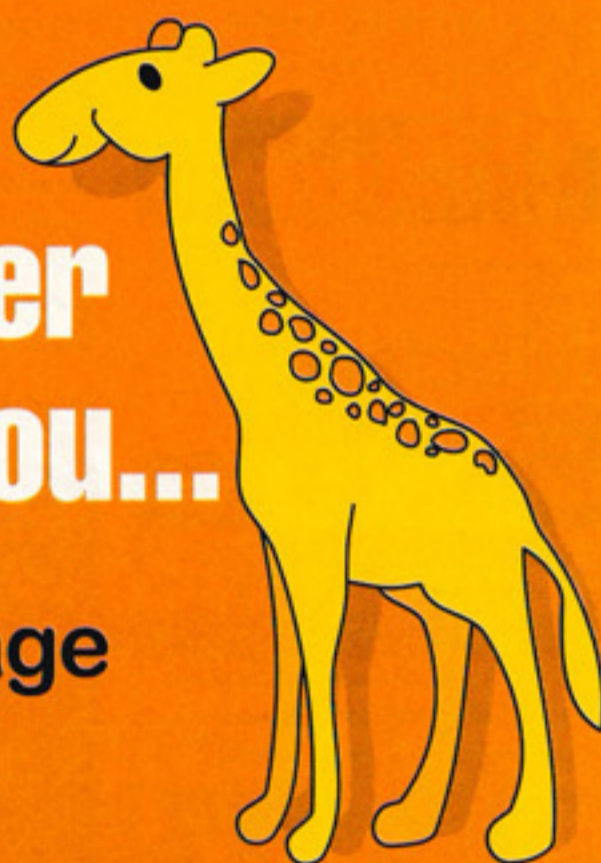
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Secure Web £115 setup + £295 p.a.

Host your own virtual store based on free shopping carts, with SSL secure server and digital certificate.

- All Standard Web hosting features plus: 128-bit SSLv3 extensions and Thawte certificate registration.**

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The combination of Database Web and Secure Web includes all the features needed for advanced database or for E-commerce hosting.

- All Standard Web hosting features plus: relational database, Allaire ColdFusion 4, 128-bit SSLv3 extensions and, Thawte certificate registration.**

Domain Keeper £35 (2 years)

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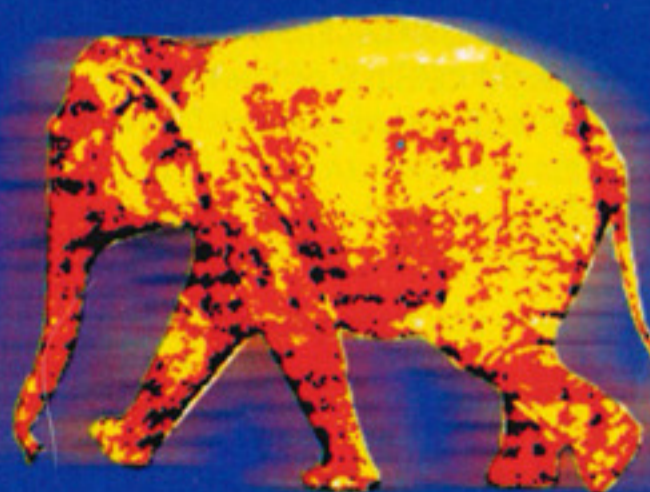
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Mac Cover CD

Complete
CD index:
page 140

One more time! This issue's Cover CD was compiled by the hard-working Jeremy Ford.

CorelDRAW™ 8 LE

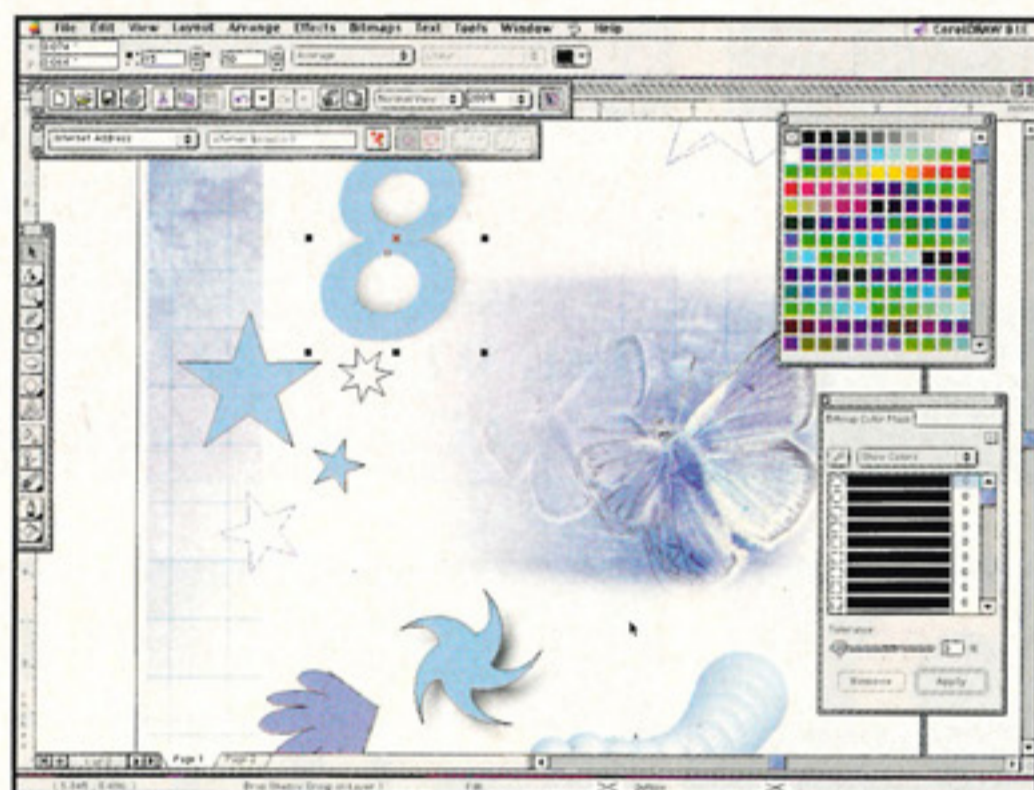
PLUS Corel Photo-Paint™ 8 LE

GRAPHICS This issue we're proud to bring you a complete vector and bitmap graphics suite – free!

Take a look at the portrait of Hedy Lamarr to the right. It's beautiful, isn't it? Look closer. It's not a photo or even a computer painting: it's a vector illustration. That's right, vector art can be used for much more than geometric shapes and fills. The prize-winning Hedy Lamarr illustration by John Corkery was created with *CorelDraw*, and now you have an LE version of that very program!

Install *Corel Graphics 8 LE* from the Cover CD and you'll find you've actually got two products: *CorelDraw 8 LE* provides you with comprehensive tools for drawing and page layout, and *Corel Photo-Paint 8 LE* gives you all you need for photo-retouching and painting.

Both programs are easy to use and can be customised extensively. *Corel Graphics 8 LE* has a number of clever features to help make your life easier. The Live Effects feature enables you to change effects that you've already applied to objects without having to start from scratch. The Interactive Tools, such as shadows, blends and extrusion can be easily applied to your work, and you get immediate feedback.



CorelDraw enables you to manipulate vector graphics with ease, and there's a whole host of superb effects you can use.

Both programs are fully-functioning, not save-disabled or time-limited, though there are some restrictions. In *CorelDraw 8 LE* you can have only one document, with a maximum of three pages, open at a time, while *Corel Photo-Paint 8 LE* can have two documents. Both programs are also limited

to saving documents in GIF and JPEG formats. However, you can still open files in almost any format (TIFF, PICT, EPS and others), which the full version of the programs can also save in.

