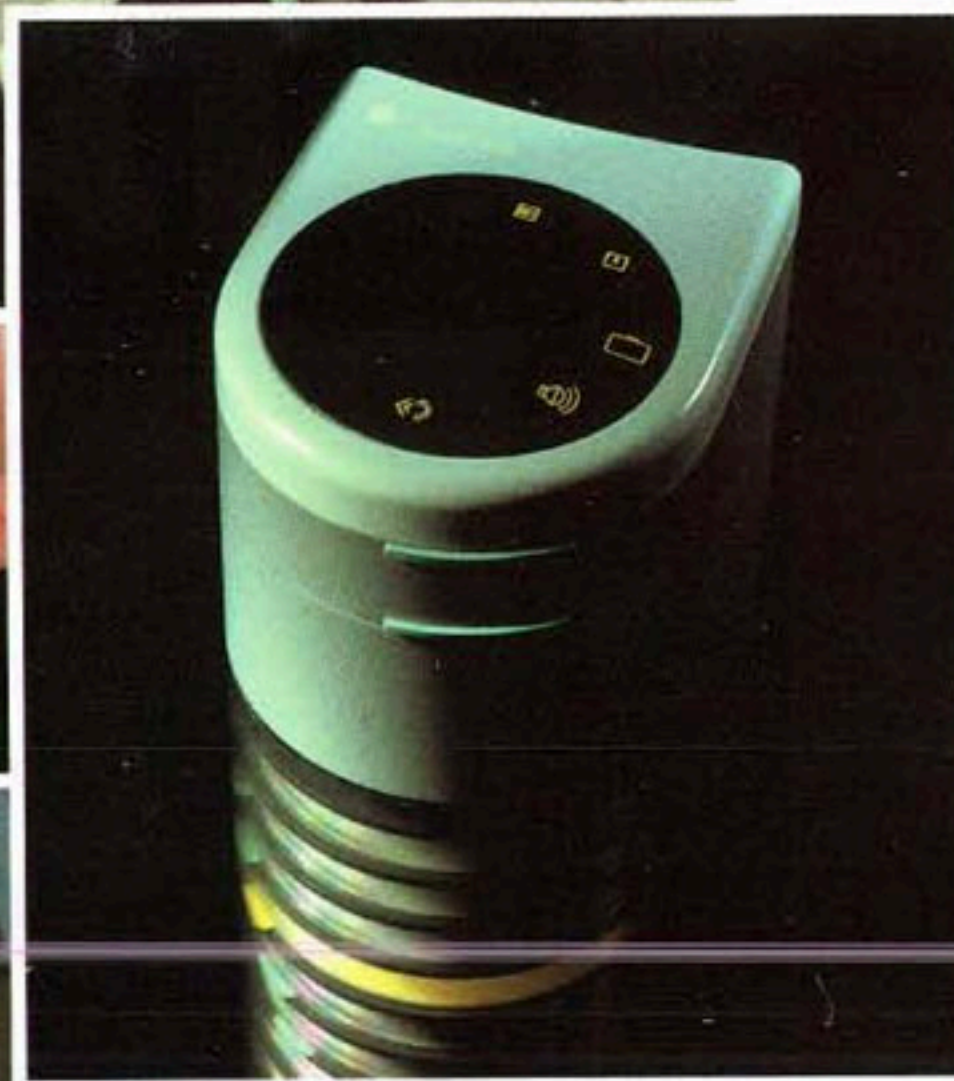
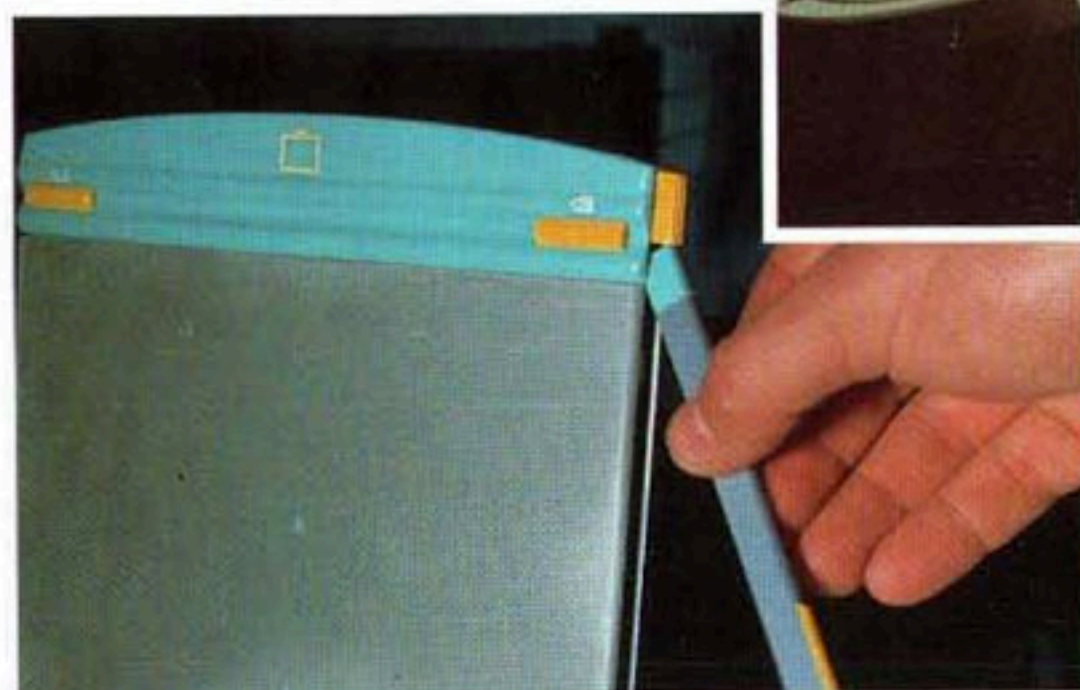
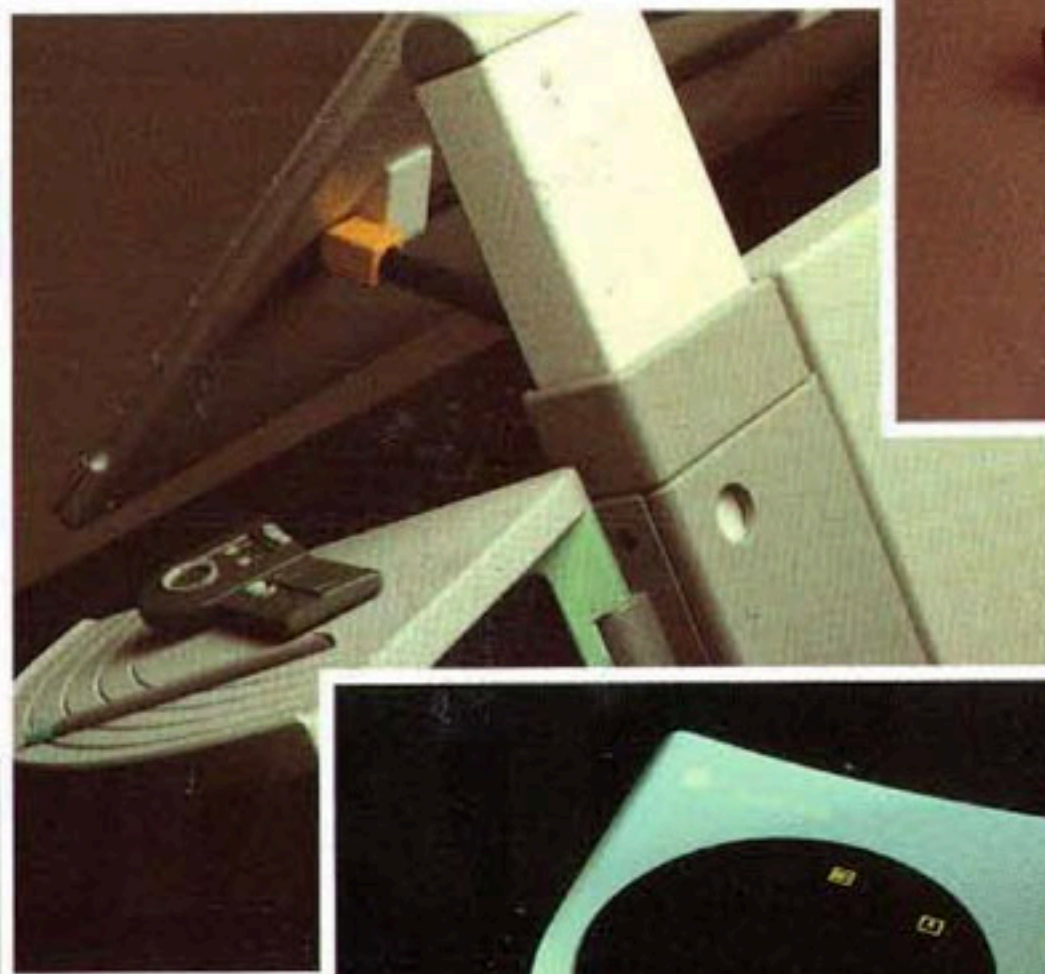
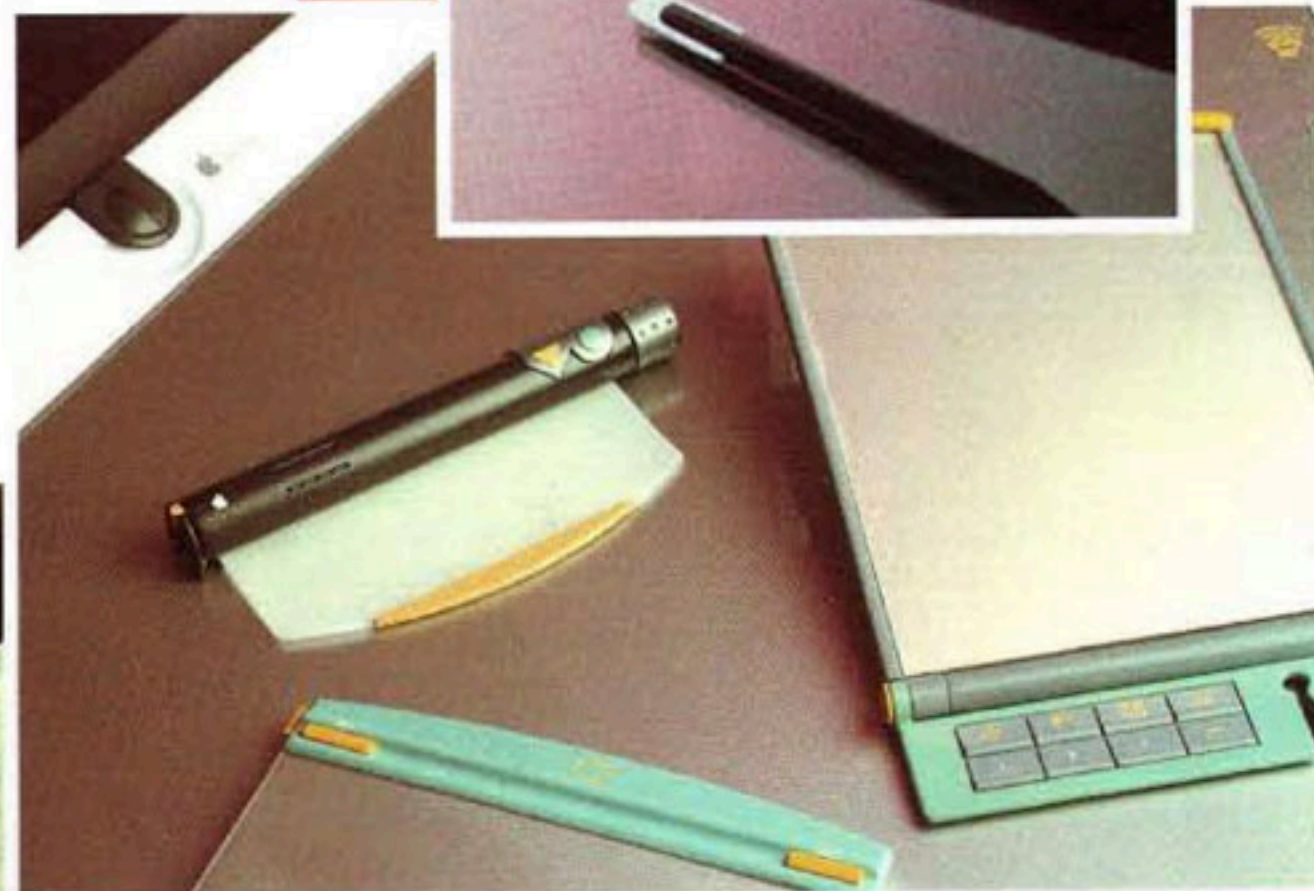
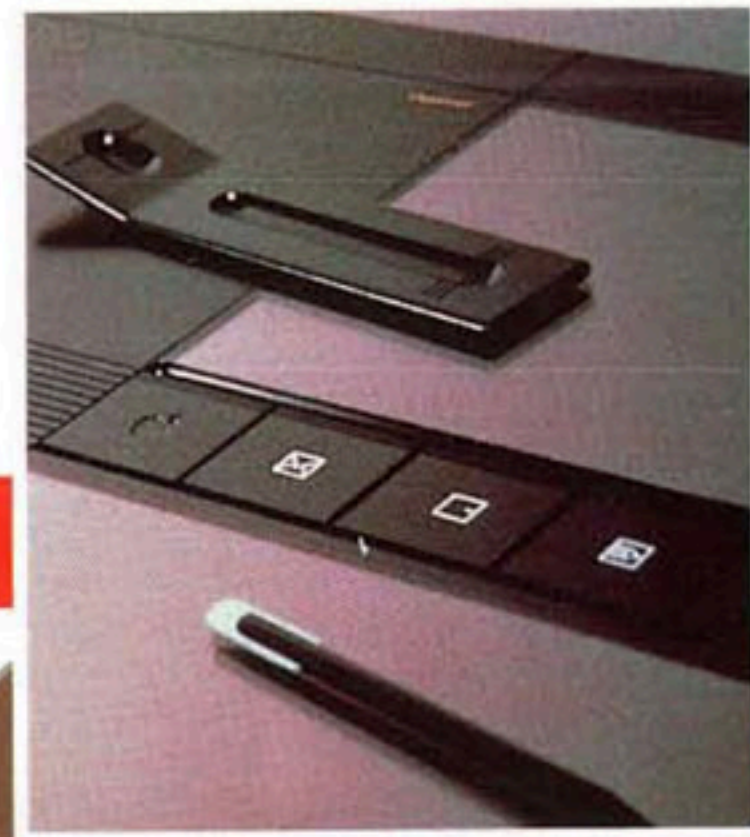


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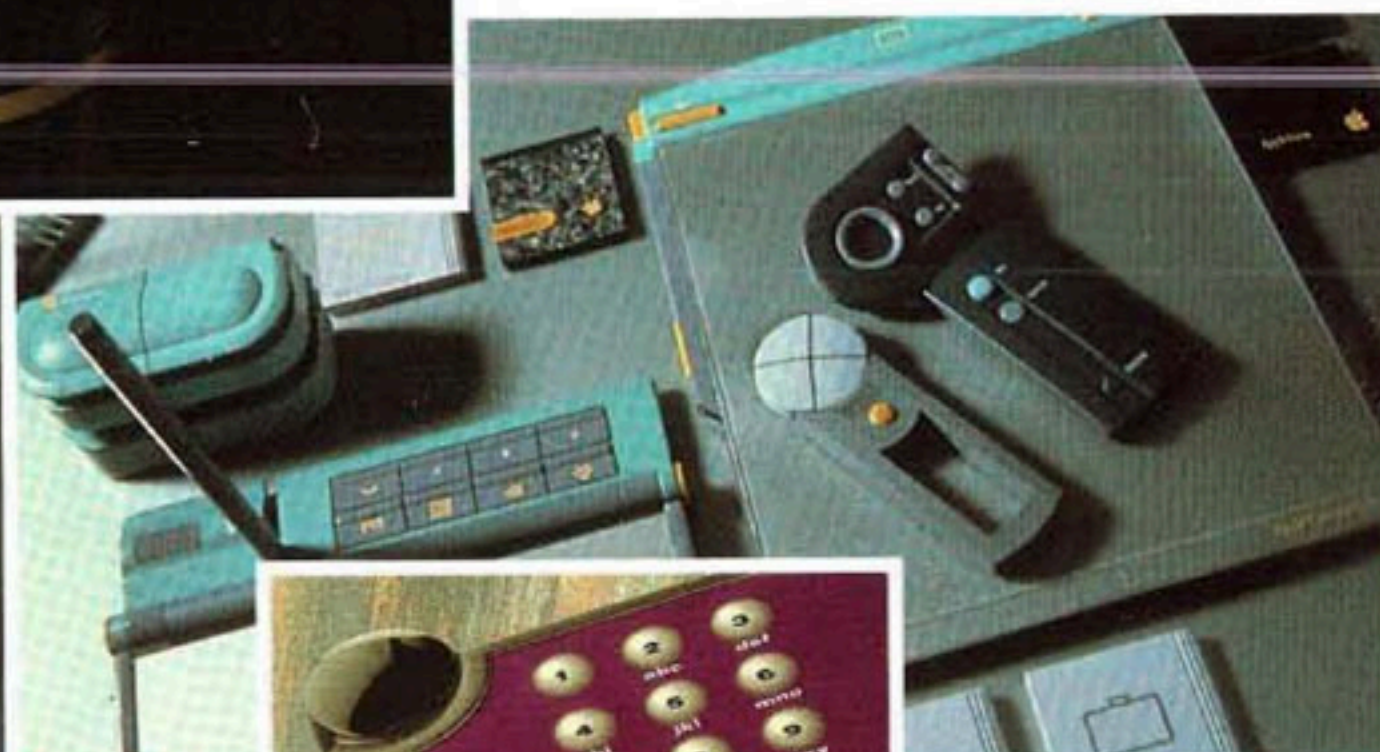
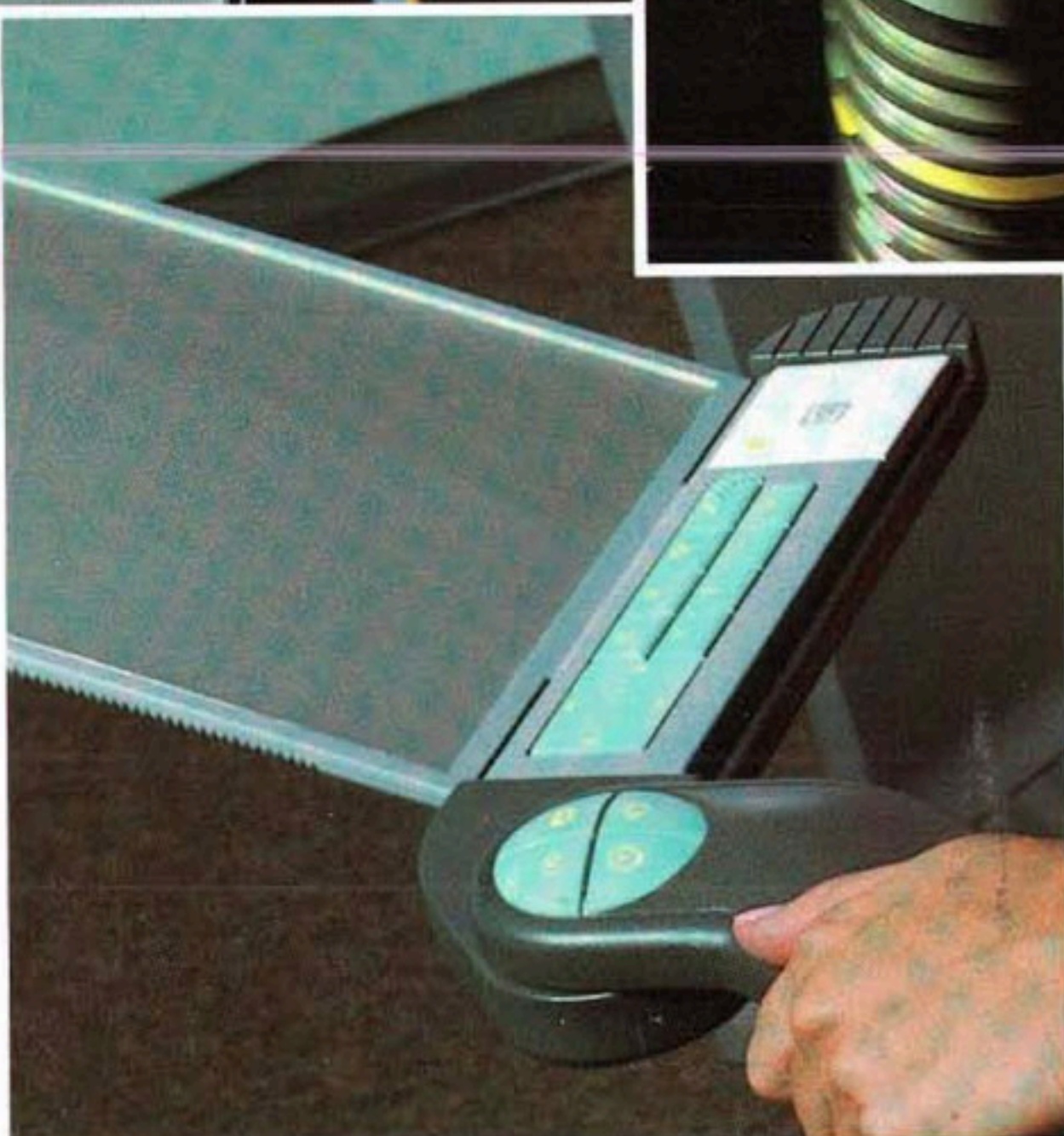
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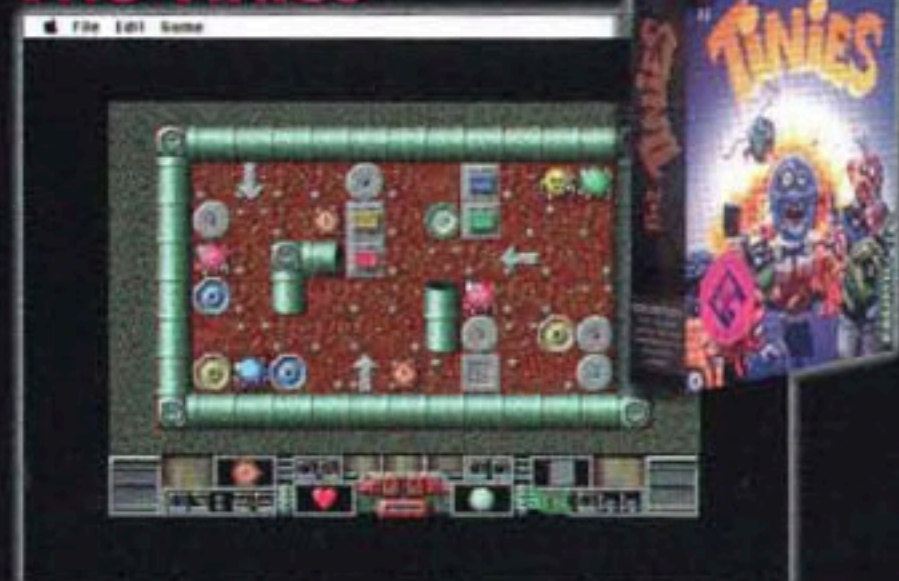
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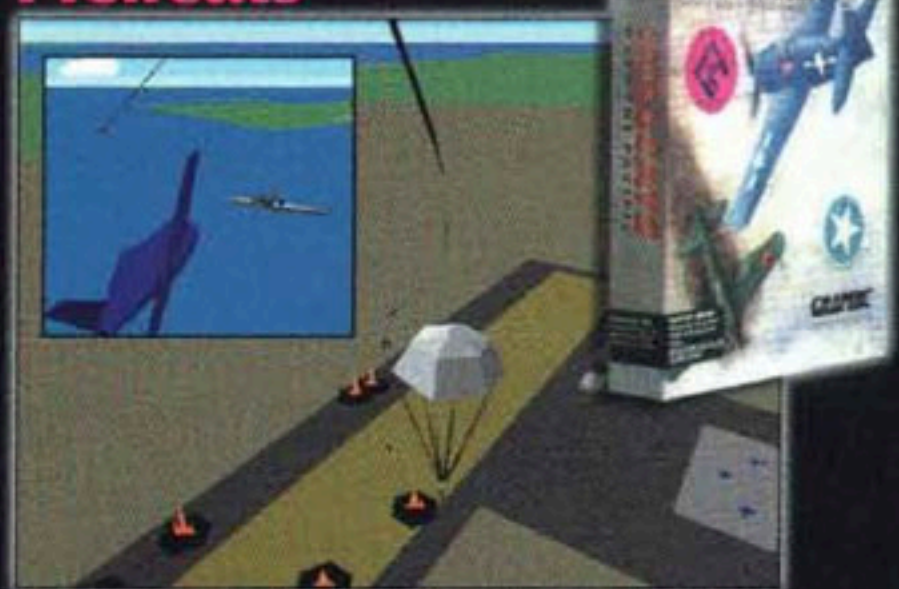
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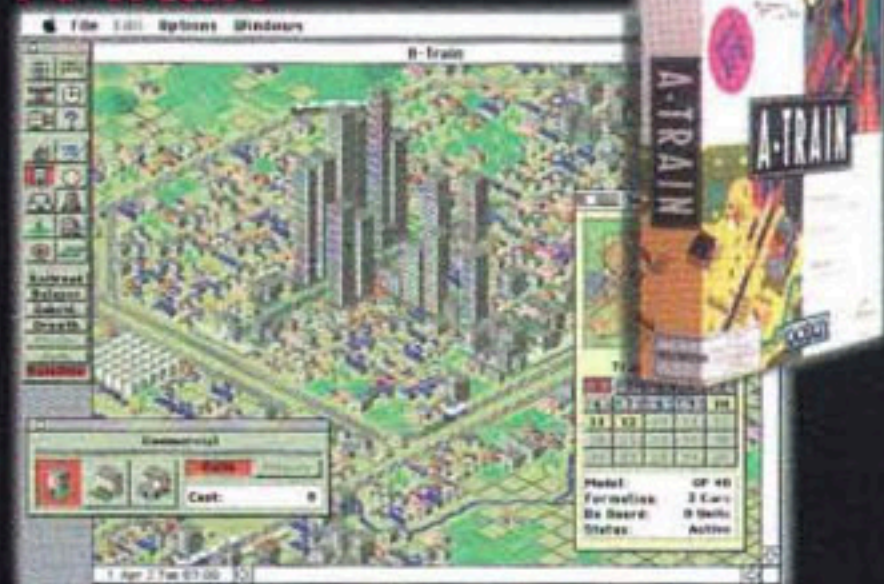
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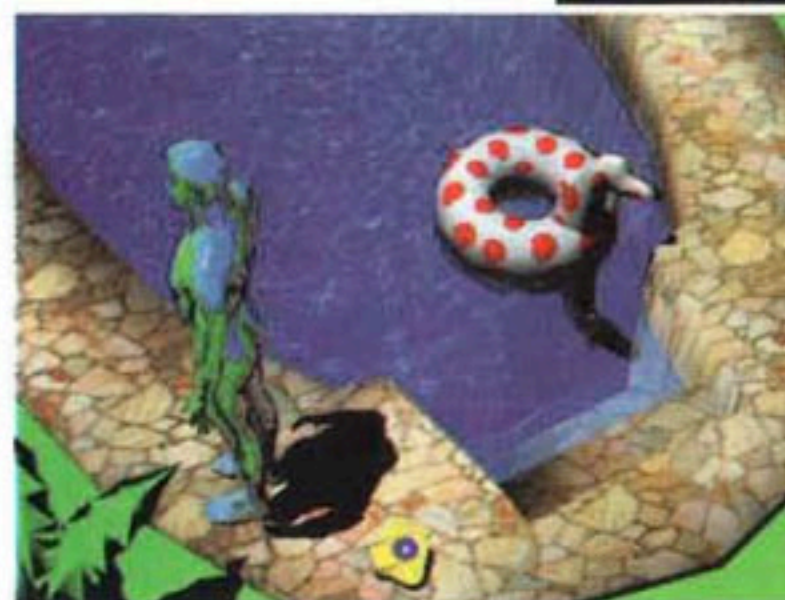
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Shareware

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Amusement arcade

Where to head for the coolest games in Macville. This issue we scorch through the skies with *Falcon MC*, get all blue and moody with *A-Train* and stop working for weeks on end with the *Eight-Ball*



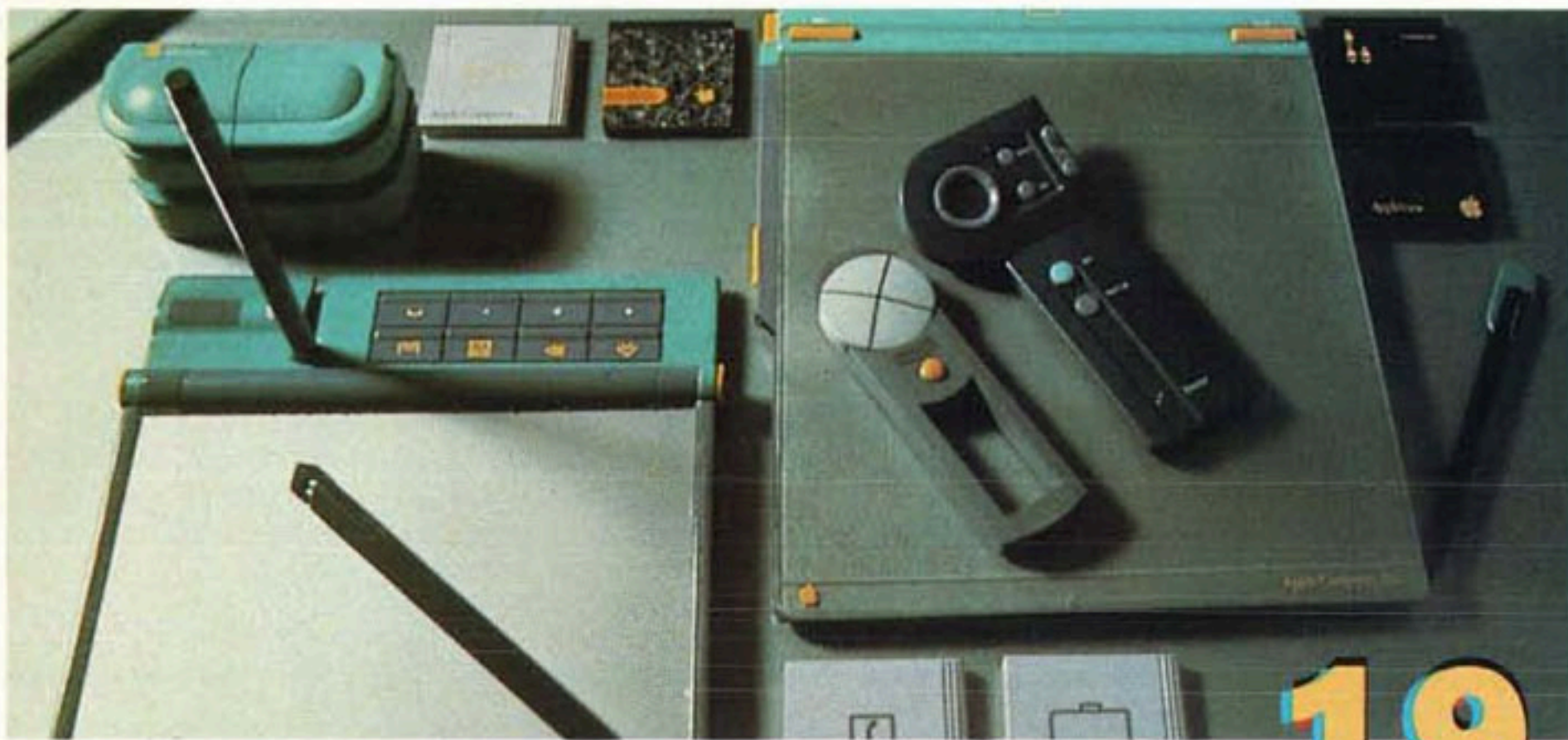
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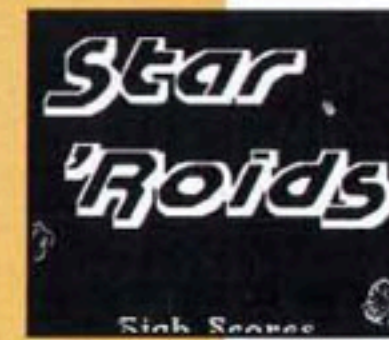
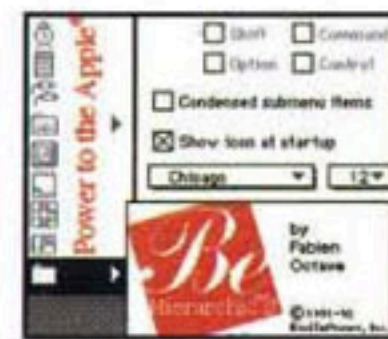
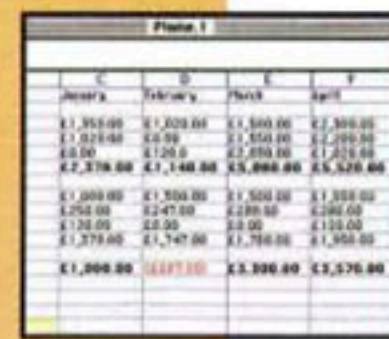
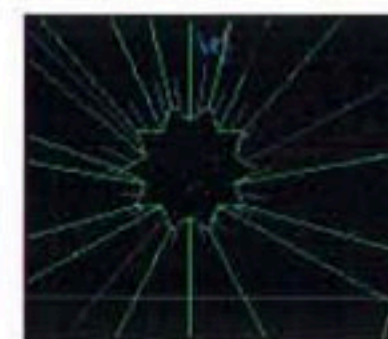
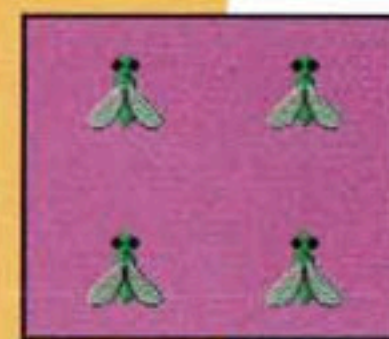
Catch our four-page fold-out charting the history of the Apple range and then catch up on where your Mac's heading next. In this unmissable 12-page guide we uncover the incredible developments which will shape your Mac for years to come – and keep it at the cutting edge!

macANSWERS 80

We solve your problems, posers, queries and quandaries!



COVER DISK All ready to go?



These are the goodies
– now turn to Page 6

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Yes, we have 1,000 fonts, an Apple CD300 CD-ROM drive and seven sets of the *Mac Bible – Inside Macintosh* – to give away – and they could all be yours...

So head for pages 43 & 102

And go there now before someone beats you to it...

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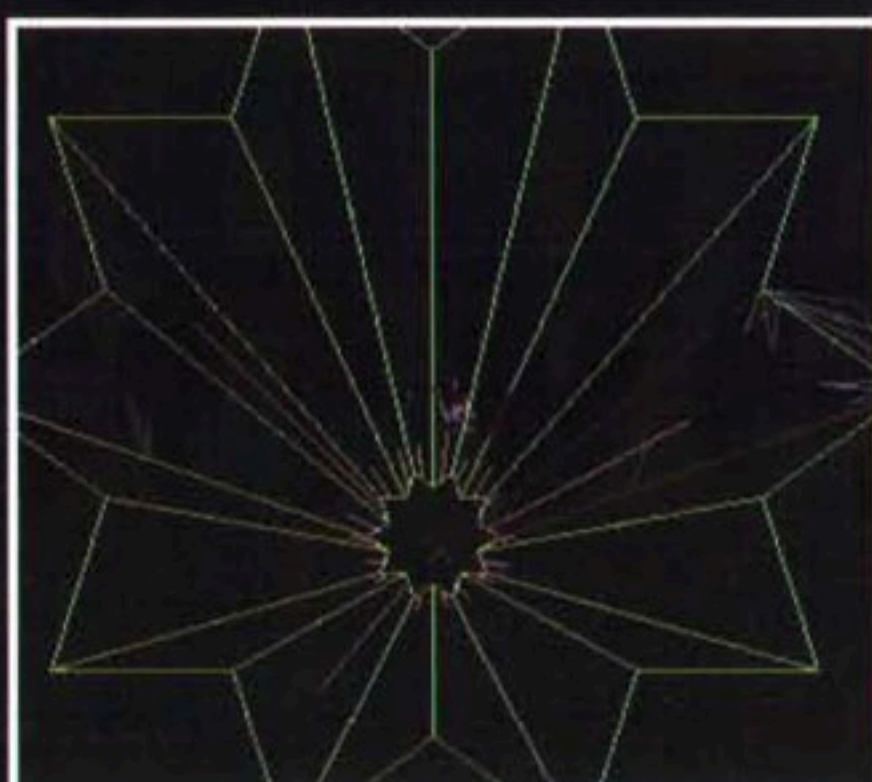
7 great programs

There's loads of shareware for you to peruse on this month's coverdisk; three games and four handy Mac applications. What more could you ask for? Just slam in the disk and extract your new found goodies into the folder of your choice

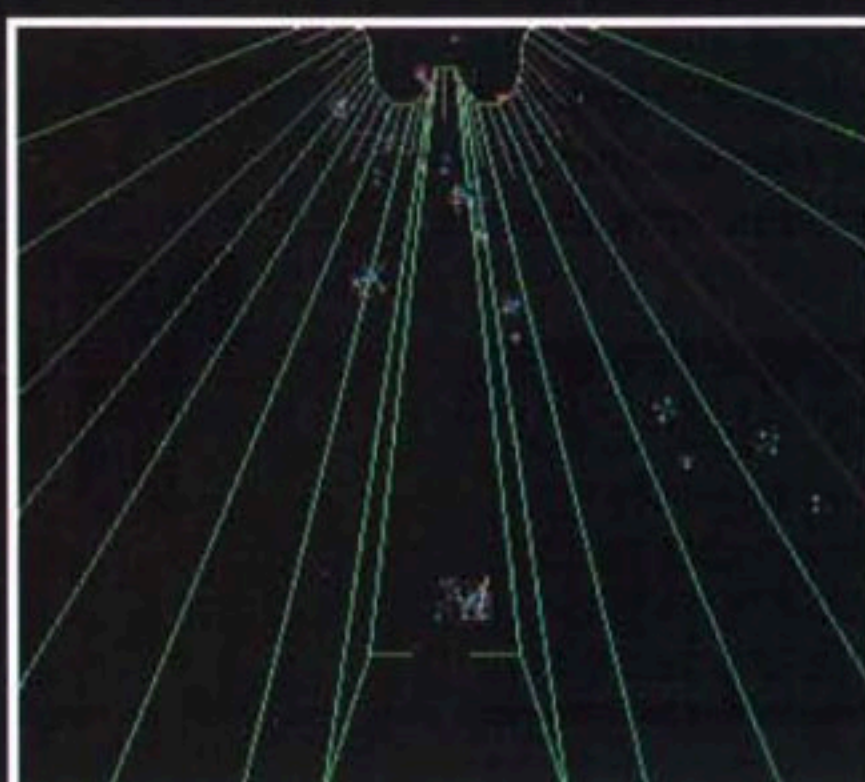
Getting started

So that we could get as much as possible onto one disk, we've had to squeeze each of the shareware files to make sure they fit. That means these files have to be restored to their normal size in order for you to use them. All you need to do is double-click on the **MacFormat 3.sea** icon. A dialogue will appear which works in exactly the same way as the Save dialogue in any application. Choose a folder on your hard disk that you want to save it in and click on **Extract**. After a little wait the restored contents of the disk will appear on your hard disk in a folder called "MacFormatf".

Arashi 1.00



Just fire your laser at on-coming objects and slide down the 'kaleidoscope' tunnel and onto the next level



The higher the level, the fiercer the on-coming objects and the more complex the shapes get



You can start at any level up to nine in arcade mode, or at the last level you completed if it's higher than nine



Requirements:
256 colour monitor

Originally known as Storm 0.9
(See MacFormat Issue 1

Shareware Zone), Arashi 1.00 is a shoot 'em up arcade game that is sooo addictive it should go commercial.

It's based on an arcade game called Tempest. Basically your aim is to fire a laser at on-coming objects while rotating round the edge of a tunnel that looks like a pattern inside a kaleidoscope. As you complete a level, you speed down the tunnel, through light years of stars and onto the next level.

There are a number of changes made to the



Yippee! If you're a bit of a whiz with the old laser, you may find yourself keying your name onto the top ten scoreboard

game since its name has been changed. You now get a free life for every 20,000 points you score, there are great new sounds and you even get a starting bonus at the first cleared

level. In the Arcade mode you can start the game on any level up to nine, which is really handy once you get accomplished, and in the practice mode you can start at any odd level up to 96! There's not a lot to it and you pick up on technique as you go along. The higher you get on the level stakes, the fiercer the oncoming enemy objects and, after a while, the more tired your hand gets.

The sound effects are really impressive and the graphics keep you hooked to the screen. You'll be playing this for hours.

Controls:

Mouse, keyboard, menu bar and er, severe concentration of the eyes.

BiPlane

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8			£1,000.00	£1,500.00	£1,500.00	£1,500.00	
9			£250.00	£247.00	£290.00	£290.00	
10			£120.00	£0.00	£0.00	£120.00	
11			£1,370.00	£1,747.00	£1,790.00	£1,950.00	
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13			Net profit	£1,000.00	£567.00	£3,300.00	£3,570.00
14							
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21							

BiPlane is a fully featured spreadsheet that's just as good as a lot of the commercial packages



No, this is not a flight Sim. It is in fact a spreadsheet – fully featured in fact.

This is probably one of the best (and most expensive) spreadsheets on the PD circuit. If you really want a spreadsheet and can't afford good commercial packages like Excel or Resolve, then this little number is for you.

Even if you don't know whether or not you need a spreadsheet, it's worth trying BiPlane

out for size.

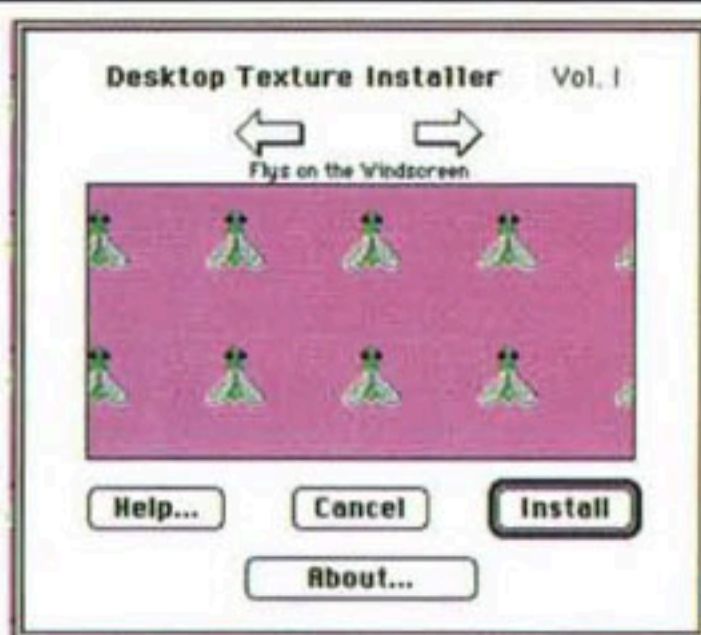
Features include different formatting for numbers, currency, date time etc, a multitude of built-in numerical functions and column widths that can be changed by dragging your cursor on screen.

Mastering BiPlane should make life in the budget lane that much easier. As far as compatibility is concerned, BiPlane can be used with just about any Mac apart from the Quadra range.

Desktop Textures



Is your desktop looking a little bit peaky? Then double click on the *Desktop Textures Vol.1* icon...



...and you'll see this. Click on the arrows to look at the textures. Click on install when you've found the right one



Et voilà! You now have a brighter, nicer looking Desktop. But if you get bored with this one and fancy a change...

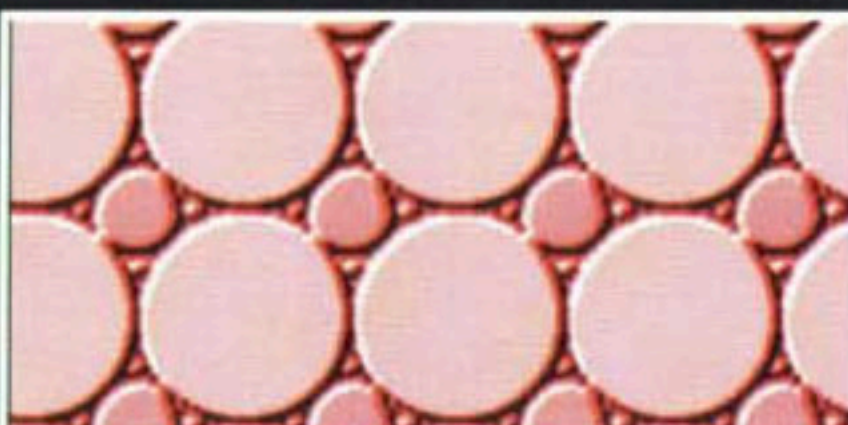


Yippee! Wave bye bye to boring desktop features and say hello to a little excitement and in some respects sun glasses with *DeskTop Textures*.

Okay okay, most of the features of this little number won't be that great on a black and white monitor but it still makes a change from the usual stuff on offer.

Okay, so what's it about? Well, the name speaks for itself.

You get a load of different patterns for your desktop by simply double clicking on the file, selecting Open from the file menu and choosing a file of 'textures'. To get an example of



...perhaps you'd like to go for a nice, salmon pink, circular tile effect. It's not too hard on the eye. Alternatively...



...you could go for something vibrant like weird curtains to give your desktop a 'student accommodation' feel

what they will look like on your screen just click on the one in the main window. Once you've decided on which artistic delight you want, just click on the Install button and the texture will be a permanent fixture in your

system - until you choose another one that is. But you don't need to leave the original patterns behind. Just install the original 'Control Panel Compatible' pattern which you'll find with the other desktop textures.



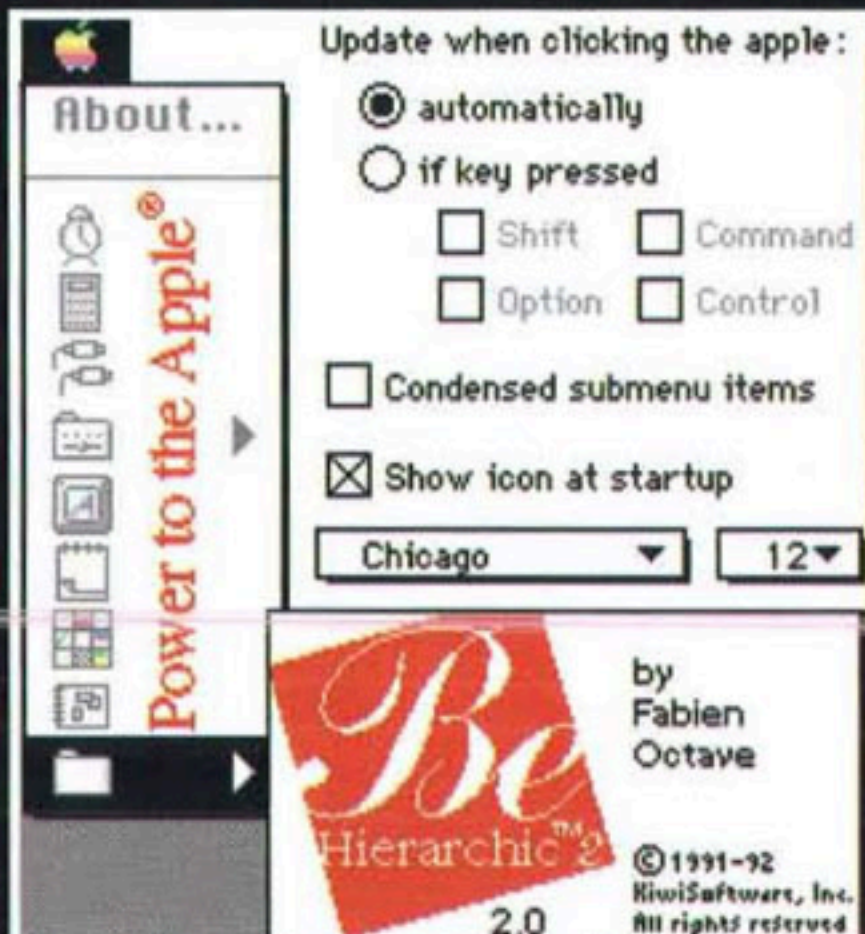
BeHierarchic saves time clicking in and out of windows to get to the Apple menu file of your choice. Just chuck

BeHierarchic into your System Folder and restart your Mac.

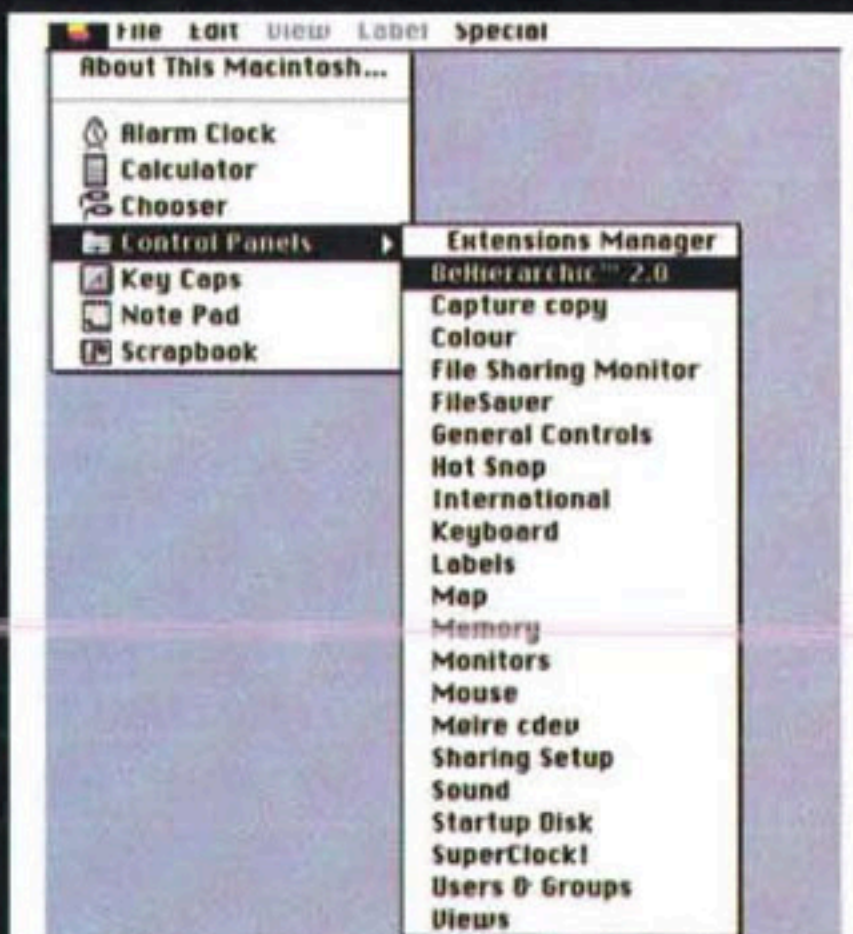
When you next scroll down the Apple menu and keep your mouse firmly pressed on Control Panels, you'll find it has a sub menu. It's then that you'll realise just how handy this piece of shareware is.

Control Panels is just a handy example because any hard disk or folder alias in your Apple menu folder can have a sub-menu (up to a maximum of four).

You can even put an alias of your entire hard disk in the menu, so that you can get to everything on disk from the Apple menu without opening any windows.



You'll not realise how useful *BeHierarchic* is until you chuck it on to your System folder and restart your Mac



You can have up to four sub menus, but the most handy one would be the Control Panels folder in the Apple menu

BeHierarchic



Is *Star 'Roids* another addictive shoot-em-up space game? You've got it.

And hey, anyone with a black and white monitor who feels a bit left out when it comes to games need not worry because this little asteroid attraction has been written just for you!

It may not be as attractive as colour games - and my advice to you if you have 256 colours is to switch to black and white to make gameplay faster - but it's certainly got the

addictive edge.

Your little triangle ship basically fires at oncoming asteroids. If you hit them successfully, they turn into tiny asteroids riding ferociously around your screen, so there's a lot of eye movement.

Controls include the Z key, X key, [shift] for firing and [?] for manoeuvring.

You can fire continuously if you keep the shift key held down but you, or rather fellow colleagues within a two metre radius may suggest you turn the sound down.



Blitz those asteroids! *Star 'Roids* is a great arcade game for the mono 9-inch monitor owners among us

Star 'Roids

Seahaven Towers



You'll definitely while away a good few hours trying to complete the *Seahaven Towers* card game



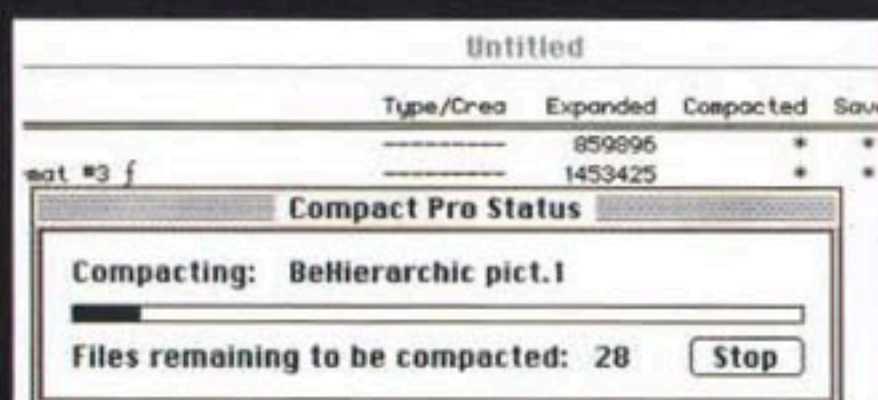
There's many a card game for the Mac and *Seahaven Towers* is certainly one of the best (why else would we put it on our cover disk?).

Gameplay is simple. All you need to do is start with the ace and pile the cards on top, making sure you keep to the right suit. Unlike the paper variety, there's no need to shuffle, deal or worry about losing a member of the pack. Like most laborious tasks, your Mac will do it for you.

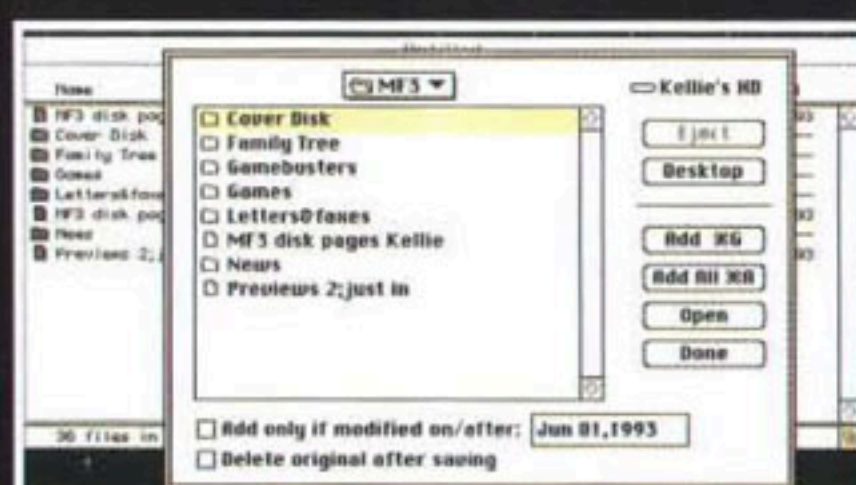
Although the game is pretty easy to learn, things can become a tad tricky at times. You definitely need a bit of 'patience' to complete it. Fortunately for those of you who do end up experiencing a few difficulties, there is an 'Undo' feature, so you can get rid of any bad moves made.

Seahaven Towers looks really colourful on a Mac with 256 colours, but don't worry if you don't have a colour screen because gameplay is just as good in greyscale. You'll be glued to the stack for ages.

Compact Pro



Compact Pro lets you produce small archives which can be compressed or decompressed really quickly



Just click on the *Compact Pro* icon then select the files that you want to compress

Name	Type/Crea	Expanded	Compacted	Saved	Modified
MF3 disk pages Kellie	XDOC/XPR3	55040	*	*	May 28, 1993
Cover Disk		3540838	*	*	
Family Tree		19144	*	*	
Games		3350124	*	*	
Letters&faxes		10579	*	*	
MF3 disk pages Kellie	XDOC/XPR3	55040	*	*	May 28, 1993
News		1411658	*	*	
Previews 2; just in	HPD2/MPD2	3871	*	*	May 28, 1993

This is what it looks like when the files have been imported. The program will display the space that has been saved



This is a life saving utility which takes files and shrinks them down so they take up less space on a disk.

If you find life a headache because you can't fit a file onto a floppy disk then *Compact Pro* is the perfect solution. It also makes life easier if you have a modem because the smaller the file you have, the quicker it will transfer to the person you are connected to.

Compact Pro can handle archives produced by a commercial compression program called *Stuffit 1.5.1* which also started life as a shareware program. It can also produce files called 'self extracting archives' which can automatically decompress when you double click on them. This means that you don't actually need to have a copy of *Compact Pro* to extract the original file. Good eh?

Backing up your cover disk

We recommend that you back up your cover disk because floppies can easily become corrupted. All you need to do to back up your disk is this:

- 1 Insert the MacFormat disk in your Mac
- 2 Drag the disk icon to your hard disk's icon. The contents of the disk will be copied into a folder called 'MacFormat disk 3'
- 3 Drag the floppy disk icon onto the Wastebasket to eject it
- 4 Insert a blank disk. If you need to, initialise it as a double sided and name it 'MacFormat 3 backup'
- 5 Drag the MacFormat folder from your hard disk on to the new floppy disk's icon
- 6 When it has finished copying you have a back up of the original disk.
You can now delete the 'MacFormat 3' folder on your hard disk by dragging it into the Wastebasket

If your cover disk won't work

Unfortunately when you duplicate as many thousands of disks as **MacFormat** does, a few duds are bound to slip through the net. If you think you have one, just read the installation instructions again to make sure you're not missing something.

If it still won't work, then return the disk by 17 August along with a stamped addressed envelope to:

MacFormat Disk 3
Disk Copy Labs Ltd
PO Box 21
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We regret that we cannot answer telephone enquiries on faulty disks or disk installation.

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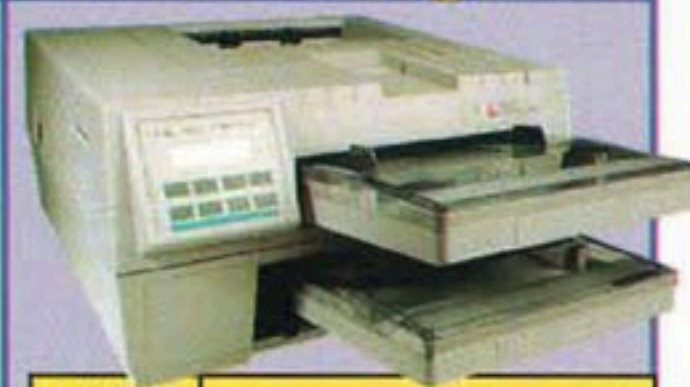
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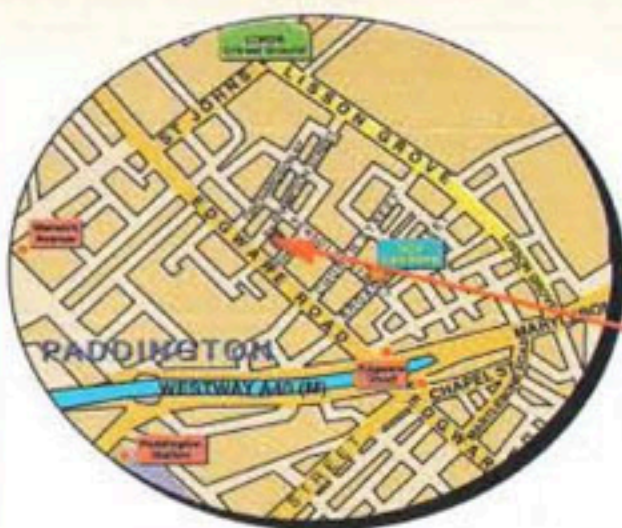
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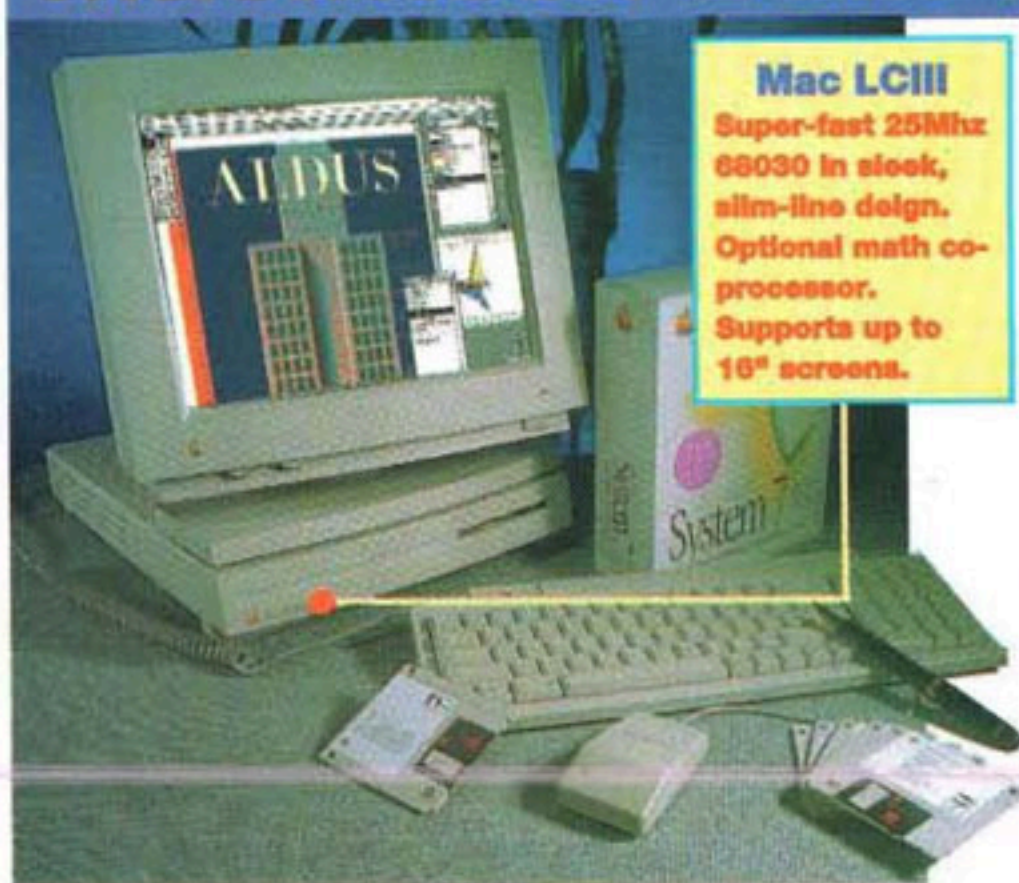
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145B
145
160
165c
180

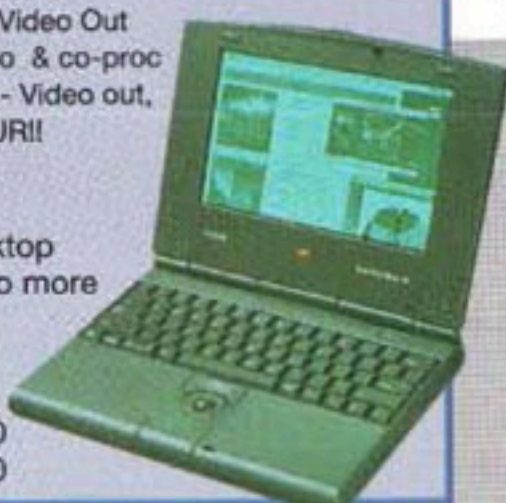
CW just loves the portable Macs. They're convenient, fast and deliver super performance. And now there is the 165C with its great colour screen!

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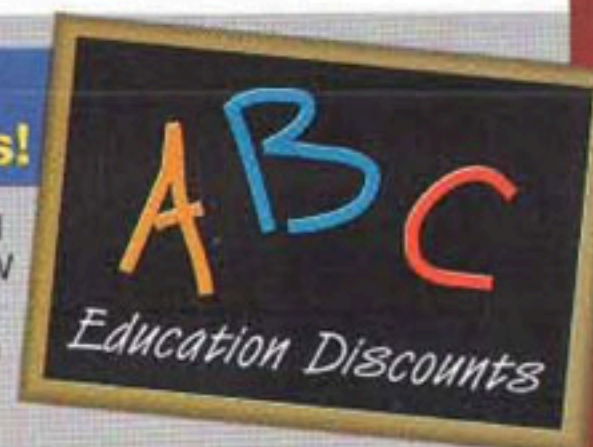
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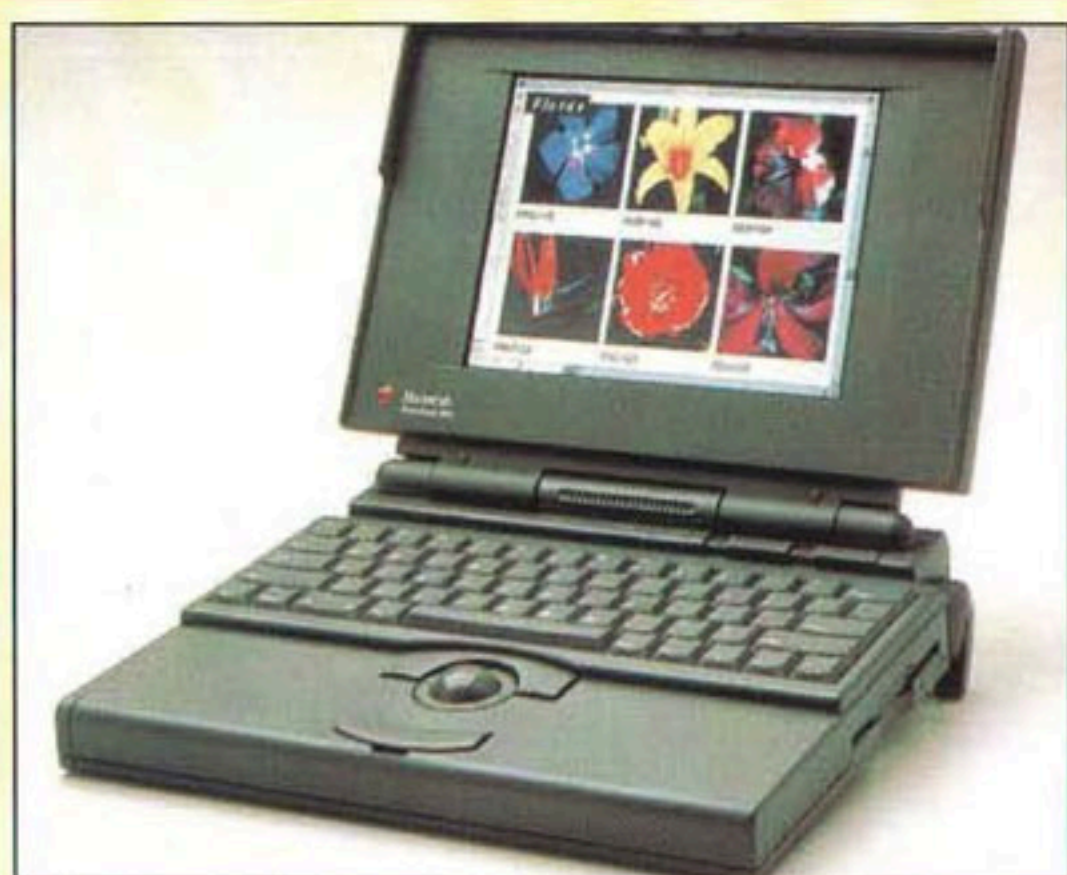


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The PowerBook 180c is Apple's first portable to use a colour active matrix display. It's joined by the 145B, a new, low-cost machine.

Two new Mac PowerBooks

The new PowerBook 145B promises to put PowerBook technology within the reach of many more users. Its sub-£1,200 price tag makes it the cheapest PowerBook available. And the price of the highest end of the range has reduced, too, with the introduction of the colour PowerBook 180c, for just over £3,200.

The 145B, which replaces the old PowerBook 145, will be sold in retail outlets such as Dixons, along with the Performa range. However, Jane Burley, group product marketing head at Apple, says that there are no plans to produce a Performa-badged version.

The 145B is functionally identical to the 140; the only difference is that the 145B has 4Mb of RAM soldered on to the motherboard, leaving the memory expansion slot free for an upgrade to a maximum of 8Mb. The 140 had 2Mb on the motherboard, and a further 2Mb already installed in the expansion slot.

The colour PowerBook 180c has a brand new colour active matrix display which can run in 8-bit mode, displaying 256 different colours. Other than that, the 180c is identical to the current 16-greyscale PowerBook 180 – which will continue to be sold.

There are no suggested retail prices for the new machines. This is in line with Apple's new policy to remove reference prices for all Macs, and means that you should shop around for the best price. However, Apple expects the 145B to sell for about £1,175, while the 180c, which marks the new high end of the PowerBook line, should cost around £3,200.

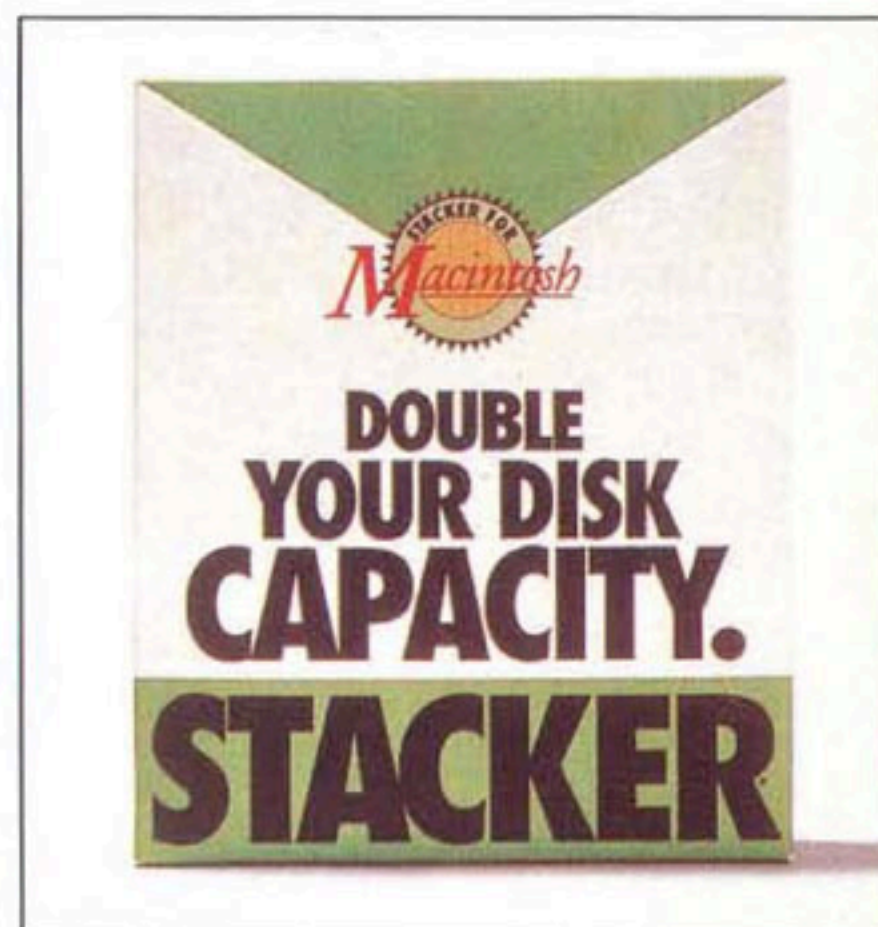
Stacker doubles disk space

Stacker, a software utility which promises to double the size of your hard drive, is now available. The program costs £93, and works totally transparently to the user – the compression is performed at the disk driver level, so even programs like *Norton Utilities* and *MacTools* recognise the disk as a normal device and can repair any problems in the usual way.

The program's makers claim that it has built-in safety features and data redundancy so that any problems which may occur should be curable with no loss of data. There is also an option to remove *Stacker* from a hard drive, restoring it to its uncompressed form – something which *Stacker's* rival, *TimesTwo*, currently lacks.

The PC version of *Stacker* is widely used, and has been available for some time. The Mac version should be shipping by the time you read this, and is available from dealers or from Stac Electronics on 0344 302900.

Look out for a full review of the program – and a comparison with *Times Two* – in the next issue of *MacFormat*.



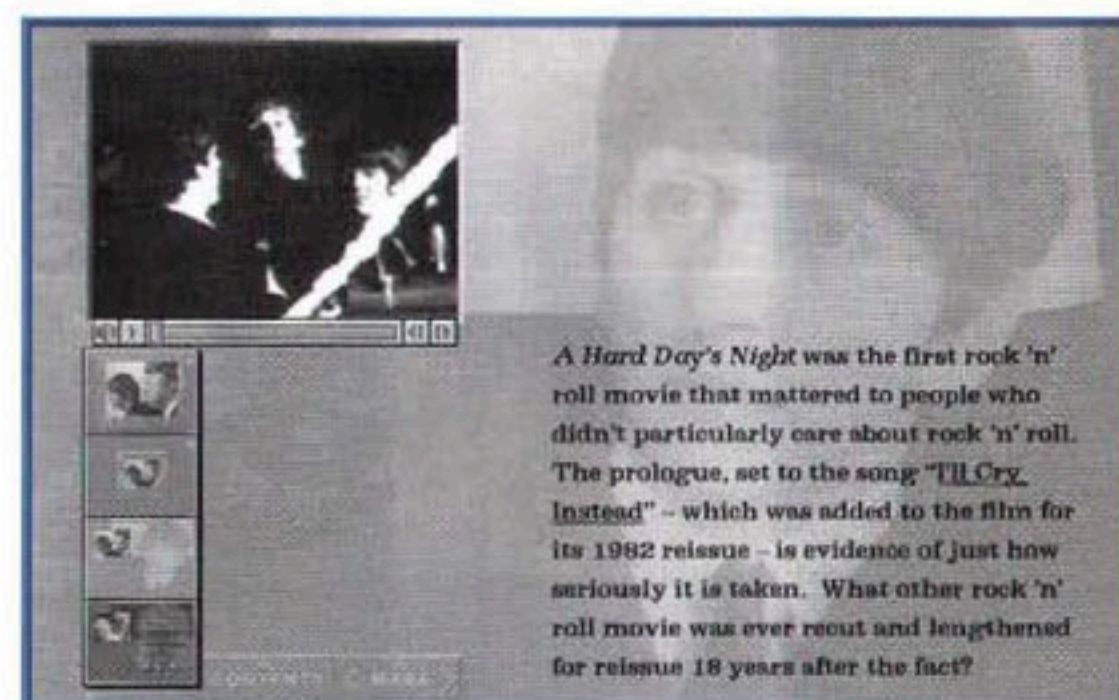
Stacker, from Stac Electronics, promises to double the capacity of your hard drive. It's already a popular program in the PC world – over four million people use it.

Aldus' 3 for 2 deal

Personal Press 2.0, *IntelliDraw 1.0* and *SuperPaint 3.0* are being bundled for just £210 by Aldus – a saving of over 30% on the retail prices of the three programs. The bundle is being promoted as 'Write it, paint it, draw it'.

Personal Press is a budget page layout package; when *MacFormat* reviewed it, we said that it was "well worth considering for those whose aspirations run to company stationery and newsletters". *IntelliDraw* is what Aldus describes as "intelligent drawing software", and *SuperPaint* is a popular paint package.

The Aldus Consumer Bundle is available through Aldus accredited dealers and mail order retailers.



Mop top micro movie!

You can now get the Beatles' 'A Hard Day's Night' on CD. No, not the soundtrack to the film – the film itself, in QuickTime format. The Voyager company has digitised the entire 90-minute movie and put it, along with hundreds of pages of text about the film, on to a Mac CD-ROM.

If you're a Beatles fan, this is one disc you can't afford to be without. *A Hard Day's Night* is distributed by Softline (081 401 1234). It costs £29.

COMMENT

There are many people who feel that the PowerBook 100 is the coolest portable Mac to own. True, it doesn't have the power of its bigger brothers, but if all you're doing is entering text, using an address book and perhaps having a quick game of *SimCity* to help pass away the weary hours travelling, it's brilliant. And that's exactly what most people use their PowerBooks for.

Sadly, Apple decided that it would stop making the PowerBook 100 several months ago. Rumour had it that the company wanted an 'all 68030' product line. Whatever the reason, those who snapped up the 'clearance stock' final models at prices of £800 or £900 still haven't stopped smirking.

Now, at last, there's a new low end PowerBook: the 145B. But while we're the first to

applaud Apple on producing a new (relatively) low-cost portable, there's this lingering feeling that the 100 was neater, lighter, and altogether more desirable.

According to Jane Burley, Apple's group product marketing head, it wasn't possible to manufacture the 100 at anything like a sub-£1,000 price. But surely it was manufactured under contract by Sony, a company

which specialises in making small but complex electronic goods at low prices? And how come the 145 can be produced at this sort of price, but the 100 couldn't – especially since the 100 didn't even have an internal floppy disk drive? No-one's saying.

The campaign for the reinstatement of the PowerBook 100 starts here. Write in and tell us what you think.

Free Toolkit from Instant Access

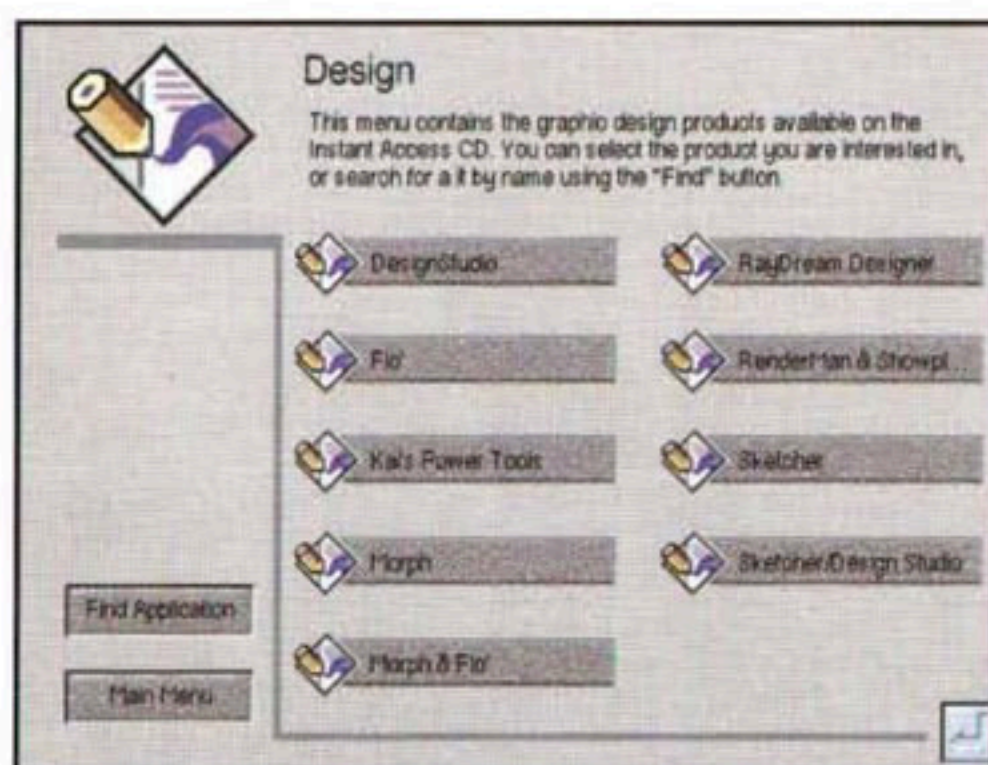
A free copy of FWB's CD-ROM Toolkit, worth over £60 and claiming to speed CD-ROM access by up to 1,000 per cent, is being given free with every year's subscription to the Instant Access CD. It performs this miracle by saving data such as the directory to the Mac's hard drive, which has far faster access times. It also provides some CD-ROM drives, such as the Apple CD SC Plus, with the ability to read single-session PhotoCD discs.

The Instant Access CD contains over 180 commercial applications, covering graphics, utilities, word processors and more. To access an application, users phone the 'enabling centre' and pay for the program by credit card. In return, the operator gives an 'enabling number' which allows the user to download the application to their hard drive. Manuals are posted out the same day.

The subscription lasts for a year, and should include at least four discs. The second issue is due to ship to subscribers in a couple of weeks, and incorporates new products from around ten companies including Letraset, Ritz and FWB.

A year's subscription to Instant Access, including a free copy of the Toolkit, costs £59.

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To order a product from Instant Access you select it, call the company and give your credit card number

Wacky Mac sounds

Kaboom! is the ultimate sonic customisation utility for the Mac. It allows you to assign sounds to many different Mac actions such as startup, shutdown, restart, disk insert, disk eject, hitting the return key and so on.

The program is a commercial version of the shareware **SoundMaster** program (reviewed in MacFormat issue 2), and is bundled with 150 different sounds. It comes with a built-in sound editing program, called **Kaboom Factory!**, which allows you to add effects to pre-recorded sounds, or

to manipulate sounds that you record via your Mac's microphone.

There's also **More Kaboom!**, which is a package of 100 additional sounds.

Kaboom! costs £45, while **More Kaboom!** is £35, from Amtech International, 0202 476977.



Helix database for just £99

Helix Express, the powerful relational database, is being offered for just £118 until the end of July. The program normally costs over £250.

A relational database is one where data is separated from the procedures which are carried out on that data – making it much more powerful than a traditional flat-form database. Traditionally, relational databases are complex to program and use, but **Helix Express** uses graphical methods to define operations on data, making it very easy to use.

To help understand the difference between relational and flat-file, **Helix Technologies** is offering a free booklet describing the differences between the two to anyone who phones on 0642 343455. That's also the number to call to find your nearest **Helix Express** dealer.



The Performa 450 is based on the LCIII. It should be available from high street retailers such as Dixons by the time you read this

New Performa 450 debuts

A new Performa – the 450 – has been added to Apple's range of 'consumer Macs'. It's based on the LCIII, and comes with 4Mb of RAM and a 120Mb hard drive. The £1,499 bundle includes the standard Performa 14-inch colour display, as well as the standard software package of **ClarisWorks**, **PC Exchange** and **At Ease**.

Purchasers of the Performa are entitled to one year's free telephone support – which will probably come in handy, given that Apple's figures show that 60% to 70% of Performa buyers are first time computer owners. The figures also show that over 80% use their Performas at home.

The Performa 450 runs on a 68030 CPU at 25MHz, roughly double the speed of the Performa 400, and has 512K of VRAM ready-installed, so it can display 256 colours on the bundled monitor.

At the same time, Apple has reduced the prices of some Macs by as much as 35%. The LCII 4/80 with Apple Colour Display now costs about £1,000 (down 30%), and the LCIII 4/80 with monitor is around £1350.

Accounts package for £29!

In a bid to encourage users to try its accounting software, Ritz Software has written a shareware package called **Starter Accounts**. The registration fee – which must be paid 30 days after first using the program – is £29.

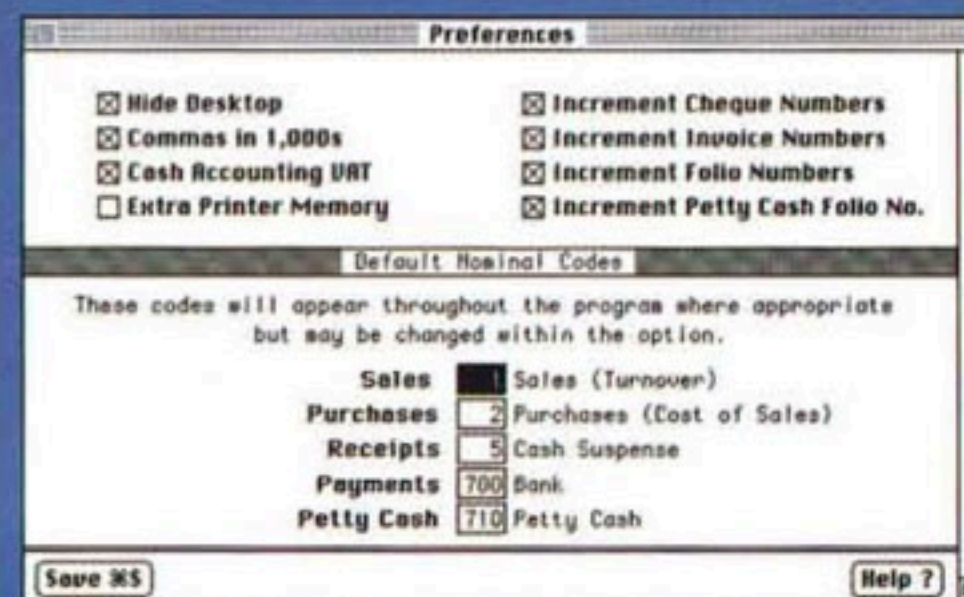
Starter Accounts is a fully featured accounting package

aimed at the small business, and includes full VAT accounting, including details required for trade in the European Community. The data files are compatible with Ritz' higher end packages, meaning that the user can upgrade to a more powerful program.

The shareware, 'try before

you buy' scheme is very popular in the Mac world, but it isn't often that a company producing commercial packages develops a shareware alternative.

Starter Accounts is available from bulletin boards, user groups and shareware libraries.



Starter Accounts, from Ritz Software. For a full review, see the shareware pages which start on page 87

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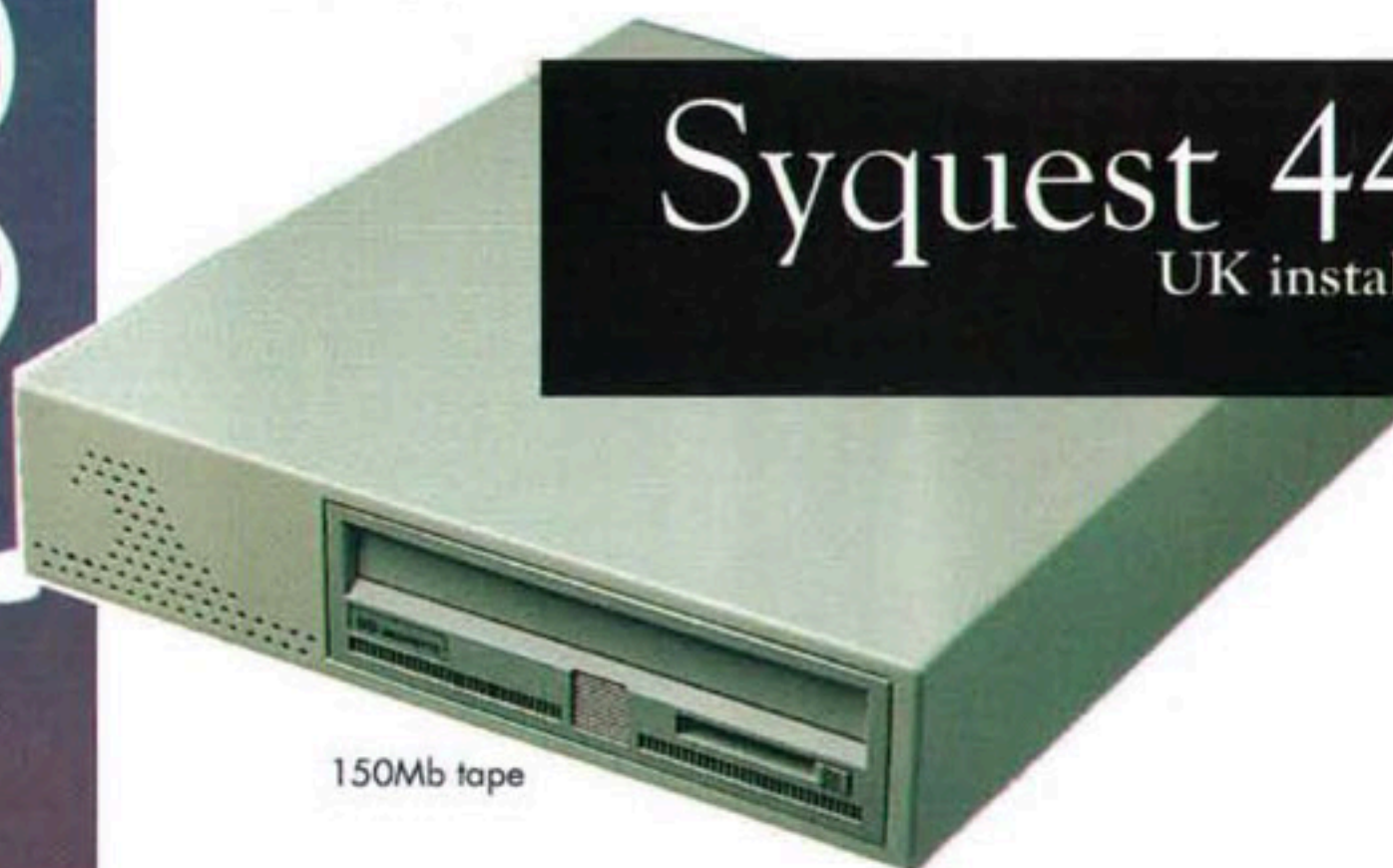
"... similarly priced and more powerful than ...
Filemaker Pro" MacWeek (US) 8/2/93

"... easy to use and effective ... performs well on
networks ... very accessible user interface."
MacUser UK 2/4/93



Syquest 44Mb £239

UK installation kit £18; cartridges £45



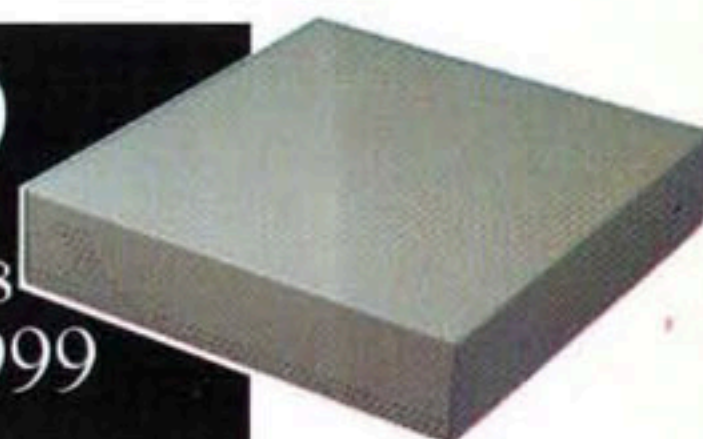
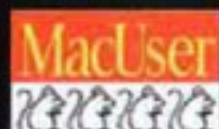
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	drive	media
21Mb floppy	£249	£16
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Claris makes the choice clear for you

The first three low-cost packages from Claris' new software publishing unit, Clear Choice, have started shipping.

