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MACFORMAT

ISSUE 18 ■ NOVEMBER 1994 ■ £3.95 WITH HD DISKS

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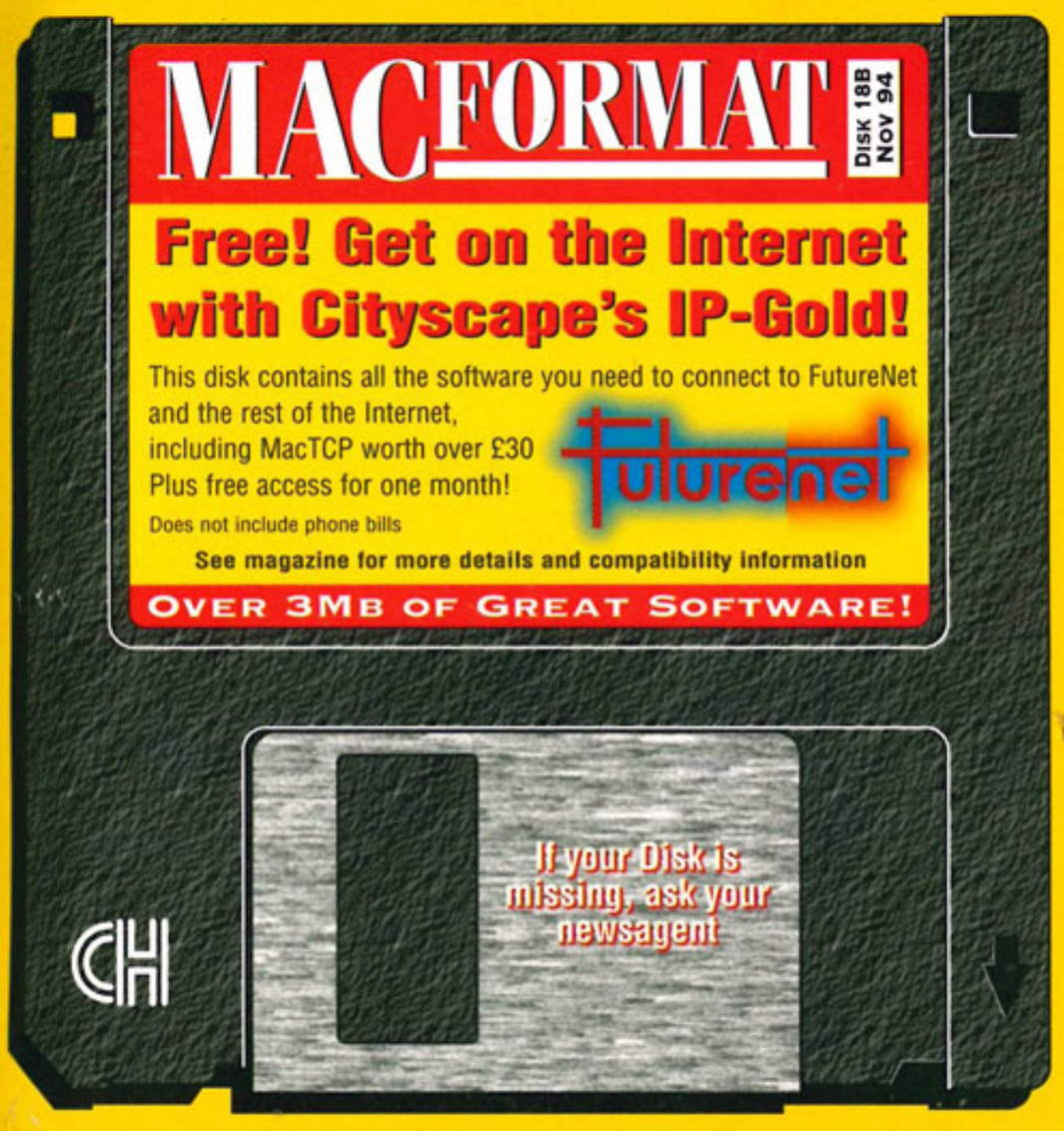

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Beat those Mac crashes, freezes and startup problems ■ Norton Utilities 3 vs MacTools 3 ■ Vital troubleshooting utilities on the disk

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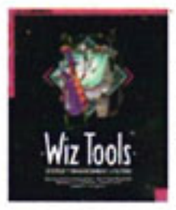
Please check for availability.

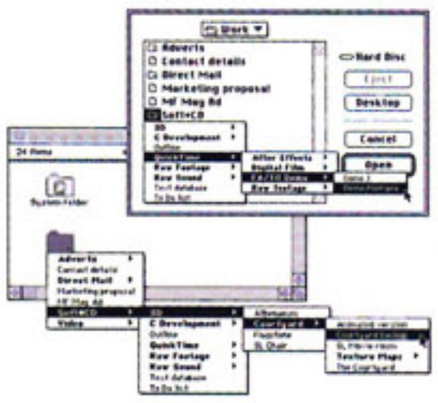
Five simple steps to ultimate productivity!



WizTools a collection of invaluable utilities which make using your Mac easier and more enjoyable. The set includes backup with synchronisation, keystroke recorder, worldclock, launcher, finder tools, submenu and much more... **SRP £69.00**

WizTools PB is a collection for PowerBook users. Includes Security, Battery management, Remote Access support, Synchronisation and PB Ease to make using your PowerBooks' trackball easier.

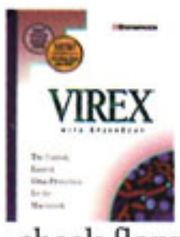
SRP £69.00



Popup Folder is the ultimate Finder navigator. Gain instant access to any folder or drive icon, even from open and save dialogs, up to 5 levels deep. You can simply drag-and-drop files into these menus. Navigating server volumes has never been so easy! Additionally, Popup Folder will add hierarchical menus to your Apple Menu.

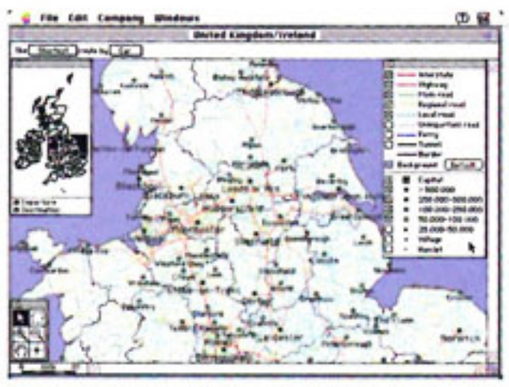
PopupFolder

SRP £39.00



Virex is the fastest and safest anti-virus software for the Macintosh. It can be set to scan your hard disc on start-up or shut-down and check floppy disks as they are inserted giving you complete security.
For ultimate peace of mind subscribe to the automatic update service to ensure that you'll always have the latest version.

SRP £69.99 With subscription **SRP £149.00**



SignPost is the automatic route planner that will generate maps and instructions on how to get from A to B (via C, if necessary). You can purchase additional country modules to suit your travelling needs, both in Europe and the US. Even plan a route from country to country.

SignPost

SRP £99.00 (with UK Map). Extra countries **SRP £59.00**

Smart Alarms 7 has a time-proven design and is the simplest and most effective reminder system available. You can easily set up one-off or repeating reminders which'll pop up no matter which application you're using. Smart Alarms can even give you advance warning of impending events. The package also includes an Appointment diary/calendar system along with a simple list making utility.

SRP £65.00

All prices shown are Suggested Retail Prices exclusive of VAT.

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Introduce your Mac to a Pen friend

MacHandwriter®

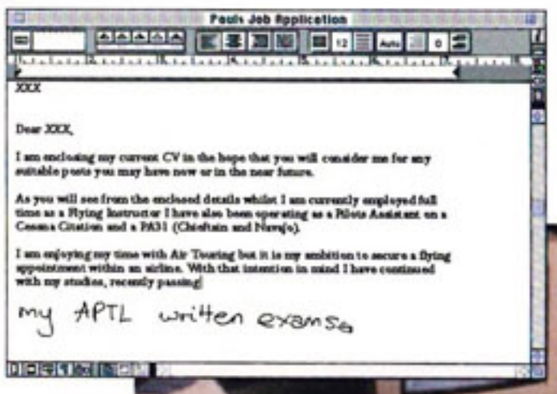
THE CREATIVITY TOOL

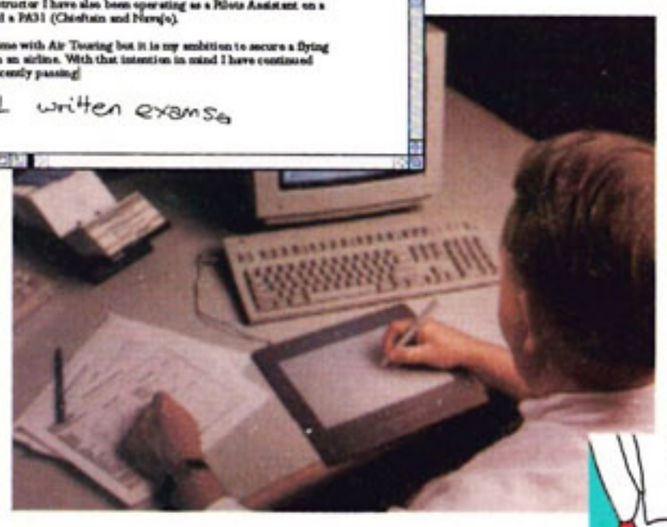
Handwriting Recognition

You can write directly into all your usual applications with the number-one ranked Handwriter Recognition System.
If you are new to a keyboard this method of input will give you speeds to rival your keyboard clicking colleagues. Even if you are quick on the keyboard, text editing, which often accounts for 80% of document creation time becomes a faster process as you highlight, move text, point and click, all with the one device.

Plug & Play

MacHandwriter is simple to install and is immediately compatible with all your applications. The software installs in seconds. Plug in the tablet to your keyboards ADB port and your Mac now has the latest pen computing technology. Point, write, trace and draw, all without your mouse or keyboard.





The Stress Reliever

Pen computing is comfortable and safe to use. Stress induced injuries are alleviated as users adopt a more relaxed input position and don't have to keep their fingers poised over a keyboard.

Learn with MacHandwriter

Children use the pen naturally in all their favourite learning applications. Why constrain their creativity? They can learn to read, write and draw without first having to learn about a keyboard and mouse.

Draw with MacHandwriter

MacHandwriter doesn't promise to improve your artistic skills but it will allow you to trace, draw and paint with ease. It works perfectly with all your existing graphics and paint packages. If using a mouse to sketch has reduced your work to a scribble you'll see an instant improvement... it may even rekindle your artistic ambitions.

Intuitively Easy to Use

MacHandwriter is a natural input device, so it is easy to learn and to use. After 15 minutes of using MacHandwriter, you will be familiar with it. After an hour you will be totally comfortable using it and after 8 hours of use, you will be proficient. And if it gets taken away from you - you miss it!

Tech Specs

MacHandwriter comes with a cordless electronic pen (either standard or pressure sensitive) and an ultralight, ultrathin tablet with a ten foot cord that plugs into your Mac's ADB port. A clever connection means you don't lose your mouse or keyboard access.