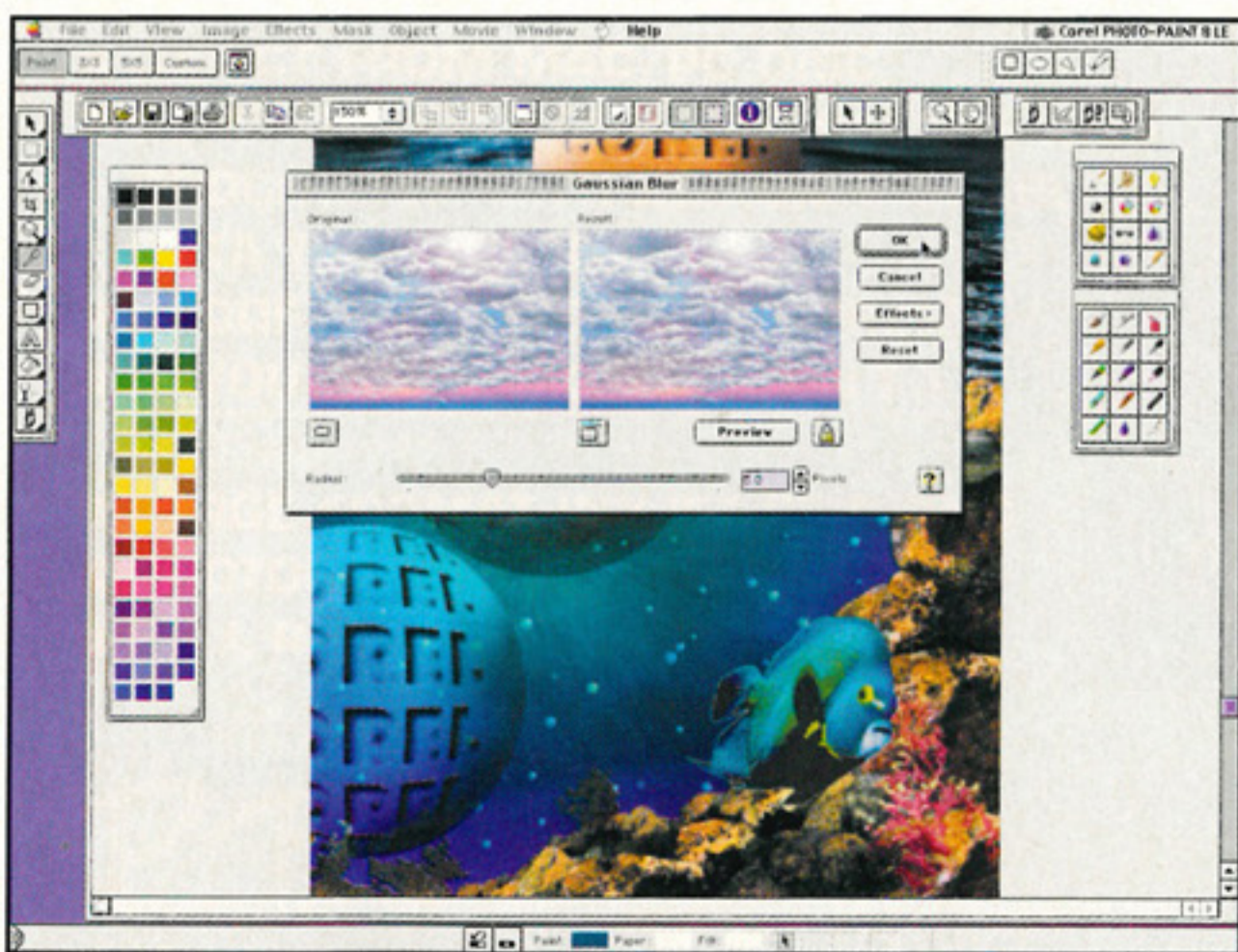
Once you've installed *Corel Graphics 8 LE*, you will be able to open and view some sample files which are stored in the **Samples** folder, which includes the tutorial files. You can get on-line help at any time from the **Help** menu, or by simply pressing **⌘ ?**. This will open the Help Contents window.

The manuals for the two applications can be found on PDF format on the Mac Format CD, which can be viewed with *Acrobat Reader*. To help you get started, we've included a quick-reference guide to the tools and interfaces of both programs this issue on

page 42, with more to come next issue.

Information about Corel and its products, including the full versions of *CorelDraw 8* and *Corel Photo-Paint 8*, can be found on the company's Web site at <http://www.corel.com/>. You can assist Corel in the development of new versions by completing a survey at http://www.corel.com/draw8mac_le/index.htm

Where is it? Corel Graphics 8 LE
Minimum requirements: PowerMac, Mac OS 8.1, 32MB RAM with Virtual Memory on, 120MB hard disk space
To install: Double-click on the **Corel Graphics 8 LE Install** icon and follow the on-screen instructions. After the installation has finished you will be prompted to restart your Mac.



Corel Photo-Paint 8 LE will create and manipulate stunning bitmap images, and you can also use third-party *Photoshop* plug-ins to spice up your pictures.

Limited Editions

Corel Draw 8 LE is a very powerful package, with all features enabled but a few limitations. You can have only one document open at a time, with a maximum of three pages and 12 bitmap effects. You can save or export only in GIF or JPEG format. *Photo-Paint 8 LE* is limited to two documents and 20 bitmap effects. The full versions offer unlimited documents open at once, full support for export to other formats, CMYK printing, a generous bundle of fonts, clip art and stock photos, and other extras. For full details, visit Corel's Web site or contact its UK distributor, Guildsoft, on 01703 871142.

Alpha Centauri

STRATEGY GAME DEMO Try this playable demo of Sid Meier's futuristic twist on the smash hit *Civilization*.



Crash-landing on an alien planet, you must survive and build your own colony – and fight off other human factions...

The Michael Crichton of computer games, Sid Meier has produced another potential hit game to add to his trophy cabinet. With top games like *Railroad Tycoon* and *Civilization* under his belt, *Alpha Centauri* is another engrossing strategy game that will hold your attention for weeks on end.

This is a playable, single-player, 100-turn demo in which you can build up to

ten bases and upgrade your technology to level 5.

The game is set in the future when humankind has managed to build the technology to colonise distant planets using deep space transports and hyper-sleep capsules. En-route to Chiron, Earth's nearest habitable planet, a terrible reactor malfunction causes the crew to awaken and mutiny through the catastrophically damaged ship.



Alpha Centauri is a *Civilization* in space and, like all Sid Meier games, it's exceptionally playable and well put together.

From the mutiny, seven factions are formed and the dissent between the crew continues after the crippled ship lands on the planet's surface.

You are the leader of the Galian faction. This begins your quest to build a colony on Chiron, while trying to fend off, form alliances with, and defeat the other factions.

By all accounts this is *Civilization* in space, with all its basic characteristics

but set centuries into the future.

Where is it? Demos
Minimum requirements: PowerMac 180MHz 603 or better, 32MB free RAM, 800 x 600 monitor at 256 colours, DrawSprocket 1.1.4 or later, QuickTime 3.0 or later.

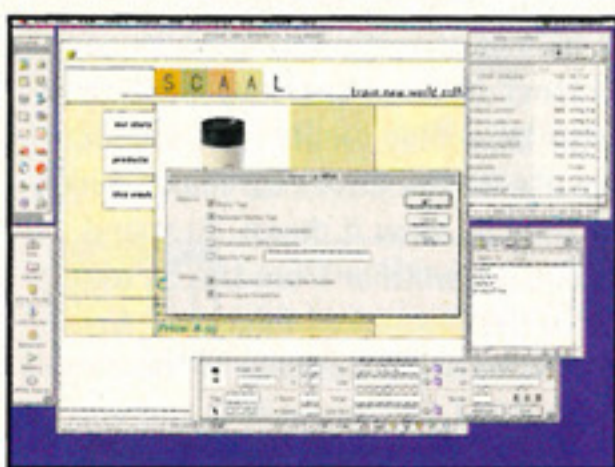
To Install: The game can be run directly off the CD.

Website: <http://www.aspyr.com/>

Dreamweaver 3

WEB AUTHORING PACKAGE A fully functional, 30-day trial of the ultimate Web site authoring tool.