Retrieve It! is billed as 'the essential file-finding companion', and is a much more sophisticated file finder than that built in to System 7. It will search the contents of files as well as just their names, and allows Boolean search strings so that users can find, for example, all the files modified between two specified dates. Once a file has been found, it can be viewed as text and then opened – all from within *Retrieve It!* The program costs £81.

BrushStrokes is a 32-bit painting package developed by Casady & Greene, a company best known for its *QuickDEX* program. It features customisable brushes, colour gradients and shading, support for many file formats and a wide selection of colour models and palettes. It sells for £123.

Finally, *Power To Go* is a set of utilities for PowerBook users. It includes control of power consumption by devices such as the backlit screen and hard disk drive, password protection when the PowerBook is turned on or 'woken up', automatic screen saving, and configurable keys for 'instant sleep'. *Power To Go* costs £81.

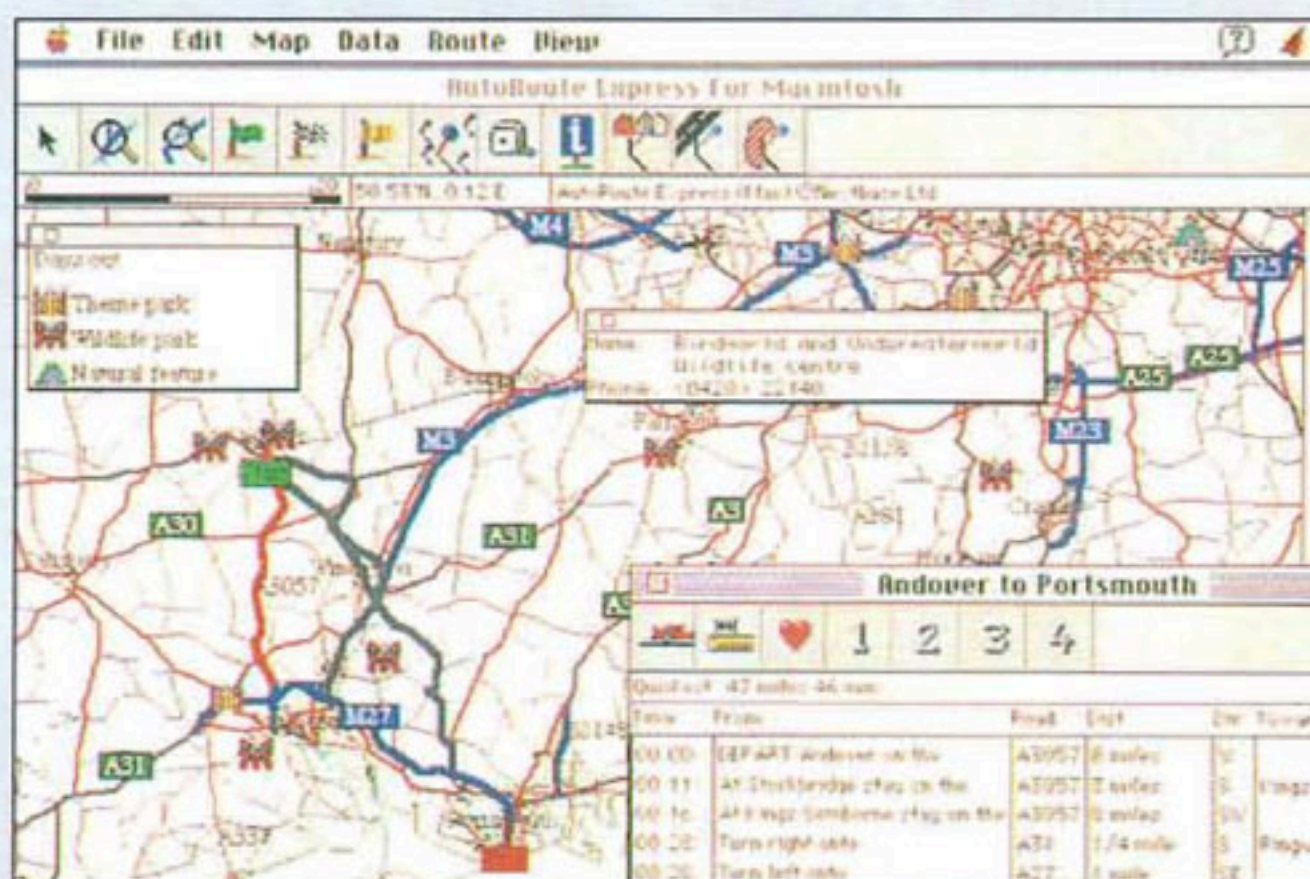
Claris Clear Choice is a new subsidiary of the major software company designed to market "extraordinary software products from independent developers." It is concentrating on personal productivity programs, utilities and 'creative recreation' programs, for both the Mac and Windows markets.

All three Clear Choice products are available via Frontline Distribution, 0256 463344.

AutoRoute for Mac

AutoRoute, the popular route planning package, is now available on the Mac. The program takes information on a user's start point, destination, any stop-off points and the preferred type of road (motorway, A-roads, B-roads or whatever) and then provides up to four alternative routes to the destination. Directions can be printed out, and on-screen maps give extra assistance. Both maps and directions can be copied from *AutoRoute* and pasted into other applications. The alternative routes include the shortest distance and quickest route (based on average driving speeds), and users can specify that certain roads should not be used – for example, if they are closed or congested.

AutoRoute has been popular on the PC for some years, but has only now become available on the Macintosh. It costs £176, and is available from NextBase, 0784 421422.



AutoRoute: specify your start and end destinations, the type of road you prefer driving on and any roads that you know are blocked, and the program will provide up to four different journey itineraries, which can be printed out or copied into another program

They're fonts, Jim, but not as we know them

Fans of *Star Trek* will be pleased by the release of Bitstream's *L'il Bits Star Trek Font Pack*, which contains PostScript Type 1 fonts from the TV series and movies.

The pack includes the two typefaces used for the credits and titling in the original TV series and movies, the 'Starfleet Bold Extended' font used for the external markings on the *USS Enterprise*, and a font full of logos and the official letters of the Klingon language. There are also two 'normal' fonts included: *Venetian 301* (Bitstream's version of Centaur) and *Square 721* (Bitstream's version of Eurostyle).

The font pack costs just £20, and should be available from all font vendors.



Adobe's high-class juggling act hits town

Adobe's Acrobat technology, which allows users to share documents regardless of the application they were created in – or the computer they were created on – has finally shipped.

Acrobat converts documents into a format which is readable by a special viewer; the recipient of the file doesn't need the creating application, but instead views the document using a program called *Acrobat Reader*. The *Reader* is available for the Mac and Windows now; DOS and Unix versions are in the pipeline.

The file, called a PDF (Portable Document Format) file, retains the layout, including the fonts used, of the original – even if the recipient doesn't have those particular fonts installed on their system. Acrobat achieves this by using a variation on Adobe's Multiple Master technology, which automatically alters a generic font so that it looks like any other. PDF files can be created directly from applications, just like a normal Save, on the Macintosh and Windows. Alternatively, a program called *Acrobat Distiller* will convert PostScript files into PDF files; *Distiller* is available for the Mac and Windows, and a Unix version is under development.

As we went to press, pricing had not been confirmed. However, it's likely that *Acrobat Reader* will be fairly low-cost. The programs which actually create PDF files – *PDF Writer* and *Distiller* – are likely to be rather more expensive. *Acrobat* will be available through most dealers and mail order houses.

USER GROUPS

If you run – or are thinking of starting – a Mac user group, you should get in touch with the newly-formed Apple User Group Council (UK). This is a body set up following an initiative by Apple to give user

groups more power in the marketplace, and better representation when dealing with Apple and third party developers.

The Council isn't affiliated to any organisation, but intends to

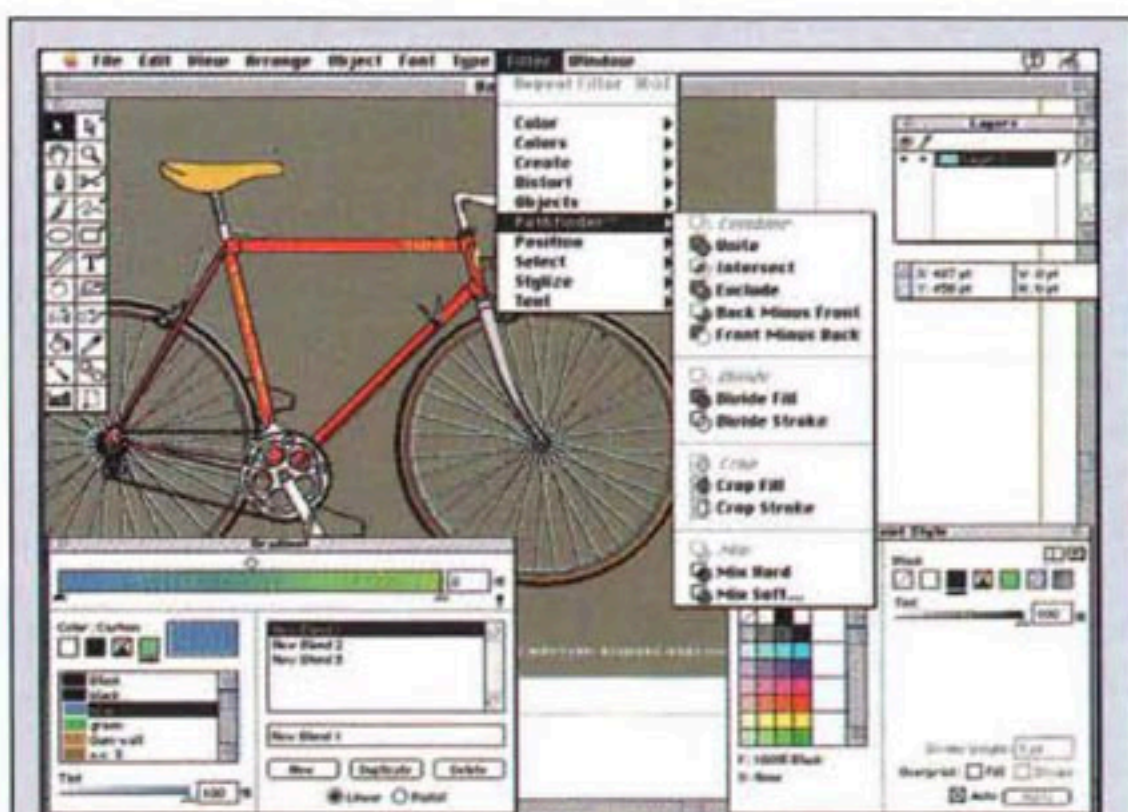
gain sponsorship from Apple UK and other third parties. The Executive includes representatives from the London Mac User Group, the Helix User Group, the British Association of Printers and Copyshops and others.

User groups which register with the Council will have access to technical speakers, loan equip-

ment, legal advice, invitations to Apple events and regular mailings.

To register, groups should phone 081 690 2904 and ask for an application form.

If you represent an organisation which could provide sponsorship for the Council, please phone the Council Secretary, Derek House, on 0228 513621.



Adobe Illustrator 5.0: already very popular, the extra features in this new version of the program will make it a must for professional artists

Illustrator 5.0 about to ship

The eagerly-awaited upgrade to art package *Illustrator*, version 5.0, is due within the next month. This is a major new release, with many new features including the ability to edit in preview mode and the introduction of plug-in filters. Forty Adobe Type 1 typefaces are also included.

Illustrator has always been a popular drawing package, and the introduction of version 5.0 places it firmly at the head of the pack. The program will be available not only on floppy disk but also as a 'Deluxe CD-ROM edition', which includes demo versions of other Adobe products, files of tips for best use of the program, Adobe *Separator* (a colour separation package), and some extra typefaces.

New features include:

- **Plug-in filters.** Included free are filters that find objects by fill or stroke colour, create drop shadows, distort perspective, adjust colours globally, create arrows, stars, spirals and polygons, simplify object paths and more.
- **Layers.** A floating Layers palette allows users to name layers, move objects between layers and arrange them in any order.
- **Edit in Preview mode.** Users can specify that some layers are displayed in Preview mode, while others are in Artwork mode.
- **Multiple levels of undo and redo.**
- **Page sizes of up to 110 by 110 inches.**

Illustrator 5.0 should be available before the end of this month. It will be sold through Adobe authorised resellers for £564. Registered users who bought *Illustrator 3.2* after April 1 1993 will receive a free upgrade to version 5.0.

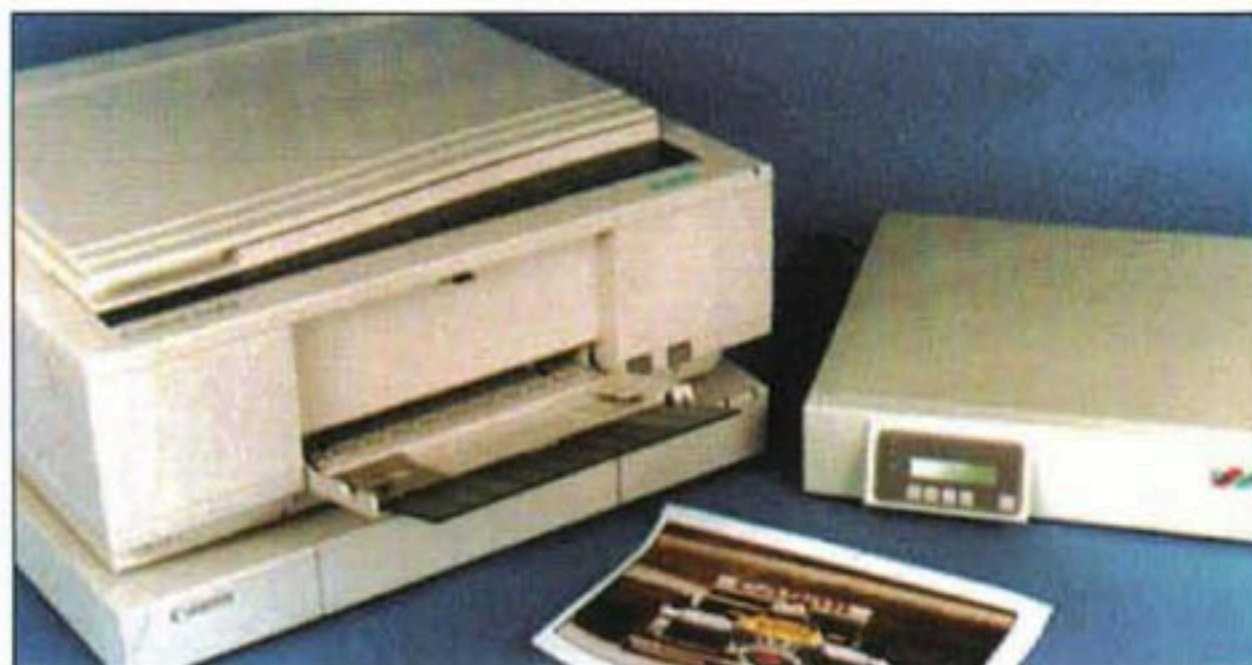
PostScript controller for colour printers

Users of the Canon CLC-10 and other 24-bit colour printers can now upgrade them to PostScript using the Q-Script 2000, from Colorgraph.

The Q-Script is a hardware device which connects between the Mac (or PC) and the printer; it has LocalTalk, Ethernet, EtherTalk, SCSI and Centronics interfaces, and automatically switches ports – so more than one computer can be connected at the same time.

Colorgraph claims that the Q-Script 2000 works up to ten times faster than Canon's own software-based PostScript RIP (Raster Image Processor) for the CLC-10.

The Q-Script 2000 costs £4,700. It's available from Colorgraph on 0734 819435.



Level 2 Printer from GCC

GCC has entered the PostScript Level 2 arena with two new printers, known as the Eclipse range. The 4ppm (page per minute) version costs £1,644, and has LocalTalk, serial and parallel ports; the 8ppm model sells for £1,879 and has an additional Ethernet port. The faster model also incorporates Eclipse Smoothing Technology which, according to GCC, "enhances the resolution and provides smoother, crisper text and graphics."

Both printers are based on a PhoenixPage PostScript interpreter, rather than an official Adobe interpreter – although it should be totally compatible. Unlike many laser printers, they support edge-to-edge printing – which means that A4 pages with full bleed pictures or tints can be output.

GCC: 081 569 4030.

New Management Package

A new version of *MacProject Pro*, Claris' project management package, has just been released. Version 1.5 includes import and export filters for data exchange with Microsoft *Project 3.0* on the Mac and Windows, as well as *AppleScript* support and a new Tools palette.

The new palette has 18 buttons for quick access to functions such as save, print, calendars, resource levelling and so on. Extra display options have also been added to the package.

MacProject Pro 1.5 costs £523. Upgrades from version 1.0 cost £24. Claris can be contacted on 0800 929005.

OED on CD

If you'd like a copy of the full, 20-volume Oxford English Dictionary but can't afford the £1,000-plus price tag (or the shelf space), you'll be pleased to know that it's now available on CD-ROM for the Mac. The disc contains the whole content of the paper edition, and runs to an incredible 59 million words; it includes 2.4 million quotations, and weighs rather less than the 66-kilogram bound version.

Words can be found either by entering the first few letters or by keying in part of a definition; you can also search for all instances of a word in the dictionary.

The Oxford English Dictionary on CD-ROM costs £582. It's available from the Oxford University Press, 0865 56767.

S N I P P E T S

- The Microtek ScanMaker 35T is a new 24-bit, 35mm slide scanner which connects to the Mac via the SCSI port. It can scan at a resolution of up to 3,656 dots per inch (dpi), and is bundled with *Photoshop LE* (the 'lite' version of the product).

The 35T costs £1,640 from Computers Unlimited, 081 200 8282.

- The Magellan 610 accelerator card for the Centris 610 is now in stock at A M Micro, for £582. It replaces the 68LC040 processor – which doesn't have an on-board floating point unit – with a true 25MHz 68040, and comes with *QuickSANE* software for even faster maths processing.

A M Micro is on 0392 426473.

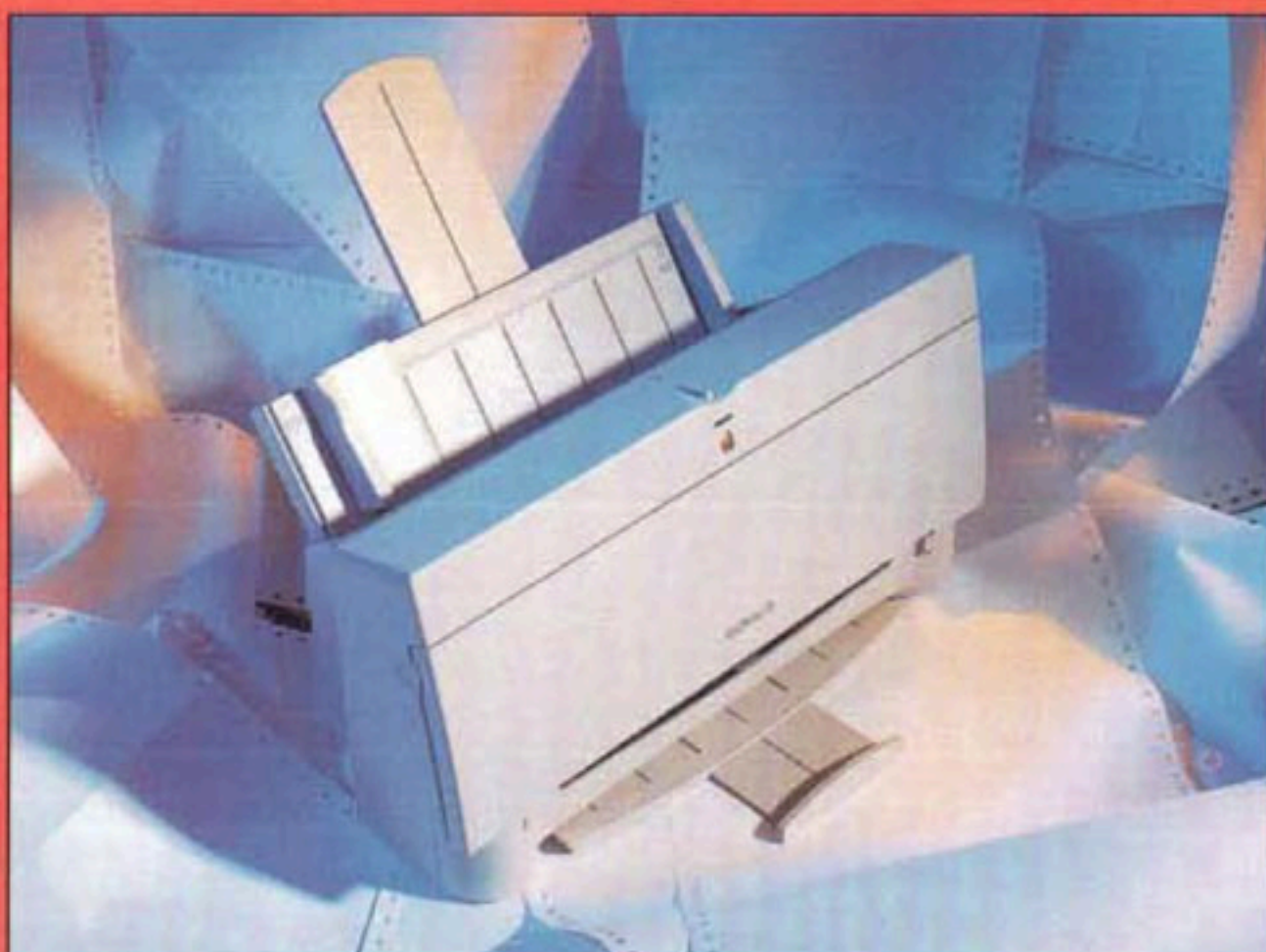
- *MacroModel*, the three-dimensional modelling program, has been upgraded to version 1.5. New features include a Bézier pen tool, a 'cross section' feature similar to *Swivel 3D's*, and an 'N-Gon' tool which creates uniform n-sided 2-dimensional objects. *MacroModel 1.5*, available from Computers Unlimited (081 200 8282) for £1,410.

Cyclone and Tempest officially named

Just as we were going to press, we heard the official names for the new Cyclone and Tempest Macs due this autumn.

The Tempest will be known as the Centris 660av, the Cyclone's official name will be the Quadra 840av.

Both machines will have built-in, in/out digital video at 16-bit resolution and a 32-bit digital signal processor (DSP) for speech synthesis and voice recognition. They will also include a serial port which allows the DSP to be used as a high-speed modem.



The StyleWriter II, soon to undergo a facelift. It will be made smaller, probably styled in black to match the PowerBook range, and will have a rechargeable battery

Portable StyleWriter due soon

PowerBook users will soon have a portable printer to go with their portable Mac, according to sources in the USA.

Apple is reportedly preparing a portable version of the StyleWriter, which will run on a rechargeable battery or the mains via a power adaptor. The machine is based around the same engine as the StyleWriter II – Canon's BJ-10ex – but will have a new casing which folds to protect the printer against bumps while it's in transit.

Surprisingly, the printer is unlikely to have a standard LocalTalk interface. Instead, it will have a Centronics interface and will come with a serial-to-parallel cable – probably supplied by PowerPrint manufacturer GDT Softworks. The Centronics interface means that the printer will be usable by people with PCs – Centronics is the standard PC printer interface. Neither Apple nor GDT Softworks were prepared to comment on the rumours.

Workstations will run Mac applications

Users of Unix workstations will soon be able to run Macintosh applications, according to Apple chairman John Sculley. The company is creating a suite of software, called *Apple Services for Open Systems*, which will allow workstations to run Mac applications with no modification. It should be available to customers later this year.

The benefits to Mac developers are great: there are millions of Unix users who would become potential customers for Mac programs. What benefits it brings to Apple are harder to see – for years the company has jealously guarded its user interface and refused to even consider such a move.

● This move follows heavy rumours that Apple is teaming up with Digital Research to provide a Mac front-end for IBM-compatible PCs – which opens another market of several million potential customers for Mac applications.

As we went to press, Apple still had no comment to make on this.

Bill Clinton, Al Gore get electronic

Want to tell Bill Clinton or Al Gore what you think of them? All you need is a Mac (or a PC) and access to Internet e-mail. Yes, both the President and Vice-President of the United States have e-mail accounts – although they won't reply electronically.

To talk to Bill, e-mail to 'president@whitehouse.gov'; Al's address is 'vice.president@whitehouse.gov'. Staff at the Whitehouse print the messages out and deal with them, replying by regular mail.

Whether, if you e-mail 'socks@whitehouse.gov', you get straight to the chief decision maker or not, is unknown...

Same expansion cards for Mac and PC

In the future, Macs will be able to use the same expansion cards as IBM PCs. Users will buy the same card whether their computer is a Mac, a PC or perhaps even a Unix workstation. This follows Apple's decision to support the Peripheral Component Interconnect (PCI) Local Bus standard for forthcoming machines. The PCI bus will take the place of NuBus as the standard Apple expansion port.

The first Apple computers to take advantage of PCI are likely to be PowerPCs – but not the earliest machines, since their development is now too advanced.

The PCI standard has been developed by Intel, and so far around 150 companies are involved in finalising the specification, including Apple and IBM.

SuperMac videophone

SuperMac may soon enter the world of video conferencing on the Macintosh as a project, code-named SpigotPhone, is reportedly nearing completion. It is likely to be based on the VideoSpigot image digitising card, and will allow users of Macs on a network – or connected via phone line – to see and chat to each other using an inexpensive video camera connected to the card. A number of other manufacturers are also working on similar systems. More details as we get them...

S N I P P E T S

● Apple won't have any developer tools for the Newton ready until just weeks before the product actually ships. Although the Newton Toolkit was demonstrated at the Worldwide Developers Conference in late May, it isn't yet ready for shipping – and the Newton will be on sale in August...

● European developers have started to receive their prototype PowerPCs. Those that MacFormat has spoken to say they are finding surprisingly few compatibility problems when porting applications. "Apple has done a very good job porting the toolkit," said one French company...

● The first pre-release version of Apple's new graphics handling system, QuickDraw GX, has been passed to Mac developers. It adds a new font format and more powerful graphics control. Originally, Apple was predicting that the final thing would be in the hands of end users by now; expect to see it next year...

Twenty two reasons to celebrate the launch of The IND index.



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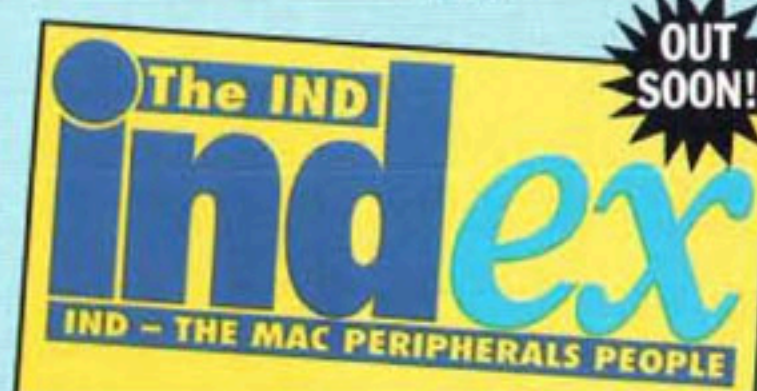
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The Macintosh family

Apple has produced plenty of computers in its 16 year history. Here they are in all their glory – along with a taster of what we can expect to see arriving in the next few months

Since the first commercial Apple computer – the Apple II – went on sale in 1977, Apple has consistently produced innovative, fabulous products. Not all of them were great successes (the ill-fated Quadra 900, for example, lasted a whole three months before it was superseded), but in general the product line has improved with each new machine.

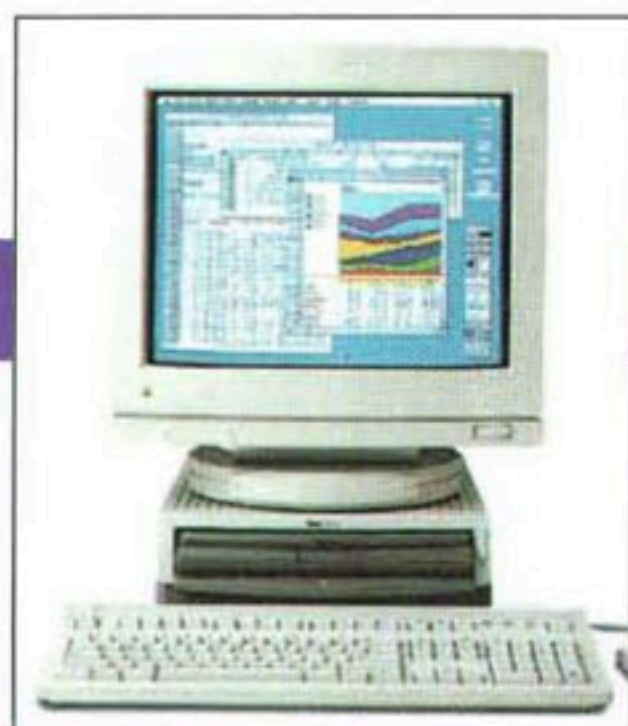
As the years have gone on, Macs have

become better, faster – and cheaper. The first Mac-like computer, the Lisa, was priced at \$9,995; the latest, the Performa 450, is less than a quarter of that cost, and many times more powerful.

The road hasn't always been smooth for Apple; in 1985 the company suffered a management crisis which ended with Steve Jobs leaving to form NeXT Computer, but then the Mac Plus was released at the begin-

ning of 1986 and the company hasn't looked back since.

This family tree makes fascinating reading. Looking at the styling of the cases shows clearly the changes in design philosophy that have occurred over the years – and check out the machines' specs and prices to see just how much the technology has improved and reduced in cost. Roll on the next 16 years...



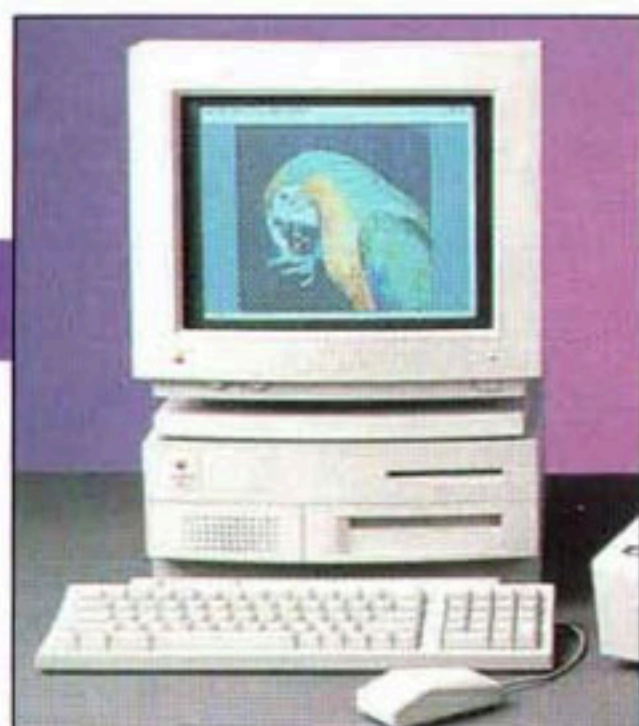
Duo System

Release date: October 1992

Release price: From £1,695

Spec: 25MHz 68030 processor

Comment: PowerBook-style Macs which 'dock' with a desktop unit



IIvx

Release date: October 1992

Release price: £2,225

Spec: 32MHz 68030 processor

Comment: the 'big brother' of the IIvi, in the same casing. Very popular



IIvi

Release date: October 1992

Release price: £1,575

Spec: 16MHz 68030 processor

Comment: the new 'form factor' (case) allows for a built-in CD-ROM drive



Quadra 950

Release date: May 1992

Release price: £4,895/£5,695

Spec: 33MHz 68040 processor

Comment: one of the fastest Macs currently available. Replaced the Quadra 900



Performa 200

Release date: February 1993

Release price: £799

Spec: 68030 processor running at 16MHz

Comment: based on the Classic II, with bundled software



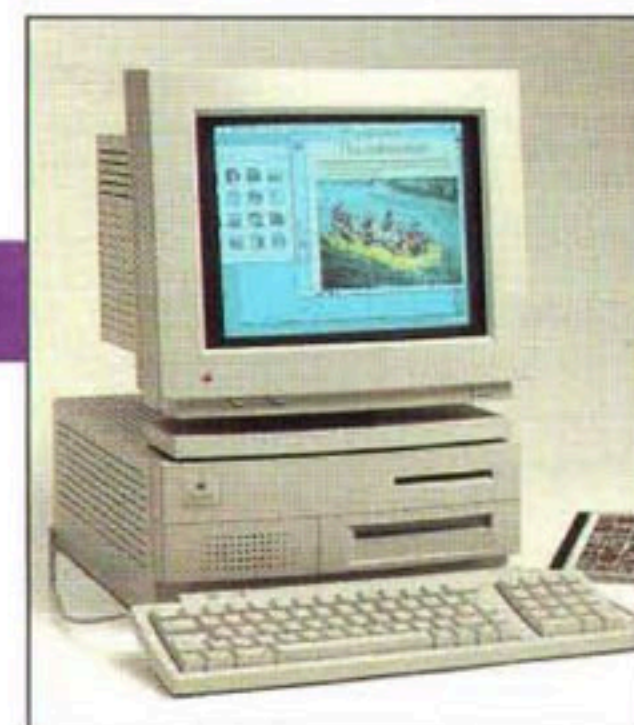
Performa 400

Release date: February 1993

Release price: £1,099

Spec: 68030 processor running at 16MHz

Comment: based on the LC II, with bundled software



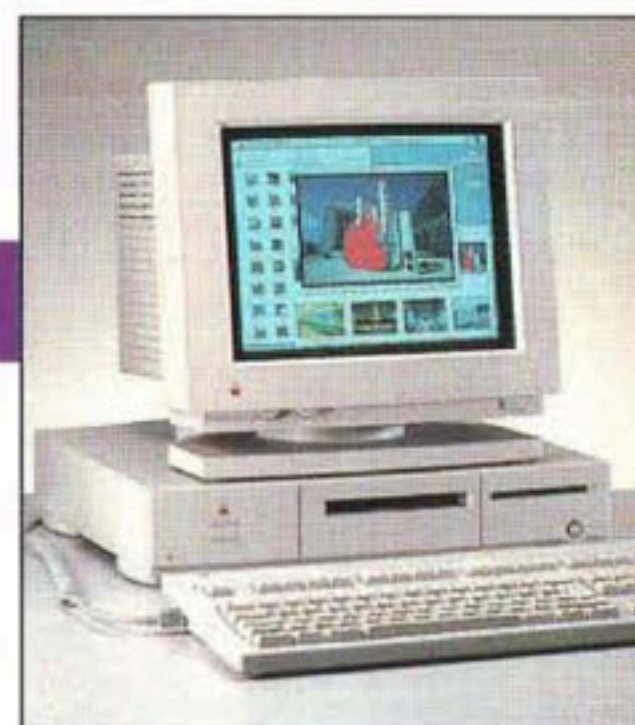
Performa 600

Release date: February 1993

Release price: £1,899

Spec: 32MHz 68030 processor

Comment: based on the IIvx, but slightly slower. Comes with bundled software



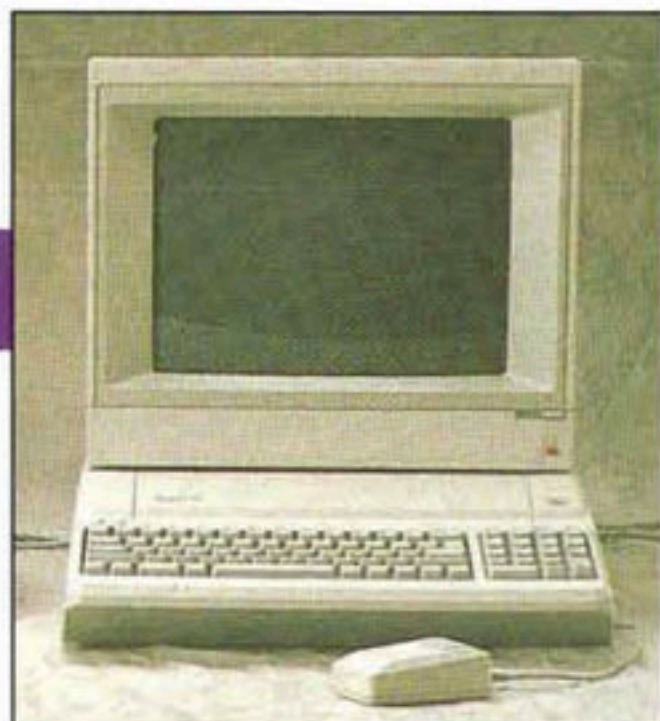
Centris 610

Release date: February 1993

Release price: from £1,745

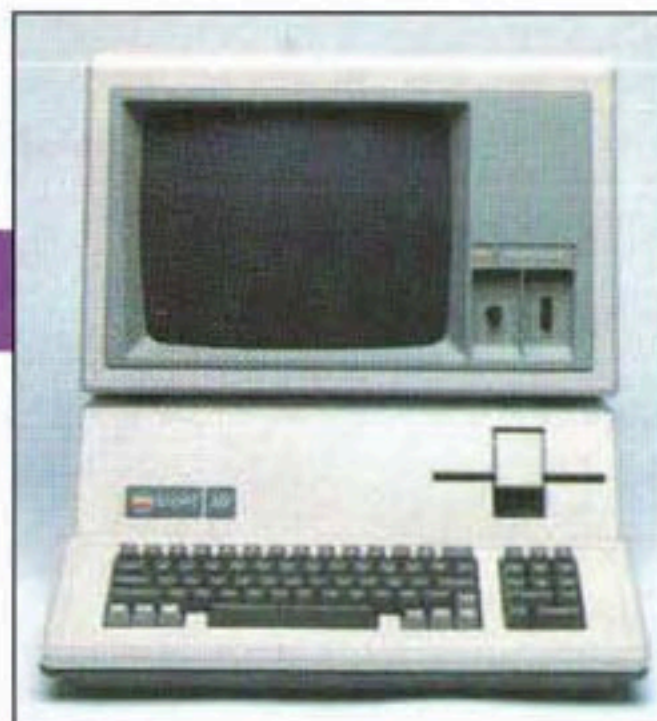
Spec: uses the 68LC040 processor (no maths co-processor)

Comment: runs at twice the speed of the IIvx



Apple II

Release date: June 1977
Release price: \$1,298 (£871)
Spec: 4K of RAM. Ability to generate colour graphics
Comment: included two game paddles. TV set used as monitor



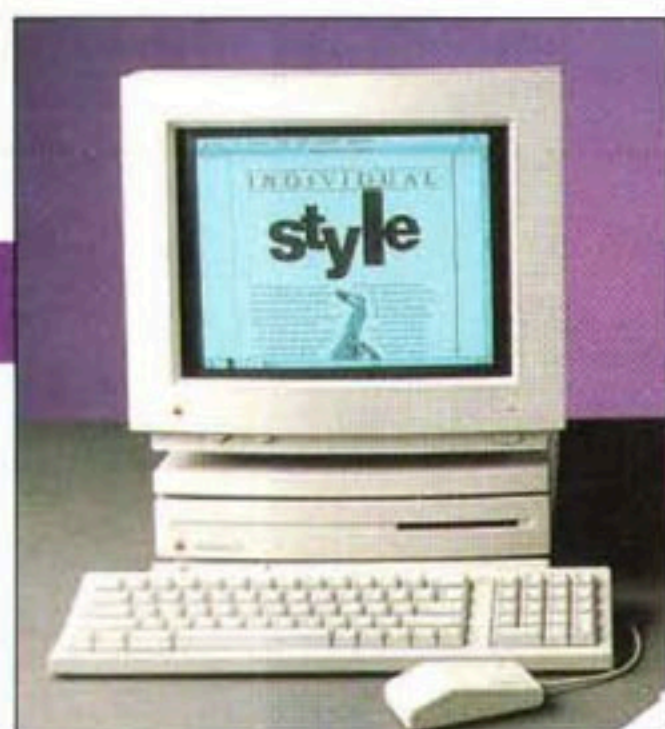
Apple III

Release date: September 1980
Release price: \$3,495 (£2,346)
Spec: new operating system, disk controller, four peripheral slots
Comment: most advanced system in Apple's history (then)...



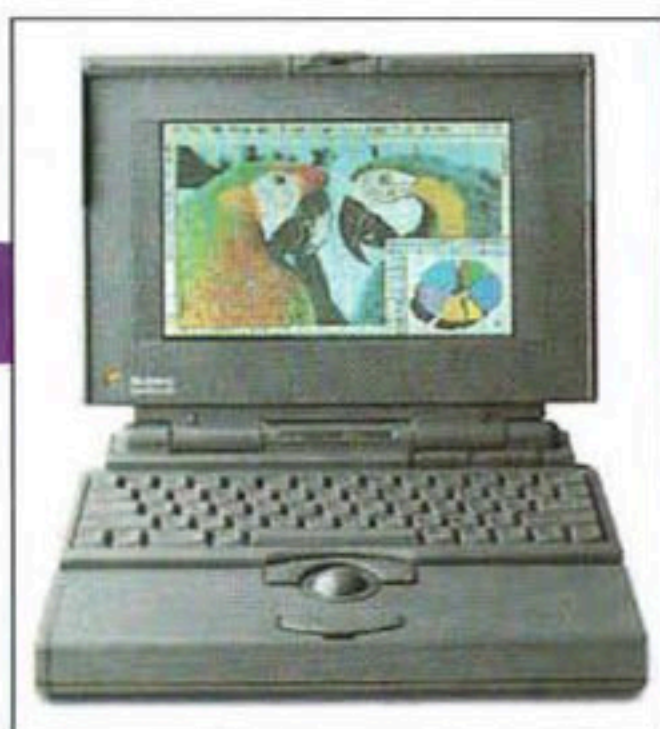
Lisa

Release date: January 1983
Release price: \$9,995 (£6,708)
Spec: the first Mac-like user interface. Had 512K of RAM
Comment: renamed the Macintosh XL in 1985



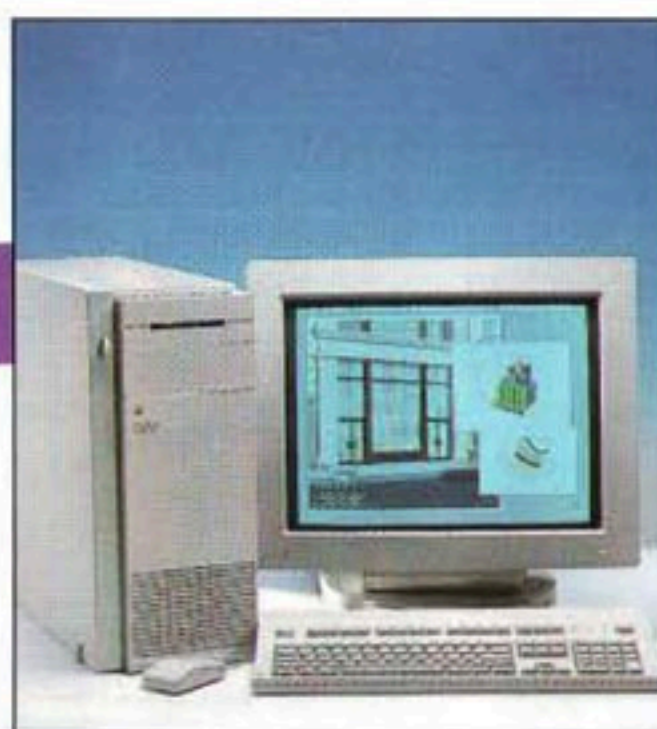
LC II

Release date: March 1992
Release price: £1,235
Spec: 16MHz 68030 processor, same casing as the LC
Comment: best selling Mac of 1992



PowerBook (Range)

Release date: October 1991 on
Release price: £1,375 to £2,645
Spec: varies depending on the machine
Comment: the PowerBook range is regularly added to



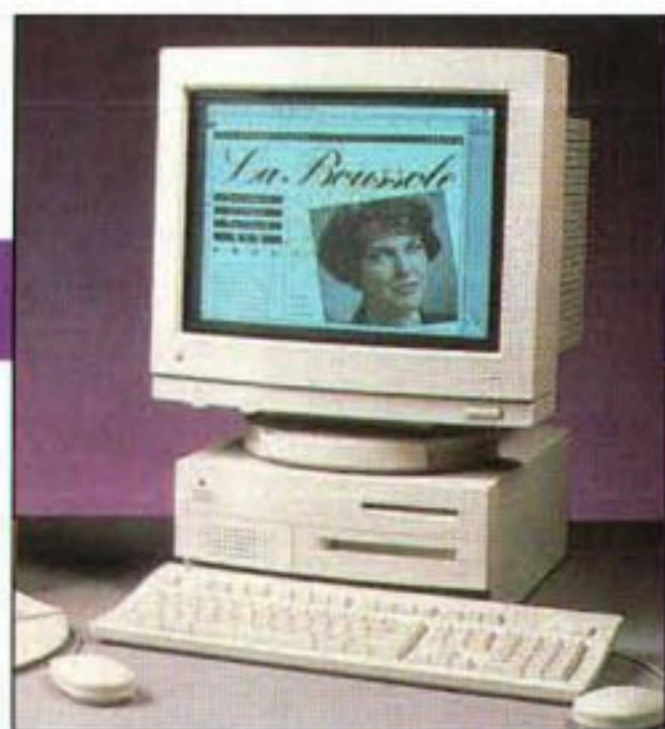
Quadra 900

Release date: October 1991
Release price: from £5,395
Spec: 33MHz 68040 processor in a 'tower' case
Comment: Only lasted three months before being superseded



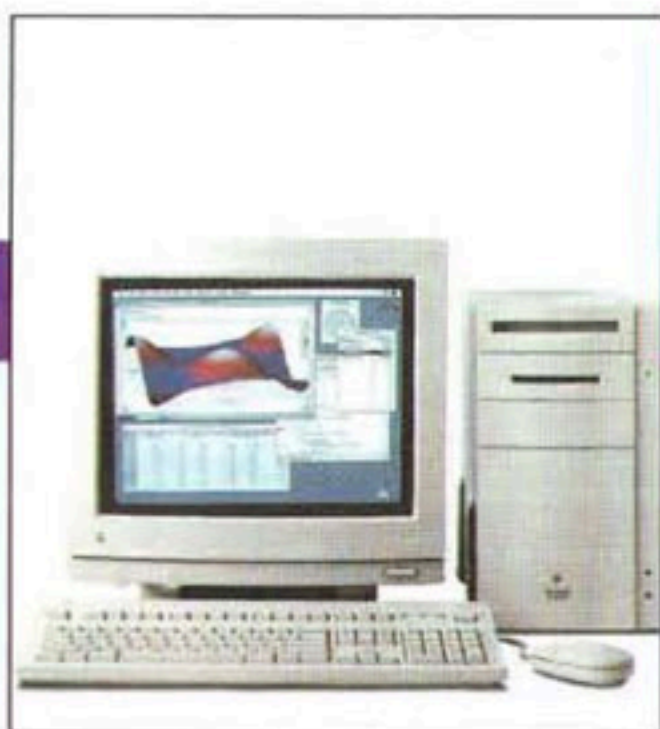
Quadra 700

Release date: October 1991
Release price: £4,695
Spec: 25MHz 68040 processor, three NuBus slots
Comment: Apple's first '040-based Macintosh



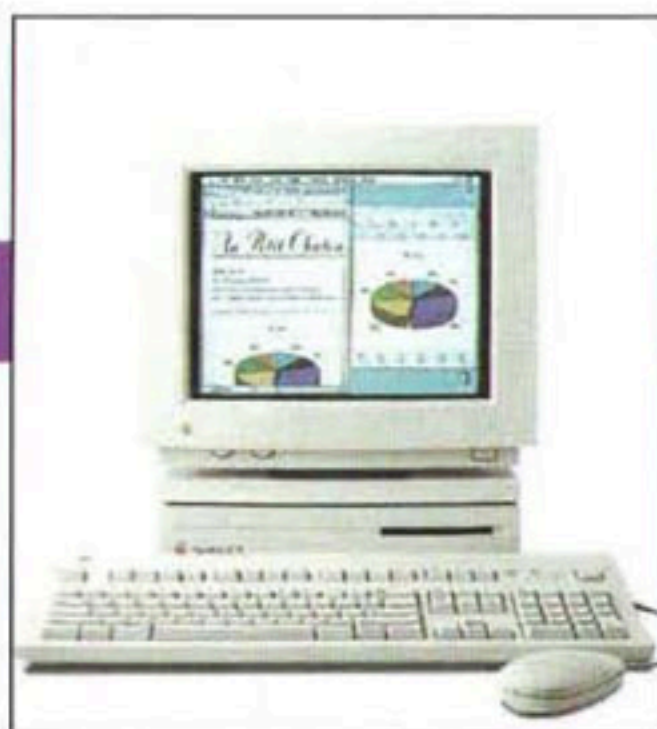
Centris 650

Release date: February 1993
Release price: from £2,595
Spec: uses the 25MHz 68040 processor
Comment: runs at three times the speed of the IIfx



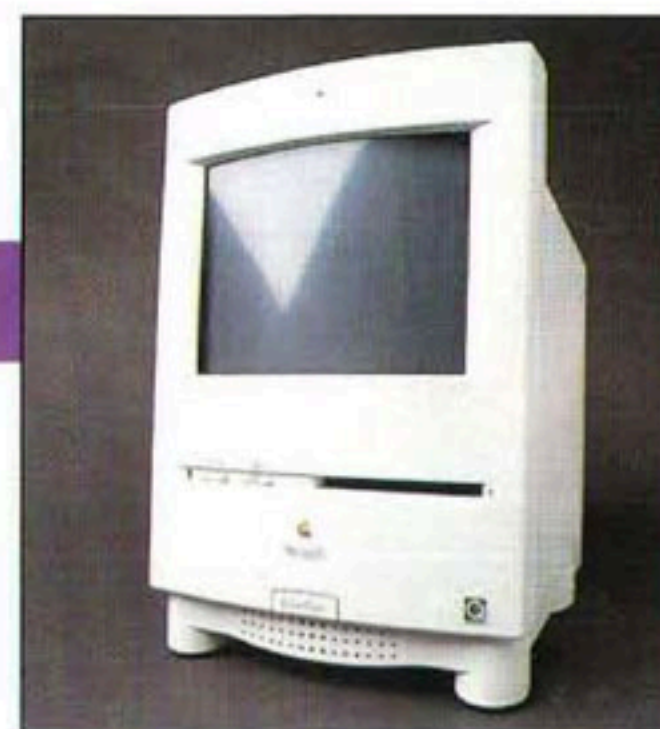
Quadra 800

Release date: February 1993
Release price: £4,194
Spec: 33MHz 68030 processor
Comment: runs 30 per cent faster than the Quadra 700. Shipped in a small 'tower' case



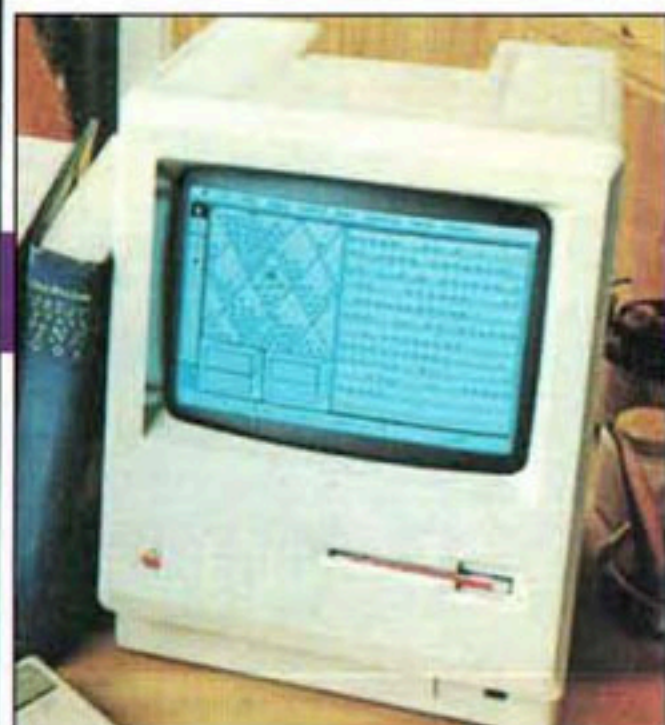
LC III

Release date: February 1993
Release price: from £1,245
Spec: based on the 25MHz 68030 processor
Comment: runs at twice the speed of an LC II



Colour Classic

Release date: February 1993
Release price: £911
Spec: 16MHz 68030 processor
Comment: based on the Classic II, but with a 256-colour screen. The first colour 'compact' Mac



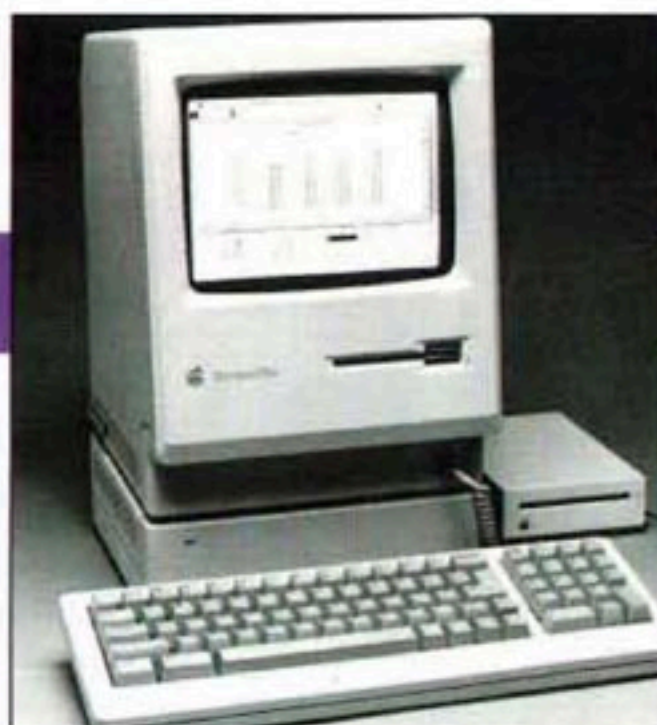
Macintosh

Release date: January 1983
Release price: \$2,495 (£1,674)
Spec: 68000 processor, 128K of RAM, one floppy disk drive
Comment: the first ever Apple Macintosh computer



Mac 512KE

Release date: September 1984
Release price: \$3,195 (£2,144)
Spec: same as the Macintosh, but with 512K of RAM
Comment: known to everyone as the 'Fat Mac'



Plus

Release date: January 1986
Release price: \$2,599 (£1,744)
Spec: up to 4Mb RAM using 1Mb SIMMs. 68000 processor
Comment: price reduced to \$1,799 in March 1987



SE

Release date: March 1987
Release price: \$2,898 (£1,944)
Spec: 68000 processor. At last, a Mac with a hard drive!
Comment: 1989 - Apple FDHD SuperDrive became standard



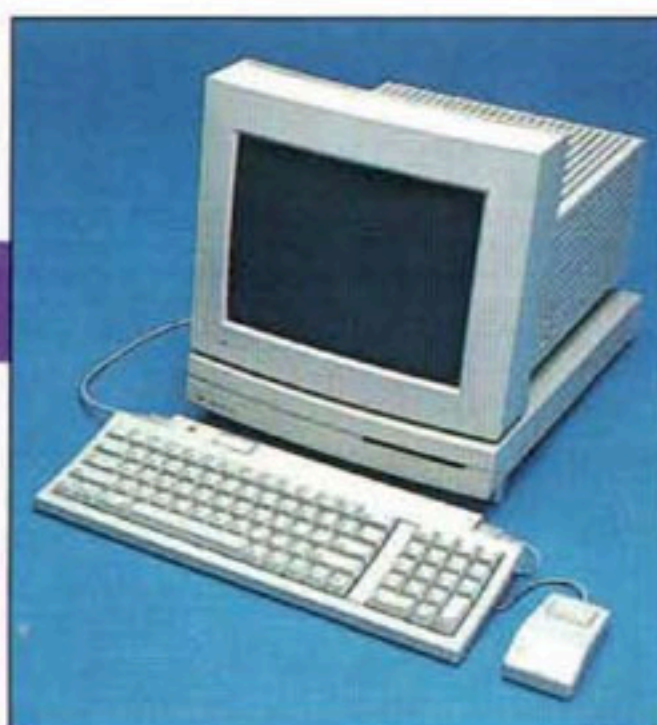
Classic II

Release date: October 1991
Release price: £1,145
Spec: 68030 processor running at 16MHz
Comment: high performance at a low price. It now costs £695



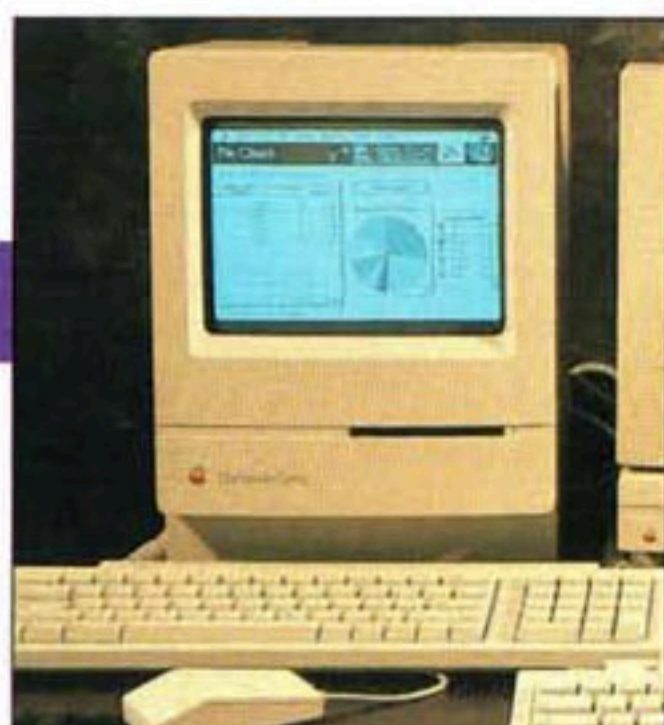
IIx

Release date: October 1990
Release price: £2,295
Spec: 68030 processor running at 20MHz
Comment: another Mac with a PDS slot for expansion



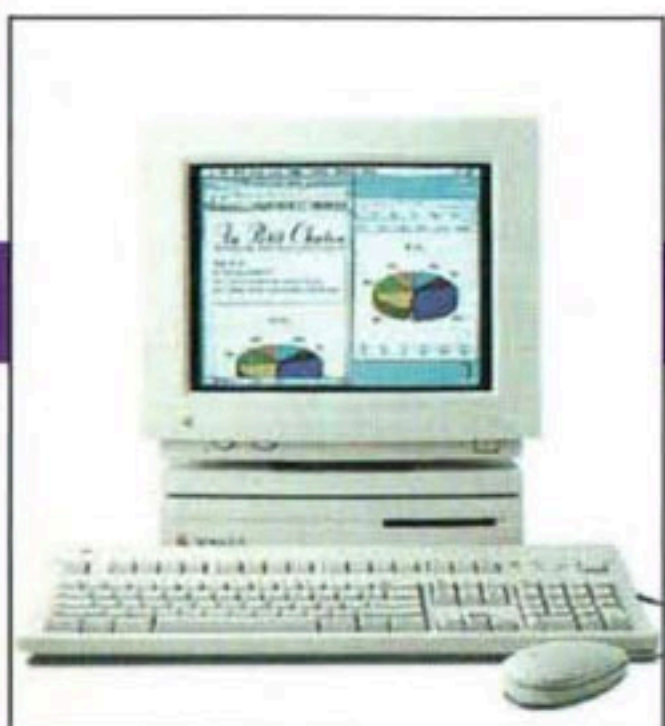
LC

Release date: October 1990
Release price: £1,235
Spec: 16MHz MC68020 CPU
Comment: had a Processor Direct Slot (PDS) for expansion, rather than NuBus



Classic

Release date: October 1990
Release price: £895
Spec: 4Mb RAM, 68030 processor running at 7.83MHz
Comment: replaced the SE as the low-end 'compact' Mac



Performa 450

Release date: May 1993
Release price: £1,500
Spec: based on 25MHz 68030 processor
Comment: based on the LC III, with bundled software



Tempest

Release date: Summer 1993
Release price: ?
Spec: 25MHz 68040 processor, Contains a Digital Signal Processor (DSP) chip
Comment: any month now...



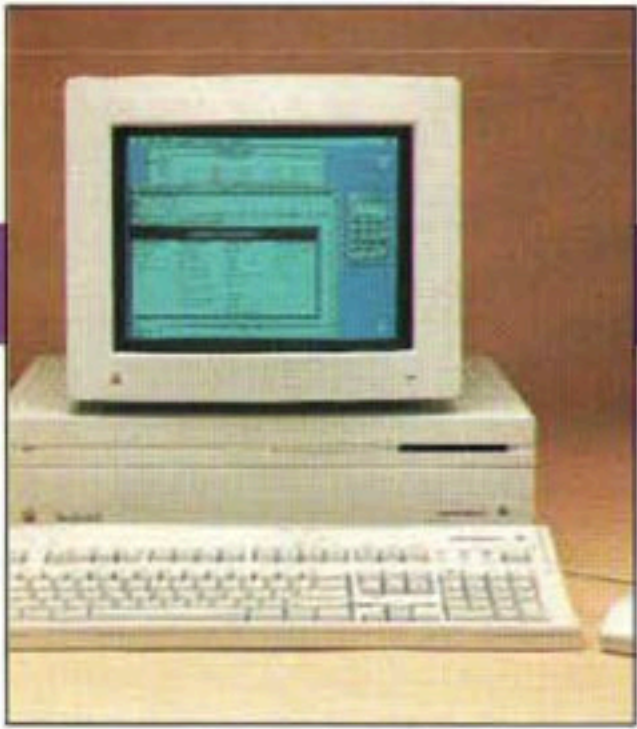
Cyclone

Release date: Summer 1993
Release price: ?
Spec: 40MHz 68040 processor, integral DSP chip
Comment: this will be the fastest Mac yet



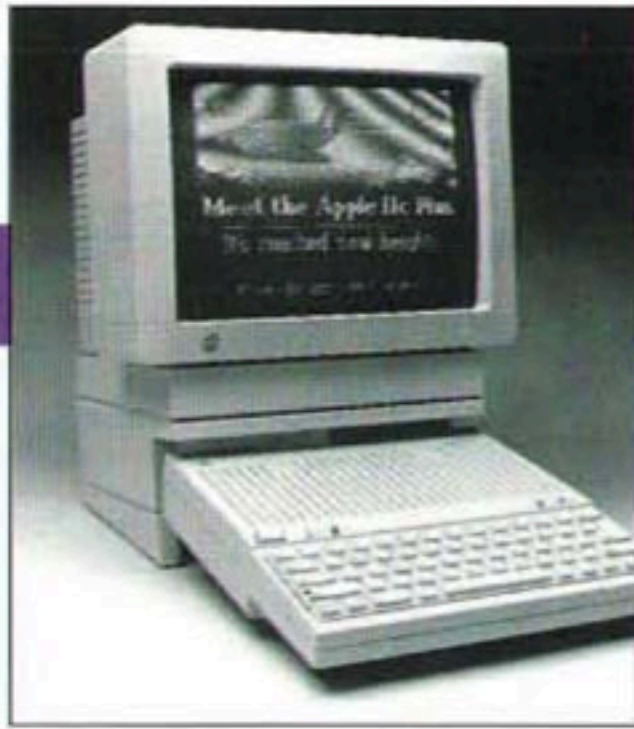
Colour Duo

Release date: ?
Release price: ?
Spec: will use the same colour screen as the PowerBook 165c
Comment: This Mac will probably appear at the end of 1993



Macintosh II

Release date: March 1987
Release price: \$3,898 (£2,616)
Spec: 68020 processor, six NuBus slots for expansion
Comment: 1988 – 4Mb RAM, priced at \$7,769



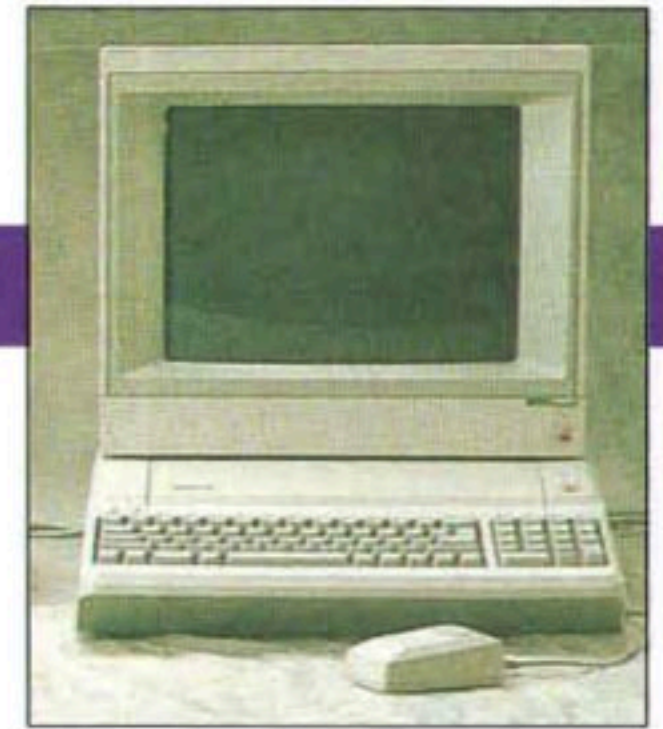
Apple IIc Plus

Release date: September 1988
Release price: \$1,099 (£738)
Spec: 128K of RAM, 65C02 processor
Comment: RAM expandable to 1.125 Mb



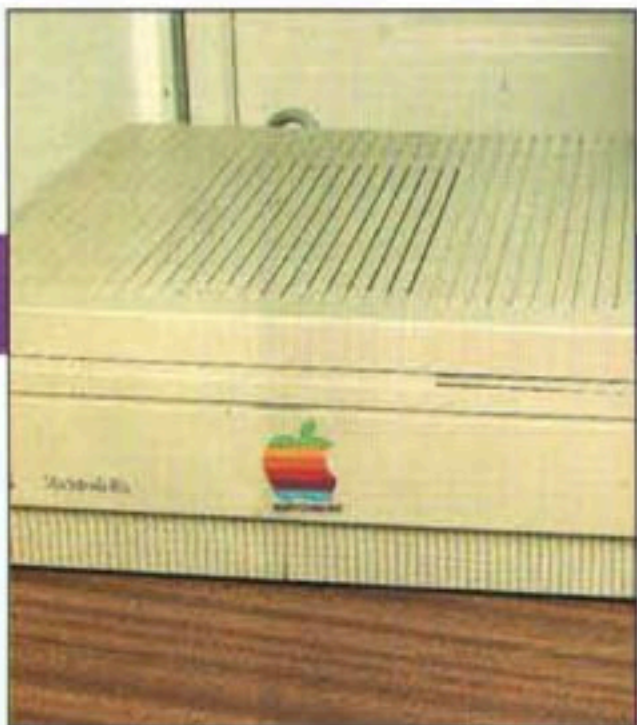
SE/30

Release date: January 1989
Release price: \$4,369 (£2,932)
Spec: 68030-based with maths co-processor
Comment: US prices for SE and SE/30 reduced in 1990



IIx

Release date: September 1988
Release price: \$7,769 (£5,214)
Spec: 68030 processor, 68882 maths co-processor
Comment: improved on the basic Mac II's specifications



IIfx

Release date: March 1990
Release price: \$5,610 (£3,094)
Spec: 40MHz 68030 processor
Comment: back in the larger case, this Mac suffered some compatibility problems



Portable

Release date: September 1989
Release price: \$5,799 (£3,892)
Spec: 1Mb static RAM, 16MHz CMOS 68000 processor
Comment: fully functioning Mac in a 'portable' design



IIci

Release date: September 1989
Release price: \$6,269 (£4,207)
Spec: 68030 processor running at 25MHz. Built-in video support
Comment: has remained a very popular business machine



IIcx

Release date: March 1989
Release price: \$5,369 (£3,603)
Spec: 68030-based
Comment: smaller casing meant that the number of NuBus slots was reduced to three



Duo 040

Release date: ?
Release price: ?
Spec: a Duo based on the 68040 processor
Comment: again, due around the end of the year



PowerPC

Release date: Early 1994
Release price: ?
Spec: based on Motorola's PowerPC 601 chip
Comment: the first of a totally new range of Macs

...and what of the future?

Just because the first PowerPCs will appear next year doesn't mean that the Macintosh is dead. Apple is almost certain to continue producing 680x0-based machines for the next few years, and the Apple PowerPCs will be badged as 'Macintosh' too.

The future will be tremendously exciting for Macintosh users. Apple's plans show clearly that it intends to be a dominant company in the computer field for many years to come – and the Mac is a central part of those plans.

Whatever happens, you can be sure of one thing: **MacFormat** will be around to help you get the most out of your Mac – whatever it looks like.

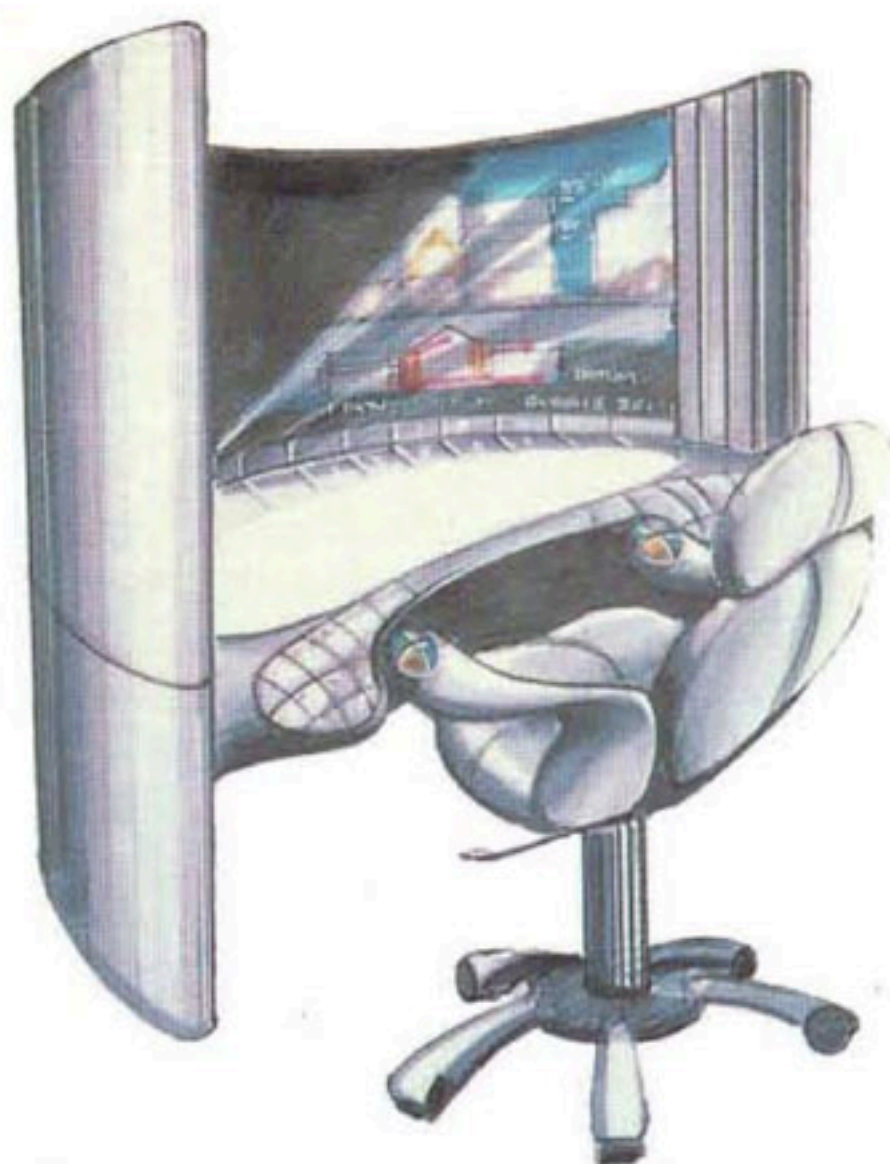
What the @!*%?

**Power PCs, PDAs,
Amber, Casper, GX,
Cyclone, Tempest,
Eager, Agents...???**

**– it all begins to
whirl a little huh?
Well over the next 12
pages it'll all come
into focus as we...**



***fast
forward
to the
future***



FUTURE HARDWARE

In five years' time your Mac will recognise speech, interpret handwriting and may well carry a video camera that gazes down at you as you work. Ian Wrigley gazes into his crystal ball for some hardware predictions...

High-powered Macs

The next generation of Macs will arrive rather sooner than the PowerPC (see page 24): code-named the Cyclone and Tempest, two Macs are due for release this summer – although Apple isn't saying exactly when. Both are based on the 68040 chip.

The larger Mac is the Cyclone, which will run its CPU at 40MHz – and will therefore be the fastest Mac ever. It will ship in the same casing as the Quadra 800, and will have three NuBus slots. It will be capable of accepting up to 128Mb of RAM. Tempest will run at 25MHz, and will use the 68LC040 chip – that's the version of the '040 without a built-in floating point unit (FPU), as used in the Centris 610. And, indeed, it will ship in a Centris 610-shaped case. It should support up to 68Mb of RAM, and will have only one expansion slot – which will require an adaptor before it can support a NuBus card, and even then only a seven-inch board can be fitted. Both Macs will have built-in video support, although Cyclone will have a larger range of options than Tempest.

Both models will incorporate a 32-bit DSP (digital signal processor) chip made by US telecom giant AT&T, which will allow the machines to directly handle video and sound. And that will be capitalised on by Apple, which will have some major new features to announce. For a start, the new machines will have an optional video camera, mountable on the top of a monitor. This should support images in 256 levels of grey, and the cost is expected to be very low – US sources suggest pricing of between \$150 and \$250.

Talk to me!

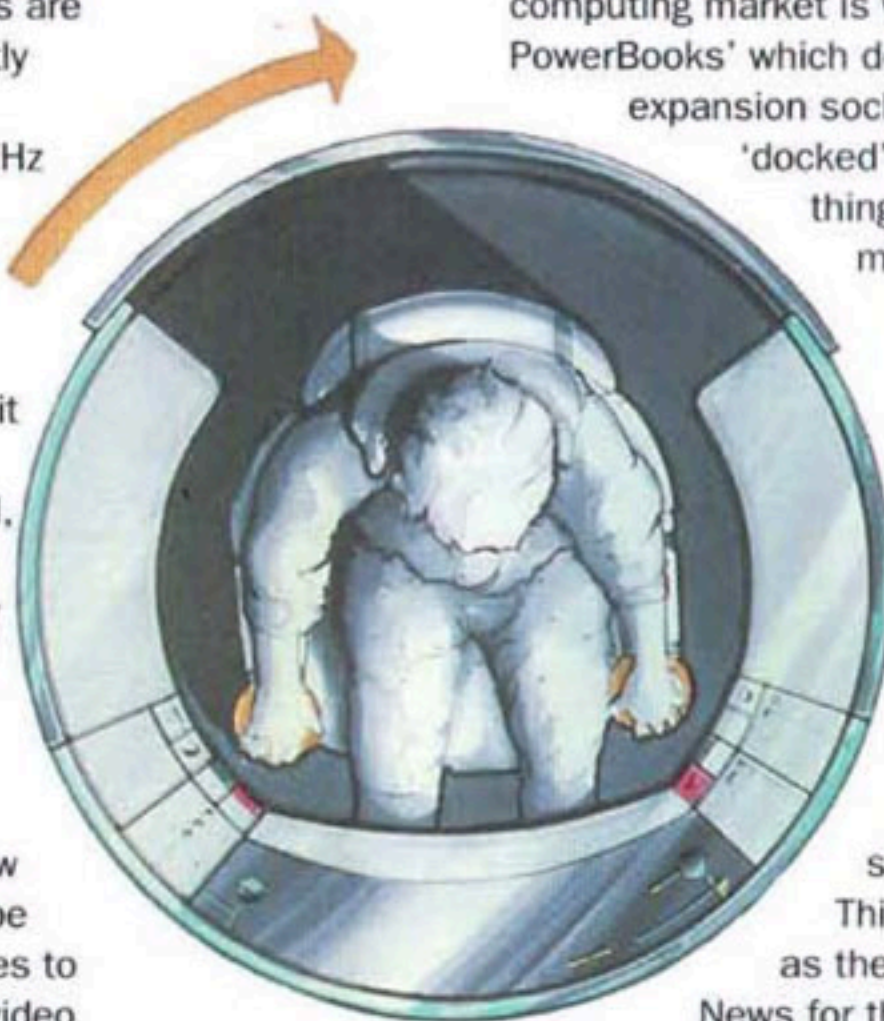
Next up is speech recognition. Apple has been demonstrating a beta version of a speech recognition technology code-named Casper for over a year, but it should finally appear on the new Macs. Unfortunately, the system will have been trained to recognise speech from people with North American accents – so it probably won't work too well over here, and indeed may not even be bundled with European systems.

Finally, a built-in speech synthesiser will mean that your Mac can talk as well as listen. Users will be able to select the voice – male, female, adult, child – and the system should recognise numbers and fractions and pronounce them correctly.



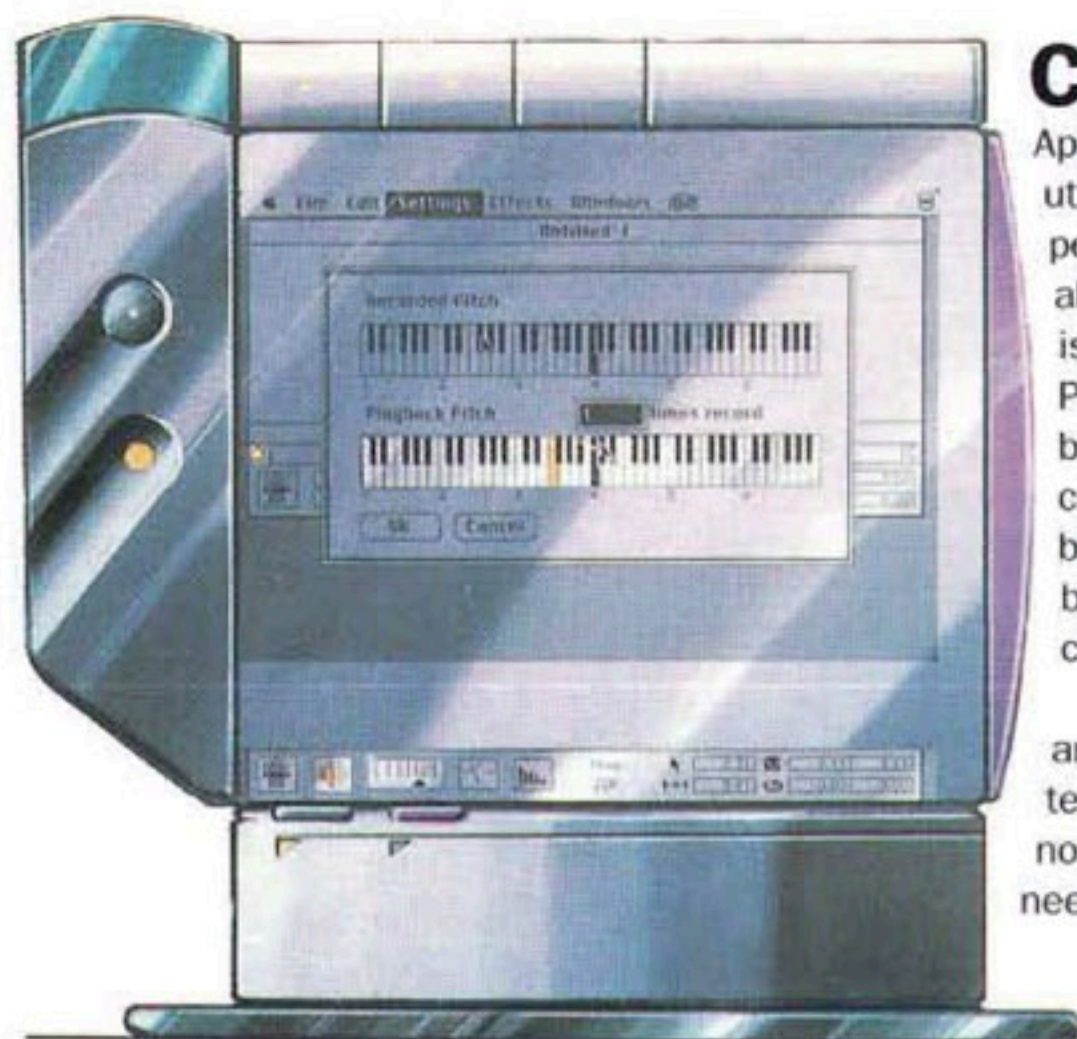
Duo decisions

Apple is firm in its belief that the way forward in the portable computing market is with the Duo family – the 'dockable PowerBooks' which don't have things like floppy drives and expansion sockets built in, but instead need to be 'docked' to a base unit to take advantage of such things. Despite fairly poor sales of the first two models, the Duo 210 and 230, Apple has plans for a number of new models over the next year and a half. First to appear will be an active matrix display version of the Duo 230. At present the 230 has a passive matrix screen, which means that some ghosting occurs when objects such as the cursor are moved around on the screen. The new Duo will have the same active matrix display as the PowerBook 180, and will support 4-bit greyscale (16 levels of grey). At the same time, a colour Duo is likely to ship. This will have the same active matrix screen as the new PowerBook 180c (see this issue's News for the full story on the 180c), and will support 8-bit colour (256 colours). As with the PowerBook 180c, the screen will be 640 by 480 pixels – the same image area as a standard Apple 14-inch monitor. And at the end of this year the first 68040 Duo should appear. The '040 Duo will probably run at the same speed as the Centris 610.



Say cheese!

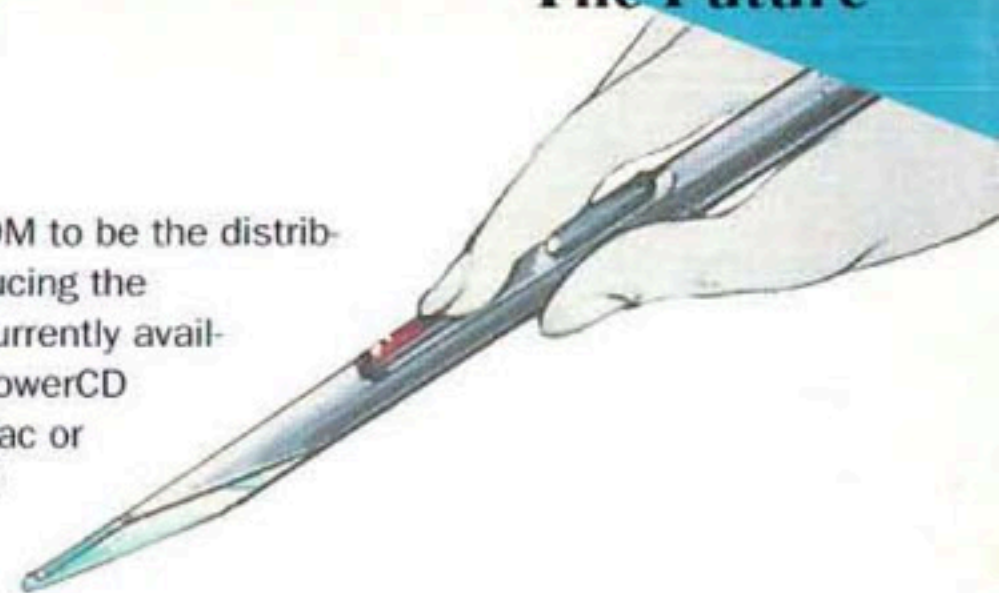
Apple is working on two electronic still video cameras for release before the end of the year. They will both support 24-bit colour, and are currently code-named Mars and Venus. Venus, the lower-specced of the two, will probably cost between £300 and £500 and will have a horizontal resolution of about 320 lines. It will store images in static RAM, and will connect to the Mac via the printer or modem port. Mars, a £1,500-plus device, will have a higher resolution – probably about 450 lines – and may well use a PCMCIA card on which to store images. These could then be downloaded to a Mac via the modem or printer port. Canon and Nikon already sell high-quality electronic cameras, but both use mini-floppy disks for image storage. Using a PCMCIA card would make the camera far lighter, and also cheaper as there are no moving parts.



CD-ROM

Apple has stated ad nauseam that it believes CD-ROM to be the distribution media of the future. And the company is producing the peripherals to prove its conviction. As well as the currently available CD300, the PowerCD will ship this summer. PowerCD is a portable device which can be plugged into a Mac or PowerBook. However, it supports PhotoCD and can be plugged directly into a TV without being connected to any computer in order to play back PhotoCD images. Styled in a sleek black case, PowerCD is definitely a consumer product with the added advantage that it connects to Macs – rather than a dedicated Mac CD-ROM player.

Also coming to the fore are recordable CD-ROM players, known as CD-R. Currently these are extremely expensive – the cheapest sells for over £5,000 – but the price will drop as the technology improves. Sources say that Apple wants to have a CD-R drive which acts just like a normal Mac hard disk – so you can drag files and folders to it in the normal way. (At present you need to use fairly complex software to create a CD-ROM, and you must record the whole disk all at once.) And that's not too far-fetched: the first such device is likely to be available within twelve months, and an affordable CD-R drive is probably only a couple of years away.



In the palm of your hand

The most talked-about new Apple hardware is the PDA, or Personal Digital Assistant. The first of these, known as the Newton, is due for release in August this year. Newton is a hand-held device which uses a pen for input and translates handwriting into normal text. However, that's just the tip of the iceberg. How about a PDA with a built-in phone and speech recognition? Or a wristwatch-sized machine, again with speech recognition, that you can use to record memos which are turned into text for downloading to your Mac? It's possible, if not immediately, then in the next couple of years...

Printing it all out

The laser printer will be with us for the foreseeable future; it's a relatively cheap technology that yields very good results. And the quality will just keep on getting better: in two years' time, A3 600dpi (dots per inch) printers will be the norm, and will cost no more than 300dpi A4 devices cost now. Indeed, in a couple of years 1,200dpi devices will also be widespread (there are a few around now, but they tend to be very expensive). 600dpi is perfectly good enough for most users, but with a 1,200dpi A3 laser printer many magazines and publishing houses will find that they only need traditional imagesetters for the very highest quality – a laser-printed 1,200dpi page of text is almost indistinguishable from an imageset bromide of that same document.

Colour printers will become much more prevalent too – although it will be a while before prices drop to affordable levels.



Just jot it down

As well as PDAs, Apple has 'normal' portable Macs targeted for pen-based input in the not-too-distant future. But don't expect to be able to buy one off the shelf for some time – the first models will be customised for the needs of large corporations, and won't include the full handwriting recognition present in the Newton.

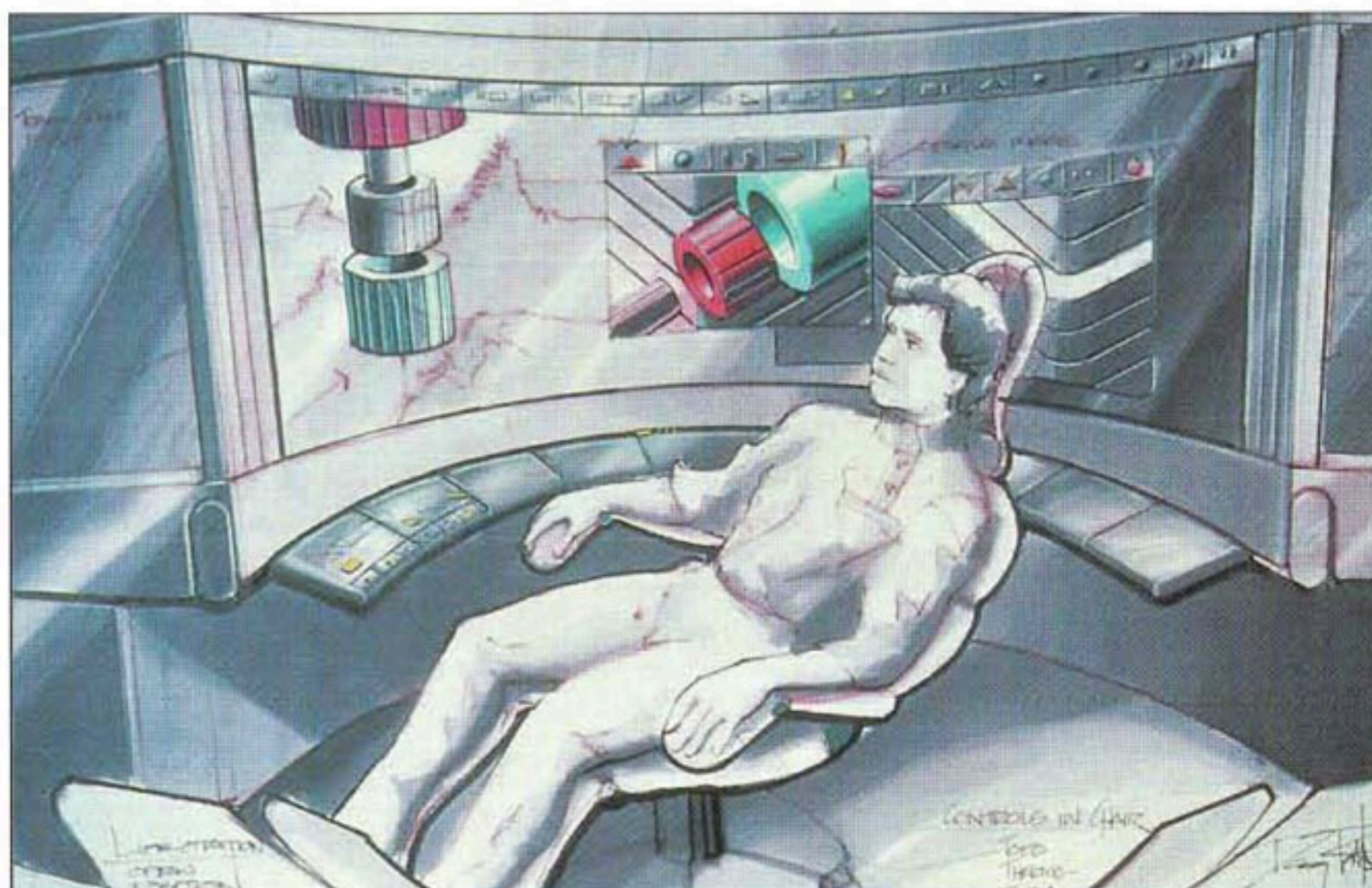
A pen-based Mac would probably take the form of a Duo with a detachable keyboard – the user would normally input information using a pen on the screen. This will probably be restricted to check-lists and the like at first – the 68030 doesn't have enough power for proper handwriting recognition at anything like a reasonable speed. Apple is likely to keep that particular technology on PDAs only for a while – although the distinction between a PDA and a portable Mac will shrink along the way.