MacHandwriter with standard pen **SRP £349.00**

MacHandwriter with pressure sensitive pen **SRP £399.00**

MacHandwriter is available from all quality resellers. Call us for details of your nearest stockist.
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The Finder

MACFORMAT

Welcome again to MACFORMAT, Britain's best-selling Mac magazine! Whether you're an old hand or a novice, we'll bring you news, reviews of affordable and interesting new products, tips and techniques to help you get more out of your Mac, whatever you use it for!

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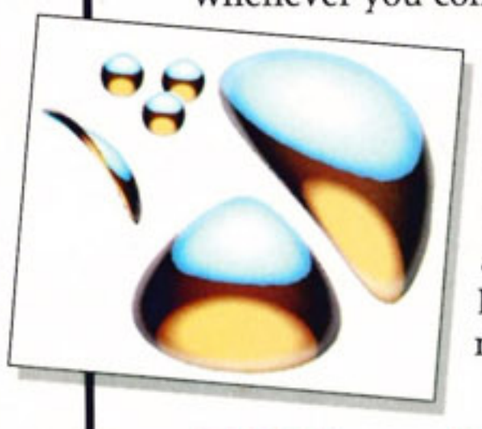
HOW TO DO IT

Comms: Getting your CIX 56
Join the CIX on-line service for free, then save money whenever you connect. Plus news of a new Internet service



Highlight Effects 62
Give your Mac artwork a new realism with our guide to producing reflection and highlight effects, including 'specular highlights' and the 'desert illusion', no matter which art program you're using

Editing: Getting into Print 68
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Sharing HyperCard Stacks 73
Learn how you can make your useful routines available at any time and take real control of your Mac

Fantasy Football 120
Got a Fantasy Football League team? Here's how to use your spreadsheet to manage your League yourself!

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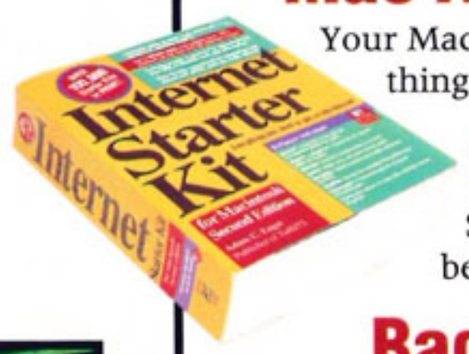
Mac Answers 77
Your Mac problems solved by our team of experts – anything from fonts to programming languages!



Special Offers 97
Some of the best Mac products at some of the best prices around, direct from MACFORMAT

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If you've missed any of our invaluable back issues, they're only a fiver each – if you can still get 'em!

Buying Advice 120
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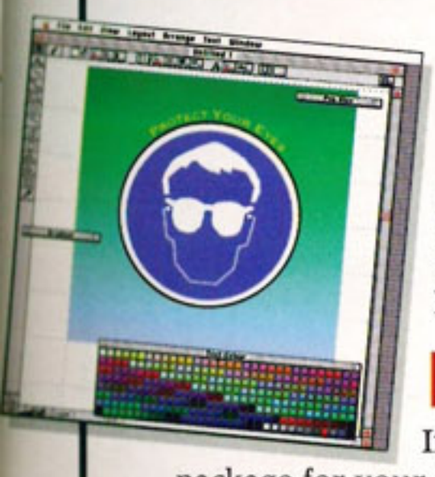
Are PowerMacs Crap? 124
A MACFORMAT reader shares his experiences of Apple's much-vaunted new machines in our new Soapbox section

Dilbert 124
MACFORMAT shatters the stereotype that computer users are nerds... everywhere but here

Next Month 129
Presenting: MacTimeWarp! Knowledge about the future can be yours, before you've even finished with the present!

Win! Win! Win!
This month you could win:
7th Guest 125
ClarisDraw 130

REVIEWS



ClarisDraw 82

It says 'version 1.0' on the box, but it's really the latest incarnation of a package that integrates drawing, painting and text handling... and even 'intelligent tools'! Find out exactly how it shapes up

Excel 5.0 84

If you want a dedicated spreadsheet package for your Mac, your choice is now down to this one. So is this latest version any good?

Question Mark 88

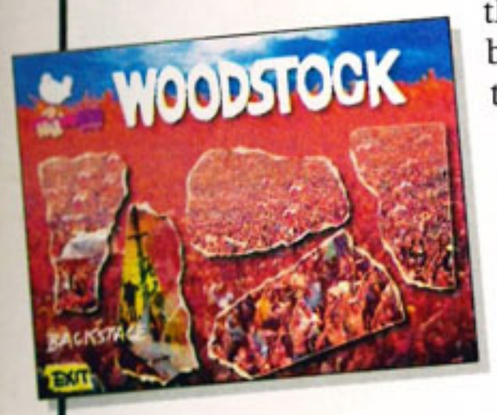
If you want the right answer, someone once said, you've got to ask the right question. That's what this education package is all about. It can even do surveys for businesses...

Music: Arrangers 90

Sequencing software may form the basis of most Mac music set-ups, but what would you say to a program that can help with accompaniment and composition? We round up no less than eight of 'em, from *Band-in-A-Box* to *Visual Arranger*

ITN News '93 94

Let's do the time warp again! All of last year's news from the studios of ITN – plus the year before's – reappears on your Mac in this new multimedia CD-ROM



Woodstock 96

Was it really 25 years ago? If your memory isn't what it was before, relive it all with this CD-ROM title

Shareware Heaven 101

The intrepid Derek Smith plunges into the Internet armed only with a modem, and returns bearing treasures such as a glider design program and a coffee warmer! Oh dear...

Games Reviews

One of these games is 'quite simply the best Macintosh CD-ROM product to date', according to the reviewer. And most of the rest are pretty brilliant too!

Rebel Assault 106
Theme Park 108
Links Pro 112
Battle of Britain 114
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Disk Manager Mac 118

Does your external hard drive fail to mount? Do you want to create custom partitions? This may be the utility for you

Conflict Catcher 2 119

Perhaps the most sophisticated Extensions manager there is – but will it help you fix those startup problems?

FEATURES

BOMB BUSTING

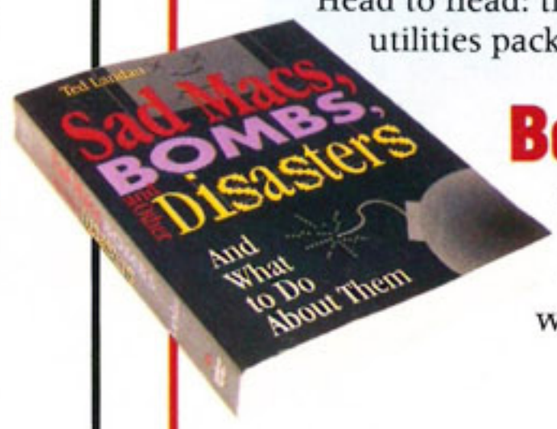
It's a fact of life: all Macs crash, or freeze, or refuse to start up, at some time or other. Don't panic! Just turn to MACFORMAT's easy-to-use guide to why it happens and what to do about it – plus how to stop it happening again! 36

Troubleshooting Utilities 42

This month's cover disk includes a hand-picked selection of utilities to help you prevent trouble and manage your Mac

Norton Utilities V MacTools 45

Head to head: the new versions of the top commercial utilities packages. Which one is worth buying?

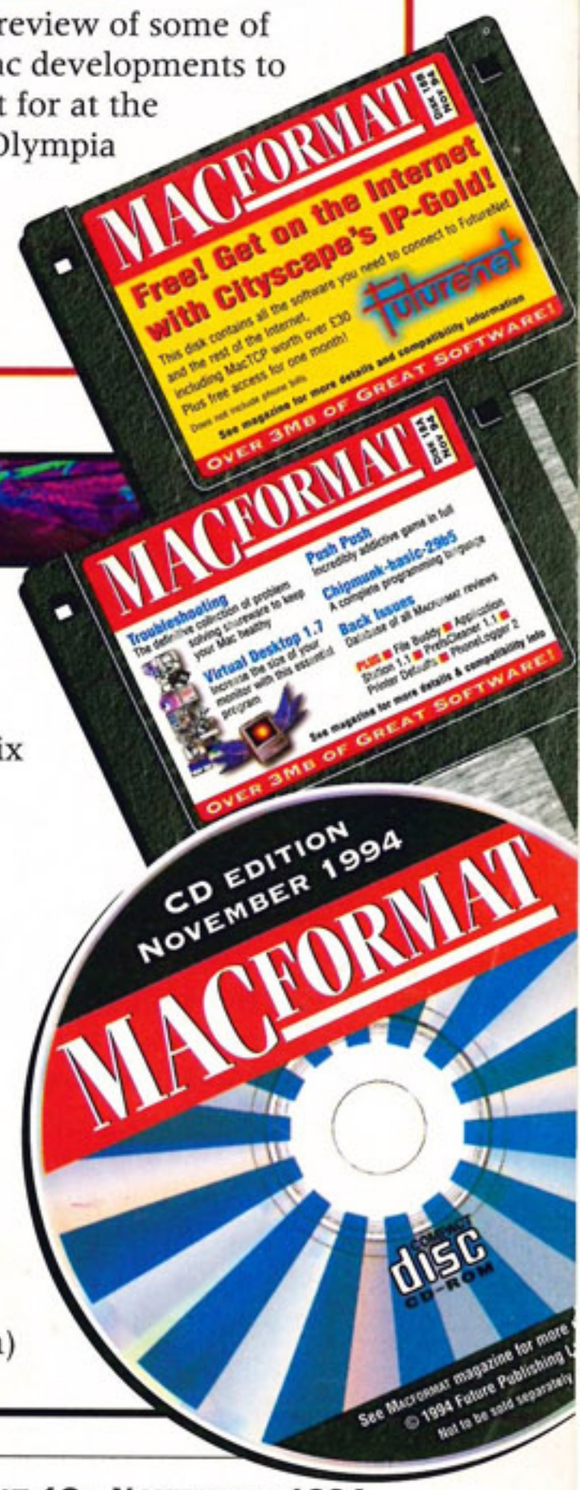


Bomb busting books 49

For even more information and help when your Mac is giving you grief, try one of these handy reference works. But which one is going to meet your needs?

Apple Expo Guide 22

An exclusive preview of some of the exciting Mac developments to keep an eye out for at the Apple Expo at Olympia this month



COVER DISKS

Your Cover Disk 6

Your guide to this month's jam-packed cover disk – a complete strategy game, six invaluable utilities, and even more!

Your CD-ROM 7

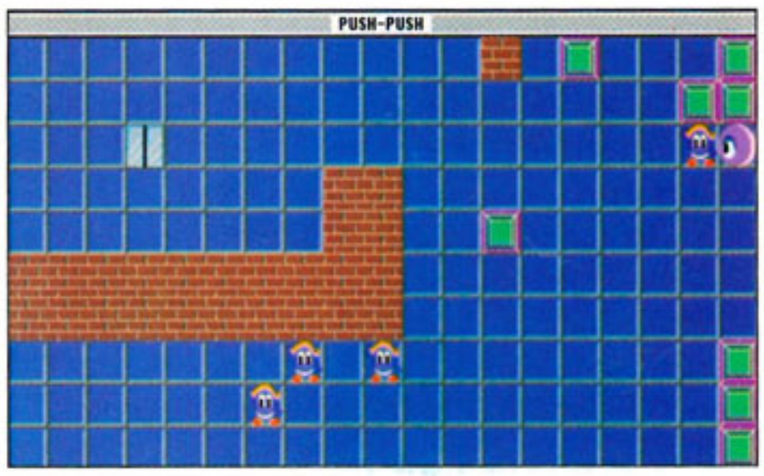
If you have the CD-ROM edition of this issue, you have everything that's on the floppy disk, plus much, much more...