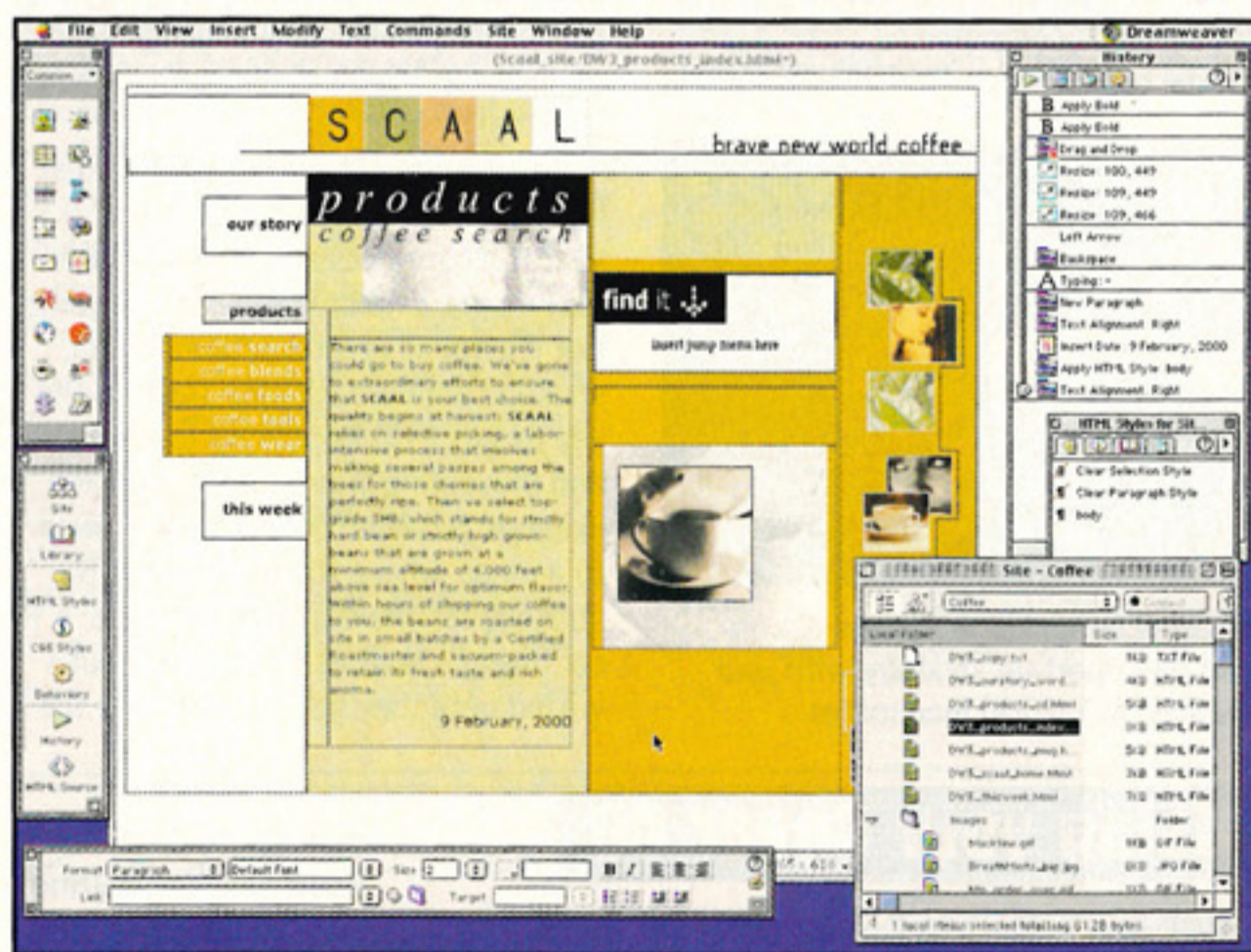
To be noticed on the Web now requires the finest designs using the ultimate tools. Macromedia's *Dreamweaver 3* is the ultimate professional Web authoring package available to date. To get started, load up the tutorial which is installed along



Dreamweaver can also clean up your existing HTML code.

with *Dreamweaver* and follow the stages through. *Dreamweaver* provides huge functionality working closely with other Macromedia products, such as *Fireworks 3* (demo also included on the CD) and *Flash*, so you can easily import and use a wide selection of media.

Dreamweaver 3 is now Mac native, making it more stable and faster, as well as more intuitive to use. *Dreamweaver* enables you to quickly create great-looking Web sites and manage and upload them, so it's easy to get your site on-line. *Dreamweaver's* features are extremely comprehensive, but if you find them daunting use the excellent electronic help accessed from the **Help** menu to guide you. This trial version has the same functionality as the full product except you can only use



Dreamweaver 3 offers great functionality and can be used to create and manage entire Web sites with ease.

it for 30 days before it times out.

FULL REVIEW on page 76

Where is it? Demos

Minimum requirements: PowerMac, Mac OS 8.1 or later, 32MB of available RAM, 20MB of free hard disk space,

256-color monitor capable of 800 x 600 resolution.

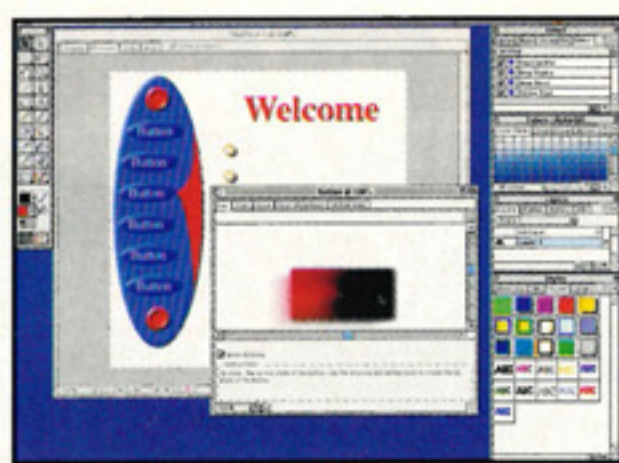
To install: Double-click the *Dreamweaver 3* Installer icon and follow the on-screen instructions.

Web site: <http://www.dreamweaver.com/>

Fireworks 3

GRAPHICS A fully functional 30-day trial of this Web graphics package.

Design, create and optimise all the graphics you need for the Web within one program. *Fireworks 3* offers a comprehensive suite of tools for editing both vector and bit-map graphics. You can import existing media from scanners and digital cameras, or repurpose your *Photoshop* and *Illustrator* files while retaining their full editability. You can, of course, start from scratch: the libraries are full of styles, buttons and navigation bars for you to use or adapt, and the handy button editor makes light work of creating any button. Since *Fireworks* writes the HTML and JavaScript itself and makes image optimisation easy, *Fireworks* gives you the freedom to design whatever you like.



Create navigational tools with the library feature and button editor.

recommended), Mac OS 8.1, 64MB of available RAM, 25MB of free hard disk space, 640 x 480, 256-color display, *Adobe Type Manager 4* or later to use Type 1 fonts

To install: Double-click the *Fireworks 3* Installer icon and then follow the on-screen instructions.

Web site: <http://www.macromedia.com/software/fireworks/>

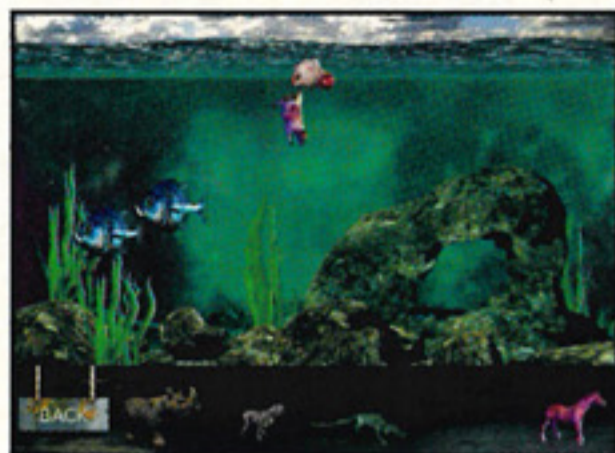
FULL REVIEW on page 78

Where is it? Demos

Minimum requirements: PowerMac (G3

Stephen King's F13

PREVIEW Transform your Mac with interactive horror, screen savers and backgrounds. Preview Movie.



If you want to make your Mac a spooky machine to work at, take a peek at *Stephen King's F13*.

Horror fans, read on. *Stephen King's F13* is suite of bits and bobs for adding a spooky feel to your Mac. The full product comes with ten nightmarish "Deathtop Backgrounds", scary System sounds and six

spine-tingling screen savers. And that's just for starters. *F13* features mini-games including *Whack a Zombie* and *Bug Splat*, plus *Frightmare Trivia*, a test of your knowledge of the works of Stephen King. And finally, "Everything's Eventual" is a story from Stephen King, unpublished in book form, with illustrations and hauntingly spooky background music.

This is an atmospheric movie preview of the product, and for full details it's worth visiting the dedicated Web site for further information.

Where is it? Demos

Minimum requirements: QuickTime 3.0 or newer

To Install: The movie can be run directly off the CD.

Website: <http://www.frightware.com/>

Madden NFL 2000

GAME DEMO American Football is more than just a group of large padded blokes running around with a ball. Playable demo.

The first American football game ever made was named *John Madden Football* and it ran on the Apple II computer.

The game shipped in 1989 and was



It's time to hunker down and discuss that all-important strategy with your *Madden NFL 2000* teammates.

an instant success. Since that time, Electronic Arts has made the game available on numerous other gaming platforms. Finally, after over ten years of absence, *Madden* has found its way back to the Mac!

As you would have hoped, *Madden* has advanced somewhat over the years: 3D graphics and well-animated players are a main feature of the game. But it's not all arcade action. In fact, strategy before each play starts is the key to successfully scoring touchdowns and preventing your opponents doing likewise. Between plays you are taken to a menu where you must select the strategy for the next play. And yes, it is confusing – novices will soon be outwitted until they get to grips with the



It's a battlefield out there and tactics as well as brawn are needed to overcome the opposition. And look at those shoulderpads!

complexities of what each play is designed to achieve.