Your Mac in 1998

Your Mac five years on will be radically different from the machine on your desk now. You'll communicate with it by speech and pen input, and it will talk back to you. Yes, Star Trek technology will finally be a reality. The HyperMac will work at speeds you can only dream of now, and the software will be so sophisticated that you'll hardly realise it's a computer at all. But some things will stay the same: you'll be forever running out of disk space (applications will be several hundred megabytes in size), you'll never have quite enough memory (a gigabyte of RAM just isn't enough) and just before you close down for the evening your Mac will crash, losing the last three hours' work...

With kind permission

The images on these pages were supplied by Patton Design, an American company commissioned by Apple to produce prototypes of what the next century's Macs might look like.



10 Software

What kind of features can you expect to see made available

Eager

ETA: 1994

keywords: agents, reporters, servants, surrogates

An agent is a chunk of smart code which learns the habits of a user, receives instructions and subsequently retrieves or manipulates data. It could be used as a servant for managing your Finder or as a surrogate retrieving your e-mail.

But a true agent works in the background. It also learns. Apple's smart agent environment is known as Eager. This is a recorder and pattern recogniser working under AppleScript (see right).

Eager watches you in the background, looks for repetition, then offers to automate particular actions. It will customise your menu bar to offer new operations based on the way you work and is all set to be the first self-modifying software.

Amber

ETA: 1994

keywords: tools, components, parts editors

Apple's Amber is a technology designed to change your desktop from one centred on applications to one based on documents and tools.

Amber-compatible applications will be capable of storing and displaying any kind of data from other applications you own. Amber will simply take over the document you're working on and substitute that application's menus over your tool bar. Users with particular sets of requirements will be able to buy third-party custom toolkits or parts editors. As such, developers won't need to create and support several applications by incorporating masses of features into an application – they'll just license them from other developers.

Casper

ETA: 1993

keywords: Speech Manager, speech synthesis, Singer

Apple's voice recognition technology, Casper, will allow Mac owners to listen and talk to their machines. A microphone will pass voice inputs to compliant applications which will include phrase books as add-on modules.

A new system extension, Speech Manager, will convert text like error and information messages, and output them via the Mac's speaker. The speech recognition engine is known as MacPlainTalk and will recognise natural phrases without pauses and without worrying about background noise levels – Casper technology will filter them out. Voice output, handled by a speech synthesiser chip known as Singer, can be configured for male, female and child variants.

AppleScript

ETA: 1993

keywords: scripts, automation, macros, Apple Events

Initially a new System 7 extension, AppleScript will eventually lay the groundwork for technologies such as voice control and intelligent agents by automating tasks within and between applications. Its power rests in its use of natural language to manipulate an application's internal data.

So what does it all imply? Well you could write a small program which loads up your comms program, logs onto your financial on-line service, downloads the day's share prices, opens your spreadsheet, recalculates the new data, creates a 3D chart, launches your word processor, copies the chart into it and prints it out. As long as they're all AppleScript aware but – hey! – you guessed it – that's the game plan.

Voice mail

ETA: 1994

keywords: voice forwarding, voice queuing, voice bytes

Macronix's Vomax 2000 is a \$500 telecomms package, which sits between your Mac and a phone socket, intercepting voice and fax messages even when your machine is shut down. Up to 20 minutes of voice messages and 30 pages of faxes can be stored internally before being called up to your Mac's screen for retrieval.

Vomax is also able to forward voice messages to any touch-tone phone and faxes to any group 3 fax machine. While Vomax-style software could be incorporated directly into new Macs now, this would require your machine to be powered up at all times and be fast enough to handle incoming and outgoing fax and voice mail without slowing up regular Mac applications.



Impact:
more fun,
productivity, and
effectiveness
Names to watch
out for: Eager,
Magnet, FileWave,
Open Sesame!



Impact:
cheaper software,
faster working,
smaller tools
Names to watch
out for: Microsoft
OLE 2.0, Apple's
Amber



Impact:
Mac love affairs,
shouting and
swearing as menu
options
Names to watch
out for: Cyclone,
Tempest



Impact:
down tools and
start building your
own. Names to
watch out for:
TeleScript, ScriptX,
Dylan, SK8,
NewtonScript



Impact:
with your own
switchboard, and a
PDA, you never
need be in the
office again
Names to watch
out for: your own

certainities

for your Mac over the next few years? Andy Storer investigates...

PDA's

ETA: 1994

keywords: data objects, PIMS, dynamic links

While there's a small crowd of Personal Information Managers (PIMs) already out there – combining configurable calendars, contact managers, date and time stamps, to-do lists and note-takers – a user, ironically, has to be pretty organised to get the most out of them.

Forthcoming PDA software from Apple and third party vendors will be much less taxing – requiring just free-form entry for details and their implications to be stored and acted upon.

But this is more than just about smart secretaries. The trick is in relating any data object to any other data object so that additional software can suggest additional links, change context sensitivities and call up data whatever form it's in – text, voice, video et al.

Live Picture

ETA: 1994

keywords: FITS, real-time handling, IVUE

Advanced Imaging's *Live Picture* is an image editing system which could replace *Photoshop* as the de facto Mac package because it enables users to manipulate hi-res A4-size pictures in near real time.

Based on some cutting-edge maths advanced imaging calls a Functional Interpolating Transformation System (FITS), *Live Picture* converts TIFF files to a new format called IVUE. User manipulations of an IVUE image are recorded as a series of mathematical functions, allowing for infinite Undo. More importantly though, is the speed at which multiple compositions and transformations can be achieved. RGB files of up to 1 Gigabyte in size can be treated to an array of *Photoshop*-style effects with next to no wait-states.

GX

ETA: 1994

keywords: object-oriented, smart fonts,

Remember 32-bit QuickDraw – Apple's screen-imaging technology now buried deep in every new Mac? – well, the upgrade, GX, will turn it into a full-fledged page description language to rival PostScript. The bottom line reason? – dosh.

Specifically, the licence fee Apple has to pay to Adobe for using its PostScript technology in all its output devices. But, as you might expect, you, the user, will receive a whole bunch of benefits as a result. GX is object-oriented and will include smart fonts accommodating up to 65,000 different characters and unlimited style variations.

In addition, you'll be able to treat editable text as graphic elements. Watch out for a range of new Apple GX lasers.

48-bit colour

ETA: 1995

keywords: colour threshold, true colour

Even though an image may have been scanned in as three 16-bit RGB channels, by the time that image reaches a designer, its colour threshold has been reduced to supply the 8-bits per RGB channel needed to run on hardware and software once built on 8-bit architectures. Those 24-bits of ditched data should make their way to print for greater realism and resolution.

Proponents of a new 48-bit HDR (High Dynamic Range) standard claim 256 grey scales is no way near enough to represent the resolution of human vision able to distinguish between at least 16,000 grey levels. HDR advocates contend that 48-bit images, of perhaps 2,000 x 3,000 pixels in size and scaled down for the final print, will bring true colour photo-realism to the Mac desktop.

QuickTime

ETA: 1993

keywords: video mixing, audio sampling

Apple shipped the one millionth copy of its *QuickTime* architecture in May and simultaneously announced all new Macs would be bundled with a new version – 1.6.

While *QuickTime 1.5* largely concentrated on improving graphic/video compression and display, 1.6 targets audio CD.

With this new system extension on board you will be able to open the sound-tracks of any audio CD from any application which opens *QuickTime* movies. As such it'll be possible to sample audio at full CD stereo quality for inclusion in any *QuickTime* compliant application.

QuickTime is fast heading for full screen motion, though perhaps at 15 rather than 25 fps. The bottleneck is limited hard disk access rates.



Impact:

you'll be so organised you won't know how to pass the time
Names to watch out for: Newton, Rae Technology



Impact:

the real graphics workstation – but just think of the memory and storage
Names to watch out for: HSC software, Fractal Design Corp



Impact:

greater text control, faster output, cheaper lasers, yet another font format
Names to watch out for: only acronyms here – QIF, QSP, ISDN



Impact:

whoops, time to buy even more memory, storage and power chaps
Only one name to watch out for here: Leaf Systems



Impact:

copyright takes an even bigger pounding – lawyers clean up
Names to watch out for: Sound Manager 3, your lawyer's

Powering up the Power PC

The concept

The PowerPC is a new design of computer that departs radically from the traditional Mac approach. It's the result of a collaboration between Apple, IBM and Motorola (the company which makes the 68000-series CPUs that current Macs use) and is designed to set the standard for personal computers and workstations into the early years of the next century. Since Apple and IBM are both industry giants, it's certain that the PowerPC will eventually become widely accepted.

The design

The machine's architecture – the design of the electronics – will be radically different from current Macs. Rumour has it that the first PowerPC Mac available will have a Processor Direct Slot (PDS) for expansion, but will have no NuBus-style expansion bus. This limits the machine's expansion radically; but on the other hand, Apple is very likely to build in support for colour in the same way that it does on all new Macs now. And the PDS means that there will be at least some room for add-on cards.

The name

PowerPC is the name which will be used by both Apple and IBM for their machines, although Apple has said that it definitely intends to also use the Macintosh name for its models. Computers from the two companies will have the same basic architecture, and should also both run Mac applications – Apple, for the first time in its history, is providing IBM with the technology to emulate the Mac user interface. The differences between computers produced by the two companies will be in the actual specifications.

The spec

The machine will probably have a 2.8Mb floppy disk drive (double the current SuperDrive's capacity, but with the ability to read 1.4Mb and 800K disks); it will come with 8Mb of RAM; and it is likely to incorporate a 50MHz version of the PowerPC 601 chip, which is theoretically capable of running native applications at around twice the speed of the Quadra 800. After the first machine will come one based on the 602 chip, which should run at four times the speed of the 601.

The chip

The PowerPC design is based around a new chip from Motorola called the PowerPC 601. It's a RISC (Reduced Instruction Set Computer) chip, and runs far faster than the 68040 that's currently powering the top-of-the-range Macs. This is another interesting departure for IBM: until now, the company had exclusively used Intel's 80x86 family of chips, and Intel was reputedly furious when it was announced that Motorola would be the chip manufacturer of choice.

The promise

Initially, Apple had said that we could expect "a model costing the same as the low-end desktop systems (at that time the LC), but with the performance of the highest-end machines (at that time the Quadra 700)". Now, though, it looks like that won't be the specification of the first machine. Because it will take time for Motorola to 'ramp up' production of the PowerPC 601 chip, the first PowerPC Mac is likely to cost the same as, say, a Centris 610 – but it should run faster than the original predictions, too.

The power of a Quadra for the price of an LC? You've heard the sketchy rumours, you've read the sketchy news – now here's the definitive low-down on Apple's forthcoming PowerPC

Ian Wrigley takes the next generation platform to pieces...

The system

Because the PowerPC won't use a 680x0 chip as its main processor, Apple can't just transplant the System software directly to the new machine. Instead there will be two ways to run programs on the PowerPC: 'native' mode, or via a 68020 interpreter. At first, almost all applications will run in the latter mode. A piece of software runs as a 68020 emulator – that is, it sits between the program and the chip, converting the 68020 instructions that the program is written in, into PowerPC instructions.

The upgrade

Apple has already said that it will provide upgrades for users of certain Macs to PowerPC – essentially replacing the whole motherboard of the old computer. These machines will include the Centris family, the Ilvi and Ilvx, Performa 600 and Quadra 800. Apple may also provide upgrades for other members of the Mac family, and third party developers are sure to provide upgrade solutions for just about the whole range of machines. These will take the form of NuBus or Processor Direct Slot cards.

The software

In anticipation of the popularity of the PowerPC, many major developers already have 'native' PowerPC applications in development. Although the user interfaces will look just like their Mac counterparts, they will run far faster – which is, after all, the whole point of buying a PowerPC. The Apple Installer program will check whether you're using a 680x0 chip or a PowerPC, and will install the requisite code for you. This system means that one set of disks can be used, regardless of the processor.

The choice

If you're thinking of buying a new Mac in the near future, should you wait and buy a PowerPC first? It all depends on whether you're what Apple terms an 'early adopter'. These are people who buy the first releases of products as soon as they can – and they are what made the Macintosh the success it is. But many people prefer to wait until a product has had a little time to prove itself before they jump in – and with a technology as new as the PowerPC, this is certainly good advice.

The danger

Of course, there are bound to be incompatibility problems with existing applications, just as there were when the first 68040-based Macs appeared. The problem will be at least as bad with the PowerPC: expect to have to upgrade most, if not all, of your applications. For some this may just take the form of a free 'bug fix', but some will require major alterations. And, of course, you'll want to buy the PowerPC versions when they appear, to take advantage of the extra speed.

The end?

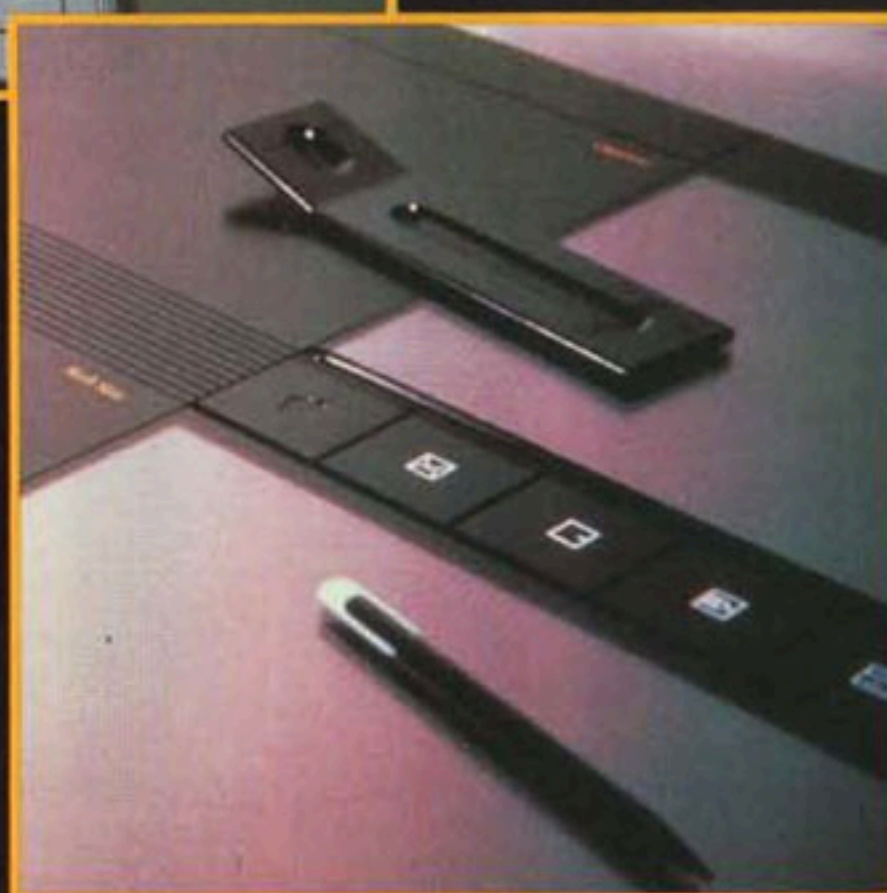
So will the advent of the PowerPC mean the end of the Mac? Not at all. There are well over ten million Macs in the world – there's no way that Apple would (or, indeed, could) ignore such a huge user base. Two 68040-based Macs will be released this summer, and it's extremely likely that Apple will produce more 680x0-based Macs in the future. Although the majority of hardware development within Apple will begin to move over to the PowerPC-based machines over time, the Mac will be with us for many years yet.

BEYOND 2000 – MACS FROM THE FUTURE REVEALED

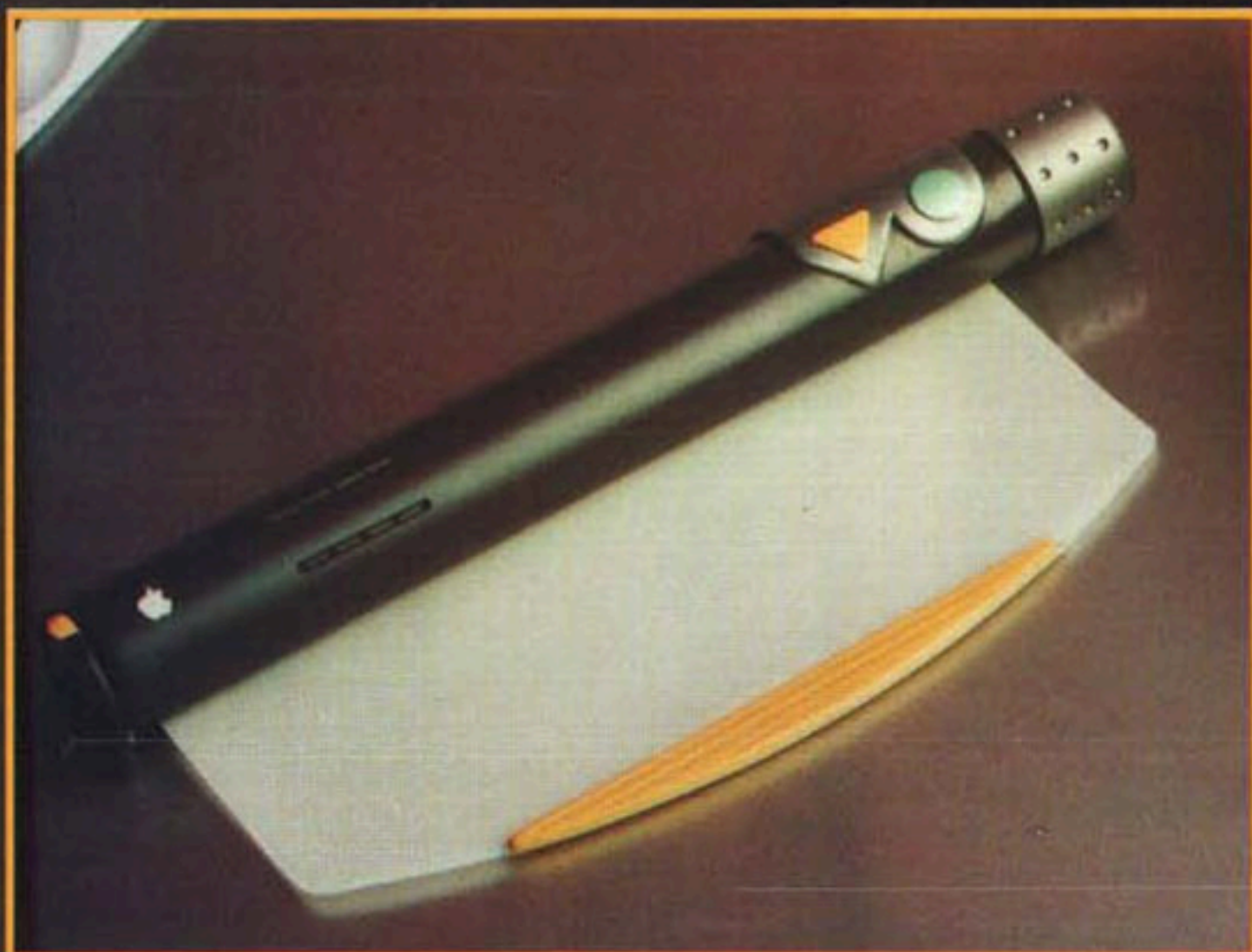
So just where did we get those amazing pictures for the cover? Courtesy of Patton Design – consultants to Apple's Advanced Research Division. Whether the intriguing prototypes shown here actually make it into production or not, you can bet they're already shaping your Mac's future



Tomorrow's desktop? – maybe. The tools, variously known as Wand, Scribe and Quill, are configured for voice recognition, natural handwriting and image scanning. Just behind the pen is Glimpse, a digital video camera, and at the bottom are two Personality Modules...



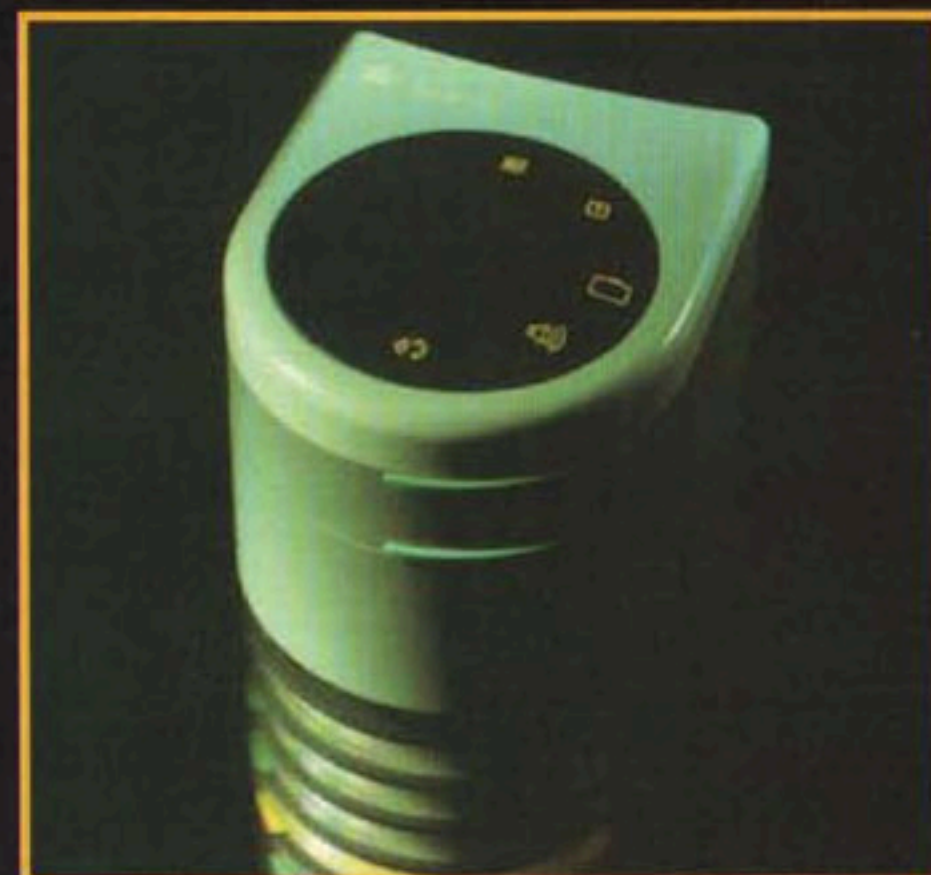
Executive Desk – a work surface integrating all the products that normally clutter a desktop.



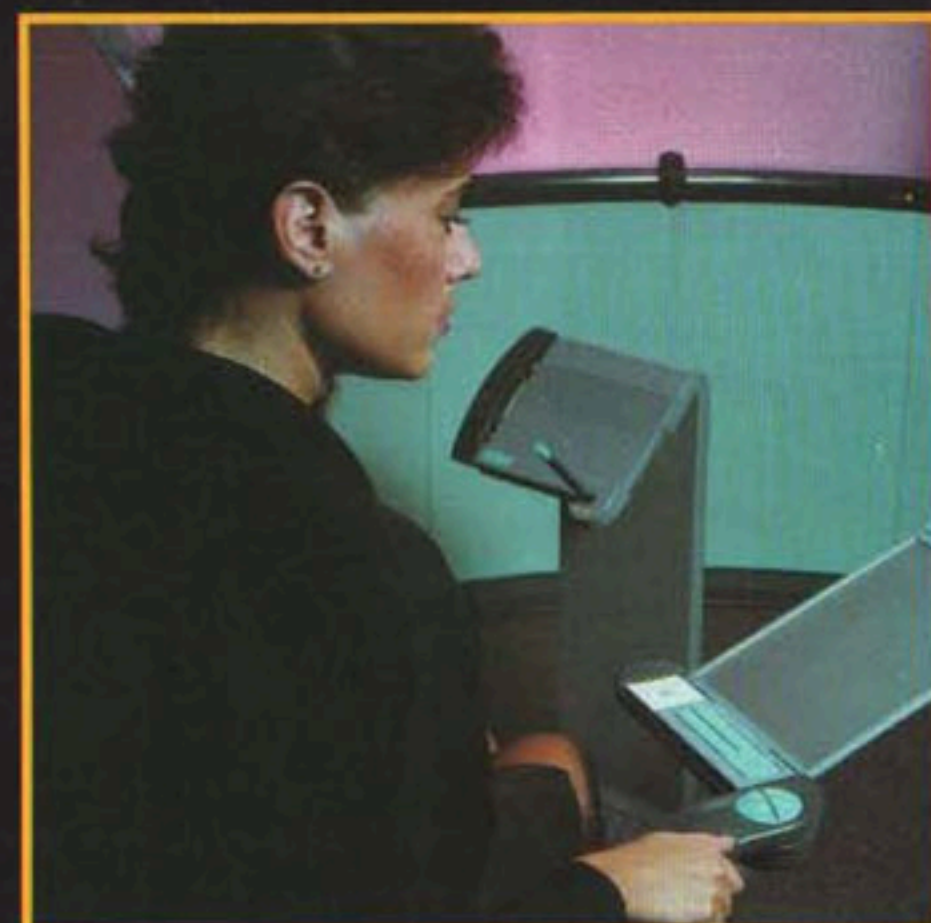
Perhaps the most fabulous of them all, Scroll is a portable Mac in the form of a baton with a roll-out LCD screen! Now wouldn't you just luuuurve one of these?



Work Board – physically very little different to current artists' drawing boards, except that the drawing area is a massive active-matrix liquid crystal screen! Every designer really should have one...



The Power Pillar – a floor-standing rack for storing and playing a multitude of read-write optical drives. Activated by voice command, it acts as a principal mass storage component



Com-chair Arm is a bay which clips onto standard office chairs. It acts as a docking bay for Pad, a wafer-thin portable Mac with A4 LCD screen. Input is via voice and handwriting



This is where it starts to get sci-fi – Personality Modules – or 'P-Mods'. Essentially, monitoring and learning devices which study your actions and preferences and modify your work environment accordingly. P-Mods are Eager PDAs you take with you anywhere

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Paint packs



Maybe it's not everybody who can afford the £300 or £400-plus that some of the top line Macintosh paint and image-editing programs will set you back. This price tag is fine if you are a working artist, illustrator or cartoonist, then a couple of commissions would recoup the outlay.

But what about the student, the parent who would like to introduce their young ones to the joys of painting on a Mac or the keen weekend Mac artist who doesn't have this kind of budget.

The low-budget answer

Paint It! and *Color It!* from Timeworks are two paint programs that bridge this gap between the professional side of the Macintosh paint or image

Need a good-value paint package for the Mac?
Gordon Druce evaluates two of the best

processing software and the more modest graphics packages that are suitable for the enthusiastic student or novice.

Paint It! is very much the baby brother to *Color It!* and has been designed with the beginner in mind, with an elegantly simple interface and toolbox, which even a novice Macintosh operator could quickly learn. It's a plain and straightforward 24-bit paint program with some special effects and at under £50 offers great value.

On the other hand *Color It!* is more like two programs in one, a combination of a smarter 'bells and whistles' 32-bit version of *Paint It!*, with the added bonus of a powerful image editing program, and at well under £250, adds up into an

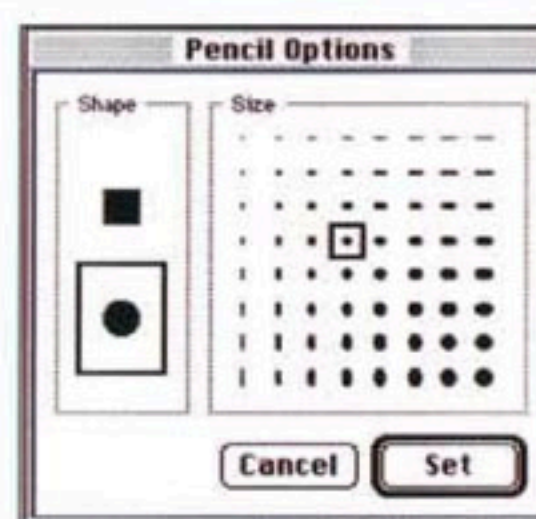
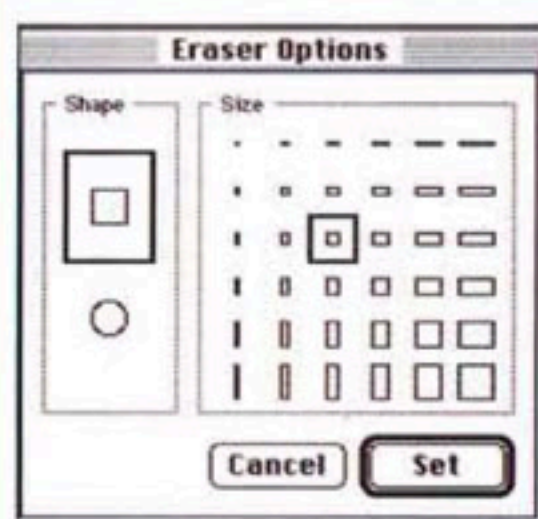
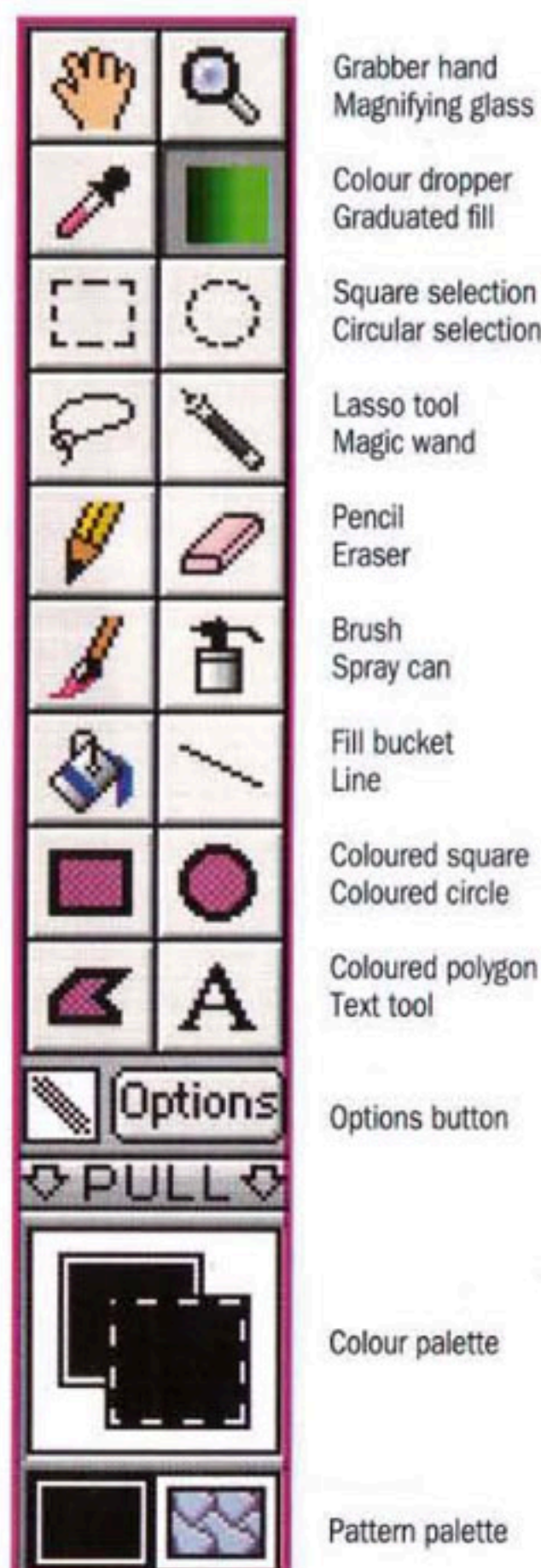
astonishingly good deal.

Both *Paint It!* and *Color It!* will run on a Classic II, LC, SE/30 or any of the Macintosh II and Quadra machines. Timeworks recommends using two Mbytes of RAM. *Color It!* will also support a pressure-sensitive graphics tablet like the type manufactured by Wacom and Calcomp.

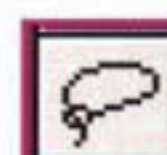
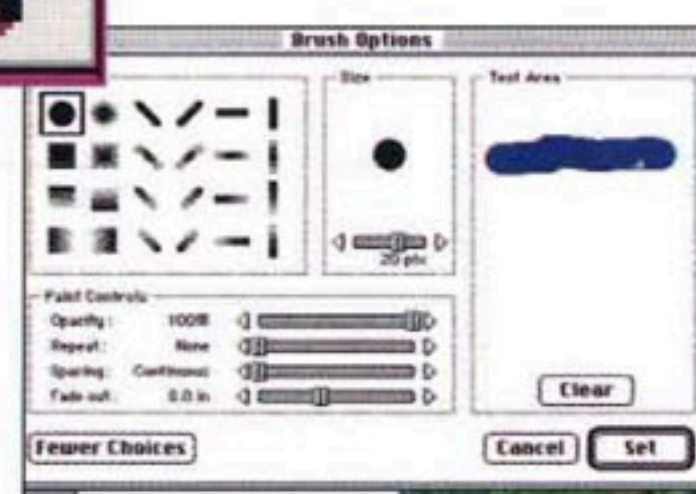
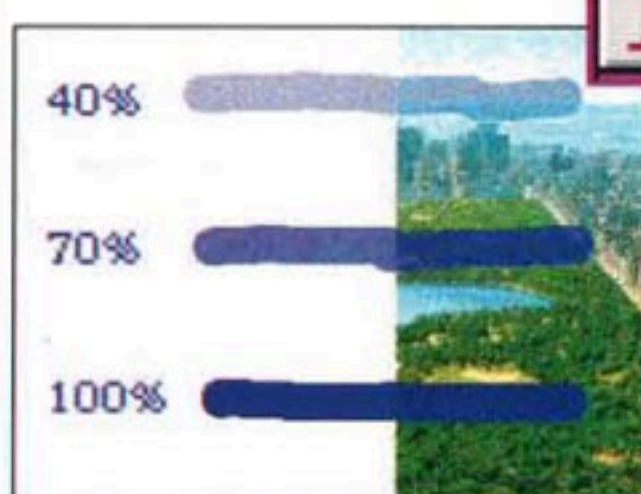
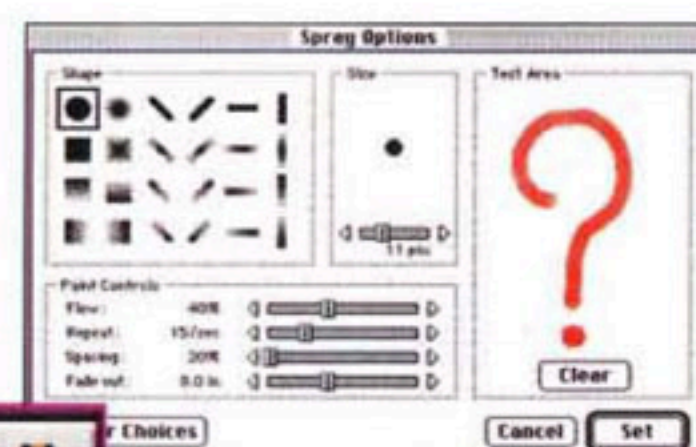
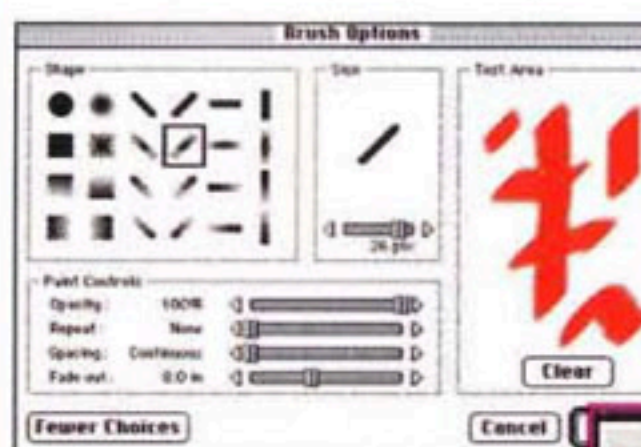
Paint It!

To install *Paint It!* from the floppy disk onto your hard disk, you just insert the program disk into your drive and double-click on the installer application. It will then ask you to select the folder you would like *Paint It!* to sit in... make a selection

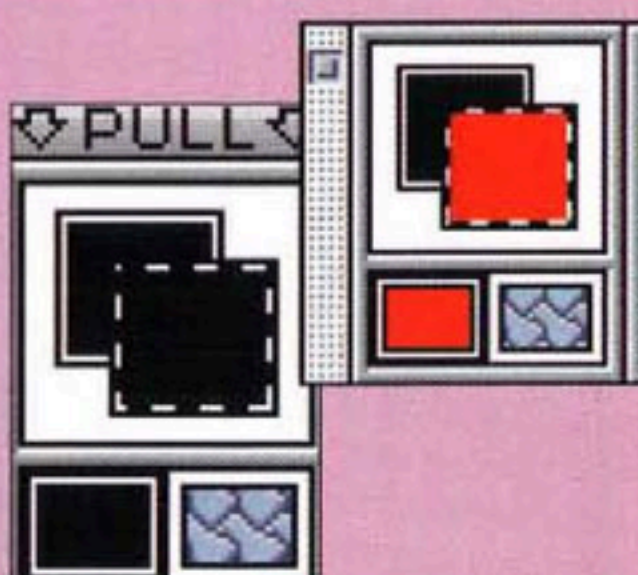
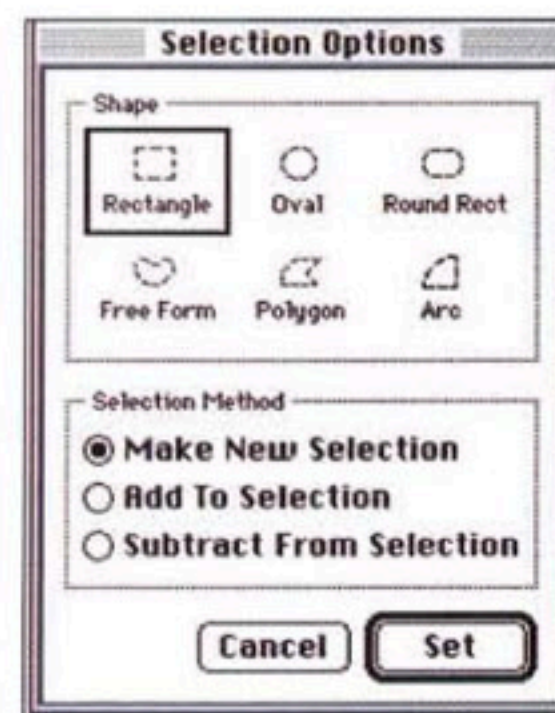
t It! – tool box ● Paint It! – tool box ● Paint It! – tool box ● Paint It! – tool box ● Paint It! – tool box



This is a selection of the kind of control you have over your pencils, brushes and air brush. Plus below is a sample of the opacity controls in action – the lower the percentage setting the lighter the 'coat' and the more of your image will appear



If you click on the marquee tool icon you can make your selection of shapes from this simple dialogue box



and click **OK**, then *Paint It!* will automatically create a folder and install the application on your hard disk.

There is just one toolbox which houses all of the following: your general tools (mover, magnifying glass and dropper), selection tools (shape selection, lasso, and the magic wand), brush tools (paint brush, pencil, and the eraser) and paint tools (shape, objects, fill bucket, line, text, and the gradient tool).

At the bottom of your toolbox there is a small colour palette with the word 'pull' above it... if you do just that, a much larger colour palette and patterns palette will appear, which can be 'torn off' to create independent palettes. Also just above the word 'pull' in your toolbox is a simple outlined square icon with a diagonal line through it; this icon triggers the on/off control of your antialiasing (when the line is smooth it's 'on', stepped means 'off'.)

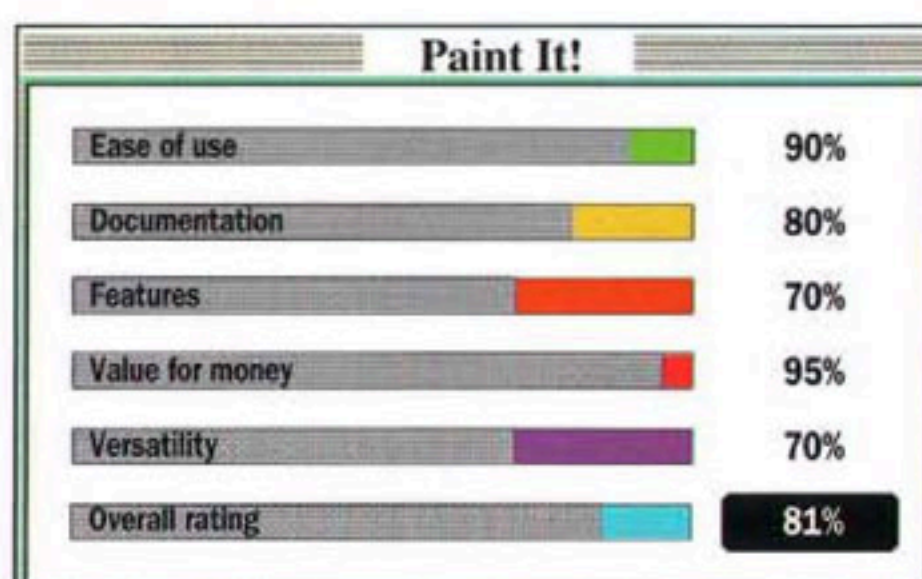
As well as the magnifying glass tool in your toolbox (25% up to 800%) you have an 'in window' magnification slider at the bottom of your working document window.

Both the paint brush and air brushes have a great deal of control options for a paint program in this price bracket. Just double click on the paint brush (or air brush) icon and an **Options** dialogue box appears, giving you scope to tune up your brushes. You have control over size, shape,

opacity, repeat, spacing, fade and a neat test area to preview your new brush styles.

Paint It! is a friendly and intuitive introduction to painting on the Macintosh. It will do all that you might expect from an art package costing double the price. It is simple to shade objects with graduated tints, you can vary line weights of shapes, change styles of fills for your shapes, create text effects using patterns and tints, produce drop shadows for your type, generate complex backgrounds for incorporation into DTP programs and create custom patterns from scanned-in photographs and images imported from other programs or of course you could... just paint!

All your creations can then be saved out to several graphic file formats including TIFF, GIFF, PICT and *QuickTime* PICT.



Jargon Busters

Anti-aliased: brush strokes are anti-aliased when the transition between them and the adjacent image is smooth and does not have jaggies (a sharp stepped look to them)

Image enhancement and image processing: Two terms which describe the process of taking a computer image and altering it. The technique uses the Mac to simulate photographic styles to improve brightness and contrast or add filtration

Opacity: this describes the degree to which your paint or pasted image will blend with the background. Opacity can be adjusted from being completely transparent (background image shows through fully), to totally opaque. This means the paint or pasted image will completely block out the background image

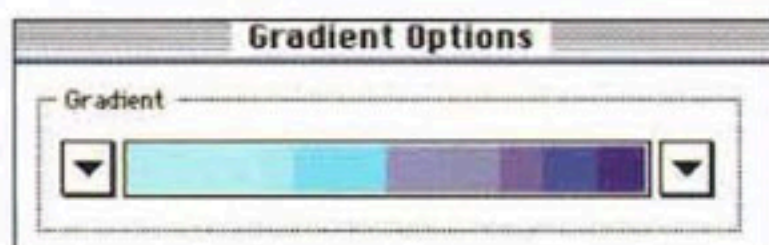
PICT: file format commonly used for graphics from a draw package

TIFF: Tagged Image File Format. File format for bitmapped graphics

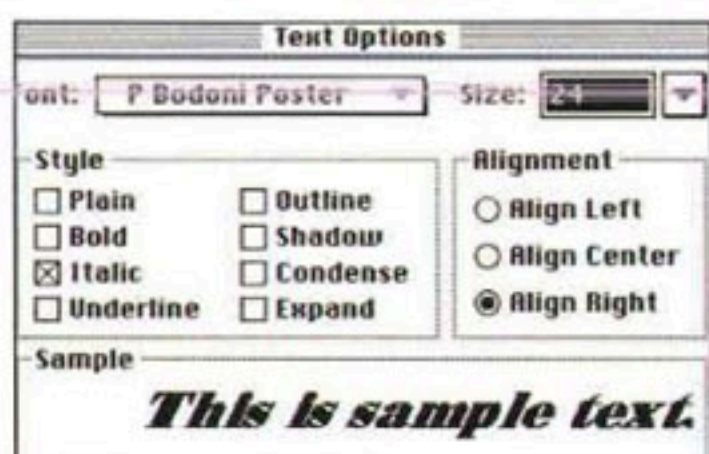
Scanned image: when a photograph or any two or three dimensional object is captured by a scanner and converted into a computer file



ool box ● Paint It! – tool box ● Paint It! – tool box ● Paint It! – tool box ● Paint It! – tool box ● Paint



Drawing a graduated tint is easy; you just set your colours by using the pop up colour palette, which is triggered by the arrows at each end of the colour bar. Move the cursor to your image and two parallel lines show where *Paint It!* will create the gradient



Clicking on your text icon will open up this **Text Options** dialogue box giving you all the control you need over alignment, font style and size, with a sample of how your text will look



The colours and patterns palette can either be attached to the main toolbox or torn off to form an independent palette. You can select new foreground and background colours



The Invert command creates a negative of the current image or selected area. Distort and Slant (below) give rise to some interesting image manipulation possibilities

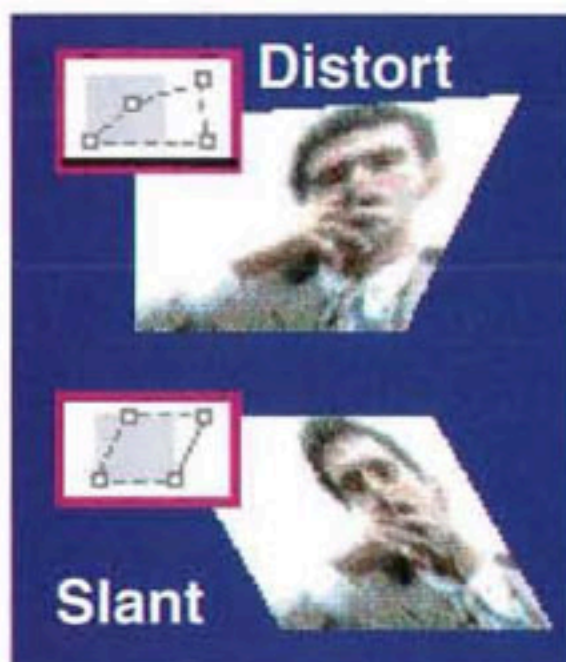
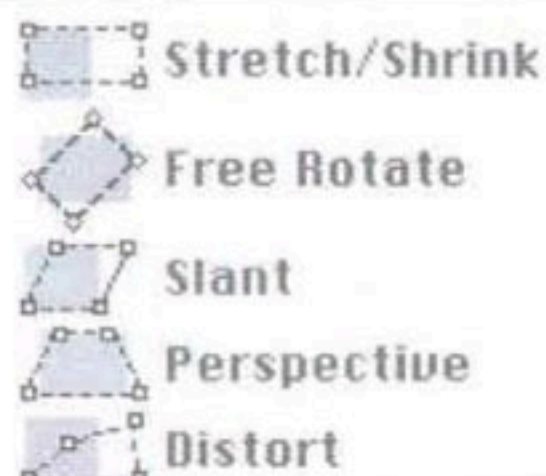
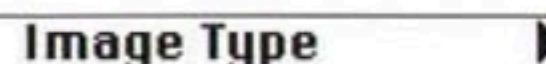
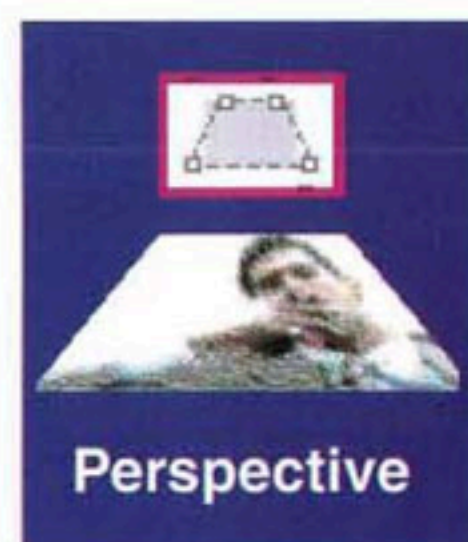


Image menu



This is a selection of the great special effects contained under the Image menu as all sorts of manipulations of your scanned-in or painted images are possible



Color It!



Color It! is not one program, but two, (without the usual compromise that often pervades budget software of this kind...). On the one hand it's a poor man's *Photoshop* (that's a compliment by the way... as *Photoshop* is the Macintosh graphics 'industry standard' software for image editing), and on the other it's an excellent powerful 32-bit colour paint program. It has also won a couple of software awards.

Paint It! has all the friendliness of its 'younger brother', but a lot more muscle and maturity. It is generally a well presented and all-round more professional piece of software. The painting side to *Color It!* has a great deal of control over all the

tools and the added advantage of many more tools than *Paint It!* like the smudge, blur, rubber stamp tool and a sharpen tool. Also when it comes to saving out your creation or manipulation you have more choice of file formats, including PICT 2, TIFF, GIFF, *Photoshop* and EPSF

But it is only when you discover the image editing side of *Color It!* that you begin to understand the real power of this package. It has excellent selection control using the magic wand, lasso and marquee tools. If you enjoy working with scanned-in photographs and giving new treatments to your snap shots or producing photo montages and illustration for importing into DTP software, then *Color It!* has it all.

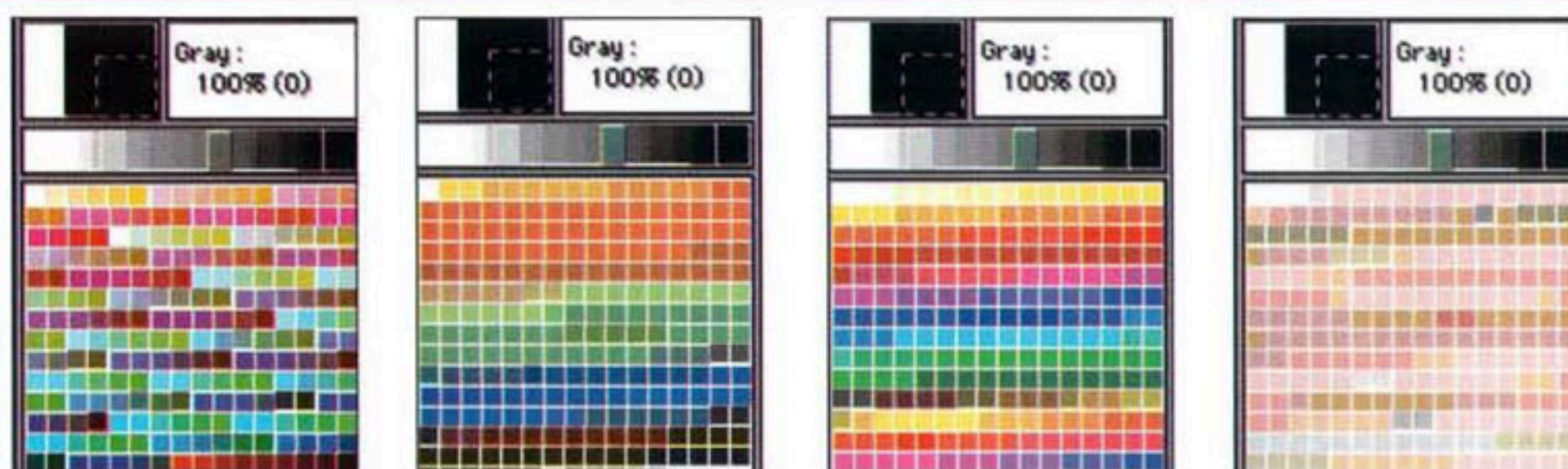
You can add or subtract parts of your picture, mask and paint, retouch or filter, distort, flip,

rotate, slant, add perspective, change the brightness and contrast (for instance, when using all the controls you can select a test region of your picture and see if your new treatment is working out how you expected).

There is a long list of filtration and enhancement techniques in the filter menu under the strange title of **Kernels**. Not up to the standard of some of the excellent *Photoshop* filters, but a good selection none the less.

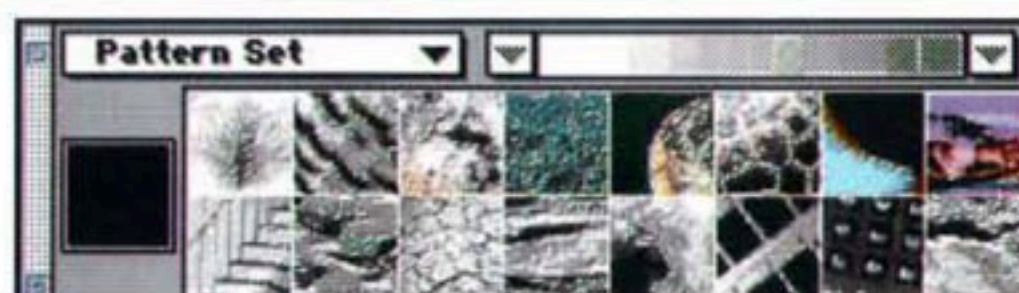
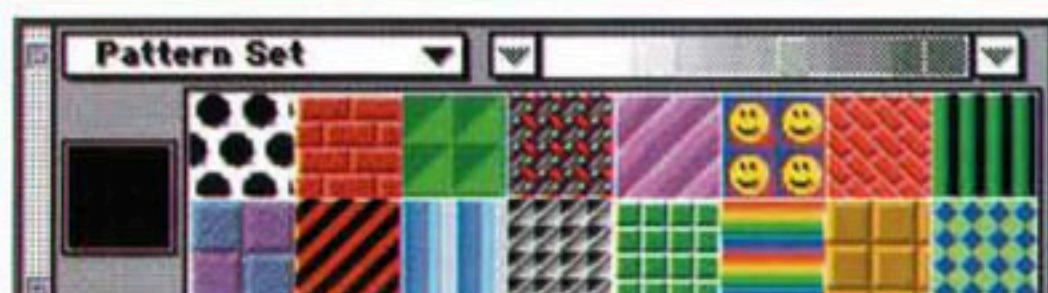
Many of these filters would be especially useful to anybody running a newsletter or fanzine, as more variety can be added to your images using, say, the high pass filters, adding shadows, embossing and edge detection (if used carefully this effect can modify your scanned photographs so they have the look of a pencil sketch).

It! – tool box ● Color It! – tool box ● Color It! – tool box ● Color It! – tool box ● Color It! – tool box



Colour palettes

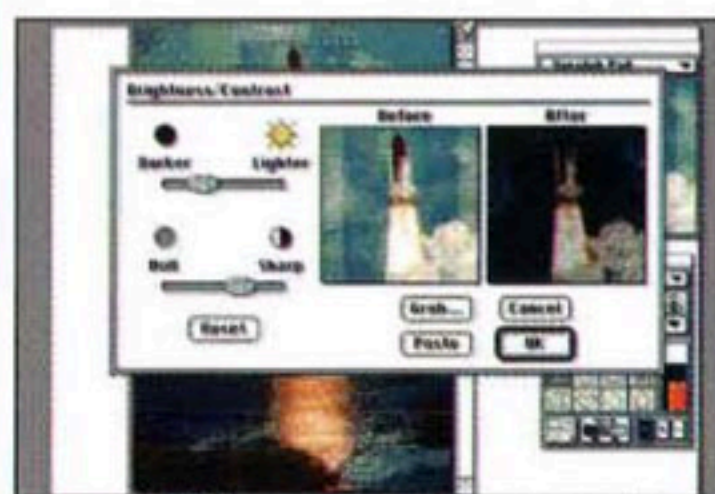
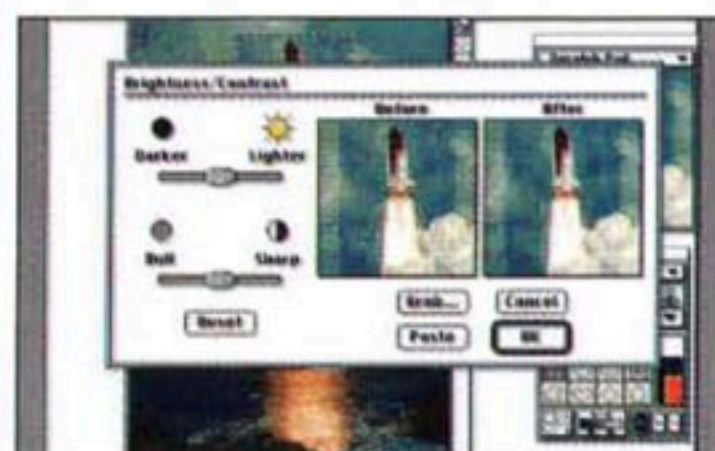
Color It! also allows you to edit and customise your colour sets. By using the dropper tool and selecting colours from your images, you can build up your own colour set



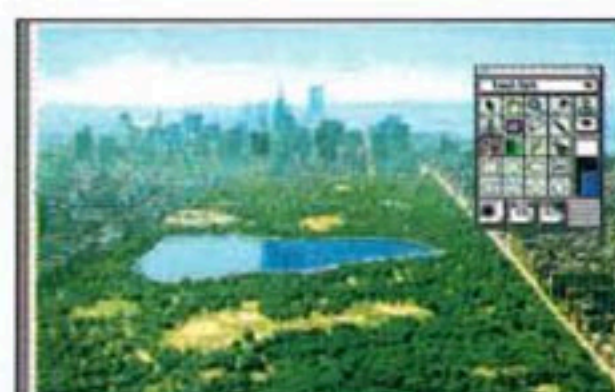
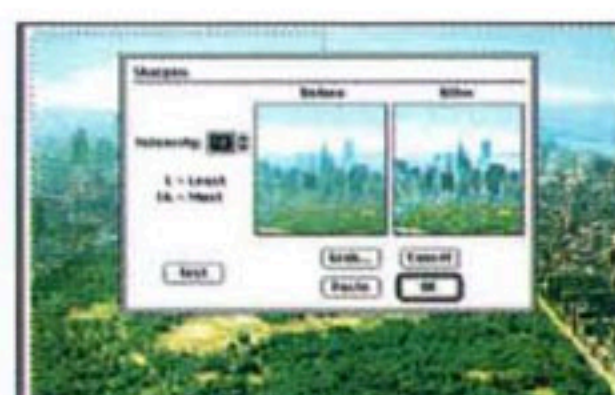
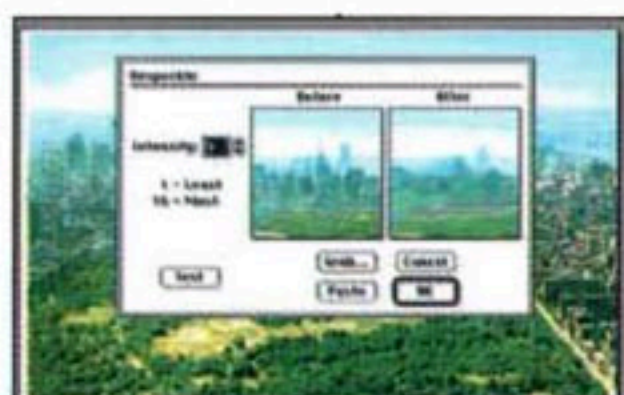
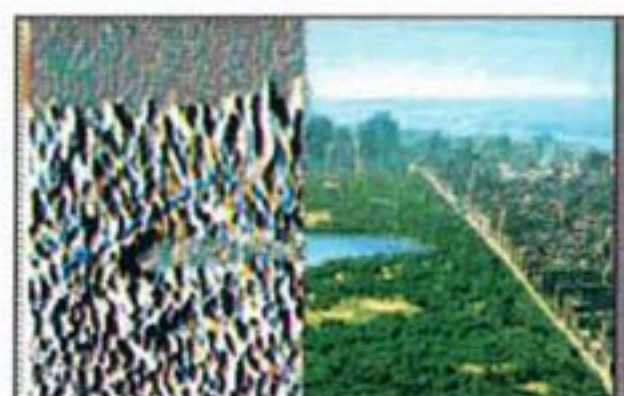
Pattern sets

Color It! allows plenty of flexibility in the designing of patterns, as almost any image (scanned in or painted) can be filtered, retouched and imported as a new pattern

Colour & Brightness



I like this simple and unfussy approach to image enhancement – in this case colour and brightness settings. Just select grab, modify it and hit **OK**...

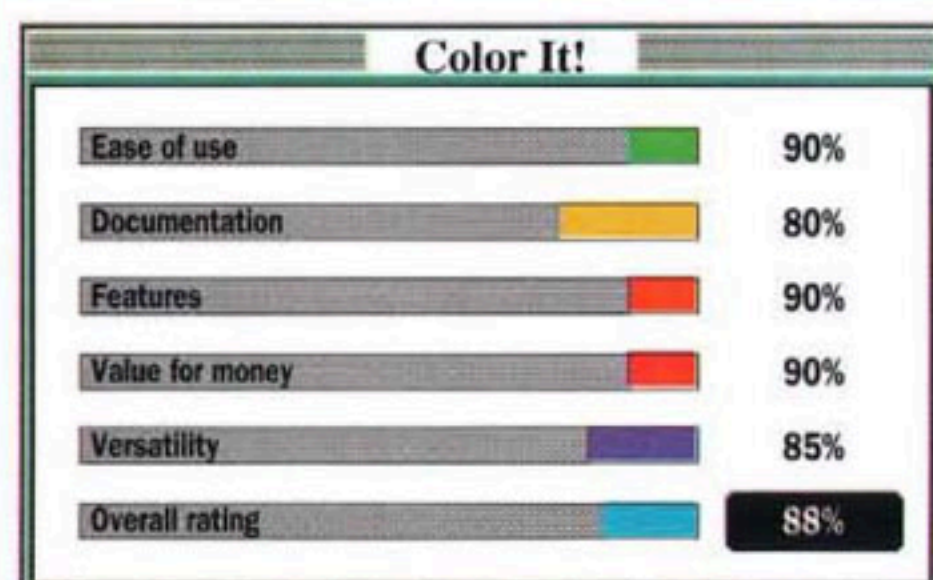


Backgrounds

Just some of the many filters in action; all are great for generating backgrounds or patterns. I like this Hi Pass filter on its lowest setting – it gives a strangely Cubist feel to my scanned-in picture of New York

The scanned picture of New York is undergoing some modification with the aid of the mask tool, which lets you temporarily mask off areas of your image in much the same way as you would use the masking tape before painting a room. You can also use masks for special effects and blends

All the *Color It!* filters I tried while reviewing the package were not too painfully time-consuming, unlike *Photoshop*. (I am running a Macintosh II with 8Mb of RAM and a Voyager accelerator card which is obviously not a basic setup, but it's not a top-end Quadra either.)



Conclusion

In the price versus power contest, I find it very hard to fault both *Paint It!* and *Color It!* – more especially *Color It!*, because of its long list of features and its ability to use virtual memory. A lot of art and image processing programs have been limited by the amount of RAM in the Mac. Now with the use of some elegant programming it is possible to trick the machine into thinking it has more memory than it really has, by using some of the hard disk space as RAM. What this actually allows you to do is load up much larger image files and manipulate them, without your Mac grinding to a halt under the massive weight of one of your favourite pictures.

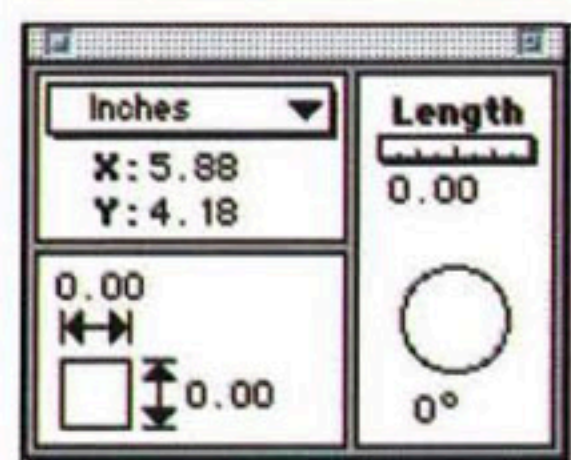
So is it worth that extra price hike for the paint

program plus powerful image editing facility? The answer has to be a resounding yes; unless all you really want is a competent little paint program to doodle with, then stay with *Paint It!*. But if you want a program that you can 'grow into' as it were, then *Color It!* really is great value for money. **mf**

Where to get it

Paint It! and *Color It!* are both available from Softline – 081 642 2222. *Paint It!* costs £46 and *Color It!* costs £229. Both programs will run on a Classic II, LC, SE/30 or any of the II series or Quadras.

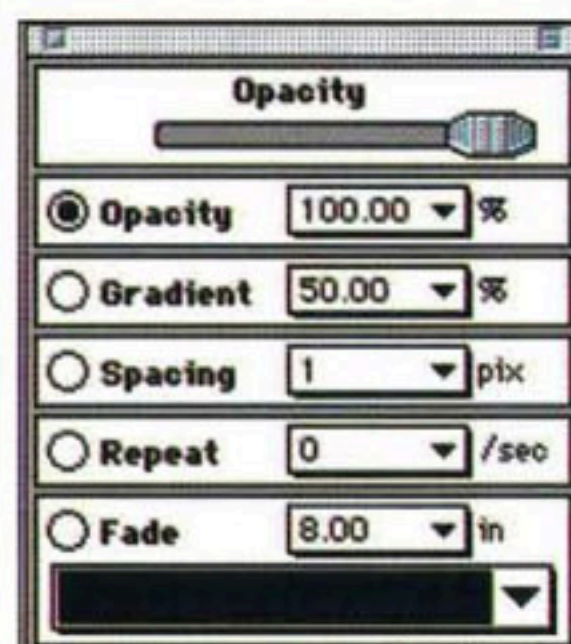
box ● Color It! – tool box ● Color It! – tool box ● Color It! – tool box ● Color It! – tool box ● Color



The mouse coordinates palette shows not only the position of your cursor measured from the top left of your document window, it also shows the size and angle of the shape and lines you draw



When you click on the powerful selection tools you will see a selection calculator which allows you to add, subtract or create new selections



This pop-up menu is for controlling the brush opacity; the higher the percentage the less transparent the brush or spray will be



Standard tool set



These two custom tool kits show clearly the dual personality of this very powerful software package

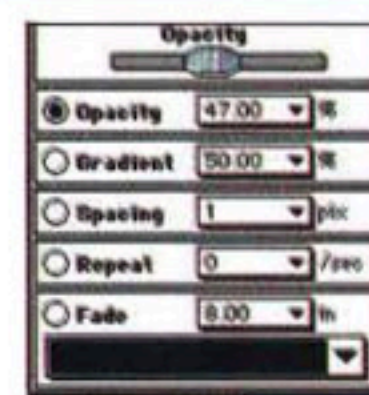
Image retouching



Painting



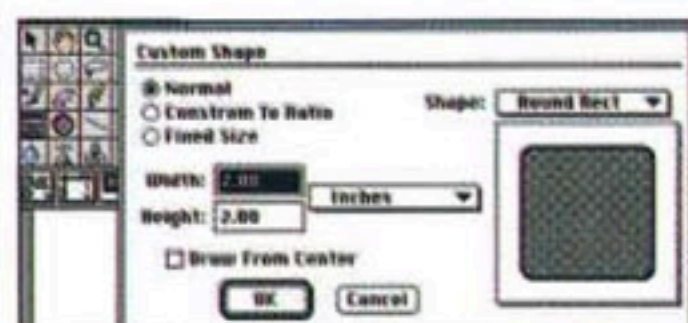
The *Color It!* gradient tool can be used to create custom gradients with up to 16 bands of colour



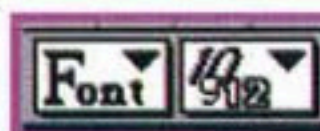
The rubber stamp tool lets you copy an area of your image and repeat it. Useful if you want to, say, add more of the same variety of flowers to a rather empty-looking vase in a scanned image



This **Sharpen** tool enhances the edges of photographs, bringing out some of the detail which may have been lost in the original. There are three intensity settings; low, medium and heavy



Building shapes is quick and easy; these are just four of the many to be found in the **Custom Shape** dialogue box



With a combination of text controls and effects from the image menu it is very easy and lots of fun to rotate, distort, flip, slant and colour type to your heart's content



*A step in the
right direction*

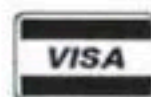


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Taking it to the Macs

Andy Storer and Huw Passmore take you through the first steps in getting colour images into print – in whatever form they arrive

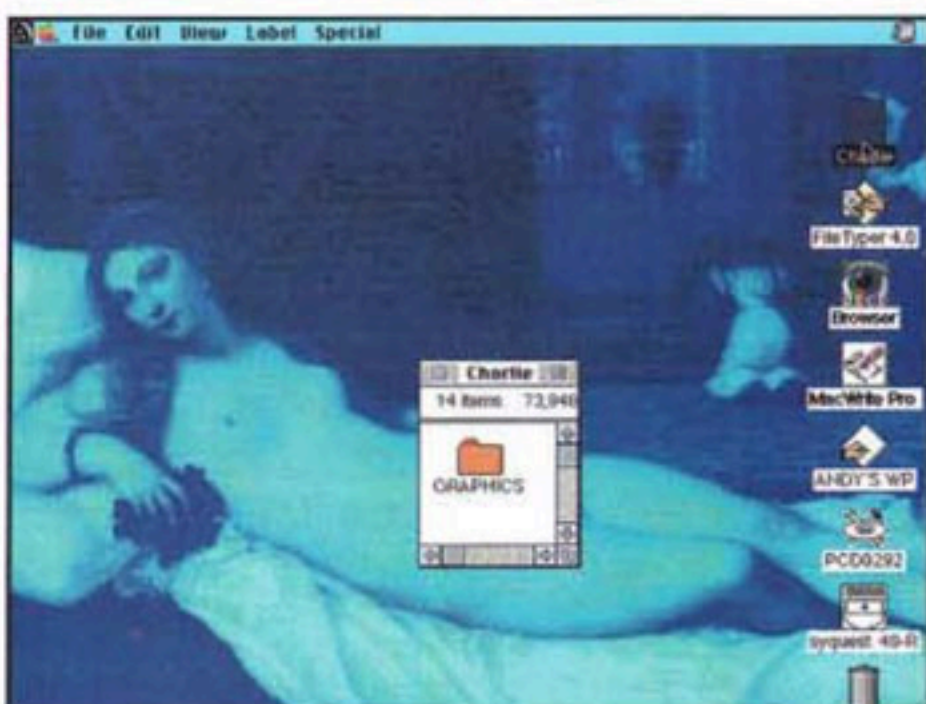
Porting pictures into your Mac for image processing or laying out with text and illustration is something which most of us will want to do at some stage. But if you want to incorporate photographic-quality colour images into the proceedings and output them in colour too, then there's a whole load of

different factors to bear in mind.

Over these three pages we'll be looking at the available options and suggesting the best means of achieving quality results.

First up, let's have a look at the methods we can use to source images – we're talking about five different means here:

1. Screen images

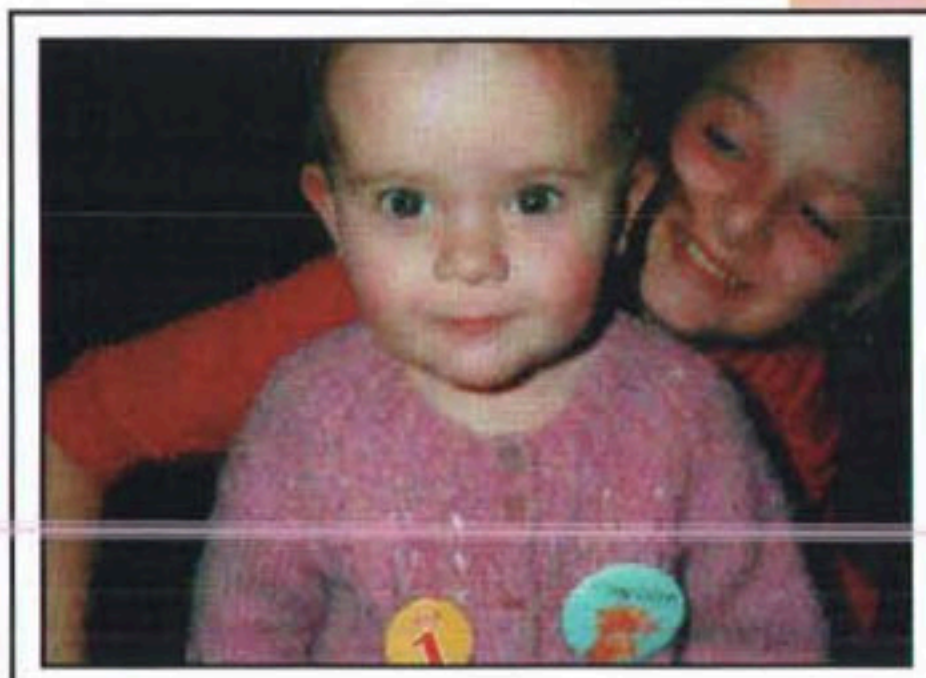


These are the easiest images to incorporate into the applications you have which will import graphics. If you have one of the newer Macs running System 7 all you have to do is hit [⌘] [shift] [3] to activate your machine's built-in screen grabber. This will save a grab onto your hard disk, as a file called Picture 1, of the screen you're currently viewing.

If you don't have System 7 then you'll need a proprietary grabber like *Capture* or *Exposure Pro*. These are more sophisticated in that they'll enable you to grab selected areas of the screen in a variety of different file formats – but they'll also cost you more than the price of upgrading

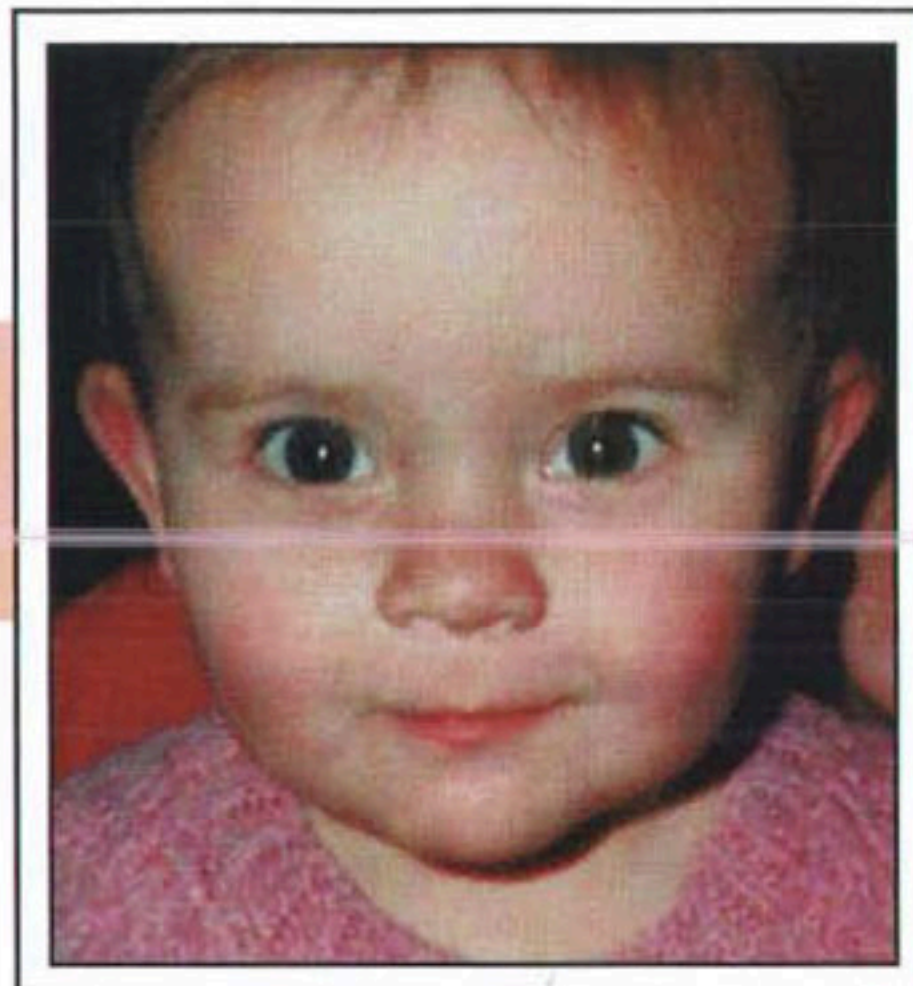
to System 7! so for a bargain solution check out the review of *Flash-It* on page 87.

With Mainstay's *Capture* you can define any key combination to call up a cross hair which can be dragged to the exact size of screen area you want to grab. The resulting image can be saved out in PICT or TIFF file formats, or just pasted direct to your Scrapbook or Clipboard. It's dead easy to use and can save you a lot of hassle if the application you're using doesn't allow you to crop graphic elements. When you're grabbing whole Mac screens remember that whatever their size, their aspect ratio is 1.33:1 or 4 x 3...



Left: We've cropped the image on the left to fit our grid so it's now 2.5" x 2". This is approximately half the size of the original 6" x 4" print. Since **MacFormat** is printed on a 133lpi device, we'd need to scan the original print at 266dpi if we were to run it at full size.

Right: Here though, we've enlarged a section of the image by 200%. To get this to print correctly we've only had to re-scan at 266 dpi, not 532 dpi as you might think from the table below, since the picture above is still only half the dimension, in any one direction, of the original



2. Scanned images

Whether you're using a handheld, greyscale or colour flatbed scanner, your image will usually arrive in the form of a TIFF file. If all you want to do is display scanned images in your applications and don't intend printing them then there's no point scanning at more than 72 dots per inch since this is the resolution of Mac screens. However, if you do plan on printing the resulting images then you need to scan at a resolution appropriate to the quality of your printer. As a general rule, to produce a high quality image its resolution should be twice the lines per inch value of your output device. Most magazines, for instance, are printed at 133lpi so you need to scan at 266 dpi.

However, if you're planning on running the image at a size other than that of the original then you need to make adjustments. Thus, if you plan to incorporate the image into a document at twice its original size you'll need to scan the image at four

times the resolution of your intended output device. Conversely, if you plan to run it smaller then the scanning resolution can come down by an appropriate ratio.

Size of output image compared with original

Output screen density			100%	200%	400%	800%
			100dpi	200dpi	400 dpi	800dpi
	laser	50lpi	100dpi	200dpi	400 dpi	800dpi
	laser	70lpi	140	280	560	1120
	newsprint	85lpi	170	340	680	1360
	newsprint	100lpi	200	400	800	1600
	magazine	133lpi	266	532	1064	2128
	magazine	150lpi	300	600	1200	2400

This table shows the resolution at which an image must be scanned for adequate output at various screen densities. For example, an image which is to be output at 200% of its original size at a line screen of 133lpi must be scanned at 532 dots per inch. So, it's the ratio of sizes which is important. An A5 print enlarged to A3, for instance, is a 200% blow-up



3. Video images

Using a video grabber or digitiser is another means of importing images into your Mac for processing.

However, unless you invest in a 24-bit capture and display system, colour results won't be anywhere near as good as those derived from alternative methods. But a domestic camcorder, hooked up to an 8-bit grabbing board, will produce acceptable greyscale results from stationery subjects like flat artwork. Colour input of the same material will require some modification in an image processing package though. Whether you're dealing in mono, greyscale or colour you have to make sure the subject is well lit and contains plenty of contrast for optimum results.



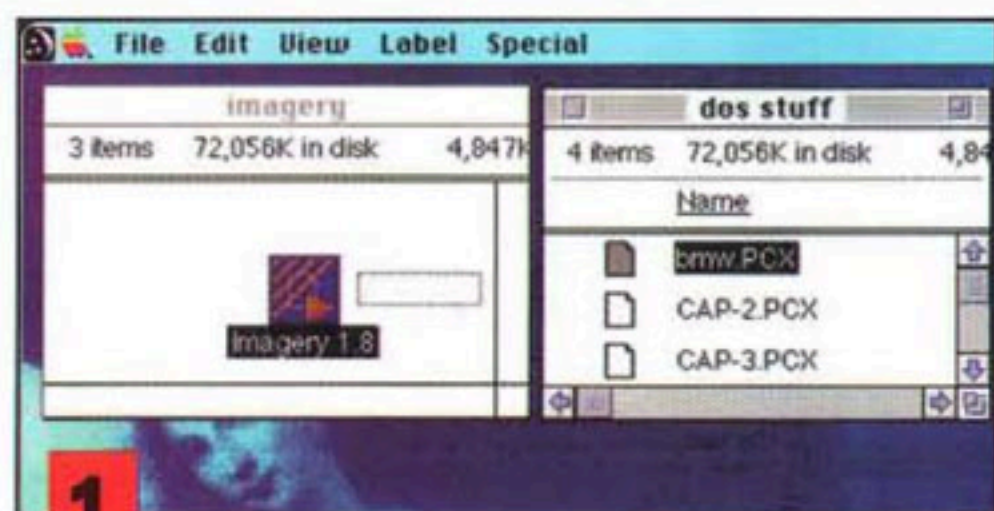
4. PhotoCD images

Kodak's PhotoCD system could be the most cost-effective way of importing high-quality images into your Mac applications – providing you have a PhotoCD-capable CD-ROM drive like Apple's CD300. The theory's simple enough – you shoot your subject matter on a regular 35mm camera, take the neg or transparency roll to your local high-street PhotoCD bureau, wait 10-14 days for your CD to arrive back, whack it in your CD drive, use Kodak's own Access software (only £39) to read in the image and save it out in your desired file format. The cost? Twenty pictures scanned in a batch will work out at around 70p per image including the disc. Each CD will hold up to 100 images so you can keep taking it back for additions until it's full.

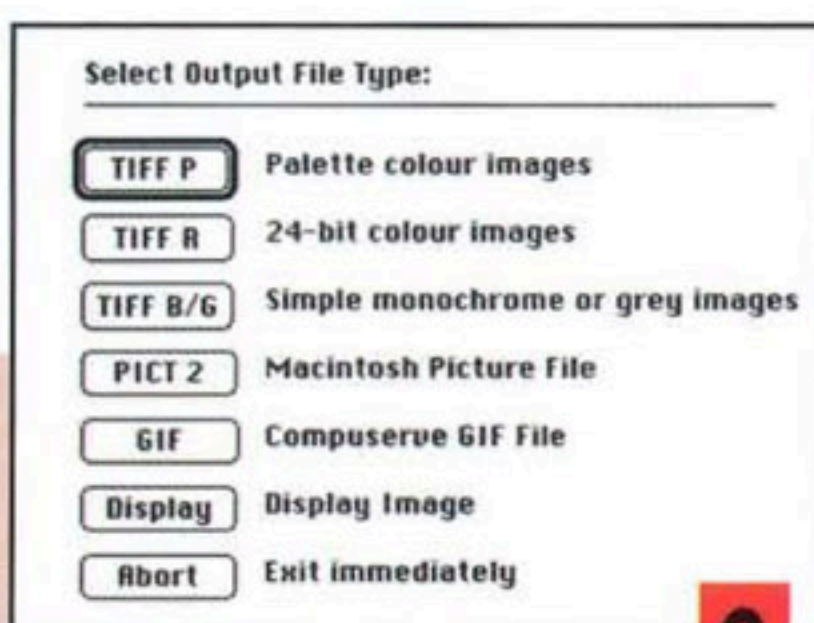
Using Imagery to convert foreign formats

The problem with digital images is that there is no single image file format. Given the number of incompatible computing platforms this is hardly surprising. TIFF format is perhaps the most universal but there are literally dozens of

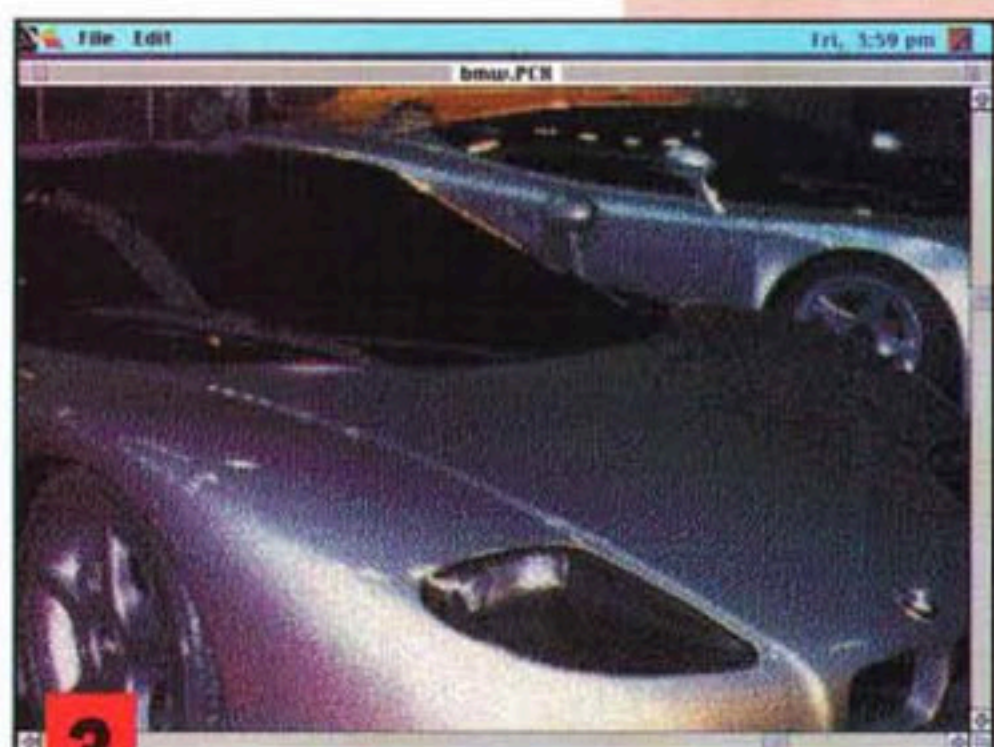
competitors. In order to ensure you can handle almost any image file, it's worth taking a look at *Imagery 1.8* – a shareware image file conversion utility which will handle just about every format under the sun.



Once you've got the foreign files on your Mac you just drag and drop them on *Imagery's* icon



Next you decide which file format you wish your image to be converted to....



You wait a few seconds and hey presto! – it's job done. What a brilliant bit of software *Imagery* is

Here are just a few of the popular image file types *Imagery 1.8* can convert to TIFF, PICT2 or GIF format:

PCPCX, BMP, IMG, TGA
STPix, NEO, IMG, SPU, TNY
AMIGAIFF, HAM
MACMacPaint, Photoshop
Generic.....GIF, RLE, JPEG

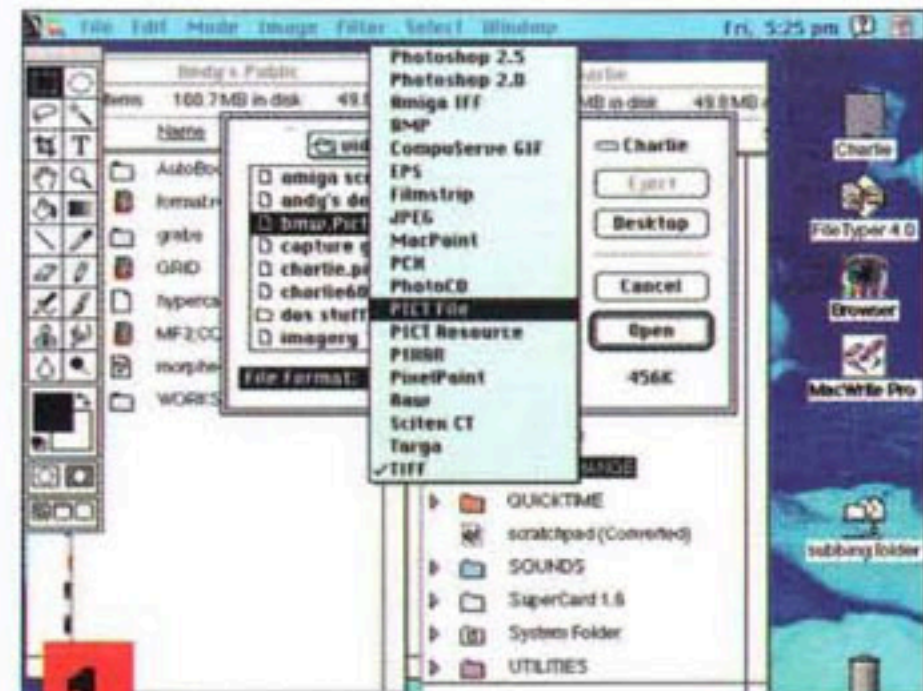
It'll also handle Unix screen grabs, Apple II images and loads of other esoteric offerings

Using Photoshop

But how do you ensure you can reproduce even low-resolution imported images in all their original? Ah – well this is the \$64,000,000 question and the answer's probably worth a bob or two in itself so before we go any further just remember to send all goodwill cheques, made out in UK £ to A. Storer Esq, to 'Have a holiday in the Seychelles on me Andy', MacFormat, 30, Monmouth St, Bath, BA1 2BW.

Here's the way we did it throughout this issue and we call it DRCT – or Despeckled, Resized, CMYK TIFF. Catchy huh?