Your extra bonus FutureNet Disk 10

Everything you need to get on the Internet, including free connection for one month! (Included on the CD edition)

Your cover disk

This month we've crammed so many great programs on to the disk that we must have set a new world record. Derek Smith tells all...



Level one is easy, but level two provides more of a challenge. There are several ways to complete it, but here's a clue.

START HERE

A high density floppy disk can contain about 1.4 megabytes of software, but we want to bring you as much as possible every month. Therefore, we use compression programs to reduce the files in size so we can fit more on – this month there's well over three megabytes worth. Unfortunately, this means you can't use the programs straight off the disk; you must install them on your hard disk first.

Doing this is very simple. Just double-click on the floppy disk icon, then double-click on the MACFORMAT 18 icon. A copyright message appears; click **Continue**. A box then appears that asks you where you want to save the contents of the disk. Choose the place on your hard disk where you want everything stored and click **Save**. After a couple of minutes or so of frantic disk activity, the files will be stored on your hard disk.

Before installing the cover disk we recommend that you back up any important work on your hard disk. This sensible precaution will avoid problems should any software not be compatible with your setup. We make every effort to check our disks for compatibility and viruses, but the information here is intended as a guide only, and MACFORMAT cannot be held responsible for any damage to data, any inability to use this software or any consequential losses. So please, for your own sake, back up first.

Push Push

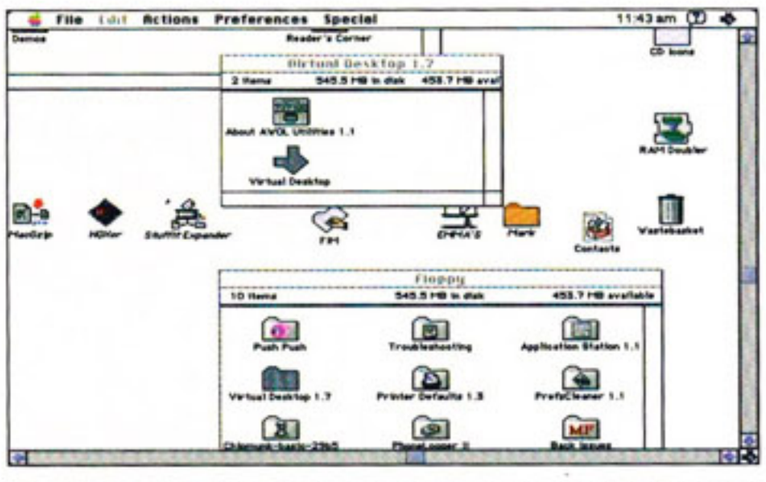
Game
Requires: colour monitor, logic

This lovely little program proves that a game doesn't need huge fancy graphics to be good, it just needs compulsive gameplay – and *Push Push* has that by the barrel-load. The idea of the game is to push the little purple people around the grid until they hit the door – a sort of guide-'em-up, if you like. The only problem is that once you push the people, they slide along until they hit a solid object, like a wall, which limits your options for subsequent pushes. Full instructions are provided within the game; to access them, simply select 'Instructions' from the Help menu.

Virtual Desktop

Screen enlarger
Requires: any Mac

Everyone needs a larger monitor now and again. *Virtual Desktop* gives you exactly that, and without costing you a penny! The first time you open *Virtual Desktop* you're asked whether you want to install an Extension to enable the program to work. Click 'Yes', and restart your Mac. Now, when you re-launch the program, you'll see scroll bars at the bottom and right of your screen. You'll need to use these to scroll around your Desktop, because it's now larger than your monitor can display. This program is especially useful for people with very small monitors, because it could enable them to run programs that require a larger monitor.



Incredible! Your monitor is now larger on the inside than it is on the outside – mine also developed a blue light on the top.

Chipbasic 2.9

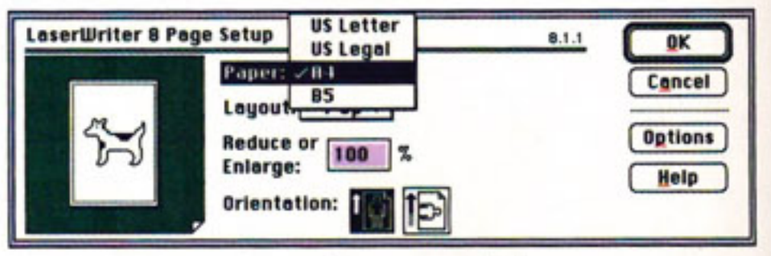
Programming language
Requires: any Mac (PowerMac native)

This is a complete version of the first programming language most people learn: BASIC. Although not the most comprehensive BASIC program around, it is the only one that is both PowerMac native and absolutely free! The ReadMe document included with the program contains all the commands you can use, so experiment and start programming.

Printer Defaults

Printer utility
Requires: any Mac and a printer

If you use a printer, then you'll have noticed how some programs always default to US Letter size paper. It's been a consistent problem here at MACFORMAT, which is one of the reasons I sought out this nifty little program. Not only can it change the default paper size to A4, it can also change any other printer defaults that you want. The best news of all is that this fabulously useful program is free. Hurrah!



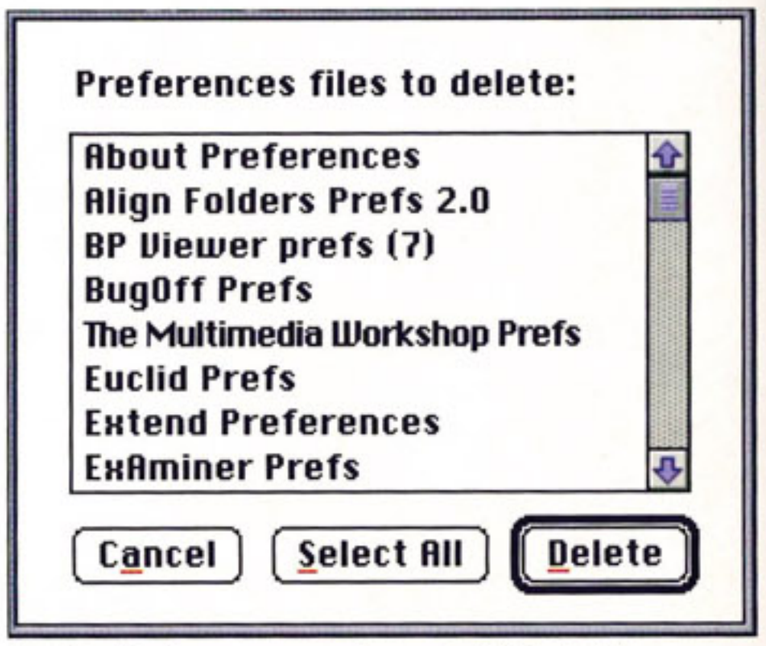
You can't change the weather, you can't change your mother-in-law, you can't even change your underpants every day, but at least you can change your printer's defaults.

PrefsCleaner

Preferences cleaner
Requires: any Mac

System 7's Preferences folder is all jolly lovely and everything, but it's very easy to forget about. As soon as you turn your back on it, the damn thing becomes crammed full of outdated Preference files for programs you got rid of years ago. What's more, tidying up this folder is a laborious job – unlike tidying your clothes, you can't just stick files in the bottom of your wardrobe until they rot away.

PrefsCleaner automatically does this tidying job for you (on the Preferences, that is, not



Outdated Preferences can eat up valuable hard disk space, so get rid of them with this easy-to-use utility.

GETTING YOUR BACK UP

Before you do anything else, you should make a backup of the MACFORMAT cover disk and work only with the backup – just in case anything does happen to go wrong. Make sure the original cover disk is write-protected (move the tab so that you can see through the hole) – then nothing can be written to the disk. Then follow these simple steps:

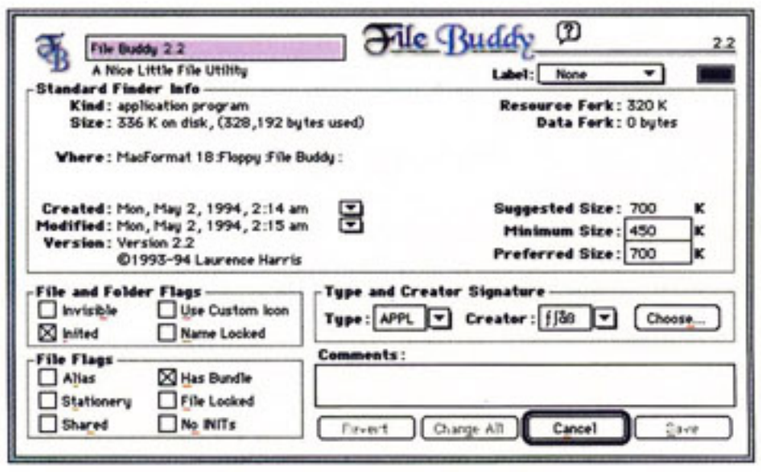
1. Insert the MACFORMAT cover disk.
2. Drag the disk's icon over your hard disk's icon. The contents of the cover disk will then be copied into a new folder on your hard disk called 'MACFORMAT 18' (but it is still not decompressed, so you still can't run anything directly).
3. When the copying finishes, drag the cover disk icon into the Wastebasket to eject it.
4. Insert a blank high density disk. Check that it's not write-protected, and, if need be, format it, naming it 'MACFORMAT 18 backup' (or 'Fred' if you want. It doesn't matter).
5. Drag the 'MACFORMAT 18' folder from your hard disk on to the new floppy disk's icon. When it has finished copying, your backup is complete.
6. You can now delete the 'MACFORMAT 18' folder from your hard disk by dragging it across to the Wastebasket, and selecting Empty Wastebasket.

your clothes). It looks at your Preferences folder, then checks which programs you have installed on your hard drive. It then shows you a list of Preferences for programs you don't have, and enables to you to selectively delete them or dump the whole lot in one go. Then you can sit back and watch as your Mac gives a huge sigh of relief when it finally regains that precious disk space.

File Buddy

File utility
Requires: any Mac

Got a file? Get a buddy! This program can do a whole bundle of useful things to a file, including changing its creation date (a useful feature for students who want to convince their teacher they started their projects on time). You can create aliases, delete files, make files invisible, change the creator of a file, and a whole host of other things.



If you're short of friends, then get *File Buddy*. OK, it won't phone or visit, but it will take care of your files.

Application Station 1.1

Alias organiser
Requires: System 7

Do you find yourself opening the same sets of files and programs time and time again? *Application Station* enables you to create links between aliases and programs so you can open up several files with a single double-click. You can also create icons to put on your Desktop that open different sets of files for different projects.