However, with perseverance and losing badly for the first few games, you will get the hang of it and enjoy the mix of action and tactics.

Where is it? Demos

Min requirements: 180MHz PowerMac 603e, System 7.5.3, 32MB RAM

To Install: The game can be run directly off the CD.

Website: <http://www.aspyr.com/>

Using your Cover CD

Welcome to the MacFormat Cover CD. Before installing the software from our CD-ROM, we recommend that you always back up any important work on your hard disk. This precaution will avoid problems if it turns out that a program isn't compatible with your particular Mac set-up.

We make every effort to check our Cover CDs for compatibility and viruses, but the information here is intended as a guide only, and MacFormat cannot be held responsible for any

damage to data, any inability to use this software or any resulting losses. So please, do make sure you back up first.

Handy tips

Some of the demos on the CD require installation on your hard disk – they won't run directly from the CD. Many of these programs use an installer; once you've double-clicked on it, just follow the on-screen instructions and you should be fine. You must disable any anti-virus software you have installed (after checking, of course), as

it may interfere with the installation process. Even if there's no installer, it often helps to copy demos to your hard disk – at the very least, they should run faster than they would from the CD.

- ☑ The icons we use on the Cover CD make it look attractive, but they do slow it down. To speed things up, install *CDIconKiller* from the System Add-ons folder in the Resources folder.
- ☑ If you have problems quitting any of the demos on the CD-ROM, just press **⌘ Q** and you should go back to the Finder. If this doesn't work, hit **⌘ ~ [esc]** to Force Quit.

Also on the CD

Unreal Tournament

Enrol in the deadliest sport ever conceived! Serial killers, petty criminals, mercenaries and even film stars are participants in this deathmatch extravaganza, lured in by the promise of glory and the spoils of victory. This demo provides six levels for you to play online or offline against the artificially-intelligent opponents.

FULL REVIEW on page 86

Where is it? Demos

Minimum requirements: 200MHz PowerMac 603e, 64MB RAM, 4MB video card

To install: The demo can be directly off the CD.

Contact: GT Value on 020 8222 9700

Web site: <http://gtinteractive.com/>

Netscape

Communicator 4.7

Web browser with integrated e-mail client.

Where is it? Resources: Internet

Minimum requirements: PowerMac, 16MB RAM, Mac OS 7.6.1, 36MB hard disk space

To install: Double-click on the * Start Here * installer and then follow the on-screen instructions.

Web site: <http://www.netscape.com/>

Netscape

Communicator 4.08

Web browser with integrated e-mail client, suitable for older Macs.

Where is it? Resources: Internet

Minimum requirements: 68030 or any PowerMac, 16MB RAM, Mac OS 7.6.1, 17MB hard disk space

To install: Double-click on the * Start Here * installer and then follow the on-screen instructions.

Web site: <http://www.netscape.com/>

Netscape Navigator 4.08

Web browser. Separate 68K and PowerMac versions are provided.

Where is it? Resources: Internet

Minimum requirements: 68030 or any PowerMac, 16MB RAM, Mac OS 7.6.1, 14MB hard disk space

To install: Double-click on the * Start Here * installer and then follow the on-screen instructions.

Web site: <http://www.netscape.com/>

Internet Explorer 4.51

Web browser. Includes Outlook Express e-mail client.

Where is it? Resources: Internet

Minimum requirements: PowerMac, 8MB RAM, System 7.5.3 (System 7.5.5 recommended), 12MB hard disk space

To install: Double-click on Microsoft Internet 4.5.smi to mount the disk image on your Desktop and then drag the Microsoft Internet 4.5 folder from the disk image to your hard disk.

Contact: Microsoft on 0345 002000

Web site: <http://www.microsoft.com/>

FreeUK ISP Software

Internet software for signing up to



He had it coming to him! The graphics and gameplay in *Unreal Tournament* are stunning – perhaps the best we have yet seen on the Mac.

Internet Service Provider FreeUK. Web browsing and e-mail are handled by Microsoft's *Internet Explorer* and *Outlook Express* respectively. All Internet calls are charged at local rates

Where is it? Free Internet Access – Free UK

Minimum requirements: Any PowerMac, 8MB RAM (12MB recommended), System 7.5.3 (System 7.5.5 recommended), 13MB hard disk space, 28.8Kbps modem, Open Transport 1.1.1 and OT/PPP 1.0

To install: Double-click the freeukinstall icon to extract the files to your hard drive. Then double-click the Internet Connection Wizard that is contained within the Microsoft Internet 4.5 folder and simply follow the on-screen instructions. When asked what sort of set-up you wish to perform select the Automatic radio button and click OK.

Contact: FreeUK on 08453 55 55 55 for any technical and customer services queries you may have.

Web site: <http://www.freeuk.com/>

Canvas 7

Canvas 7 is an all in one suite that takes care of most graphic illustration needs for print, the Web, right through to page layout for print. Some 150 new features have been added to version 7, most notably SpriteLayers. This has numerous advantages, one of them being that you can apply image filters (including third party plug-ins) to any screen object.

FULL REVIEW on page 70

Where is it? Demos

Minimum requirements: PowerMac, System 8.5, 32MB RAM, 80MB free hard disk space, 16-bit color or higher,

800 x 600 or higher screen resolution

To install: Double-click the Canvas Install icon and follow the on-screen instructions.

Web site: <http://www.deneba.com/>

Apple Online ISP Software

Signup software for this dedicated Mac ISP with free registration and local call on-line charges. Unlimited e-mail addresses and 25MB Web space is available to all subscribers.

Where is it? AppleOnline ISP Software

Minimum requirements: Any PowerMac, 8MB RAM (12MB recommended), System 7.5.3 (System 7.5.5 recommended), 13MB hard disk space, 28.8Kbps modem, Open Transport 1.1.1 and OT/PPP 1.0

To install: Read the ReadMe *Simple-Text* file in the AppleOnline ISP Software folder.

Contact: Apple Online on 0870 744 441

Web site: <http://www.appleonline.net/>

Elliott's Animation

The latest instalment in the continuing adventures of Jonni Starr.

Where is it? Elliott's Animation

Minimum requirements: QuickTime 3.0 or higher.

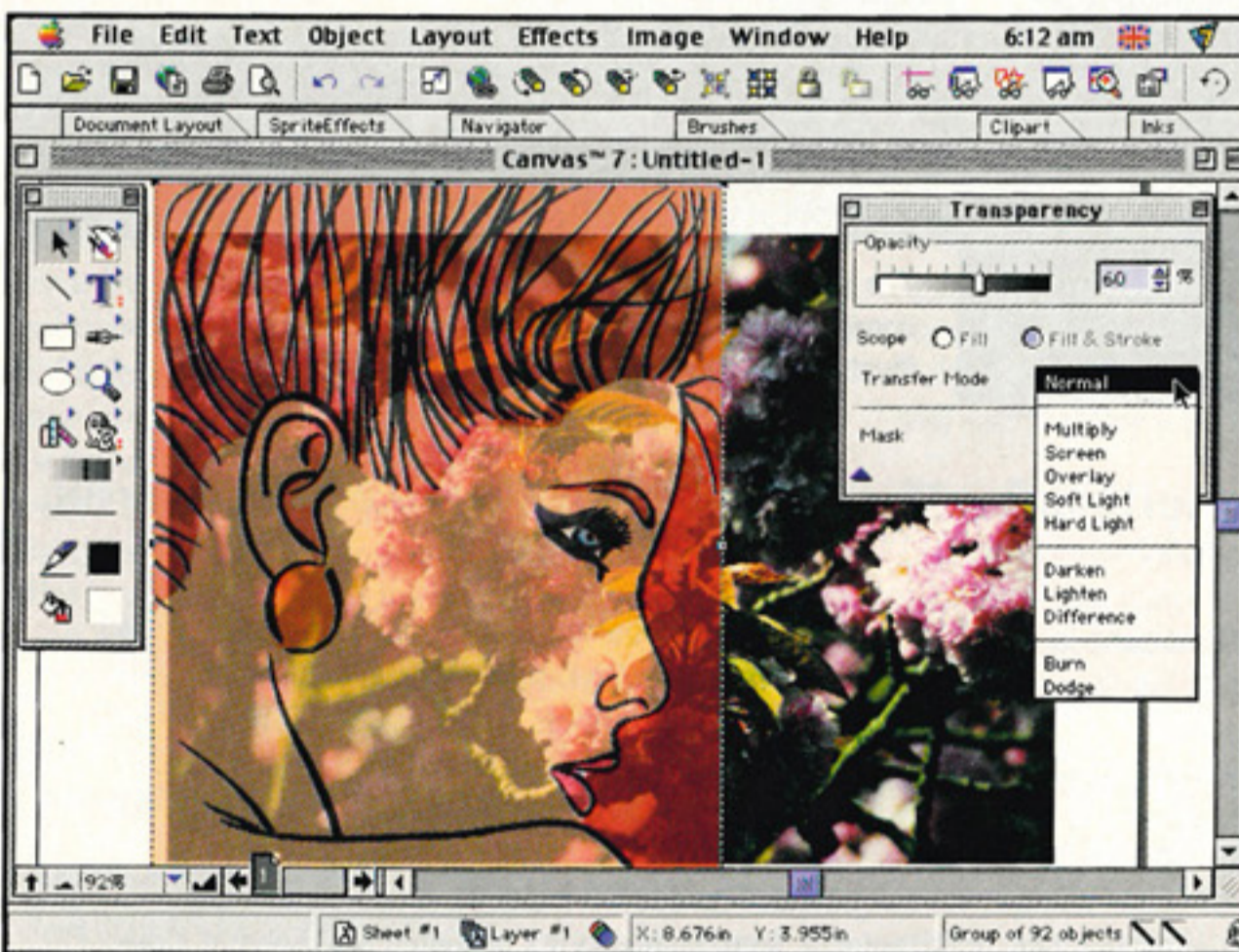
To install: You can run the animation directly off the CD