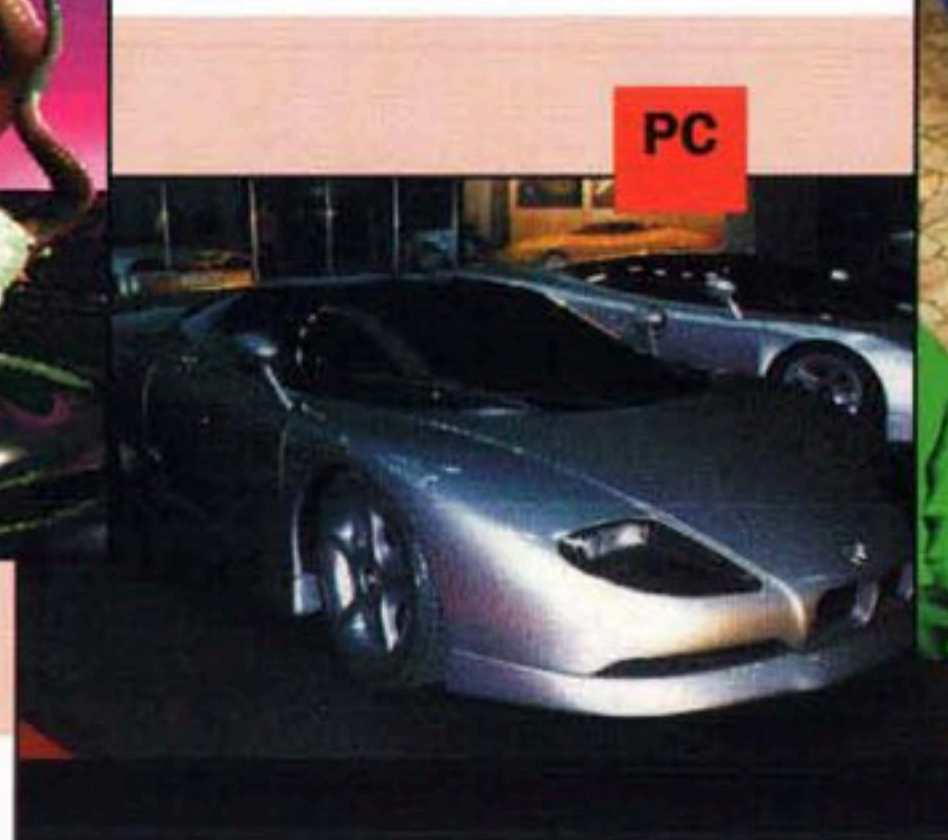
Hopefully, our printers will get their registration sorted out this time so the results don't look a horrible gunge and make the whole process look a joke. Fingers crossed...



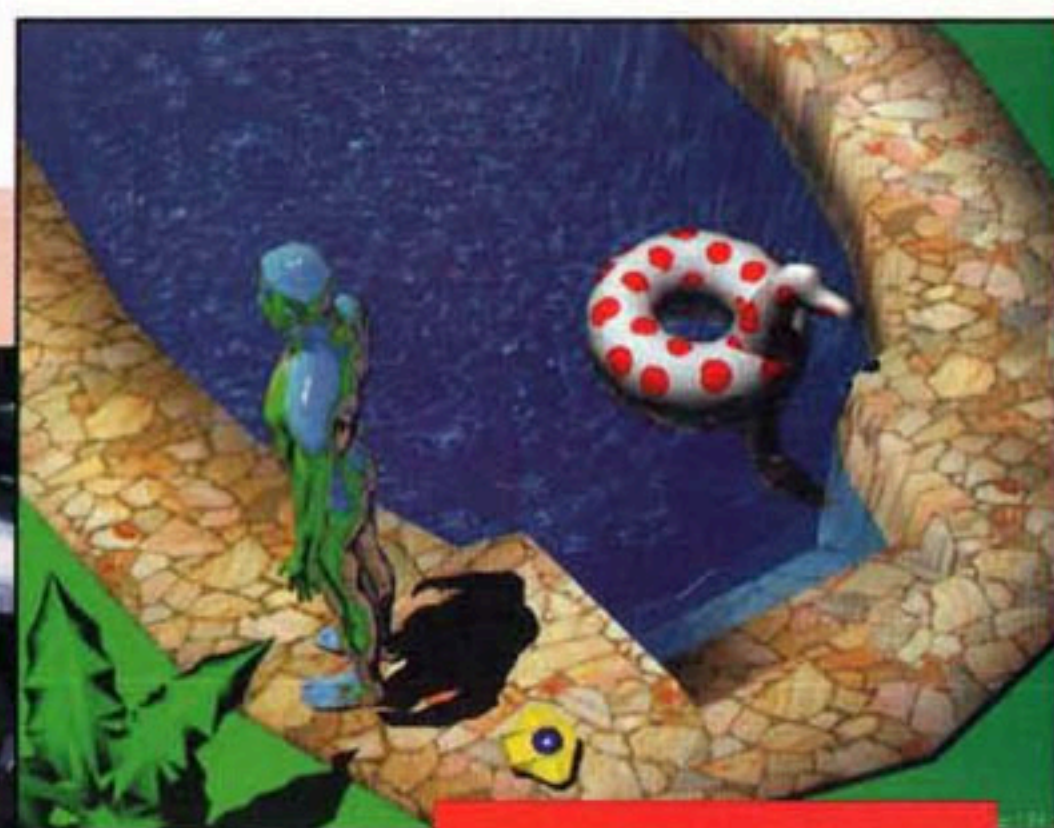
Use **Open As...** to load in the desired file – Photoshop includes plenty of file format handlers including PhotoCD, PCX and GIFs



Atari ST



PC



Commodore Amiga

5. Digital images

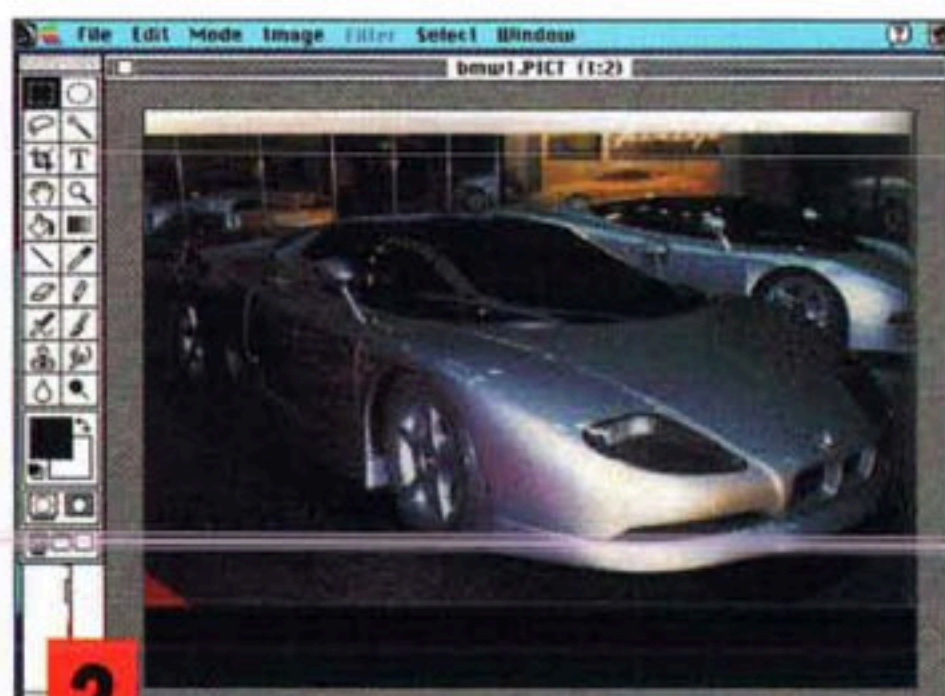
Pulling in images from the other three most popular computer platforms is a lot easier than you probably realise. First of all, you need to decide which file format to save them out in from their original application. On the PC, Amiga and ST it's not too difficult to track down shareware and PD programs which will convert image files to

TIFF format. If this is a problem then check out the box on *Imagery* on the left – this'll handle just about any image format from any machine. Then it's simply a question of copying the files onto an MS-DOS formatted disk. Obviously, this is no problem on a PC but most STs and Amigas can't read high density disks so what you need to do is either

format a double density (720K) disk on your Mac using *PC Exchange*, *Apple File Exchange* or *AccessPC*, or alternatively, find a PC formatting PD/shareware at the ST and Amiga end. If you're dealing with images that are larger than either 1.44Mb or 720K then you'll need to either compress them with a utility that your Mac can decompress – the best

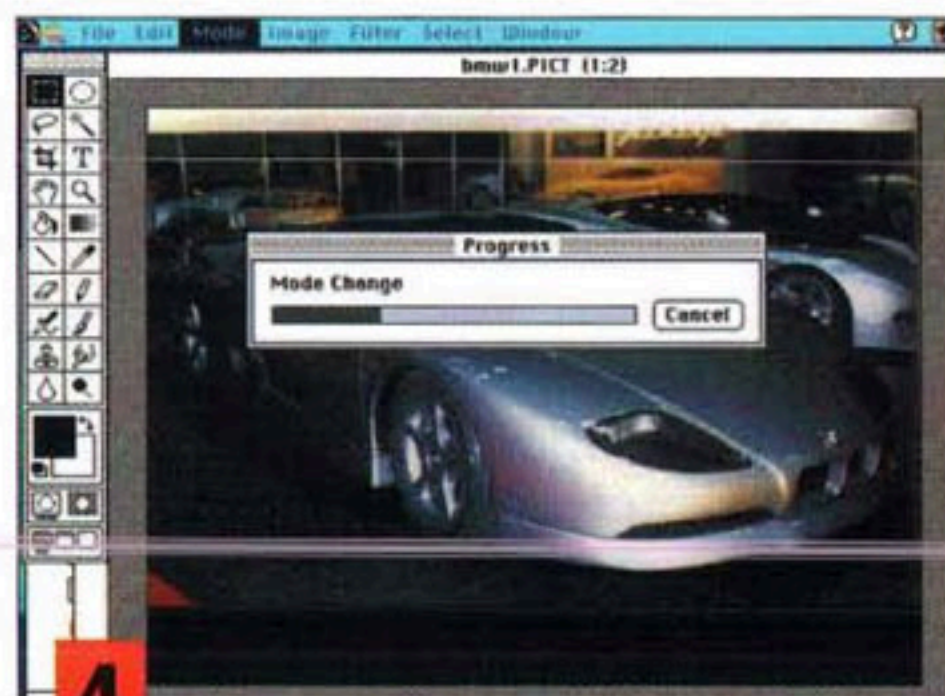
bet here is .ARC format since it's cross-platform – and use the *MacArc* shareware utility to convert it back on your Mac. If the file's still too large to fit onto a floppy then you're looking at setting up a direct serial cable link between the PC, ST or Amiga and your machine using comms software at both ends to handle the protocols and transfer.

to prepare foreign format images for colour printing



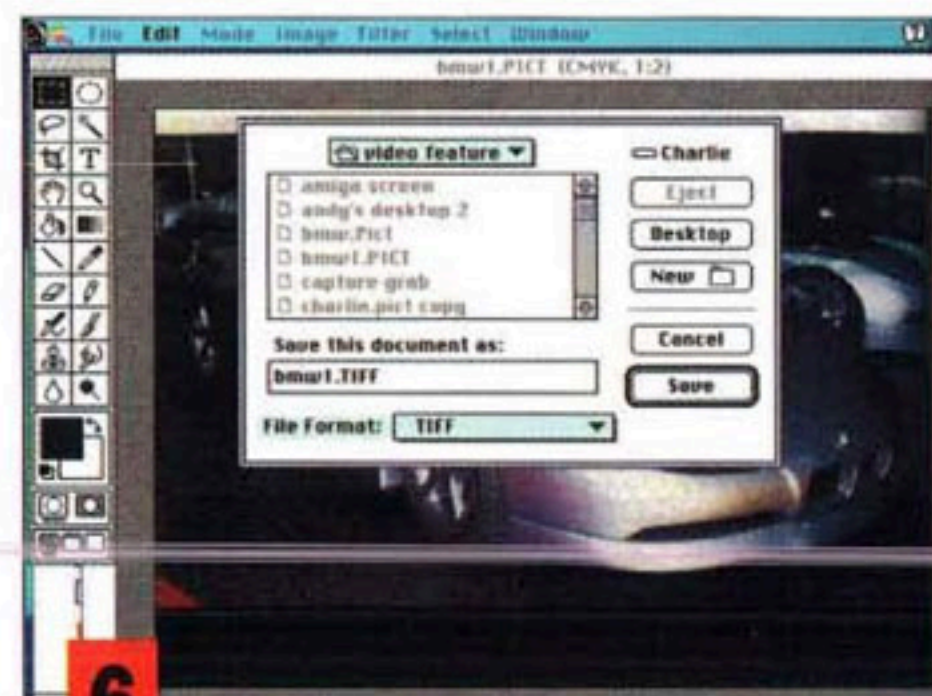
2

This was a 72 dpi PC PCX format scan, designed for screen display only, which has been converted directly to Mac PICT format using *Imagery 1.8*



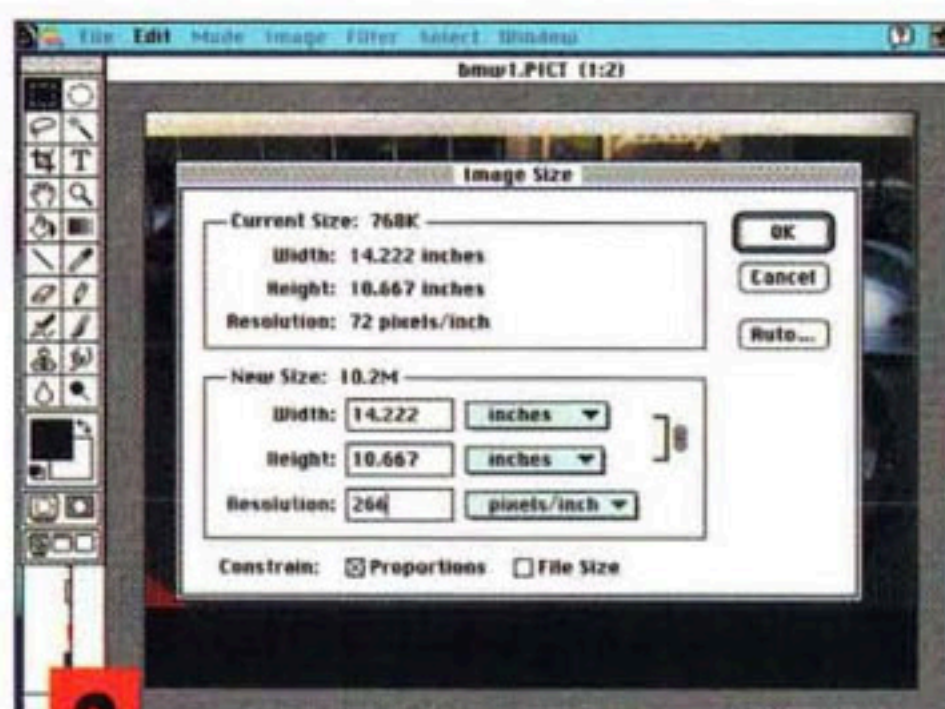
4

Next the image needs to be converted to CMYK format using *Photoshop's* mode change function. This enables colour separation for colour printing



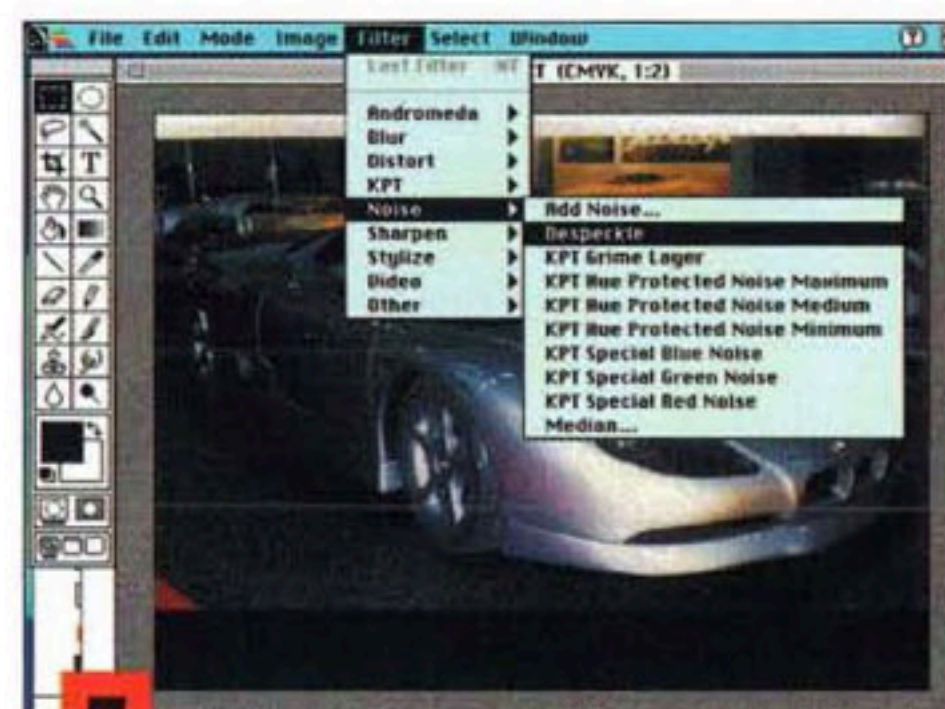
6

Finally you save out the image as a TIFF (Tagged Image File Format – a file which is the closest thing to a universal format for bitmapped images)



3

Because it's only been scanned in at 72 dpi it won't print very well. You have to use *Image size* to re-size it to 266 dpi – double the resolution of the final print



5

Then you use *Photoshop's* **Despeckle** filter to minimise any remaining pixellations which'll make the printed results look blocky



7

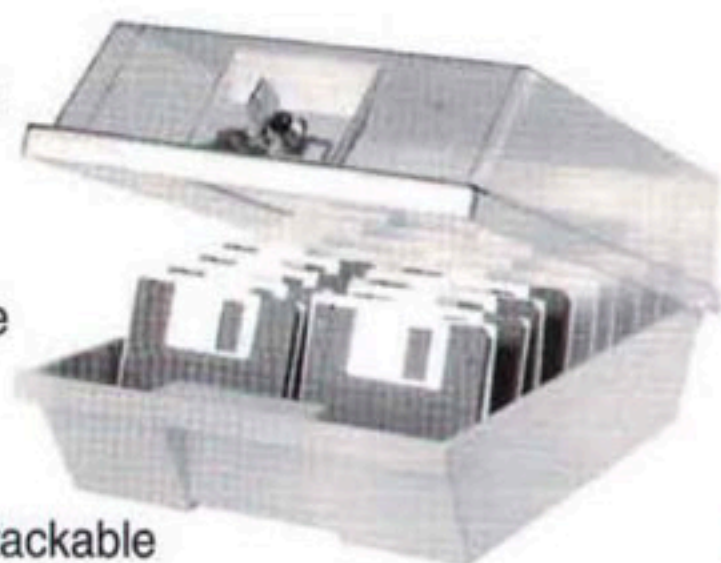
The resulting file has here been ported into *QuarkXpress* and the CMYK image file sent along with it for output as film via a Linotron for colour printing

Mac consumables

Disk Boxes

Capacity

10	Slimpack	0.94
40		4.95
50		5.60
80		6.30
80	Stackable	14.95
100		6.80
120		8.75
150		10.95
150	Deluxe stackable	21.95



Laser Toners etc.

Toners for:

Apple Laserwriter II Series, Canon II/III, HP II/III	48.00
Apple Personal Writer NT, Laserwriter LS/QMS PS410	59.00
Apple StyleWriter, Canon BJ-10e	15.99
Canon 1, HP Laserjet Plus	79.00
Canon BJ300/330 - black	11.95
GCC BLP/PLP1, GQ3500/Ricoh 6000	12.80
GCC BLP/PLP11, Okidata 400/800	19.50
HP Laserjet III Si	96.00
QMS PS2200	57.00

Ink cartridges

Deskjet - black (double life)	19.95
Deskjet - black (standard life)	13.75
Deskjet 500C - 3 colours	22.50
Paintjet - 3 colours	23.50
Paintjet XL300 - black	16.20
Paintjet XL300 - colours (each)	18.70
Paintjet/Paintwriter XL - black	18.70
Thinkjet/Quiet Jet - black	7.65
Thinkjet/Quiet Jet - colours (each)	8.99

Drums for:

GCC BLP/PLP II (EP magazine), Okidata 400/800 OPC drum	167.75
GCC/PLP I, Ricoh 6000/GQ3500	99.50
(Collection unit/Cleaning mag)	57.95
QMS PMS2200	139.95

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50	22.95	34.40
80	36.35	52.30
100	41.70	61.90
120	49.40	72.40
150	60.95	90.25
200	78.75	115.75
250	97.30	143.30
300	116.30	170.75
400	154.50	221.70
500	184.65	269.65
600	223.50	320.60
1000	364.30	524.40
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4000	1401.45	1957.50
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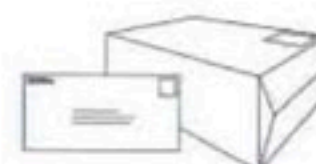
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Music

ON THE MAC

Ever wondered what the difference is between linear and pattern-based recording?
Ian Waugh explains, with examples from two top sequencers

Linear and pattern-based recording methods were mentioned in **MacFormat** issue 2. Now we've got chance to see how they compare in practice!

I don't know of any Mac sequencer which only works in a pattern-based mode (but if you do, please let me know). In fact, the only dedicated pattern-based sequencer I am aware of is *MidiStudio* which runs on the ST. However, there are many sequencers which let you construct a piece of music using patterns so let's see what benefits they offer.

Traditional sequencing techniques were derived from analogue multitrack reel-to-reel tape recorders. Each instrument would typically be recorded on its own track – or on two tracks if they were in stereo. You would start at the beginning of the song and work your way through.

A common technique was for the drummer to lay down a drum track to keep time and the other instruments were each recorded on their own track alongside the drums. If a musician made a mistake it could be rectified by 'punching in'

over the offending material. This entailed manually hitting the record button at the right time, playing the new material and hitting the **Stop** or **Record Off** button, effectively recording over the inaccurate material. But both the musician and the recording engineer needed a good ear and a steady hand in order to punch in and out at the right times.

Punching in

Some sequencers still have a punch in facility – the program usually automatically punches in and out at the required points – but it's just as easy – and safer – to record the new material on a

separate track and paste it into the original track after deleting the offending material. If you mess up a punch in, the recording will end up worse!

The benefits of pattern-based recording are three-fold. They make it easy to construct pieces which contain repetitive sections such as verses and choruses. They also make it easy to work on these sections as they can be handled in isolation from the rest of the material.

Working with patterns makes it easy to alternate sections of music as these can be substituted in a Playlist without radically rearranging the music. This is very difficult to do in a linear-based system. If you tend to compose and arrange your music with the aid of the sequencer, pattern-based recording has a lot to commend it.

Even sequencers which are mainly linear-based can often be used in a pattern-based way providing they have enough tracks as the *Cubase Lite* example shows.

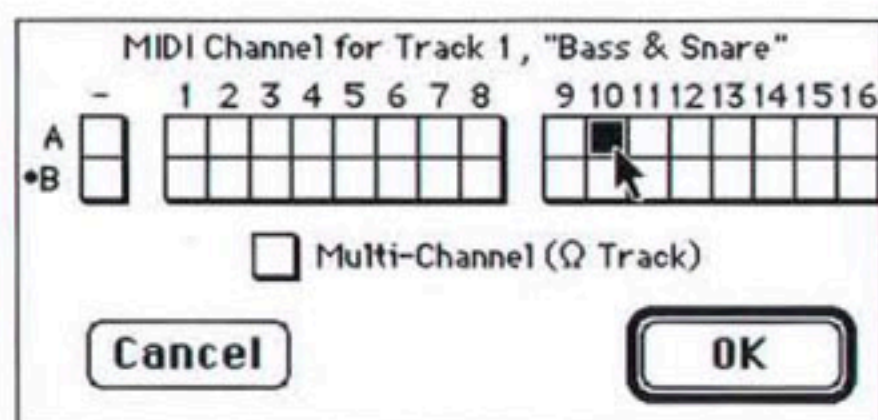
The *Cubase* and *Cubase Lite* pattern/drag approach used on the main arrange page has really caught on in the music world. It's the most

If you tend to compose and arrange your music with the aid of the sequencer, pattern-based recording has a lot to commend it

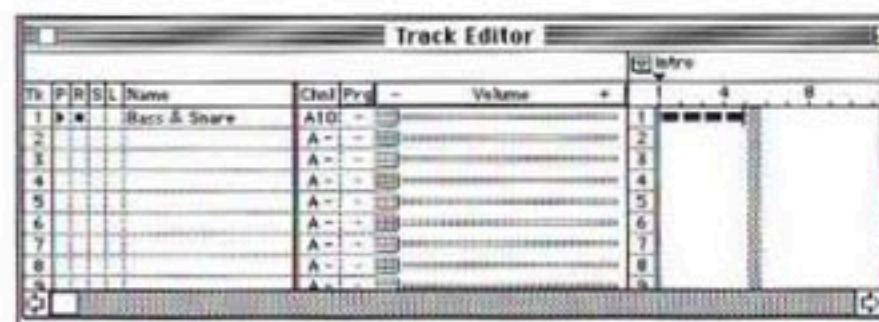
MASTERTRACKS PRO

Passport's *Mastertracks Pro* (and *Trax* for those who don't need all the bells and whistles of *Pro*) is very easy to use. It's intrinsically a linear-based sequencer and although you can cut and paste sections of the music, it's

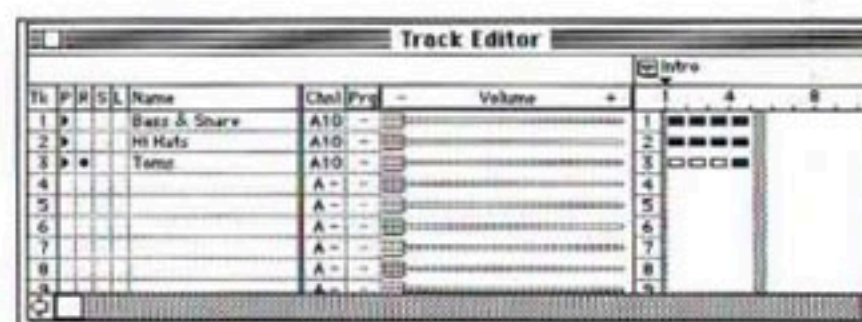
not quite so easy to alter your arrangements once they've been made. The Song screen shows the music in increments of a bar which makes it very easy to pinpoint a particular section of music.



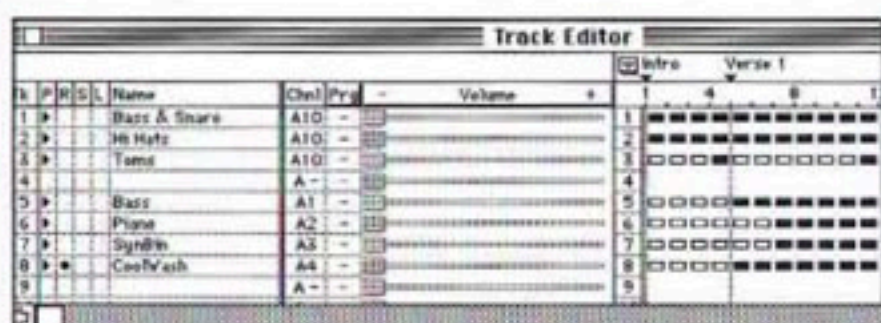
- 1** Set the first track to the required MIDI channel. Here the drums are assigned to MIDI channel 10



- 2** Record the first drum track. The first four bars are represented by the four blocks on the first line – the intro of your track is just the bass and snare drum...



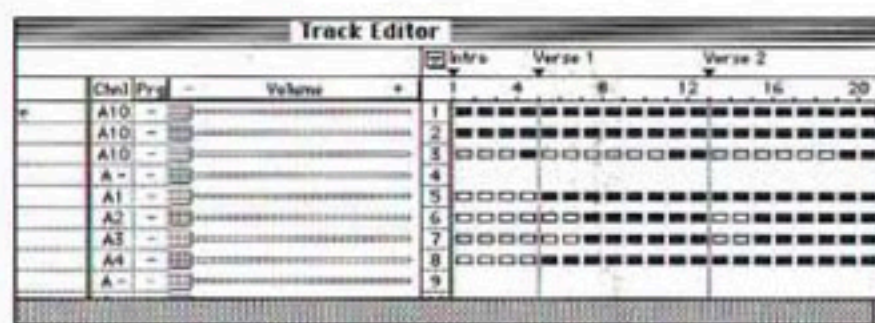
- 3** ...then you add the hi hats and toms on the second and third lines down. The toms only come in at the end which is why the first three bars are 'blank'



- 4** Record the drums plus other instrument parts for the verse, setting the relevant MIDI channels (A1, A2, A3 etc.). Name it with a marker



- 5** To duplicate this section of the track, highlight the entire verse 1 section by clicking and dragging then select **Copy** from the **Edit** menu

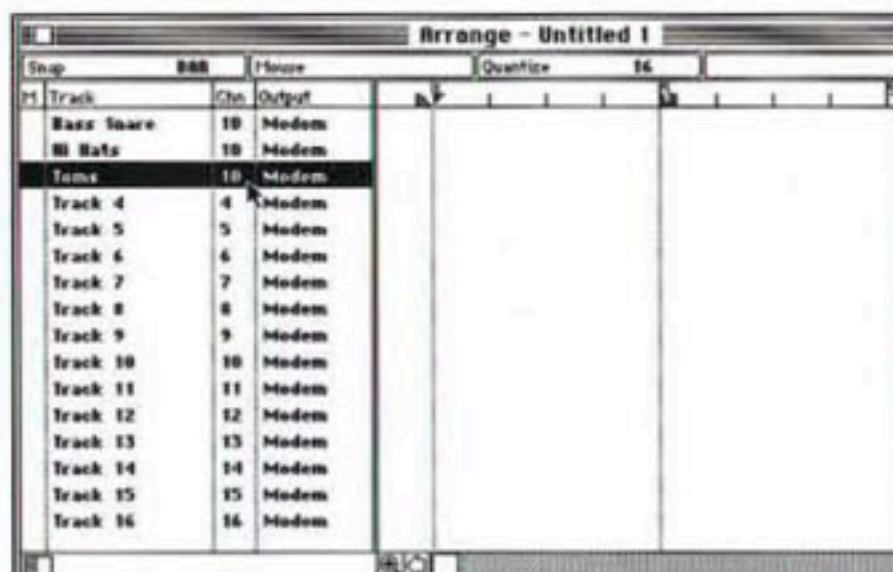


- 6** Paste it onto the end of verse 1, thereby creating verse 2. Use a similar process to duplicate the chorus and other repetitive sections of the music

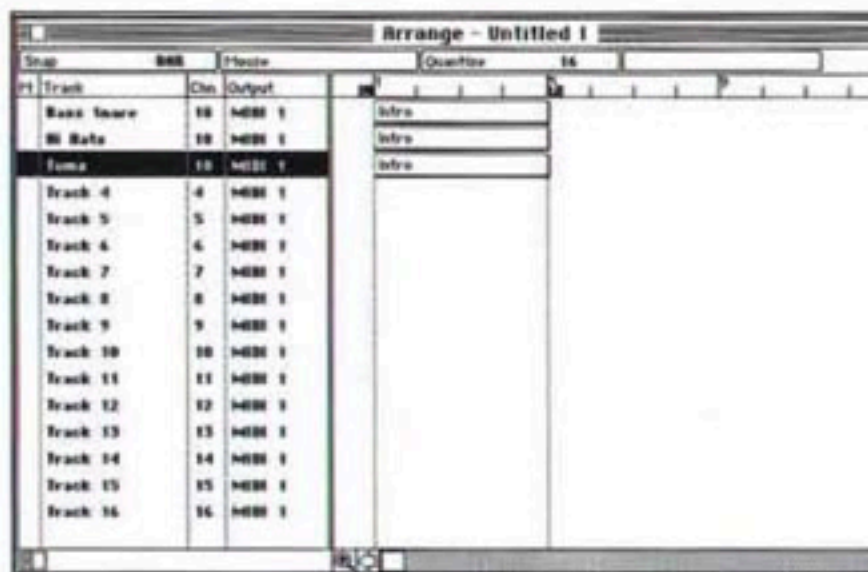
CUBASE LITE

Steinberg's *Cubase* and *Cubase Lite* are also intrinsically linear-based but they let you record any number of individual patterns which you can drag around the arrange screen and place on any track. You can cut, copy, paste and merge them, too.

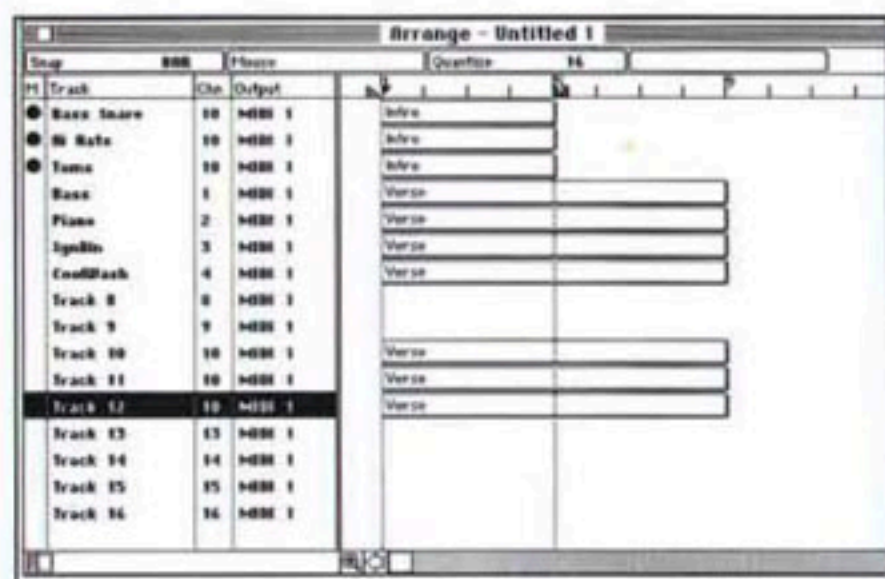
This has the advantage that you can easily see the whole layout of the song as you scroll through the arrange page although if you want to substitute one music part (pattern) for another you still have some cutting and pasting to do.



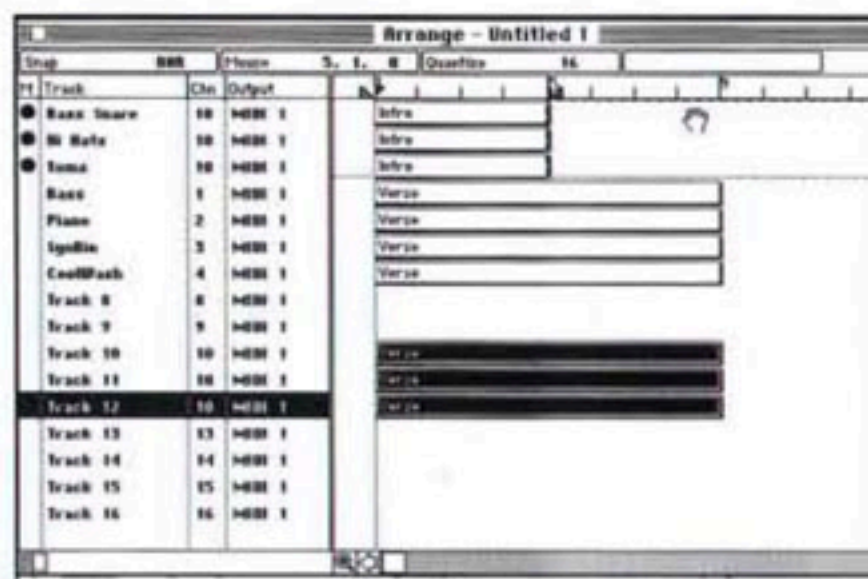
1 Set the first three tracks to channel 10 which is traditionally used for drum parts, and name them



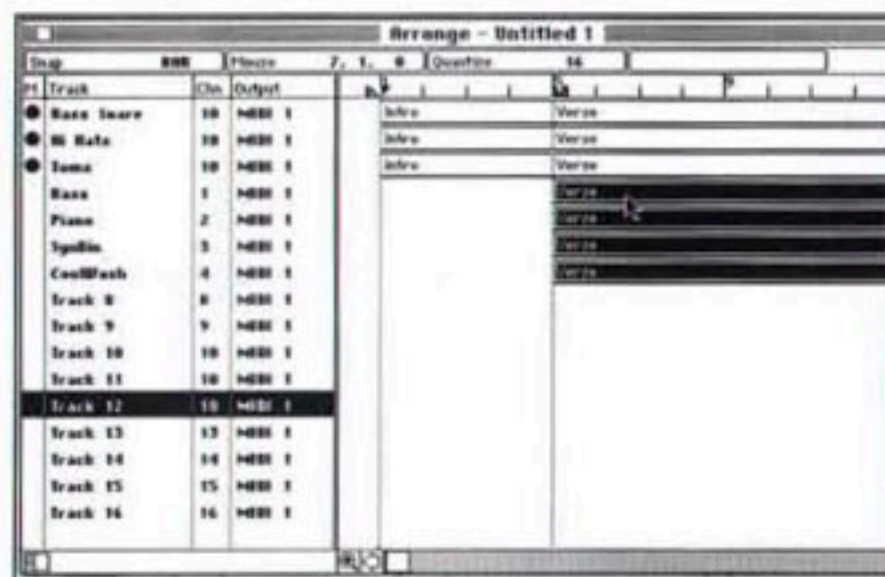
2 Record the drum intro on the first three tracks and set the MIDI channels to 10



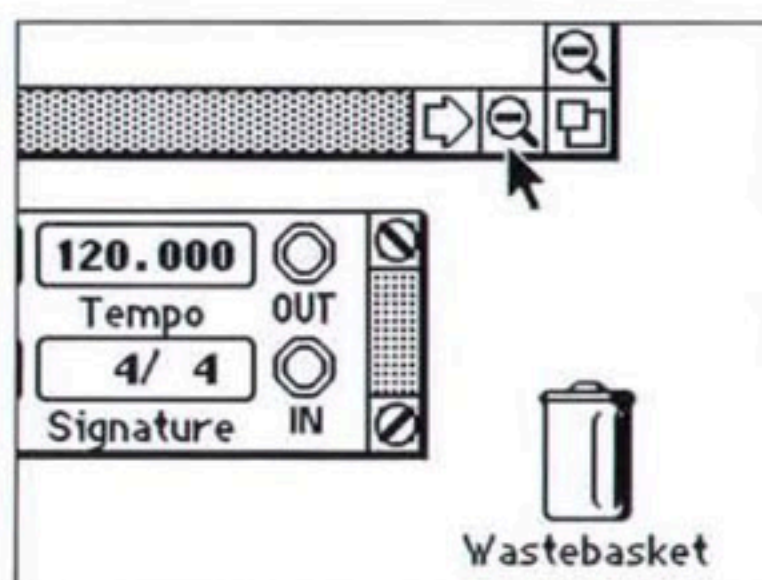
3 Mute the drum tracks and record the verse. The drums for the verse are on tracks 10-12



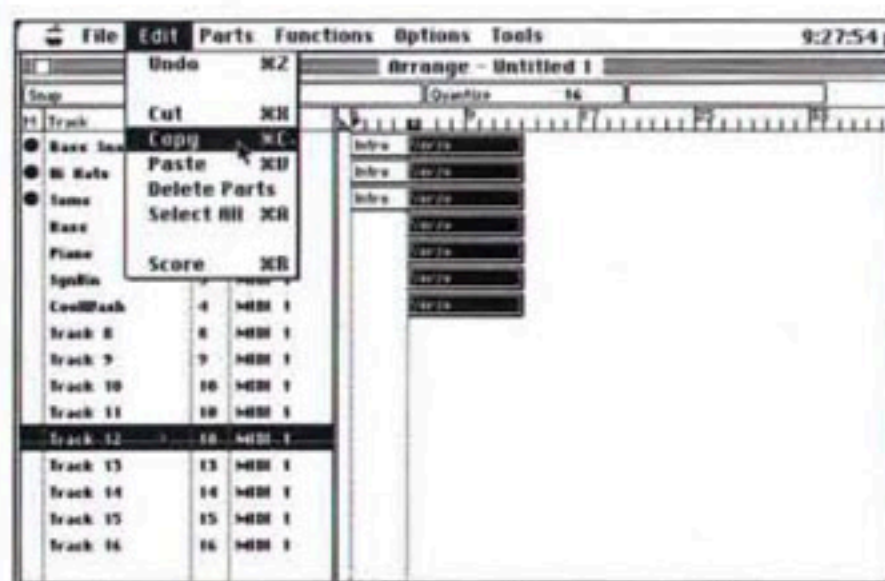
4 Select the drum verse parts and drag them into place after the drum intro parts



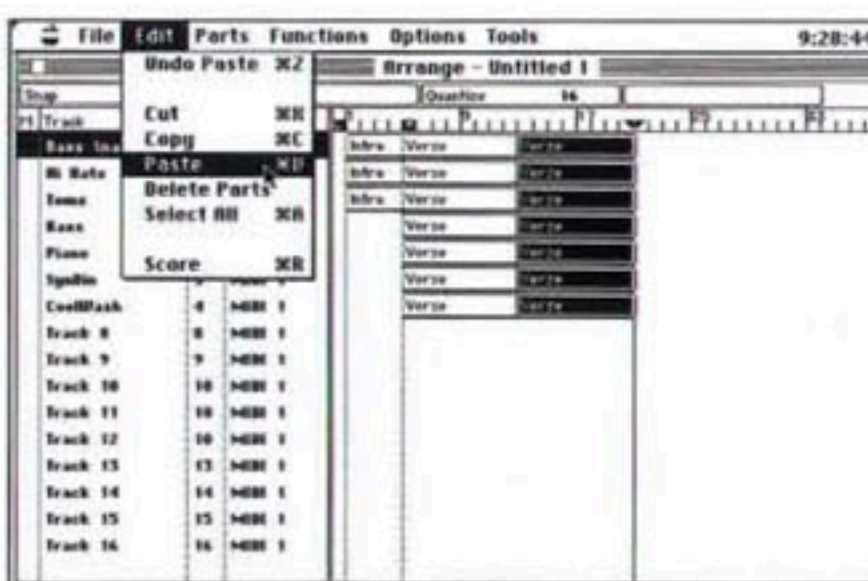
5 Drag the verse instrument parts further along the arrange screen so they start just after the intro



6 Use the magnify button to zoom out on the screen so you can see more bars at once



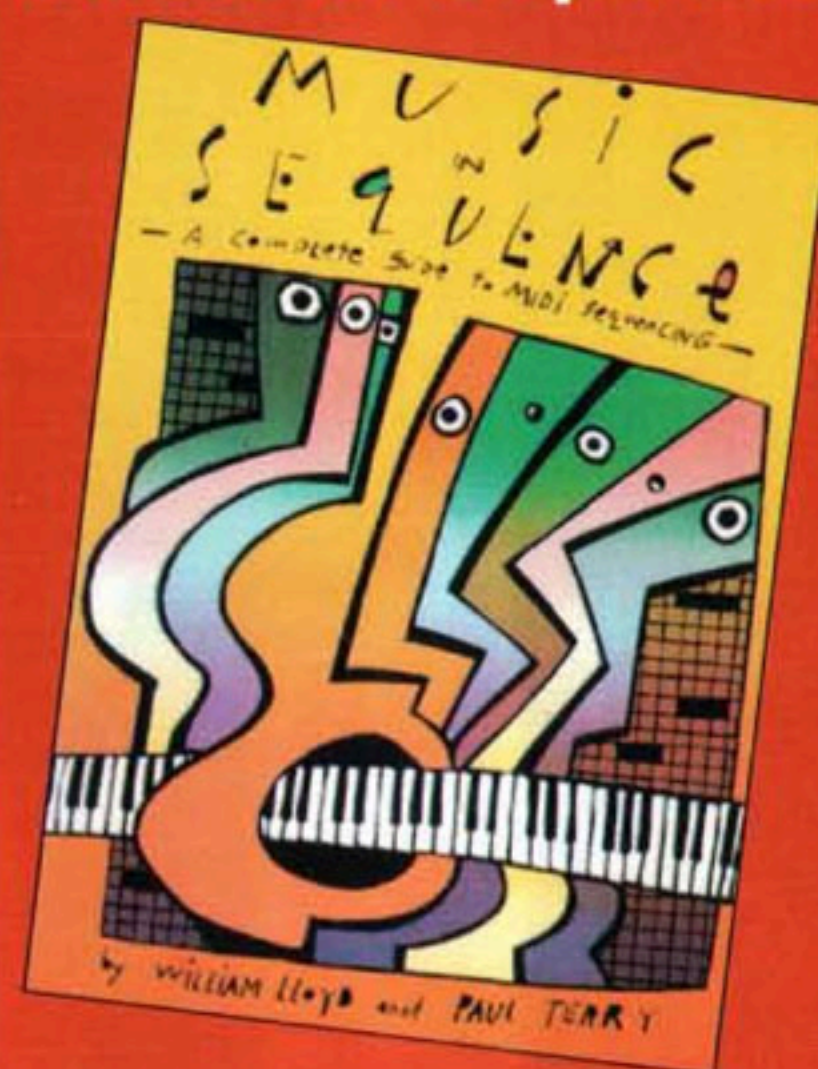
7 Highlight all the verse parts by pointing and dragging, and select **Copy** from the **Edit** menu



8 Paste them into the arrange page after verse 1. Add a middle eight and choruses in the same way

... popular front-end for a sequencer to the extent that it has been copied by many other programs. As music 'happens' in a linear fashion, most musicians tend to think of it in those terms. The *Cubase* front-end combines most of the advantages of pattern-based recording with the more traditional linear-based layout which seems to keep followers of all camps happy. **mf**

Music in sequence



Music In Sequence Update is the second book from William Lloyd and Paul Terry. The first one, released last year, was *Music in Sequence*. The essence of both books is to show you the principles of sequencing and give you lots of music to enter into your sequencer.

Classics in Sequence, as you can guess, contains classical music. There are over 30 including Bach's Toccata in D Minor, Handel's Music for the Royal Fireworks, Vivaldi's Largo from Winter (the Four Seasons), an excerpt from The Italian Girl in Algiers by Rossini, The Swan from Carnival Of The Animals, Debussy's Syrinx and Dance from Carmina Burana.

The complexity of the arrangements varies from one and two staves to nine staves and you do need to be able to read music to enter the pieces. There is lots of advice on sequencing, more so than in the first book, in fact, plus hints and tips, sections on orchestral voicing, effects, an explanation of music ornaments and voice editing. There are also small biographies of the composers.

The book is well written, well laid out and the arrangements are superb. If you've ever had the urge to sequence the classics, this is an excellent start.

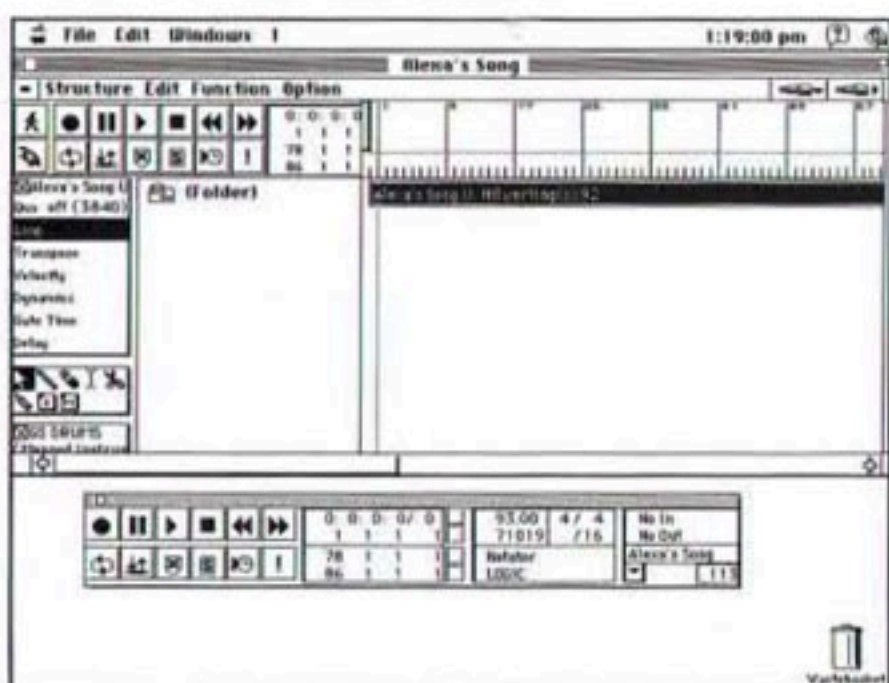
Classics in Sequence costs £12.95 from all good music shops or direct from Music Sales on 0284 702600.

NOTATOR LOGIC

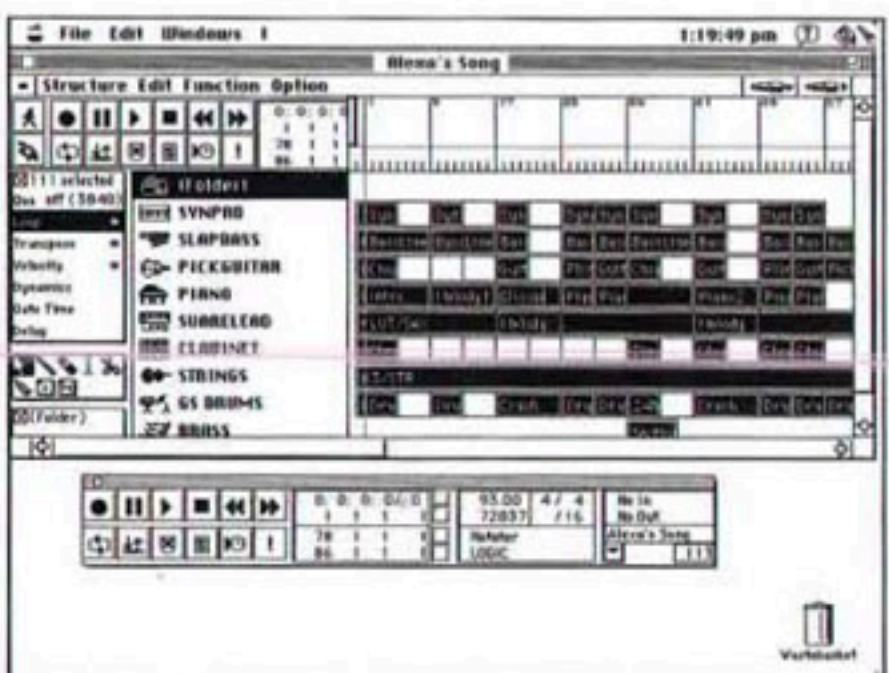
There has been a lot of hype about Emagic's *Notator Logic*. It was announced over two years ago and the intervening time has given rise to much speculation. It was developed from *Notator* which runs on the Atari ST but the programmers, sensible people, decided to develop *Logic* for the Mac first.

I received version 1.1 in January but the program is still being updated at a remarkable rate of knots although it is expected to stabilise at version 1.5 any day now. It seems sensible, therefore, to wait until this version is ready before examining the program in detail.

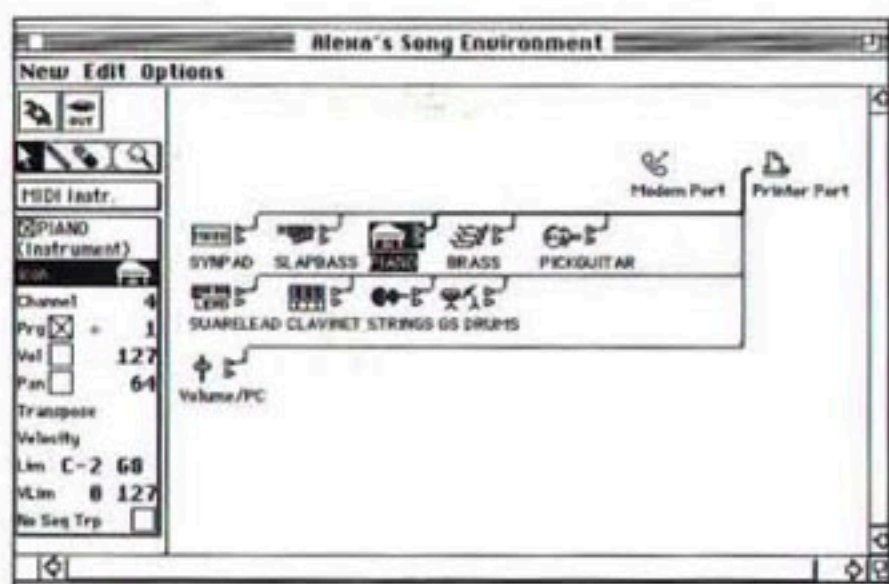
However, that doesn't stop us taking a look at the concept behind the program which could almost be an indictment on the way all software may develop in the future. The magic words are 'object-oriented' and 'virtual environment' and although they sound like left-overs from a marketing presentation on multimedia, they are very easy to understand.



1 A complete song can be packed into a single folder. From this...



2 ...to this. The folder can be edited as a single object



3 The virtual environment lets you set up MIDI instruments and patch assignments from the Mac desktop

The object-oriented bit simply allows you to treat music sequences akin to the way you treat files and folders on the Mac desktop. Say you lay down a few tracks to create a verse. You can wrap them up in a folder which you can place on a separate track. You can record more tracks for the chorus and put them in a folder, too.

Once the organisation of your song is complete, you can record the drum track. You could do this in a similar way and put that in a folder too, or you could record it parallel to the song so the rhythm tracks run alongside the folders. And then you can wrap the whole thing up in another folder! In fact, you can end up with just one folder containing the entire song! You can edit folders, too, so you can see how flexible and powerful the system is.

This may be a bit overkill for some folks but if you have ever tried to construct a multi-part, multi-section tune, you will know how easy it is to get swamped in a plethora of patterns. This arrangement keeps things very tidy.

Real world emulation

The virtual environment does what all virtual environments attempt to do – emulate the real world. *Logic* has an Environment window which duplicates your MIDI setup. This is very graphic. There are icons for the MIDI ports (these will generally be the modem and printer ports), the MIDI click and the input to the sequencer.

You create icons for each item in your MIDI setup. You can work with individual sounds in which case you assign them a MIDI channel and Program Change number and from then on you can assign an instrument to a track simply by selecting its icon.

You arrange the icons in the window and join them together using virtual MIDI cables by dragging plugs from one item to another. So far so good, but other programs let you select sounds by name in a similar way.

Logic goes further. It has a number of built-in effects which you can plug into the system with the virtual patch chords making it easy to connect an effect to one MIDI port only or to one sound or MIDI channel. The effects include a MIDI delay line, an arpeggiator, a channel splitter which routes every MIDI channel to a separate instrument, Faders for creating a MIDI mixer, and a Transformer which transforms one type of MIDI data into another.

This is powerful stuff although not, perhaps, the sort of thing sequencer users have been crying out for since the dawn of time.

However, these functions can be used creatively in a great many ways. It is well worth setting aside an afternoon to explore. Unless you know what your sequencer can do, how will you know if it can do what you want?

STOP PRESS: I've just received version 1.2 of Notator Logic plus an update sheet of what we can expect in version 1.5. We'll have a full review in the next issue.

Mac music news

Digital Music is moving strongly into the Mac music market with a new budget-priced MIDI interface and a Mac pack!

The MIDI Strip interface is produced by Music Quest, a well-known company in PC music circles. It's a one-piece injection moulded unit attached to 1.5m of cable. It has one MIDI In and three Outs and does not require a power supply. It costs £49 including VAT.

Amadeus is a music package with full notation facilities, an integrated sequencer and librarian. It supports GM (General MIDI) and has separate device and instrument files. The RRP is £318 but Digital is offering it at a launch price of £234 including VAT. The first 100 units sold will include a free MIDI Strip.

More from Digital Music on 0703 252131.

Here's a damned good idea. Most modern synthesisers have a vast range of third-party sounds in the form of voice discs and RAM cards but you know how difficult it is to decide which ones are the best by reading reviews? Korg has come up with the bright idea of putting the sounds on a CD so you can listen before you buy.

The Best of the Korg Sound Library contains sounds for the O-series, M-series and T-series. The CD is only £5 and is refundable on purchase of a card. Send your lolly to Korg UK, 8-9 The Crystal Centre, Elmgrove Road, Harrow, Middlesex, HA1 2YK. Tel: 081 427 5377.

Capedia is a company which specialises in educational software but there are some interesting Mac music programs in its latest catalogue. *Music Mouse* and *Jam Factory* seem to have fallen into neglect of late but they're here. The catalogue also includes *Concert Ware + MIDI*, an eight-track sequencer with scorewriting features. It's very popular in the States and there are hundreds of MIDI files for it but it has never been widely available in the UK. Until now.

More from Capedia on 0727 869791.

Symbolic Composer is a new way of composing and generating music. The latest version is 2.2 and it's described by its developers, Tonality Systems, as a 6th Generation Music Language. It's based on LISP and is incredibly sophisticated and powerful. The latest version implements 150 general purpose high-level music tools covering morphing, chord generation, user-definable styles and libraries.

It's suitable for all forms of composition from Techno to New Age. The final product can be saved as a Standard MIDI file. It is already in use in education. It costs £350 and is available through selected dealers and universities including Capedia (0727 869791).

We have more information about Yamaha's *Hello! Music!* package which featured in our Frankfurt report in MacFormat issue 2. Although it may still be a month or two before it's available, we can report that the CBX-K3 expander is to be bundled with Steinberg's *Cubase Lite* sequencer. Yamaha is also going to promote the package more through computer outlets than traditional music shops.

More from Yamaha on 0908 366700.

The growing interest in multimedia is leading to an increase in the development of supporting products. Never one to be left out in the cold, Microsoft is to release a version of *Music Instruments for the Mac*, an integrated CD-ROM visual and aural guide to more than 200 musical instruments. It's based on the Eye Witness series of illustrated reference books from Dorling Kindersley. The package includes a sample of each instrument, a description of musical styles and an A to Z of instruments. The price is yet to be announced but is likely to be between £49 – £99.

More from Microsoft on 0734 270001.

Contacts

Steinberg (*Cubase Lite*) – Harman Audio: 0753 576911
Passport (*Mastertracks Pro*) – MCMXCIX: 081 963 0663
Emagic (*Notator Logic*) – Sound Techno: 0462 480000

What's in a font?

Fonts are used in a variety of Macintosh applications, but DTP is one area in which their use (and abuse) is particularly important.

This issue Martyn Lester examines the difference between type formats and looks at a new selection of TrueType fonts from Apple

Even if you are brand new to the Mac and only using the TrueType fonts that come with System 7, you won't be able to mess around with DTP for long before hearing or reading references to PostScript fonts.

The big debate about Macintosh fonts at the moment is whether PostScript (which has been around for some years) or the much newer TrueType format is the smarter. It's actually quite a tricky subject, on which I'll try to get some experts to put in their two penn'orth in the next few months.

But before going into how TrueType and PostScript fonts differ, it's best to begin with looking at what they have in common, because there is more that links than divides them.

Both formats provide you with what are known as 'outline fonts'. In this kind of font, the outline of each character is held as a mathematical description, along the lines

of 'a straight line starts here, runs in this direction until point x, whereupon it goes off in a curve of this shape, then at point y it changes to this other type of curve until point z, which is a corner from which another straight line goes off in this direction,' and so on.

What's important about this treatment is that there are no fixed measurements involved. Everything is relative to everything else, in purely putative units, so you can scale the character to any size you want (within the limitations of the software you're using). Only then are the instructions computed as real distances, the outline drawn and the inside of the character filled in.

Back to bitmaps

It may sound obvious to you that fonts should be like this, but it hasn't always been the case – because in the beginning was the bitmapped font. These were what you got if you bought one of the

earliest Macintoshes, and there were still a couple of bitmapped fonts supplied with System 7.0.

A bit map (often written 'bitmap') is just what it says – a chart in which each segment of the map grid is represented by one bit of computer memory. In practice, it's a collection of printer dots or screen pixels used to make up different shapes. So, in a bitmapped font, each character is described as a pattern of on-or-off squares.

Imagine it as though you were drawing something on a sheet of graph paper and could only do it by filling in or leaving blank the whole of each square on the paper, and you've got the picture. In the case of the Macintosh, bitmapped fonts used 72 dots per inch 'graph paper'; this was also the number of pixels per inch that you got on the Mac's built-in screen, so that what you saw on the screen was what you got on paper when you printed out.

The major problem with this

Apple Font Pack for the Macintosh

ITC Avant Garde

qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123

ITC Bookman

qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123

New Century Schoolbook

qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123

Delphian

ABCDEFGHIJKLMNO123

ITC Garamond Narrow

qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123

Helvetica Black

qwertyuiopABEHIJMQS123
qwertyuiopABEHIJMQS123

Helvetica Compressed

qwertyuiopABEHIJMQST1234567
qwertyuiopABEHIJMQST1234567

Helvetica Narrow

qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123

ITC Lubalin Graph

qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123

Lucida Bright

qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123
qwertyuiopABEHIJMQST123

ITC Machine

ABCDEFGHIJKLMNQRST12345

Nadianne

qwertyuiopABEHIJMQST1234
qwertyuiopABEHIJMQST1234

kind of font is that if you magnify a character bitmap, what you are really doing is to magnify the graph paper – the same number and pattern of dots are filled in, but they are bigger and the text looks chunkier (a phenomenon known as ‘the jaggies’). The answer to this is to have a selection of bitmaps for different sizes, using the smoothest dot pattern attainable for each character at each size.

However, there are memory and storage problems involved in having hundreds (or even dozens) of bitmap sets for each font you want to use, and so only a restricted subset of sizes was provided – for example 9, 10, 12, 14, 18 and 24 point. If you chose any of these sizes, you got a relatively decent 72dpi character; if you wanted a magnification that was a whole multiple of one of these figures, you got the standard jaggies; choose a fractional multiple such as 17 point and you were setting a geometric problem to which there is no sensible answer, producing even more gruesome type still.

You can still find bitmapped fonts around, for example in the fun package *Print Shop* (see overleaf); and there is an auxiliary use for

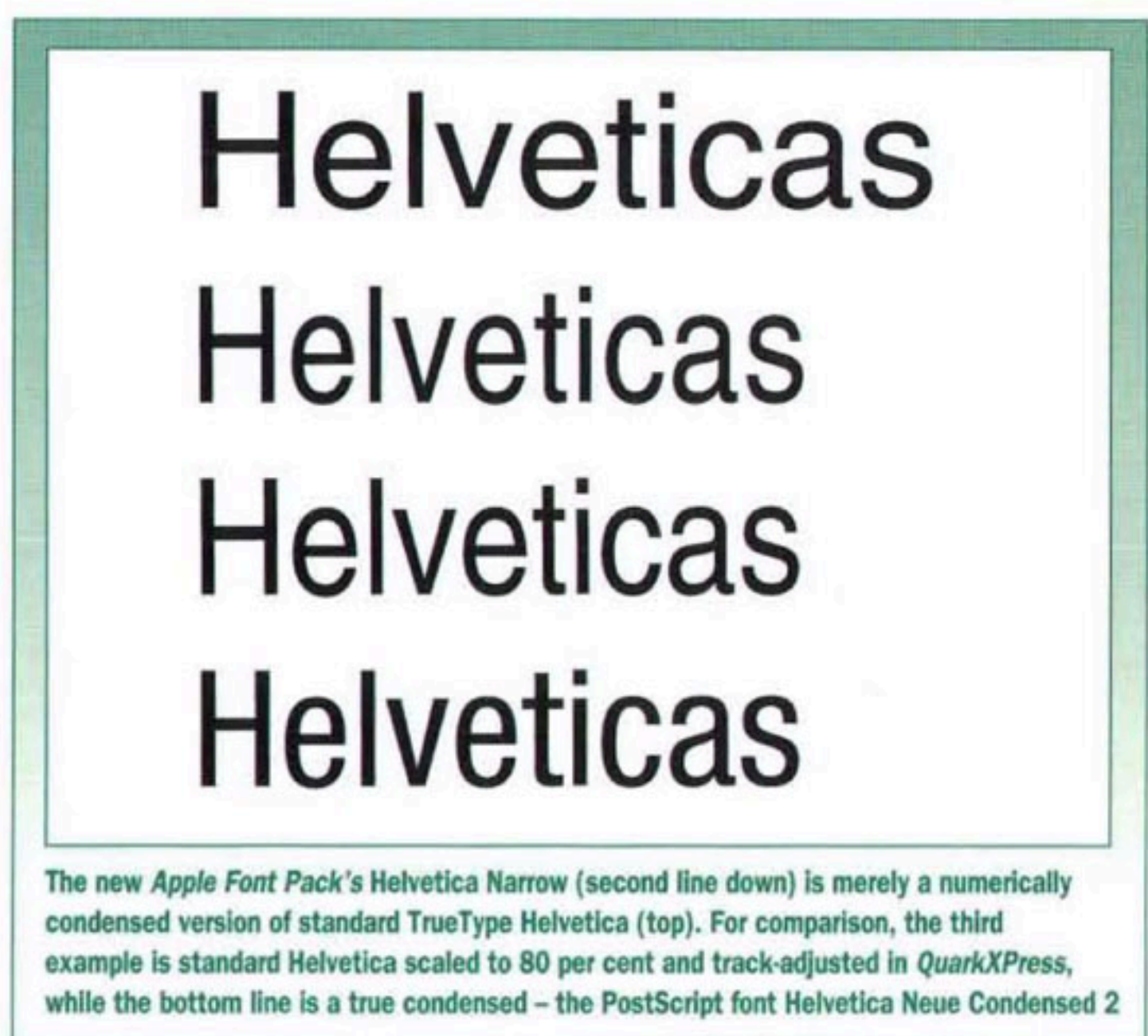
bitmaps even in the sophisticated world of outline fonts, of which more in a moment.

Outline fonts

Outline fonts have an obvious advantage over the old bitmapped variety, because they don’t really care about the question of resolution. The outline of each character at the size you want it is laid over that imaginary graph paper – regardless of what size the squares are – and then all the dots that are completely or mostly inside the outline are filled in, producing the smoothest possible shapes at all resolutions.

That’s the general theory, at any rate. Of course, nothing in life is that simple in practice. When you draw those outlines at a very small size (or to an output device with a low resolution, which represents the same problem but on a bigger scale) the dots that are marked out to be turned on can produce a poor character shape.

Bits of the character can even end up disappearing – for example, if a fine line runs along the boundary of two rows of columns of dots, if neither set of dots falls more than 50 per cent inside the outline, then



The new Apple Font Pack's Helvetica Narrow (second line down) is merely a numerically condensed version of standard TrueType Helvetica (top). For comparison, the third example is standard Helvetica scaled to 80 per cent and track-adjusted in *QuarkXPress*, while the bottom line is a true condensed – the PostScript font Helvetica Neue Condensed 2

no dots get filled in at all. Equally, a just slightly thicker line in the same position might cover a tiny fraction more than 50 per cent of each of the two rows, so both sets of dots are filled in when one row would be a much closer approximation of the real weight of the line.

The way that smart outline fonts get around this is to carry with them

a set of data which tells the software that produces the page image to make adjustments which will form a better character shape – one of these possible adjustments is to move the character outline by a tiny fraction of an inch so that troublesome lines no longer straddle row boundaries. This optimisation process is known as ‘hinting’, and both TrueType and

Old English Text

qwertyuiopABCEHIJMQS123

Onyx

qwertyuiopABCDEFGHIJMQST1234

Oxford

qwertyuiopABEHIJMQST12345

Swing Bold

qwertyuiopABEHIJMQST1234

ITC Zapf Chancery

qwertyuiopABEHIJMQST1234

ITC Zapf Dingbats

✓ ✎ 📧 ♥ 📧 ↔ ☎ ⑥ ❖ ⑦ ☆

Zeal

✎ ♂ ♀ 📧 📧 📧 📧 📧 📧 📧

The latest boost to the TrueType format comes in the shape of a new font compilation packaged by Apple itself.

“This package contains 43 outstanding TrueType fonts...” boasts the *Apple Font Pack for the Macintosh* on its packaging. Whether they are all outstanding is a question of taste; whether there are 43 of them is a question of semantics, but we’ll let it pass.

There’s not a lot that can be said about type design without getting into esoteric language, so I won’t ramble on – I’d rather leave myself space to show you samples of what’s on offer – but there are a few things worth noting.

Seven of the faces here include all four common variants of plain, italic, bold and bold italic – Avant Garde, Bookman, New Century Schoolbook, Garamond Narrow, Helvetica Narrow, Lubalin Graph and Lucida Bright.

Of these, the two ‘narrow’ families do not appear to be true condensed faces but numeric compressions – squeezed versions of the standard face. This is a distortion which alters the relative weights of horizontal and vertical elements, as can be performed in some software packages, but they are not typefaces which suffer too badly from a modest squeezing, and one shouldn’t moan at this price. (For an example of

how a numerically compressed version of a font compares with a properly condensed font, see the Helvetica print-outs at the top of this page.)

Of the fancy fonts included in this pack, it should be noted that ITC Machine and Delphian do not include lower case (small) characters.

The symbol fonts are particularly noteworthy inclusions in the collection, and, in my opinion, go a long way towards justifying the asking price on their own. Zeal is a bit of a curate’s egg, but it offers a few useful items including astrological and scientific symbols. More important, though, is Zapf Dingbats.

As a font which is built into Apple’s PostScript printers and used by almost all desktop publishers, the absence of Dingbats in the font set supplied with System 7 was a complete mystery to most of us – perhaps Apple didn’t even believe itself that DTP users would care for TrueType? Well, with this pack the omission is suitably rectified.

Apple Font Pack for the Macintosh is a useful and, taken as a whole, flexible offering. It may not contain precisely what you would have chosen for yourself but, at £71 the pack, who’s complaining? For anyone who has committed to using TrueType, this compilation has to be considered as a thorough bargain.

PostScript fonts can do it.

Another answer to this problem, oddly enough, is to use bitmaps – a bitmap says precisely which dots are on or off, so there's no need to apply any formula. Many TrueType fonts also come with one or more bitmap sets for commonly used sizes, and the Mac treats these as first choice for on-screen display if it can find them – if you select Helvetica 9 point, for example, the bitmap font will appear on screen.

Bitmaps are also an integral part of each PostScript font that you install. This is because the Mac can't display PostScript outline fonts as such (and neither can it print them if a non-PostScript printer is used), so it has to revert to displaying bitmaps. If unresolved, this would have been a fatal flaw with PostScript – fortunately, it can be cured with a cheaply available utility called *Adobe Type Manager (ATM)* which can compile information from the screen (bitmap) and printer (outline) fonts and use the combined data to display and print smooth characters.

There's not room this issue to look at the difference in TrueType and PostScript in any detail (or, indeed, the next major font format

on the close horizon, which is known at the moment as Super GX) which I will have to tackle in a future column.

Conclusion

The brief advice, though, is this: TrueType is fine unless you are going to print documents on a PostScript output device with fonts built in or available to it. Such a device will default to substituting PostScript versions, if it can find them, of any TrueType fonts that you have used. The imagesetters used by DTP bureaux fall into this category, and if you send them TrueType-based documents, the odds are quite high that your text will reflow – with disastrous results.

A slogan currently doing the rounds is 'PostScript for professionals'. While the implied slight on TrueType is a little unfair, for practical purposes this phrase does, at the moment, ring true.

■ My thanks to leading type specialists FontWorks for their assistance with samples of Adobe PostScript fonts.

■ WIN! WIN! WIN! WIN!
To win a prize of more than 1,000 Bitstream PostScript fonts from FontWorks, see the next page. **mf**

Questions and answers

Q Surely there have always been outline fonts on the Mac. Even on my old Mac Plus, Outline was always available in the menus.

A It's true that outline fonts were available long before TrueType, in the shape of PostScript fonts – combined with the Mac, these were what brought about the DTP revolution of the 1980s. However, this question confuses font formats and font styles. When you see Outline in a menu, that's a question of style – yes, even if it happens to appear in a Format menu! Printing the outlines of characters is just an alternative way of making use of your type, like thickening it up for bold or slanting it for italic.

An outline font is one in which all of the characters are described by the shape of their outlines, which are drawn on the screen or in the printer and then filled in with monitor pixels or ink dots.

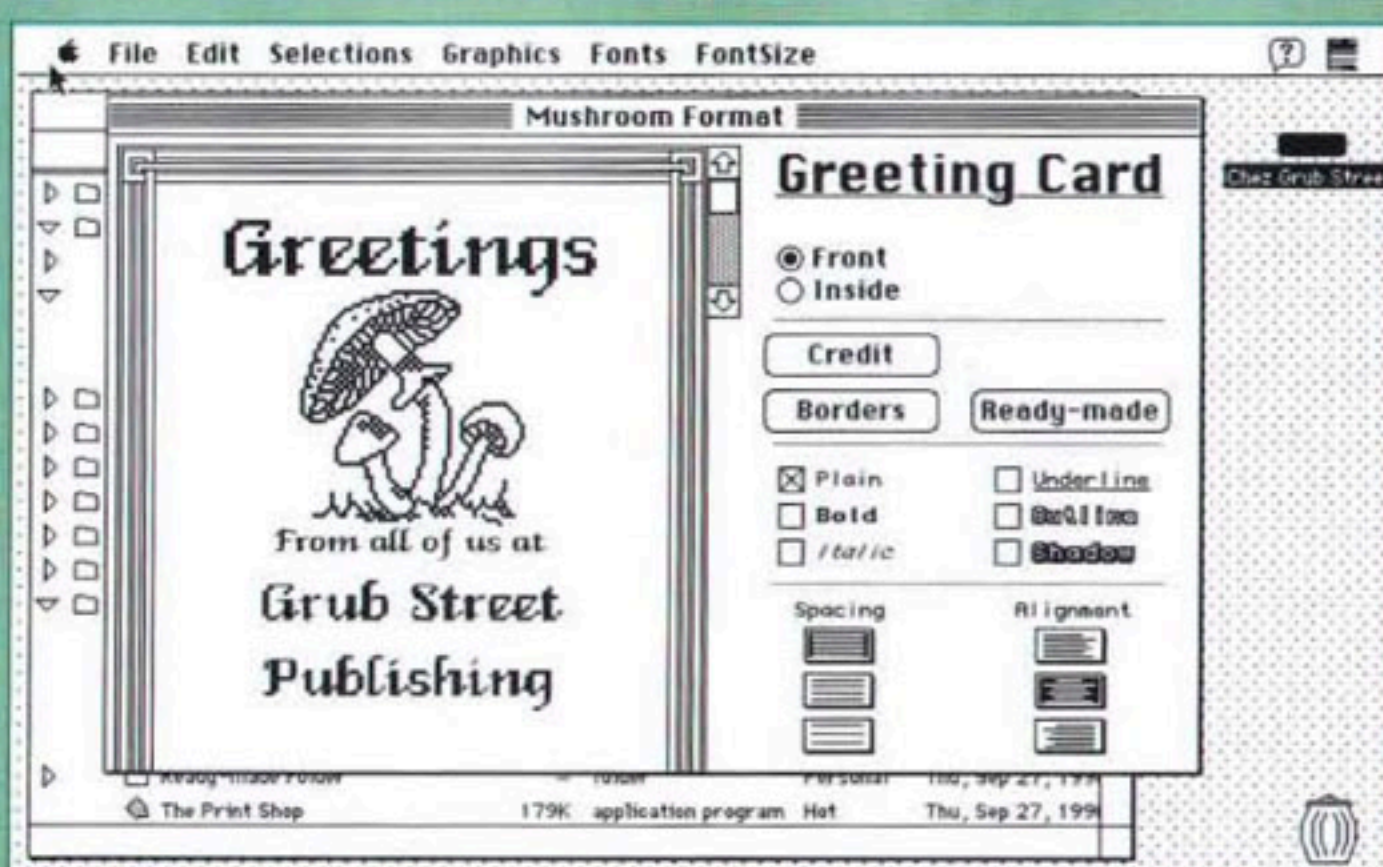
Q I thought that bitmaps were something to do with art packages. Can you clear up the confusion?

A The term 'bitmap font' is strictly incorrect, although many people use it – a bitmap is a type of image, and the font should properly be referred to as a 'bitmapped font'. As well as type characters, bitmapping can be used to store all manner of images, including those created in the type of graphics applications usually known as 'paint' packages. The other main type of art package is what is often called a 'draw' package. Like outline fonts, the images from these are stored as a set of geometric instructions and can be scaled to any size. You sometimes hear this way of working described as 'vector' or 'object-oriented'.

Where to get it ▼

Apple Font Pack costs £71 and is available from Apple dealers – dial 100 and ask for freephone Apple to find the dealer nearest to you.

Print Shop



Print Shop combines bitmapped fonts and clip art to produce greetings cards and letterheads

Black letter
Black letter

The bitmapped font (below) is jagged compared with the outline font (above)

One place where bitmapped fonts still show up is in the Brøderbund package *The Print Shop* – £55 from Electronic Arts, 0753 549442. This is, more than anything, a fun product for children.

The package is used for producing such things as birthday cards, banners, small posters and letterheads. As well as a range of bitmapped fonts it features a library of clip art images and various styles of lines, boxes and borders. Aware of the limitation of this kind of font, *The Print*

Shop advises the user of suitable size at which each font should be used – these, of course, are the sizes for which there is a specific bitmap.

To illustrate what happens if a bitmap is used inappropriately (rather than to be mean to the package, which it would be unfair to review in a DTP column) I have pulled up one of the supplied fonts and scaled it up in *QuarkXPress* alongside an outline font of a similar basic style.

Note how the outline font (it's TrueType Old

English Text from the new *Apple Font Pack*) is smooth whatever size I use it at, while the *Print Shop* font (it's called London) just looks all the more ragged as you enlarge it.

If you miss old Mac fonts such as London, Cairo and San Francisco, you will find that all those which aren't now TrueType fonts are in fact supplied in bitmap form on the Fonts disk that comes with new Macs – they're tucked away in a folder called *Apple Classic Fonts*.

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■ 15 runners-up prizes of Bitstream Fundamental Fonts For Macintosh

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THE COMPETITION

To enter, write your answers on a postcard or the back of an envelope and send it to: FontWorks Compo, MacFormat, 30 Monmouth St, Bath, BA1 2BW. The closing date for entries is August 3 1993.

The first correct answer drawn from the postbag will receive the Bitstream Designer Library and CD300, with 15 runners up winning a copy of the Bitstream Fundamental Font Pack.

So here are the questions...

1. For most typefaces, the linespacing should be a little larger than the size of the body text. What is the default leading available in most DTP programs?

- a) 140% (eg 10 point type with 14 point leading)
- b) 120% (eg 10 point type with 12 point leading)
- c) 180% (eg 10 point type with 18 point leading)

2. Type size is traditionally measured in points. Approximately how many points are there in an inch?

- a) 100
- b) 96
- c) 72

3. Typefaces are often classified as serif or sans-serif, depending on whether or not they include small embellishing strokes at the ends of letters. Which is the sans-serif typeface family in the following list?

- a) Futura
- b) Goudy Old Style
- c) Garamond

4. If you want to access the character é from a UK English Macintosh keyboard, what do you need to type?

- a) shift-option-e
- b) option-e then e
- c) option-a then e



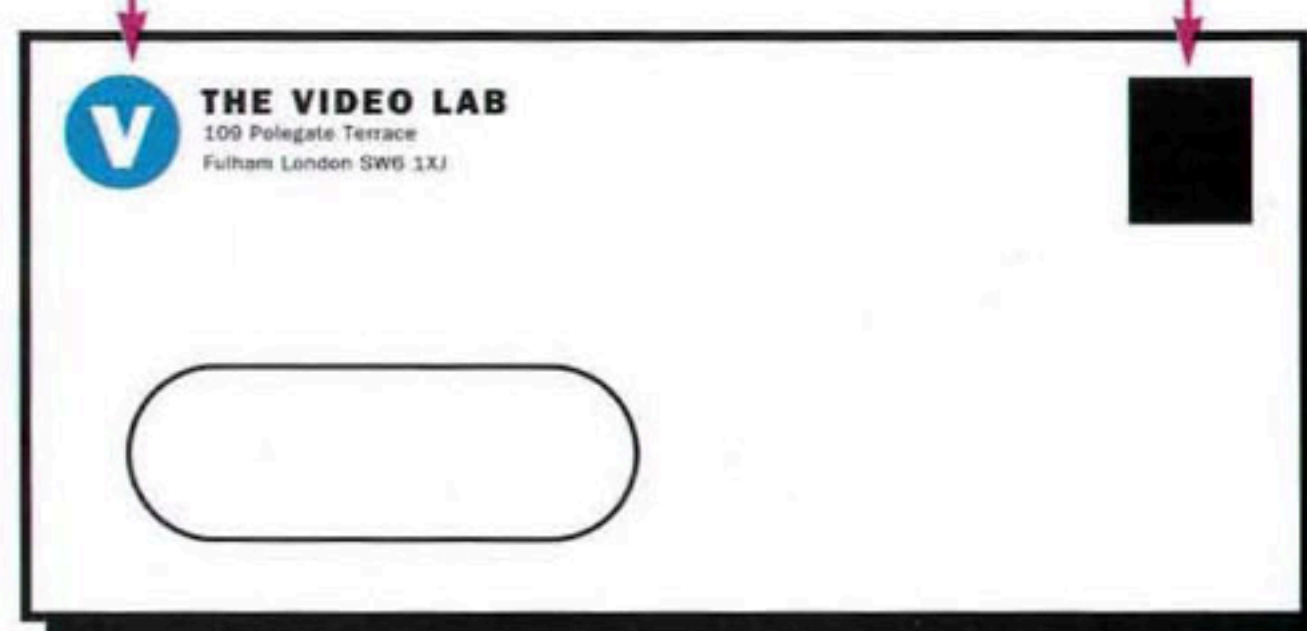
As well as the font library, the winner of the first prize will receive Apple's CD300 - twice as fast as most CD-ROM drives

Always use the full area code on your cards and letters, to aid the callers



Logo and address should complement each other – Franklin Gothic is used for all the text with a lower case 'v' used on the logo

Balance your logo and name with the franking mark or stamp



Designing effective stationery

To get your company or club noticed, you need a dynamic, stylish logo. Gordon Druce shows you how to design practical letterheads, envelopes and business cards on the Mac

Famous name logos



Mercedes

The distinctive three-cornered star used by Mercedes-Benz on the bonnet of all its vehicles



Lufthansa

This German airline company has also opted for a circular logo – a circle with a stylised bird in flight



London Underground

The simple, memorable roundel used on the capital's tube trains

W

hether you are accounting or just running a word processor on your Macintosh, it will not be long before you discover that there are many more areas in which the machine can help your fledgling club or company. One of these areas is in the production of your own business stationery or promotional material. With the aid of a budget desktop publishing program or word processor, a laser printer, and/or the help of a service bureau and local printer you can set about producing your own stationery.

So this issue we are looking at the basics of designing the printed material you might need to get your club, society or business on the map. Starting with a simple letterhead note paper (with logo and/or motto), plus your envelope design, business cards and a fax cover sheet.

The logo for your company or club must identify your organisation or company in order to differentiate it from similar businesses or clubs, so it is one of the most important parts of showing your firm's image.

The all-important logo

The word logo comes from the Greek *logos*, meaning word, and later was used by typographers to mean any letters that have been joined together. Make your logo as simple and timeless as possible, like the ones shown on the left.

The best trademarks or logos are very hard to date, so don't get hoodwinked into using fashionable typefaces and layouts unless this is appropriate for your business. It's most important

to identify the image of the company or club. Is it a happening, cutting edge outfit or is it a more conservative, genteel organisation? The next thing to think about is the size of your logo – remember you may be designing it for a letterhead now, but in the future it may appear on the side of a van or even a hot air balloon!

Simple but effective

Just by using type you can produce very effective logos by scanning in a stylised signature or choosing a typeface that reflects the nature of the company's business. Maybe mix a text-based logo with a motif which conjures up the right feel for the marketplace your business is in.

Other logos consist of a graphic device that pictorially represents the organisation's philosophy (like the star used by Mercedes-Benz). These logos are harder to get right, as they are usually an abstraction or a humorous visual twist on the name of the company or club. Try summing up the key elements of what your company is all about in a few lines. Then take some of those words and start to build a graphic element which reflect this phrase. One rule to keep foremost in your mind when designing your logo is legibility; remember this is all about communication.

You may want to develop this idea of a phrase which encapsulates the essence of your club or firm and turn it into a motto. This can be incorporated into your letterheads and marketing material. They are often run along the bottom of a letterhead or flyer, to 'sign off' the document with a memorable phrase or reassuring statement. If



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you look at the front cover of this copy of **MacFormat** you will see that Future Publishing, the firm which produces this magazine, has the phrase 'Your guarantee of value' below its logo.

Once you have finalised your logo and 'statement of intent', the next step is to combine it with your addresses, phone, fax or online numbers. Not forgetting VAT and/or registered company or charity details. Also remember when you are arranging your letterhead to give yourself plenty of space for the contents of your document.

The placement of your information can be flexible but there are some conventions which are worth adhering to as they will help your reader feel more at home. For example set your logo flush left at the top of the page and run your details under it in one line, across the page or place your logo flush right and stack your type under it. If you centre your logo at the top of the page, it is then common practice to balance the page off by setting your telephone and address information in smaller type running along the bottom of the page. When you are designing your letterhead also think about the other elements of your stationery.

Don't forget your envelopes

Envelope design should be a scaled down version of your letterhead design, and placed appropriately on the envelope running along the bottom or as a block on the left hand side, balancing off the stamps or franking mark on the right. This will help your envelopes look clean and business-like. A lot of firms now use window envelopes which

save time and money by eliminating the need for addressing separate envelopes or using labels. So take care if you decide to use this type of envelope that your recipient's name and address are in the correct place when the letter is folded and tucked inside the envelope.

A business card worth leaving

The business card is a key factor in the presentation of you and your club or company. As a design challenge, you have a lot of important information which has to appear in a very small space (usually about 9cm – 5cm). You have to find space for an address, logo, phone (that may be three numbers: work, home and mobile) plus fax or electronic mail details.

Try making the card as balanced as possible – don't make the logo too big and set the name and title in plenty of space so it's clear.

Fax cover sheets help your messages get to their destination safely, so have a box saying how many pages are being sent, make sure that both the recipient's name and the sender's name is on the sheet. Also the date of the transmission and a box noting the subject matter of the fax. Leave room for notes about the contents; this can be an area for hand written messages. Make sure you choose typefaces which will reproduce/transmit well, even on a poor quality fax machine. Run some tests before you commit to your design. Do not use light typefaces or a face which has detailed serifs as these will not transmit well even on better quality machines. Use solid modern styles like Helvetica or Univers. **mf**

Effective communication checklist

- 1 Make sure all your text is legible – especially important on your fax cover sheet. Try doing a test transmission to another fax machine before you finalise your design.
- 2 Your logo must be adaptable; bear in mind that in the future you may want it to go on the side of a van or have it reproduced at the size of a postage stamp in the Yellow Pages or a business directory.
- 3 Is the firm's or club's philosophy and character accurately reflected in all the material you have designed and produced?
- 4 Make sure your trade mark, address/phone and fax numbers are in the right proportion to the format of your letterhead, envelope and business card.
- 5 Remember to keep your firm's information clear of the message or text area on your document.
- 6 Double check all your information. Have you spelt your club chairman's name correctly, is your PO box number right? Make sure you have not mixed the fax and phone numbers up.
- 7 Do your business cards reflect the look of your other printed matter?
- 8 Does the name and title on your business card stand out from the firm or club information?
- 9 Fax sheets must clearly show the name of the sender, the name of the recipient, the date, total number of pages and the subject which the fax concerns.
- 10 Remember you may need an area on your fax sheet for a short note. You will also need space for contact details of the sender in case of a transmission error – make their phone and extension number clear.



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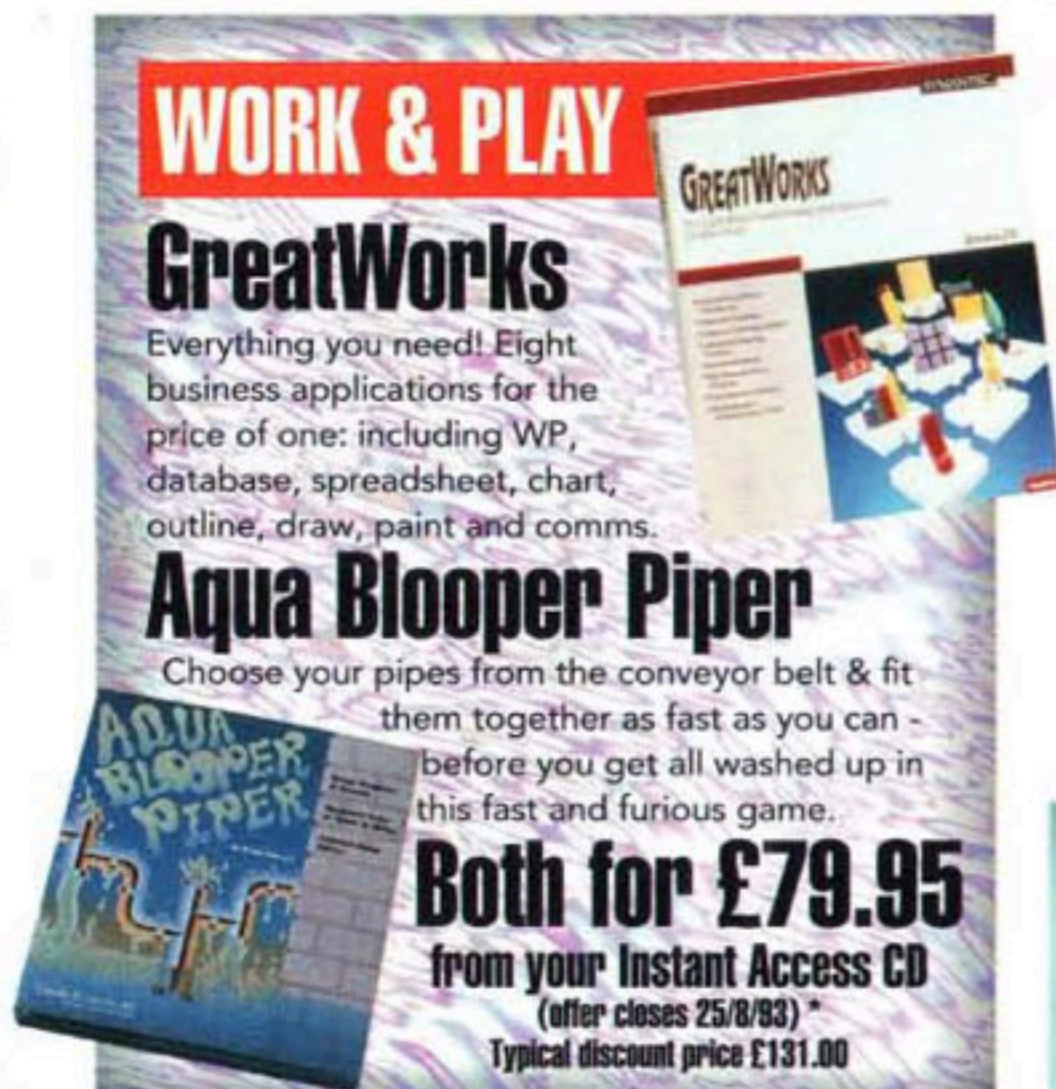
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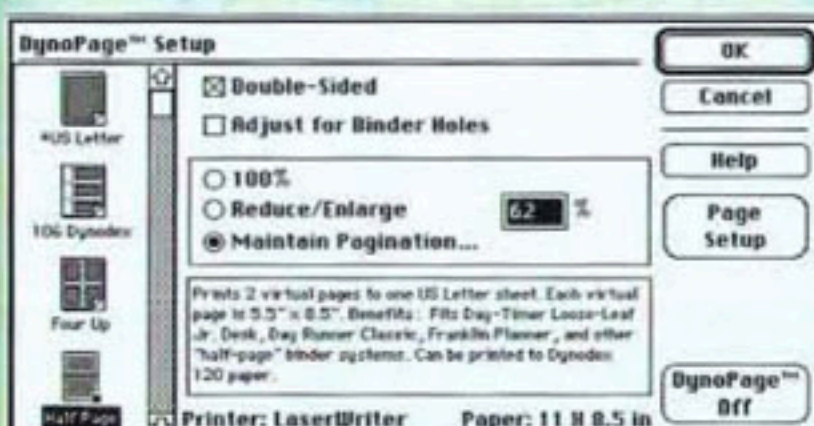
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Still the best way to store all your useful contacts on the Mac. This is the program for professional socialites and people who rely on telephone and address databases. Ideal for business or pleasure it even prints out address book pages to fit your personal organiser.