If you update programs or move files around, the aliases tend to forget which programs and files they are linked to. This means deleting the old aliases and creating new ones. *Application Station* takes all the hassle out of that process by easily creating new links between aliases and files.

Back Issues

Database
Requires: any Mac

Following requests from our readers, we asked for your help in the creation of a database of all our back issues. Bruno Bowden very kindly volunteered to do the hard work and helped us to create that database.

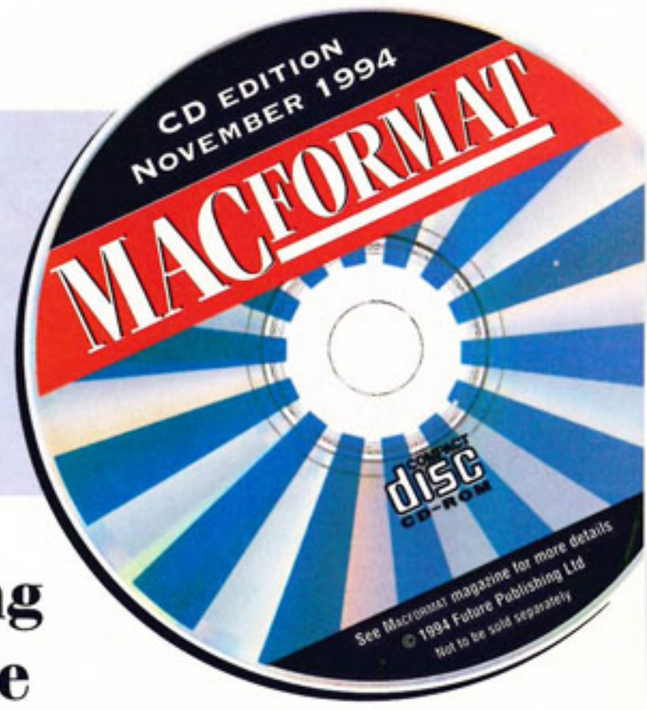
It is provided in two formats: *ClarisWorks* and text. If you don't have *ClarisWorks*, then you can open the text file into a word processor or import the data into most databases or spreadsheets (see your own manual about how to import data). There's also a demo of *ClarisWorks* on this month's CD that will open these files.

AND FINALLY...

Also on the floppy is a folder of essential troubleshooting shareware programs. For more details, see the Bomb Busting guide on page 42.

We also have *PhoneLogger 2*, which was specially created for you by our resident *HyperCard* expert, Rod Lawton. To see more about this stack, read his article on page 73.

Your CD-ROM



This month we have so many top-notch demos and high-flying shareware programs in our stunning collection that you'll be glued to your Mac for the whole month! Derek Smith is your guide.

With over 500Mb of class software this month, it was a mammoth task to put the CD together – but for a collection this good, it was certainly worth the effort. When you insert your CD, you'll see ten folder of goodies – so let's get down to business...

■ **Highlights:** this folder contains aliases of folders elsewhere on the CD. Double-clicking on one of the folders will open the original, so it's an easy way to get started on this month's best programs.

■ **MACFORMAT 18 Floppy:** contains all the software from this month's floppy disk edition.

■ **FutureNet:** the second cover floppy disk contains all the software you need to connect to the Internet, and our own FutureNet. Alas, it doesn't contain a modem, but check out the US Robotics modem in our mail order section on page 99.

■ **Demos:** this folder contains both shareware and commercial demos that we have arranged specially for you.

■ **Shareware City:** this folder contains all the best shareware programs released during the previous month.

■ **Shareware in MACFORMAT:** this folder con-

tains all of the software reviewed in MACFORMAT this month (and the odd extra one). See page 101 for the start of our shareware round up.

■ **Utility Spectacular:** with nearly 200Mb of utility software, this represents the definitive collection of helpful and informative software.

■ **Comms Spectacular:** if you have a modem, you probably already have access to many of these programs, but this compilation will save you pounds on your phone bill.

■ **Troubleshooting:** combined with all the troubleshooting programs in the MACFORMAT 18 Floppy folder, this is the ultimate shareware collection for a healthy Mac.

■ **Reader's Corner:** your chance to be famous! This section contains your software, letters and comments.

But that's enough sweeping generalisations, let's take an in-depth look at the highlights of this month's CD...

Rebel Assault demo

Star Wars game
Requires: LCIII or better, colour monitor, CD-ROM drive (double-speed CD-ROM drive recommended) and 2.4Mb RAM

The full game gets a brilliant review on page 106, and this demo gives you two full levels to enjoy. You can play the game directly from the CD, or copy the *Rebel Assault* icon to your hard disk for slightly faster action. The game can be played with a mouse or joystick.

To access the pull-down menus during play, press [command]. To move Luke to the left or right when you get to the second level, press [option]. Feel like you could take on the whole Empire by yourself? Well, load up this Classic Award winning game and get to it.

Chase Imperial TIE Fighters through a deadly asteroid field. Quick reactions and a sharp eye will be needed if you're going to reach the end of this level.

If you manage to survive the asteroid field, then you'll have to battle your way past Storm-troopers to get to your ship.

Take the lift (the door with a big '3' on it) down to level one. Here you're greeted with a brawl to rival Harrods on sale day.

Sensory Overload demo

3D action game
Requires: LCII or better, minimum of 2,560K free RAM and a colour monitor

Sensory Overload is the first in a series of 3D shoot-'em-ups to be released on the Mac (turn to page 17 for news about the forthcoming release of *Doom*), and it sets a high standard for the others to follow. It was reviewed in the last issue and scored an excellent 85% (see MACFORMAT 17). Now you can play the first three levels for yourself. You'll need to copy the complete *Sensory Overload* folder to your hard disk in order to make it run at the correct speed (you'll need around 3Mb of disk space).

Star Wars Screen-saver

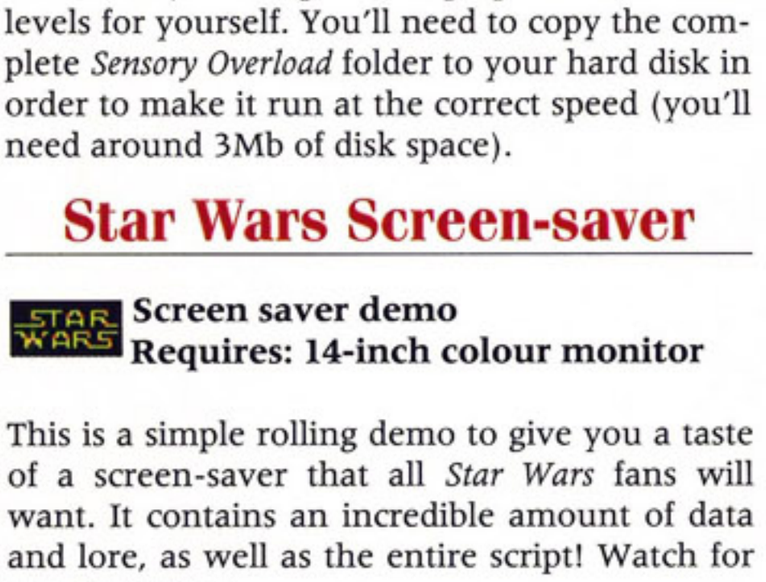
Screen saver demo
Requires: 14-inch colour monitor

This is a simple rolling demo to give you a taste of a screen-saver that all *Star Wars* fans will want. It contains an incredible amount of data and lore, as well as the entire script! Watch for a review soon.

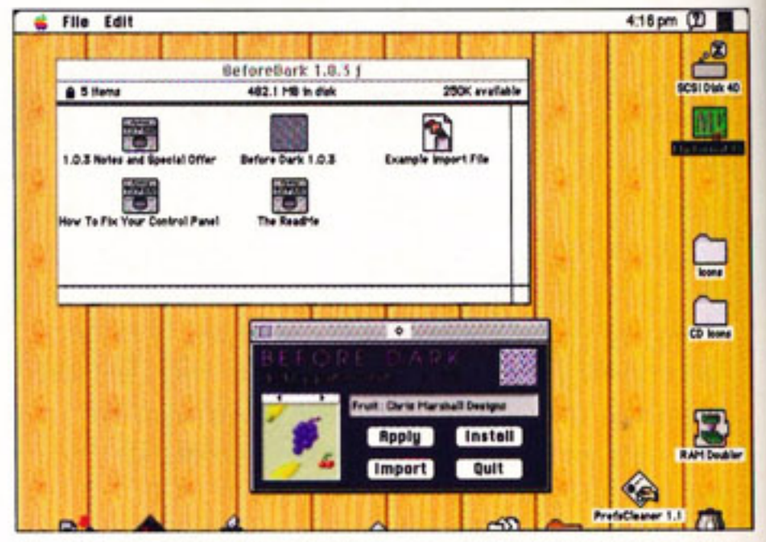
Utilities and Comms

Shareware collections
Requires: see individual ReadMe files

Each month we will bring you collections of shareware from the Internet; last month it was fonts, this month utilities and comms. These collections represent the bulk of software available in their areas, and over the coming months will build up to become a definitive source for any piece of shareware you could possibly want.



The Empire has annexed my Mac with this screen-saver, which is fine, providing they keep those damned Ewoks away.

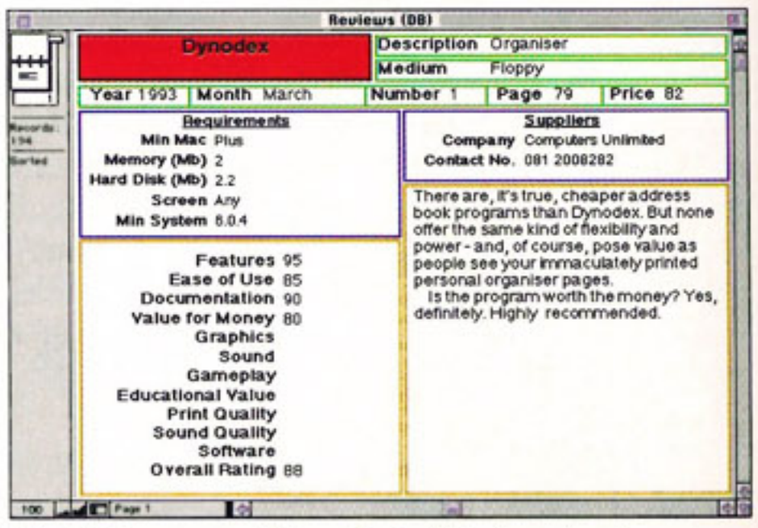


You'll find loads of great utilities here, like *BeforeDark*, which will change your Desktop pattern to something more fun.

ClarisWorks 2.1 demo

Integrated package
Requires: any Mac

ClarisWorks has quickly established itself as one of the best-selling Mac products ever. Here's your chance to sample its charms in this virtually complete version of the program (the only thing that's been disabled is the Save function – although your printouts will also have a watermark across them).



What better use could there be for this demo than to open our super database and search through the back issues?

Reader's Corner

Your programs
Requires: see individual ReadMe files

Contributions this month include *Mystique*, a computer magazine for fans of *Myst*, which actually uses the program's own graphical interface. There are some beautiful animations from Alan Smith, and icons from Daniel Counsell and Jonnie Elovsson. Sam and Stef from Harpenden have sent in their first game, which is called *Sol* (nice icon, guys!), and Thorsten Lemke was kind enough to send us the latest version of his excellent utility *GraphicConverter*.