Readers' Corner

Artwork and other masterpieces from readers. Send in your contributions for inclusion on the Cover CD!

Where is it? Readers' Corner.

To install: They can be run directly off the CD.



Canvas 7 features one of the most comprehensive sets of tools for editing and laying out pages of vector and bitmap graphics – and just about everything else.

It couldn't be easier to install System Extensions and Control Panels from the Cover CD: just drag them over your closed System Folder and your Mac puts them in the right place for you. Then you simply need to restart.



Look for this icon in the issue – it will point you towards CD contents connected with the feature or review you're reading.

FULL REVIEW on page XX This refers you to a page in this issue for a full review

Damaged CD?

If you think your CD-ROM is damaged, first please make sure that you have followed the installation procedures described in these pages correctly (and read any documentation that accompanies the software on the CD-ROM). In other words, please make sure there is a physical problem with the disk itself; otherwise, any replacement CD will give you the same problem!

If there is a physical defect with your disc, we offer a replacement service. Enclose a self-addressed padded envelope (but we'll pay return

postage), and a brief description of the damage. Note that the address for damaged CDs is below. Please don't return Cover CDs to the editorial office: we don't hold any stocks of them and can't help you directly.

Return damaged Cover CDs to:

Returns Dept, TIB plc
Unit 5, Triangle Business Park
Pentrebach, Merthyr Tydfil
CF48 4YB
United Kingdom [if posting from outside the UK]

Readers' Corner

In MacFormat 86 we gave away a full version of *MicroLogic Fun* so that you could create your own musical compositions. We also asked you to send in your finished musical masterpieces to be included in future Readers' Corners.

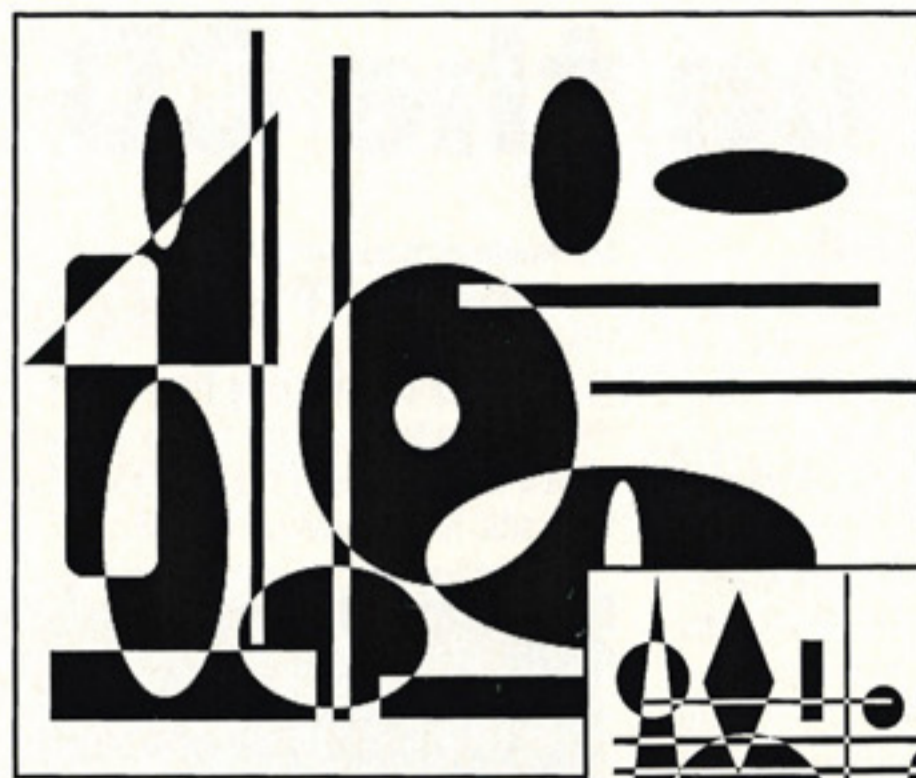
This issue two readers have taken up the challenge and sent in their work – and impressive they are! They came from JJ Heijberg from The Netherlands and Lacy Kyle. You'll need *MicroLogic Fun* to open and play the ditties, but Lacy's work was also sent in as a QuickTime Movie.

Along with the three *MicroLogic Fun* tunes, JJ Heijberg also sent us seven illustrations inspired by a variety of themes including a bit of science fiction and fantasy.

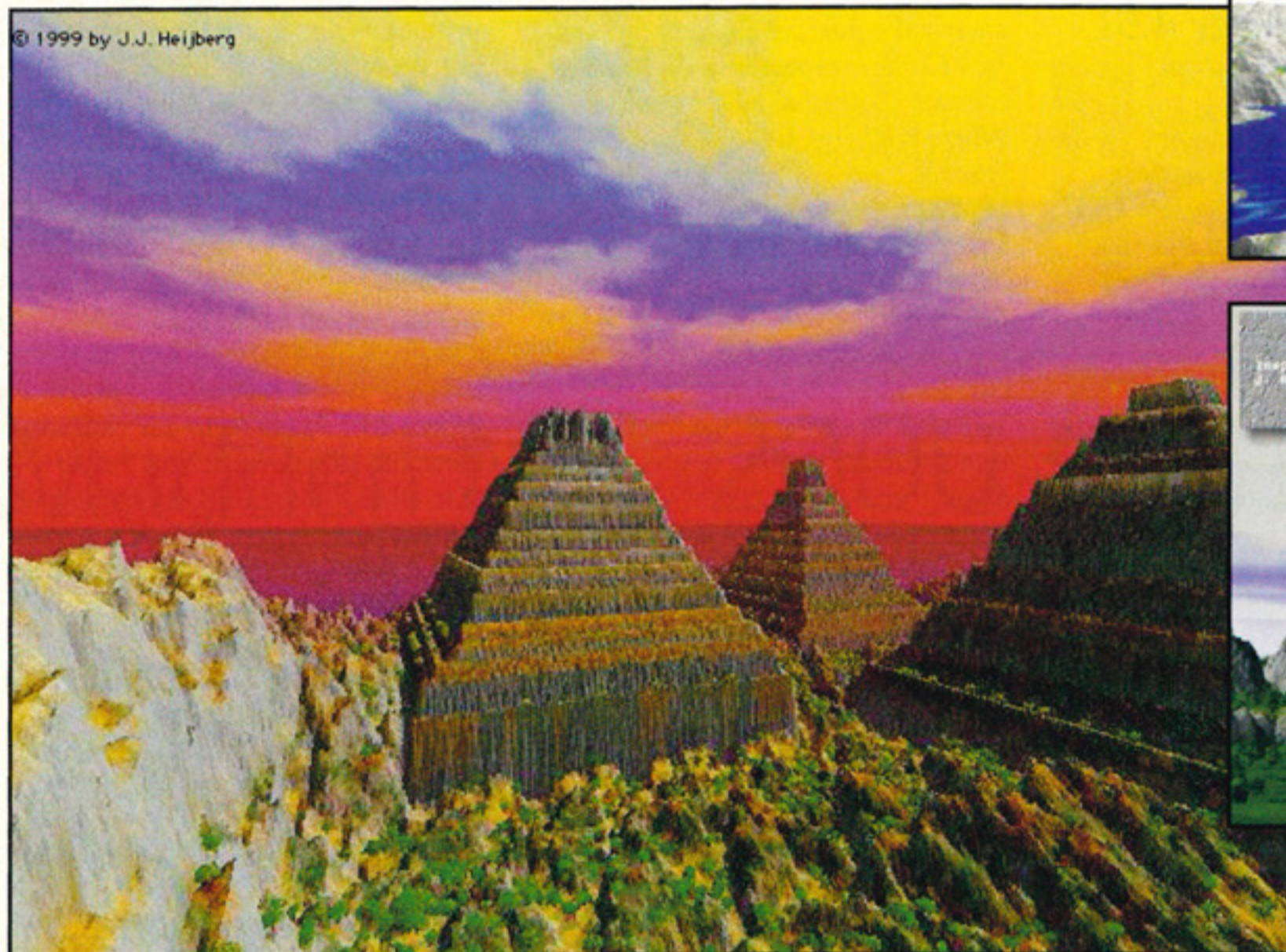
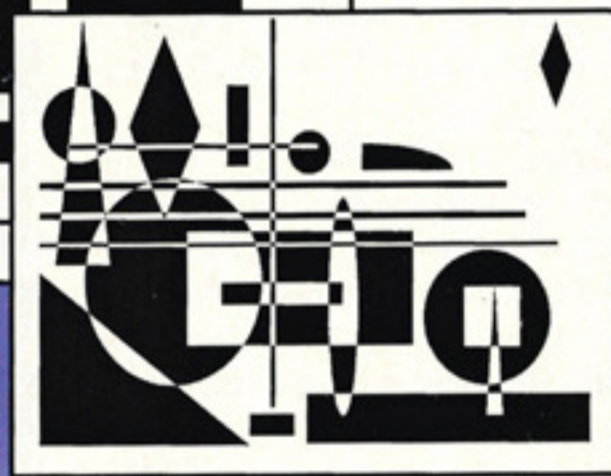
Our final contribution this month is from Michael O'Connell, who sent in 12 images he created using the popular graphics program *ColorIt*, a long-time MacFormat favourite. This is his unique series of black and white pictures made from simple overlapping shapes.