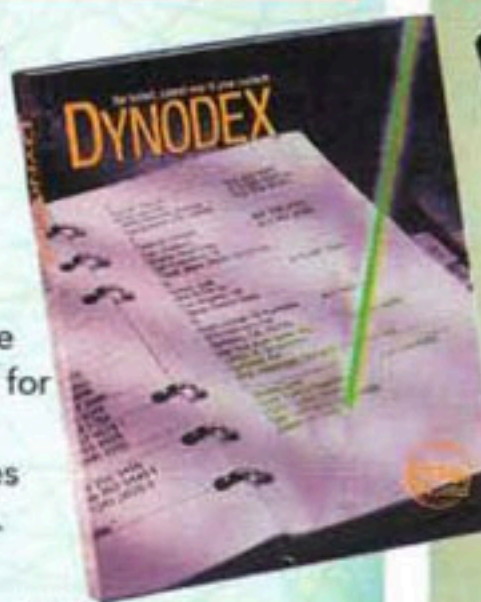
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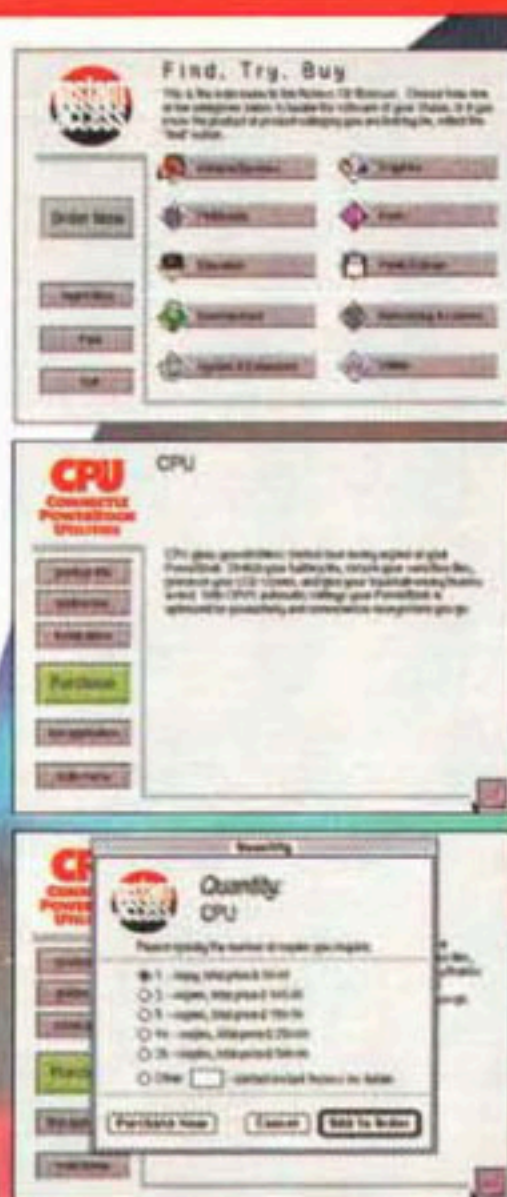
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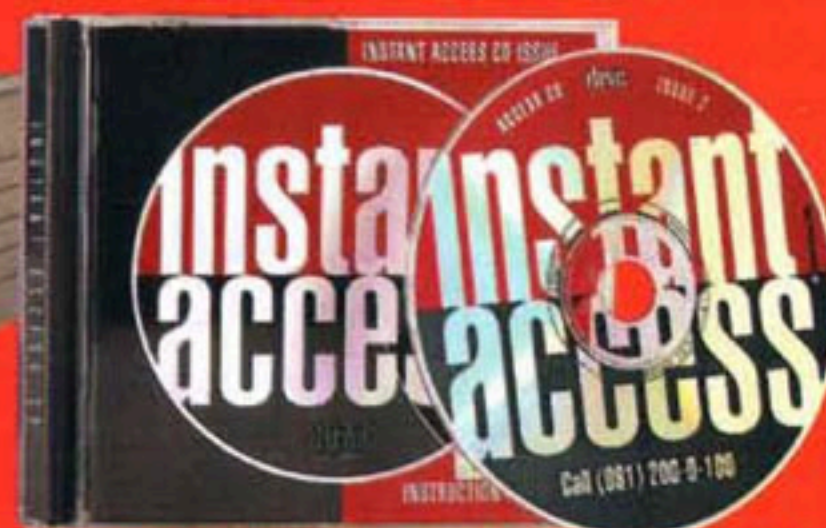
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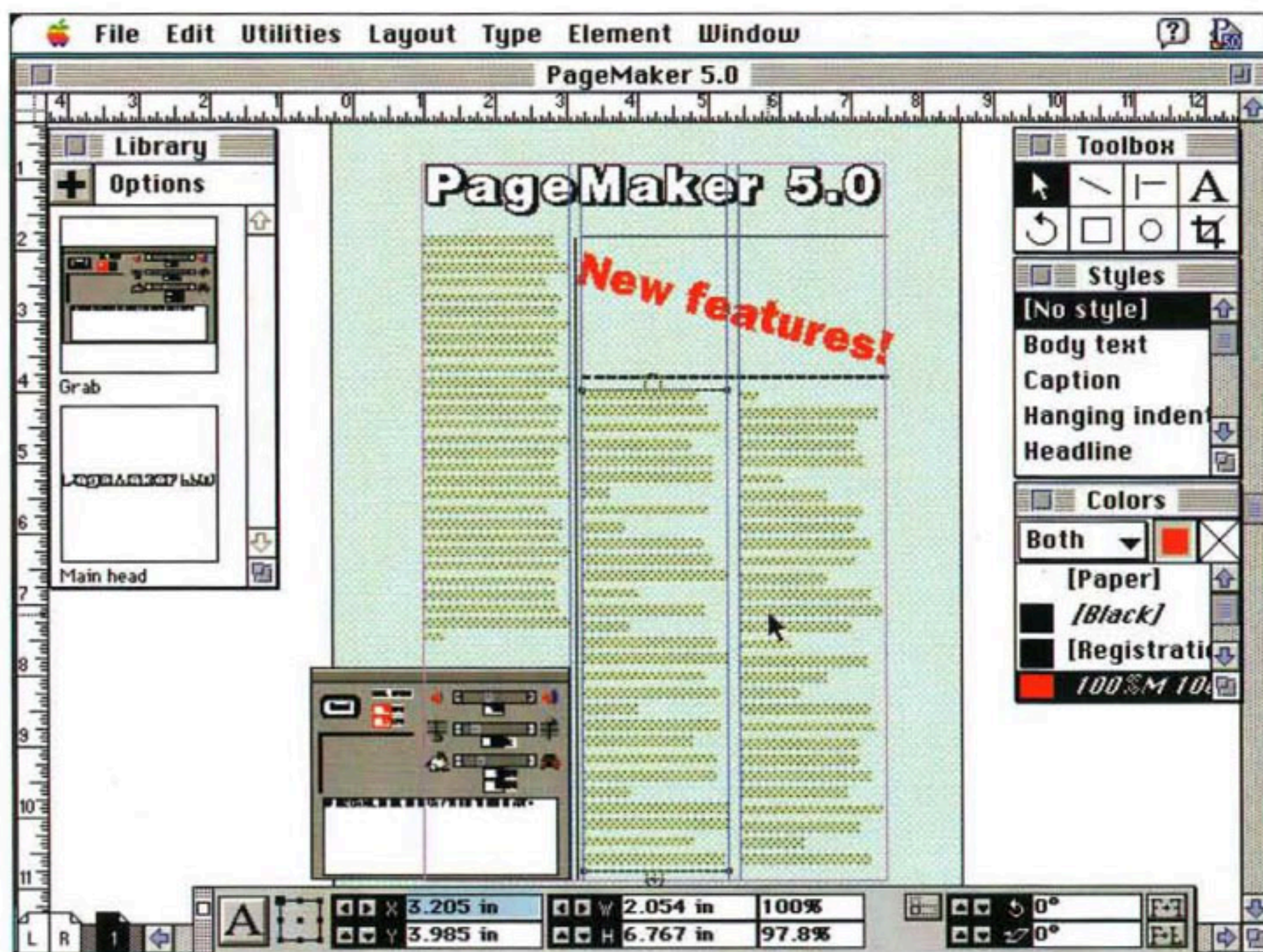
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Aldus promises that version 5 of its high-end page layout program *PageMaker* will be available in the UK very soon. Ian Wrigley takes a look at a pre-release version of the acclaimed package



With over 100 new features, *PageMaker 5.0* is finally a serious contender in the high-end DTP market

The famous

New Features

PageMaker 5.0 has more than 100 new or changed features from older versions of the program. Some of the major ones include:

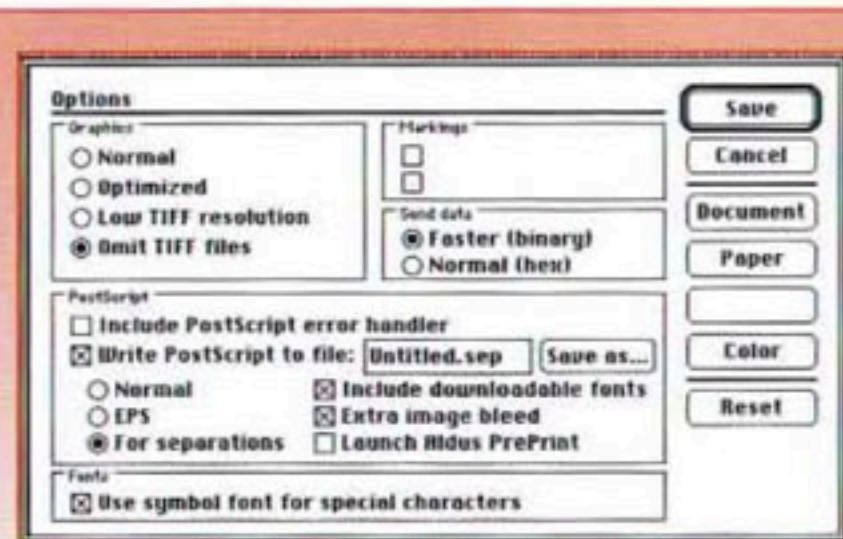
- Rotation and skewing of text and graphics
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- Direct import of PhotoCD images
- Support for basic page imposition

The battle between *QuarkXPress* and Aldus *PageMaker* has been going on for some years. *PageMaker* was the first DTP program available on the Mac, and was one of the main reasons for its initial success. However, in the last couple of years *QuarkXPress* has taken the high ground from Aldus, and is now considered the DTP program of choice by most high-end users – leaving *PageMaker* for the 'middle-end' users (photocopied newsletters, company documents and so on). This is because of *XPress*' undeniably superior typographical manipulation, the ability to directly separate

colours and so on. Things, though, have changed radically with the introduction of *PageMaker 5.0*, which is due to ship to end-users within eight weeks. This is a major upgrade to the program, and puts it right back at the cutting edge of technology. The range of new features – over 100 of them – is enormous, and is a direct attack on *XPress*' domination of the high-end market. Indeed, the review beta copy included a document listing the new features and how *XPress* compares (unfavourably, of course).

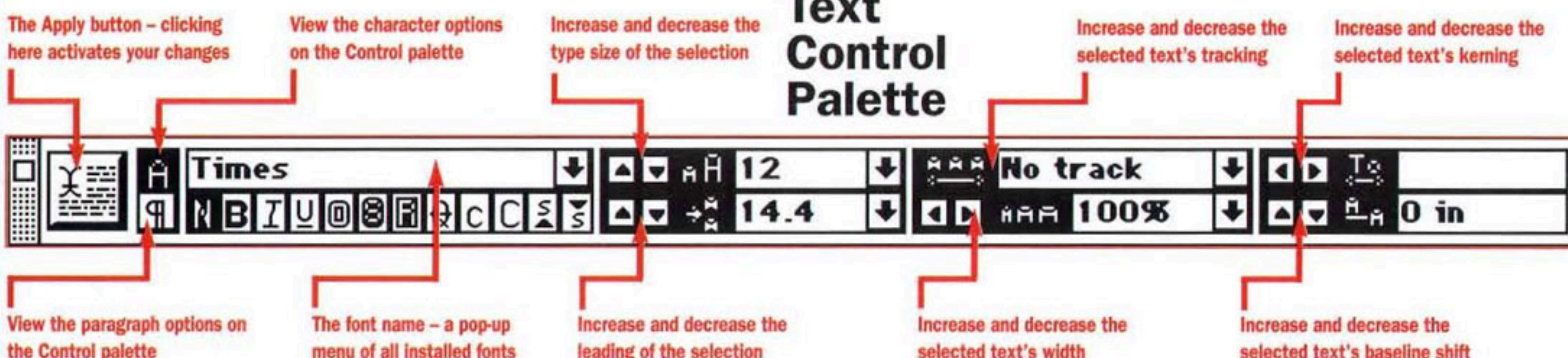
Head to head

I'm a die-hard *XPress* fan, so I expected not to be too impressed with *PageMaker*. OK, so some people find it easier to use, but getting professional-looking results takes loads of faffing about, doesn't it? Well, no. Version 5.0 addresses just about all the complaints that I had with previous incarnations, and is now a joy to use. For example, the new Control Palette (fairly closely modelled on *XPress*') means that you no longer have to dig through sub-menus of sub-menus to get the typestyle or font that you require, while a Library palette means that frequently-used page elements are easily available. In fact, the more I used *PageMaker*, the more I realised that the differences between the two packages are becom-

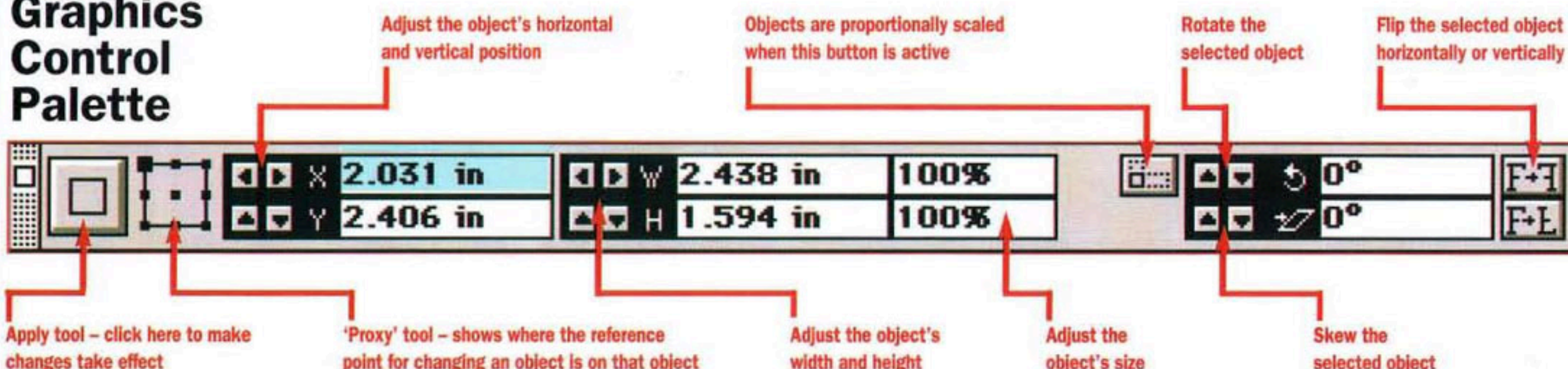


PageMaker 5.0 has a totally re-written print driver, which includes a new options page (above) for things like saving the document as a PostScript file

Text Control Palette



Graphics Control Palette



5.0



ing less and less obvious. Whereas a couple of years ago it would take days for an *XPress* user to become familiar with *PageMaker* (or vice versa), now it's the work of just a couple of hours.

Do you really need it?

The key question, of course, is whether you really need *PageMaker 5.0* at all. And the answer depends on whether you're already a user of an earlier version of the program or not. If you are, the answer is a definite "Yes!". The upgrade price (£176) is easily justified, and once you've used version 5.0 you'll wonder how you ever managed with earlier releases.

The question becomes more tricky if you're looking to move into page make-up for the first time. Yes, *PageMaker* does just about everything you might want it to, but there are other options available. *QuarkXPress 3.1* (soon to be 3.2) is the obvious other possibility, but you should also consider packages like *Publish-It! Easy* and *Aldus Personal Press* – unless you really need colour separation and other high-end features, one of these two (both of which have been reviewed in previous issues of *MacFormat*) will probably be perfectly good enough. And there's also *MacWrite Pro*: a fully-featured word processor that's remarkably good at basic page layout.

PageMaker 5.0 is an excellent package and will definitely give *QuarkXPress* a run for its money in the high-end arena. If you can justify spending this sort of money on a layout program, it can be highly recommended. **mf**

Wot? No rating?

You'll have noticed that there is no program rating for *PageMaker 5.0*. That's because we reviewed an early beta version, and it isn't fair to rate such a pre-release version since it is bound to crash more, and be slower than the final release. However, *PageMaker 5.0* will certainly receive a high **MacFormat** rating when it ships.

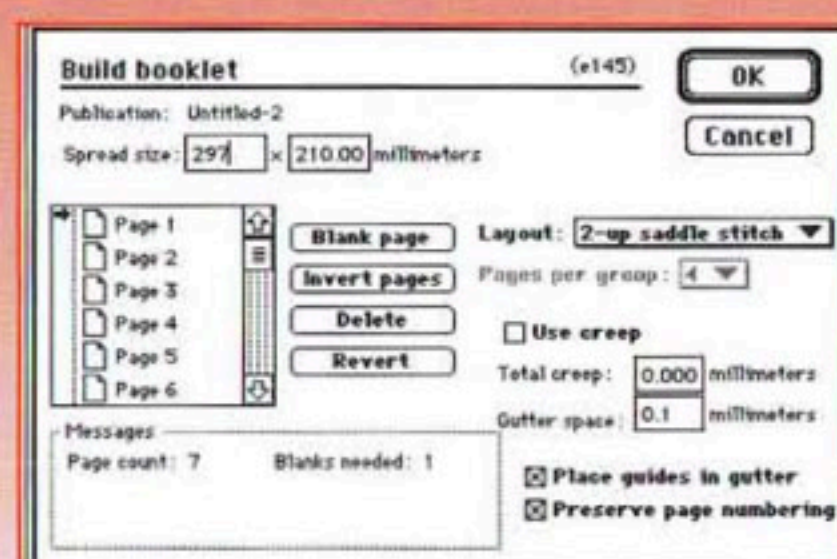
Where to get it ▼

PageMaker costs £827. An upgrade from earlier versions is £176, and users who have already upgraded to *PageMaker 4.2* can get 5.0 for just £88. The Windows version of the program will ship first, and the Mac version will be available a month later.

It will be sold through all Aldus authorised dealers. To find the nearest to you, phone Aldus UK on 031 220 4747.

Utilities		
Aldus Additions		Balance columns...
Find...		Build booklet...
Find next		Bullets and numbering...
Change...		Continuation...
Spelling...		Create color library...
Index entry...		Create keyline...
Show index...		Display pub info...
Create index...		Drop cap...
Create TOC...		Edit tracks...
		Expert kerning...
		Find overset text
		List styles used
		Open stories
		Open template...
		Run script...
		Running headers...
		Sort pages...
		Story info...
		Textblock info...
		Traverse textblocks...

PageMaker 5.0 comes with 20 free Additions (plug-in modules that add extra functionality to the program, in the manner of *XPress XTensions*). Third party developers will soon have many more available



One of the free Additions is Build Booklet. From here you can use basic imposition schemes, which arrange the output pages in the correct order. Aldus sells a much more powerful version if you find the Addition limiting

Essential add-ons

As soon as you've bought your word processor, you'll realise that it doesn't do exactly what you want it to. Ian Wrigley looks at two add-ons that should help to cure the problem

MathType 3.0

Entering equations into your word processor can be a royal pain in the neck. Even though the Mac is fairly well served in terms of the actual characters – the Symbol font, standard with the Mac, contains things like Greek letters and various mathematical characters such as the '∃' which means 'there exists' – actually placing them correctly on the page so that the formula looks correct is such a time-consuming task that most people don't bother.

Well, the answer to your prayers is here, in the form of a program called *MathType*, from Design Science. It allows you seamlessly to enter a mathematical equation into a file produced with a word processor, page makeup program or whatever, or to save such an equation as a PICT or EPS so that it can be incorporated into a document later.

Installation of the program is simple – it uses the standard Apple Installer, and places all the files in

MathType and Microsoft Word 5

Microsoft Word versions 5.0 and above include a module called the 'Equation Editor'. This is, in fact, a cut-down version of *MathType* 2.0. The full version 3.0 adds a number of new features, though, and so should still be considered by anyone who finds Microsoft's Equation Editor limited.

the right places on your hard drive. If you have Microsoft Word 5.0 or above, it replaces the Equation Editor in that program (see the boxout above for more details on this) so that *MathType* is automatically invoked when you select 'Insert Equation'.

Fun with formulae

To create an equation, you select the form that each section should be from the palette at the top of the window, and then type in the actual letters and symbols. A range of ancillary symbols, such as those required to create extended brackets and the like, are present courtesy of the 'MT Extra' font which comes with the program, in both *PostScript* and *TrueType* formats.

I haven't been able to find a form of equation that it wasn't possible to recreate in *MathType* – although no doubt someone will...

The program is fully customisable, so you can adjust how it displays elements such as variable names so that they correspond to any house style that you have. The program is 'intelligent', so if you want to type, say, 'a mod b', it will automatically italicise 'a' as being a variable name, but will recognise 'mod' as a legitimate mathematical function and will display the word in Roman text. 'b' will, of course, be italicised as another variable.

Once you've created your equation, you'll want to place it in your document. *MathType* supports a number of ways of doing this; the

Thunder 7

Unfortunately it's not just misspellings that give a document a less-than-perfect appearance. How about missing capital letters at the beginning of sentences? Or or duplicate words?

Well, a product called *Thunder 7* could remove all those errors and more for you – and you don't even need to spend time after you've finished creating the file, because it's all done on-the-fly. The program is an all-in-one spelling checker, thesaurus and mini-grammar checker, which watches for any errors as you type –

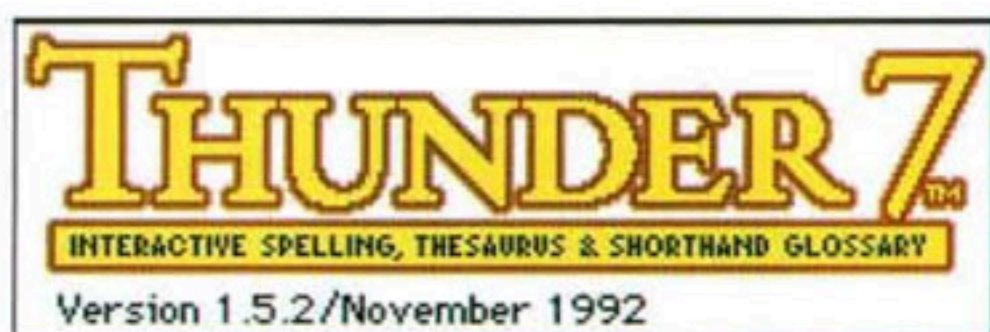
and informs you there and then, rather than waiting until the end of your editing session.

Thunder 7 takes the form of a Control Panel, which is installed by dragging it to the System folder (it's automatically put in the Control Panels folder by System 7, if that's what you're running). Drag a couple of folders to the hard drive, restart your Mac and you're away.

Background running

Every time you start up a new application *Thunder 7* presents a dialogue box asking you whether you want it running in the background. Obviously this is sometimes not necessary – the program works with desk accessories, but you don't really need a spelling checker for the Calculator DA! So, if you say 'no' to the question, you won't ever be given the option in that application again, unless you specifically request *Thunder 7* to work with the application from the Control Panel. You can tell that the program is working

in the background because a thunderflash appears to the right of all the application's normal menus. It's from this new menu that you can access things like document statistics, the thesaurus and the full spelling checker. But it's in 'interactive mode' that the program is most useful. As you're typing, *Thunder 7* watches and immediately signals any spelling mistakes or grammatical errors such as not following a full-stop with a capital letter by beeping or flashing the menu bar – you decide which. If you want, you can then hit [command] [spacebar] to get the program to suggest a correct spelling, correct the word yourself or just ignore it. *Thunder 7* has a pretty large dictionary, so it's not often that the program doesn't recognise a correctly-spelled word – but if it flags an error, you can always add the word to a user dictionary. The dictionary seems to be reasonably anglicised – it recognises both 'color' and 'colour', for instance – although there are a few anomalies – it doesn't think that



$$\left(\frac{a}{b}\right) = \begin{cases} \left(\frac{a/2}{b}\right) (-1)^{\frac{b^2-1}{8}}, & \text{if } a \text{ even} \\ \left(\frac{b \bmod a}{a}\right) (-1)^{\frac{(a-1)(b-1)}{4}}, & \text{if } a \text{ odd, } a > 1 \end{cases}$$

MathType is fairly easy to use – although it can look daunting when you first launch it

into your destination application. This is the only way that you can get equations into *QuarkXPress*. The 'read me' file that comes with the program says that "We've had several compatibility problems with *QuarkXPress* in the past ... unfortunately, the people at Quark do not seem impressed with the need for compatibility with *MathType*," – which seems like a rather odd attitude. Still, at least it is possible to get equations into the program – albeit only as EPS files, which means you can't print to non-PostScript programs.

Finally, you can request *MathType* to generate TEX code for an equation that you've created. TEX is a typesetting system that is very popular among academics, but it's totally text-based – so being able to actually see that equations are being created properly before you include the code into your document is a very useful feature.

Worth the cash?

If you need to insert equations into your documents, whether it's for your GCSE homework or as a submission to the Scientific and Engineering Research Council, you should think very seriously about getting hold of this package.

Where to get it

MathType costs £210, and is available from **A M Micro Distribution** – phone 0392 426473. The program is also available as an upgrade if you have Microsoft's **Equation Editor**; the upgrade costs £105.

MathType 2

Ease of use	85%
It takes a while to get used to the program – but after that it's perfectly simple	
Documentation	85%
The manual has a number of examples, and is easy to read and understand	
Features	95%
Contains just about every feature you could want	
Value for money	90%
You'll save yourself hours of fiddling around trying to use other methods	
Overall rating	89%
Definitely worth considering if your work involves creating equations	

most elegant is OLE, or Object Linking and Embedding, as supported by programs such as Microsoft *Word*. If your application supports this feature (not that many do, other than Microsoft products), you have the added benefit that an equation is immediately editable – double-click on it and *MathType* will be invoked, with the equation copied into the editing window.

The method that most people will use is simply to copy the whole equation from *MathType* and paste

it into their word processor. *MathType* provides you with a method of curing this: the *MathType* window includes a display which tells you how many points to move the equation up or down so that it will fit perfectly. Indeed, in many programs, such as *PageMaker* and *WriteNow*, this adjustment is done automatically for you.

The other way of importing an equation is to save it from *MathType* as either a PICT or an EPS file, and then load that graphic

'recognise' is correctly spelled, and suggests that I change to '-ize'.

The program's thesaurus seems pretty comprehensive, and there are some other neat features that many word processors lack, such as the facility to Capitalise All Words In A Selection, replace straight quotes with their curly versions and vice

versa, change runs of spaces to a tab character and so on.

Also included in the package is a utility called 'Ghostwriter'. This keeps a record of all your typing, in case of a program crash. If your Mac should crash, you will find a text file in the System folder containing all the keypresses that

you made while typing in the document. Now, it isn't a perfect copy of your document by any means – all your mistakes are there, along with presses of the delete key and the corrections that you typed in – but it should at least be possible to salvage much of your work. This isn't a replacement for making sure that you save your work frequently, of course, but it should save some heartache if your Mac unexpectedly falls over.

In Conclusion

The real beauty of *Thunder 7* is that it works not only in word processors, but also in database programs, electronic mail packages and so on – normally applications that don't have a built-in spelling checker. Its on-the-fly approach

saves time and it has enough extra features that it's well worth considering even if you use a word processor that already has a built-in spelling checker and thesaurus. Highly recommended.

Where to get it

Thunder 7 costs £88 and is distributed in the UK by Softline: 081 642 2255. It should be available from most software dealers.

Thunder 7

Ease of use	97%
You don't know it's there – until you make a mistake	
Documentation	95%
The manual has all the information, but it's not particularly attractively laid out	
Features	85%
Does everything an integral spelling checker/thesaurus does – and more	
Value for money	88%
If you already have a spelling checker and thesaurus, it might not be worth it	
Overall rating	91%
Well worth getting a copy	

Selection Statistics

Number of characters: 8147
Number of words: 1396

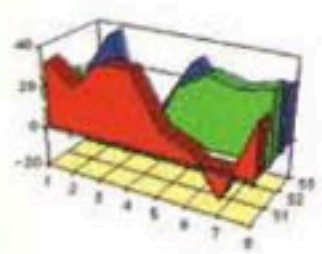
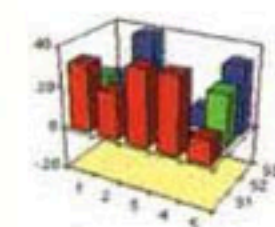
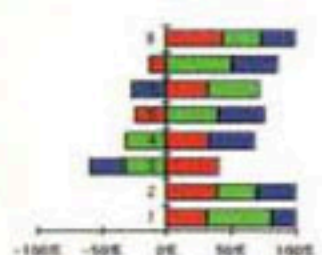
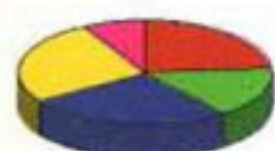
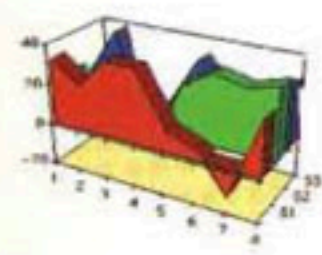
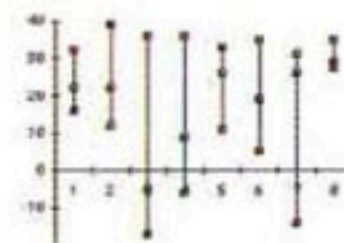
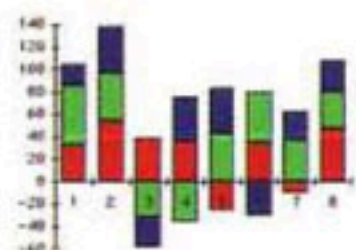
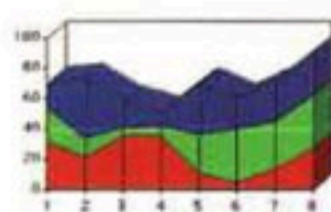
Approximate number of syllables: 2158
Words with at least 3 syllables: 195
% of words with at least 3 syllables: 14

Number of sentences: 61
Average number of words per sentence: 22

Number of paragraphs: 49
Number of return characters: 92

Gunning's Fog Index: 14
Flesch's Index: 63 (junior high school)

Thunder 7 will not only check your document's spelling, it will also give you various details such as number of words and two 'readability indexes'



Top of the charts

Want to get your message across? Simon Cox and Greg Morrison show you how humdrum spreadsheet info can be transformed into visually stunning charts

Any spreadsheet application worthy of the name not only has methods of manipulating information but a charting capability to present it. However, like all spreadsheet features there are now a bewildering number of chart types to choose from (especially when you're using one of the more expensive packages) and it is often not obvious which type to select. What we will do here is look at when charts should be used and how they should be set-up.

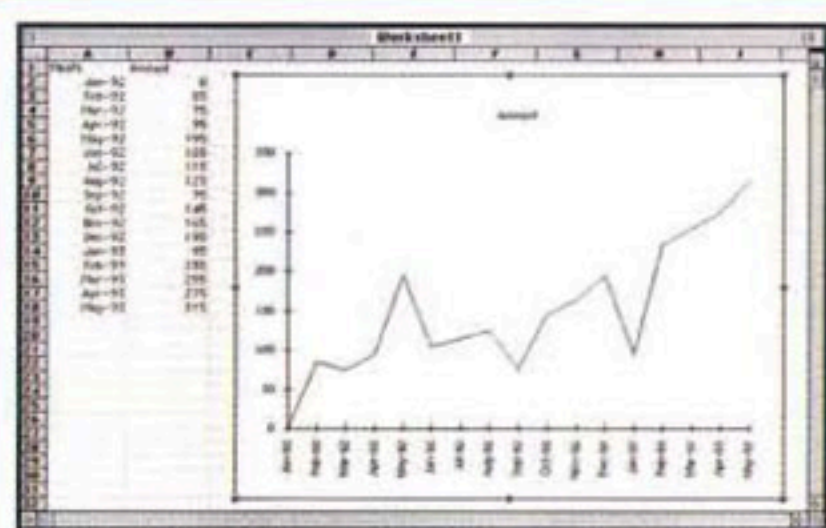
When to chart?

As the old adage says 'a picture is worth a thousand words' but the trick is to choose the right picture so it is worth the same thousand words to everyone who sees it!

It is obvious that the main reason to use a chart is that it makes some information easier to understand. Having said that, how many times have you looked at a pie chart and tried to decide whether one slice is bigger than another similar-sized one? What sort of chart

you decide to use will depend on who your audience is and what information you want them to get from it.

So why do charts make information easier to understand? The main reason is that they can provide a visually striking image. Such an image can be viewed more quickly and easily than the original data. This is particularly important if you are using a chart in a presentation to an audience with, for instance, an overhead projector.



Line chart

This is the simplest type of chart, available in all commercial spreadsheet packages (for a full run-down of programs and their capabilities, see 'Which spreadsheet does what'). Given a few columns of data in a spreadsheet the points in the graph are calculated and displayed. This is particularly useful for seeing trends that may not be apparent from the data. For example in the line chart above the upward trend is more apparent than the 'blips' might suggest.

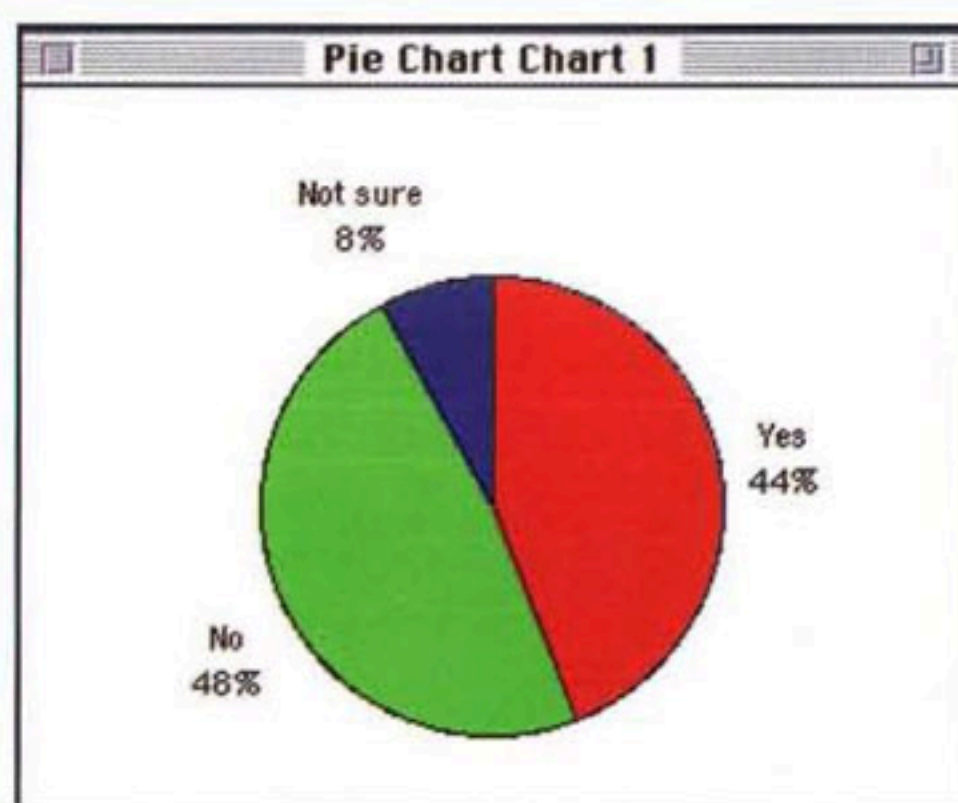
Sometimes line charts are used without the line, that is, just the points are displayed. These can be useful to compare a number of different data sets. Special versions are sometimes used for share prices with 'I' shapes showing the range of prices – the top of the 'I' denoting the maximum value and the bottom denoting the minimum value.



Bar chart

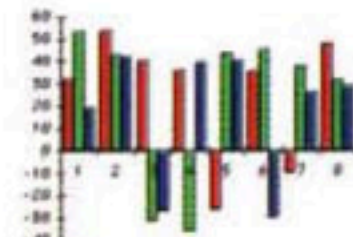
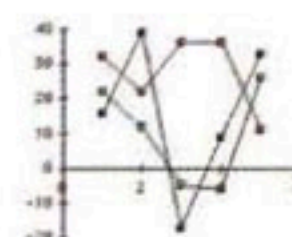
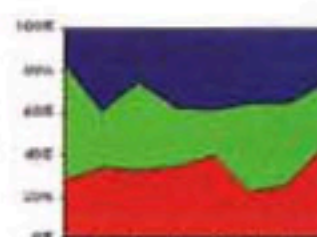
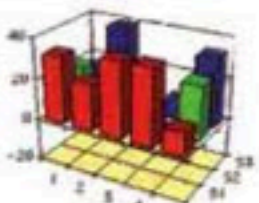
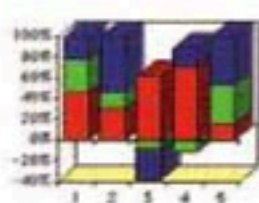
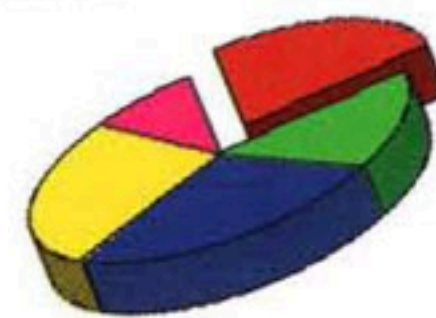
Bar charts use boxes to represent the size of a particular value. The boxes can either be arranged horizontally or vertically – in which case it is sometimes called a column chart.

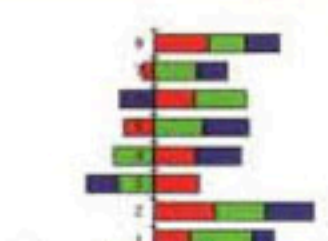
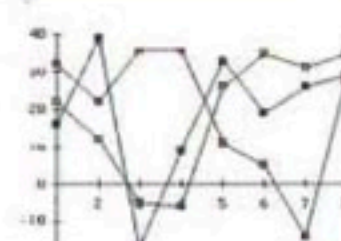
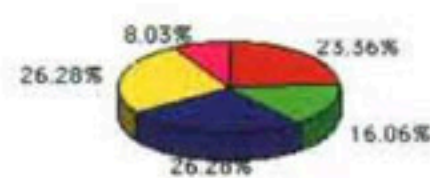
Bar charts are a particularly effective method of seeing how a number of values vary in size. For example, the bar chart below shows the relative sales of a number of products as a bar and a line chart. The bar chart is more easily understood and bolder.



Pie chart

Probably the most used and abused chart type is the pie chart. It can be very useful for comparing a small number of values with obvious differences. They can become very cluttered when the segments are labelled and there are many segments.





Which spreadsheet does what

Different spreadsheets have different charting capabilities. Here are a few examples of what you can expect:

Mariner (US\$40 shareware). A good basic shareware spreadsheet that offers simple charting capabilities. It supports all the chart types shown here but does not support colour or three dimensional charts.

BiPlane (US\$79 shareware). Similar to *Mariner* but has better support for colour and patterns.

ClarisWorks (£229, Frontline, 0256 20534). The original version of this integrated package has all the common chart types with some support for colour. The latest version of *ClarisWorks* provides some extra features including the ability to use pictures in the bar charts and some limited support for three dimensional charts.

Microsoft Excel (£405, Microsoft, 0734 270000). Not only does *Excel* have all the chart types shown here but a number of others. These include profit-loss graphs for share prices, three dimensional surface graphs and 'radar' charts. You can view a 3-D chart from any position!

The other place where charts are useful is to analyse some data to get some piece of information that is not apparent from the raw data. The classic example of this is all those graphs plotted in school science classes.

Another old saying; 'there are lies, damned lies and statistics,' also sums up what charts are commonly used for. They can be used to make an audience reach a 'required' conclusion rather than give an honest representation of the data. Of course, you could use this

technique to your advantage! But before deciding which chart you are going to use to manipulate your information, have a glance at the different types shown in the boxes below.

Conclusions

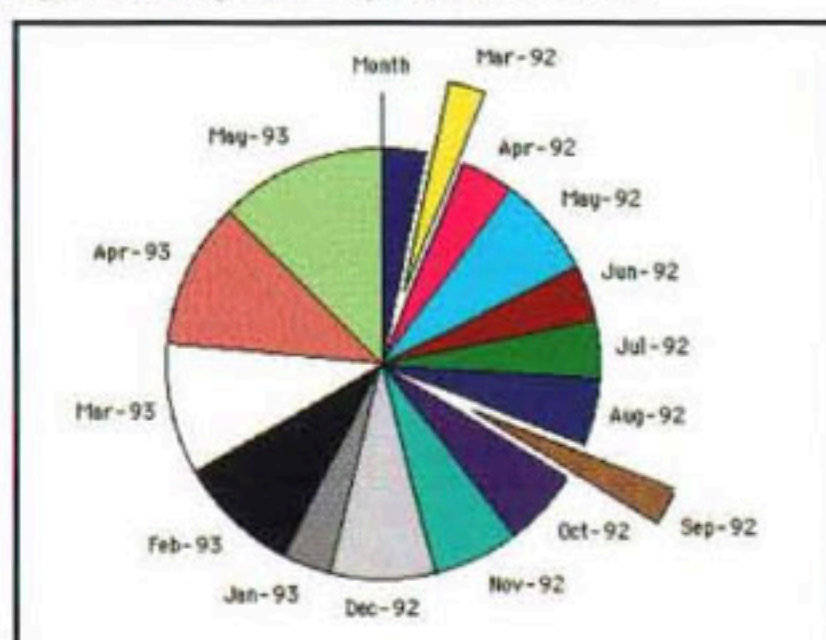
The key thing to remember when picking a chart type is, 'does this easily show what I want it to?'. If the answer is no then either choose a different chart type or use the thousand words you were trying to save. There

is no doubt a well presented chart can enhance the presentation of the data and give a professional feel to any report. A badly presented chart can be worse than not having it in the first place, confusing the reader, which can only seek to ruin the presentation.

So the watch words have to be 'take care' and a good rule of thumb is 'does this chart look very flashy?'. If the answer is yes then you have picked the wrong type and distracted the audience away from your message. **mf**

Choosing the chart

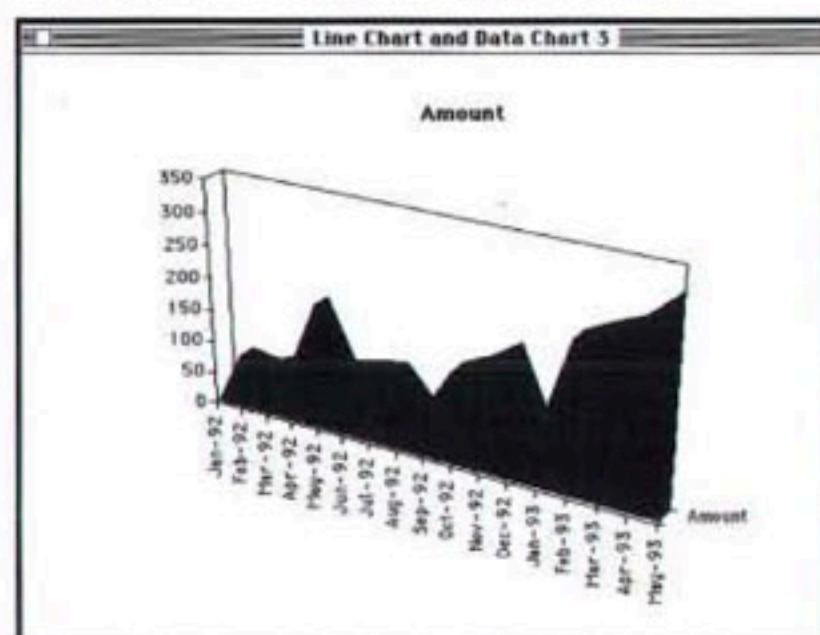
The best way to choose a chart is to think, 'what is the message I want to convey?'. Then think about the best way to carry out the task. If you do not want to highlight some feature of the data, do not chart it. If you want to highlight an upward trend but ignore last year's figures then this is a good use of a line graph. Alternatively if you do want to highlight the bad figures, use an exploded pie chart showing them separately. It's all about interpretation and getting the message across. Again, using the original sales data:



A good guide to how to use a chart is to look at the example in the manual, as these have usually been constructed to show off the chart type in the best possible light. Newspapers also have a lot of experience of

using charts – they do not always choose the right one but they can be a good source of ideas. If the chart is to be part of a report which is to be printed out in black and white then the chart should be as simple possible.

Using 3-D charts can be very striking but can also be very hard to extract information from. This can be a great way of obscuring the real data and at the same time giving the impression it means something. 3-D charts are particularly useful in presentations where the viewers can only appreciate changes. In documents, 3-D charts can be infuriating if you do not have access to the original information. It is also much harder to read information from a 3D chart. For example the chart below is a 3D version of the monthly sales chart given previously:



Jargon Busters

Axis: this is the dimension on which the image created from the data is placed. These usually have values which let the reader see the meaning of the chart. For example there may be quantity on the vertical axis

Chart: a pictorial way of representing spreadsheet data

Integrated package: software program which comprises at least three separate modules, eg word processing, spreadsheet, database

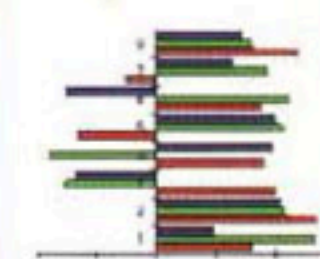
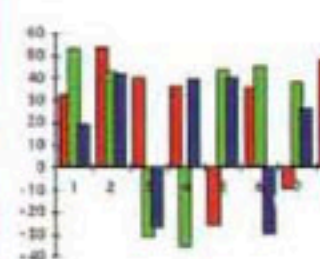
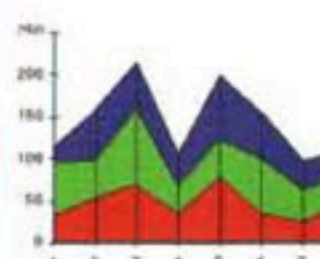
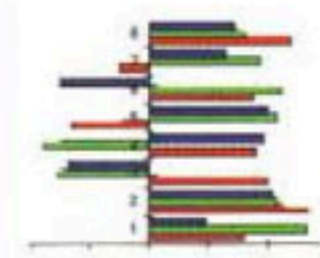
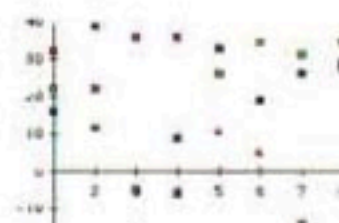
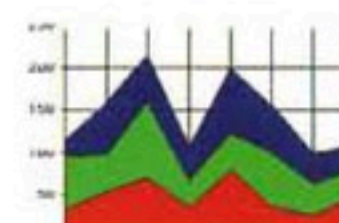
Legend: the little box on a chart that explains the symbols is called a legend

Marker: you can use a marker to show the position of each data point in a chart

Point: this is an individual place on a chart and usually corresponds to one cell on the original spreadsheet

Scale: the list of numbers or dates that is placed along an axis

Series: a collection of points which make up the chart



Good value databases

There's no need to dig deep in your pocket if you need a database – an integrated package is affordable, available and even preferable, as Jack Weber explains

There's one easy way to recognise a true Mac veteran: ask them what they remember about *Jazz*. Anyone who begins to ramble on about Dizzy Gillespie or Humphrey Lyttleton is a fraud. The true Macintosh pioneer will gaze misty-eyed into the distance, then mutter something like "Shame about *Modern Jazz*."

Jazz, you see, was the first ever integrated package for the Mac – an innovative blend of word processor, spreadsheet, database, graphics and communications software. In 1985 it cost a wallet-wrenching £495 and was the most talked-about software of its day – more talked about than bought, unfortunately. Its successor, *Modern Jazz*, was talked about even more, but nobody at all bought it because it was never released. It was the first major vapourware product for the Mac.

Today, things are very different. Integrated software is affordable, available and ambitious. It even gets upgraded more reliably. In fact, integrated packages are often the first, or even the only, contact that many users now have with a real database. So, how good are they?

Do these programs really offer value for money, or are they just demo versions for the expensive stuff?

Fab four

There are four main contenders to choose from – *ClarisWorks*, *GreatWorks*, *Microsoft Works* and *WordPerfect Works* (clearly, the ability to think up imaginative names died along with *Jazz*). Each of them includes a database module, together with the traditional mix of word processor, spreadsheet, graphics and comms. Some provide outliners or a choice of draw or paint graphics.

There are different ways of looking at integrated software and different reasons for choosing it. You may simply want a bumper bundle of separate application modules, some or all of which you will use as the need arises. If you're strapped for cash, memory or hard disk space, then an integrated application makes excellent sense.

Without exception, these programs are very good value and cram more features into less space than just about any other type of software. They're also easier to

Entry Options for Number Field "Check No"

Auto Entry

☐ No auto entry

☐ Data

☐ Variable

☒ **Serial number**

next value

increment

Verification

Verify field value is:

☐ Not empty

☒ **Unique**

☐ Range

from

to

Input List

☐ Pre-defined list

☐ Only values from list

ClarisWorks 2.0

In the integrated stakes, *ClarisWorks* is the market leader. Its database module bears a clear resemblance to its stablemate *FileMaker Pro*. What you lose are look-up links between files, on-screen buttons and the scripting commands (though a macro recorder partly makes up for that). Layout and reporting features are particularly good, and this new version of *ClarisWorks* adds facilities for auto-entering data and for data validation.

There are also general improvements such as a Short-Cuts palette which gives you buttons for common commands in each module. The whole business of importing databases from other applications has also been much improved. The main shortcoming is that you cannot create picture fields, but the overall impression is that Claris has tried to pack in as much as it could without seriously undermining sales of its dedicated applications.

Ease of use	92%	Features	96%
Documentation	96%	Value for money	96%

Overall rating **95%**

Calculation Formula

Result Type:

Formula for: Age

=

Function Type: ☒ %P

Functions

FALSE()
 FIND(findText,withinText,startCharacter)
 FIXED(number,decimals)
 FY(rate,nper,pmt,pv,type)
 HOUR(serialNumber)
 IF(logical,trueValue,falseValue)
INT(number)
 IPMT(rate,per,nper,pv,fv,type)
 IRR(range,guess)

Database Fields

Item
 Date
 Value
 Serial Number

GreatWorks

Symantec's *GreatWorks* has a fairly basic database module. You can specify a serial number to increment automatically with each record and also test for unique values in a field, but there are no other facilities for auto-entry or data validation. Five different summary functions are provided, yet they are poorly implemented – summary fields don't update automatically when you add or modify data and you cannot include sub-summaries in reports.

On the plus side, the layout facilities are good and, unlike both *ClarisWorks* and *Microsoft Works*, *GreatWorks* does allow you to define picture fields. If all you're after is an electronic card index, then *GreatWorks* does the job and may be fine, but it could do with some improvement.

Ease of use	76%	Features	86%
Documentation	92%	Value for money	82%

Overall rating **84%**

learn, so they're well suited to anyone who hasn't worked with computers before.

Alternatively, the integration itself may be what is important. If you regularly need to produce documents that combine text with database reports, charts and spreadsheet tables, then it will often be easier to use an integrated program than a collection of separate applications. But you'll need to compare carefully – some programs do this better than others.

On the merge

Mail merge is another good reason for looking into integrated packages. Although just about any combination of word processor and database can do the job, they can't provide the built-in links that you get in all the integrated programs.

With separate applications you have to export data in the form of text, bring this into the word processor and then enter field names into the document by hand. Finally, you'd do a dry run to check that everything was merging correctly.

Integrated merging, on the other hand, involves nothing more

complex than selecting field names from a list. And you're safe in the knowledge that it will work first time. What you lose is access to some of the more advanced options, such as conditional merging, but, if simple mail merge is a regular need, then an integrated program is likely to provide the easiest solution.

More advantages

There are other less obvious areas where integrated programs may have the edge. For example, because the database and spreadsheet modules normally share the same set of functions, you tend to get a wider than average choice in the database (*ClarisWorks* has 89 database functions, compared with 61 in *Claris' FileMaker Pro*).

Another possible advantage is

that it is easier to produce graphs from your data. Very few database applications provide any charting facilities, so you need to export the data into a spreadsheet. That's still the case with an integrated program, but at least the spreadsheet is more readily accessible, and available at no extra cost.

All four of the *Works* programs provide a straightforward flat-file structure that's well suited to tasks such as maintaining customer lists, keeping track of expenses or putting order into research notes. They may lack some sophistication, but for home users, students and small businesses they really are hard to beat. And even if you do decide to move up later to a full-blown database, you'll still have all the other modules thrown in for free. **mf**

Where to get it ▼			
Package	Available from	Phone no	Price
WordPerfect Works 1.0	WordPerfect	0932 850505	£141
Microsoft Works 3.0	Microsoft	0734 270000	£170
GreatWorks 2.0	Symantec	0628 592222	£170
ClarisWorks 2.0	Frontline	0256 20534	£229

Jargon Busters

Data validation: any means of checking data as it is entered to ensure that it matches some pre-defined criteria

Flat file: a database that's organised like a simple card index with one sequence of similar records

Integrated program: not just a collection of separate mini-applications, but a 'shell' which allows you to use different application modules together and through a common interface

Filter: a set of criteria used to select, or filter, records from the database file

Summary: a field whose value is derived from all the records in a database. For example, the total of amounts outstanding in an invoice file, or the average of ages in a staff file. A sub-summary is the same sort of thing but based on sub-sets of the records. For instance, the staff file may be sorted according to department with a sub-summary count of the number of staff in each



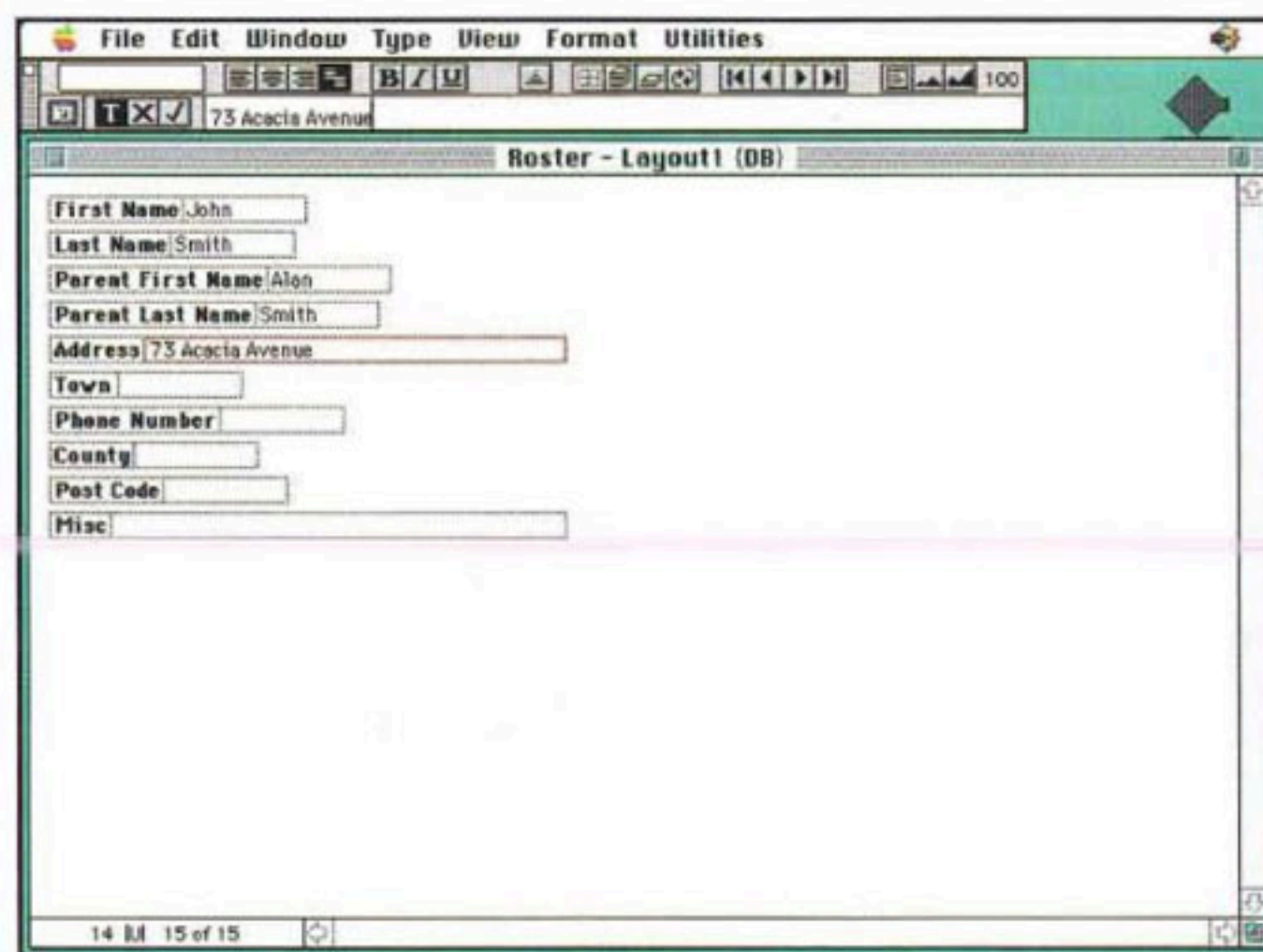
Microsoft Works 3.0

For many years after *Jazz* disappeared, Microsoft *Works* was the only integrated program on the market. By the time the competition had arrived, it was looking decidedly moribund. Now re-vamped as version 3.0, it has a host of new features and a slick new interface. Purists may object to the slightly non-Mac appearance, but it's certainly distinctive and easy to use.

The use of a floating navigation palette is not original (*GreatWorks* had it first), but Microsoft's version is particularly neat and includes one excellent feature – a pop-up list of selection filters. These are combinations of search criteria that you can name and save for future use. They provide a simple way of extracting frequently-needed information, such as all customers with accounts more than 30 days overdue.

Ease of use	88%	Features	80%
Documentation	86%	Value for money	85%

Overall rating **85%**



WordPerfect Works

Previously called *BeagleWorks*, this program remains unaltered. The biggest problem in the database module is designing decent layouts. There are no drawing tools, so all you can do is position fields and labels and paste-in background graphics produced separately in the Draw or Paint modules.

WordPerfect *Works* does include picture fields, but there are no facilities for auto-entry or for data validation. Report summaries are limited to totals and sub-totals, and you have to deal with a needlessly complex dialogue box to define them. Overall, this program does have quite a few good points but few of them apply to the database module.

Ease of use	82%	Features	70%
Documentation	78%	Value for money	74%

Overall rating **76%**

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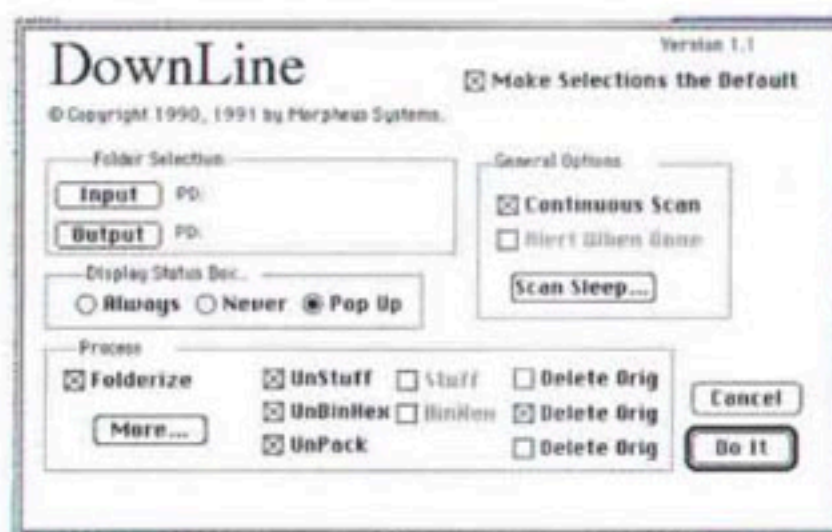
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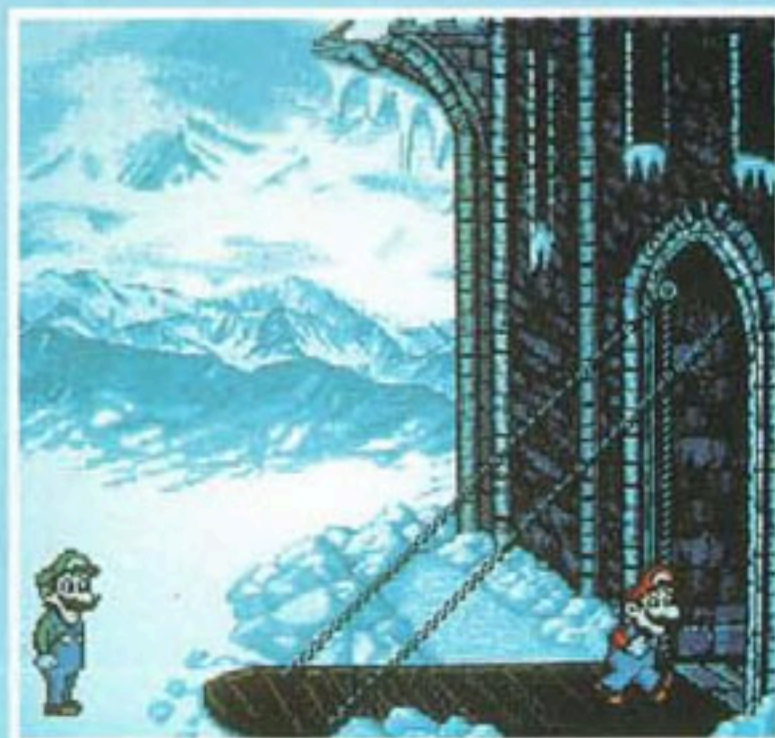
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GAMES PREVIEWS

Kellie Simmons brings news of what's up-and-coming in the world of Mac games



Plumb deal

Mario, the short Italian plumber of Nintendo fame, knows when he's on to a good thing, and so does Mindscape. It's just secured the rights to feature the world famous character in a series of its 'edutainment' products (industry spiel for a game that you can learn from).

Mario is Missing is the first in the offing and is due for release in September. It features Bowser and Koopas, a couple of crims and arch enemies of Mario. The little tykes decide they're going to kidnap Mario and steal the world's treasures. This is, quite frankly, neither big nor clever and as Luigi, Mario's baker brother, it's your job to stop them.

Mindscape 0444 246333



Sony takes over Psygnosis

Psygnosis, the company which publishes *Lemmings*, has been bought by Sony Electronic Publishing, part of the humungous Japanese Sony Corporation.

So what? Well, one of the reasons that Sony found Psygnosis interesting was because it has put a lot of effort into writing for CD formats.

Psygnosis is, for now, concentrating on CD-ROM games for formats other than the Mac (although a lot of the games graphics have been done using our wondrous machines) and has already produced two titles.

A guy from Psygnosis told me that there probably won't be anything out on the Mac for another year or so (which generally ends up meaning two years). Thought I'd tell you anyhow.

Psygnosis 051 709 5755

Stateside

Just a few snippets from the US:

■ *F/A-18 Hornet* from the Graphic Simulations Organisation, is yet another

fantabulous flight sim involving an F/A-18 Hornet, and many a scenario.

■ *Oh No! More Lemmings*. 100 levels, sounds to tap your toes to, more complex graphics to gaze at and

it's probably gonna take a long time to hit the UK.

■ *Total Distortion* is a music video adventure game on CD-ROM, promising exciting happenings set in a 3D animated world.

In a nutshell...

■ *V for Victory III* from Electronic Arts follows in the footsteps of the previous two award winning computer wargames, this time recreating the events at Arnhem in 1944.

0753 549442

■ Check out *Iron Helix* from Spectrum Holobyte. It's an action-packed sci-fi game and the mission is to stop a doomsday weapon called Iron Helix (funnily enough).

Softline 081 401 1234

■ *Hoorah! Monkey Island 2* is here. Find the treasure of Big Whoop before LeChuck finds you!

US Gold 021 625 3366



Mac GamePad

The Mac GamePad from Advanced Gravis is the first one of its kind.

A control pad and joystick in one, GamePad is light, colourful and easy to use. It features such delights as a removable joystick, which is a tad small so I was worried about losing it in the mountain of rubbish on my desk. I could go on for ages but for lack of space, so I'll just say it's fab.

£43 Zye Technology 0293 538666



Indy comes to the Mac

Indiana Jones and the Fate of Atlantis is, I guess, the sequel to *Indiana Jones and the Last Crusade* from LucasArts.

Indy is out to discover and explore Atlantis, but hot on his heels are a mean bunch of no-good Nazi agents who want to crack open the powers of Atlantis on an unsuspecting world. It's an adventure game so, hey, expect to see some action-packed gameplay.

US Gold 021 625 3366

Game reviews in this issue

This month's reviewers have taken to the skies, visited another planet, got lost in puzzland, gone absolutely potty playing pinball and got on the tracks to do a bit of train spotting. Check out the latest games...>>>

Falcon MC

After-burners on full for the Top Gun-mungous new flight sim from Spectrum Holobyte

page 58

Eight Ball Deluxe

Go flipper flicking mad! The first in a series of pinball classics from Amtex is tested to the hilt

page 60

S.C.OUT

Cruise around a martian 'puzzle' base dodging traps and sussing out loads of obstacles

page 60

A-Train

Our reviewer started with a bit of land and a bank loan. Wanna know the result? Better turn to...

page 62

COGITO

A one-player puzzle game with 120 levels of er, different shaped puzzles to complete

page 62



The page where Mac games players can offer hints, tips and advice to each other. This issue includes *The Tinies* passwords

page 64

FALCON MC



Here's today's mission, detailed on a map that zooms in if you need an even closer look at green turf. Okay, so I might end up dead, but it beats the hell out of clerical work or light manual labour



Such a shame that all this technology is aimed just at killing people, but then again a microwave oven or Sony Diskman wouldn't do much to a tank, apart from maybe scratch the paintwork

Despite howls of protest from all you pacifists out there, I'll state that a couple of goes at this game will have you believing that travelling at Mach 2 and blowing people out of the skies with Sidewinders is a truly worthy and noble venture. Two, maybe three goes, and even Mother Theresa would be foaming at the mouth and mulling over the relative merits of GBU-15 'Smart' bombs against the lighter (but less destructive) Maverick air-to-ground missiles.

Falcon MC hits you with three options straight away. Firstly do you want a mission or instant flight? Go for the instant, then

choose either joystick or keyboard depending on what you've got, and ignore the hopelessly inadequate mouse option. Finally, you've got to choose the level of detail you want on the screen, which depends on the power of your machine. Smaller Macs will need the lowest detail setting for the game to run at a decent speed, but more powerful ones can have rivers, mountains and all that stuff.

Great so far, huh? No need to plough through a hopelessly complex manual, and already you're in the air, weapons primed, and masses of Russian MiGs just gagging

to be reduced to so much battlefield detritus. You've got a full complement of military acronyms and you know how to use 'em – your HUD, your TWI and, of course, loads and loads of AAMs.

Modern technology takes much of the guessing out of killing people. Information on speed, targets and altitude is displayed on your F-16's Head Up Display (HUD) and with air-to-air missiles selected, taking out a plane is as simple as manoeuvring until your radar locks onto the enemy. The HUD then signals this lock-on by placing a diamond around the plane, and all you have

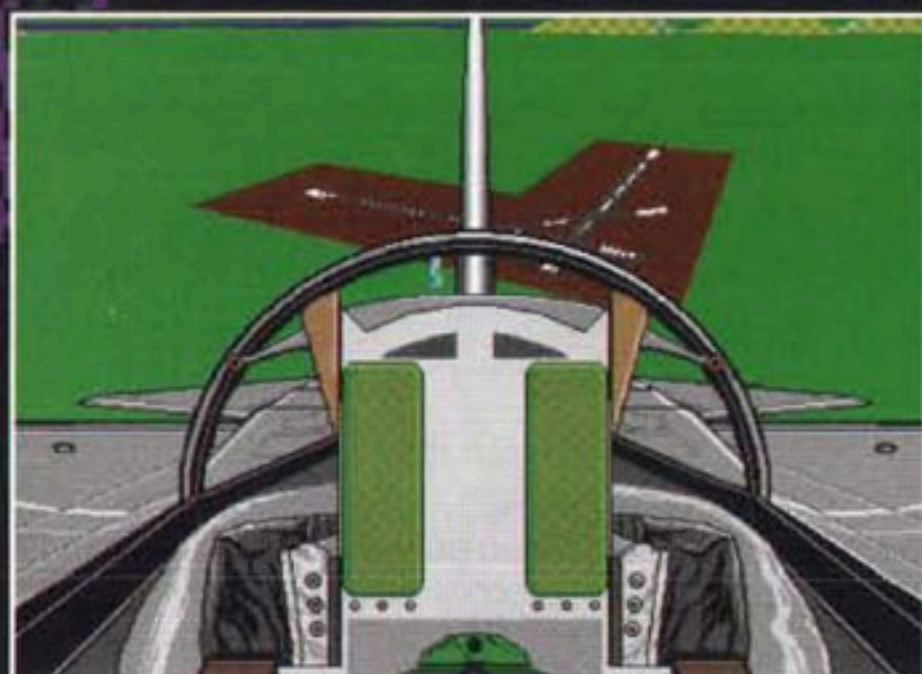
Helmeted hi-tech warrior Cameron Winstanley rains fire from the skies in *Falcon MC*



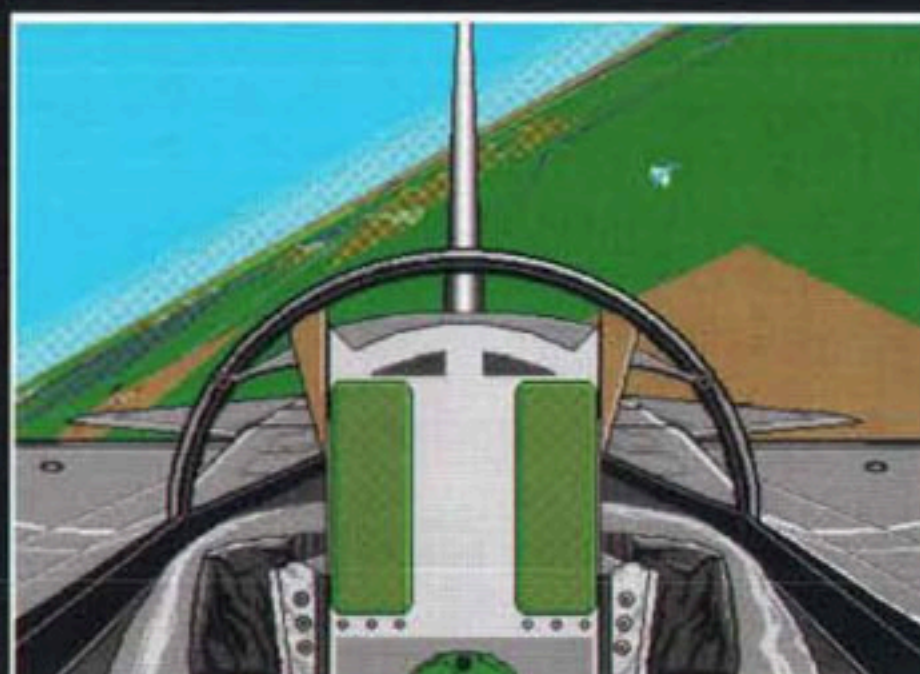
Of course, blowing up absolutely everything that belongs to the enemy is the trademark of modern warfare, so switch on your TV set and lock onto these storage containers...



...and they're away. \$200,000- worth of guided missiles set off to blast this expensive supply depot. As Billy Bragg once said 'War, what is it good for? It's good for business'



Off to war, and there's no one to sing 'Oh we don't want to lose you, but we think you ought to go' to you like in that bizarre movie 'Oh What a Lovely War.' Shame



Those sixth-form driving lessons pay off in the strangest situations. When that instructor impressed the importance of using mirrors, I bet you never thought it would save your life



This is more like it, wait until you can see the reds of his eyes, and then let rip with some potent symbols of the Free West. Chew heavy calibre death, Ivan!

to do is let rip. When this gets to be second nature, you can switch to cannons and try the more traditional mode of dogfighting, but even here the HUD gives you a hand by showing you where the bullets would go if you decided to fire. It's nice like that.

The fact that the other side also has all of this technical wizardry throws a fairly large spaniard in the works as far as your plans of world domination are concerned, but hey, where would the fun be in unopposed aggression? Once you've practised air combat, you can brush up on the pleasures of ground attack, and then you're ready for a proper mission.

There are twelve of these, and together they form some sort of narrative. You're in the role of an American pilot stationed in some far-off dust blown country that's under attack. If you play through all the missions, you slow the attack, halt it, and then push the forces back to their own country, wrecking its infrastructure along

the way. This story provides all manner of varying missions, which are all based around ground targets. There's tank units and truck convoys to destroy, bridges to blow and factories to reduce to piles of smoking ruins.

Okay, so maybe I'm getting wrapped up in the same jingoistic frenzy that I was trying so hard to pour scorn on, but *Falcon* hit me like that. It's one of those games with a perfect learning curve, so every time you get used to a feature, like using navigational way-points for instance, there's some other feature for you to learn. After a few days of playing, I've only just found that there's a black-box feature that records your flight path three dimensionally. All this, and I still haven't mentioned the head-to-head option.

Yes, get a fellow Mac user, and you can try and shoot them down. Two player games are always fun, and with such a complex (but never complicated) system as this one, those evenings will, quite liter-

✓ Right on target:
Smoothly updating graphics, great gameplay and the ability to adapt the game to the power of your Mac

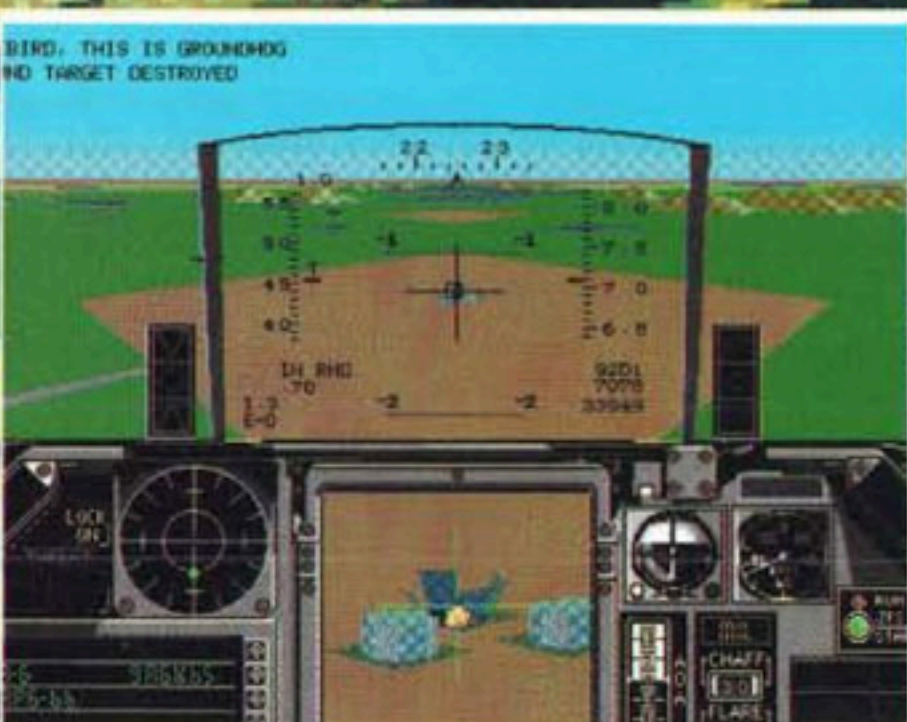
✗ Missed by miles:
Finite number of missions

ally, fly by. There's always the problem of judging whether games are worth their huge price but I reckon you're going to be playing this one for ever.

And finally, to all you slow readers out there who haven't already worked it out, I like this game.

Falcon MC is £59 available from Softline, phone 081 401 1234

Mac Format rating **87%**



Providing you're flying low enough, you can fly right through the flames just like Buck Rogers always used to do in that dire early 80's TV series that starred Gil Gerard



A good way to make life easier is by taking out these SAM sites. That's 'surface to air missiles' if you didn't know, and they're more trouble than a termite ridden wooden leg



Finally, to complete the total swathe of destruction on air, land and sea, drop something large and undeniably fatal on one of the hovercraft that delivered the tanks to your shores

Eight Ball Deluxe



Amtex Software/£46 Requires: System 6.07 or higher, 256 Colour monitor, 4Mb RAM. Supports System 7, all Mac models with 256 colour capability or 256 shades of grey. Controls: mouse and keyboard



By Kellie Simmons

The A,B,C,D roll over lanes: you can score 25,000 points here if you hit the A and B roll overs in the top lane. Once you've done that you'll need to aim for the C and D roll overs. By doing this two bank targets will drop, lifting the value of the corner pocket and increasing the right lane light to 20,000 points the first time you hit it



Just one more go, just one, pleeeaaase. This one's got to be my highest score yet!

Yep, *Eight Ball Deluxe* may not have much to it but it's certainly addictive. It's incredibly realistic. All I needed was a pint and a packet of crisps resting on top of my Mac and I would have really felt like I was playing pinball in my local pub. But that's me. Relate it to your own experience. If you used to be a pinball wizard as a student then you'll feel like you're back at the bar, digging into your pockets and pulling out fluff, gunk

and a few coins for minutes of magic flipper clicking.

Wherever you used to play pinball, this game will bring back the memories, and if you didn't, hey you really are missing out on something. *Eight Ball Deluxe* is the kind of game that really lends itself well to the Mac. No fuss, not too many controls, all you need to do is master the game and you'll be playing for hours.

There are masses of details on screen, the only burden being that they are a tad too small to notice what score they can give you.

The eight ball: you're advised to hit

Rack 'em up!

Eight Ball Deluxe can be played by anyone – you don't need to be a pinball expert, everything's very simple and there aren't that many keypad controls: [command] [C] – coin drop, [command] [N] – new game, [Z] left flipper/right flipper and [return] pull back plunger.

Once you're actually playing the game you can use to space bar as a nudger. But take care not to nudge too many times because you'll tilt and that'll be the end of the game.

If you want to pause the game you need only click the mouse button and if you want to resume, you just need to scroll up to the menu bar and select 'Resume Game' or press [command] [R].

By Kellie Simmons



This is actually the intro screen of *S.C.O.U.T.* Impressive huh? Wish I could say the same about the rest of it

S.C.O.U.T.

Price: £47 **From:** Softline 081 401 1234

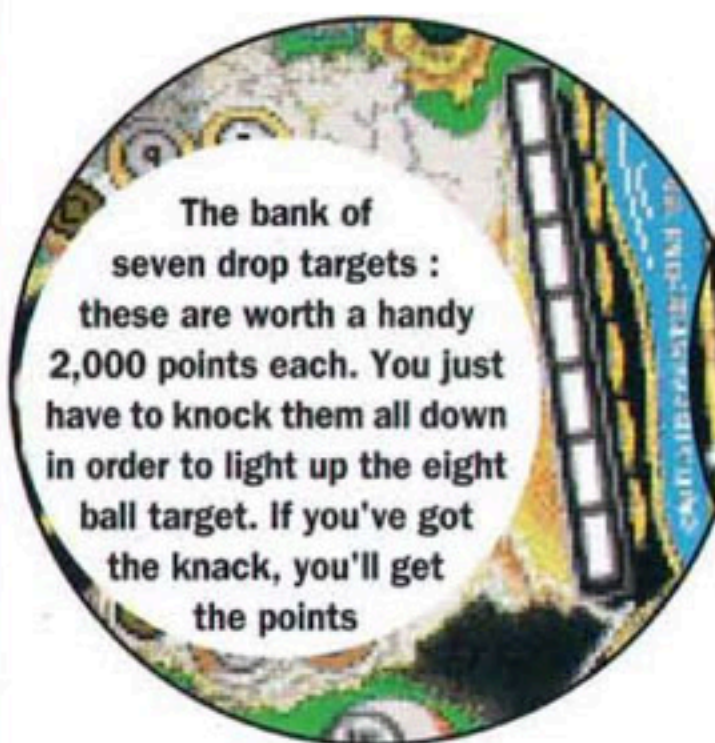
Requires System: 6.0.5 or later (2Mb RAM for system users and 3Mb for System 7), colour monitor (256 colours)

Controls: keyboard and mouse

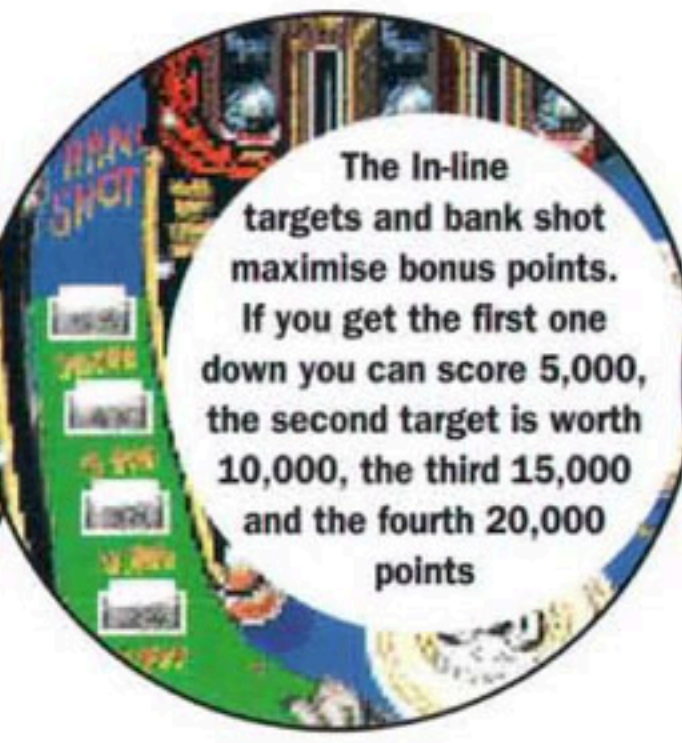
S.C.O.U.T. is what the industry calls a puzzle/arcade game. It's set in the 21st Century. The action takes place on a martial base called Dykneed which has been deserted for a few years and some men and a couple of probes have mysteriously

disappeared. Enter *S.C.O.U.T.* which is controlled by you. *S.C.O.U.T.* stands for Star Clean Out. It's a remote controlled tank with a mission to cruise Dykneed and get rid of the enemy – and you've got 100 levels to cover.

On first entering the game, it's a little difficult to suss out what each graphical gadget does. The pamphlet that comes with the game is, quite frankly, cack. It proceeds to tell you the whole story surrounding the game. My advice is get used to the controls, cruise the first level and find out for yourself what each thing does. Graphics-wise, this is nothing to write home about, but the 'funky' music and the sound effects are the best points.



The bank of seven drop targets : these are worth a handy 2,000 points each. You just have to knock them all down in order to light up the eight ball target. If you've got the knack, you'll get the points



The In-line targets and bank shot maximise bonus points. If you get the first one down you can score 5,000, the second target is worth 10,000, the third 15,000 and the fourth 20,000 points



The corner pocket: once you've hit all eight targets (the rack of pool balls) if you hear the words 'rack-em up' then you've sunk the pinball into the corner pocket. The drop targets will come back up ready to be shot at again



The roll over button in the side lane: If you hit the first you get 500 points, 10,000 for the second, 30,000 for the third, 50,000 for the fourth, and extra ball for the fifth, 70,000 for sixth, special for seventh and 70,000 points for eighth

WHAT THE TEAM THOUGHT

Stuart

I spent a significant proportion of my student career (and grant) sinking the eight ball, corner pocket, and was itching to get my hands on this game since I saw a beta version in January. It is no disappointment – a perfect simulation, with the difficult shots just as hard and the annoying quirks (like the ball running straight out between the flippers if you hit the eight ball too slowly) all present and correct. With games lasting about ten minutes, it's the perfect coffee break pastime. Indispensable.

Andy

It took me about three weeks of pinballing during spare moments, like waiting for lasers (honest boss), to achieve my unequalled-as-yet 5,252,000 score on the office Quadra.

The trick is to trap the ball and go for those long bonus channel shots. This is much as I remember the real things from hanging out in arcades when I was 13. Except in real pinball the action's in the wrists and shoulders – your fingers just carry their responses. So on a Mac it largely comes down to the speed of the machine.

Louise

When I wasn't at my Mac trying in vain to beat Andy's high score, I was wandering around the office telling everyone how good it is. I hadn't played on a real pinball machine for ages, until I got hold of *Eight Ball Deluxe*. The keyboard controls take a teensy bit of getting used to, I much prefer using my newly acquired Gravis GamePad 'cause I can continually get the ball perfectly positioned on the right flipper to hit the corner pocket. Now when I walk into my local, instead of avoiding the 'arcade' section I head straight for the pinball.

Tim

Buy me a pint, get some change 'cos I'm staying at this table all night. Marriage? Pah! Work? Pah! All that really matters is getting the silver sphere on to the left flipper with a deadball transfer and then pocketing that 8-ball for a replay. This is a wonderful game on the Mac. My only criticisms are that you can't customise the keys – I much prefer the shift keys to [Z] and [/] – and that the angle of the table is a little flat. Other than that, it's all there in fabulous 256 colours (and greys). Don't buy it if you ever want to work again.

this after you have sunk the rack – that's why you may hear a voice saying 'sink the eight ball'. Once you have, then you activate the deluxe spot targets and lift the scores in the right lane. The spot targets: these are behind the drop targets. You score 3,000 points for every spot target hit. If you hit them all you get another 50,000 points.

Game play

Amtex says its product strategy is to come as close as possible to traditional pinball. There's no doubt about this. When you first enter the game there's nothing major about it. It's just a pinball game on a screen with limited controls. 'So

what?' was my first initial reaction. Minutes later I couldn't stop playing. However, the only disadvantage is that the pinball board is a tad too small. There are so many details that you miss out on because they're just not big enough on screen. So you really need to read your manual to find out which parts of the board score the highest points. The sound is incredibly realistic, from the flicking of the flippers to the sound of the silver ball rolling around the board.

Eight Ball Deluxe and indeed, all the other pinball games set for future release will suit everyone. It doesn't matter how old or young you are, you'll love it. It's extremely addictive and never boring.