Alan Smith has sent MACFORMAT three *QuickTime* animations that he created, including two beautiful Mandelbrot sets.

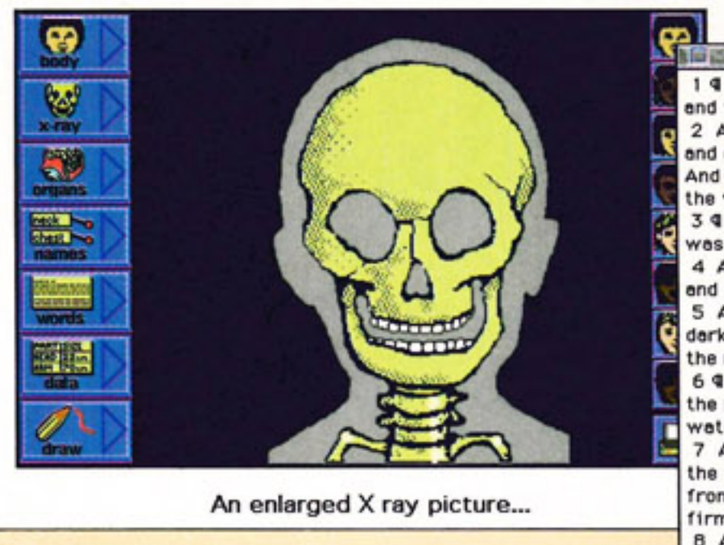
TOO MANY TO MENTION!

With over 500Mb of top software on the CD, we've covered only the merest fraction on these pages. Others worth a quick mention include a demo of *Cubase*, one of the leading music packages (see page 90 for details of its IPS system). There's also a demo of *Bodymapper*, a great educational program that received 92% in MACFORMAT 16.

Realmz is a mammoth shareware game that is jam-packed full of professional graphics, and it is guaranteed to keep you occupied for days and days. *Online Bible* is a Bible study aid (please note this doesn't represent any religious bias, we just haven't come across *Online Koran* – yet).

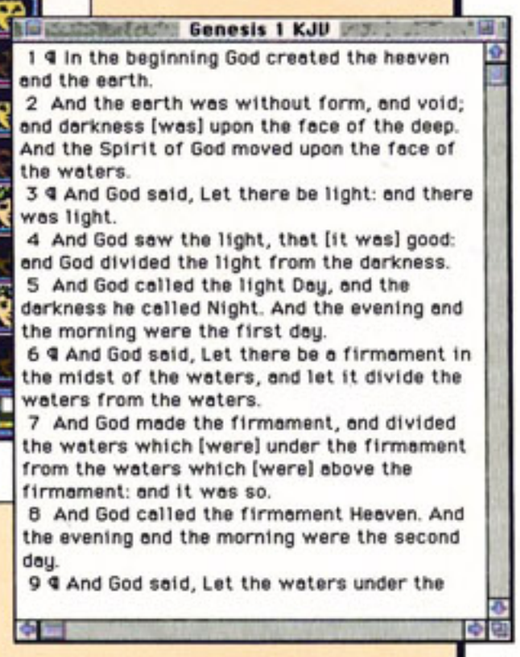
Last month we had a terrific response to our little competition, so here we go again. We're offering the one and only Gold Master Disc of this month's CD to the first person who can tell us which program Bob Clark wrote on this month's CD. If you spot it, send your details on a postcard or stuck-down envelope to: 'CD Gold 18 Comp', MACFORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW. Employees of Future Publishing and their families are not eligible to enter. No multiple entries are allowed. Please state if you don't want your name added to a mailing list. The editor's decision is final, and the closing date is Friday 11 November.

Oh, and congratulations to Laurence Richt for winning last month's competition.

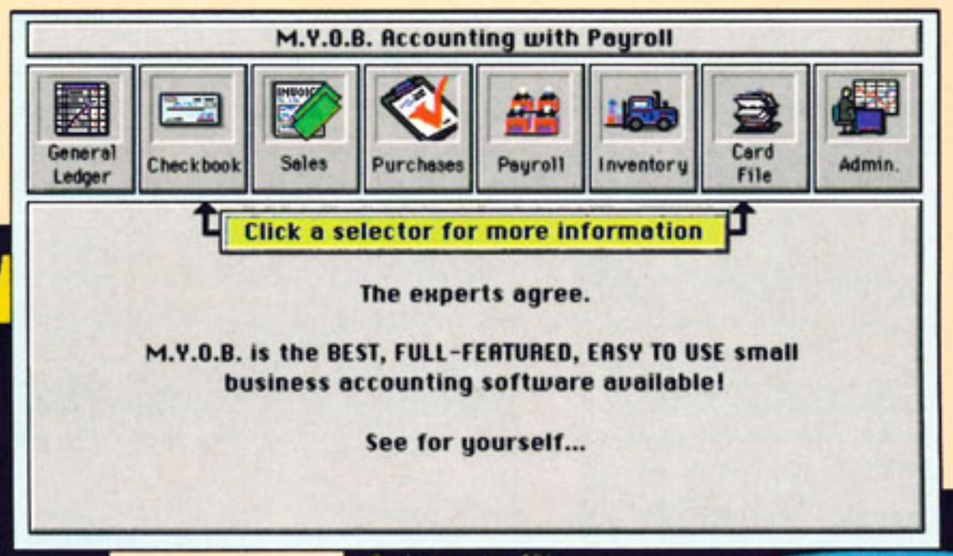


An enlarged X ray picture...

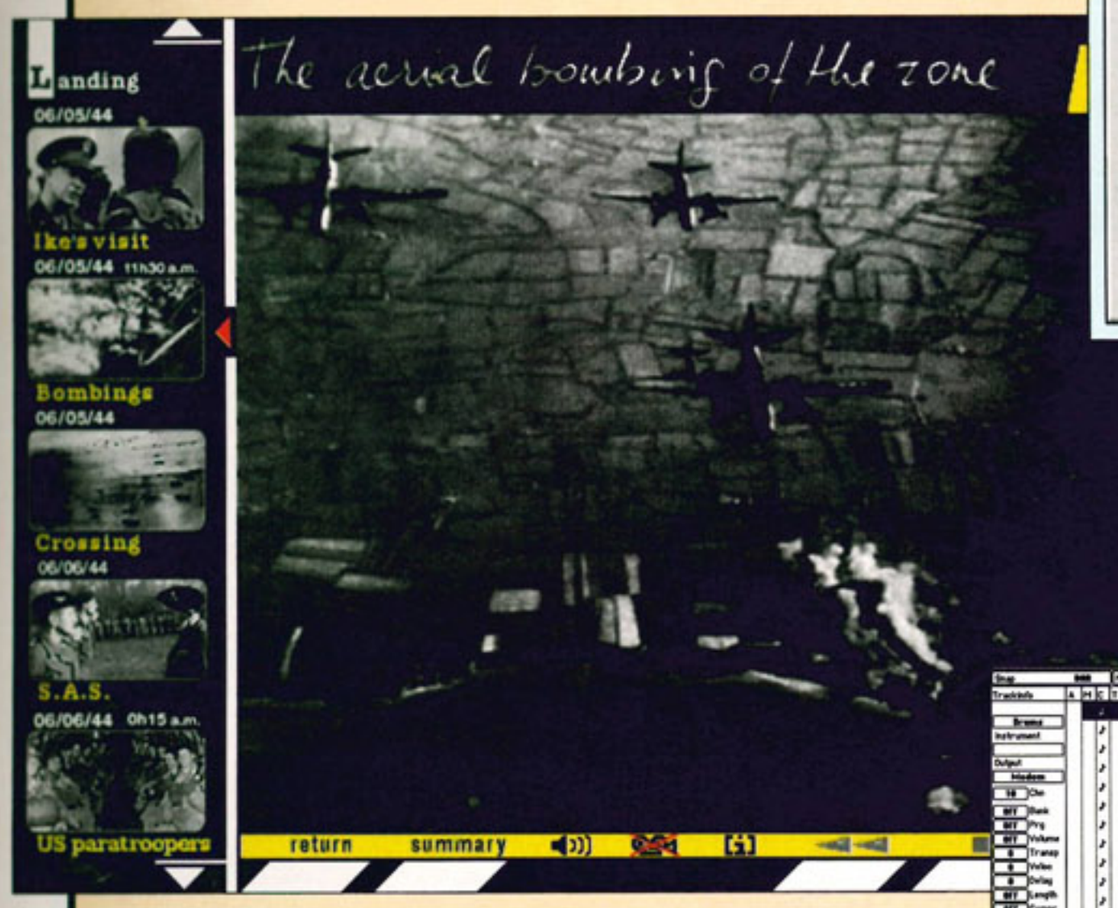
Yuck! Take a look inside yourself and see what you are made of with a demo of the excellent *Bodymapper*.



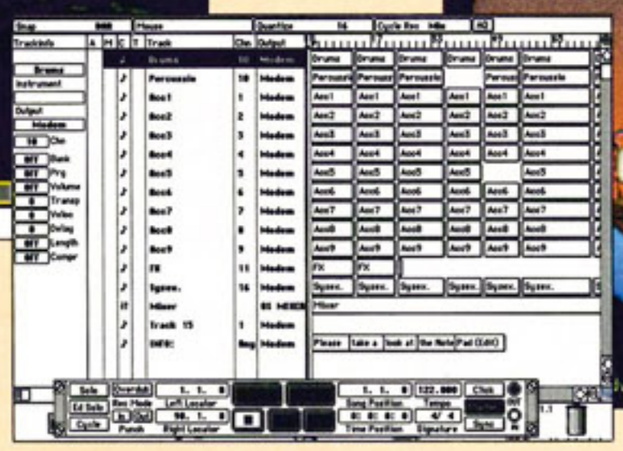
Online Bible tells us that in the beginning the Apple cost man dearly (but over the last few years they've dropped a lot in price).



Mind Your Own Business is a great name for an accounting program, so get your money head on and give it a try.



Perhaps a little late for the 50th anniversary commemoration, but here is a preview of *D-Day*, a multimedia title to induce a bit a' jingoism.



Your chance to sample (no pun intended) one of the top music programs available for the Mac: *Cubase*.

Realmz is a huge shareware game that gives you the chance to be a bold, hunky hero. Not that I need the game to achieve that, of course.

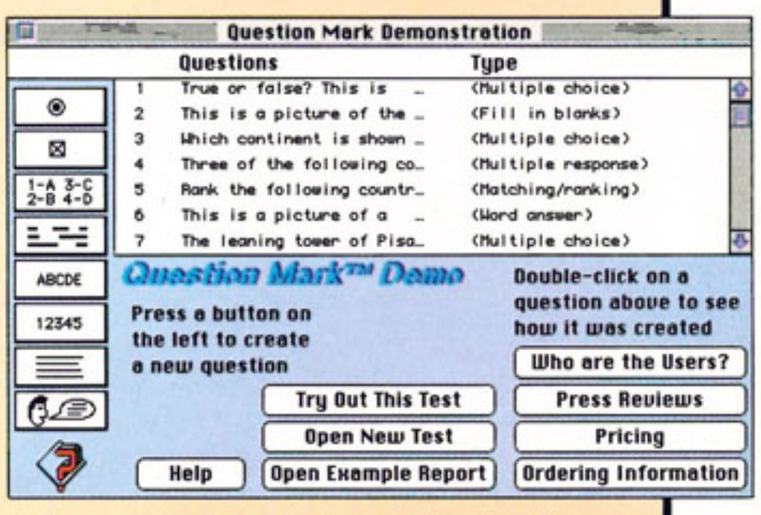
GOT A PROBLEM?