Please keep your Readers' Corner submissions coming in. We just love to see what our readers get up to on their Macs, so if it's suitable for public viewing, send it in and we'll feature it here. Artwork features heavily in this section, but we also want other stuff too, such as your animations, freeware programs, sounds, music, icons, etc.

For information on how to send us submissions, refer to the Submissions Guidelines document in the Readers' Corner folder for full details.



Using the ever-popular *ColorIt* Michael O'Connell has created these simple yet interesting black and white illustrations using basic tool palette shapes.



The multi-talented JJ Heijberg sent us three music compositions created using *MicroLogic Fun* and seven illustrations, three of them featured here.

Cover CD Index

Welcome to the complete listing of the contents of your MacFormat 88 Cover CD

Corel Graphics 8 LE

CorelDraw 8 LE and Photo-Paint 8 LE, complete!

Demos

Alpha Centauri Canvas 7 Dreamweaver 3.0 Fireworks 3.0 Madden NFL 2000 Stephen King's F13 Unreal Tournament Demo

Shareware Central

All the shareware and freeware reviewed in this issue of MacFormat.

Shareware Plus

Over 150MB of the very latest shareware gathered from the Internet

How-to's

To accompany this issue's features, software mentioned in the "uses for an Old Mac" feature

Elliott's Animation

Episode three of the continuing animated

adventures of Jonni Starr

Readers' Corner

Artwork and other contributions sent in by talented MacFormat readers

AppleOnline

Internet connection software for the free Internet Service Provider AppleOnline

FreeUK

Internet connection software for the free Internet Service Provider FreeUK

Abel Internet

Internet signup information for free Internet Service Provider Abel Internet

Resources

Anti-Virus
Agax 1.3 merryxmas Vaccine 4.2

Archiving

Aladdin Dropstuff 5.5 Aladdin Expander 5.5 StuffIt Lite 3.6

Ask Mac Answers Form

The Ask Mac Answers form in SimpleText format.

Internet

Netscape Communicator 4.08 Complete (68k)
 Netscape Communicator 4.7 Complete (PPC)
 Outlook Express 5.0 Fetch 3.0.3 Free PPP 2.6.2 Microsoft Internet Explorer 4.51 Netscape Navigator 4.08 Newswatcher 2.2.2

MacFormat CD indexes

A searchable index of every MacFormat Cover CD.

MacFormat Checklist

A guide to every model of Mac ever on sale in the UK, provided in PDF format.

MacFormat Fax-Back

A listing of all the features, reviews, How-to's and Group Tests available through our Fax-Back service, provided in PDF format.

System Add-ons

CDIconKiller 1.5 SoftwareFPU 3.07

Text and Graphics

Acrobat Reader 4.05 BBedit 5.1 Demo BBedit Lite 4.1 GraphicConverter

Mf Competition

Win one of three copies of Canvas 7

WIN WITH MACFORMAT Take two graphics applications into the studio? No need with Deneba's latest release, combining vector and bitmap abilities! We've got three copies to be won, worth almost £1,400, courtesy of Guildsoft.

Graphic design has always been an exciting field to work in, with so many powerful, distinctive applications to help turn your visions into reality. But one of the frustrations has long been that chasm between vector illustrations (made up of strokes and filled areas) and bitmap images (pictures composed of coloured dots). Why should you have to switch from one application to another, just because there's some petty technical distinction between two elements you want to use? Well, now you don't - not with *Canvas 7*.

So what's so good about *Canvas 7*? For starters, it has a superbly intuitive, customisable interface. You can get things looking just the way you want by tearing off parts of the main toolbox to form separate floating palettes, which can then be minimised to their title bars or dragged to a "docking bar" and arranged as tabs.

Most remarkable, though, is the fact that you can work on vector and bitmap graphics at the same time, in the same document. *Photoshop* plug-ins are supported via the new SpriteEffects palette, and can be applied to both vector-based images and bitmaps, thanks to *Canvas*'s amazing Sprite-Layer technology. *Canvas* even boasts full support for transparency, which you can apply to bitmap and vector elements using SpriteLayer technology. The palette also enables you to build up a list of effects which have been applied, and this list can be re-ordered at any time.

The program comes with a full range of editing

tools. Among the new drawing tools are Reshape, Push and Auto Curve, all of which offer new, easier ways of working with Bézier paths. There are also several CAD-like tools and CAD editing features, tools for adding scaled measurements to technical drawings, and even palettes full of preset objects for simple business diagrams. The photo-editing abilities of *Canvas 7* are impressive, too - more than a match for the likes of *Photoshop LE*.

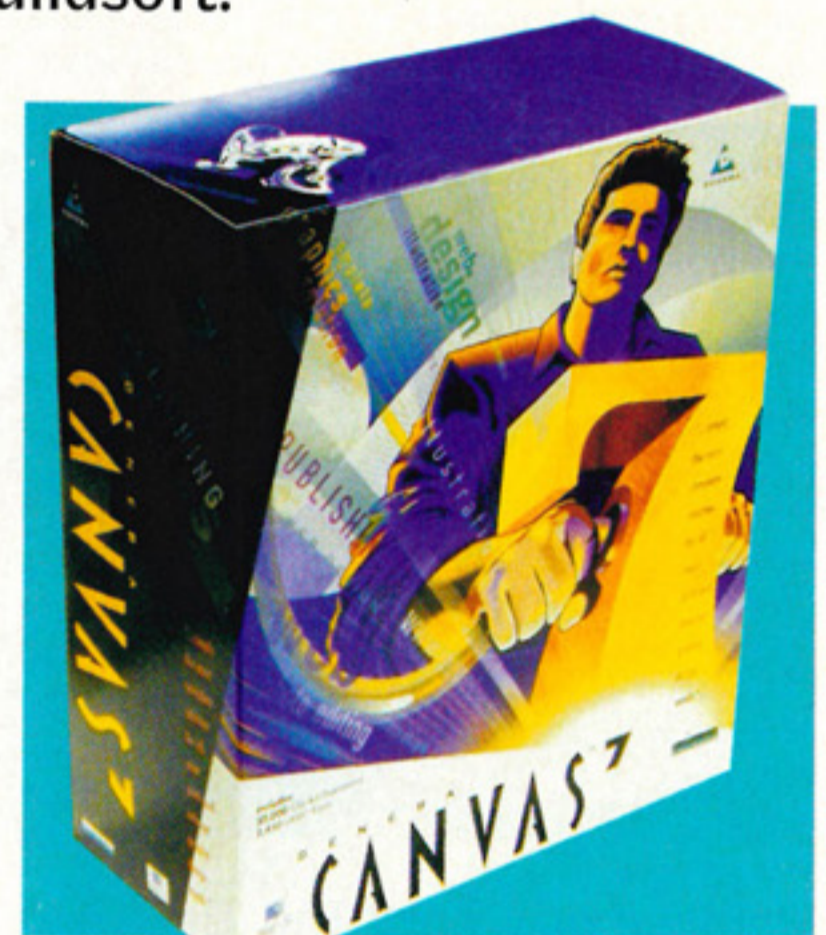
The facilities don't end there, though. You can use *Canvas 7* for multi-page DTP work, and export pages to HTML format with embedded Web address links. You can create animated GIFs, and compare up to four different compression settings for JPEGs and GIFs side-by-side. The Web Buttons palette enables you to create a Java rollover button simply by dragging and dropping. To complete the package, 30,000 clip art images are included, along with 2,450 high quality URW fonts and an excellent CD of introductory videos.