✓ **Flippin great:**
Totally and utterly addictive – you'll never get tired of it.
Great sound effects – listen to that silver ball roll

✗ **Flippin 'eck:**
Shame about the board size

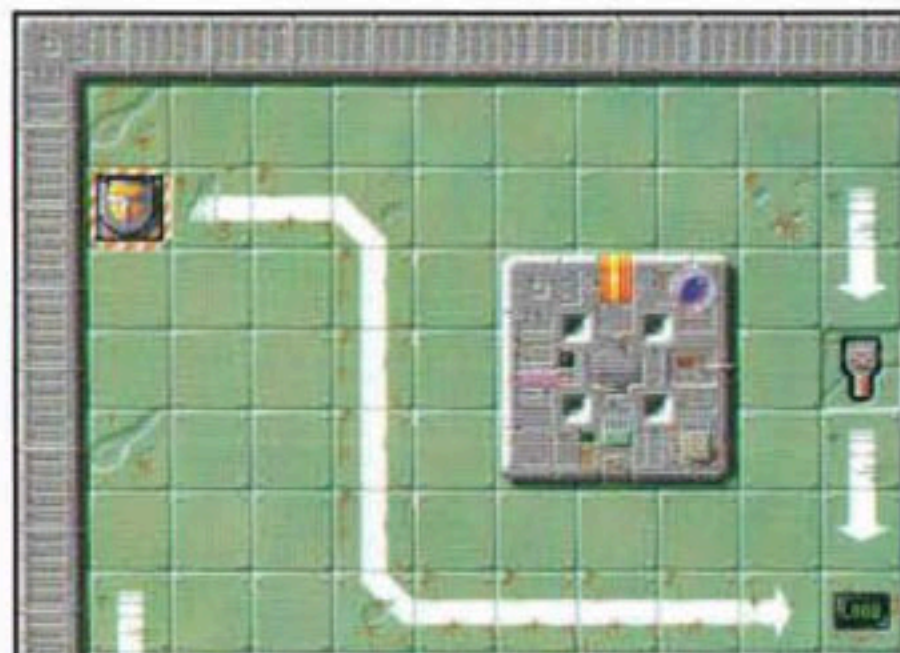
Mac Format rating **95%**



✓ **Mission accomplished:**
The picture on the packaging looks nice
Sound effects and music good

✗ **Mission aborted:**
Not exciting enough to make you want to hit the next level

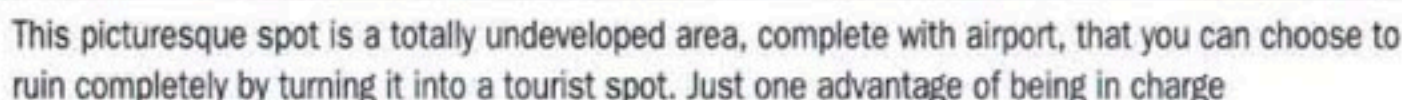
Mac Format rating **55%**



Watch out for that stripey, worm-like thing in the top right hand corner. It'll kill you if you walk into it



A few levels later and things get a little more interesting; grenades, traps and a slimy green 'snot' in the corner



**Become a total trainspotter
and build your own city
with Bob Wade**

Coming from simulation specialist Maxis you would expect *A-Train* to be a detailed and absorbing simulation of running a railway – and you'd be right. However, it's got even more because it's a cross between a railway game and *Sim City*.

Requires: 1Mb RAM or 1.5Mb RAM under System 7 (mono), 2Mb RAM or 2.5Mb RAM under System 7 (colour), hard drive, System 6.0.5 or later.

Balance Sheet			
Assets		Market Value	Property Tax
Railroad Assets:		9,951,100	476,000
Subsidiaries:	26	17,304,570	865,220
Stocks:	10,000	6,792,000	339,660
Real Estate:	61	253,360	11,675
Total:		35,051,172	1,692,555
Revenue			
Railroad Operation:		242,641	
Subsidiaries:	105,256		
Subsidiary Sales:	743,720		
Stock Sales:	0		
Real Estate Sales:	0		
Stock Dividends:	0		
Interest Income:	0		
Total:		1,099,297	
Profit/Loss:	865,890		
Cash:	1,928,395		
Expenditures			
Railroad Operation:			106,738
Subsidiaries:			69,290
Subsidiary Purchase:			0
Stock Purchase:			0
Real Estate:			4,800
Commissions:			24,874
Interest Paid:			0
Total:			205,702
Income Tax:			441,945
Total Tax:			2,184,500

[illegible]

maps, each one being about four screens in size and viewed in isometric 3D. The maps have differing levels of train network and city development, but in each case your task is the same – to build up both the network and the city and make stacks of cash in the process.

same. It certainly keeps you coming back for more, just to see how a different set-up will work.

There are lots of different types of train to choose from, although you'll probably only end up using two in the end – the top of the line models for carrying passengers and freight. However, it's nice to play around with the others in some instances and along with the comprehensive manual and detailed background information, it all makes the game seem well researched and well presented.

Once you've got the hang of playing around with the trains you can get on with building your city. Some scenarios let you build them from scratch, while others give you a large existing city and train network which you have to knock into shape.

The first Mac games were brain-teasers; Stuart Anderton sees how far we've come in ten years...

nine grid is filled with coloured squares arranged in a pattern, and then scrambled by the computer; your task is to restore the pattern.

This starts out simply enough: arrows by the side of each row and column shift the contents along one square and a minute or so's clicking puts the pattern back where it started. Then *Cogito* makes it harder for you by making the arrows act less simply. One click moves the row two units. Then it moves the row backwards. Then it moves two rows at once. It moves a different row to the one you've clicked. It moves one row and one column. It moves just part of the row. At the same time the

A 10x10 grid of 100 squares, each containing a different colored sphere or square, surrounded by a decorative border of yellow triangles. The grid is composed of 10 rows and 10 columns. The objects within the squares are: Row 1: Dark blue sphere, Light blue sphere, White sphere, Yellow square, White sphere, Red sphere, Dark blue sphere, White sphere, Dark blue sphere, White sphere. Row 2: White sphere, Green sphere, Dark blue sphere, Dark blue sphere, White sphere, Red sphere, Red sphere, Red sphere, Green sphere, White sphere. Row 3: Red sphere, Red sphere, Red sphere, Red sphere, Red sphere, Green sphere, Green sphere, Green sphere, White sphere, White sphere. Row 4: Red sphere, Yellow square, Yellow square, Red sphere, Green sphere, Red sphere, Green sphere, Red sphere, White sphere, White sphere. Row 5: Yellow square, Red sphere, Dark blue sphere, Dark blue sphere, Yellow square, Yellow square, Yellow square, Red sphere, White sphere, White sphere. Row 6: Dark blue sphere, Green sphere, Green sphere, Dark blue sphere, Green sphere, White sphere, Green sphere, Green sphere, Red sphere, White sphere. Row 7: Red sphere, Red sphere, Yellow square, Green sphere, Yellow square, Green sphere, Green sphere, Green sphere, Green sphere, White sphere. Row 8: White sphere, Green sphere, Dark blue sphere, Yellow square, White sphere, Red sphere, White sphere, White sphere, Green sphere, White sphere. Row 9: Yellow square, Dark blue sphere, White sphere, Yellow square, Green sphere, White sphere, White sphere, White sphere, White sphere, White sphere. The grid is surrounded by a decorative border of yellow triangles pointing outwards.

ten minutes, but then you turn it off to avoid a headache.

And that, to be frank, is it.

For £47 you get a puzzle game which while it is certainly difficult is not really very interesting. Back when the Mac Plus was the top of the range there were a lot of "brain-teasing" games like this, and although this one has added 256-colour graphics and a sound-



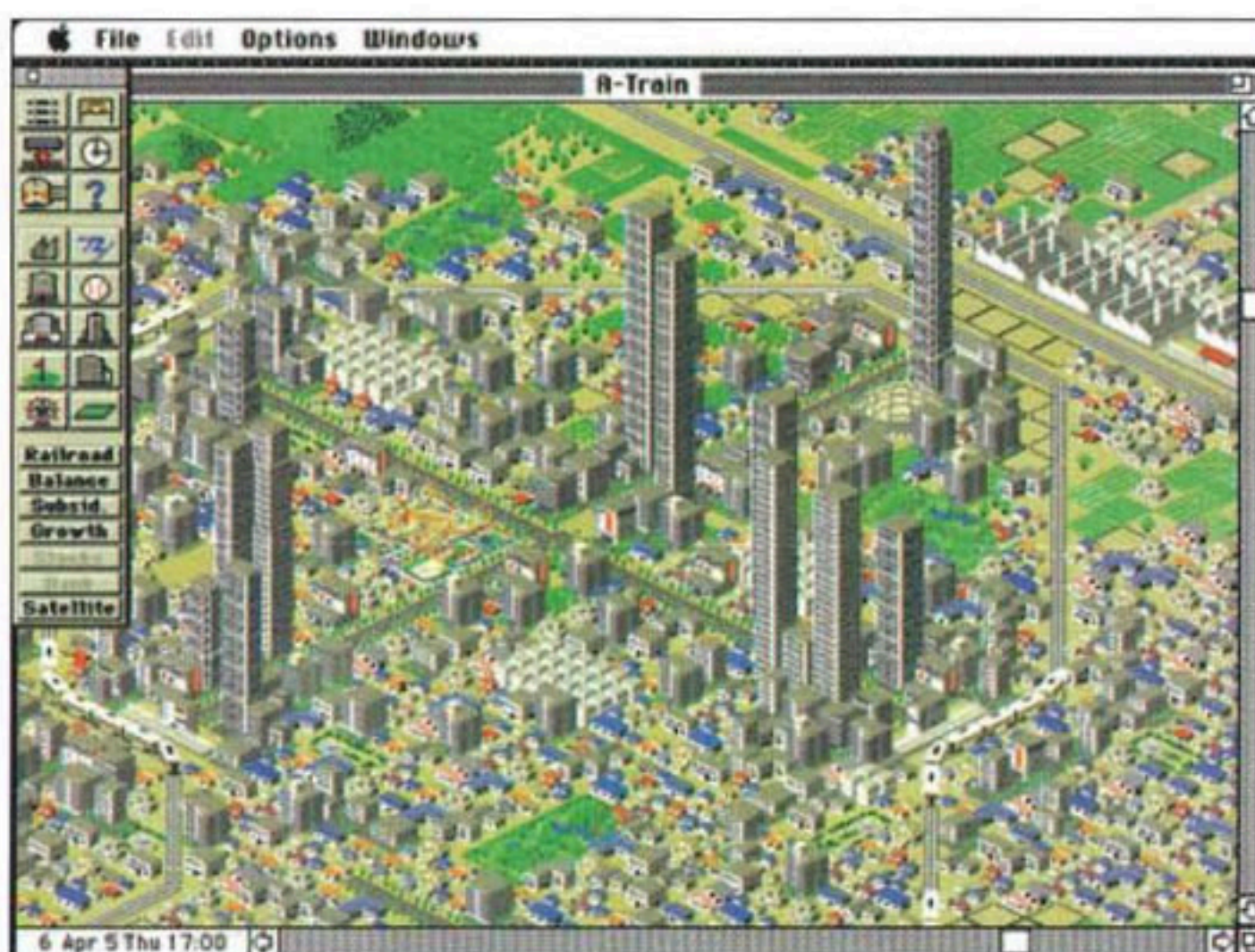
Bread heads will have a fine time dabbling in stocks which occasionally rocket and then perform suicidal nosedives

To build your city you first need construction materials and the money to pay for things. Once you've got them you can start erecting apartments and office blocks. These should start people coming into the town and building their own operations – once you've got the ball rolling the simulation keeps things going. Once the basics are in place

you can dabble with whatever you like – build hotels and department stores, move up to large skyscrapers and then start knocking up golf courses, stadiums and amusement parks. If you tire of dealing in property you can play the stock exchange or return to your first love and just keep on extending your rail network until it fills the whole map.

Graphically this is nothing special at all, but there's a certain pleasure in watching your city evolve and the trains chugging round as the days turn into nights and the seasons change. The less said about the sound the better, but you don't need it for this game anyway.

One definite gripe is that the simulation runs quite slowly, even when at maximum speed and with various slowing effects turned off. It's not a big problem because part



Mine, mine, all mine. Huge pillars of glass and concrete thrust ever skywards as your empire grows from nothing into a metropolis. If only real life were like this...

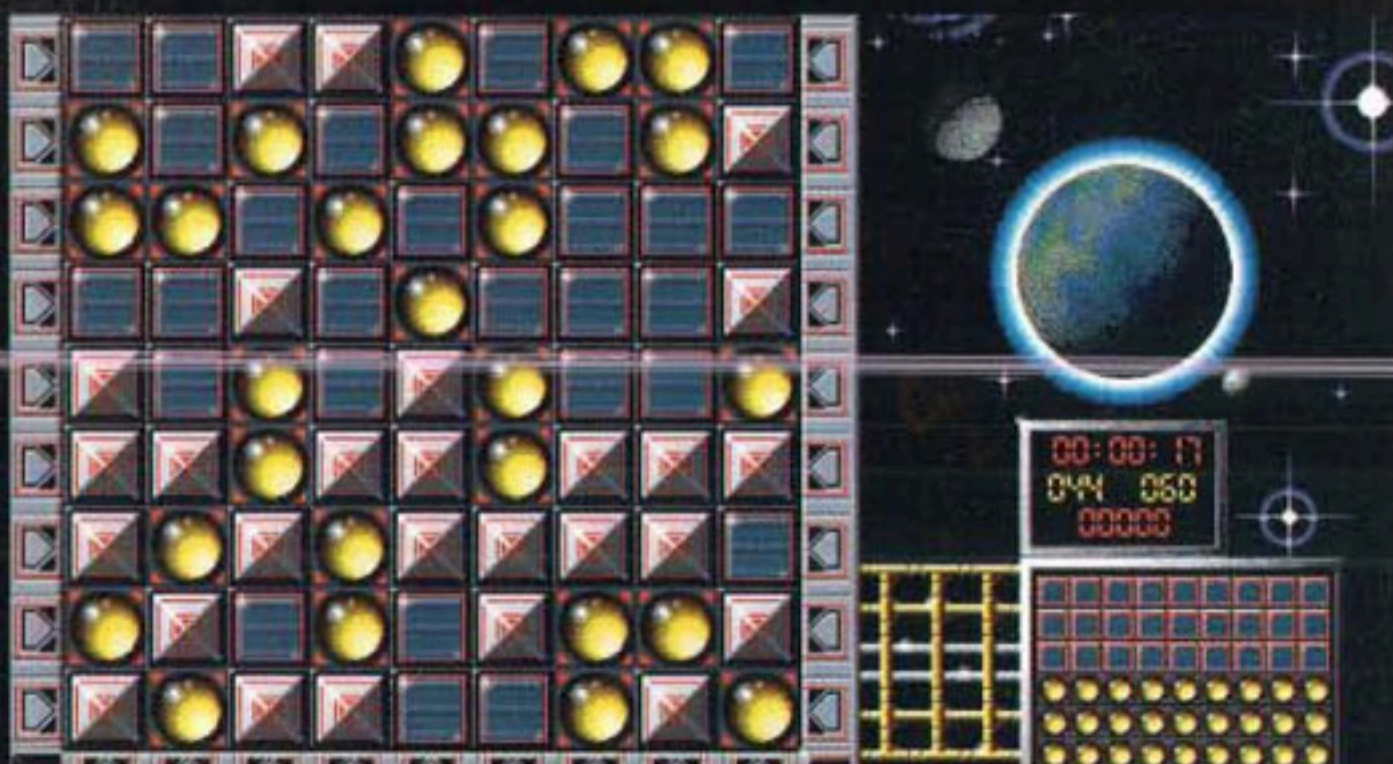
of the fun is just sitting and watching your city build, but it does prevent you making things happen quickly – you have to sit and wait for a while.

Conclusion

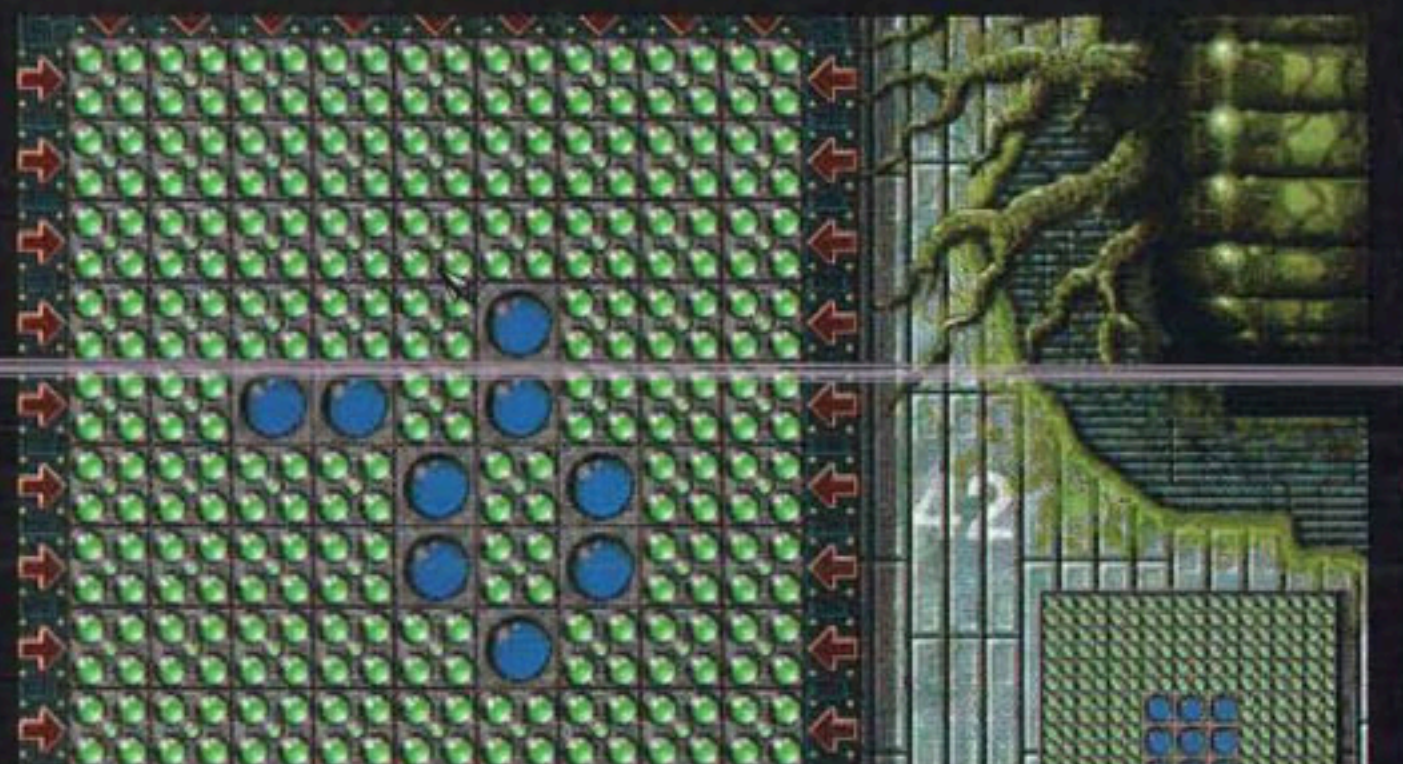
This is the kind of game you just can't help playing for hours on end – even if you're just watching things happen. There's a compulsion to see how things develop next and to tinker around creating your own

unique cities. The fascination is much the same as for *Sim City* because you can be truly creative while playing and never have the same game twice. However, you do have to put up with the relative slowness of developments and a certain lack of variety in the basic building blocks you can use.

Mac Format rating 86%



Sixty or so levels on, if you are still awake the pattern is getting more complicated



Over a hundred levels down, and if you are still going then it's really getting tough

✓ Uppers:
Plenty of levels

✗ Downers:
Lack of variety; overpriced
Distasteful backgrounds
Aims to do far more than it actually accomplishes
Gives Mac gaming a bad name

track, it is not really any better.

Unfortunately unsophisticated, overpriced games like this give Mac gaming a bad name. On any other computer a game costing this much would be a blockbuster, with years of programming work, dozens of disks and a complex and interesting gameplay, not to mention amazing sound and graphics. *Cogito* is none of these things.

This game is what it claims to be: a difficult puzzle game. If you want difficult puzzle games then look first to a shareware library, there you'll find plenty, or look at games like *Ishido* which are more challenging and cheaper.

Mac Format rating 53%

GAMEBUSTERS

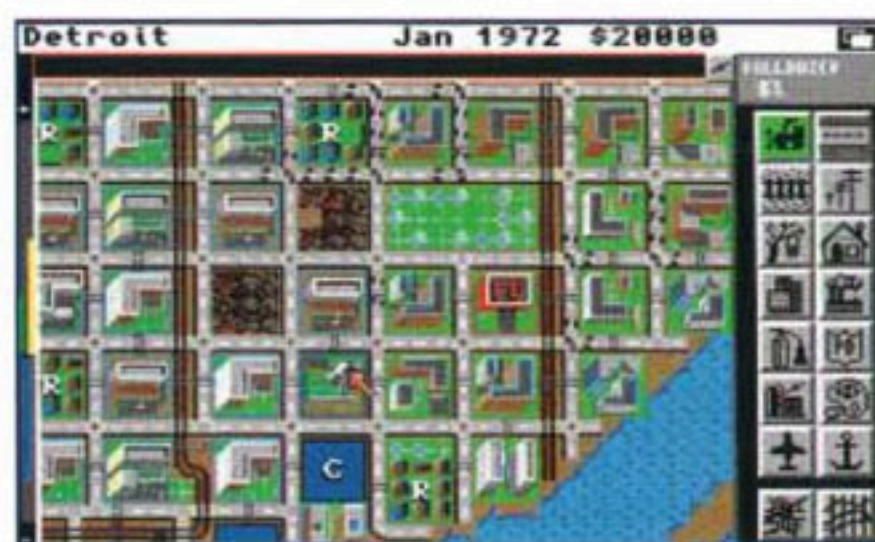
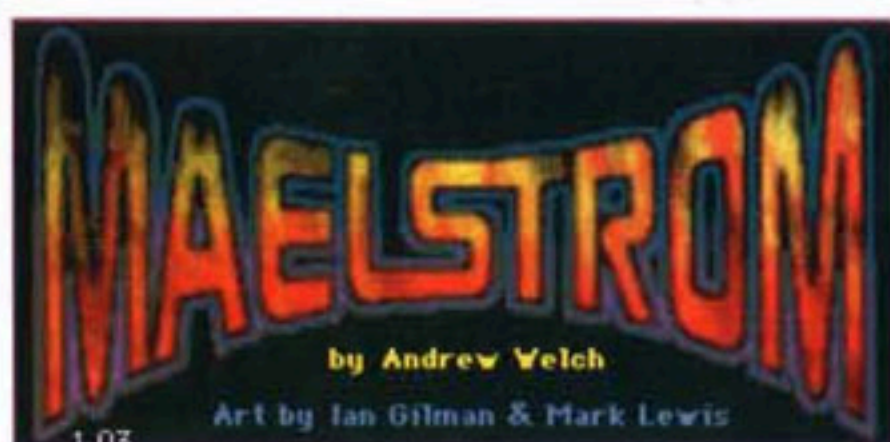
'Tis a difficult thing sometimes, trying to complete the levels of a game. But fear not, because fellow readers are generous enough to share their hard earned know-how with you. So, use this page of valuable information to your greater gaming glory...

Maelstrom

This is a handy cheat for the brilliant shareware shoot-em-up *Maelstrom*. Simply hold down the [command] key and press [L] and you can select which level you want to start on and get 'Turbofunk' which is a special speeded up mode.

Also, try holding down [command] and pressing [X].

Toby Moles, Edinburgh



Smart! A city with great tax levels. Follow the tip for *Sim City* and become an extremely rich bunny indeed

Yo Gamebusters!

Here's an excellent cheat for *Sim City*. Select 'Budget' and set the tax level at zero per cent. Put the game speed on fast and keep an eye on the months of the year.

Now build your city and people will move in

fast as they are happy with the tax levels (ie nothing!). The fun starts when your population is more than 10,000. Just wait until December and just before the budget raise the tax to 20 per cent. The people won't have time to leave before the official budget, so you'll end up with a fortune! Now you can reset the tax to zero and repeat the process until you are extremely rich.

Simon Olive

Peterborough, Cambridgeshire

PS Why doesn't **MacFormat** come out every month? Two months is too long to have to wait. PPS **MacFormat** is great! Keep up the good work.

(Gee thanks Simon, er, or should we say "Yo, respect Simon!" By the way, we agree, two months is way too long to wait, so your favourite Mac mag is now monthly.)

On Spec

In both *Spectre* and *Spectre Supreme*, there's an undocumented view. When playing, type [G], [O] and [D]. This will bring up the GOD view over the whole matrix.

Also in *Spectre Supreme*, there is a level warp. Just fire a spinner at a transport gateway and drive into it. This will make you skip five levels.

'Fredrik'

Thanks for the tip Fredrik - *Spectre Supreme*, last issue's brilliant, totally addictive cover disk demo has been giving us all a run for our money, so keep those tips coming in!



Want another great view in both *Spectre* and *Spectre Supreme*? Follow Fredrik's advice, then

Railroad Tycoon

Here is a mega tip for playing *Railroad Tycoon*. If you get short on readies, go to the regional map and hold down the [shift] key and press [4] at the same time. This will put £500,000 into the bank. You can do this as many times as you wish but once you get to approximately £32,000,000 the bank resets to £0. Don't panic, though. Pressing the combination again will continue to add £500,000. Adding these extra funds has no effect on the game, just your cash flow.

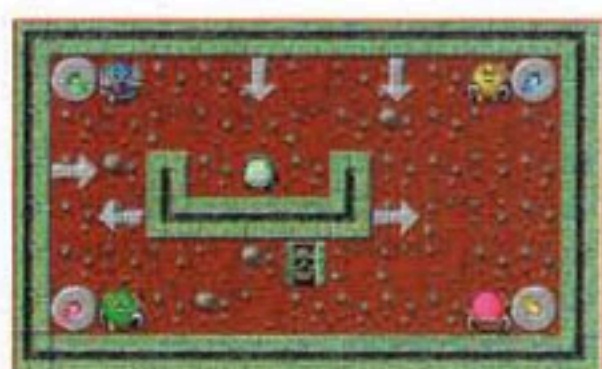
Bryan Morrissey

Colchester, Essex

The Tinies

Yep. They're mean, rude and downright arrogant, but Jon Muscott has a few tips to make *The Tinies* gameplay a little more interesting.

First, turn the music off and put a tape on the radio, then get



Geez! look at the face on that one. Use our levels for a change of scenery

down to business. (Couldn't agree with you more.)

Don't start directly on level 100 because you'll almost certainly blow up the little critters (then again, you may well want to).

If you start a few levels earlier and collect as many life-regaining eggs as possible, you'll have a better chance of completing the last level.

Jon has also supplied the passwords for every tenth level and we've decided to chip in and provide the rest. So head up - you've got some fuzzballs relying on you to save them.

Level 10 TANGVILI
Level 11 DENAJAIN
Level 12 VAMBTHEA
Level 13 UNPASUBO
Level 14 LANDPAPY
Level 15 PREPPAND
Level 16 NIFESAILO
Level 17 BROCCINDI
Level 18 BUSKPULI
Level 19 LOGIMARA
Level 20 OCTOGLAB
Level 21 TRISEMES
Level 22 CONVEJHO
Level 23 RENDCLIN
Level 24 NEGAPOLY
Level 25 PETRACCE
Level 26 SPONENCR
Level 27 LAZYHOMI
Level 28 HENDOUTH
Level 29 PAPIPEIP
Level 30 COCKSTUM
Level 31 ETHIGANG
Level 32 INLADONC
Level 33 INTEASSA
Level 34 MASTWOOD
Level 35 ABROINST
Level 36 BACKBANA
Level 37 ECLOWHIP

Level 38 GROIIIMPO
Level 39 CUBACUBA
Level 40 DECLDROL
Level 41 SIMPUNDE
Level 42 UNHUSCHO
Level 43 LEGAMURA
Level 44 ANIMCATE
Level 45 LAUGMAGE
Level 46 PALSDYSS
Level 47 BROCREVE
Level 48 PORRUNDE
Level 49 UIGUAPER
Level 50 NONHMISC
Level 51 PERUSMIT
Level 52 DYSSDEKN
Level 53 DIURGASI
Level 54 ODORCAUS
Level 55 PEASANCH
Level 56 URODEFE
Level 57 SUBBPICK
Level 58 RULASCAR
Level 59 NODUOOPH
Level 60 COBEGALE
Level 61 TROLTACS
Level 62 PEASVAMB
Level 63 XYLOWIRE
Level 64 SCUMINT
Level 65 EUGERUNE

Level 66 ERUPLOT
Level 67 MARICONK
Level 68 NURSHIP
Level 69 SNOBHOMO
Level 70 PORTCARO
Level 71 CHARGEDA
Level 72 UNNEPOWS
Level 73 POONROMA
Level 74 PREAPREP
Level 75 SAILZOOON
Level 77 HENDWOOD
Level 78 AGONUPSN
Level 79 LANDDIVY
Level 80 NICKMAST
Level 81 PICKROLL
Level 82 OUTSSPOT
Level 83 KALAACCE
Level 84 TELORULA

Level 85 WORKLAUD
Level 86 GRAIPLA
Level 87 POLOOCTO
Level 88 REPADETA
Level 89 FELDUNFO
Level 90 BADIVELL
Level 91 PATIBEEF
Level 92 TITASAUC
Level 93 PUPUNPR
Level 94 MASTERUP
Level 95 QUARFELD
Level 96 GRIFSIDE
Level 97 WHITUNNI
Level 98 ISOSNURS
Level 99 UNLIISOP
Level 100 MAUD DIB

Write now

If you have any hints, tips or cheats that you'd like to share, write in to Gamebusters, MacFormat, Future Publishing, 30 Monmouth Street, Bath BA1 2BW. You could win up to £100...

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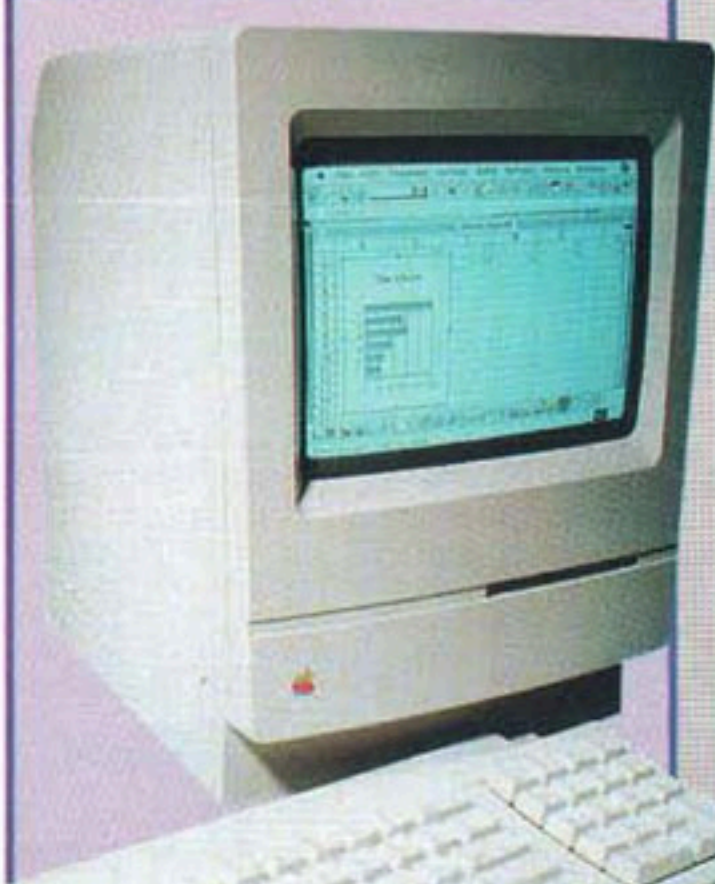


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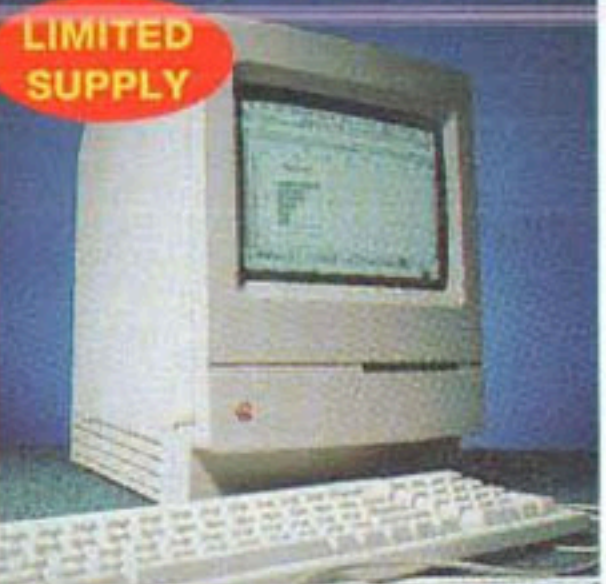
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World-wide wonders

For just £11.75 a month, you can get hooked in to the largest network of computers in the world – the Internet. Ian Wrigley tells you how...

The Internet is a network of tens of thousands of different computers, spanning the globe and being used in universities, commercial organisations and government departments. On these computers you'll find just about anything you can think of – from the latest shareware and PD to information on any subject under the sun.

There are a couple of commercial services that link you in to the Internet; the one I – and more than a thousand other people – use is Demon Information Systems. It provides easy dial-up access, and all you need to get connected is a modem and some special (PD) software.

The package that most people will use at first is a PD program which goes by the rather strange name of *KA9Q* (although many people call it *Net/Mac*). *KA9Q* is actually the radio amateur callsign of its creator, Phil Karn, who initially wrote it for Hams who wanted to use their computers for Packet Radio. Versions now exist for a range of different computers, including the Mac, PC, Amiga and Acorn Archimedes. The



Mac version is co-ordinated by Douglas Thom; loads of people have helped to port it to this platform and have made additions, and it's Douglas' task to make sure that there is one 'official' version of the program at any one time.

KA9Q isn't the easiest program in the world to get the hang of; it requires a number of external 'configuration' files which can be rather complex to set up. However, Demon users are lucky: Alan Staniforth, a Demon user since the service was set up, has written some clear, easy-to-follow documentation that takes you through the whole process step-by-step.

Getting started

Actually connecting to Demon is simple; following the instructions that Alan has written, you should have no problems getting on-line (although you should probably try to avoid the 6pm to 8pm time-slot, since that's when most people try to log on, so the lines can often be engaged). Either using a comms program such as *ZTerm*, or the *DialScript* utility (which dials your

modem and automatically sends your username and password), you call up Demon and establish communication. Then launch *Net/Mac* and its companion program, *IM/Mac* (a mail collection/sending utility) and you're ready to start exploring.

Software sources

Many people connect to the Internet just so that they can get at the vast range of PD and shareware that's stored on file servers around the world. So, first of all we'll find and download some software – as an example, we'll look for the latest version of *Disinfectant*, the popular anti-virus program.

Finding software can be a real trial: there are hundreds of file servers connected to the Internet, and the software that you're after could be stored on many, some or none of them. However, there's an easy way to find what you're looking for: a program called *Archie*, which knows about the software that's stored on most of these file servers, and can give you the exact name of the file server that you need to access. You don't need a copy of the *Archie* program yourself (the database of software takes up several tens of megabytes, so you wouldn't really want to keep it on your Mac even if you could). Instead, you access it by using a command called 'telnet', which is a kind of 'remote login' – you connect to a computer somewhere on the network that has the program, and run it from there.

There are several '*Archie* servers' around; the one in the UK is called 'archie.doc.ic.ac.uk'. If you're logging in during the evening, you should find that you can use the UK server, but during the day this may not allow you access – it will tell you that too many people are using it, in which case you might want to try a US server. To connect, you just type in the command 'telnet archie.doc.ic.ac.uk' (or whatever) at the 'net>' prompt, and a new window should appear asking you to 'login:'. At this prompt, type 'archie' and

```
File Edit Settings Windows
Telnet - archie.rutgers.edu

Host oel.rutgers.edu (137.186.128.11)
Last updated 10:51 23 May 1993

Location: /pub/wac-stuff
FILE 173568 bytes 15:02 22 Mar 1993 disinfectant30.sea.bin

Host ra.rutgers.edu (128.60.0.21)
Last updated 10:01 24 May 1993

Location: /MacSciTech/virus
FILE 237026 bytes 21:17 22 Apr 1993 disinfectant31.sea.hqx

Host ucseix.sdu.edu (130.191.1.100)
Last updated 04:07 23 May 1993

Location: /pub/wac
FILE 235696 bytes 23:46 5 Mar 1993 disinfectant30.sea.hqx

Host wuarchive.wustl.edu (128.252.135.4)
Last updated 18:39 23 May 1993

Location: /mirrors3/archive.umich.edu/mac/util/virus
FILE 241064 bytes 12:44 22 Apr 1993 disinfectant3.2.sea.hqx

Host yuma.acns.colostate.edu (129.82.100.64)
Last updated 06:44 24 May 1993

Location: /software/mac/virus
FILE 235696 bytes 16:02 25 Feb 1993 disinfectant30.sea.hqx

(END)
```

This is archie.rutgers.edu at work. Log in with the word 'archie', type 'set pager' and then search for any program by using 'prog <program name>'

```
File Edit Settings Windows
FTP - wuarchive.wustl.edu

230- wuarchive is currently a DEC Alpha RDP 3000, Model 400. Thanks to
230- Digital Equipment Corporation for their generous support of wuarchive.
230-
230-Please read the file README
230- it was last modified on Mon May 17 15:02:13 1993 - 7 days ago
230-Please read the file README.NFS
230- it was last modified on Fri Feb 19 07:40:51 1993 - 94 days ago
230- Guest login ok, access restrictions apply.
250 /mirrors3/archive.umich.edu/mac/util/virus
250 CWD command successful.
dir
200 PORT command successful.
150 Opening ASCII mode data connection for /bin/ls.
226 Transfer complete.
total 433
-rw-r--r-- 1 root archive 3226 May 20 19:16 00index.txt
-rw-r--r-- 1 root archive 17618 Feb 6 21:09 checkinstall1.00.cpt.hqx
-rw-r--r-- 1 root archive 241064 Apr 22 13:44 disinfectant3.2.sea.hqx
-rw-r--r-- 1 root archive 51 Apr 6 15:36 gatekeeper1.27.cpt.hqx -> ../system.extensions
-rw-r--r-- 1 root archive 7370 Mar 5 21:11 mactools/virusdefs.cpt.hqx
-rw-r--r-- 1 root archive 10201 Apr 24 20:04 mactools/virusdefs930422.cpt.hqx
-rw-r--r-- 1 root archive 75983 Apr 26 18:29 merrysasvaccine.cpt.hqx
-rw-r--r-- 1 root archive 2997 Apr 14 17:08 rivalinit17vaccine.sit.hqx
-rw-r--r-- 1 root archive 3592 Jan 27 18:34 rivaltrojanvaccine.sit.hqx
-rw-r--r-- 1 root archive 26064 Apr 14 17:08 sawvirusdefinitions9304.hqx
-rw-r--r-- 1 root archive 28914 Apr 24 20:05 sawvirusdefinitions930419.sit.hqx
-rw-r--r-- 1 root archive 53 Apr 6 15:36 virusdetective5.05.cpt.hqx -> ../system.extensions
-rw-r--r-- 1 root archive 7364 Jul 18 1992 virusdetective5.05searchstrings.cpt.hqx
Get complete, 1207 bytes received
get disinfectant3.2.sea.hqx
200 PORT command successful.
150 Opening ASCII mode data connection for disinfectant3.2.sea.hqx (241064 bytes).
```

And this is anonymous ftp. All the lines of text beginning with numbers are output from the file server, and are basically status messages. Here, we're ftp'ing *Disinfectant 3.2*

Naming names

Each computer on the Internet has a name, which takes two forms: text, for us humans, and numbers, for the computers to deal with. So, for instance, my Mac, when connected, is called 'vampire.demon.co.uk', and is known to other

Internet sites as '158.152.8.71'. Normally, humans use the text form of names but if you find that when trying to 'FTP' files you get a 'domain not found' message, try using the numeric form of the fileserver's name instead.



hit [return]. If all goes well, you'll be presented with a bit of information

about the computer that the software is running on, and then the 'archie>' prompt, which tells you that the program is running, and is waiting for you to enter a command. At this point, you should first tell the computer that you want 'paged' output. That is, after a screenful of information has been displayed, the program will wait for you to hit the spacebar before it gives you any more details. This is because *Net/Mac* doesn't implement scroll bars in its windows, so once text has disappeared off the top of the screen, it's lost forever. To select this option, just type 'set pager' and hit [return].

Now we can tell *Archie* what program name to search for. You should remember that computers on the net can't have spaces in file names, so you can't search for 'Disinfectant 3.2' or whatever. Also, different systems will have given files different names, so the same program may have two totally different filenames on two different servers. On the plus side, though, you can give *Archie* just portions of a filename to work with – so

searching for, say, 'disin' will produce a list of any programs called 'disinfectant', 'disinfectant3.1', 'disinterested.zip' and so on. Armed with these thoughts, it would be sensible to search for, say, 'disinfectant3'. We know that the latest version of *Disinfectant* is at least 3.2 (from the last issue of *MacFormat*), and it's very unlikely that it will have increased to 4.0 in the

intervening time. So, at the 'archie>' prompt enter 'prog disinfectant3' and hit [return]. (The word 'prog' tells *Archie* to search for a program with the name following.) You'll be told that the program is working and, after a while, a list of files will appear. This may seem confusing at first – they're in Unix format, which won't be familiar to people brought up on the Mac. Don't panic, though – it's fairly easy to fathom out what's going on. If you look at the screengrab on the previous page which shows a typical output, you will see that it takes a number of distinct parts. First is the 'host name' – that is, the name of the fileserver. This is given both in words and numerically. Then comes the 'last updated' date – the last date that this particular *Archie* server was told what was on the fileserver. Then you see the location of the file – whereabouts on the server it is – and, finally, the filename itself, along with various other bits of information such as its size, date created and some other Unix details that needn't bother us. So, looking at the output from our telnet session, we can see that the latest version of *Disinfectant* appears to be 3.2, and that one copy of the program is located on the fileserver 'wuarchive.wustl.edu', in the directory '/mirrors3/archive.umich.edu/mac/utl/virus'. The file's name is 'disinfectant3.2.sea.hqx'. After making a note of the archive's name and

filename, we can quit the *Archie* session by typing 'bye'.

Downloading

To actually get hold of the software, we need to use another command: FTP, which stands for File Transfer Protocol. What we will be doing is 'anonymous FTP', which means that we're logging on to a filesaver as an 'anonymous' user, who just wants to pull a file off the machine. So, from the main Console window of *Net/Mac* type 'ftp wuarchive.wustl.edu', which should open another window. When you see a 'connection established, ready' message, type 'user anonymous' and hit [return]. You may be prompted to use the 'pass' command to enter a password, or the machine may just sit there; either way, type in 'pass' followed by your e-mail address. This is so that the filesaver can keep a track of who has been using the system – so I'd type 'pass ian@vampire.demon.co.uk', because

Getting connected

Demon Internet Systems can be contacted on 081 343 3881 (voice, not modem!). The service costs £11.75 per month, plus a one-off £14.70 joining fee.

Jargon Busters

FTP: File Transfer Protocol. A way of transferring files from a remote file server to your Mac and vice versa

Public domain: freely-distributable software which you can use and give to other people with no charge

Shareware: try before you buy software – it's freely distributable but you must pay the author a fee if you like and use it

that's my address. The next thing you need to do is change directory to the correct place; so type 'cd /mirrors3/archive.umich.edu/mac/utl/virus' (cd stands for 'change directory'). To see exactly where you are, you can enter 'pwd' (for 'print working directory'), which will give you the name of the directory that you're currently in.

Now you want to check that the file is actually where it was supposed to be, and to retrieve it. To get a listing of the contents of a directory, type 'dir'. And, when you've confirmed that the file is in place, type 'get' followed by the filename. This will transfer the file to your Mac. Do note that you won't get any sort of information about how long the transfer will take, or how long is remaining – but when everything has finished, you'll be told that the transfer is complete. You can then log off with a 'quit' command.

And that's it! You've searched for a file, found it, logged on to the file server and retrieved it – all for the price of a phone call.

All seem too complex?

If this all seems a little too complex, don't worry! There's plenty of help available; programs like *Net/Mac* come with good documentation, the Demon Systems helpline is becoming famous for its excellent level of service and there are plenty of Mac-using Demoners who are only too happy to help a newcomer. If you're having trouble, drop me an e-mail line (my address is ian@vampire.demon.co.uk) or a letter c/o *MacFormat* and I'll do my best to help. **mf**

Required reading

A little under a year ago, a book appeared which should be required reading for anyone interested in the Internet. It's called *The Whole Internet: User's Guide and Catalog*, and is written by Ed Krol. The publisher is O'Reilly & Associates, and its ISBN is 1-56592-025-2. Although it's published in the USA, it should be available at major bookshops in the UK, for around £19. It really is excellent, and cannot be recommended highly enough.

A cheaper (but far less comprehensive) guide to basic Internet services is called 'Zen and the art of the Internet'. It is available for 'FTP' from a variety of Internet sites, in plain text format – use *Archie* to find a copy by searching for 'prog zen'.

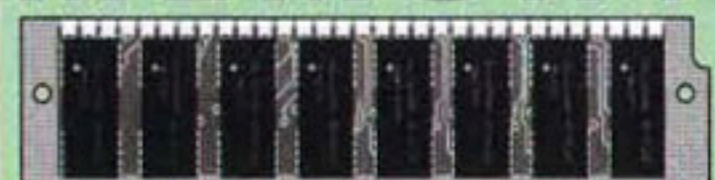


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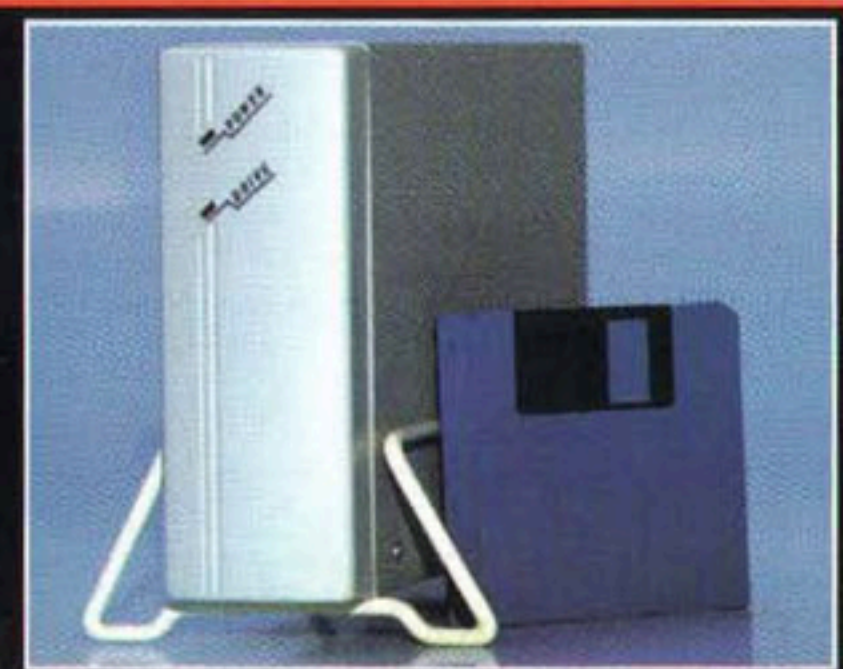
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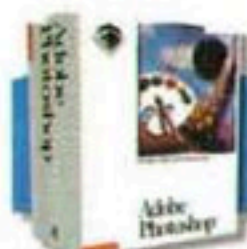
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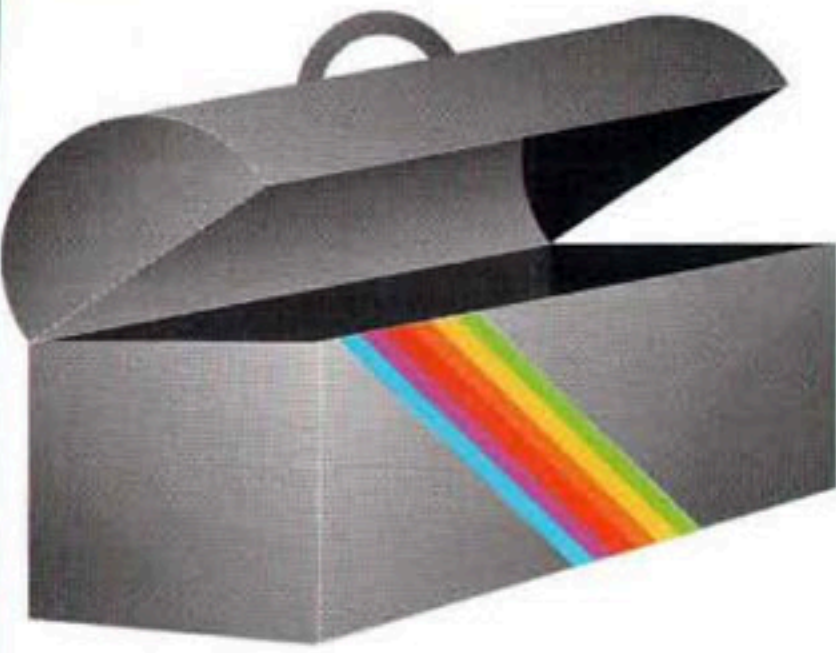
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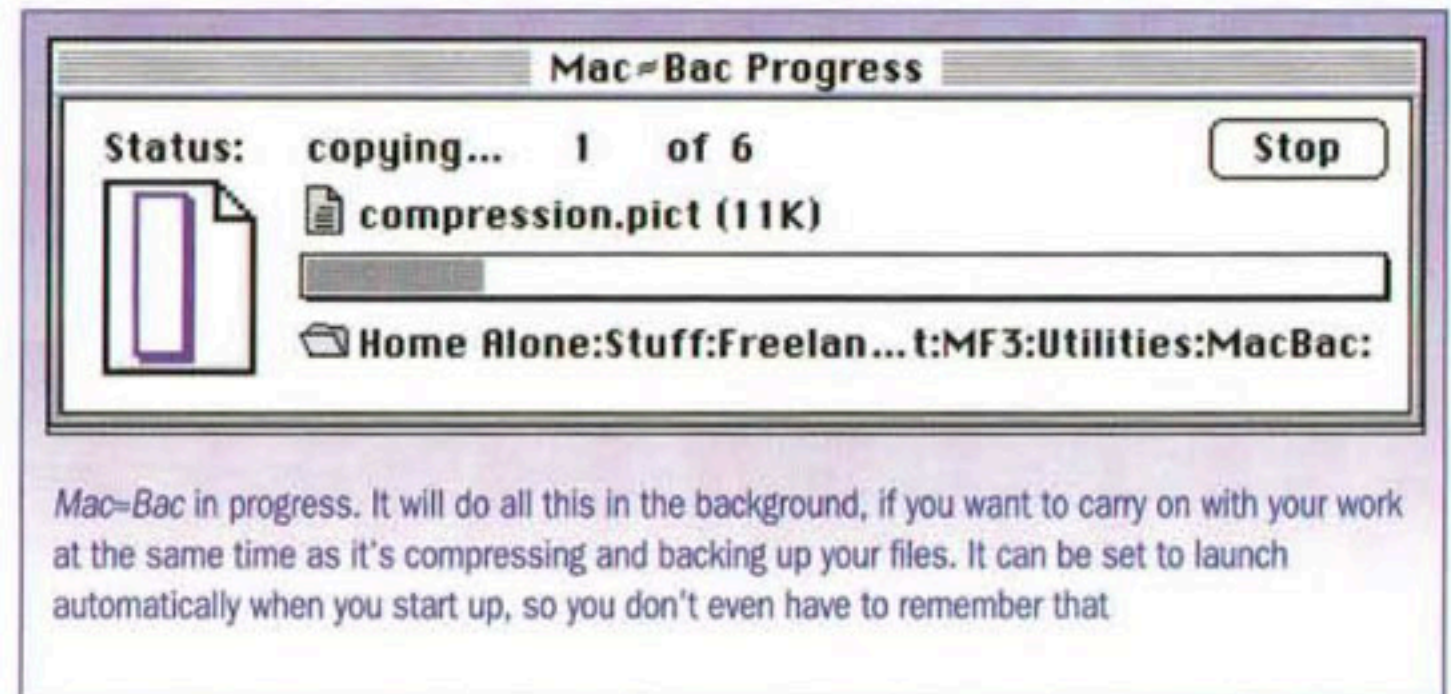
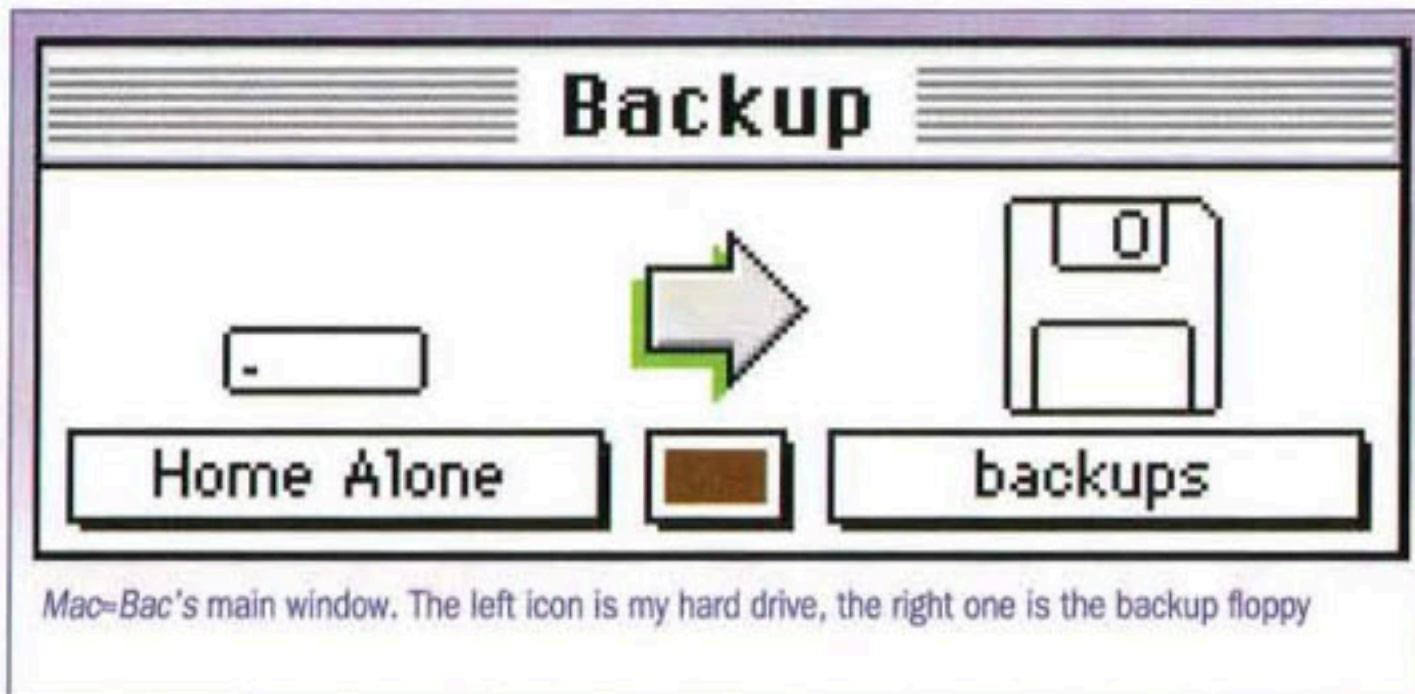


SUPERMAC DEALER



Pick of the bunch

Ian Wrigley selects three of the best Mac utilities from his toolbox



Mac=Bac

Mac=Bac is a backup utility designed for people who don't want hassle, but do want secure data.

The program requires System 7 to run; the reason is that the whole program is based on that little-used System 7 feature, Labels. In the **Finder** menu bar there's a **Labels** menu, under which are seven different labels. To apply one to a file, folder or application, you select the target item and select the required label from the menu. On colour Macs, the item takes on the colour associated with the item.

The idea is that the program will back up any files which are given a specific label. So, for instance, you select all your vital files, give them the 'Essential' label, and the program will scan the disk and save

those files to a back-up disk (floppy, hard drive or even a network shared volume, if you have such a thing).

An extension called Auto=Label is included in the package. Whenever you create a document from any application, this neat little utility will automatically give it the same label as the folder that you're saving it to has. If the folder has no label the document will inherit the same label as its creating application. So if you want to call up all your Microsoft *Works* files, you simply give the *Works* application whatever label you're using.

Mac=Bac has a number of features to make the whole backup procedure fool-proof. It can be set to warn you at a specific time that you should back up your files (15 minutes before you go home in the evening, perhaps) and will either display a message to that effect, or just go ahead and perform the backup by itself. The program sits perfectly happily in the background, so to take advantage of this feature you just put an alias of the program in the Startup Items folder within your System folder; that way, the program automatically loads whenever you switch your Mac on.

Au=Revoir

A useful extension is bundled with Mac=Bac. It's called Au=Revoir, and works in a similar way to the Startup Items folder. Once installed,

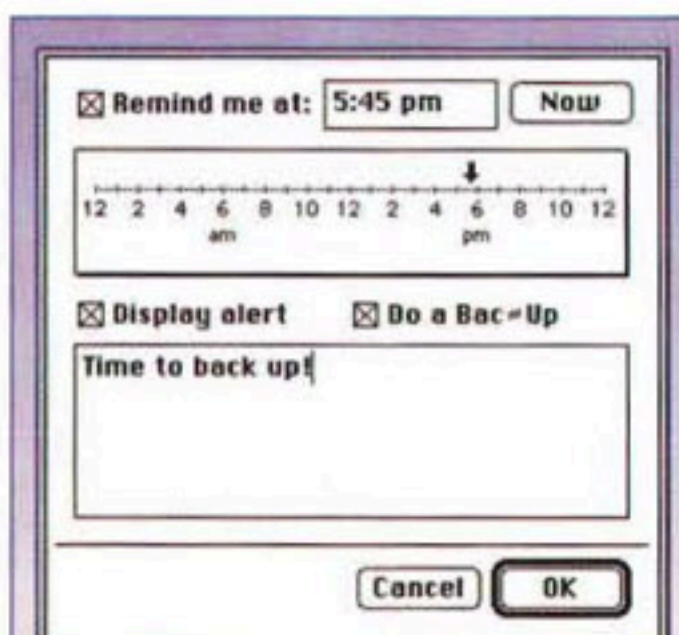
you'll find two new folders in your System folder, called 'Shutdown items' and 'Restart items'. Any application (or alias) placed in these folders will be run before the actual shutdown or restart is performed. So, if you put a Mac=Bac alias in the Shutdown Items folder, the program will be run before your Mac turns itself off.

Useful, or not?

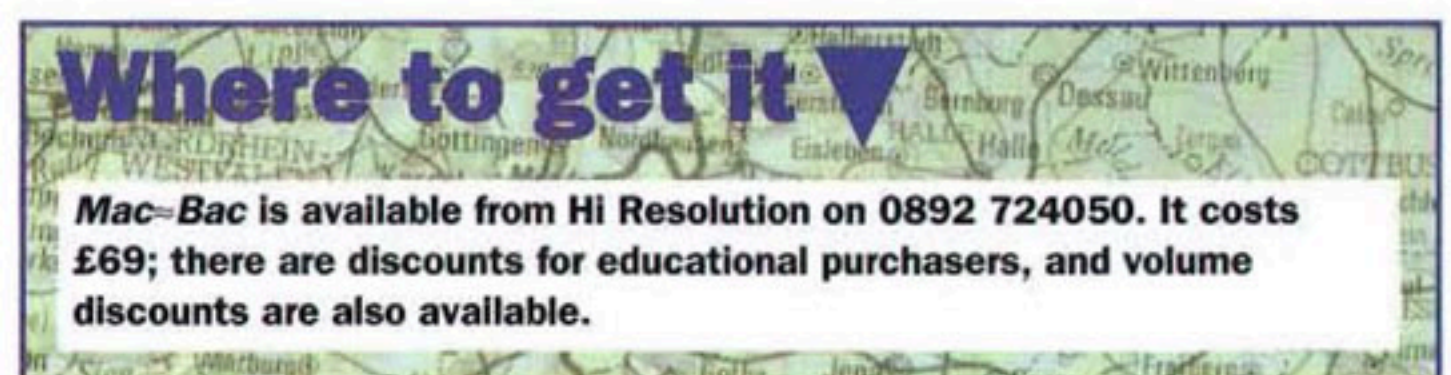
A number of packages, such as *Norton Utilities for Macintosh*, include backup programs. But Mac=Bac is certainly the easiest to use that I've seen and also just about the most foolproof. There are a couple of additions that it would be nice to see; one is multi-floppy backups, for large files. However, the program is primarily designed for backing up to an external disk or a fileserver somewhere on a network, so presumably this wasn't

considered too important. The other slight gripe concerns the fact that when you install the program you have to go through and manually give all your important files labels. Auto=Label only works when you create new files; it would be great if you could change a folder's label and see that change reflected in all that folder's files.

Still, I'd thoroughly recommend Mac=Bac to anyone who needs to back up their work – and that means everyone. Especially if you have an external hard drive.



Mac=Bac	
Ease of use	95%
The family cat was using the program within minutes – it's that simple!	
Documentation	95%
The manual is only 20 pages long, but explains everything clearly and simply	
Features	92%
Multi-floppy backup is the only thing missing here	
Value for money	85%
Not incredibly cheap – but cheaper than replacing a whole diskful of lost data	
Overall rating	92%
An excellent program, highly recommended	



StuffIt Deluxe 3.0

StuffIt Deluxe is a file compression program. That means that it can take a file on your hard drive and reduce the amount of space that the file occupies. The uses for this are numerous; at its simplest, it can just be used when your disk is getting full and you need to free up a bit of space without actually trashing files. However, it's also invaluable if you're sending files via modem (the smaller the file, the quicker it's sent and so the lower your phone bills). And if you're archiving old files to floppy disk, compressing them

means that you can fit more on.

The basic features of version 3.0 are very similar to previous incarnations of the program – and if you're using an older version, or one of the shareware versions, you'll have no trouble getting used to this one. It should only take a couple of minutes' experimentation before you're happy with the major features of the package.

One important asset is that *StuffIt Deluxe* can cope with a wide range of archive formats, including those created by other programs such as *Compact Pro* and *AppleLink*. It will even expand *DiskDoubler* files for you – although you need the *DiskDoubler* INIT in your System

Lite versus Deluxe

StuffIt has been a well-known name in the Macintosh arena since the early days of the computer. It started life as a shareware program, but became so popular that its author, Raymond Lau, took it commercial. However, there is still a shareware version available, known as *StuffIt Lite* (for a review see *MacFormat* issue 2, page 96).

So why should you buy the full package, when for \$25 you can use *Lite*? Well, *StuffIt Deluxe* has many features not present in the 'lite' version, including support for a wide range of archiving formats including Zip (a predominantly PC-based compression system) and some Unix formats; the ability to open more than one archive at the same time; better scripting capabilities; and a full printed manual. Most importantly, though, *StuffIt Deluxe* includes Magic Menu and SpaceSaver.

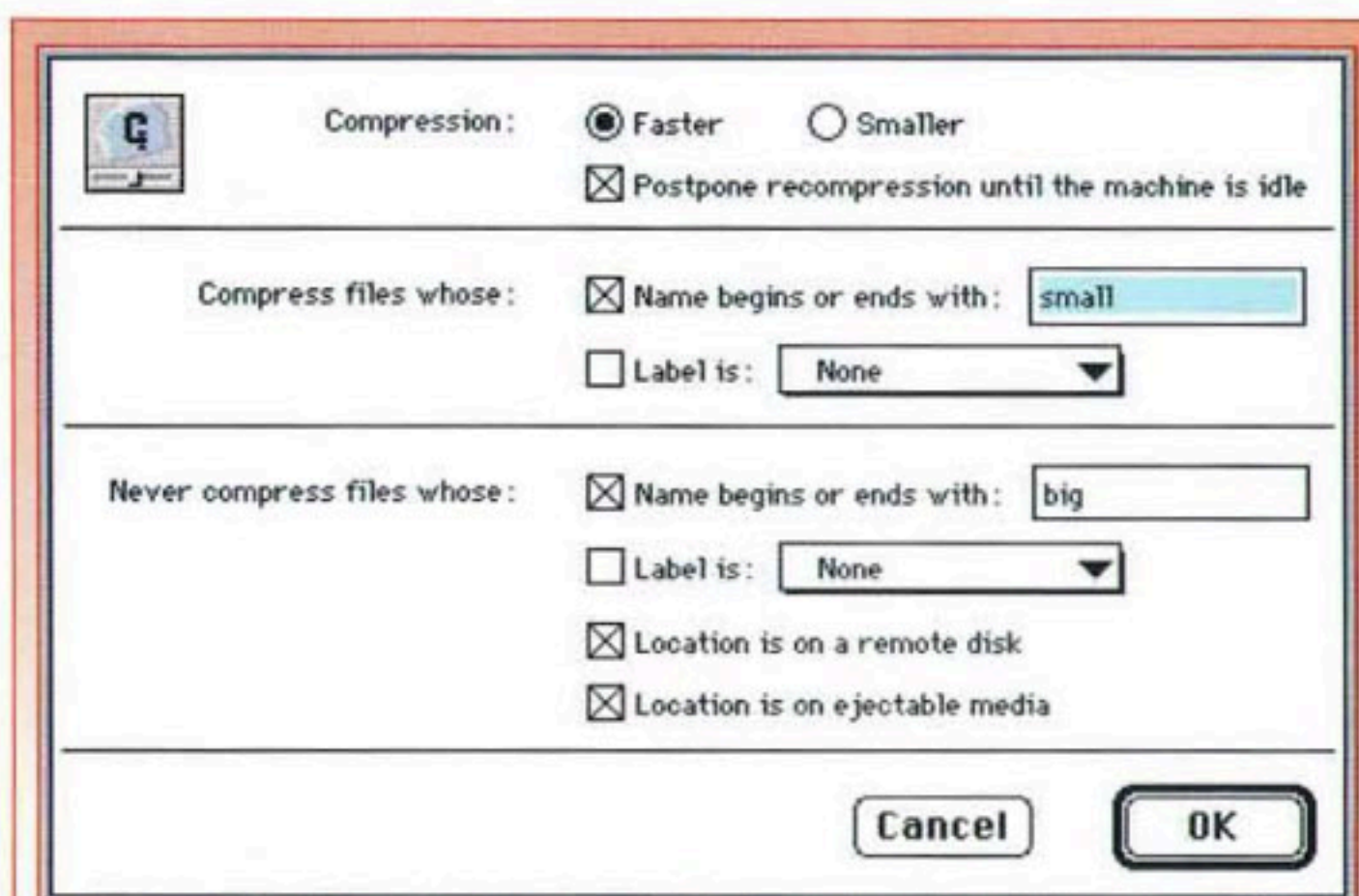
folder to do this. Other formats include Tar, Arc, BinHex, Zip and Pack; if you've never heard of these formats then it's unlikely that you'll have use for the converters, but for many people this range alone will be enough to persuade them to buy the program.

StuffIt Deluxe 3.0 is fully scriptable and AppleEvent aware, which

means that almost all of its actions can be automated. For example, if you use *Frontier* or the upcoming *AppleScript* system, you can write a script which will automatically compress the contents of a specified folder and save it to a remote hard disk at a given time of night.

Added extras

It's the added extras bundled with the program, though, that make *StuffIt Deluxe 3.0* a really great buy. First off is Magic Menu, a Control Panel which places an extra menu on your Finder's menu bar. Click on a file or folder, select **Stuff** from the menu and it's automatically compressed into an archive. Likewise, select **Expand** after you've clicked on an archive and the original files will automatically be re-created. The advantages of this are twofold: first, it saves time – there's no need to launch the whole



SpaceSaver is a Control Panel which allows the Mac to automatically compress files in the background, while you're doing other things



Magic Menu is a new menu added to the Finder's menu bar, from where you can quickly compress or decompress archives



Before: a printout from an older laser printer, minus the help of *WonderPrint*. Notice the poor quality, with lack of shading

WonderPrint

WonderPrint is a rather neat little utility from Delta Tao software, a group of people who also produce *ColorMacCheese*, *Spaceward Ho!* and a number of other cool programs. It's designed to improve the quality of greyscale output from just about any Mac printer – and to speed up output at the same time.

Now, if you've got a StyleWriter II or any of the Apple LaserWriters which incorporate the company's GreyShare technology, *WonderPrint* isn't really for you. Those printers already have drivers optimised to produce high-quality greyscale output, and you won't gain anything. But for anyone with an original StyleWriter, an older laser printer, an ImageWriter, a Hewlett-Packard DeskJet or just about any other Mac-compatible printer, this program will almost certainly make a radical difference to the quality of your output.

Installation is simple: the program takes the form of an extension (INIT, for anyone using

This program will almost certainly make a radical difference to the quality of your output

System 6), and is just dropped into the System folder. Restart your Mac, and you'll find that your **Print** dialogue box now contains a new option: there's a check-box for *WonderPrint*, and radio buttons to select halftone or dithered output. That's all there is to it, really; turn the *WonderPrint* option on and then print as normal. What you'll notice is that any greyscale images should print at a far higher quality than before – and you may well notice an increase in the speed of printing, too, although that does depend on exactly what printer driver you're using.

Of course, not everything's sweetness and light. Some applications don't use the Mac's normal printer driver to output files to the printer – notably *Photoshop* and *PageMaker*. These



StuffIt application just to compress one file; second, if you're short of memory you don't have to quit an application in order to launch *StuffIt* – just switch to the Finder and use the menu. Magic Menu will expand *Compact Pro* and *AppleLink* archives as well as those created by itself or the main *StuffIt* application.

The other bundled application is the one that shows just how much the company has been watching the opposition. It's called *StuffIt SpaceSaver*, and is an auto-compression utility. This means that you can have files compressed without having to manually select them. There are two ways of specifying which files to compress: you can either have any older than a

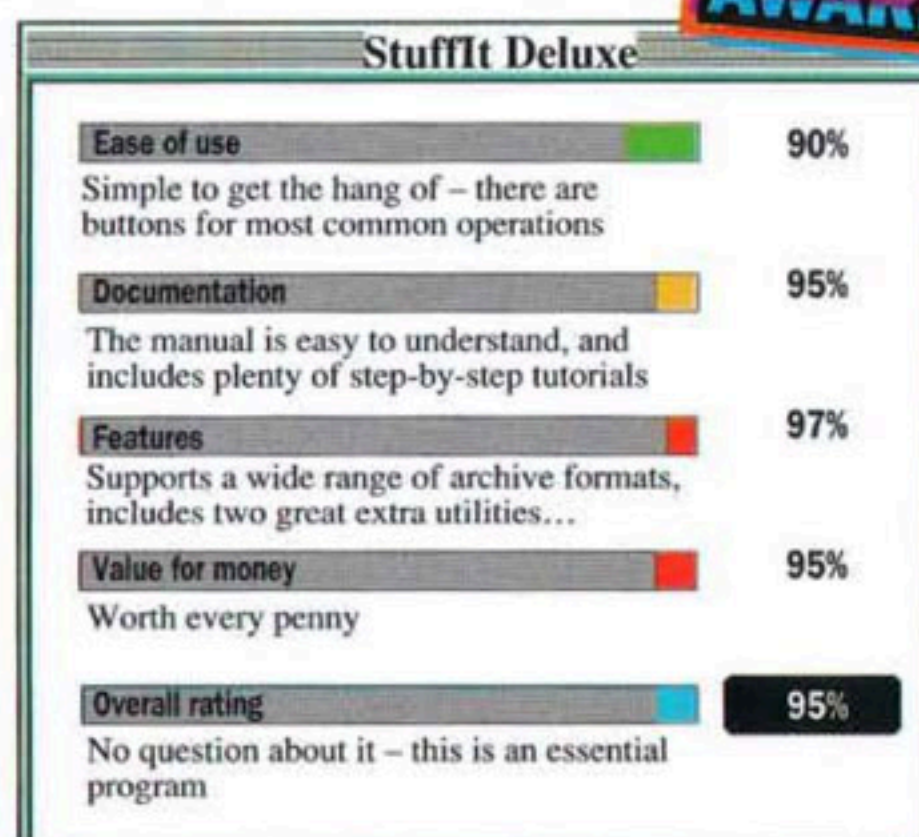
certain age processed, or you can specify that any files starting or ending with a certain series of characters – for example, 'small' – should be immediately compressed. As an example, if you saved a word processing document as 'small letter', it would automatically be Stuffed in the background, and the large version deleted. To regain the original file you can either double-click on the archive or use Magic Menu.

For a while, *StuffIt* was eclipsed by a shareware package called *Compact Pro*. It was faster, created smaller archives and was easier to use. But

version 3.0 of *StuffIt Deluxe* blows *Compact Pro* out of the water. The inclusion of *SpaceSaver* makes programs like *DiskDoubler* and, to a certain extent, *AutoDoubler* redundant, and its support for other archive formats means that it will find favour with those who use bulletin boards or receive files created

on other systems.

StuffIt Deluxe is a winner, and is an essential part of any serious Macintosh user's toolkit.



Translate Script Window
Change Password...
Convert 1.5.1 Archive

AppleLink Package ▶
BinHex4 ▶
btoa/atob ▶
CPT Extract... ▶
DD Expand... ▶
DeArc... ▶
MacBinary ▶
Segmenting ▶
tar ▶
Text Convert ▶
UnPack... ▶
UnZip... ▶

This is the **Translate** menu of *StuffIt Deluxe*. The range of archive types that the program supports is stunning

Where to get it ▼

StuffIt Deluxe 3.0 is distributed by Principal Distribution, 0706 831831. It costs £81.

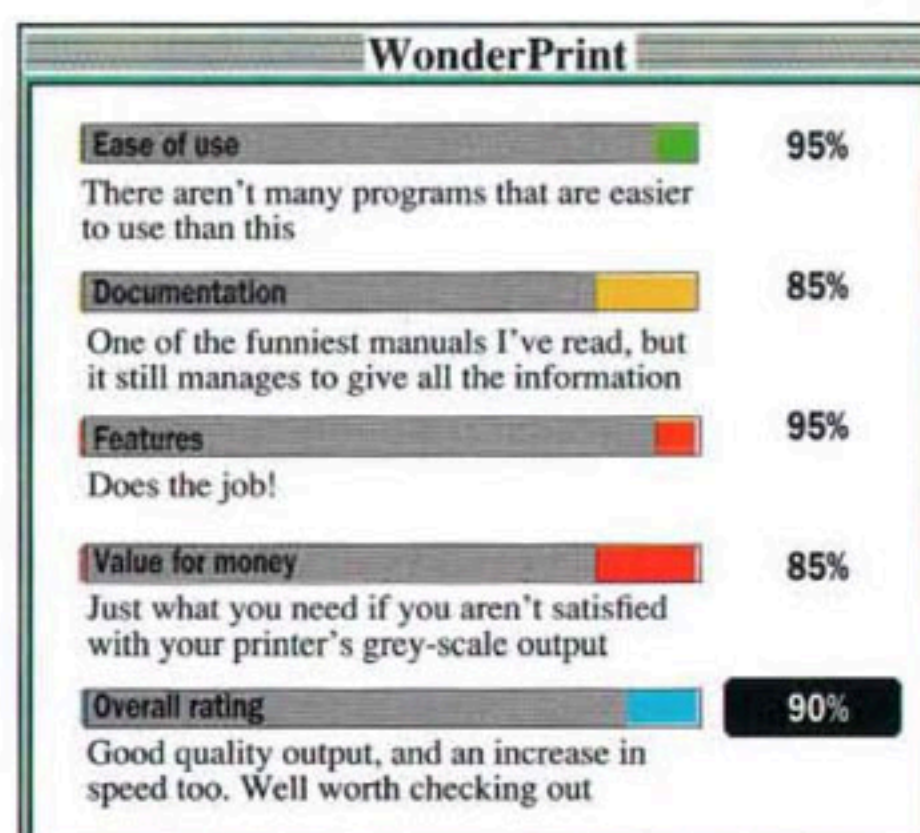
programs use their own drivers and, since *WonderPrint* alters the standard Apple driver, it can't work with those programs. (Actually, *PageMaker* can be forced to use the Apple printer driver rather than its own, so there is a way around the problem with that particular program.)

Quality print-outs

However, that apart, *WonderPrint* can seriously improve the quality of your print-outs. And just as another bonus, the manual shows clearly just how off-the-wall the guys at Delta Tao are. It says things like, "Most of this manual is useless. For some reason, people expect a bulky manual to come with any piece of software, so we've taken this as an opportunity to tout ourselves and our

products shamelessly. Well worth reading, if you're into that kind of thing."

People like this deserve support – there are far too many geeks taking over the Macintosh, and it's refreshing to see the sort of spirit that was evident among developers in the mid 1980s.



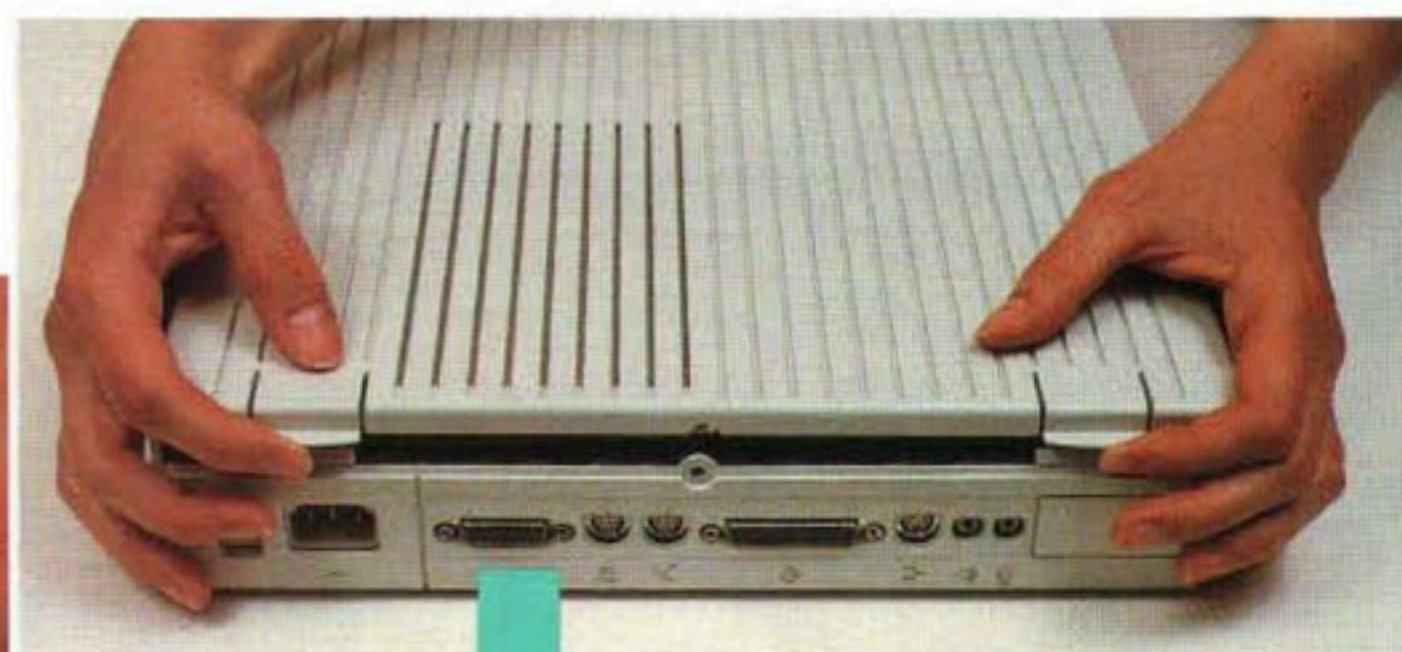
After: the same image, printed after *WonderPrint* has been installed. A much clearer picture, with subtler shading

Where to get it ▼

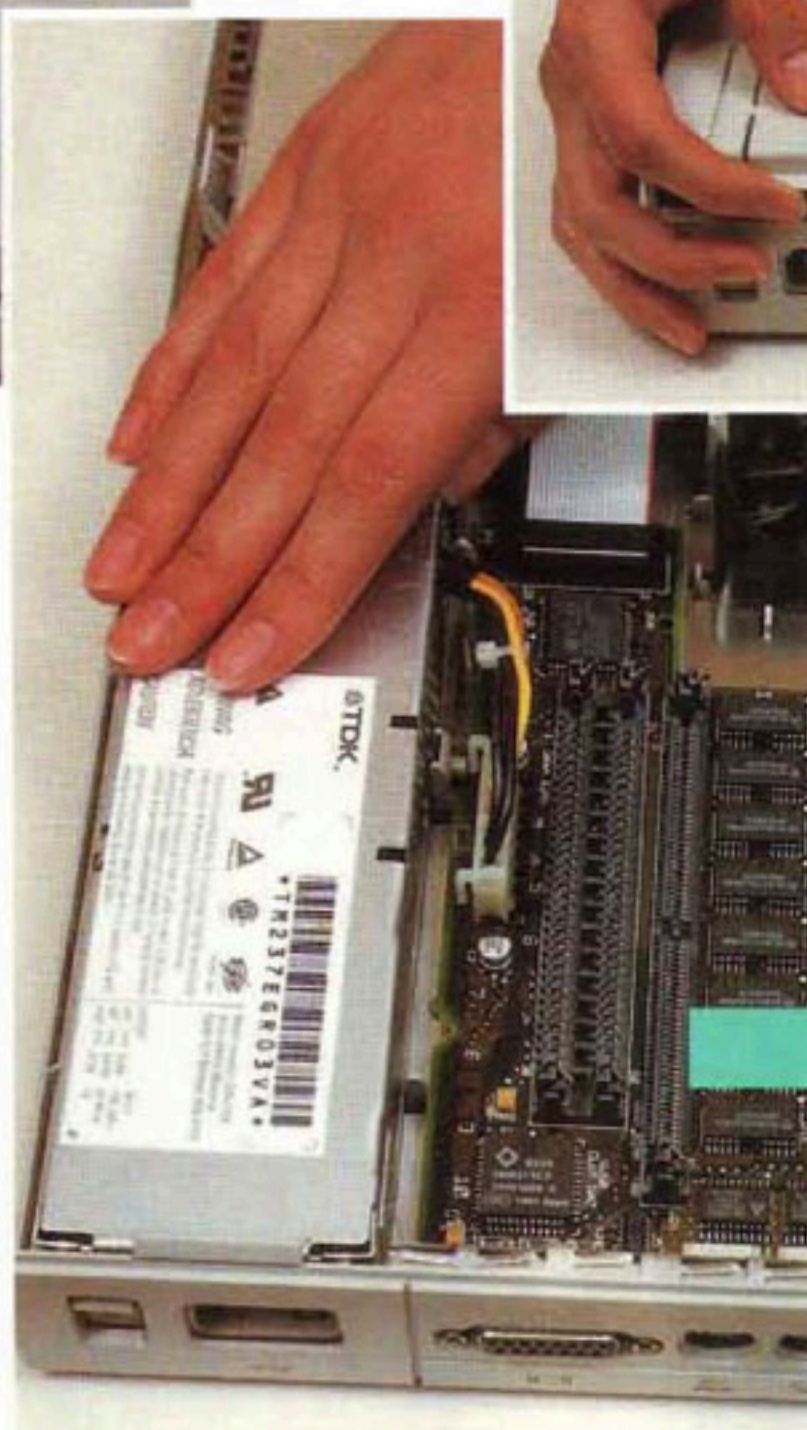
WonderPrint is available from KimTec UK, 0202 888873. It costs £46.



1 Remove all the leads from the back of your Mac, and place it on a clean, static-free surface (a kitchen table is fine). Put the SIMMs close at hand – you don't want to be walking about looking for them when you've got the top off your Mac. And make sure that you keep them in their anti-static bag until the last minute. Don't do the job in a room which has nylon carpeting – that increases static build-up



2 Remove the screw at the back centre of the casing and clip the lid off the unit. If you have one of the LC family of Macs, you'll find that after you've released the clips, you will need to pull the lid towards the front of the machine slightly before you can lift it clear



3 Remember to earth yourself to remove the static charge that may have built up in your body. One way of doing this is to turn off your Mac, leave the power cable plugged in, take the lid off and touch the power supply with your hand

Upgrading your RAM

Ian Wrigley shows you how easy it is to add a few more megabytes of RAM to your Mac

Why add more RAM?

If, when you try to open applications, you get a dialogue box appearing on your screen that tells you 'there's not enough memory available to launch this application', it's time to consider expanding the memory (called RAM, Random Access Memory) in your Mac. Basically, this will let you open more applications at the same time – and could speed things up, too. Although adding memory doesn't directly affect the speed of your machine, in practice it can make a difference. The reasons for this are quite technical, but you'll find that things like menus appear slightly faster when you click on them. And adding RAM can certainly increase the speed that you work at – instead of having to quit one application every time you want to work in another, now you can have them all open at the same time and easily swap between them.

Upgrading the RAM in your Mac is easy. In **MacFormat** issue 2 (*Hardware special*, page 24) we looked at the options available, and on these pages we take you through the upgrade procedure. Note, though, that you should not attempt to upgrade a machine with a built-in screen such as the Classic, Classic II or Performa 200; the screen in these Macs retains a high electrical charge and can be very dangerous.

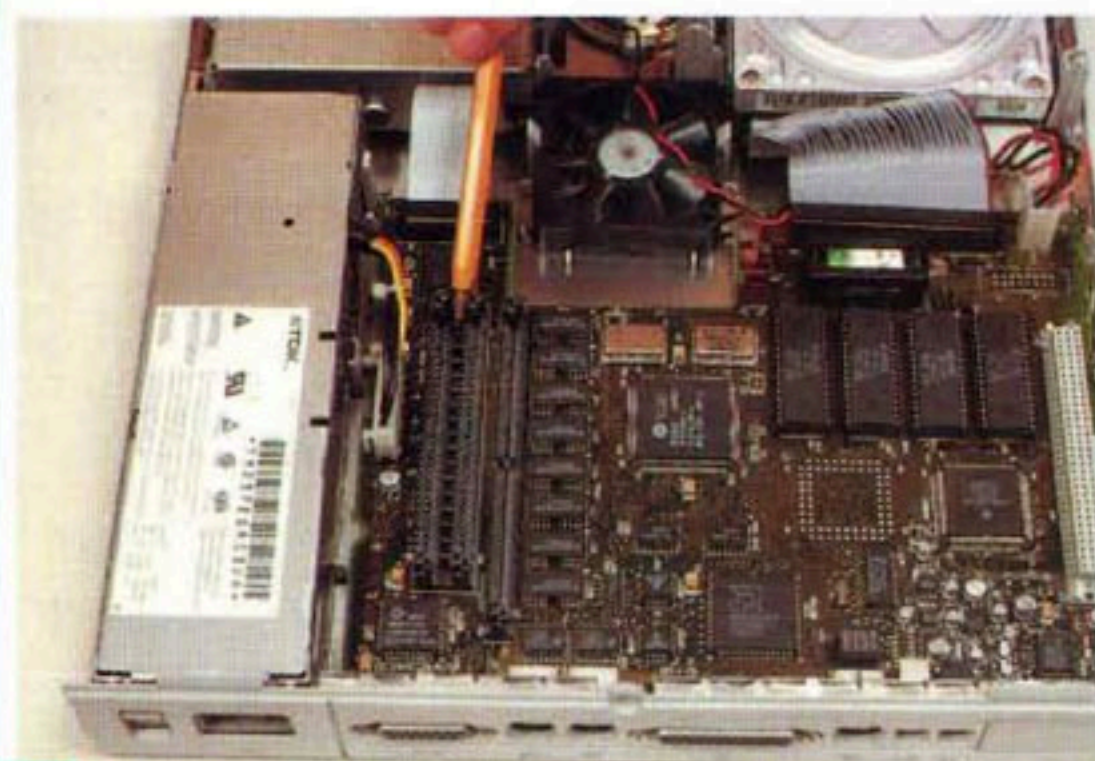
Upgrading is as simple as buying a couple of SIMM cards and inserting them into the correct sockets. Remember that Mac memory is

arranged in 'banks' – and that each bank must be empty or completely full of SIMMs of the same size. So, for instance, the LC and LC II have one bank of two sockets – and therefore upgrading means installing two 1Mb, 2Mb or 4Mb SIMMs into the two sockets. The IIfx, on the other hand, has two banks of four sockets – either or both banks can be empty. (The exceptions to this rule are the latest Macs such as the Centris family, which use 72-pin SIMMs, which we won't cover here.)