If the covermounted high density disk or CD-ROM you have is defective, return it to us and we will replace it. Please make sure you have followed the installation procedures described in these pages correctly, to ensure that there is a physical problem with the disk itself. Otherwise, the replacement will be just the same!

Return HD disks to:
Discopy Labs
PO Box 21
Daventry
NN11 5BU

Return CD-ROMs to:
MACFORMAT CD returns
Future Publishing
FREEPOST (BS4900)
Somerton
Somerset
TA11 6BR

Enclose a self-addressed padded envelope (but we'll pay return postage) with the disk or CD, and a description of the fault. Please do not return disks or CDs to the editorial office; we don't hold stocks of them and can only refer you to the addresses above.



Test your general knowledge with the *Question Mark* demo tests. For a full review see page 88.

The FutureNet disk

MACFORMAT and CityScape give you the chance to try out the 'Net – for free!

The FutureNet cover disk contains all the software you need to travel the Information Highway. So pop it in your disk drive and get on-line with this fantastic free offer brought to you courtesy of MACFORMAT and CityScape. Go on, you know it makes sense...

■ *MacTCP* and *MacPPP*. These two pieces of software actually connect your Mac to the Internet and enable the other applications to talk to any Internet site in the world. *MacTCP* is provided under licence from Apple, whereas *MacPPP* is freeware from Merit Network and the University of Michigan.

■ *MacWeb*. The latest Macintosh World Wide Web browser. This is being distributed under licence from MCC. It can be used to view info pages on your hard disk, or from Internet sites all over the world. CityScape's own pages (the most popular in Europe) offer a great guide to the Internet for business and pleasure users. Using the CityScape pages, you can download all sorts of free applications and resources for your Mac.

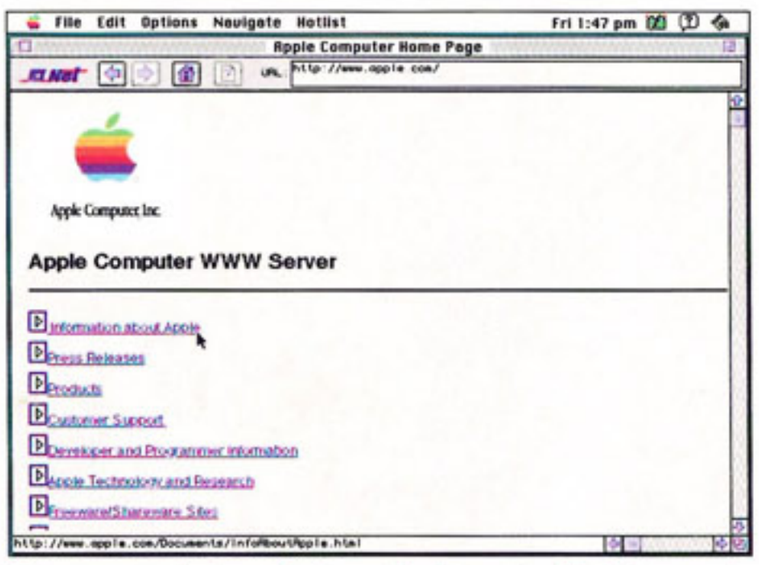
■ *Eudora*. This excellent e-Mail package is supplied free, courtesy of Qualcomm Inc. It has virtually every feature you could wish for, including MIME, the latest Internet standard for sending graphics and sound files.

■ *Nuntius*. Combined with a CityScape IP.-GOLD account, *Nuntius* gives access to over 3,500 public forums for discussing anything from Quark to scuba-diving, from memory upgrades to cookery.

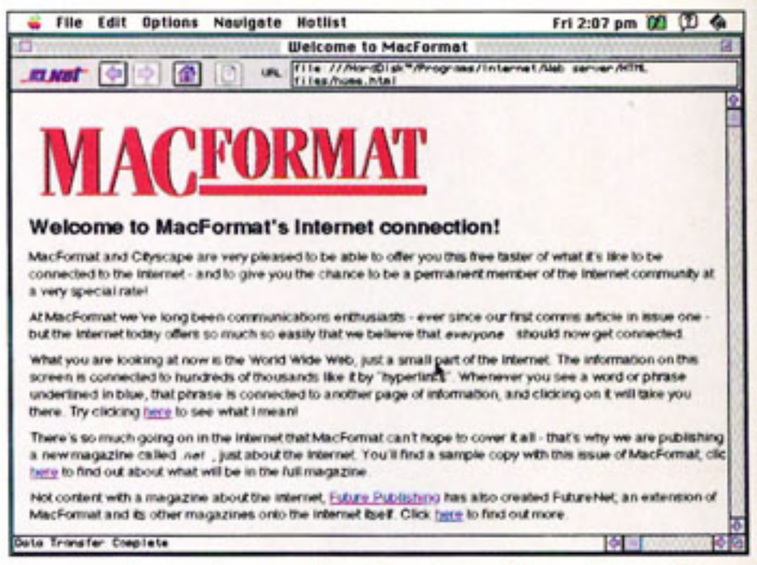
■ Finally, the disk includes a selection of World Wide Web-style pages for readers who don't yet own a modem. These can be read using *MacWeb* (as described in the instructions) and contain information about CityScape IP.GOLD and *.net*, the new Internet magazine from Future Publishing.

Please refer to the individual licence docu-

There's loads of info on the 'Net, and with your World Wide Web browser you can explore it all with just a click of a mouse! CityScape's own GoldSite is a great place to start.



You can even look up Apple on the Internet, which is a good idea if you want to take a gander at the latest press releases and product information.



Yes, your favourite magazine is on-line with our FutureNet service. Use the software on this disk to connect to us and discover even more about Britain's best-selling Mac monthly.

CRUISE THE INTERNET FOR FREE!

For one month you can get on-line free of charge with CityScape's IP-GOLD (offer excludes any phone charges incurred).

Just fill in the form below and post it to CityScape and you will receive a user name and password giving you one free month on the Internet. If you don't wish to continue your subscription, simply inform CityScape in writing within the month. Should you decide to keep the software an initial charge of £95 will be made for the first quarter and £45 for each quarter after that.

■ Requires: Hayes compatible V32 modem or better, Mac running System 7 or above, 4Mb of RAM and 4Mb of hard disk space.

■ Important: CityScape Internet Services reserves the right to refuse access to anyone violating any aspect of the PIPEX acceptable use policy (details available on request).

All applications must be received by CityScape on or before Wednesday 30 November 1994. The offer is limited to one application per person.

Just fill in the form below...

Name (on credit card) .....

Address .....

.....

.....

.....

Telephone number .....

Credit card number .....

Expiry date .....

Credit card type (delete as applicable)

Visa / Access / Mastercard

I verify that I am over eighteen and that the above details are correct.

Signed ..... Date .....

Send this form to:
CityScape Internet Services Ltd, Alexandria House,
9 Covent Garden, Cambridge, CB1 2HR.
Or Fax: 01223 566951. Ref: Box4

HOW TO INSTALL THE COVER DISK

If you have problems installing the software, please phone the free CityScape telephone support line on 01223 566983 between 10am and 12 noon or between 2pm and 4pm.
Note: you'll need to get your user name and password from CityScape before you can use IP.GOLD.

Installation notes for modem owners

1. Insert the FutureNet floppy disk into your disk drive.
2. Open the disk and double-click on the 'RUN ME!' icon. It will ask where you want to place the installation folder. Choose where, and click the 'Extract' button.
3. A folder called 'CityScape IP.GOLD' is now created. Open this folder to reveal the following:

Applications Three	Internet applications
Documentation	Release notes and help files
System Folder	Files and more folders to do with the Mac O/S

4. Open this System Folder and the System Folder on your hard disk.
5. Now open the CityScape Control Panels folder and drag both the icons into the Macintosh System Control Panels folder on your hard disk. If an error message indicates that one of the files already exists, click Continue and overwrite the old file.
6. Open the CityScape Extensions folder and drag the icon into the Macintosh System Extensions folder on your hard disk.
7. Open the CityScape Preferences folder and drag all the icons into the Macintosh System Preferences folder on your hard disk.
8. Drag the 'Eudora Folder' and 'MacTCP DNR' icons from the CityScape System Folder into your hard disk's System Folder.
9. Open the Control Panels folder on your hard disk and highlight (using a single click) the 'PPP Config' icon. Now select 'Make Alias' from the File menu. A new icon should appear called 'PPP Config alias'. Drag this on to the desktop, where you can reach it easily.

How to configure IP.GOLD

All the files are now copied into the appropriate locations on the hard disk of your machine. All that remains is to personalise your copy of IP.GOLD.
10. Double-click on the 'Config PPP alias' icon. A window of settings appears. Use the PPP Server menu to select your nearest city. This will be the telephone area to which IP.GOLD will connect.
11. Select 'Configure Server' and then, from the new window, select 'Connect Script' for yet another window. Note: in points 12 to 14 both the user name and password are case sensitive. That is, upper case (or capital) letters must be typed as upper case letters, and lower case letters as lower case letters. You should also make sure you don't edit any of the other boxes in this window.
12. Replace the text 'XXXX' with the user name that you received from CityScape (see 'Cruise the Internet for free').
13. Replace the text 'YYYYYY' with the password.
14. Now click the 'OK' button followed by the 'Done' button.

How to configure e-Mail

You've just configured the network connecting software *PPP*, so all you have to do now is configure the e-Mail software *Eudora*.
15. Run *Eudora* from the IP.GOLD Applications folder (choosing 'Cancel' at the password prompt).
16. Choose 'Configuration' from *Eudora's* 'Special' menu.
17. Again, replace the text 'XXXX' with your user name (as in point 12 above).
18. Replace the text in the 'Real Name' field with your real name. This can be almost any name you like, but don't include any punctuation and try to use less than 24 characters.
19. Click the 'OK' button and quit *Eudora*.

How to connect up to the 'Net

20. Now restart your Macintosh and plug in the modem.
21. Locate the 'Config PPP alias' icon and double-click on it. Click the 'Open' button and wait for the modem to connect.

Welcome to the Internet

You can now easily run any of the applications simply by double-clicking them. A good place to start is *MacWeb* (called 'WWW Browser' on the disk), which can be used to view an on-line Internet guide: the CityScape Global OnLine Magazine.

Installation notes for readers without modems

If you haven't got a modem, the World Wide Web browsing software on the disk will still work, but you'll only be able to access a limited number of files. (If you do decide to take the plunge into modem ownership, be sure to check out MACFORMAT'S special modem offer on page 99.)

First, follow steps 1, 2 and 3 above. Because the only application on the disk that works without a modem (and hence, an Internet connection) is *MacWeb*, there's only one configuration file to copy.