For your chance to win a copy of this superb application, worth £464, just answer the following three questions and send us your entry by Friday 7 April. The first three names drawn after this date will each receive a copy of *Canvas 7*.

The Questions

1. Which of the following does *Canvas 7* support?

- (a) *Photoshop* plug-ins
- (b) The Conservative Party
- (c) Charlton Athletic



2. Which of the following is NOT a *Canvas 7* drawing tool?

- (a) Push
- (b) Shove
- (c) Auto Curve

3. What does *Canvas 7*'s Web Buttons palette enable you to create?

- (a) An experimental mode of transport
- (b) A Java rollover button
- (c) Large pies just like Mother used to make

The Rules

1. You must send your entry by midnight on Friday 17 March 2000.
2. You must send your entry to the address specified for each competition.
3. Employees of sponsoring companies, Future Publishing Ltd, associated companies or their agents, or their families, may not enter.
4. You may enter each competition only once.
5. The editor's decision is final, no correspondence will be entered into and there are no cash alternatives. No purchase is necessary.

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To help us improve MacFormat, please answer the questions below. You will be entered in the competition even if you choose not to answer them.

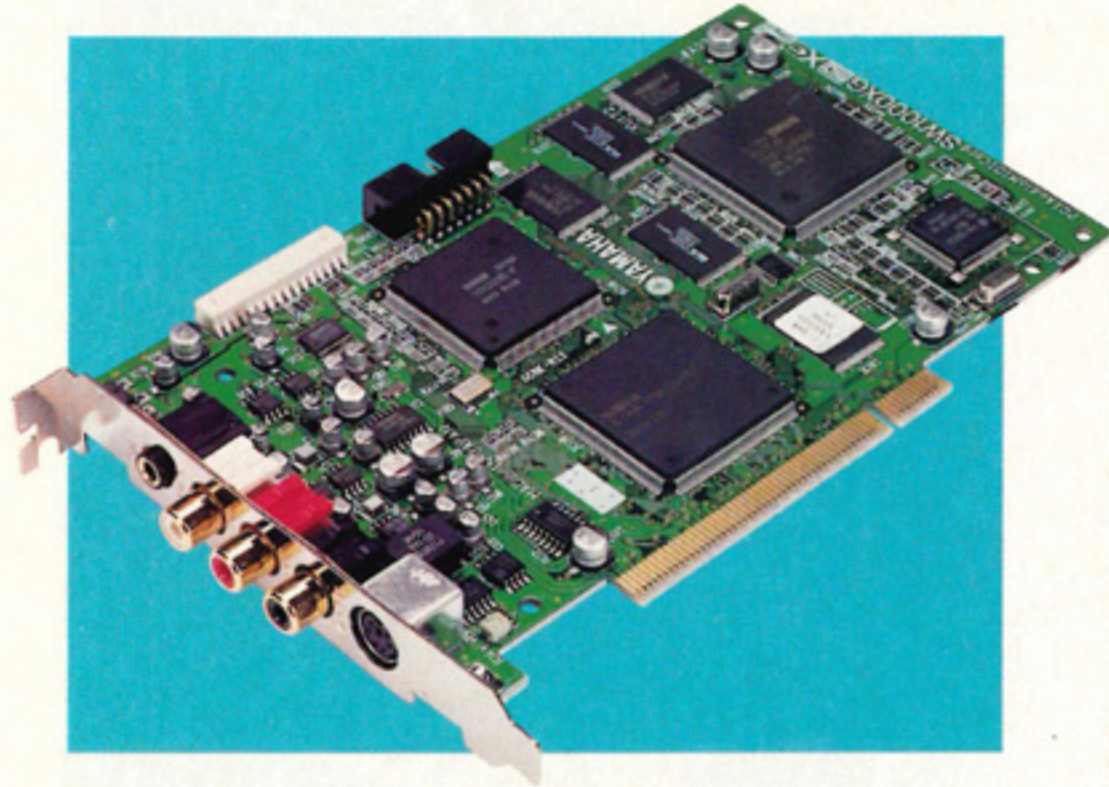
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Winners

Announcing the lucky winners of recent competitions...

Back in MacFormat 83, we gave you the chance to win a superb Yamaha sound card with MIDI and built-in sounds, courtesy of Yamaha-Kemble UK. The card offers so much more than the Mac's built-in sound capabilities: the Yamaha SW1000XG card has its own on-board sounds, giving you a complete sound module as well as digital audio input and output plus a MIDI interface (for connecting music keyboards and the like), all in one compact PCI card that's easy to install in any PCI-slot-equipped Mac. It contains no less than 1,267 sounds plus 46 drum kits and 181 on-board digital effects, and you can even extend the card's capabilities using plug-in daughtercards. First prize includes a PLG100-VL Virtual Acoustic Physical Modelling synth board, which enables you to create your own instruments using the visual editing software supplied. Winner of this fabulous bundle is Graham Smart of Newcastle Emlyn. Second prize of a Yamaha SW1000XG card goes to Helen Ingham of Stockwell, London. Congratulations to both!



Remember when? The Tiny Zone!

Hello and welcome once again to The Tiny Zone, the small section of MacFormat that never forgets the little things. This issue actually marks something of an anniversary: it's seven years since the first issue of MacFormat, dated March/April 1993 (we started out bi-monthly, you see). That landmark first issue included a feature on the hottest Mac software then available, and it's fascinating to see what's gone and what's survived: as well as Aldus PageMaker and QuarkXPress there was Personal Press, Publish-It Easy and Ventura Publisher; not only Photoshop, FreeHand, Illustrator and Canvas but also IntelliDraw, Pixel Paint Pro and Studio 8. Whatever happened to the classics of years gone by, eh? Where are CricketGraph, Wingz and Encarta now? (Write and tell us about your favourite programs of the past, and why you wish they were still available!) There was even a prototype Tiny Zone (though it wasn't called that yet) in our first issue. It revealed that MF1 had been produced on "two Ili's, a IIsi, a IICx, an LC II, a Classic II and a Quadra 700, all running System 7.1. In-house copy was written in WordPerfect 2.1, with external words arriving via modem running ZTerm comms package from CIX on-line conference board. Pages were laid out and lovingly fondled with QuarkXPress 3.1.1, FreeHand 3.1, Photoshop 2.0.1, and Illustrator 3.2. Favourite office pastimes were Pararena [whatever that was!] and swearing at Lemmings. Today, we use two blue-&-white G3s, a G4, three beige G3s and a 7200/75, some running Mac OS 8.1 and others 8.6. Software includes QuarkXPress 3.32 (no, not 4...), Photoshop 4.0.1 and FreeHand 7; our WP of choice is Nisus Writer, and external copy arrives via e-mail over the Net. This month we've been playing Unreal Tournament, mostly, or darts on shockwave.com. Shows you what a long time seven years is...