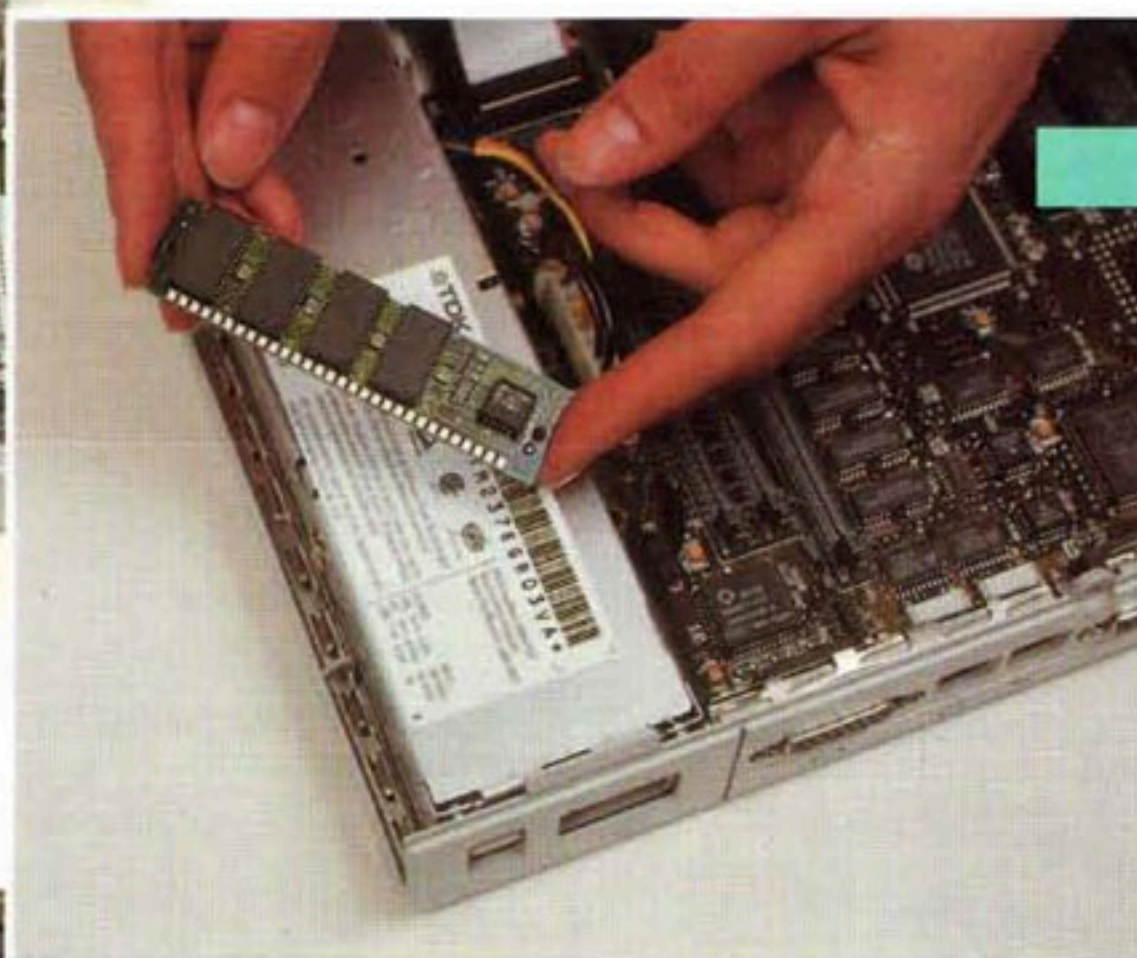
Before upgrading your Mac's memory, you must earth yourself to remove any static charge which

Where to get it

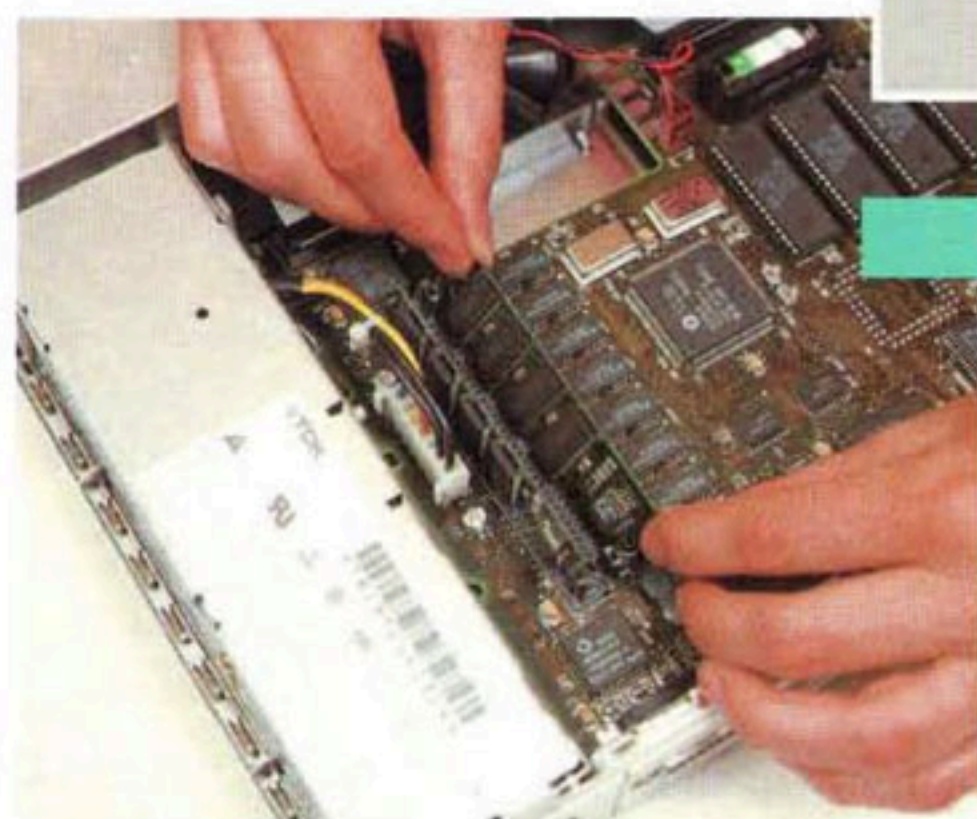
SIMMs are available from many dealers. Make sure that you specify which Mac you have, to ensure that you're sold the right type.



4 Identify the SIMM sockets. It may be the case that you already have SIMMs installed – for instance, a 4Mb LC has 2Mb of RAM soldered into the board, and two 1Mb SIMMs in the sockets. In that case, you'll have to remove them before you can install your larger boards

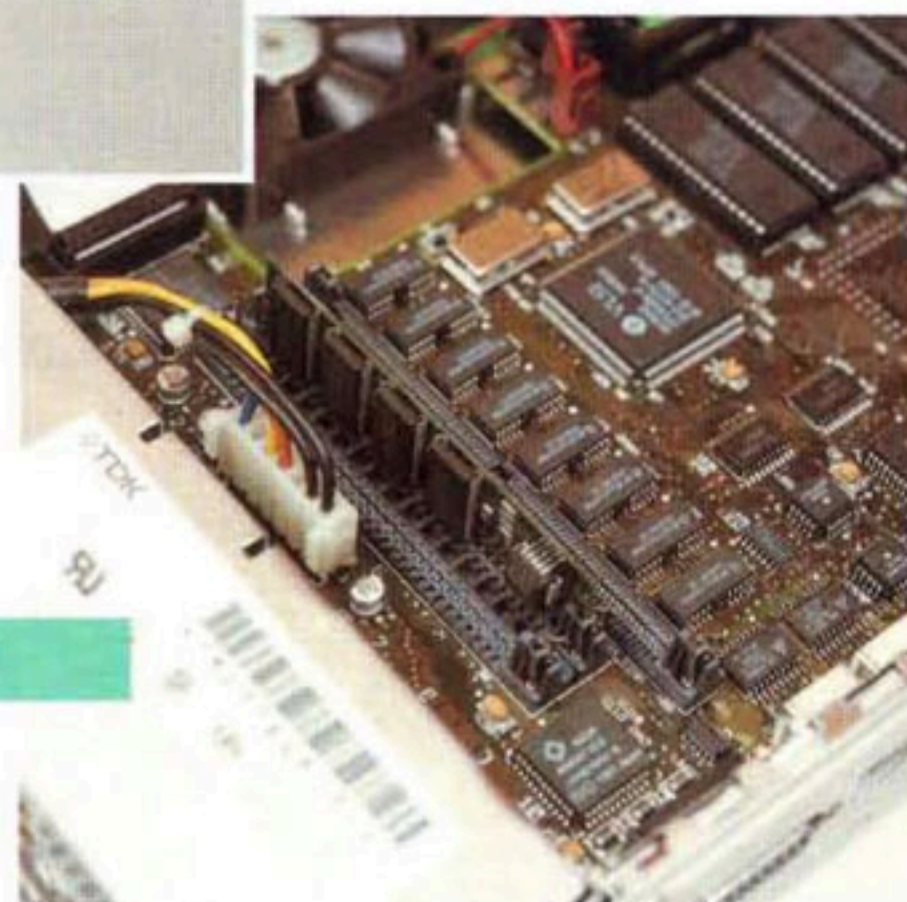


5 Take the first SIMM out of the anti-static bag. Hold it like this – by the edges only. Don't touch the edge connector or the chips themselves. Don't be too nervous – it really is quite difficult to damage the chip – but on the other hand, don't get too blasé about the whole thing



6 Put the SIMM into the socket like this. Make sure that it's facing the right way; you can tell because it's impossible to fit the thing properly the wrong way round!

Now press gently back on the SIMM until it clicks into place. You will easily be able to see how the locking mechanism works, and you should make sure that both sides of the SIMM lock into place. Then repeat the process with the second SIMM



your body may have built up. To do this, touch an object which is earthed, such as a cold water pipe or a radiator. Another way is to leave the Mac's power cable plugged in, take the lid off and touch the power supply with your hand. As the power supply casing is earthed, this will dissipate any static.

Note that it is preferable to touch the casing with the back of your hand (unlike the photo!) – that way, if by any chance there's a fault and the casing has become electrified, your hand will be thrown away by the muscle jerk, rather than clench-

ing around the metal.

Our photo walkthrough has been done with an LC II, but the procedure is the same for any machine. If your Mac has two SIMM banks, they will be pretty easy to spot – each bank of sockets will be labelled clearly on the circuit board.

Warranty worries

You should remember that upgrading your Mac's memory will invalidate your warranty – so don't do it unless you are confident of being able to follow the procedure (or your guarantee has expired). **mf**

What will all this cost?

RAM prices have been very volatile over the last few months. This is chiefly due to the United States government slapping heavy import duties on all memory chips imported from far eastern countries – which is where most of them are made.

This means that you should phone a dealer (see the advertising pages of this magazine) to check prices before you order – often the

prices are changing on a daily basis. At a rough estimate, though (and remember that this article was written weeks before the magazine goes on sale) you will probably be paying around £30 for a 1Mb SIMM, and anything up to £120 for a 4Mb SIMM. So increasing, say, your LC II to 10Mb, which requires the purchase of two 4Mb SIMMs, will cost you about £240.

Jargon Busters

RAM: Random Access Memory; computer memory in the form of integrated circuit chips that remember their contents only as long as the machine is turned on

SIMM: Single Inline Memory Module; a type of RAM – a little board with eight or nine chips that plugs into a socket inside the Mac

Buying RAM

It's important that you get the right sort of RAM. There are slight differences, depending on which Mac you own – for example, the IIx takes different SIMMs to the rest of the Mac II family, and the new Centris and LC III Macs use a 72-pin SIMM which is standard in the PC world but which has never been used in a Mac before. Also, different Macs require different 'speed' chips; the faster your machine, the faster the chip has to be able to respond.

Mac RAM sizes

This table contains RAM sizes for all available Macs and a few obsolete models. The first figure is the Mac's standard RAM configuration and the second figure is the maximum RAM size in megabytes.

Classic	1	4
Classic II	2	10
Performa 200	2	10
Colour Classic	4	10
LC	2	10
LC II	4	10
Performa 400	4	10
IIvi	4	68
Performa 600	4	68
IIvx	4	68
LC III	4	36
Centris 610	4	68
Centris 650	4/8	132/136
Quadra 800	8	136
Quadra 950	0	64
PowerBook 145	2	8
PowerBook 160	4	14
PowerBook 165c	4	14
PowerBook 180	4	14
Duo 210	4	24
Duo 230	4	24

Apples for teachers

Apple is probably the world's largest computer supplier to education, yet it only holds eight per cent market share in English and Welsh schools. Michael Prochak asks Apple UK's education experts why

Although personal computers have been used in schools for more than a decade, in general most schools are only just beginning to understand what kind of systems work well for what is required. Originally, schools were obsessed with generic 'educational' programs which ran on a narrow range of computers like the BBC or Nimbus. Today, however, most schools are moving on from that disjointed mix of 'useful little programs' to more practical application of powerful standard business programs which pupils will eventually encounter in the real world.

The Mac is intuitive, offers a smooth upgrade path and meets network needs

Although aspects of the National Curriculum can appear confusing, as a bottom line you can short-hand what is required into five strands:

- modelling,
- presenting & communicating information,
- social awareness,
- handling information,
- controlling things.

Clearly, any computers and software chosen for use in schools now have to reflect more accurately the real world outside and will only be effective if they provide transferable skills and experiences. And as parents, teachers and governors are becoming increasingly aware, in the real world, more and more businesses and professions are using Macintoshes while few, if any, use

old school favourites such as the Acorn Archimedes.

Why the Mac?

So, why should schools be chucking away their Acorn and Nimbus machines in favour of Macintoshes?

MacFormat asked some probing questions of two of Apple's key educational evangelists.

"We are endeavouring to work more closely with teachers and software developers to make sure we provide integrated solutions for education that focus on real classroom needs so the Mac is seen to be as much an education product as anything else," said Lesley Kinloch, Apple UK's education marketing manager for schools and further education. "There are all the user interface benefits such as point and click, easy access, sticky keys and special needs features such as close view. The real advantage of the Mac GUI (graphic user interface) is that so much is built in. The Mac is intuitive, offers a smooth upgrade path, meets most network needs and is the only true multimedia interface. Every Macintosh comes with a microphone that allows children to talk, sing, play music, make sound effects and its built in graphic and video capabilities are unsurpassed."

Full integration

With pressure on budgets, a lot of schools still worry about losing their investment in older PCs and software. However, Apple is keen to stress that Macintoshes can be gradually integrated into schools with existing equipment and products like *PC Exchange* and *ViewMac* mean Macs can even incorporate information from PC and Acorn machines to protect that



The Performa represents a good home-based machine for the consumer. Every Performa comes with a microphone that allows children to talk, sing, play music, make music, make sound effects and its built in graphic and video capabilities are unsurpassed

existing investment. Add-ons like *At Ease*, which is an ideal interface for schools, simplifies the already easy-to-use Macintosh Finder and offers an additional layer of security for teachers and classrooms who share machines and want to ensure that their material isn't tampered with. And for larger schools, the Macintosh's built in networking with LocalTalk cabling provides schools with free file and printer sharing without the additional expense of interface cards, routers and the like.

Market share

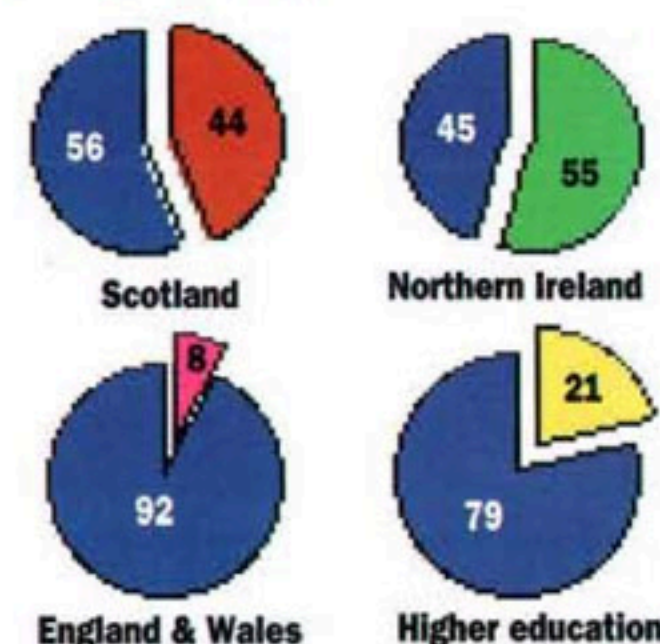
Although Apple is probably the world's largest computer supplier to education, in England and Wales (not so much Scotland and Ireland)

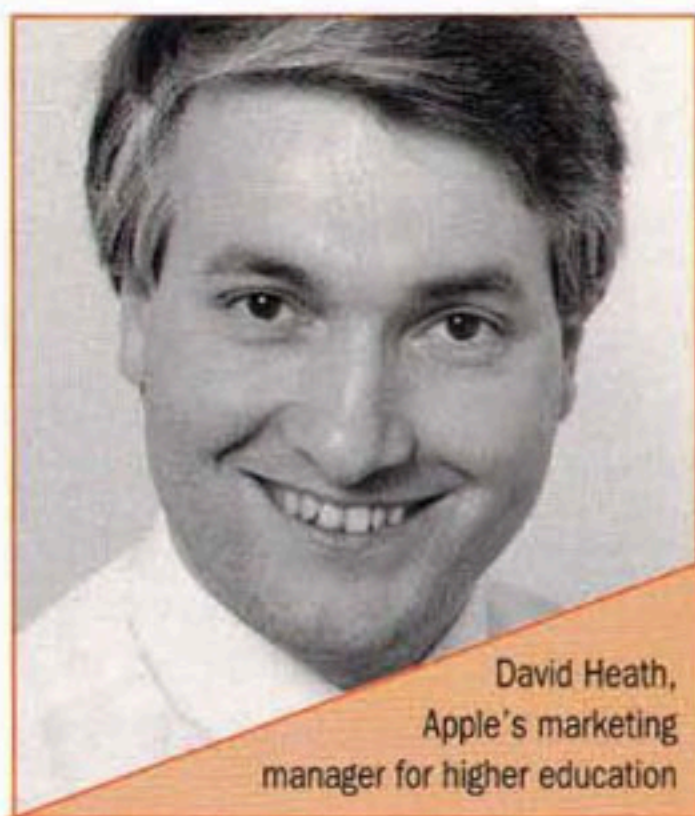
it has not achieved comparable penetration. But is that situation improving? "Geographically we are strong in certain areas, as you mentioned," said Kinloch. "However, we have now won some big school sites in England and things are moving all the time. We've probably got about 10 per cent overall market share in schools at the moment though."

So what is the biggest hurdle to getting Macs into schools and colleges? Is it still the perception that they're expensive? "In higher education," said David Heath, Apple's marketing manager for higher education, "it is solutions for teaching as well as conformity to campus-wide networking policies. We have fairly strong suits here,

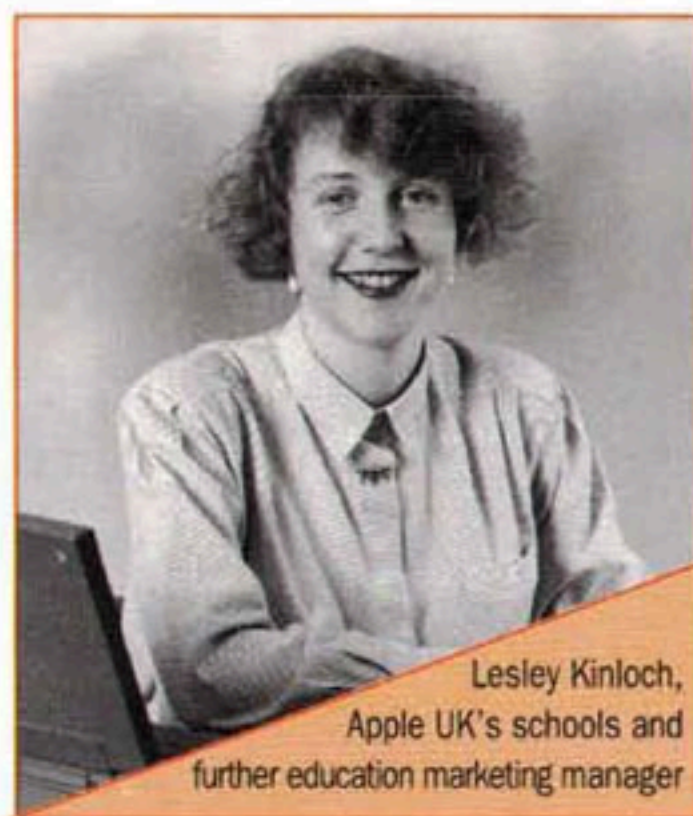
That Market share in full

Apple's market share in education has been growing steadily over the past few years. In the UK schools market it is now approximately 44 per cent in Scotland, 55 per cent in Northern Ireland and about 8 per cent and growing in England and Wales. In higher education Apple estimates its market share at between 20-23 per cent





David Heath,
Apple's marketing
manager for higher education



Lesley Kinloch,
Apple UK's schools and
further education marketing manager

with cross platform integration and solutions which are universal. For example, Endnote and Data Desk are generic to higher education."

Lesley Kinloch thinks a variety of outdated perceptions remain the biggest hurdles for schools. "Too many schools still think the Mac is too expensive when in reality, it is now clearly the cheapest comparison. In any product for product comparison, we are cheaper than Nimbus or Acorn and we encourage people to calculate for themselves. Independent research also backs up the fact that Macs are cheaper and better value. An advanced feature such as *QuickTime*, for example,

unlike Acorn's Replay, is available to everyone. It uses much less RAM (Random Access Memory) and ROM (Read Only Memory) than Windows and nearly all Macs have in-built sound and true multimedia capabilities at no extra cost. Similar features are only available as extras in top end PCs and Archimedes.

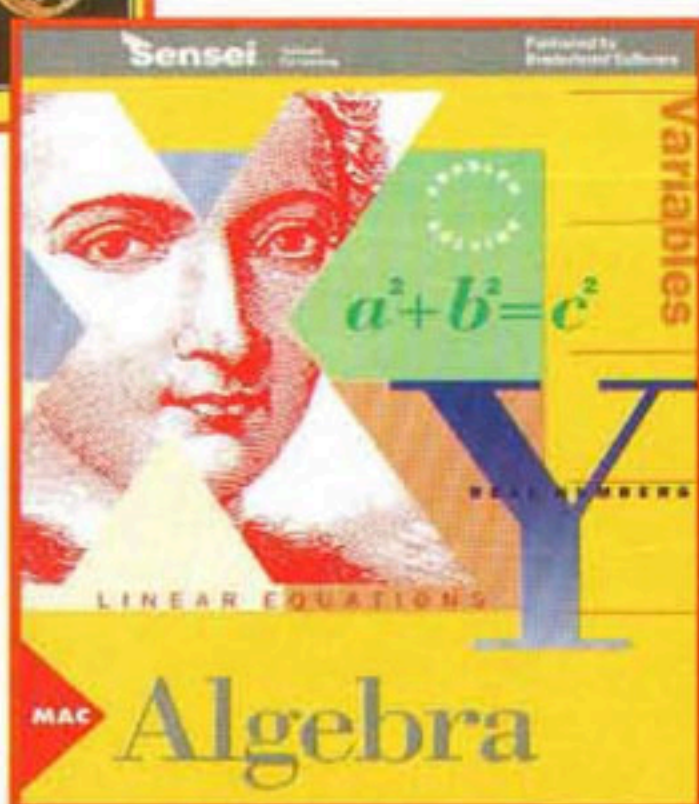
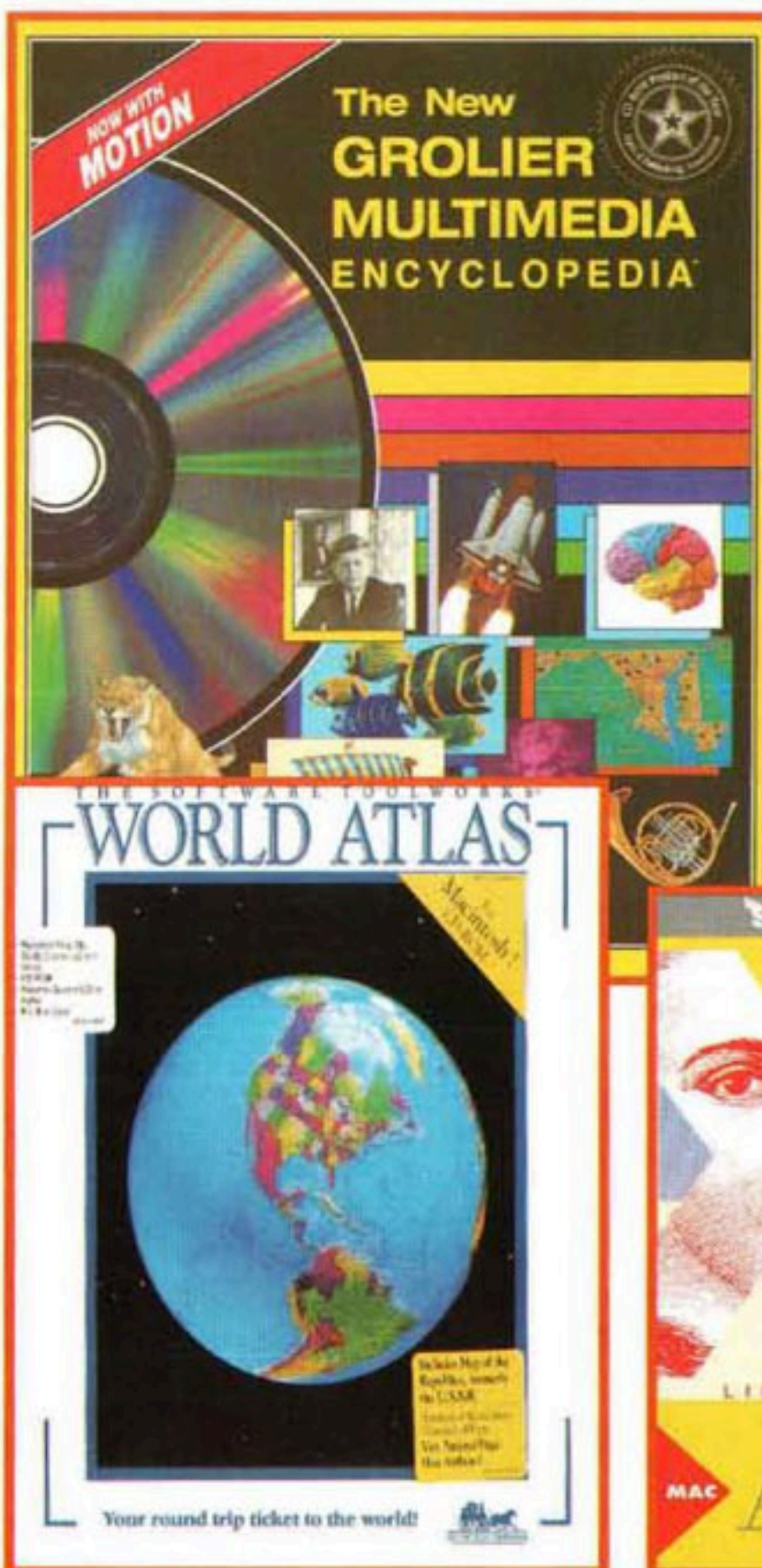
Performas?

Where do Performas fit into the education mix? Are these good 'home' machines for parents who want to help their kids with school work? "Naturally we believe that Performas are ideal home machines," said Heath. "However,

generally customers in institutions have registered a preference for the 'regular' Macintosh."

"The Performas represent good home-based machines for the consumer," said Kinloch. "As a move to a more identifiable home product and education product, they offer an

There are several learning tools already in existence for the Macintosh, with more being developed all the time



excellent option for parents who may need a computer at home and want something more than a games machine to help their children with their school work."

And software?

What about software? How much is there? How much of it is any good? Who's writing it? "The more we look, the more we find," said Heath. "There are simply thousands of applications. With solutions the task is to identify if it exists, contextualise it for the local teaching objectives and then communicate it to teachers. If it doesn't exist then we have to quantify the requirement and the demand for the application to see if it should be produced for the Macintosh. We are active in all these areas and you will be aware of distributors like Macademic, Softline, Capadia, etc."

"Some of our most important writers and developers are companies like TAG, Logal and Wings for Learning," said Kinloch, "plus a number of others of very good quality from Europe and the US who are all now linked into UK education partners."

Don't throw it out

Unlike many PCs, the Macintosh retains near total backwards compatibility so that even when particular models are dropped from the line, they still have many years of sterling service left in them. With all this serviceable kit still available, many people have wondered if Apple has ever entertained the idea of channelling discontinued kit into educational establishments as a

seeding exercise?

Lesley Kinloch suggested that with the low-cost Macs, such a scheme wouldn't be all that useful. "Prices are going down, product spec is going up all the time," said Kinloch. "So I'd be interested in the argument." David Heath, however, thought the idea did have some merit. "At times we have done so in the past and normally we plan the end of product lines carefully to handle such things."

Student purchase

As the cost of education rises, has Apple got any student purchase schemes planned in addition to the normal education discount to encourage more students to buy their own Macs? For example, in the US most universities now require students to have their own PC.

"Culturally, we in the UK have a very different attitude to the sort of equipment loans which take place in the US," said Heath. "We are always interested in schemes and programmes which will make the Macintosh more attainable to students but so far the cost and downright difficulty of providing credit for students is so great it tends to put the system prices up. We find that students are attracted to the competitive pricing of our entry level systems and we will continue to drive our system prices to levels which students can afford, without recourse to credit. Apart from that, we have been involved in student campaigns over the present and previous academic year and look forward to next year. Selling on campus is fun and rewarding." mf

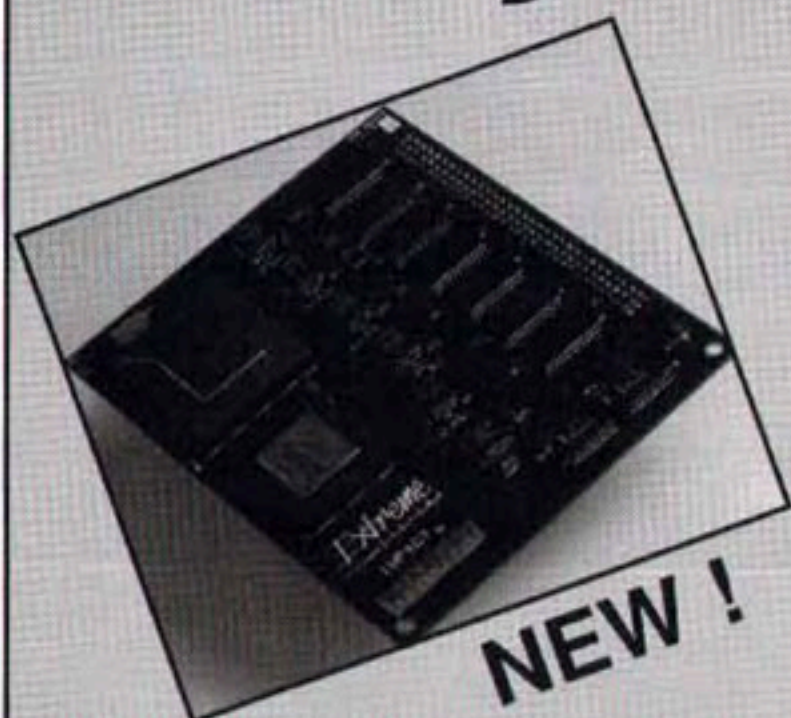
What happened to educational discounts?

Apple has always offered an educational discount and a few years ago, when prices were higher, educational establishments used to be able to get up to a third off the suggested retail price of Macintosh kit. With the arrival of low-cost Macs, Apple had to change their blanket policy on educational discounts and now, it seems, machines are discounted on a much more individual basis. In some cases, as with the release of the Colour Classic, certain equipment is offered only to the educational community. So what is the current education discount? Who qualifies?

"Bona fide educators qualify, as well as students enrolled in full-time courses of study in non-compulsory education," said Heath. "Education discounts vary and dealers are free to set their own prices under EC fair trading. We cannot 'set' prices.

In practice this means that bona fide education customers receive 10-25% discounts from suggested retail prices, depending on product and dealer. We also allow education pricing for those charities whose primary, declared aim is education or educational research."

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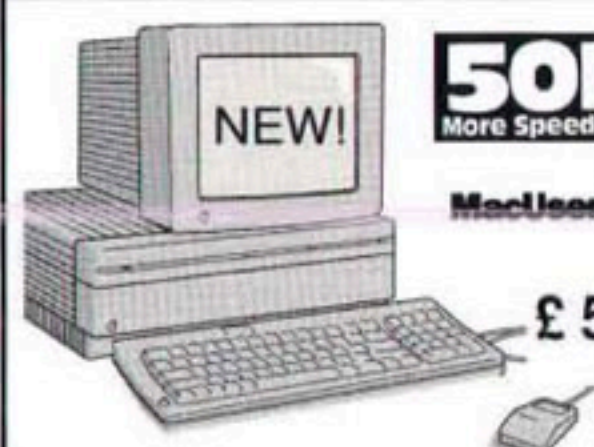
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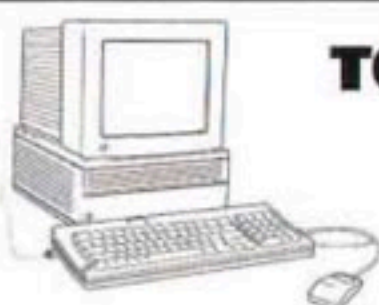


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All you have to do is fill in the form on page 84 – or photocopy it if you don't want to cut up your precious copy of **MacFormat** – and then post or fax it to us.

Please note that we are unable to answer questions over the phone – so there's no point ringing us up with technical enquiries. We are also unable to enter into personal correspondence – even if you enclose an SAE. We can only deal with questions through the pages of **MacFormat**.

Please do try to fill in as much of the form as you can. After all, the more details we know about the setup of your Mac and the way you are using it, the more likely we are to be able to find a solution to your query or problem. There's no point asking something like "Why won't my document print from *ZingWord 9.2*?" if you don't tell us what kind of printer you're using!

If your question relates to software, make sure that you tell us what version of the program you are using. You can find this out by clicking once on the program's icon, selecting **Get Info** from the **File** menu and reading the information that appears. Version numbers tend to be things like '1.2' or '9.6b3'.

Do-it-yourself problem solving

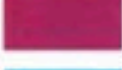
One of the main causes of a program not working properly is something called an INIT clash – your program isn't happy with one of the system-level extensions (called INITs) that are running.

Fortunately, it's easy to check if this is the case. First of all, restart your Mac without any System Extensions (INITs). If you're running System 7.0 or above, that means restarting the Mac and holding down the **[shift]** key – a message saying that 'Extensions are off' will appear. For any System version below 7.0, move all the Control Panels and INITs out of your System folder and restart the Mac.

If your program now works, it must have been unhappy with one or more of the INITs. The only way to work out which one it was is to move them all out of the System folder, then put them back one at a time – restarting your Mac after each one – and test the program again after each one has been replaced.

Label Q&As

Subjects

	Beginners
	General/System
	Hardware
	Buying Advice
	Technical
	Applications
	Graphics
	DTP
	Comms

To help you spot answers to questions that you might be interested in, we've colour-coded them according to the table above. Remember, these are just general categories; but they should help you to find your way around the section

Q I've got a Mac Classic, *ImageWriter II* and some software including *HyperCard*, *MacWrite II* and *ClarisWorks 2.0*. I have a problem, though, which started when I tried to install *PC Exchange*. Now, every time I switch my computer on it says 'Sorry, System failure, unimplemented fault', with a picture of a bomb. I get the choice of two buttons, **Restart** or **Continue**, but both just restart the Mac and the same thing happens again. I don't want to ring up my Apple Centre, as they are expensive. How can I put this problem right?

Ben Ellin
Bolton, Lancashire

A It sounds as though your copy of *PC Exchange* has become corrupted, and is stopping your System from

starting up correctly. There are two ways to start the Mac up. If you're running System 7, hold down the **[shift]** key as you switch on or restart – you should see a message under 'Welcome to Macintosh' that reads 'Extensions off' or something similar. Starting with **[shift]** held down disables all extensions, so any (such as *PC Exchange*) that are crashing the machine don't get a chance to interfere with things. If you're running System 6 or earlier, you should restart with an external System floppy disk – one of the disks that came with your Mac should be called 'Disk tools', 'Disk first aid' or something similar. This disk contains a minimum System that will start your Mac up – insert the floppy as your restart or switch on your computer and it will boot from that disk rather than your internal drive. Although you've booted from a floppy, the hard disk should still appear on the desktop.

Once you've started up, go into the System folder and throw away the copy of *PC Exchange*. Now you should be able to restart from the hard drive, and you can try to install the offending program again.

Q I'm having a couple of problems outputting files from *QuarkXPress 3.1* to my *StyleWriter II*.

1. When printing an XPress document containing an EPS file imported from *Aldus FreeHand*, why does the *StyleWriter* print the imported graphics bitmapped? Is it because the *StyleWriter* is a *QuickDraw* printer?
2. I've upgraded to version 3.11 of XPress, but this will not print correctly at all from the *StyleWriter*. Text overlaps and letter spacing is strange, even though everything looks fine on the screen. At least with version 3.1 I get a decent printout!

3. When trying to print a page containing angled type, everything else on the page prints, except that occasionally bits of letters get missed off.

Note: I do have ATM installed.

Brian Taylor
Haverhill, Suffolk

A The answer to your first question is that, yes, you're trying to print a PostScript graphic to a *QuickDraw* printer. EPS files contain a bitmap image (in PICT format) for placement purposes, and then the 'real' image as PostScript data. Because the *StyleWriter* isn't a PostScript printer, all that the Mac can do is output the bitmapped PICT.

Your second and third questions are less easy to answer, but the basic reason you're having trouble is that *XPress* isn't really designed to output to non-PostScript printers.

Is HyperCard still bundled?

After our reply to Marcos Scriven (**MacFormat** issue 2, page 89), in which we said that a limited version of *HyperCard* is included with every Mac sold, Christopher Proctor of London checked his LCIII and found that *HyperCard* wasn't included with his Mac. He rang Apple UK, who told him that the offer was discontinued on December 31 1992. Sorry for the confusion – Apple hadn't made a definitive statement, and we were under the impression that *HyperCard* was still being bundled. Indeed, you may find that if you buy an LCII or a Classic II even now, *HyperCard* is included – it depends how long the machines have been in the storeroom. If it isn't, though, you'll have to buy the full thing for £170 – it's distributed by Softline (081 642 2255) – since the Apple bundle no longer exists.

Quark is aware of some slight glitches when outputting to certain QuickDraw devices, but most of the company's development effort goes in to new features and fixing existing problems for people with PostScript output devices. If you find that occasionally bits of letters get 'chopped off', make sure that ATM is set to 'preserve character shapes' rather than 'preserve line spacing'. The former makes sure that characters look as they should, while the latter is more concerned with making sure that whole lines of text are in the correct positions – even at the expense of cropping tiny bits of some letters.

white only. However, as new colour Macs appeared, Apple created a new version of QuickDraw which could handle up to 16.7 million different colours – and called it Colour QuickDraw.

The first Mac to have this built in to its ROM was the IIci. Any Mac before that needed it to be installed as part of the System software – and all versions of System 6 from about 6.0.5 onwards include it as a separate INIT, which you drop in to your System folder. System 7 has it totally built in – there's no separate INIT.

If you have any Mac built in the last three years, Color QuickDraw will be included in the ROMs – although some Macs, such as the PowerBook 100, still can't deal with colour.

So, if you have a reasonably new machine, or you're running System 7, don't worry – Color QuickDraw is there already. If you're running System 6 on an older Mac like a II, IIX or ILCX, make sure that the Color QuickDraw INIT, which you'll find on one of your System disks, is installed in your System folder.

Q *I have a IIsi with a 40Mb internal hard drive, which I have filled to capacity. I would like to upgrade the internal drive to 120Mb, rather than get an external unit, since I use my Mac for music and I've heard that external drives produce a delayed access time, making them unsuitable for such applications. Even if I could find an external drive with an acceptable access time, I'd prefer to avoid the clutter of external devices. I was told by a dealer that they could remove the existing drive and replace it with something larger; of course, this means that the existing drive is pulled out and is unusable. The dealer doesn't offer a 'trade in' arrangement,*

Label Q&As

Subjects

	Beginners
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and it seems a tremendous waste of the drive. Do any dealers offer trade-ins?

Gregg Girling
London SW1

A First off, Gregg, I should say that the story about external drives producing delays is completely untrue. Both your internal and external drives are SCSI devices, and the difference in getting data from either is negligible.

As for trade-ins, yes, some dealers do offer them. It depends on what you're buying in exchange, though, and you won't find that you're offered very much at all for your existing 40Mb unit. I'd reconsider getting an external unit – that way, you have even more storage space, since you can continue to use your internal drive as well. If you do want to replace your internal drive, some dealers may be able to sell you a casing and fan so that you can use your old 40Mb drive as an external device – or you could try selling it to another reader through our free ads service.

Q *I read that the Amiga, like the Mac, uses the 68000 family of CPUs. Is it possible to buy an Amiga emulator for the Mac so that I can use my Amiga software on it?*
Nick Fraser
Branston, Lincoln

A I'm afraid not. The Amiga has a range of custom chips built in to it that make it very difficult to emulate; that, and the fact that the Mac is superior in many ways, means that no-one has produced an Amiga emulator. On the other hand,

there are a couple of Mac emulators for the Amiga – although they all have limitations, and aren't as good as the real thing!

Q *Is it possible to turn off the sound which you hear when you switch on your Mac? It's very difficult to sneak into my study to play a game without alerting my wife! Please help!*
George Tullin
Cramlington,
Northumberland

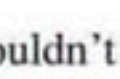
A The easiest way is to get a small jack plug and insert it into the speaker socket on the back of the Mac. This disables the internal speaker, and feeds the sound to whatever you have connected to the jack. So if you have a pair of Walkman headphones, you can listen to a game's sound through them, rather than the machine's built-in speaker. Or if you just have a plug with nothing connected, you'll simply disable the sound altogether.

Q *Can I take the plunge deep down on to the London Underground with a PowerBook? Will such close proximity to the tracks do any damage to the software or hardware?*
Andrew Westoby
Woodford Green, Essex

A There have been horror stories of people carrying floppy disks on tube trains only to find that they have been wiped at the other end because of the large electromagnets which, I'm reliably told by trainspotting friends, are used to power the trains. However, in reality you'll find that you can use your PowerBook with no problems at all – if you can deal with the bouncing around and jostling that make tube travel such a pleasant experience. If the bit about electromagnets wiping data were true, then cassettes in Walkmans would be likewise affected – and they're not.

Q *From time to time (especially when trying to beat deadlines!) I experience printing difficulties using my Mac IIsi to output*

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QuarkXPress pages to a LaserWriter IIx. Print Monitor gives me a 'VMerror', and then reports that "a PostScript error has been generated by the LaserWriter extension file; the document is OK but cannot be printed." The problem seems to occur most often when I import an EPS file into a page. If I delete the EPS, the printing takes place normally.

Roger Dowling
Skelmersdale, Lancashire

A

A VM error means that your laser printer has run out of memory during the imaging process. What happens is that the PostScript code is created by the application and printer driver, and this is then sent to the printer, which turns the code into the actual dots that make up the printed page. If your document is complex (or your printer doesn't have much RAM installed), you may find that the printer can't cope – and generates the VM error.

The only real way around this problem is to buy more memory for your laser printer; check with a RAM vendor for prices, as they are changing on a more or less daily basis. If you really need a proof of a document, you could try setting the print quality to 'rough' from the **Print** dialogue box – this will just print boxes where all your graphics are, rather than the graphics themselves. It isn't brilliant, but at least you'll be able to check positionals and so on.

Q I've had problems when initialising floppy disks – sometimes if initialisation fails, it's impossible to re-format the disk. I've tried to initialise it from Apple File Exchange and Disk First Aid, as well as from the Desktop. Is there any way of salvaging the disk?

David Skelton
Fourqueux, France

A

If the Mac reports that initialisation of a disk fails, it's best to just throw it away. If it takes you three or four attempts to format a disk, that's likely to mean that there's a problem with it – which may manifest itself in corrupt or missing files at some time in the future. Disks are fairly cheap, and you

shouldn't risk losing data just for the sake of 60 or 70 pence.

Disk First Aid, incidentally, is really designed to help repair hard disks, not floppies.

Q When I try to load the Spectre Supreme demo that you gave away on **MacFormat** disk 2, I get a message telling me that 750K is required – but I have 3,500K on my hard disk. What's the problem?

Kevin Podman
Bristol

A

Ah. It's the old confusion between RAM and hard disk space that's rearing its ugly head here. The message means that you need 750K of free RAM to run the program – it's nothing to do with the amount of space left on your hard drive. I see from your form that you have a 1Mb Mac Plus, running System 6.0.7 – so, to be honest, it's unlikely that you have 750K free. There's not much that you can do, I'm afraid – 750K is the absolute minimum that the program requires. To free up some more memory, you could temporarily remove any unwanted INITs from your System folder and restart the Mac, but you're still unlikely to be able to free up 750K. The only solution is to buy some more RAM for your Mac.

Q I recently bought a Classic II and StyleWriter II printer, which I'm very happy with – except for the ink that the StyleWriter uses. I believe it's a water-based ink (I came to this conclusion after a friend's three-year-old son sucked a business card I had produced and came away with a black

mouth!). Is there an ink that I can use with the StyleWriter that will not smudge once dry?

Michael Bickerton

A

Sorry, but the only cartridges that you can use in your StyleWriter II have that ink in them – there's no different ink available.

Q I recently received a 'copy' of QuarkXPress 3.1 from a friend. I installed the program and was initially able to run the application, but on my next visit I was asked to insert the master disk. Is there any way to bypass this and run the program?

GH
London SE7

A

As far as I can ascertain from your letter, you've pirated a piece of software and then written to us asking how to get around a copy protection scheme!

What you should do is destroy the copy of the program on your Mac and buy a legitimate copy if you need to use the program. Software piracy is illegal – and contributes to the high cost of programs. Even if we knew of a way to get around a copy protection scheme, we'd hardly be likely to print (or, indeed, condone) it!

Q Is it possible to connect my LCII to a 132-column printer that can handle tractor-fed forms?

H Nieuwenkins
Holland

Amstrad PCW files

Eric Siswick has written in with regard to Andrew Rodner's query about using LocoScript files from the Amstrad PCW on his Mac (**MacFormat** issue 2, page 90). Eric says that his company, Multilingua International, regularly transfers files between LocoScript and the Macintosh. "LocoScript Professional 1.07 and later on the PC reads and writes WordPerfect and LocoScript PCW files. Most Mac word processors read and write WordPerfect files; Word and WordPerfect for Mac certainly do. So it's possible to go from LocoScript PCW to LocoScript Professional and then on to the Mac (and, indeed, back again). All the important attributes, for example underlining, bold text, indents and so on, are maintained.

"We use a program called 2in1 on the PCW to get the files on to DOS disks. We call up the files using LocoScript Professional on the PC, and then resave them, which allows us to use the export function to convert them to WordPerfect format."

Of course, this method means that you need a PC with LocoScript Professional, but at least it's a way of transferring the files. Thanks, Eric.

A

Yes. There are a few manufacturers that do wide-carriage printers which can be connected to the Mac. If you want a dot-matrix device, you could try an Epson printer (distributed by Aptec, 071 627 1000) – we reviewed the LQ-570+ in **MacFormat** issue 2, but there is a wide-carriage version available. If you want an inkjet printer (which will tend to give you better quality output, but which won't handle multi-part forms), one of the best is the GCC WideWriter (GCC Technologies can be contacted on 081 569 4030).

Q

I am thinking of buying a modem or possibly a fax/modem. I have around £300 to spend. Where do I start? Is it necessary to have a new telephone line installed to my home, or can I use my existing one? Finally, as I am thinking of using the fax for my business, would the Mac have to be left on continuously to receive incoming faxes?

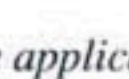
D Nickels
Brighton, East Sussex

A

The question of which modem to buy is a complex one, and one which we'll be covering in more depth in a future issue of **MacFormat**. However, here are some basic pointers to get you started.

■ Buy the fastest data modem that you can afford – it will pay for itself in lower phone bills and the time that your Mac is tied up sending and receiving files. Once you've used a fast modem, you won't believe that

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windows. Again, though, changing the font or font size can result in window redrawing being slower than normal.

Q My Mac LC had a few fonts bundled with it. However, I wish to expand the selection. Is there a good upgrade pack, or do all the fonts need to be purchased separately?
Barney Miller
Saffron Walden, Essex

A There are some 'starter packs' of fonts available, including one from Apple – which is reviewed in this issue on page 40.

You might want to send off for catalogues from companies like FontWorks (071 490 5390), which sell a wide range of fonts from a number of different manufacturers. Or, of course, you could enter our competition on page 43 to win the whole FontWorks library!

Q I work with a number of other people; one owns a Mac LC, another a Mac IIx and a third a 386 PC running Windows (I have a Classic II). I would like to start setting a network up so that I can access the other systems and transfer files where appropriate. I'm particularly anxious to be able to read and use files from the PC. Can you suggest a suitable baseline package of modem and comms software, and do I need terminal

you ever managed with anything slower. You should be looking for at least a 9,600baud device, and ideally one which is advertised at 14,400baud or above – that means that there's extra hardware inside which compresses data and provides a much faster transfer rates than a plain 9,600baud device.

■ The fax part of the modem should be capable of 9,600baud send/receive, and should be Group 3 compatible – almost all faxes these days are Group 3 devices. (If you find that you're talking to a Group 2 machine, your fax will slow down transmission so that the other machine can cope.)

■ Beware: some fax/modems can't receive faxes – they are 'send only'.

■ Make sure that the fax/modem you buy includes software for the Mac – some extremely attractive deals are available; but the fax software included is for Windows PCs, not the Macintosh.

■ You don't need a dedicated phone line – your domestic line will be fine. However, remember that if you anticipate using the modem much (either for data or fax), your line will be tied up for the time that your modem's 'on line' – so you might find that you want to have a separate line installed for convenience anyway. Also, remember that if you want to receive faxes, you'll have to get some form of fax/voice switch so that normal callers aren't treated to your fax's warblings.

■ Your form says that you have an LCII, so yes, you will have to leave your Mac switched on all the time to receive faxes – something which you might not be too keen on. If you have a Mac which can be turned on via the power switch on your keyboard, then the Global Village range of fax/modems will actually turn your Mac on when they detect an incoming fax. But the LC family has to be turned on via the switch at the back of the machine.

■ Because of the point above, many people find that it's actually better for them to invest in a normal fax machine and perhaps a send-only fax/modem. That way, you can receive faxes all the time as normal, and can fax out directly from your Mac rather than having to print a document out. Incidentally, if you do get a fax/modem, try to find someone who'll scan in your signature – that way you can incorporate it into your faxes. If you don't, you won't be able to sign any outgoing messages.

Q The 'total memory' figure in my 'About this Macintosh' window is 4,096K, but my manual claims that I only have 2Mb RAM installed in my Classic. Which do I believe? I bought my Mac new, and haven't installed any extra RAM. If I do have 4Mb, does this mean that I can't add any more?

Cate McGowan
Marlborough, Wiltshire

A Believe the figure displayed on your Macintosh. You must have bought a 4Mb machine which was shipped with the manuals for the minimum configuration by mistake. The Classic can't be expanded to any more than 4Mb, I'm afraid.

Q If I bought some PostScript fonts for my Performa 400, where would I place the screen fonts, and where would I place the printer fonts? Can I run PostScript fonts with a Stylewriter II, and if so, would I need ATM?

Kevin Akitt
Workington, Cumbria

A Your Performa is running System 7.1P (this advice goes for standard System 7.1 users, too), so you would put both screen and printer fonts in the 'Fonts' folder which is inside the System folder. If you just drag them to the closed System folder icon, the Mac will place them in the correct place. To print on a StyleWriter (and, indeed, to make them look good on-screen), you do need ATM (Adobe Type Manager).

However, if you only have version 2.0.3 of ATM, you should take all the printer fonts from the Fonts folder and move them into the Extensions folder. Otherwise, the fonts will not display correctly. You should still leave the screen fonts in the Fonts folder. Newer versions of ATM, such as SuperATM, know to look for printer fonts in the Fonts folder of System 7.1 and 7.1P.

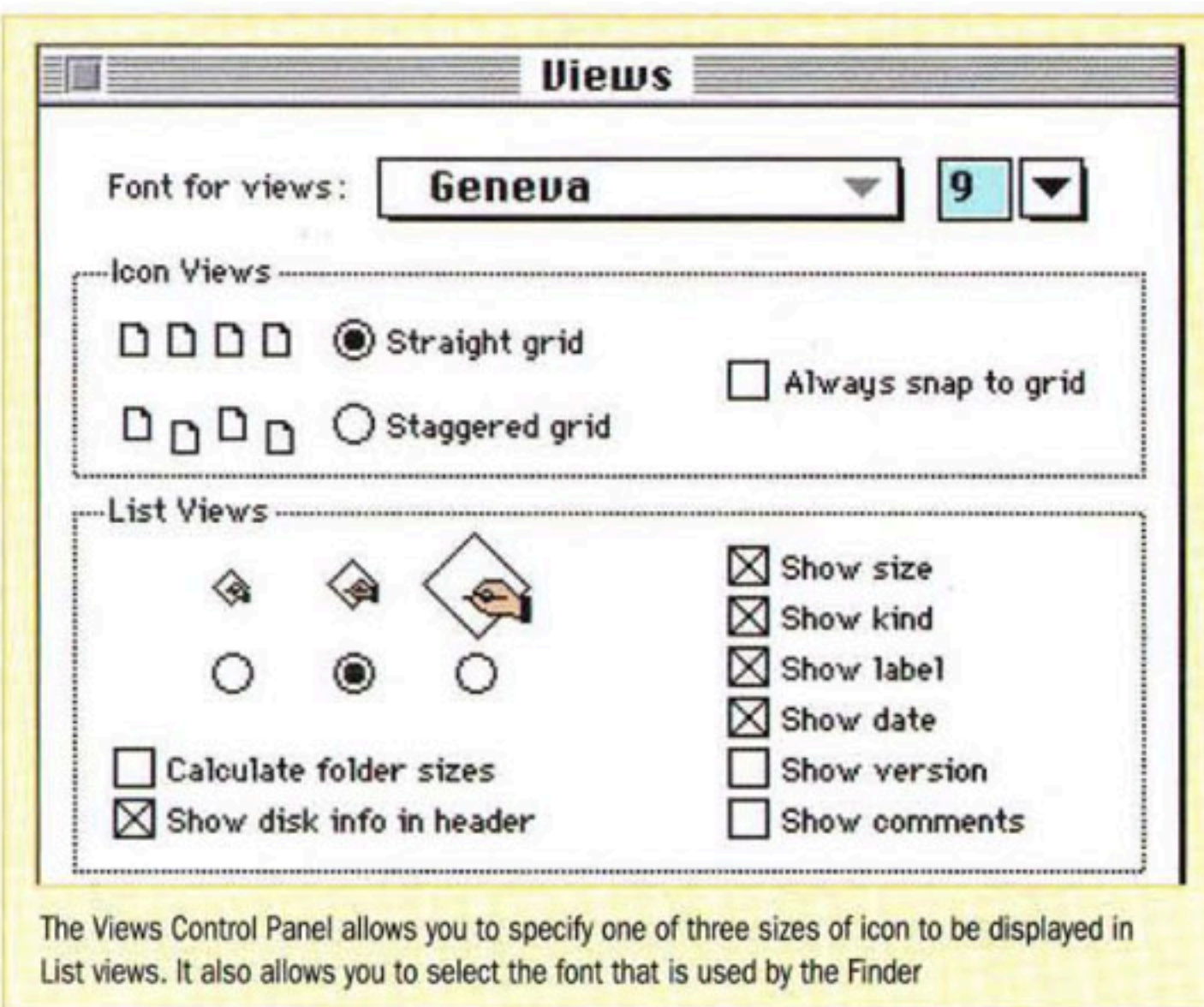
Q On pages 84 and 85 of MacFormat issue 1, you show a screen snapshot with an open System folder. Although the folder is in 'list by name' view,

the applications and files show their custom icons. 'List by name' on my system shows applications as generic 'hand holding pen' icons. Why is this?

James Pidgeon
Brixham, Devon

A If you look in your Control Panels folder (access it via the  menu), you will see a Control Panel called Views. Open this, and you'll see that you can specify one of three sizes of icon to be displayed in List views. Selecting either of the two larger icons will display the 'real' icons for applications and files in any List view. However, be warned: doing this means that windows take longer to draw than if you have the default, smallest icon selected.

The Views Control Panel (which is only available if you're running System 7) also allows you to select the font that is used by the Finder, and also exactly what information is displayed in open



The Views Control Panel allows you to specify one of three sizes of icon to be displayed in List views. It also allows you to select the font that is used by the Finder

and/or PC emulation capabilities as well?

Bill Richmond
Southampton

A

There are a few ways that you can go about this, and none of them requires a modem! First, cable the three Macs together using a LocalTalk network – either use standard Apple connectors or those from a third party such as Farallon (available from Gomark, 071 731 7930) or Focus Systems (0800 961000). Using System 7 file sharing, you can transfer files between the Macs with no problems.

The easiest solution to accessing data from the PC is just to swap files using floppy disks – your Mac comes with a utility called *Apple File Exchange* (you'll find it on one of your System disks) which allows you to read disks which have been formatted on the PC. (Remember, though, that you'll need a Mac application capable of understanding the file formats produced by the PC applications for the files to be of any use.)

Another way to do things is to have a 'null modem cable' made up. This is a cable which connects

between your Mac's modem socket and one of the PC's serial sockets – each machine thinks that it's talking to a modem, but in fact they're directly connected. You can then use a comms package such as the shareware *ZTerm* on the Mac, and any PC comms package, to transfer files between the two machines.

Another way is to use *Timbuktu*, which connects a Mac and PC. Either machine can then control the other, and file transfer is simple. Contact Gomark for more details.

Finally, you can buy an AppleTalk card which plugs into the PC and makes it seem like just another node on the Macintosh network. The PhoneNet AppleTalk card for the PC costs about £230 and is again available from Gomark.

Q Have you heard of the SPSS statistical package? Is it available for the Mac, and if so, where from?

Mike Tickle
Sevenoaks, Kent

A _____

SPSS for the Mac costs £699, and is available from SPSS on 0932 566262.

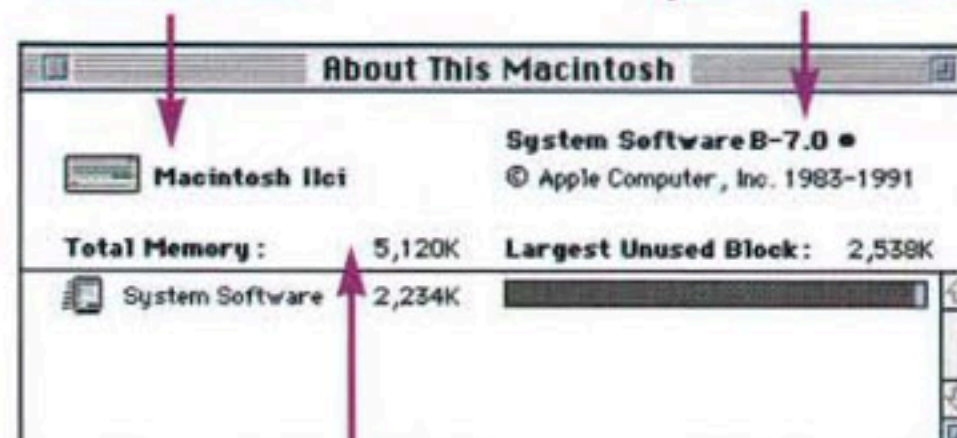
Refilling StyleWriter cartridges

Neil Martin has written in answer to Andrew Buckley's plea for a firm which can refill his StyleWriter ink cartridges (**MacFormat** issue 2, page 91). Neil says that Just Lasers Plus provides such a service; the company is at Unit 6/7 Vicarage Farm, Winchester Road, Fair Oak, Eastleigh, Hants SO5 7HD, phone 0703 602244. Thanks. Neil.

How much RAM have you got?

Macintosh model

System software version



To find this dialogue box, make sure you are in the Finder, point to the  menu and scroll down to the first item: About This Macintosh, then release the mouse button

Amount of RAM installed

Ask your questions here!

If you have a question to ask, just fill in the form below and send it off to us. Answers to some of the questions, such as whether you are using virtual memory or 32-bit addressing, can be found from the About This Macintosh or About The Finder dialogue box shown above.

Please note that we can only answer queries in the pages of the magazine – no matter what bribes you send, we can't enter into personal correspondence! (Although feel free to send bribes anyway...) And since some questions are answered by specialists who don't work in the office all the time, we can't answer technical queries by phone either.

mac ANSWERS

If you send in a question for the **MacFormat** experts to solve, please fill in and include this form (or a copy of it). 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: **Mac Answers, MacFormat, 30 Monmouth Street, Bath BA1 2BW**, or fax it to us on 0225 446019.

Name

Address

Your Mac (For example, Performa 200, Ilfx, PowerBook 145):

Approximate age of machine:

System version (see About this Macintosh screenshot above):

Amount of RAM (the Total Memory figure from the About This Macintosh dialogue box):

Are you using virtual memory?

(This is accessed from the **Memory** control panel under System 7) YES/NO

Do you have 32-bit addressing turned on?

(This is accessed from the **Memory** control panel under System 7) YES/NO

If your Mac has an external monitor, list the make and model; if you are using a video card, give details:

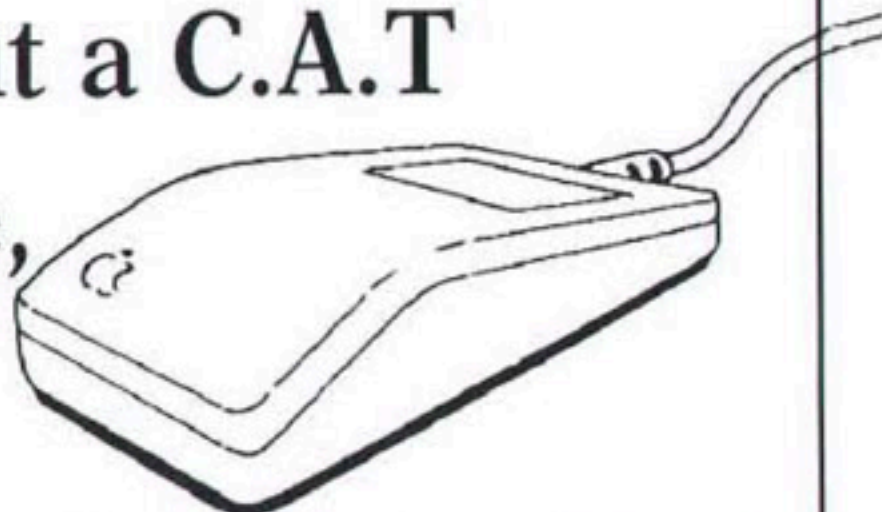
Details of any SCSI devices connected (eg CD-ROM drive, hard drive, scanner):

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

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

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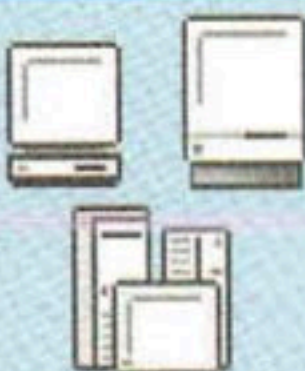
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Ian Wrigley checks out essential – and not so essential – PD and shareware for your Mac. A classic arcade game, a screen-grabbing utility and a multiple choice question master are among the goodies

To rate or not to rate

We thought long and hard about whether to include ratings with the PD and shareware programs that we review on these pages – and decided not to. There are a number of reasons; the primary one is that there is so much PD and shareware out there, that we can afford to pick and choose what we review and only look at the better – or more esoteric – offerings. We may also check out the odd absolute turkey – but you can be sure that you'll be able to tell from the review what we thought of it!



SHAREWARE

Flash-It 3.0.2 \$15

Screen grabbing utility

This issue, we're starting off with *Flash-It* – because you can see the results of this program all through the *Shareware Zone* pages (and many of the others in the magazine).

Flash-It is a screen capture program which allows you to save images from your Mac screen to the Clipboard, Scrapbook, a PICT file or to a printer. You can save

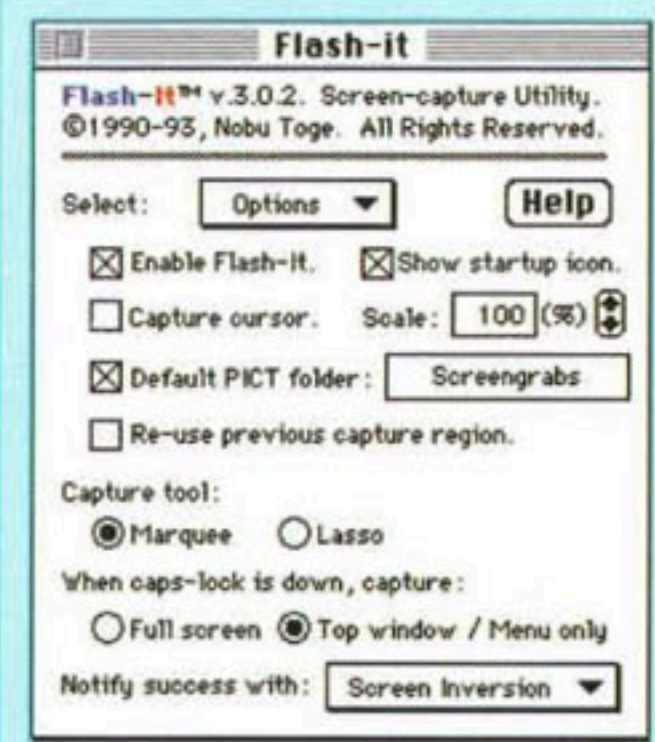
pictures of pull-down menus and – an invaluable option – you can opt to save just the top-most window. This means that there's no faffing around in an art package deleting all the background gumf – just the required image is saved.

The program is a dream to use; as a Control Panel, you just drop it into your System folder and restart the Mac; it will work on any machine running System 6.0.3 or upwards. The program has been around for some time, and version 3 is now fully compatible with System 7.1, 32-bit addressing, virtual memory and the like.

So why should you want a

program like this? Well, people like the *MacFormat* staff use such applications all the time – until *Flash-It* came along I used a commercial program which costs rather more than *Flash-It's* \$15 shareware fee. But there are plenty of times that you might want to grab an image from your screen. For example, if you're writing some notes for someone on how to use a particular package, it's great to be able to include a picture of exactly what the menus look like in your document. Or maybe you want to baffle granny with science in your next letter to her (and qualify for your Nerd Proficiency Badge).

SHAREWARE ZONE PD



Flash-It is a screen capture program which allows you to save images from your Mac screen and then print them



SHAREWARE

Do It All! £25

To do list and scheduler

Do It All! is a 'to do' list organiser and scheduler that rivals commercial applications. Yes, I know I said that about *ToDo!*, but this package contains far more features; whether you actually want all the extra features is the deciding factor as to

which program you'll feel comfortable using.

At its simplest, *Do It All!* allows you to keep a list of all the jobs that you have going at the moment, together with the dates when they're due. You can assign each job a starting priority, and the closer you get to completion date, the higher that priority becomes. However, the program will do far more than just that – you can use it as a complete diary/scheduling package, too.

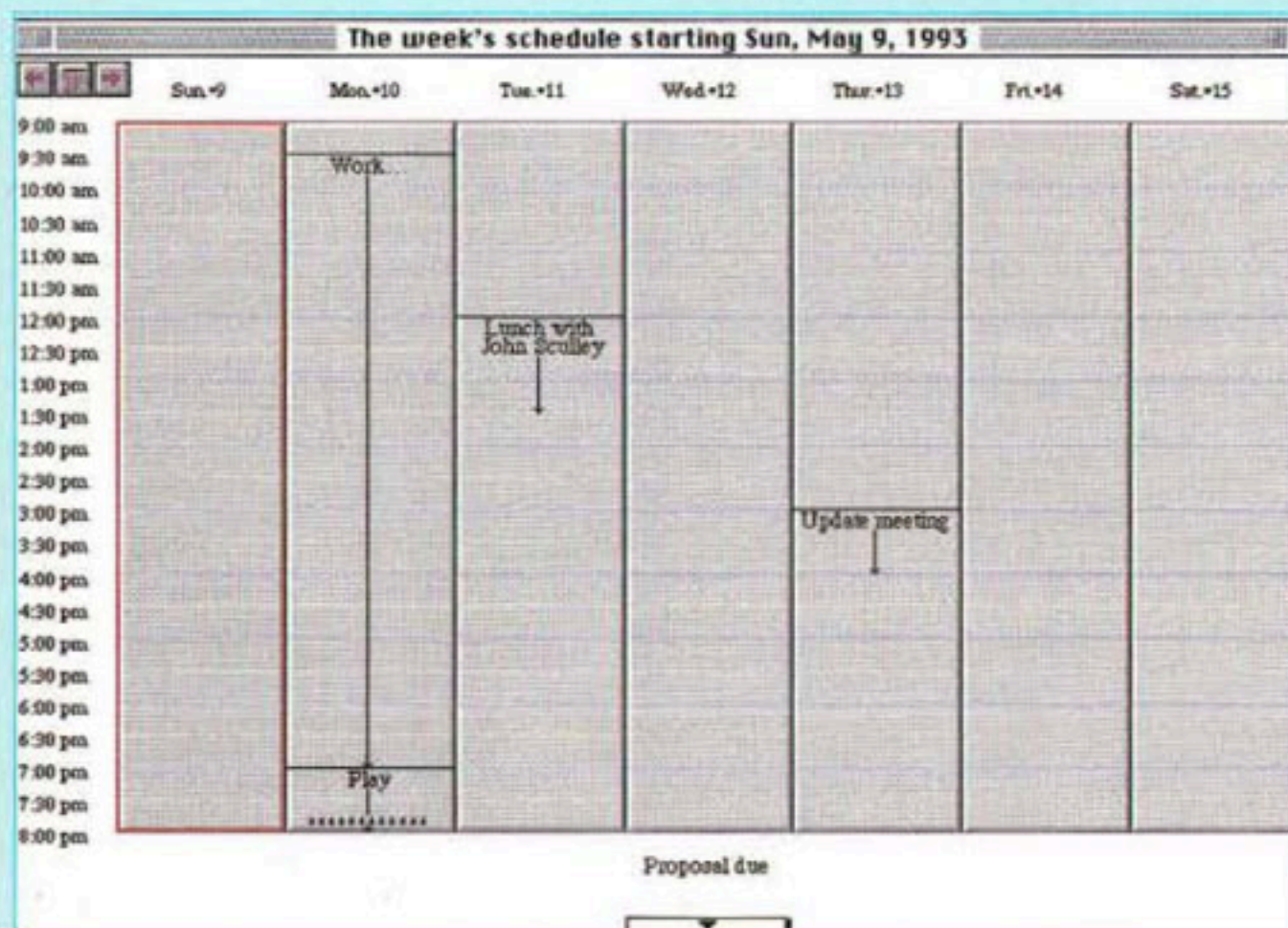
Selecting the week's schedule shows a standard diary-style date and time display; click and drag down an area of any one day and a new dialogue box appears, asking you to name the appointment/event, and confirm the start time and duration. In fact, that's one of my few complaints with the program: you can't define a start and end time, it has to be a start and duration. Or you can decide that this is a regular event and mark it as such. For instance, it's simple to tell the program that, on every Monday, Wednesday and Friday between

April 1 and July 20 you have a lunch meeting between 1pm and 2.30pm. *Do It All!* will mark those dates in your diary and report if there are any conflicts with previously planned events.

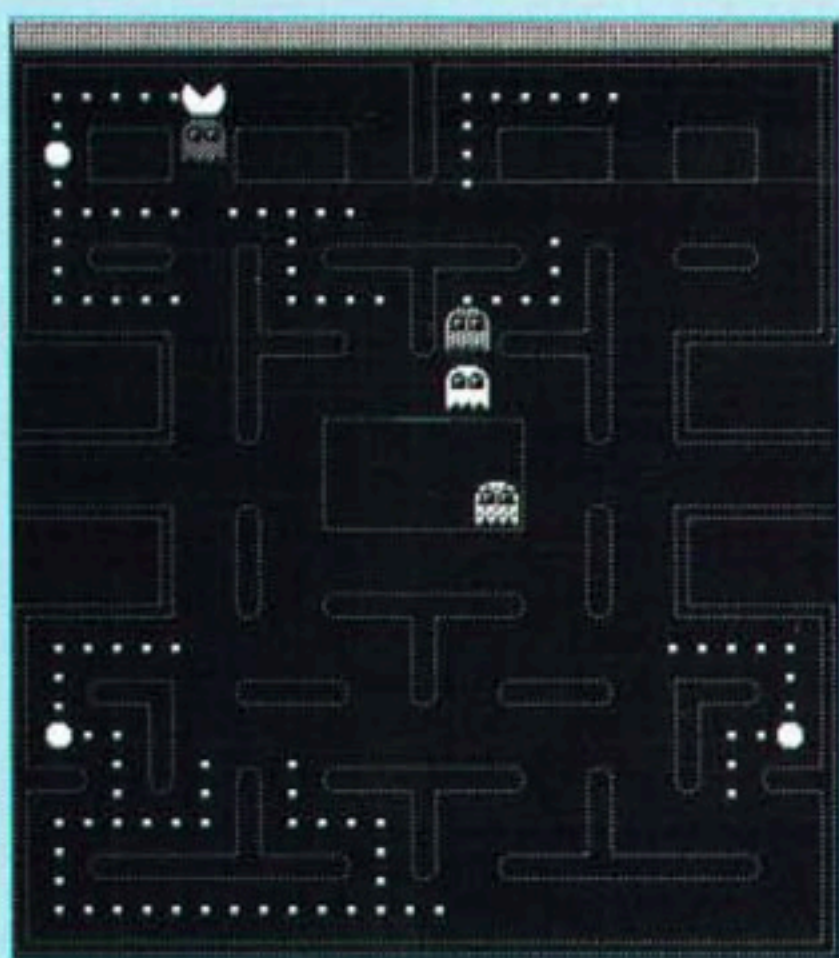
Underneath each date is a list of the jobs that you've specified must be finished by that date, in the form of a pop-up menu – or, of course, you can go back to the Joblist window to see exactly what priority each task has.

I'm not normally one for computer-based schedulers, but *Do It All!* might just change my mind. If anything, it could be considered a little bit too complex when you first start using it – but play around for half an hour and you'll soon find that what was unintuitive to start with turns out to be perfectly obvious.

If you want a fairly sophisticated scheduler, *Do It All!* is the program for you. Certainly, you should check it out before you fork out hundreds of pounds on a commercial scheduling application.



Do It All! allows you to keep a list of all the jobs that you have going, together with the dates when they're due. You can assign each job a priority that gets higher as the date approaches



Macman – little blobs being chased by other little blobs



SHAREWARE

Macman Classic 3.0 \$5Black and white version of *Pacman* arcade game

Any arcade game nostalgia fans out there will love this one. *Macman Classic* is a great (albeit black-and-white) version of *PacMan* – you know, the little blob that runs around eating little blobs while being chased by little blobs. It used to be the absolute favourite in the arcades, although it seems somewhat dated these days. I fondly remember losing all my pocket money on it...

Although there isn't the cute (and rapidly annoying) intro tune that there was on the real arcade game, *Macman* has just about everything else that the original did. Sound, bonus fruit

appearing, tunnel from one side of the playfield to the other – it's all there. So, too, is the fact that I can't get past level two without losing all my lives. To cater for people such as me, the author, John Butler, has included a 'Make Invincible' option – which can be turned off, rather logically I thought, by selecting 'Make Vincible'. If you play a game as an invincible blob, you can't be eaten by the ghosts – they just pass right over you, although you can eat them when you've blobbed over a power pill. A trifle unfair, that, but useful if you need practice in moving your blob using the (user-defined) keys rather than a joystick. Indeed, having to use keys is the only real problem – and, of course, it's a problem common to all Mac games, unless you fork out a fortune for a joystick.

You can even select what level to start on; the higher levels are impossibly fast, although I said that about the lower ones, too...



FREWARE

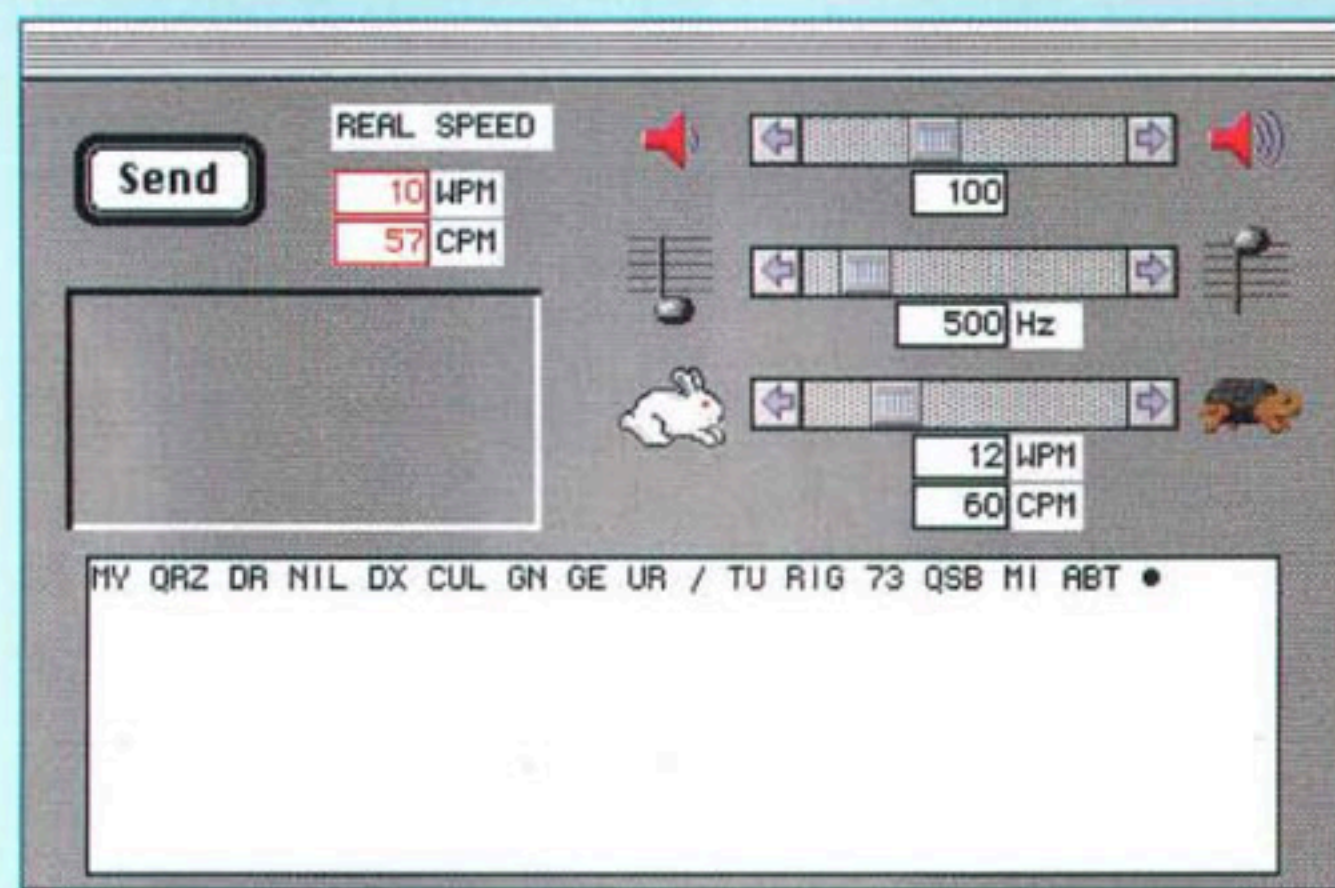
MorseMaster 1.0

Morse code tutorial package

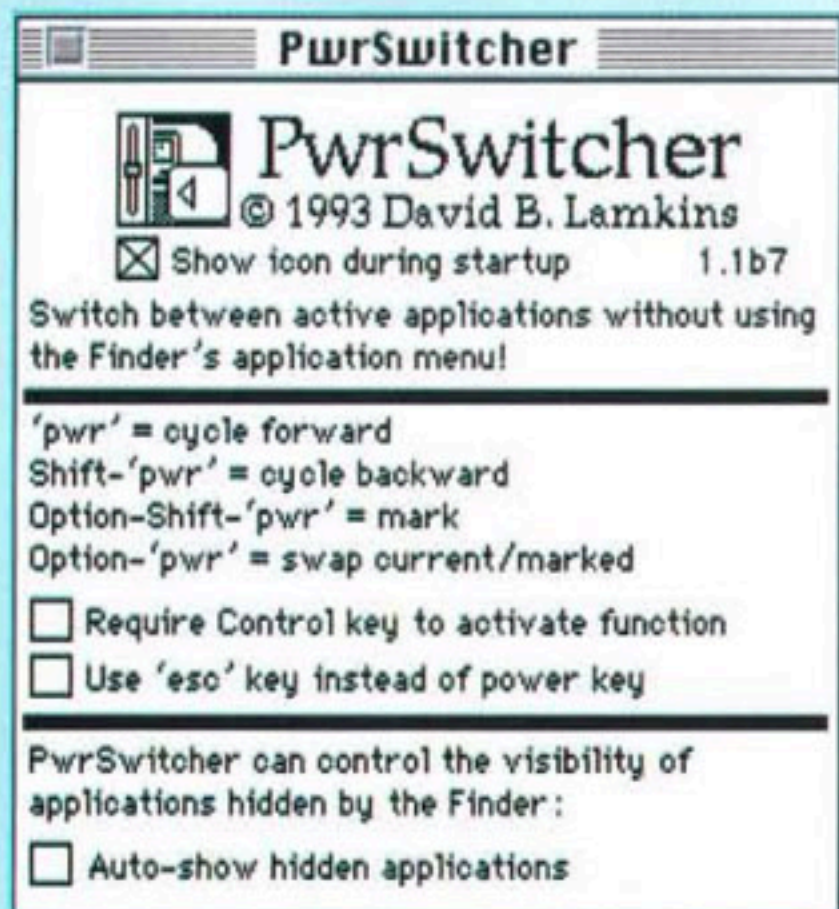
MorseMaster is a program for hams. Specifically, radio amateurs studying for their Class A licence, which requires an ability to send and receive Morse code. It can't help you with sending practice, but it should prove its worth when you're practising receiving. All the options that you might want are there: you can specify certain groups of characters for the program to send randomly – either the standards like 'all alphabetic', 'only

ETAOI' and so on, or a group of common amateur radio abbreviations like CQ, QTH, 73 or whatever – and the program will even send a text file if you want. The pitch of the beeps can be altered, as can the transmission speed: from four right up to 32 words per minute. You can even change the relative lengths of dots and dashes, the time between characters and words and so on.

All in all, *MorseMaster* is a useful program with an attractive user interface. I only experienced one problem: if you switch the program to the background while it's sending, you can't stop it when you move back to the foreground unless you force-quit it with [⌘] [option] [escape] – something that's not to be recommended.



MorseMaster won't be able to help you with sending practice, but it should prove its worth when you're practising receiving. The pitch of the beeps can be altered, as can the transmission speed: from four right up to 32 words per minute



Cycle through several different open applications by using the keyboard – a must for keyboard jockeys who only use the mouse as a last resort



FREWARE

PwrSwitcher 1.1

Swap between open applications using the keyboard

PwrSwitcher is a neat little utility for anyone who is lucky enough to have loads of memory on their Mac, and keeps half a dozen applications open at the same time.

As long as you're running System 7.0 or above, *PwrSwitcher 1.1* allows you to cycle through your open applications, including the Finder, using the power key on the keyboard (that's the one at the top with the triangle embossed into it). Normally, you'd have to go through the process of selecting an application from the menu at the top right-hand corner of the Mac's screen.

By now you'll have decided whether you want to use this or not; if you don't have a problem reaching for the mouse when you want to swap applications, skip on to the next shareware program. But for those keyboard jockeys who only use the mouse as a last resort, *PwrSwitcher* is a useful little addition.

As well as cycling forward through the list of open applications, you can cycle backwards, or swap between any specified two. Also included in *PwrSwitcher* is the option to use the [Escape] key rather than the power key, so PowerBook users needn't feel left out.

Don't be put off by the rather confusing documentation – the program is perfectly simple to use, and once you've used it for a couple of minutes, you'll not need to refer back at all.

PwrSwitcher is the sort of little hack that Macintosh enthusiasts are famous for: adding a little extra functionality to the machine for those that want it. Nice one.



Greg's Buttons

\$15

Improve the appearance of buttons and windows

Just as *SoundMaster* (reviewed in *MacFormat* issue 2) is essential to anyone who finds their Mac's sound output boring, so *Greg's Buttons* is an essential acquisition for everyone with a colour Mac who wonders why Apple didn't do anything interesting with the boring old dialogue box controls – you know, the OK buttons, check boxes and so on.

Greg's Buttons takes the form of a Control Panel that you drop into your System folder. Restart and you'll be stunned – the Finder windows are a different colour, the menu bar is a fetching shade of grey, all dialogue boxes have been improved immeasurably by the addition of grey shading and embossed lettering... even the



Greg's Buttons is a control panel that gives the Mac's buttons and windows an attractive 3D appearance

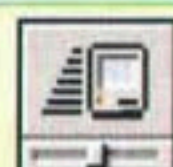
System font has been changed.

All of these options – and more – are selected from the Control Panel. Changes take effect immediately, although you may find that you need to close and re-open windows for colour changes to take effect. The new snazzy buttons

and so on appear in all applications – there are a couple of slightly incompatible programs, but if you find that you're using one of these, it's a simple matter to tell *Greg's Buttons* not to attempt any beautification in that application.

Purists will say that this is a totally unnecessary addition to the System – but then, they're probably the people who have their 24-bit colour monitors turned to black-and-white so that they can squeeze an extra five percent of performance out of the Macintosh. Any normal, fun-loving Mac fan, on the other hand, will love the program. I turned the Control Panel off after testing so that other screengrabs would look normal, and was appalled by how stark the normal Mac interface looks in comparison. Quotes from users in *Greg's* documentation file is that "Apple should have included it in the Macintosh System software" and "I can't imagine my Mac without *Greg's Buttons*." I heartily concur.

Only one downer: you can't use the program unless you have a colour-capable Mac. On the other hand it will work on greyscale monitors.



SpeedyFinder7

Aus \$20

Utility that speeds up the System 7 Finder

SpeedyFinder7 is a System 7 or above Control Panel which alters some of the ways that the Finder works – either to improve its functionality or to add some extra touches, such as rather nice coloured icons for floppy disks.

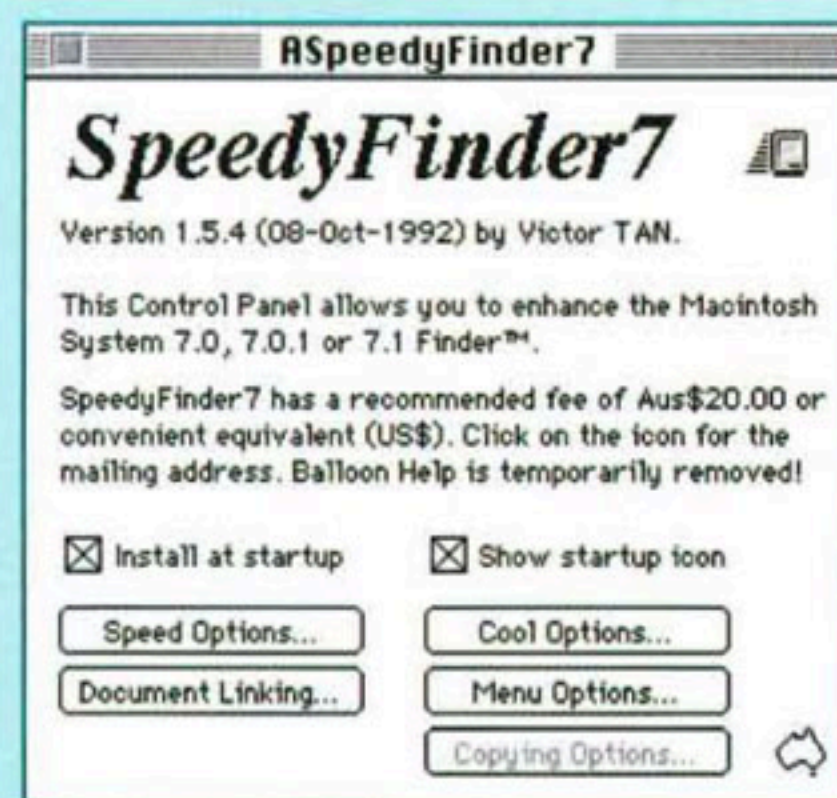
Installation is simple: just drop the Control Panel into the System folder and restart. Once you've done that, you can open the Control Panel and customise to your heart's content.

The range of options provided is stunning. For a start, you can improve the speed of copying files by forcing the Mac to use more memory

while it's copying; registered users of the program get a version which copies files totally in the background, so you can use the Finder as normal while your Mac's working. There's an option to make the Wastebasket empty much faster than normal; you can turn off the 'zoom rectangles' (the zooming effect that windows show when you open them); you can add keyboard commands to menu items such as **Make Alias**, **Clean Up** and even **Restart**

SpeedyFinder7 also allows you to set up 'document linking'. This means that if you have, say, text files created by a word processor you don't own, you can have them automatically open your own word processor when you double-click on them – rather than the Mac telling you that it can't find the creation application.

All in all, *SpeedyFinder7* is a pretty much essential addition to any Mac owner's System. It's well worth the Aus\$20 registration fee –



SpeedyFinder7 – speeds up and alters System 7's Finder

especially since you get a version of the program that includes a background file copy feature.



Forty Thieves – double click on a card and it will move to the correct place. Some might say this isn't the best way to get maximum productivity from your Mac, but it's great relaxation



Forty Thieves 2.1

Colour, 'patience'-style card game

\$10

Forty Thieves is an old favourite of mine. For some reason I love card games on the Mac, and *Forty Thieves* is one of the best – mainly because it requires so little thought on the part of the player.

The game is a 'patience'-style thing; your aim, as always, is to build up full suites of cards on to the four aces. The advantage of this particular version is that the program does all the work for you:

double-click on a card and it will move to the correct place, if there is a possible move. In practice, this means that you tend to sit staring moronically at the screen, clicking away at the mouse and not really thinking about anything at all. Some may feel that this isn't the best way to get maximum productivity from the Mac, but I find it incredibly therapeutic. Fifteen minutes gazing at *Forty Thieves* is great relaxation.


SHAREWARE

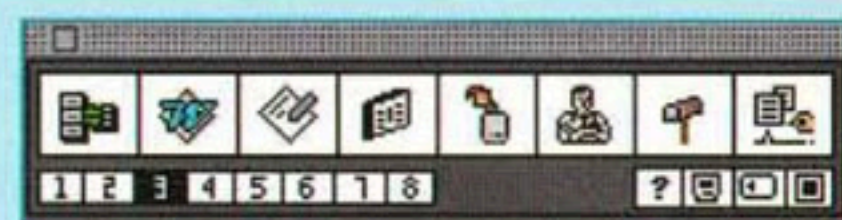
PowerLaunch 1.5 \$20

Launch applications from a floating palette which displays available programs

PowerLaunch provides a floating palette from where, unsurprisingly, you can launch any application. In other words, rather than ferreting through loads of windows to find *ZingWord 0.1*, you can instead install it into the palette and then launch it just by clicking on its icon from that palette. *PowerLaunch* is an application, rather

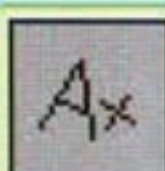
than an Extension or Control Panel, so to have it automatically start you must put an alias into the Startup Items folder (the program requires System 7 to run). You can also put an alias in the Apple Menu Items folder, so that it's available from the  menu, if you want.

I'm sure that there are a lot of powerful features in this program, but I can't help thinking that it's rather like using a sledgehammer to crack a cliché. Sure, the palette appears on command (although I found that if I set it to appear automatically when the cursor travelled over it, I had great difficulty in actually staying in any given application), and you can select whole groups of applications to launch at the same time – which is, indeed, a useful idea. However, my



You can select whole groups of items to launch at the same time – useful, but not that useful

personal preference is to use another shareware program – *BeHierarchic*, reviewed in issue 1 of **MacFormat** – which adds hierarchical menus to the  menu. Simply create an alias of your hard drive and stick it into the Apple Menu Items folder. Then you can easily select any application or file that you want – no hassle.