Open the 'System Folder' in the 'CityScape IP.GOLD' folder, and then the 'Preferences' folder within that. Then open the 'System Folder' and 'Preferences' folder on your hard disk and drag the 'MacWeb Preferences' icon from one to the other.

Now, when you activate *MacWeb*, the first page should come up with the MACFORMAT logo and an introduction to browsing the World Wibe Web. If a link doesn't work, it's probably because it points to a page somewhere else on the Internet, which, of course, you can't reach if you're not connected to the Internet.

ments (see the Documents folder) for details of each application's availability.

CityScape IP.GOLD

CityScape IP.GOLD is a professional, low-cost, simple-to-use Internet IP service. The full service is available now.

CityScape IP-GOLD gives PC *Windows* and Mac users Internet access in one simple-to-use, quick-to-install package. The disk includes:

- A professional e-Mail package to send and receive e-Mail.
- A Usenet News reader and feed.
- A World Wide Web Browser.
- A Mailbox and Internet mail address.
- One year's subscription to CityScape's Internet connection.
- Access to CityScape's renowned Telephone and e-Mail support.

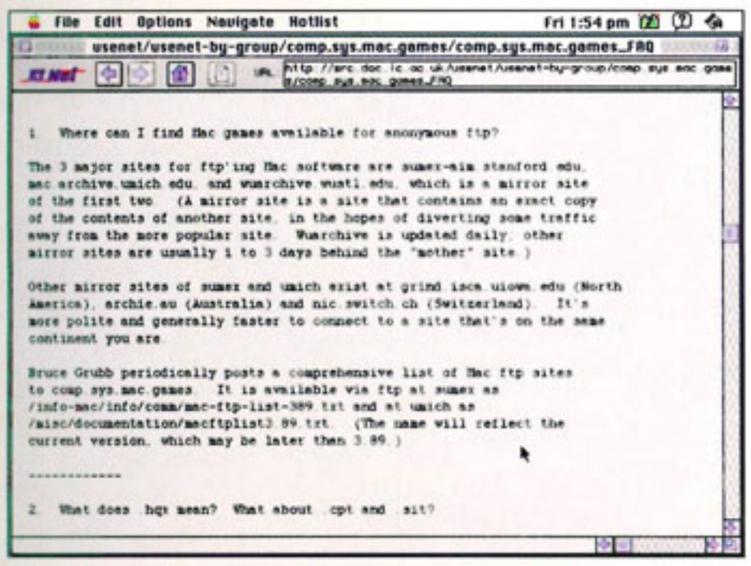
CityScape IP-GOLD is the simplest introduction to the Internet yet. It provides a collection of friendly, easy-to-use applications, completely pre-configured for your connection. Following the instructions on this page you can be connected to the Internet in under ten minutes. And if you do have any problems, the solution should be no more than a phone call away.

As CityScape's service is based completely on Open Standards, you are not limited to the software supplied. Virtually any *Mac TCP*/IP product will work with IP-GOLD, and CityScape's World Wide Web pages will help you download any specialist software you require to add to your collection.

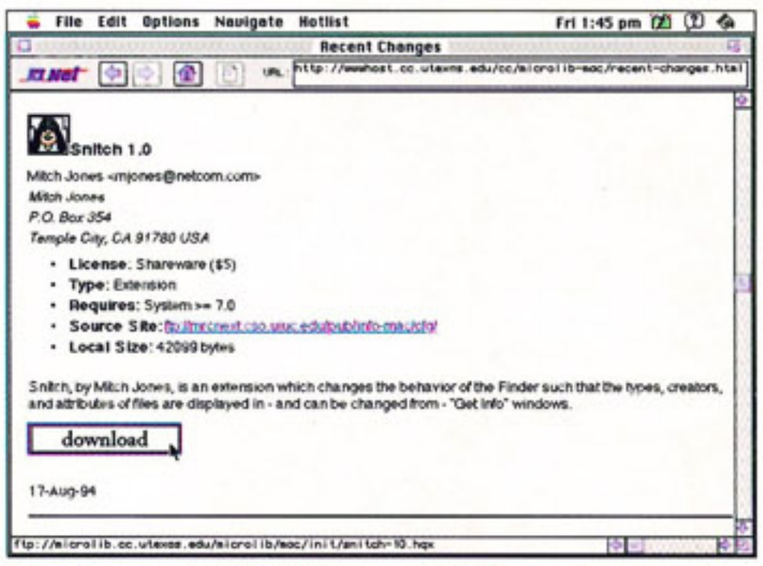
Service Details

To ensure the highest quality service, CityScape uses the network infrastructure built by PIPEX, Europe's premier commercial Internet provider. PIPEX currently provides six UK nodes from which to access the Internet, with a total of 210 lines: London (60), Edinburgh (30), Manchester (30), Bristol (30), Birmingham (30), Cambridge (30). There will be at least ten nodes by the end of the year. CityScape aims to avoid busy tones! It has full 24-hour support on the nodes through PIPEX, 24-hour e-Mail support and a telephone support line (see 'How to install the cover disk' box above for details).

There are no on-line, e-Mail, or data transfer charges. Whether you are sending e-Mail to Australia or browsing in the Library of Congress, you only pay for the telephone call to your nearest CityScape node.



The 'Net also has discussion groups on everything under the sun, where you can get help and advice, or just chat!



There's a seemingly infinite amount of Mac software on the 'Net, and it's just waiting to be downloaded to your machine.

THERE'S MORE...

For more details about CityScape
e-Mail: sales@cityscape.co.uk
Phone: 01223 566950
Fax: 01223 566951
Post: CityScape Internet Services Ltd, Alexandria House, 9 Covent Garden, Cambridge, CB1 2HR.

For more details about Future's latest mag, *.net*, check out the free supplement bundled with this issue.

For more details about FutureNet, Future's new on-line service, turn to page 58 of this issue.

Authorised Education Reseller
Authorised Apple Workgroup Server Reseller
Certified Digital Audio Editing Systems Specialists

This is... computer warehouse

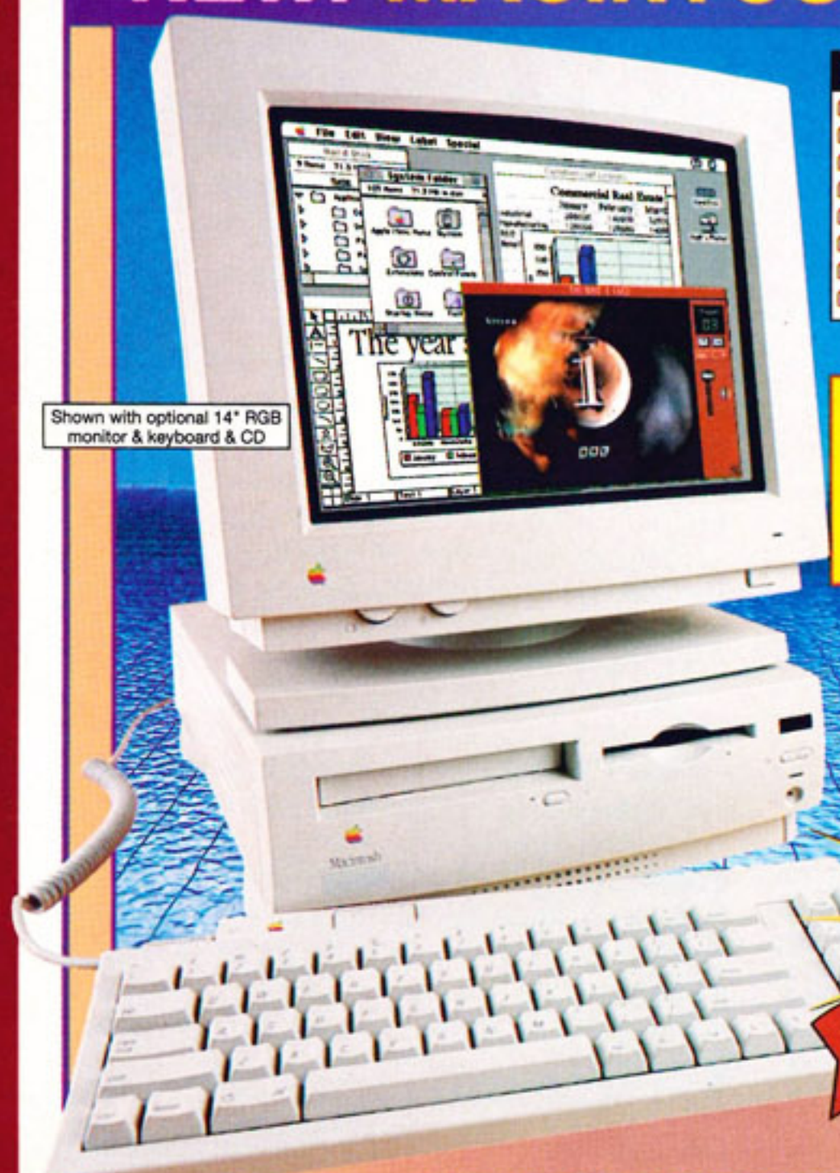
"Why not take home one of these fantastic bargains?!"

Computer Warehouse is a division of TSC Ltd.

Authorised Reseller

Computing Multimedia Mac Compo

NEW! MACINTOSH LC 630



CW PRODUCT CHECKLIST
- ☐ 66/33Mhz 68LC040
- ☐ 3 Expansion ports
- ☐ Optional TV tuner
- ☐ Upgrade to Power PC
- ☐ LC PDS Expansion
- ☐ Built-in CD-ROM
- ☐ Support to 15" Mon.
- ☐ Infra-Red rem. control

EXCELLENT CW VALUE
MACINTOSH LC630
8MB RAM
350MB HARD DRIVE
BUILT-IN CD-ROM DRIVE
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CW RECOMMENDED

NEW! MACINTOSH 630

The Mac 630 is the most advanced CD-ROM equipped Apple multimedia system. You can connect to an external video source such as a VCR or camcorder to cut and paste video images. You can also add an option to connect your computer to a large-screen TV for displaying presentations. And you can add an internal TV tuner to view television channels in a window on your display. The Mac 630 includes 16-bit CD stereo sound, support for Apple and 3rd-party displays, and AppleTalk networking for access to printers, electronic mail, and file sharing.

- 66/33Mhz 68LC040 processor - the speed of a Quadra 800!
- 8Mb RAM (Expandable to 36Mb)
- Internal 350Mb Hard Drive • Internal CD-ROM Drive
- 3 expansion slots + optional TV Tuner • 1,000s of colours on 14"
- Video support for 15" monitors
- Handy infra-red control of CD & TV
- Dual Hard Drive I/O (Internal IDE, external SCSI)

READILY UPGRADABLE TO PowerPC

MAC LC 630 8Mb RAM 250Mb H. DRIVE
ANOTHER CW SPECIAL OFFER £849
EX.VAT. DOES NOT INCLUDE KEYBOARD CD OR MONITOR

PERFORMA 475

PERFORMA 475

Quadra matching performance! The superb Performa 475 features a Motorola 68040 clocked at 25Mhz, integral memory management and an 8k cache which means it's ready to rip through business, entertainment and education with gusto. It includes support for all Apple displays, including the new 20" Multiscan and comes complete with 4Mb RAM and an 80Mb Hard Drive

- 25Mhz 68040 - fast as a Quadra!
- 4Mb RAM (expandable to 36Mb)
- Internal 160Mb drive fitted
- PDS for expansion slot
- Monitor support to 21"
- System 7 software
- Desktop Mouse

THE MULTIMEDIA PACK
PERFORMA 475 4/80
14" PERFORMA PLUS MON
KEYBOARD, MOUSE
APPLE CD150 CD-ROM
+ FREE SOFTWARE!!
£849.00

LIMITED STOCKS ONLY PHONE NOW

PLUS When you purchase a Performa 475 with monitor and keyboard you get over £200 of (while stocks last)...
- **Now Contact • Now Up-To-Date**
- **Claris Works - ALL FREE!**

HURRY THIS IS A LIMITED OFFER

MACINTOSH 475 4/160 CPU ONLY
WITH CW SAVE £££'s £549
PRICE DOES NOT INCLUDE KEYBOARD OR MONITOR

MACINTOSH LCIII - SAVE!