The flannel panel

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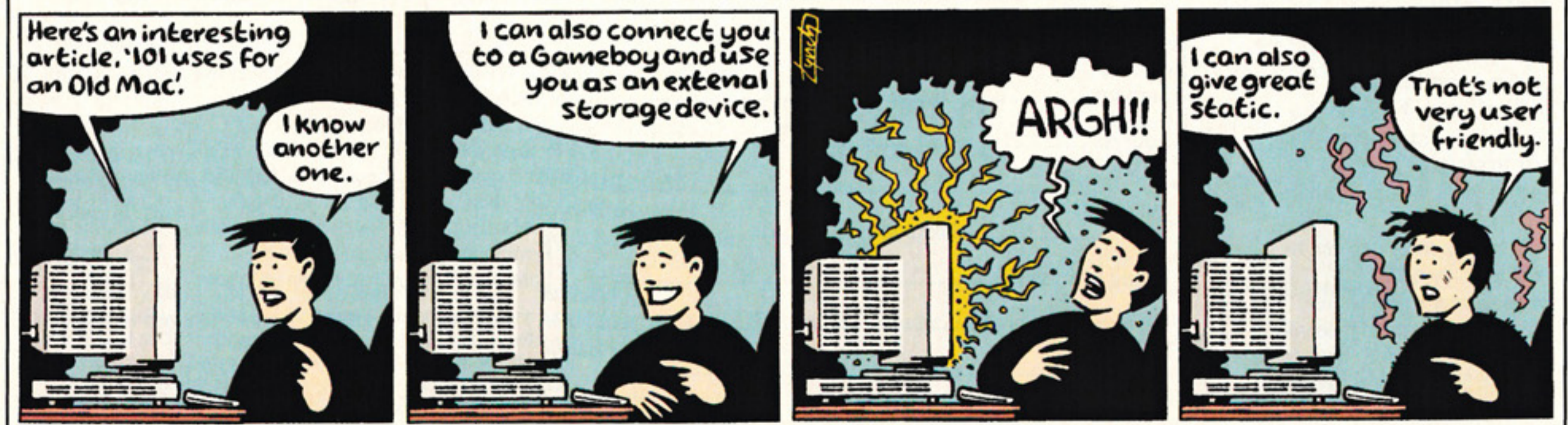


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Mac and Tosh

by Bob Lynch



Next Issue



Keep it safe!

Is your data safe? It might not all be top-secret stuff, but what about the personal or financial details you send via e-mail, or over an office network? How secure will your private files be if you use the new multiple-user facilities in Mac OS 9? Don't miss this important investigation!

Flat-panel monitors

The sexiest thing you can put next to your Mac, or an expensive gimmick? We test TFT monitors.

PLUS

- ▣ Step-by-step first CorelDraw 8LE project
- ▣ Comics on the Mac: the secrets of scanning!

- ▣ MetaCreations Carrara: does this new 3D suite have what it takes to win a piece of the action?
- ▣ Nisus Writer 5.1.3: an update of the little word processor with some unique tricks up its sleeve
- ▣ The latest games and multimedia, including Quake III and Star Wars Racer... possibly!
- ▣ More AppleWorks tips, another jam-packed Cover CD, expert advice, and much more!

ON SALE MacFormat 89 goes on sale on Friday 24 March. Reserve a copy with your newsagent now, or see page 98 for our current subscription offers: move fast and you can get 13 issues for the price of 9!

Contents subject to change, because so much new stuff is "on its way"...

Viewpoint

The Big Lie

AN INSIDER'S VIEW Wintel PCs are just as easy to use as Macs, the makers claim. Not true, says graphic designer **Jim Campbell**: what the Mac has traditionally always done best, it *still* does best.

In the face of Apple's recent high-handed/arrogant/despicable (delete according to choice) behaviour, particularly towards its UK customers, people have come forward in letter columns and newsgroups and said, basically, "If Apple continues behaving like this, I will abandon it in favour of a Wintel machine".

These people have apparently fallen victim to a Big Lie spreading in the personal computer consumer base. This Big Lie, in one form or another, is: "In day-to-day operation, there is no practical difference between the Mac OS and Windows 95/98."

Well, I for one can tell you that there is. As a Mac professional for several years, I was taken aback when my latest job landed me in front of a Compaq Celeron. It's hardly top-spec (400MHz processor, 64MB RAM), but the manufacturers claim it is more than sufficient for mid-range DTP and design work. Besides, it had *QuarkXPress*, *Photoshop* and *FreeHand* and, I had heard constantly repeated, there was "no practical difference."

My working week is divided between the PC and my home Mac (a trusty old 180MHz 6400), and I have had the opportunity to compare the "day-to-day operation" of ostensibly identical applications.

The lack of standardisation of keyboard shortcuts in Windows is infuriating. It's annoying enough to move from *Photoshop* to *Quark* and use the wrong shortcut to access the zoom tool, but the problem is far, far worse on the PC. For example: closing document windows and quitting applications. Pretty basic, system-wide functions. Well, in Windows, *Photoshop* uses CTRL-W and CTRL-Q respectively, while *Quark* uses the less sensible CTRL-F4 (which isn't even documented as a shortcut) and CTRL-Q, and *FreeHand* uses CTRL-F4 and ALT-F4.

And there's more. If you moan about having to watch progress bars crawl across the screen, try not having a progress bar, only an unhelpful hourglass icon. Suddenly, you have no idea whether that *Photoshop* filter is going to take another five minutes (in which case you can do something useful, like put the kettle on) or 30 seconds. Oh, and you can't cancel the operation, either.

Then there are the little things that make all the difference. Using the PC to open a *Quark* document made on a Mac, I got a message that Windows had turned off the "Ligatures" option in the document, because that feature wasn't available. It's not that the Windows version of the font didn't have ligatures (joined pairs of characters like "ff" and "fi"), but that Windows simply does not do them.

In fact, Windows' performance on typography in general is woeful: although the "Character Map" (an even less helpful version of Key Caps) informs you



Jim Campbell has been using a Mac for many years and now has to get used to a PC too.

that most fonts have a full set of characters, many seem inaccessible from the keyboard and no amount of finger-dislocating key-combinations seem to elicit variant hyphens, degree or copyright symbols.

Additionally, even with the latest version of *ATM Deluxe* installed, font display is at best patchy, with fonts tending to lose bold or italics when documents are re-opened, and sometimes refusing to display at all without a restart.

As for performance: even with extra VRAM, the screen redraw on the PC is abysmal. I will concede that applications launch significantly faster, but in operation

they are certainly no faster than my ageing Mac and, in some cases, are dramatically slower. *Photoshop* in particular runs like a snail on Prozac. On a 4.5MB greyscale *Photoshop* document, Select>Inverse takes 10 seconds on the PC and 2 on my Mac; a 40MB multi-layered file took just under 10 minutes to open on the PC machine but 90 seconds on the Mac.

You say I'm using the PC for a purpose it was not made for (despite the manufacturer's claims)? But I am comparing a brand new, mid-spec Windows PC with a Mac system which is not only more than three years old, but which was originally marketed as a "Home Office" system, and therefore hardly intended for intensive DTP and graphics work either!

In general, the PC feels unstable and fiddly in comparison, with crashes or other errors requiring a re-boot three or four times a day - in comparison to about one crash a fortnight on the Mac, despite the fact that it has considerably more external devices attached to it. The PC's two printers have never worked properly (if at all) in four months, and have defeated two separate attempts by the IT department of a major regional publisher to fix them.

So... to those people who threaten to flee the Mac for the world of Wintel because Apple has callously re-named their Wastebasket "Trash": Think again. The difference between the two systems is as simple as this: Microsoft gives you an operating system and expects you to learn how to use it. Apple thinks about how people are going to use their machines and designs the software to facilitate that with a minimum of stress. Even Apple treating you badly is preferable to the best a Windows PC can offer you.

For five years, Jim Campbell has masqueraded as a mild-mannered full-time magazine designer, Mac all-rounder and occasional sub. By night, however, he emerges as a freelance writer whose latest work (*Daemonifuge*, with Mac comic art genius Kevin Walker) is available as a graphic novel.

☑ The views expressed in MF Viewpoint are those of the author and do not necessarily reflect the opinions of MacFormat or Future Publishing Ltd.

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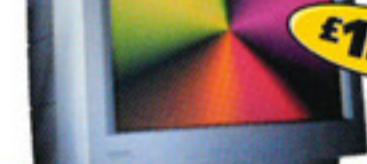
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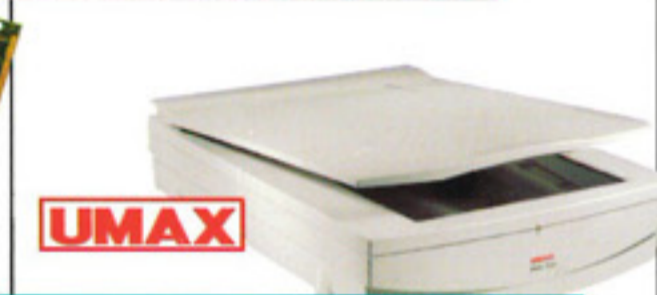
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- EPSON Ultra MicroDot technology
- Print speeds up to 7ppm mono & 6.7 colour
- Improved design for quiet printing



EPSON Perfection 610

- 600 x 2400 dpi Opt resolution
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- Single-Pass 36bit scanning

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Designer 3

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