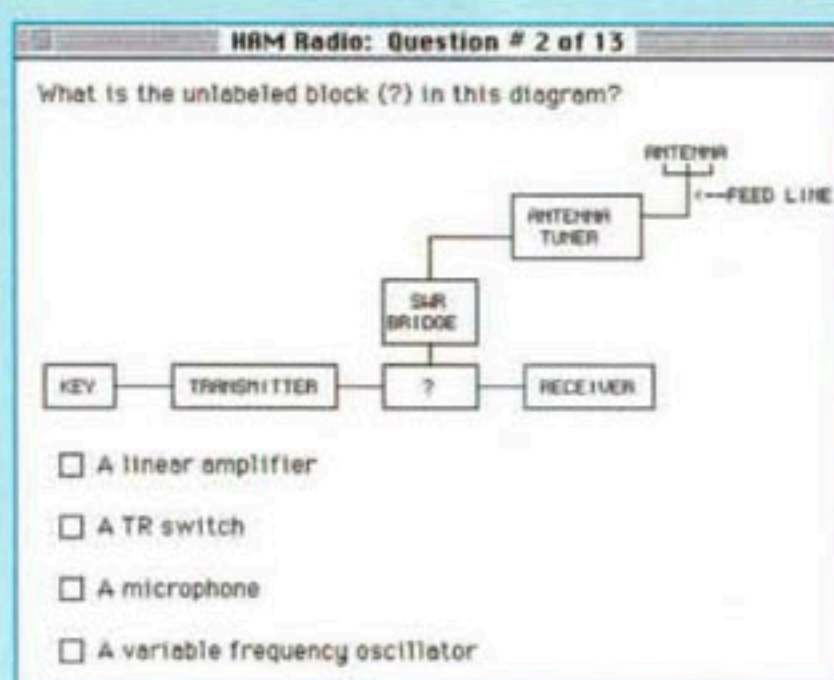

SHAREWARE

Tester 0.10 \$20

Multiple-choice question master

This is a fairly basic multiple-choice test package. I'd be surprised if anyone wanted to use it for, say, students' GCSE papers, but on the other hand it could be useful as a revision aid.

The program is supplied with two sample tests: one for Radio Amateurs (there's a lot of it about this issue) and one for the California Driver's License exam. To create your own tests, you'll have to register the program or send the test to the author along with \$0.25 per question if it's on disk, \$2 per question if it's typed. Of course, this means that you'll register – you'd be mad to pay \$200 for a 100-question test when a



Tester is able to include PICT graphics, so you can create questions such as the one above

fifth of this would give you the ability to create limitless different test files.

The program supports the inclusion of PICT graphics, so you can ask questions about images

(see the screengrab for one such example); each question can have up to nine wrong answers and each answer can be accompanied by a comment. The student takes the test by clicking the checkbox corresponding to what they think is the right answer, and then selecting Next Question from the Test menu. I'm not sure that this is a particularly great way of doing things, though: it means that the student must be at least partially Mac-literate. Surely a better way would have been to have a button on the screen which leads on to the next question? Also, there's no time limit on the tests – the student can take as long as they like.

At the end of the test, a dialogue box gives the number of correct answers, the number of answers correct on the second guess, and the number of unanswered questions – those that the student skipped.

Creating a user-friendly computerised test program has always been a difficult problem, and I don't think that *Tester* has really got it right.


SHAREWARE

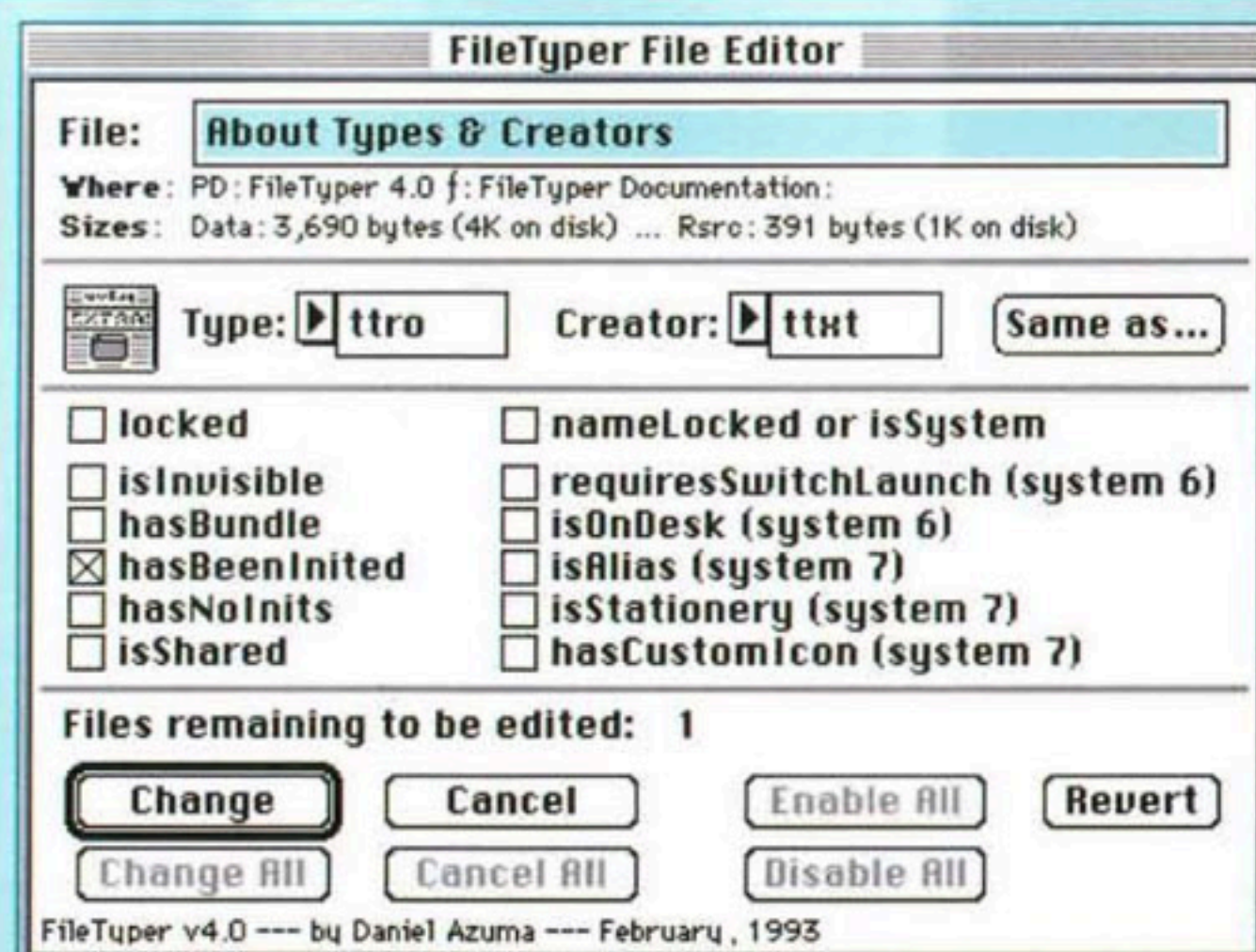
FileTyper 4.0 \$10

Change the type and creator of files easily and quickly

FileTyper is another essential utility for users of System 7 (there is a version which works under System 6, but it loses much of the functionality). The program allows you to view and change many of a file's attributes, including its creator and type. Again, it's one of those programs that you will only need if you know that you need it (if you see what I mean), but it's an essential program for anyone who uses bulletin boards or who receives files from DOS-based users.

The System 7 version of the application has a 'drag and drop'

interface: you select the file that you want to view and drag it over *FileTyper's* icon. When you release the mouse button a window appears, giving you all the file's information, which you can change at will. For example, you may have noticed that many *TeachText* documents shipped as 'readme' files with applications appear on the desktop with a 'newspaper'-style icon, and can't be edited. Well, now you can create these read-only documents too: drag a text file to *FileTyper*, change its file type to 'ttrt', then save the changes. Voilà! If you receive files from a DOS PC which appear on your desktop as plain icons it's a simple matter to select them, drag them to *FileTyper* and choose the application that you want to open them in. When you've made changes, you will be able to double-click the files and have them automatically open into your chosen



This window gives you all the information on a particular file, which you can change at will

application. Files can be changed one at a time, or in batches.

This version of *FileTyper* is a

vast improvement over previous incarnations. I keep a copy on my Desktop for easy access.

PD and shareware – what exactly are they?

PD is short for 'public domain'; it's software that may be freely shared around among users – there is no fee to pay. It can be obtained from PD houses (companies which specialise in collecting together and distributing this sort of software), user groups and bulletin boards.

Actually, most free software isn't PD – it's what's known as 'freeware'. This is because putting a piece of software into the public domain deprives the author of any rights to, or control over, that software. So someone else can modify it, claim ownership of it and even sell it as a commercial package. Clearly, most programmers are not at all happy at that sort of thing, so the concept of 'freeware' was created. This is software which you can use for no charge, but which the author still retains rights over. For

example, many freeware authors specify that their programs must not be altered, and may only be distributed if they are accompanied by the documentation files. For simplicity, though, most people still refer (slightly inaccurately) to this type of software as 'PD'.

Shareware is a different thing altogether: it's a form of 'try before you buy' approach to software selling. The idea is that you can obtain the programs from the same sources as PD and freeware, but that if you like the software, you send the author a contribution – normally somewhere between \$5 and \$40 (most shareware authors live in the States). This fee, called the 'registration fee', is for you to become a registered user of the program. Sometimes you get added benefits from the author – such as a printed

manual, or a version of the program with extra features – but whether you receive such goodies or not, you should register any shareware which you regularly use.

The shareware idea benefits both users and authors. Users get to try out a program before they buy it (and if you've ever bought a commercial program that turned out to be a real dog, you'll know how valuable that can be), while the author saves money on things like marketing and distribution. Unfortunately, many people treat shareware as if it were PD – they use the programs all the time, but never send payment to the author. Now, while it's true that sending money overseas isn't as convenient as just writing a sterling cheque out, it's still your duty to do so, and encourages the author to keep contributing.

RITZ
STARTER

SHAREWARE

Ritz Starter

\$29

Great value accounts package

This is something of a novelty in the freely-distributable software marketplace: a program written by an established, commercial software house. Ritz is well known for its Mac accounting software – it's one of the longest-established Mac accounts companies. The company has decided that it's time to try to give the widest possible group of users access to its products by producing a slightly cut-down version of its popular software on a shareware basis.

You are allowed to use *Ritz Starter* for a maximum of 30 days, after which time you must register. After 30 days you can't continue to enter any data into an unregistered version.

The program comes with a 15-page manual on disk, which you must print out – you can't browse through it on the screen. This is a shame, but I guess that since it's rather important that you understand what you're doing before computerising your accounts, this is probably a good idea on balance. The manual seems quite

good, although due to its conciseness you would do well to read a general book on the subject before you start using the program.

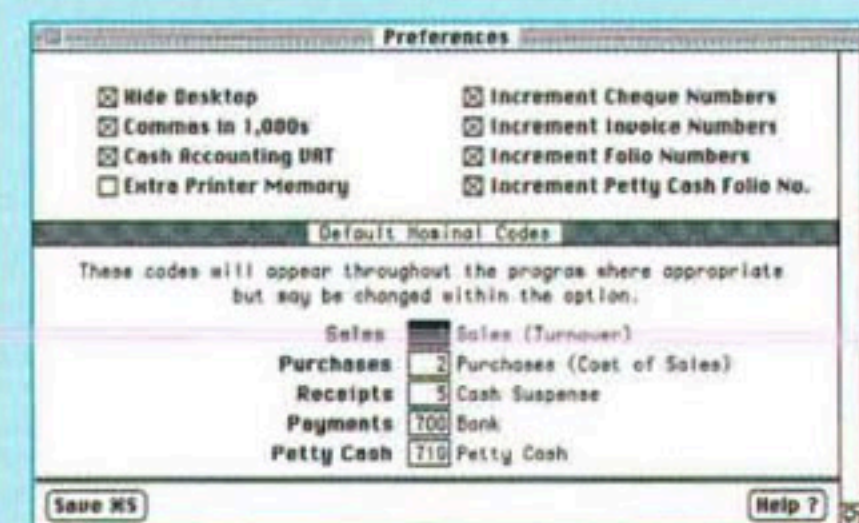
When you first run the program, you will be asked to specify a new company; you must select this to be either a sole trader/partnership or a Limited/plc company, as the accounting methods are slightly different. Each option – for entering payments, say – is displayed in its own dialogue box and, rather disconcertingly, some don't disappear when you hit the **Save** button after entering details; instead, you must click the **Close** button on the window's title bar. After a few minutes this becomes second nature, but it does take a little getting used to.

The range of features supported by the program is really rather impressive – it certainly seems to be able to do most things that a full commercial program will do. These include:

- Invoice postings
- Petty cash
- Receipts and payments
- Statements
- Daybooks
- Bank reconciliation
- Multiple postings
- Recurring postings

- Diary reminders
- Management figures
- Audit trail
- Instant trial balance
- Customisable reports
- Full VAT records, including scale charges, cash accounting VAT and EC sales and purchases

Of course, one of the reasons that Ritz has produced this program is that the company hopes you will graduate to one of its full packages – the data that you've created in *Ritz Starter* will be transferable. But many people will find that this package does all that they need.



Setting up your preferences in *Ritz Starter* – the accounts package developed for small business users

Where to get it

You can obtain PD and shareware from a number of different sources. First, there are the commercial PD houses (check the adverts in this magazine for addresses). These are companies which collect software, package it on to disks and then sell it on to you for a

moderate charge.

Next come bulletin boards. To access one of these you'll need a modem, of course, but once you're connected you will find that there's a wealth of software available. If you use the CIX bulletin board (modem phone 081 390 1244, any speed

from 1200baud upwards, log on as 'new'), check out the 'files' and 'files2' topics in the 'mac' conference – and, of course, our own 'macformat' area. If you use CompuServe (voice phone 0800 289378 for an information pack) there is a multitude of different Mac areas; check

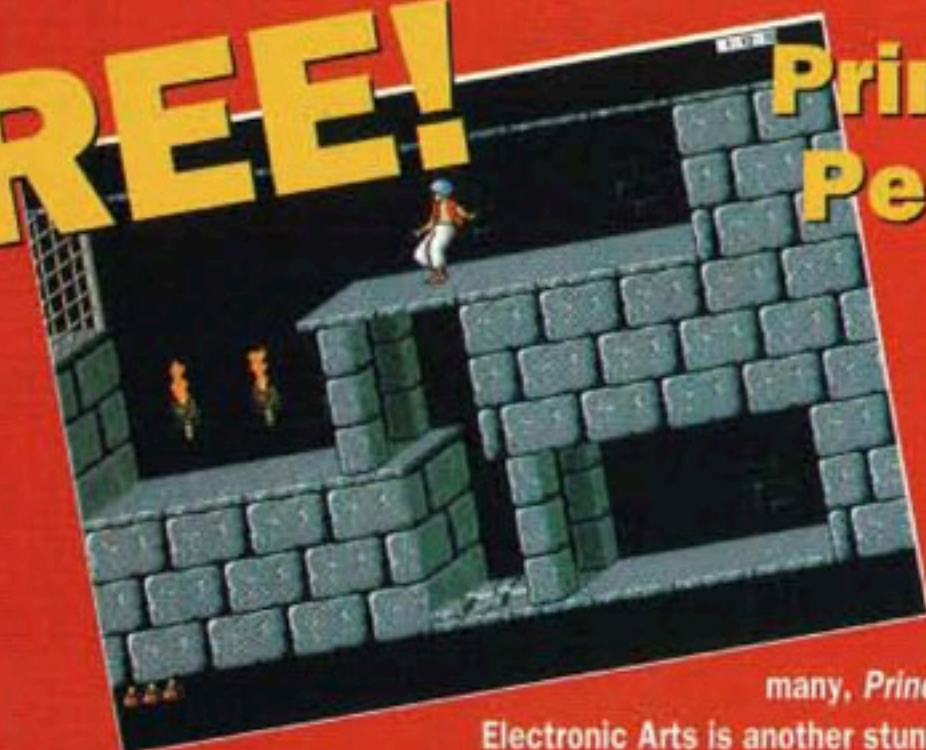
manual and the monthly magazine for details.

Finally, many Mac user groups have a range of PD and shareware available; and, of course, you can swap it with your friends – it's not software piracy, all of these programs are freely distributable.

SUBSCRIBE TO MAC FORMAT

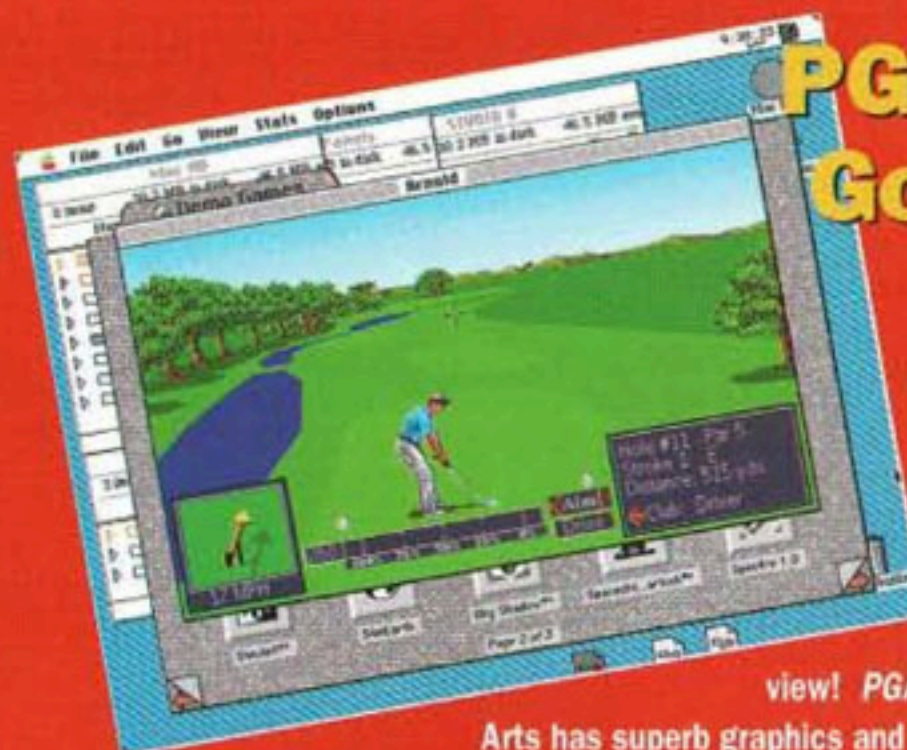
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■ Classic II 4/40. Grey import, printer and modem ports broken – otherwise perfect: £275. Tel: 0203 673963 (Coventry)

■ 512K Apple Mac for sale together with an early copy of Microsoft Word (still in box), MacPaint and MacWrite. Ideal for student. £150 ono. Tel: 0424 212574 (Bexhill)

■ Classic II 4/40: £700 ono. LC 10/40 with 12-in colour monitor and 68882 Co-Pro: £800 ono. Both complete with keyboard, mouse, manuals and System 7. Tel/Fax: (0477) 537045

■ Mac SE 1/20, mouse, keyboard and software. Perfect condition: £390 ono. Tel: 081 461 3089

■ Mac LC 10/40 512K VRAM, 14-in Apple colour monitor, System 7.1, six months old: £850. Tel: 0707 276286

■ PowerBook 170 4/40, 33MHz, charging unit, carry case included. Immaculate. £1,400 ono. Tel: 0273 777235

■ Mac Classic 2/40, mint condition, hardly used, only three months old, System 7, Apple keyboard II, mouse mat, paper holder, Classic cover, boxed. Bargain at £425. Call Tim on 081 301 5226

■ Mac SE 2/20, good condition, includes all software, manuals and ImageWriter plus external disk drive. Going cheap: £400. Tel: 0324 815391

■ Mac SE 2/20. New logic board, mouse, keyboard. Excellent condition: £500. Contact Ian on 0296 613652 (Aylesbury)

■ Mac LC 4/40, 12-in colour display, maths co-processor, boxes, manuals; home use only, excellent condition, sensible offers only. Call Peter on 021 565 2344

■ PowerBook 100, 80Mb HD, 8Mb RAM, long battery life: £800 or exchange for 486 PC or Notebook. Can deliver. Tel: 0202 658211 (Dorset)(eves)

■ Mac PowerBook 140 4/80, as new, home use only, carry case, manuals, 1 year old: £1250 or best offer. Call David on 0256 880635 (please leave message)

■ PowerBook 170 8/80 with power port Silver 9600. Send/receive fax/data modem. All system software, manuals, carry case: £1,995 ono. Tel: 071

792 3812 (West London)

■ Mac SE 4/40 FDHD with Nutmeg 19-in mono monitor and card: £575. Also Kurta IS/ADB 17-in x 12-in graphics tablet with cordless pen and cursor: £275. Tel: 0203 382861 (Warwickshire)

■ Mac IIsi 5/40, 13-in RGB monitor, maths co-processor, standard keyboard plus software, 8 months old, excellent condition: £1590. Call Andrew Guest on 0803 843162 (after 6pm)

■ Mac LC, 14-in colour monitor, 512K VRAM, 6 months old, boxed, warranty, as new: £850. Tel: 061 439 5885

■ Mac IICx 8180, 13-in colour screen, extended keyboard, mouse, modem card, excellent condition: £950 ono. Call VJ on 081 398 3984 or 0274 570190

■ Mac LC 4/40, 14-in Apple colour monitor, 512Kb VRAM, three months old, home use only, all boxes etc: £875. Call Bruce on 061 872 0724 or 0943 873990 (eves)

Printers

■ Deskwriter 550C colour printer: £500, 5 months old. Boxed software, SuperPaint, £50, Canvas 2.0, £125, Mathtype £25. Prices negotiable. Call Ravinder on 0902 321985 (Thursdays only)

■ New Apple LaserWriter NT, still boxed, including all cables, Apple Talk, cover, manuals. Postscript quality printer: £900 ono. Tel: 061 626 3004 (eves) or 061 839 6475 (day)

■ Apple ImageWriter II; colour/B & W printing; all leads. Rarely used. £185 ono. Tel: 08772 888 (Stirlingshire)

■ Apple LaserWriter Plus; excellent condition including leads: £435 ono. Tel: 061 643 6474

■ ImageWriter II printer, private use, as new plus leads, manual, spare tapes: £195. Buyer collects. Tel: 0352 740420

Software

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■ **Games: Lemmings, SimEarth, Balance of Power.** All originals with manuals – £20 each or £50 the lot. Call Rob after 7pm on 081 941 7746

■ **Letraset Design Studio 2.0.** This is the full version of Design Studio and is not a module. The package comes on 5 disks and includes comprehensive manuals: £175. Call David on

061 480 6144

- **Statistic software: Minitab** release 6.2, boxed, manual, original disks: £70. Tel: 0734 875919 and ask for Flat 5.
- **Prince of Persia** – works on any Mac. As new, £15 including postage. Call Tim on 0626 69622
- **Complete boxed copy of Adobe Photoshop Version 2.** Never used, original condition: £400 ono. Tel: 071 582 4680 before 10am and after 8pm

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- **Adobe Type Manager 2.03 with Garamond Font: £15. PC exchange V.1.0.1: £15; original software. Will accept £25 for both. Call Simon on 0926 334594 (eves)**
- **Apple IIE, two disk drives, orange monitor, 128K/80C card: £100 plus postage. Tel: 041 639 8366**
- **Scanner: Microtek 600 DPI, 24-bit colour flatbed. Excellent condition, with Photoshop: £700 secures. Call Boyd or Mark on 0494 782563 (day)**

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■ Calera Wordscan plus OCR software; cost £600, will sell for £270. Macromedia Action Multi-Media software; cost £350, will sell for £200. Both new and unregistered. Call Mark on 081 561 4405 (eves)

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- SIMMS memory chip for LC to upgrade from 4Mb to 10Mb. Good price paid – urgently needed. Tel: 081 850 6586
- I'm looking for a 20SC hard drive or similar for my Mac Plus; any reasonable price, cash waiting; must be in working order. Tel: 041 427 5178 after 6pm (Glasgow)
- 40 or 80Mb hard disk (external) for use with Mac Plus. Also ImageWriter II or inkjet printer compatible with Mac Plus. Call James on 0985 218453
- 512K Mac. Must be cheap; would consider faulty machine providing not too drastic a fault! Also cheap ImageWriter. Call

CONTACTS

■ Mac maniacs wanted to exchange hints, games, technical help, ideas. Please write to: Simon Clarke, 5 Trevillis Park, Liskeard, Cornwall PL14 4EF

■ Contacts wanted to swap PD, shareware, ideas etc. Write to: Jonathan Bowman, 32 Orchard Way, Offord D'Arcy, Huntingdon, Cambs PE18 9RE

■ Anyone in the London area interested in trying things out with video/photography on the Mac. Call Ross on 071 386 0358

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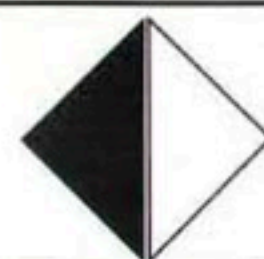
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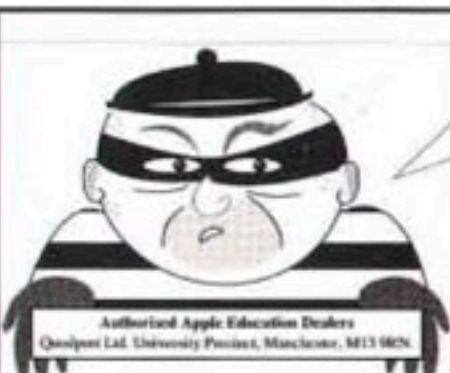
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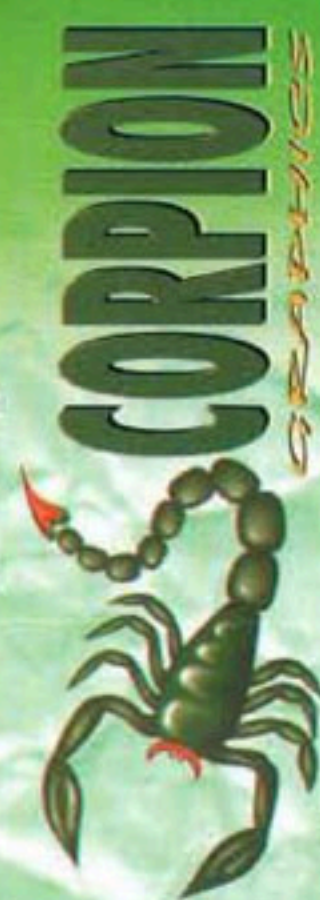
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MacFormat hardware

Welcome to part two of our hardware round-up – this issue we've covered hard drives, network cards, fax modems, modems, display boards, greyscale monitors, audio cards, label printers, colour, greyscale and handheld scanners and,

phew, video cards. All prices quoted include VAT and are the manufacturers' recommended retail prices, so shop around for the keenest prices! And if you're intending buying by mail order remember these five golden rules:

- Pay cash on delivery or
- Pay by personal credit card or
- Collect your gear in person
- Buy from an established supplier
- Be wary of unusually low prices

Name	Price	Maker	Distributor	Phone	Comments
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Frog 80i	£234	Frog Systems	Frog Systems	0738 441522	80Mb, 17ms seek time, 16Mbit/sec media transfer rate
Frog120i	£234	Frog Systems	Frog Systems	0738 441522	120Mb, 18ms seek time, 10Mbit/sec media transfer rate
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Hammer PB80	£599	FWB	NuSys	0379 650777	80Mb drive for the PowerBook; 15ms seek time
Hammer PB120	£749	FWB	NuSys	0379 650777	120Mb drive for the PowerBook; 17ms seek time
Hammer PB160	£949	FWB	NuSys	0379 650777	160Mb drive for the PowerBook; 17ms seek time
Micropolis Fast SCSI	£950	Micropolis	Mac Accessory Centre	091 295 0353	560Mb drive, five year warranty
Quantum PowerBook drive	£450	Quantum	Mac Accessory Centre	091 295 0353	80Mb drive for PowerBook; 120Mb and 240Mb also available
NETWORK CARDS					
3COM EtherLink/NB	£450	3COM	Principal Distribution	081 813 5656	Ethernet card for Mac IIx; thick, thin and twisted pair connections
Apple Coax/Twinax card	£400	Apple	Apple	Freefone Apple	Nubus card for connecting Mac to IBM machines via coaxial cable
Apple Ethernet AUI Adaptor	£98	Apple	Apple	Freefone Apple	Attachment Unit Interface adaptor for Ethernet
Apple Ethernet LC Card	£112	Apple	Apple	Freefone Apple	Usual connections; just for the LC
Apple Ethernet NB Card	£227	Apple	Apple	Freefone Apple	802.3 thin co-axial 10Mbps card with Ethernet software driver. Mac II and IIx compatible
Cabletron E4010	£400	Cabletron	Cabletron	0635 580000	Thick, thin and twisted pair connections
Cabletron E6112	£405	Cabletron	Cabletron	0635 580000	RJ45/BNC adaptors – surface mounted technology
Cabletron EA419	£365	Cabletron	Cabletron	0635 580000	Designed for networking Classics and Powerbooks; SCSI to ethernet RJ45 adaptor, plus BNC adaptor
Cabletron EA412	£316	Cabletron	Cabletron	0635 580000	For networking Classics and PowerBooks; RJ45 adaptor only
DaynaPort	£150	Dayna	Computers Unlimited	081 200 8282	Network speed booster for AppleTalk-compatible networks, using LocalTalk, PhoneNet or other compatible cabling.
DaynaPort E/11	£200	Dayna	Computers Unlimited	081 200 8282	Ethernet adaptor for the Mac II range; thick thin and twisted pair connections
DaynaPort E/Z	£349	Dayna	Computers Unlimited	081 200 8282	Thick thin and twisted pair connections; plugs into the printer port so you don't need an expansion card slot
DaynaPort SCSI/Link	£350	Dayna	Computers Unlimited	081 200 8282	Link up to Ethernet network via the SCSI port – with thick, thin or twisted pair connections
Dove Fastnet	£375	Dove	Persona-TMC	0372 729611	Ethernet adaptor with thick, thin and twisted pair connections
Ether+	£249	Compatible Systems	Nexus	0626 891091	External Ethernet interface that runs from the SCSI port on any machine; thick, thin and twisted pair connection
EtherDS	£295	Compatible Systems	Nexus	0626 891091	Ethernet adaptor card for the IIx and SE/30; standard coaxial or 10Base-T twisted pair
EthernetAdaptor	£350	Corvus Systems	Corvus Systems	0635 580300	Portable adaptor for portable and laptop computers
Ethernet GeoLink cards	£165	Neutral	Neutral	081 599 9902	Ethernet networking via thin coaxial or twisted pair cabling; latter is more expensive
Ethernet GeoLink Combo/IIx/SE/30	£335-£445	Neutral	Neutral	081 599 9902	Allows you to free up expansion slots yet still upgrade your IIx or SE to Ethernet responsive status
EtherMac 30i-10T	£249	Farallon	Farallon	071 245 6919	Thick cable/10Base T Ethernet card for the SE/30
EtherMac 30i-C	£299	Farallon	Farallon	071 245 6919	Same as above but with option for thick and thin cabling
EtherMac 30i-TN	£249	Farallon	Farallon	071 245 6919	Thick/thin cable Ethernet card for the SE
EtherMac II-10T	£329	Farallon	Farallon	071 245 6919	Thick/thin 10BaseT cable Ethernet card for the Mac II
EtherMac II-C	£225	Farallon	Farallon	071 245 6919	Thick cable Ethernet card for the Mac II
EtherMac II-TN	£225	Farallon	Farallon	071 245 6919	Thick/thin cable Ethernet card for the Mac II
EtherMac LC-10T	£225	Farallon	Farallon	071 245 6919	10Base T Ethernet card for the LC, options for FPU socket
EtherMac LC-TN	£225	Farallon	Farallon	071 245 6919	Same as above, but thick cable instead of 10BaseT
EtherMac SE-C	£299	Farallon	Farallon	071 245 6919	Thick and thin cable Ethernet card for the SE
EtherPrint Plus	£599	Dayna	Computers Unlimited	081 200 8282	Allows Ethernet connections for up to four printers or peripherals with LocalTalk connectors
EtherPrint	£449	Dayna	Computers Unlimited	081 200 8282	Connect LocalTalk printers to Ethernet without a gateway; twisted pair or fibre-optic cabling
EtherWrite	£399	Compatible Systems	Nexus	0626 891091	Coaxial or 10BaseT twisted pair cabling option; allows connection of up to six LocalTalk printers to Ethernet
High Speed NeuNet	£199	Neutral Systems	Neutral Systems	081 599 9902	Nubus network card for Mac II with AppleTalk enhancing features
MacCon+ II	£240	Asante	Profyle	0235 530933	Ethernet card for the Mac II
MacCon+ LC	£312	Asante	Profyle	0235 530933	Ports for thin and twisted pair networks; extra port for maths co-processor. For the Mac LC



Name	Price	Maker	Distributor	Phone	Comments
MacCon3/IIsi	£312	Asante	Profyle	0235 530933	Connectivity for thick, thin and 10Base-T Ethernet, plus the ability to configure automatically to suit the cable fitted
MacCon3/Nubus	£312	Asante	Profyle	0235 530933	Same as above, but all Mac II models except the IIsi
MacCon3/SE	£312	Asante	Profyle	0235 530933	Same features as above, but just for the SE
Novell NE1000	£149	Novell	Novell	0344 860400	16-bit LAN adaptor for the SE; EtherTalk compatible
Novell NE2000	£429	Novell	Novell	0344 860400	32-bit LAN adaptor for the Mac II; Nubus/EtherTalk compatible
Nuvotech NuvoLink SC	£265	Nuvotech	Principal Distribution	0706 831831	EtherNet card for the Plus and Classic – thick, thin or twisted-pair connections. Uses SCSI port
PhoneNet	£42 single user	Farallon	Principal Distribution	0706 831831	Emulation of LocalTalk cabling
PhoneNet Card	£146	Farallon	Farallon	071 245 6919	Ethernet card; thick and twisted pair connectors
PhoneNet Talk PC Card	£230	Gomark	Gomark	071 731 7930	Link up device between the PC and AppleTalk networks
Planet X	£195	Principal Distribution	Principal Distribution	0706 831831	X-Window system client that allows the user to operate from any X-Window set up. The window itself, on the other machine's screen, allows you to see what is on the Mac screen and manipulate Mac files as well
Resource Controller	£195	Resource	Resource	0302 340331	Link up device for BBC peripherals to the Mac
StarConnector	£17	Star	Principal Distribution	0706 831831	Allows you to utilise existing cabling to build networks; connects LocalTalk peripherals in star topologies
Transfinite Gold Block	£195	Transfinite Systems	Transfinite Systems	0101 617 969 9570	Link up device between the Mac and a Nintendo games machine

FAX MODEMS

Andest FaxExpress	£149	Andest	Andest Communications	0908 263300	Combined WorldPort 2400/9600 baud modem, plus software enabling direct fax facility from Mac
Andest RoadRunner QuinFax	£599	Andest	Andest Communications	0908 263300	External fax modem running at 9600 bps; send and receive facility
DoveFax+	£310/£235	Dove	Mygate	081 657 8770	Higher price includes voice chip that lets you use the fax as an answering machine. Lower price buys you a 9600bps send/receive fax, with Hayes-compatible data modem
FaxSTF	£595	IMC	IMC	0753 830999	Sophisticated 4800/2400bps fax with background receive facility; date and time of incoming faxes is logged; you can also create a 'directory' for popular numbers
Global Village PowerPort v.32	£600	Global Village	Computers Unlimited	081 200 8282	Internal fax and 9600bps data modem for Mac PowerBooks
Global Village TelePort FullFax	£300	Global Village	Computers Unlimited	081 200 8282	9600bps external fax modem; send and receive function enhanced by auto retry/delayed sending/address book/multiple destinations
Kortex KX Pocket	£399	Kortex	Daytona Comms	0494 474799	External fax and data modem
PSI Comstation 1	£190	PSI	Computers Unlimited	081 200 8282	Combined fax/data modem supporting V21, V22, V22bis and V23
PSI Comstation 2	£300	PSI	Computers Unlimited	081 200 8282	Same as above, but with the addition of MNP4 error correction and MNP5/V42bis compression
PSI Comstation 3	£400	PSI	Computers Unlimited	081 200 8282	Same as Comstation 2 but additional LAP-M error correction
PSI Comstation 5	£500	PSI	Computers Unlimited	081 200 8282	Powerful 14,400bps fax combined with 57,600 Hayes-compatible data modem. Ethernet/AppleTalk user support, up to max of 10
PSI PowerModem	£200	PSI	Computers Unlimited	081 200 8282	Internal 9600bps fax/2400bps modem for the Mac PowerBooks. Includes user-definable phone books
Supra FaxModem Plus	£199	Supra	Surface	081 566 6677	9600bps fax/data modem
Supra FaxModem V.32	£299	Supra	Surface	081 566 6677	9600bps fax/data modem
Supra FaxModem V.32bis	£389	Supra	Surface	081 566 6677	Same features as previous two but with the addition of Microphone 1.6 comms software
Touchbase WorldPort 2400 Plus	£345	Touchbase	Andest Communications	0908 263300	4800 baud fax/2400 baud fax/data modem

MODEMS

Amber Mistral 9600B	£795	Amber Logic	Amber Logic	0274 585483	V42bis, MNP5 external
Amber Mistral 14400	£895	Amber Logic	Amber Logic	0274 585483	All modem speeds between V21 300bps and V32 9600bps
Amber Mistral 14400B	£895	Amber Logic	Amber Logic	0274 585483	Mercury/V32bis support
Amstrad SM2400	£249	Amstrad	Amstrad	0277 230222	External, 2400 baud
Andest Roadrunner QuinFax plus	£675	Andest	Andest	0908 263300	Portable; supports Mercury and V32bis
Andest Roadrunner Zero Power	£329	Andest	Andest	0908 263300	Neat little external data modem – uses phone line for power supply
Apple Internal XP 2400	£400	Apple	Apple	Freefone Apple	Internal modem; 2400 bps
Case 4696	£995	Case	Case	0923 58505	Supports V21, V22, V22bis/V42; 9600 baud external modem
Courier 1440 Plus/2440 Plus	£495/£895	Courier	Principal Distribution	0706 831831	Multi-speed modems with autodial/auto answer, number storage and remote configuration. V25bis command language.
Concept 24E/24EM	£96/£145	Concept	Personics	0252 311332	V21/V22/V22bis external modem
CPI Viva	£249	CPI	Personics	0252 311332	As above but with MNP5 data compression
PDM4/PDM40 Modem	£369/£349	PDM	Dynatech Comms	0992 33513	MN4 external modem
Dataflex Sapphire	£549	Dataflex Design	Dataflex Design	081 543 6417	Portable modem
Dataphone Pro-4+		Dataphone	SEG Communications	081 959 3377	V.42bis, MNP4-5 external modem
Dowty Minimo Plus 3	£425	Dowty	Dowty	0635 33009	1200 baud V.23 modem
Dowty Quattro	£595	Dowty	Dowty	0635 33009	300/600/1200/2400bps external modem
Dowty Quattro 96	£845	Dowty	Dowty	0635 33009	All speeds from V.21 300bps to V.32 9600 plus V.42/V.42bis
Dowty Mayze 24	£495	Dowty	Dowty	0635 33009	V42 external modem with MNP5 (2400bps)
Dowty Mayze 96	£795	Dowty	Dowty	0635 33009	V42 external modem with MNP5 (9600bps)
Global Village PowerPort/Gold	£700	GV	Computers Unlimited	081200 8282	Internal modem for the Mac PowerBook range
Hayes Optima 144	£650	Hayes	Hayes Micro Products	081 848 1858	V32bis; supports Hayes Express 96
Hayes Smartmodem 1200	£239	Hayes	Hayes Micro Products	081 848 1858	1200 baud V23 modem
Hayes Smartmodem 2400 Quad	£299	Hayes	Hayes Micro Products	081 848 1858	1200bps/2400bps, V21, V22/V22bis/V23.
Hayes Smartmodem 2400	£269	Hayes	Hayes Micro Products	081 848 1858	1200/2400bps modem; V22, V22bis, LAP error correction
Hayes Ultra Smartmodem 9600	£799	Hayes	Hayes Micro Products	081 848 1858	V21-V23, V32 with V42 LAP-M, V42bis and MNP1-5
Inmac Compact Modem	£169	Inmac	Inmac	0344 424333	Battery powered modem, with comms software and cabling.
Jaguar Quartette L/2	£350/£390	Jaguar Comms	Jaguar Comms	0727 41311	V.23/V.42 MNP4 external modem
Jaguar Sextet+ L/	£950/£735	Jaguar Comms	Jaguar Comms	0727 41311	External 9600 baud modem; V42, V42bis, MNP4-5
Keycard 2400 PS	£425	Keycard	Frontline Distribution	0256 20534	2400bps/1200bps/600bps/300bps
Mercury Modem V.32	£895	Mecury Datacomms	Mercury Datacomms	071 528 2181	V21-V23; V32 with V42 LAP-M, V42bis and MNP1-5
Micom Superquad	£399	Micom Borer	Micom Borer	0494 484486	External 9600 baud modem; V21, V22, V22bis, V42



Name	Price	Maker	Distributor	Phone	Comments
Microcom QX/4232bis	£799	Microcom	Microcom	0483 740763	External data modem; V32bis, V42bis and MNP 10.
Minimo Plus 3	£425	Minimo	Frontline Distribution	0256 463344	V21, V22 and V23; auto answer and auto dial facilities
Miracle WS3000	£395	Miracle	Principal Distribution	0706 831831	Up to 2400bps - data access protection option available
Miracom Courier 14.4 Plus	£895	Miracom	US Robotics	0753 811180	V22bis, V22, V23, V21, V32 and V32 bis
Miracom Courier 2400 Plus	£495	Miracom	US Robotics	0753 811180	Quad speed modem; V22bis, V22, V23, V21, V42 compatible
Miracom Courier HST Dual Standard	£895	Miracom	US Robotics	0753 811180	9600 baud data modem with proprietary and CCITT V32 standards
Miracom Courier HST	£595	Miracom	US Robotics	0753 811180	External 9600 baud modem, V32/HST V42. Includes software
Miracom Courier V32	£595	Miracom	US Robotics	0753 811180	9,600 baud, V32 MNP 5 modem
Motorola Codex 3265	£795	Motorola	Motorola	081 669 4343	V21, V22, Bell 212 and 103. 1200 and 300 baud US standards
MultiData Swiftlink 9642	£699	Gomark	Gomark	071 731 7930	Compact external modem with dialback and remote configuration
Multitech MT1432MK	£749	Multitech	Multitech	0344 891266	Portable modem with support for UUCP protocol and V32bis; send and receive fax facility
Multitech MultiModem MT932EK5	£499	Multitech	Multitech	0344 891266	V23, V42, external quad modem with MNP5
Multitech MultiModem MT932EK7	£499	Multitech	Multitech	0344 891266	V42bis external quad modem; auto dial and auto receive
Multitech MultiModem MT932BK	£699	Multitech	Multitech	0344 891266	V32 modem with send and receive fax
Otocom OS18196A	£995	Otocom	Otocom	0635 528730	V21, V22, V22bis, V23, V32, V32bis, V42, V42bis and MNP5
Pace Ultralink 32 Plus	£699	Pace	Pace Micro Technology	0274 532000	V21, V22, V22bis, V23, V32 with MNP5 error correction/data compression. LCD display; RJ11 socket for use with leased lines
Pace Ultralink Quad	£249	Pace	Pace	0274 532000	External modem with MNP5
Paxdata Excell	£695	Paxdata	Paxdata	0442 236336	V32bis modem with remote configuration
Personics Concept 144E	£349	Personics	Personics	0252 311332	V32 Hayes compatible modem; dialback and remote configuration
PSI COMStation i	£235	PSI	Computers Unlimited	081 200 8282	2,400 baud modem, 9,600 send 4,800 receive fax
PSI COMStation ii	£389	PSI	Computers Unlimited	081 200 8282	2,400 baud V42, V42bis modem, 9,600send/receive fax
PSI COMStation iii	£529	PSI	Computers Unlimited	081 200 8282	14,000 baud V32bis, V42, V42bis data modem
PSI COMStation iv	£529	PSI	Computers Unlimited	081 200 8282	9,600 baud V32, V42, V42bis modem, 9,600 send/receive fax
PSI COMStation v	£646	PSI	Computers Unlimited	081 200 8282	14,400 baud V32bis, V42, V42bis modem, 14,400 send/receive fax
Racal Milgo RM3296	£995	Racal Milgo	Racal Milgo	0734 782158	9600 baud V32 modem
Racal Milgo Vadac	£485	Racal Milgo	Racal Milgo	0734 782158	300/1200/2400bps external modem . V21, 22 and V.22 bis, with MNP5 error correction
SEG Dataphone Pro-4+	£299	SEG Communications	SEG Communications	081 959 3377	2,400bps MNP5 modem; V42 and V42bis compression
SEG Fastback 14.4	£699	SEG Communications	SEG Communications	081 959 3377	V32, V42bis external modem with MNP5
SEG 9600	£599	SEG Communications	SEG Communications	081 959 3377	Same as above but with 9600 baud rate
Touchbase WorldPort 2496	£395	Touchbase	Trend Datalink	0628 530611	V21, V22, V22bis external modem
Touchbase WorldPort 9600	£575	Touchbase	Trend Datalink	0628 530611	9,600 baud V32 MNP4 portable data modem

DISPLAY BOARDS

Apple Mac Display Card 8/24	£240	Apple	Apple	Freefone Apple	256 grey levels/16.7 million colours for Apple's mono and colour monitors
Aura ScuzzyView	£595/775	Aura	MacSolutions	0535 690001	Allows the PowerBook to be connected to any Mac monitor, and most VGA monitors
E-Machines ColorLink DC/T	£625	E-Machines	Heyden & Son	081 203 5171	Ethernet 10Base-T/8-bit graphics card
E-Machines ColorLink LC	£495	E-Machines	Heyden & Son	081 203 5171	10Base-T/10Base2 Ethernet graphics card
E-Machines ColorLink SX/T	£775	E-Machines	Heyden & Son	081 203 5171	24-bit display adaptor/Ethernet 10Base-T adaptor card for Nubus Macs; 12in to 19in monitors supported
E-Machines DoubleColor LC	£495	E-Machines	Heyden & Son	081 203 5171	Graphics adaptor that drives a 16in colour monitor at a resolution of 832x624 dpi
E-Machines DoubleColor LX	£725	E-Machines	Heyden & Son	081 203 5171	8-bit colour display adaptor for screens up to 21in
Formac ProNitron 13.24	£450	Formac	Formac	0727 821393	24-bit display adaptor
Nak 8	£375	Nak	Midwich Thame	0379 644131	8-bit colour video board for the SE/30 and Apple 13in display
NEC MacFG 8X Colour Display Card	£899	NEC	NEC	081 993 8111	8-bit colour display adaptor NuBus Macs
Neutral Venice 640	£199	Neutral	Neutral	081 599 9902	24-bit colour NuBus card for Apple 13in colour monitor
Nutmeg Missing Link	£649	Nutmeg	Midwich Thame	0379 644131	Video adaptor for the SE/30 and SE
Radius PowerView	£599	Radius	Computers Unlimited	081 200 8282	SCSI device for Macs with 68020 processors and above to display 256 colours on Apple 12in or 13in monitors
Radius PrecisionColor 8	£599	Radius	Computers Unlimited	081 200 8282	8-bit graphics card for the Mac II range
Radius PrecisionColor 8X	£899	Radius	Computers Unlimited	081 200 8282	8-bit Nubus display adaptor for Mac II family
RasterOps 8/24Xli	£845	RasterOps	Frontline Distribution	0256 463344	8-bit graphics adaptor with QuickDraw acceleration
RasterOps 8LC	£495	RasterOps	Frontline Distribution	0256 463344	8-bit video card for the LC.
RasterOps 8XL	£395	RasterOps	Frontline Distribution	0256 463344	8-bit graphics adaptor
RasterOps ColorBoard 264	£595	RasterOps	Frontline Distribution	0256 463344	24-bit display adaptor for the Mac II; SE/30 version also available
SuperMac ColorCard/24	£400	SuperMac	Principal Distribution	0706 831831	24-bit colour video card for Mac II and Apple 13in colour monitor
SuperMac Spectrum/24 III	£999	SuperMac	Principal Distribution	0706 831831	24-bit colour card for the Mac II with built-in graphics accelerator
SuperMac Spectrum/8LC	£595	SuperMac	Principal Distribution	0706 831831	Graphics adaptor for the Mac LC supporting 256 colours on monitors up to 21in
SuperMac Spectrum/8si	£595	SuperMac	Principal Distribution	0706 831831	Similar to the 8LC but for the IIsi
SuperMac Spectrum/8.24 PDQ si	£995	SuperMac	Principal Distribution	0706 831831	Gives 8-bit colour on large displays and 24-bit colour on 12in and 13in displays

GREYSCALE MONITORS

APD Strategy 19in Mono/Classic	£799	APD	MacEurope	0603 741222	19in mono monitor for the Mac Classic
Apple 12in Greyscale Disp	£395	Apple	Apple	Freefone Apple	12in greyscale monitor; 640x480 resolution
Apple Portrait Display	£545	Apple	Apple	Freefone Apple	15in A4 greyscale monitor; 640x870dpi resolution
Axxys/Strategy	£799	Axxys	MacEurope	0603 741222	20in greyscale monitor, 72dpi
Hitachi MM21-Mac	£915	Hitachi	Hitachi Sales	081 849 2092	21in greyscale monitor; 1152x870 resolution at 75dpi
Hitachi Silver Mac	£975	Hitachi	Hitachi Sales	081 849 2092	20in colour monitor; 1024x768 resolution
Mobius 030 Display System	£695	Mobius	Principal Distribution	0706 831831	25MHz 68030 accelerator graphics adaptor /mono full-page display for the Mac Classic
Radius Full Page Display G/Scale	£960	Radius	Computers Unlimited	081 200 8282	2-bit A4 grey-scale monitor for the LC and SE/30
Radius Pivot BIV	£795	Radius	Computers Unlimited	081 200 8282	For the IIsi and LC
RasterOps ClearVue/GSLC	£495	RasterOps	Frontline Distribution	0256 463344	19in greyscale monitor for the LC
RasterOps ClearVue/LC	£295	RasterOps	Frontline Distribution	0256 463344	19in mono display for the LC
RasterOps ClearVue/XL	£395	RasterOps	Frontline Distribution	0256 463344	21in mono monitor, 1152x870dpi



Name	Price	Maker	Distributor	Phone	Comments
Sigma PageView LC	£550	Sigma	Aptec	071 627 1000	15in flat screen monitor
Sigma PowerPortrait	£895	Sigma	Aptec	071 627 1000	15in portrait mono monitor for the Classic; PowerBook version also available for an extra £100

AUDIO CARDS

Altech MidiFace EX	\$79.95	Altech Systems	Altech Systems	0101 318 868 8036	MIDI Interface
Altech MidiFace LC	\$49.95	Altech Systems	Altech Systems	0101 318 868 8036	MIDI interface
Apple MIDI Interface	£60	Apple	Apple	Freefone Apple	Connector for MIDI keyboard and the Mac

LABEL PRINTERS

Avery Personal Label Printer	£229	Avery	Avery	0628 39911	Thermal label printer with software and printer driver
CoStar Labelwriter II Plus	£300	CoStar	Computers Unlimited	081 200 8282	Desktop thermal label printer
Seiko SmartLabel Printer	£229	Seiko	Seiko	0101 408 922 5800	Small scale label printer that hooks up to the printer port; comprehensive software package included

COLOUR SCANNERS

Animas Synergizer	£1,050	Animas	Caro-Line	081 802 6143	300dpi flatbed scanner
Animas Synergizer	£995	Animas	Caro-Line	081 802 6143	300dpi colour scanner
AVR 3000/CL Plus	£2,590	AVR	DST	0628 529224	300dpi colour flatbed scanner
AVR 8000/CLX	£1,862	AVR	Tekware	0562 882125	400dpi colour scanner
Colorgraph SC-6000C	£1,995	Colourgraph	Colorgraph	0734 819435	600dpi colour scanner; <i>Photoshop</i> and <i>ColorShop</i> 24 included
Epson GT-6500	£999	Epson	Epson	0442 61144	600dpi colour flatbed scanner
Epson GT-8000	£1,349	Epson	Epson	0442 61144	800dpi colour flatbed scanner; 6ppm
HCS Ultrascan 600	£1,395	HCS	HCS	081 549 0444	Colour/grey-scale flatbed scanner
HP ScanJet IIc	£1,575	Hewlett Packard	Hewlett Packard	0344 369222	400dpi colour scanner
HSD Scan-X Color	£1,825	HSD	Forester Systems	081 993 1516	Colour flatbed scanner; 600dpi for colour/greyscale images
La Cie SilverScanner	£1,695	MCB	MCB	0527 574611	Colour flatbed scanner; 600dpi x 300dpi
Mirror 600 Colour Scanner	£999	Mirror Technologies	Mirror Technologies	0376 551018	24-bit 600dpi colour flatbed scanner, complete with Adobe <i>Photoshop</i>
Polaroid CS-500	£2,750	Polaroid	Polaroid	0727 59191	24-bit colour scanner
RasterOps Expresso	£790	RasterOps	Frontline Distribution	0256 463344	35mm slide scanner; images play back on monitor
Sharp JX-320	£1,300	Sharp	Sharp	061 205 2333	24-bit colour flatbed scanner
Tamrack Artiscan	£1,695	Tamrack	MacEurope	0603 741222	600dpi colour scanner

GREYSCALE SCANNERS

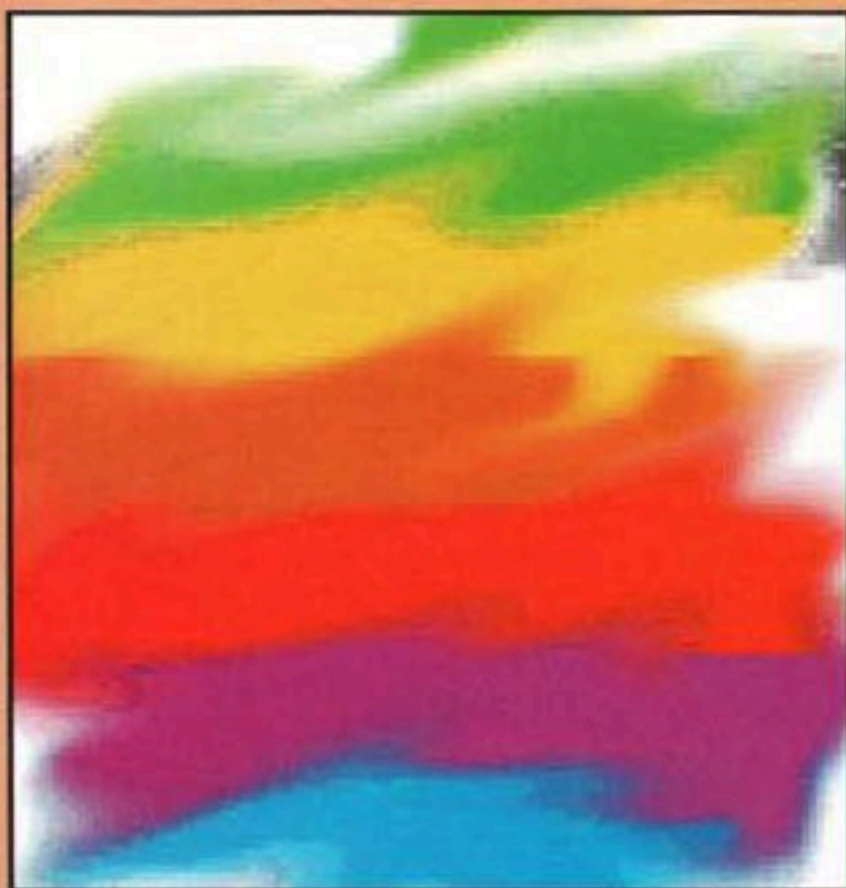
APD Strategy Scan-X Professional	£1,695	APD	MacEurope	0603 741222	300dpi greyscale flatbed scanner
APD Strategy ScanXport	£999	APD	MacEurope	0603 741222	600dpi greyscale flatbed scanner, with software
Apple OneScanner	£795	Apple	Apple	Freefone Apple	8-bit 256 greyscale scanner, 300dpi
Brother BS-300GS	£1,245	Brother	Brother	061 330 6531	256 greyscale scanner, 300dpi
Dest PC Scan 3010	£1,425	Dest	FormScan	0373 461446	300dpi 256 greyscale flatbed scanner
Dest PC Scan 3000	£2,995	Dest	FormScan	0373 461446	300dpi 300dpi mono scanner with half-tone and 8-bit greyscale-
Dest PC Scan 3030	£1,920	Dest	FormScan	0373 461446	300dpi 256 greyscale flatbed scanner with software
Formac ProScan 300	£2,195	Formac	MacEurope	0603 741222	300dpi mono scanner; can take grey-scales and line art
HP ScanJet IIP	£839	Hewlett Packard	Hewlett Packard	0344 369222	300/600dpi greyscale scanner
HSD Scan-X Professional	£1,549	HSD	Forester Systems	081 993 1516	8-bit mono flatbed scanner
Microtek MS II	£895	Microtek	Computers Unlimited	081 200 8282	300dpi 256 greyscale mono scanner
Panasonic FX-RS307U	£1,195	Panasonic	Panasonic	0344 853915	600dpi 256 greyscale 8-bit flatbed scanner, with software
Pentax Flatbed Image Scanner	£940	Pentax	Pentax	081 864 4422	300dpi 16 greyscale flatbed scanner
Pentax IQ Scan	£1,320	Pentax	Pentax	081 864 4422	300dpi 16 greyscale flatbed scanner with dedicated software
Pentax SBL301	£1,295	Pentax	Pentax	081 864 4422	300dpi A4 greyscale scanner
Ricoh RS322	£895	Ricoh	Heyden & Son	081 203 5171	300dpi x 600dpi 256 greyscale scanner with software
Ricoh RS322	£1,095	Ricoh	Heyden & Son	081 203 5171	300dpi 8-bit greyscale scanner
Ricoh RS632	£1,695	Ricoh	Heyden & Son	081 203 5171	600dpi 256 greyscale scanner with two interfaces
Siemens 300	£2,195	Siemens	MacEurope	0603 741222	300dpi 256 greyscale mono flatbed scanner
Umax ScanXport GS	£999	Umax	MacEurope	0603 741222	600dpi grey-scale flatbed scanner with <i>Photoshop</i> software

HAND-HELD SCANNERS

Animas Greyscale Hand Scanner	£349	Animas	GeniLAN	081 667 0923	400dpi 256 grey-scale hand scanner
Animas True-Colour Hand Scanner	£499	Animas	GeniLAN	081 667 0923	Colour scanner with up to 200dpi resolution
Asuka NuScan Color	£425	Asuka	NuSys	0379 650777	Colour scanner; cansave images as PICT and TIFF files
Asuka NuScan Grey	£295	Asuka	NuSys	0379 650777	400dpi 256 greyscale scanner
Logitech ScanMan Model 32	£595	Logitech	Logitech	0344 891 313	32 greyscale scanner with halftone facility. Free software upgrade for registered users
Marstek ColorArtist	£349	Marstek	Marstek	0908 690880	400dpi greyscale/line art scanner
Marstek M-800 Mac 64	£549	Marstek	Marstek	0908 690880	800dpi scanner; 64 greyscales plus halftones
Marstek M6000CG	£699	Marstek	Marstek	0908 690880	200/400dpi colour scanner
Sharp JX-100	£545	Sharp	Principal Distribution	0706 831831	200dpi colour scanner capable of 64 grey-scale input
Thunderware LightningScan	£399	Thunderware	Principal Distribution	0706 831831	400dpi mono scanner; 16 grey-scales

VIDEO CARDS

Aapps DigiVideo Colour	£615	Aapps	Paramount Presentations	081 989 5055	24-bit card for live relay of images on to the Mac II monitor
Aapps DigiVideo	£368	Aapps	Paramount Presentations	081 989 5055	PAL configured board; live picture relay
Canon Ion-Mac 560	£2,213	Canon	John Blisshen & Co	081 9890071	Colour video camera with digitiser card for the Mac
Canon RC-260	£599	Canon	Canon	081 459 1266	Colour video camera; picture relay to the Mac. Optional film adaptor will cost you another £160
Canon RC 560	£1,751	Canon	Canon	081 459 1266	Still video camera (colour)
Canon RC-260 Colour	£511	Canon	Canon	081 459 1266	Colour still video camera; can hold images in field/frame-store mode
Data Tx QuickCapture	£1,495	Data Translation	Data Translation	0734 793838	<i>Digital Darkroom</i> -compatible image capture card
Dycam IGS	£795	Dycam	HAL Peripherals	0252 622177	Still video camera, battery operated; Mac display/editing facility
E-machines QuickView Studio QT	£1,495	E-machines	Heyden & Son	081 203 5171	Video digitising card, <i>QuickTime</i> compatible
Fast Personal Video Converter	£998	Fast	Magnifeye	071 221 8024	Converts Mac images on to video tape
Fast Screen Machine 2.0	£998	Fast	Magnifeye	071 221 8024	Colour video overlay board; grabber and colour preview facilities



Pleased, peeved, irate, enraged, amused, amazed, stunned or astounded? Whatever your feelings – about anything in the Mac universe – make sure you write in and tell the Editor – Andy Storer – at:

**Apple Talk
MacFormat
30, Monmouth St
Bath, BA1 2BW**

A heretic writes...

I am now going to say three words which will brand me as a Mac heretic by some, and a lunatic by others. I know I run the risk of being burned at the stake but the truth will out! Are you ready for this? "System 7 sucks!"

I'm sorry, but it had to be said by someone. The conspiracy of silence can't go on forever, but it can't just be me, surely?

So now we (the Mac and I) have gone back to good old system 6.07. Why? Well, I'm going to say it again! "System 7 sucks!" It sucked all the power out of my 8Mb Mac II and left it as gutless as a 386 running Windows!

Under System 6, even when Mac and I only had a lousy 5Mb RAM to share between us, it would handle all I could throw at it. 3D models and PICT files created on my old configuration could not be opened under a System 7, even with 8Mb RAM.

So this is a plea to software houses everywhere – keep your software 6.07 compatible! Let Apple put as many gizmos and gimmicks as it likes into System 7, but long live 6.07! Or could I suggest if anyone from Apple reads this letter, there is just one System 7 gizmo that really would be useful, a 6.07 option where MultiFinder used to be! At least until I can afford a Quadra with 60Mb RAM!

Andrew E Homer, South Croydon



Yes, point taken about System 7, Andrew. Is it just some wicked Apple plot to make us all buy faster processors and more memory? It would sure be a shrewd move – only if Apple had interests in SIMMs production though.

For most purposes 6.07 is fine – you can run MultiFinder, QuickTime, virtual memory, the works – and a whole lot faster too!

I've no ready answer here except that System 7 is marginally more friendly, versatile and, as the next letter points out too, more future-proof.

If 6.07 works for you then stick with it – when it becomes redundant, upgrade. Meanwhile, try and get hold of *System Switcher* from one of the PD libraries advertised in these pages and you'll have the best of both worlds.

Jumping on the next bus

Not everyone automatically upgrades when Apple brings out something new, like System 7. I am very happy with my Classic operating on 6.07 and see no reason to change. There must be many like me in the Mac world – please don't forget us by assuming that everyone operates the latest kit. Looking forward to future issues.

Paul Bannon, Cilcain, Clwyd

Fortunately, most of the software we receive for review remains System 6.07 compatible, so if you're running any System earlier than .07 you should at least upgrade to that.

But rest assured we're not going to go head long into propeller-head mode.

There'd be no point. Probably the only people who have all the latest kit are us journos and just because we get it free doesn't mean we don't know how much it costs!

You won't believe this!

This issue's most weird and wonderful items of Mac kit which make the esoteric ludicrous are from George Campbell-Kelly of Coventry: *System 6 in Tibetan*, for the millions of Mac users who prefer to work in Tibetan and... *Auto Yearbook* – a database package for club membership use – a snip at £15,000. Do you have any weird ones you've come across? Send 'em to 'You won't believe this,' MacFormat, Future Publishing, 30 Monmouth St, Bath BA1 2BW. We'll send you a fiver for any we print.

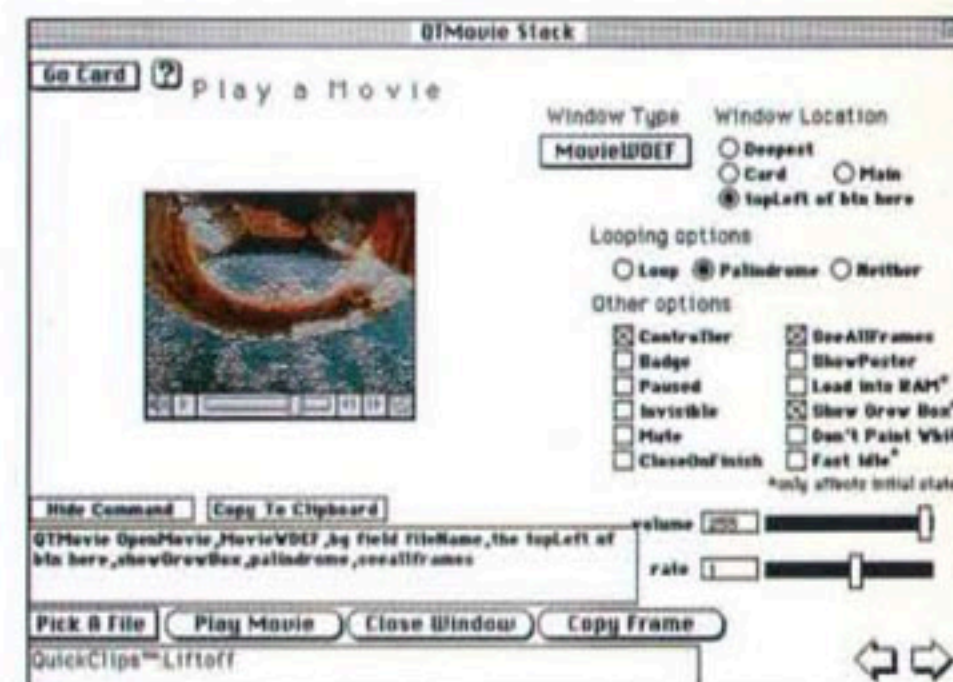
Jeepers!... MacFormat's going monthly! – so just send twice as many letters to the Editor...

Hyping up the hyper 1

Let's talk about one of the most underrated and under-utilised programs for the Mac – and one that actually comes free (well it used to – Ed). I am of course referring to *HyperCard*.

The potential of *HyperCard* is enormous, with its capability for expansion by the use of XMCDs (external commands), *HyperCard* has been used to develop a gamut of applications that will do everything from help organise your time and money to programs for producing inferential and descriptive statistics and basic project management. How about a *HyperCard* page where readers could send in their programs (and tips) to be reviewed by a panel who could also pass on their own tips? This might help stimulate greater awareness and usage of a great program.

B Osborne, London



Fancy a regular column on the sassiest software of the lot? Well, watch this space – better still, one in the next issue...

Hyping up the hyper 2

What! A MacFormat magazine with virtually nothing in it on *HyperCard*?! With all its educational and business values?! I am amazed at you!

Is there any chance that this situation can be remedied a.s.a.p.?! I am a novice 'HyperCard' and was hoping for some tips/courses/user group information!

Julia Goddard, High Wycombe

Consider it done, Julia and B. Now that we're going monthly – what! Hadn't I told you? Yep it's true – MacFormat 4 will be on sale August 3rd, closely followed by MacFormat 5 on 7th September, etc etc etc, in other words just remember the first Tuesday of each month – now where was I, oh yeah, we'll be running a regular *HyperCard* column starting issue 4.

Cruising the keys

Here's this month's bunch of £5-winning hidden secrets from your favourite keyboard:

Go to **Control Panels** in the  menu and open the **Map** icon. Hold down the **[option]** key and click on the **Find** dialogue box. As you keep clicking, the map will go through an alphabetical list of cities. When you get to the Ms it shows you the location of the Middle of Nowhere!

Paul Lowe, London

If you're having trouble with a program that locks you out, you can quit it by pressing **[command] [option] [escape]** without losing other programs you may have running. You will lose what you were working on, but won't lose everything else.

Justin Kirk-Bayley, London

If you still use Microsoft *Word 4*, try going to the **About** dialogue box, hold down the **[command]** key and click on the **Word 4** icon. This will give a nice spotlight display of all the *Word 4* authors (or at least I think that's who they are!)

Richard M J Shakeshaft, Warwicks

This is a weird thing Apple put in the Classic. When holding down **[command] [option] [X] [O]** keys at startup, the Classic will boot from an internal ROM-based system.

Make sure you don't have your hard disk selected as the startup-device though or else the Classic isn't going to look for it.

Any ideas why there is a system in ROM? Is it only on the Classic?

Fredrik Dehner, dvlfdr@zeus.cs.umu.se

Publish-It! originally had all the drawing tools as in your review of *PI-Easy!*. Versions of *Publish-It! Easy* up to 2.1.9. appear to be missing the arc, diamond, grid tool, constrained line, radial spokes and bezier tools. However, just try clicking on the tools with the **[option]** key held down!

Steve Watson, Brighton

Never too late for 8

I am now the proud owner of a Macintosh IIvi with *ClarisWorks* and *Studio 8*. This magazine is a life saver to me – something to read which is written, produced and bought by ordinary people who can't afford to spend £500 a month just to keep up with the rest of the world.

Could you please do a write up on *Studio 8* so I can see if I have left anything untouched in this vast and complicated program?

I do hope you keep up the good standards in your magazine.

Jamie Rollinson, Dyfed

We will be covering programs like *Studio 8* – at least in a tutorial or '50 ways to get more out of X' kind of way. And you readers can help us decide what to focus on. Just send in a list of your five favourite programs on a postcard and we'll work out which are the most popular and deliver the goods. Just mail the card to 'Give me more', MacFormat, 30 Monmouth St, Bath, BA1 2BW.

It really is kids' stuff

I'm writing to comment on your article on *Kid Pix*. My son was 2 years 9 months when he first saw *Kid Pix* and I can't keep him away from it now. I feel you were trying to direct your 3 year old, James, to produce a recognisable picture. This is not what a 3 year old wants. When I introduced it to my son I showed him that each box gave a different effect and left him to it.

Yes, his concentration span is short but he would return to it again and again. This is definitely his favourite program and it doesn't matter that he doesn't produce perfect works of art at the end of it – and anyway who's to say they're not works of art! He even taught me some of the hidden commands in *Kid Pix*. Being the usual adult, I didn't bother to read the manual first so didn't know that you could enlarge the stamps. My son had to show me how to do it.

As you may have guessed, I'm a teacher and I use *Kid Pix* with my pupils (who are Special Needs children). They have learned to control the mouse using *Kid Pix* and can draw and scribble

Win a year's subscription!



So just which two faces did we merge last issue to make up the rather pixelated macho-morph on the left? No, Henry Cooper didn't get a look in (popular choice that) – nor did Frank Sinatra, Warren Beatty, Robert Redford, Arnie Schwarziwhatsits, John Major, Richard Branson, Prince Philip, Boris Yeltsin, Bill Clinton, Ronald

Reagan, David Frost, William Holden or Bob Hope. No, the correct names were Clint Eastwood and Gene Hackman and the winner of a free year's sub is... ta da da da pity about Wednesday... D Lockwood of Sheffield! Well done D and hard luck to the four other readers who also got it right...

All you have to do to win this issue's free sub is work out which two faces comprise the almost alarmingly bestial yet famously pneumatic morphette on the right and send the two names on a card to: 'Is there some kind of animal in there with her?', MacFormat, Future Publishing, 30 Monmouth St, Bath BA1 2BW.



Oh and no, Lassie, Rin Tin Tin, Skippy and Flipper aren't in there! It's much more horrific...

to their hearts content without using up expensive resources like paint and paper.

Moira McCallion, Prestwick

Thanks Moira, I guess the difference is that your son has regular access to the program while James had never even come across a computer before. Nevertheless, *Kid Pix* is a great piece of software – as my 20 month old daughter will soon find out.

Crazed-soundings

Just a note to say I enjoyed your second issue. You have a wide and inventive choice of subjects, and your layout is pleasant and never worse than attractively vulgar (er...thanks – Ed).

One objection though, namely your 'star letter' from a crazed-sounding individual who objects to being associated with middle-aged people and Volvos, which apparently is a risk that can be run from reading comparative reviews of printers. Evidently, this strange man has no practical use for his computer, otherwise he would appreciate the significance of the printer to computer users who are not poseurs.

D C Harris, Wolverhampton

I thought that letter might provoke some entertaining replies – thanks for writing in.

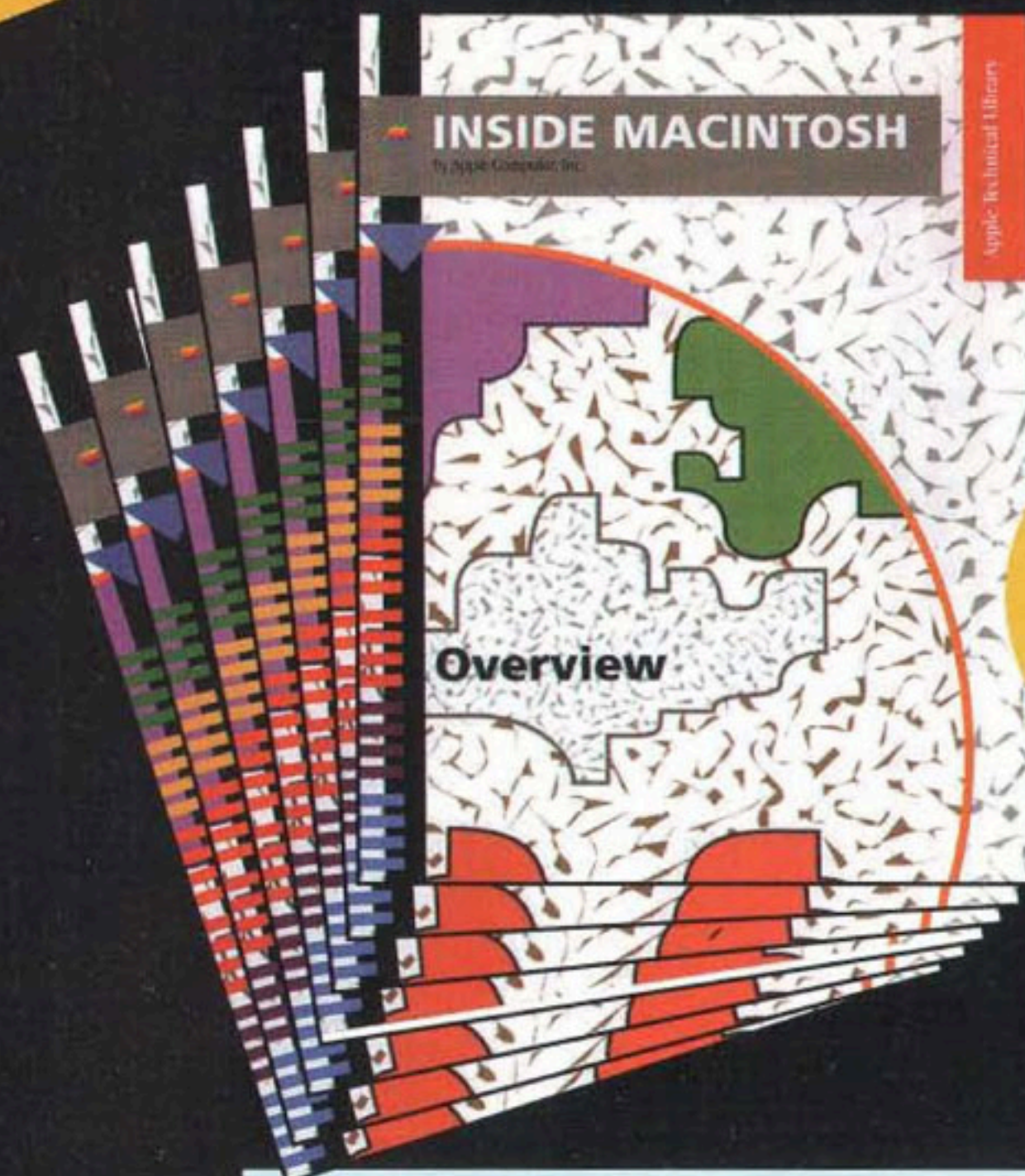
MacFormat 3 was produced on two IIs, a IIsi, an LC II, a Classic II and a Quadra 700. All networked to a Spectraset 2200 outputting film at 2,400 lpi at 150 dpi. In-house copy this month was written with *Macwrite Pro* – which really is damn fine edge core gear etc etc. All our attractively vulgar pages were laid out, hugged and kissed by the oh so lovely *QuarkXPress 3.11* while *Capture* secretly photographed the proceedings and *Photoshop 2.5* got the pics past the censors. Favourite office pastimes this issue were pinball, pinball, pinball and er... sunbathing. *MacFormat 4* is out August 3rd!

THE MACFORMAT GUIDE TO MAC COOL : 1

Funny things, words. Take the company we work for – the boss starts using a phrase like 'Big Time' – as in 'This thing's going to sell Big Time' and suddenly everyone's using it. Or take the other popular phrase here, 'It's A Good Thing'. Note the caps which signify it's not just a good thing – it really is A Good Thing.

Well, the point of this little intro is just to say that these phrases have a shelf life of about two weeks before they start to go off. So, the only solution is to use new words and phrases as quickly as possible and then ditch them before people begin to yawn. And with this in mind here's the MacFormat guide to the art of staying cool while staying ahead in the world of modern Mac speak.

Word	Typical Usage	Meaning
core	It's core stuff	it's real important and full of edge
edge	It's got edge alright	it's a damn fine piece of software on the leading edge
retro	great retro though	it's may be a little old hat in parts but it's still got edge
damn	it's damn fine	it's real neat
neat	it's real neat	it's cool, hip, brilliant, marvellous... and damn fine
real	it's real neat	it's so damn fine it's neat with no retro at all
up	space it up	what designers do for a living
	get Mapped up	what designers do when they're going broke
	get specced up	what designers do when they need to write off profits
binary	you're so binary	what to say to trivia-freaks, pedants and anal retentives
analog	it's too analog for me	what to say about anything which requires muscle



WIN! WIN! WIN!

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These books really are the bees knees – written by Apple and part of its Technical Reference Library – so send those cards in!

How to win:

Here's a bunch of crops from pictures in this **MacFormat** – which page(s) do they appear on (apart from this one)? Just write their page numbers on a postcard and send it to:

**Inside Macintosh Compo, MacFormat
30 Monmouth St, Bath BA1 2BW**

Rules: 1. Only 1 entry per household please. 2. Entries to be received by August 3rd. 3. The editor's decision is final



Picture A



Picture B



Picture C

ARE YOU A WINNER?

So which lucky blighter won that LCIII offered by the wonderful KRCS group in Issue 1? Well it's a ya boo sucks to G. Houghton from South East London. Well done G! The answers were er, easy. And what of the 10 lucky winners of Aldus's *IntelliDraw* drawing package. Step forward:

Mrs C Smeeth from Ashford,
Steven Furnival from Wolverhampton,
Rob Burke from Telford,
Kirstin Cropper from Weybridge,
Thomas B-Pettersson from London,
Judith Wilder from Glasgow,

Tor Rafsol Loeseth from Norway,
Jeff Peakall from Leeds,
P Fleckell from Newcastle
and finally Winsome Malcolm from London.
The correct answers were 1c, 2c, 3b and 4a
Fingers crossed for that Epson scanner next!

WE'RE NOW MONTHLY!

AND WHAT WE'VE GOT LINED UP NEXT IS...SO ESSENTIAL

Yep, whatever you use your Mac for there's well over 5,000 products to choose from so which are the ones you absolutely must have? **MacFormat 4** will show you the definitive Mac power products you need to make sure you're making the most of your Mac. Home businessman, creative designer or casual user – you'll find tips and buying advice to get more from your machine. Plus, we'll tell you how to get the best from other peoples' kit too! – with a guide to bureaux and high-end solutions.

So choose to use **MacFormat 4** and seize the power to be your best...

PLUS:

An essential purchase on August 3rd

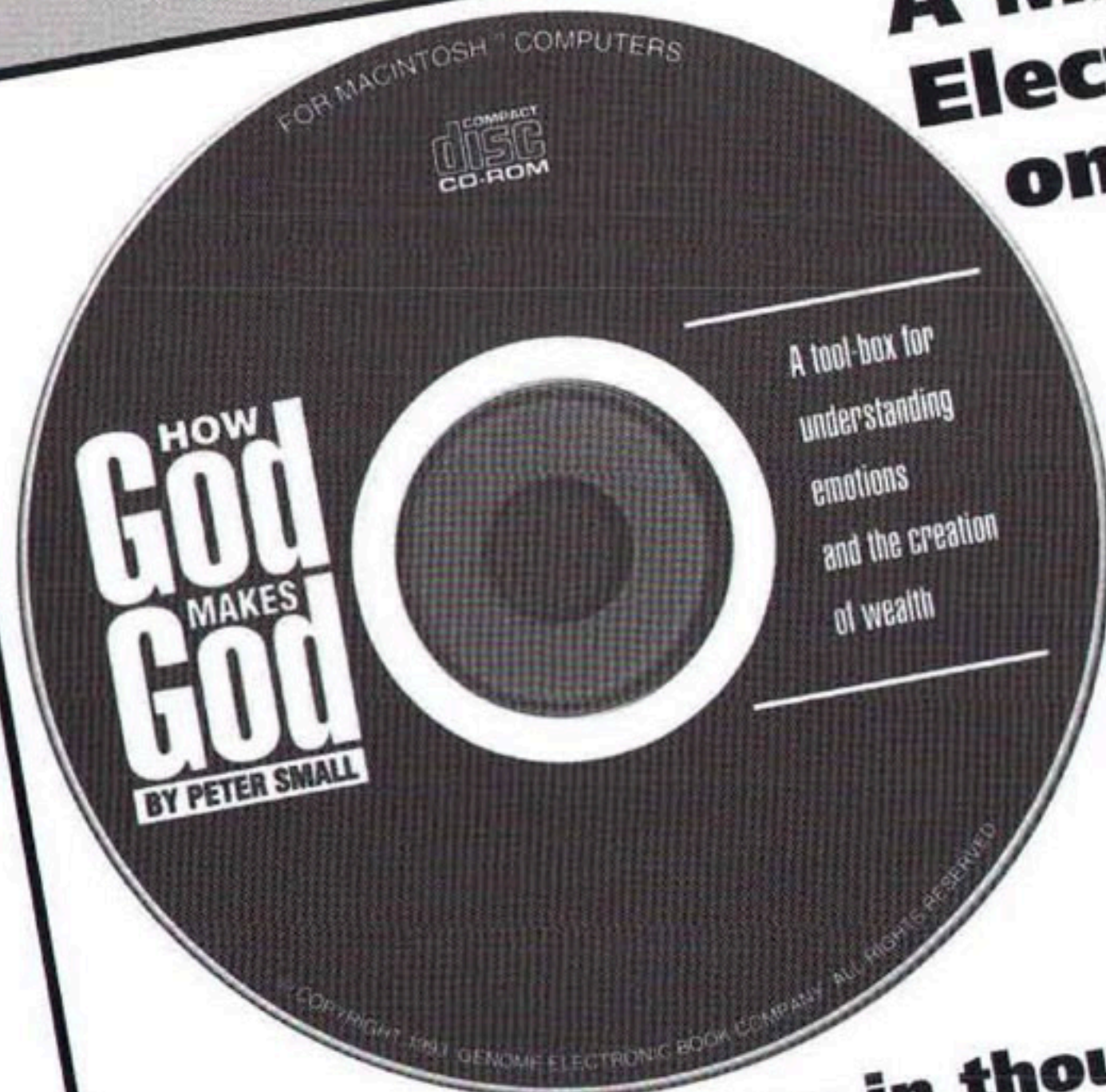
New games, neat shareware and our expert columns on:

- Graphics
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- Design
- Music
- Business
- Comms
- Answers

AND YOUR NEXT EXCLUSIVE COVER-DISK INTO THE BARGAIN!

Well that's it then for this one – we're going monthly now so the Tiny Zone will be twice as fast but just as small. Funny things logos eh? Take that Design article on page 44 – guess which famous manufacturer refused to give us permission to print their logo? You'll never get it – Chanel. Why Chanel? Who knows? Apart from pioneering ultra-classic jewellery and perfume way back in the twenties, young Coco (great name, great gal) changed the face of history. Or rather its legs. Yep, Coco Chanel put women in trousers. Or shall we say slacks? Brave stuff at any rate – a woman in slacks smoking Gaulloises through ruby rouge lips in the twenties turned a few heads for all the wrong reasons. Shame then Chanel now doesn't feel able to permit use of just two 'c's. So, funny things logos eh? People get pretty guarded. Or as Apple put it 'Appearance is Important'. It strictly specifies the exact Pantone colours making up its logo, the correct black, grey or red, if running in mono or spot and the precise black, grey or white background of a prescribed size. And that's before you get into typefaces, point sizes, positionings and trademarks. So I reckon the Tiny Zone should have its own copyrighted trademark and guess what it's going to be? There's only one choice really – and here's four of 'em

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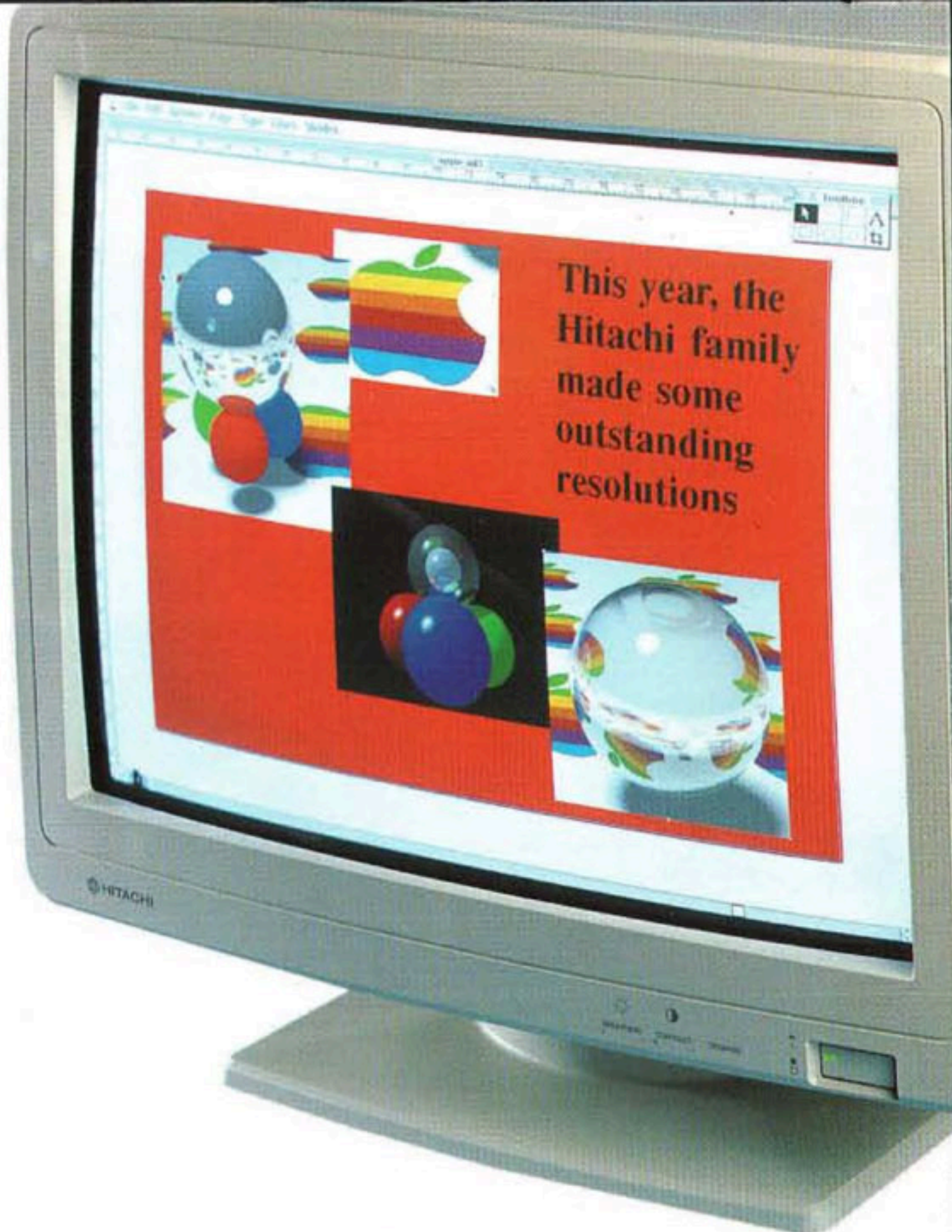
The 21" FST CM2186 is recognised as the best in its class and it now has a smaller brother. The 17" FST 17MVX has the flexibility to work with all colour Macs at a variety of resolutions from 680 x 480 through 832 x 624 to 1024 x 748 without distortion.

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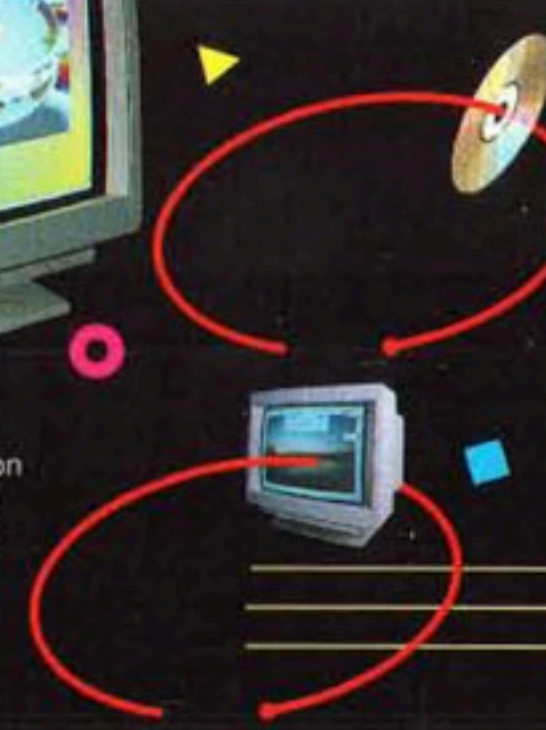
15" super-high resolution FST colour monitor. Optional Radius interface provides a crisp 800 x 600 resolution. Small footprint, big picture.



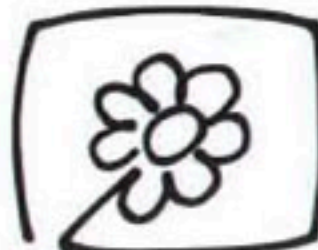
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