MACINTOSH LCIII

The superb LCIII features a zippy Motorola 68030 processor running at 25Mhz (same speed as IIci) which makes it the machine of choice for general business, education and home entertainment tasks. And here at CW we've got it on an incredible deal for a limited time only.

- 25Mhz 68030 - fast as a Macintosh IIci!
- 4Mb of on-board RAM (expandable to 36Mb)
- 80Mb internal hard drive fitted
- LC expansion slot
- Colour monitor support to 16
- Complete with System 7
- Desktop mouse

PLUS! When you buy an LCIII from CW you can purchase Now Contact, Now Up-To-Date & Claris Works 1 (Full versions - Minimum packaging - an incredible value) for just £49!
SAVING YOU £££'s!!

LIMITED STOCKS ONLY PHONE NOW

MACINTOSH LCIII 4/80
14" PERFORMA PLUS MON
KEYBOARD, MOUSE
Add the software for just £49!
£589.00

LCIII 4/80 4Mb RAM, 80Mb DRIVE
LIMITED SUPER SAVE £399
PRICE DOES NOT INCLUDE KEYBOARD OR MONITOR

HUGE SELECTION OF CD'S

THE CW TOP 10 MAC CD-ROM TITLES

(Last Month)	TITLE / MANUFACTURER	PRICE Ex VAT
1. (N/A)	DAVID BOWIE JUMP - ION	£34
2. (N/A)	SYMBOL (Prince) - GRAPHIC ZONE	£44
3. (2)	MYST - ELECTRONIC ARTS	£39
4. (6)	ZORK - INFOCOM	£44
5. (2)	ENCARTA - MICROSOFT	£79
6. (9)	PIRATES - MICRO PROSE	£24
7. (4)	MYST - ELECTRONIC ARTS	£42
8. (1)	CINEMANIA - MICROSOFT	£39
9. (8)	ART GALLERY - MICROSOFT	£44
10. (7)	RUFFS BONE - LIVING BOOKS	£37

SAVE ££'s AT THE CW MULTIMEDIA STORE

- Single-session PhotoCD
- Your chance to access the amazing world of CD-ROM

APPLE CD150 £99

Capture color pictures on-the-move, then download them to your Mac.

QUICKTAKE 100 £499

- PhotoCD - full multi-session
- Fast - Double speed
- New caddy-less mechanism

APPLE CD300e Plus £199

Save ££'s On Multimedia

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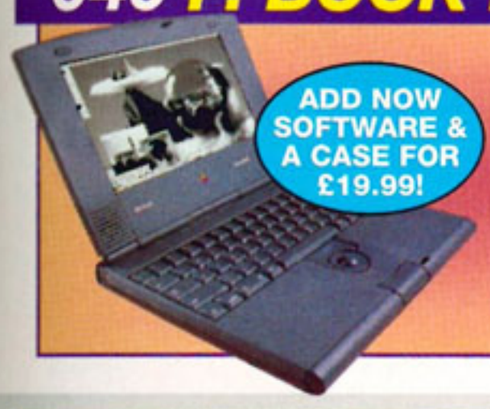
VISIT A WAREHOUSE!
Yep! The two best Macintosh stores are ready to greet you with bargains galore! - Check out CW1 or CW2 today.

'040 P. BOOK DUO 280 & 280c



ADD NOW SOFTWARE & A CASE FOR £19.99!

P. BOOK DUO 280 4Mb RAM 200Mb H. DRIVE
WITH CW SAVE £££'s £1799

P. BOOK DUO 280C 4Mb RAM 320Mb H. DRIVE
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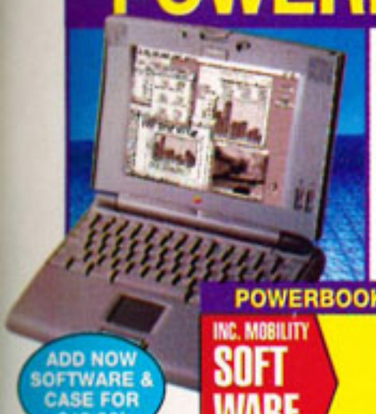
POWERBOOK 150

The lowest cost PowerBook
- 33Mhz 68030 processor
- 4Mb RAM • 120Mb Hard Drive
- 640 x 480 pixel greyscale screen
- SCSI interface • Mobility Pack
- **FREE Claris Works 2.1 & Case**

POWERBOOK 150 4/120 + CLARIS WORKS
INC. MOBILITY SOFT WARE £939

POWERBOOK 520



CW loves it's real usability at a surprisingly low-cost.
- 25/50Mhz 68LC040 processor
- Built-in Ethernet • TrackPad
- Greyscale 9.5" display
- 4Mb RAM (Exp to 36Mb)
- 160Mb H. Drive • 2 battery slots
- PDS expansion • PPC upgrade

POWERBOOK 520 4Mb RAM 160Mb H. DRIVE
INC. MOBILITY SOFT WARE £1499

ADD NOW SOFTWARE & CASE FOR £19.99!

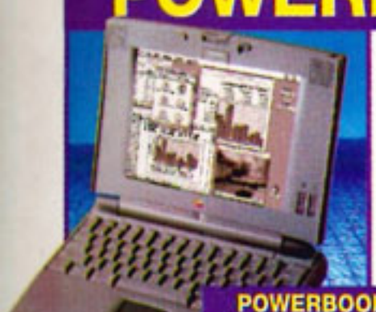
POWERBOOK 520c

Quadra speed and a great Dual Scan 256 col display.
- 25/50Mhz 68LC040 processor
- Built-in Ethernet • TrackPad
- DualScan 256 col. display
- 4Mb RAM (Exp to 36Mb)
- 160Mb H. Drive • 2 battery slots
- PDS expansion • PPC upgrade

POWERBOOK 520c 4Mb RAM 160Mb H. DRIVE
INC. MOBILITY SOFT WARE £1939

ADD NOW SOFTWARE & CASE FOR £19.99!

POWERBOOK 540



With the speed of a Quadra 800 and great expansion options, the 540 is CW's 'power choice'
- 30/66Mhz 68LC040 processor
- Built-in Ethernet • TrackPad
- Active Matrix greyscale screen
- 4Mb RAM • 240Mb H. Drive
- PDS expansion • PPC upgrade

POWERBOOK 540 4Mb RAM 240Mb H. DRIVE
INC. MOBILITY SOFT WARE £2129

ADD NOW SOFTWARE & CASE FOR £19.99!

POWERBOOK 540c

The most powerful PowerBook with a stunning screen
- 33/66Mhz 68LC040 processor
- Built-in Ethernet • TrackPad
- Active Matrix 1,000s cols screen
- 4Mb RAM (Exp to 36Mb)
- 320Mb H. Drive • 2 battery slots
- PDS expansion • PPC upgrade

POWERBOOK 540c 4Mb RAM 320Mb H. DRIVE
INC. MOBILITY SOFT WARE £3199

ADD NOW SOFTWARE & CASE FOR £19.99!

SAVE! POWER MAC 6100/60

POWER MACINTOSH FOR LESS THAN £1000

If you want to run complex graphics, dtp, word processing, database or spreadsheet applications at breakneck speed then look no further than this stunning Autumn Special from CW's handy Warehouse.
In a genuine exclusive CW has managed to secure a LIMITED QUANTITY of Power Macintosh 6100/60 machines at an un-heard of low price. Just check the spec....
- Fast 60Mhz PowerPC601 RISC processor
- Math co-processor built-in
- 8Mb RAM exp to 72Mb
- Ethernet as standard
- 160Mb Hard drive
- Built-in 3.5" HD disk drive
- NuBus/PDS expansion slot
- 5.25" bay for CD-ROM etc
- Color support to 21"
- Complete with system software, mouse
- **LIMITED OFFER**

P/MAC 6100/60 8Mb RAM 160Mb DRIVE
WITH CW SAVE £200 £999
PRICE EXCLUDES KEYBOARD AND MONITOR

SAVE! ON 7100 & 8100 MODELS

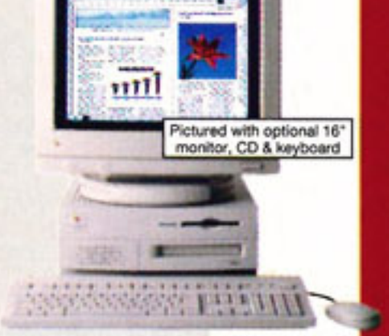
POWER MACINTOSH 8100/80

Unbelievable performance and more oomph than the 14Mhz clock speed advantage over the 7100 suggests. Ideal for high-end DTP and CAD professionals who need monster speed and plenty of storage & expansion - it's got the lot!!
- PC601 @ 80Mhz
- 256K memory cache
- 16Mb RAM (exp 264)
- 3 NuBus
- Optional built-in CD-ROM

POWER MAC 8100/80 8Mb RAM 250Mb DRIVE
WITH CW SAVE £££'s £2699

POWER MACINTOSH 7100/66

The CW recommended model for running business applications such as complex spreadsheets, page layout, design and database programs. Features dual monitor support and 3 Nubus expansion slots.
- PC601 @ 66Mhz with 32k cache
- Built-in math co-processor
- 8Mb RAM expandable to 136Mb
- Dual monitor support
- 250Mb Hard Drive
- Three NuBus slots
- Internal 5.25" bay for CD-ROM



BEST VALUE

POWER MAC 7100/66 8Mb RAM 250Mb DRIVE
WITH CW SAVE £££'s £1599

Smashing £1,000 Power Mac Barrier

LOWEST UK PRICES!
CW buys BIG so you get the very best deals available in the UK. You just can't buy better than CW!

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IT'S SHOWTIME AGAIN AND THIS YEARS COMPUTER WAREHOUSE STAND AT THE APPLE EXPO WILL BE BIGGER AND BOLDER THAN EVER! CW'S GOT HUNDREDS OF BARGAINS AT BELOW COST PRICE AND SUPER SAVINGS ON ALL CURRENT STOCK OF MACINTOSH COMPUTERS, PERIPHERALS AND SOFTWARE.
VISIT STAND E20 AND YOU'LL BE ASSURED OF A WARM CW WELCOME AND A GREAT BARGAIN!

STAND E20

Apple Expo 1994 — Sponsored by MacUser THE MAC — 12 - 15 October — OLYMPIA LONDON

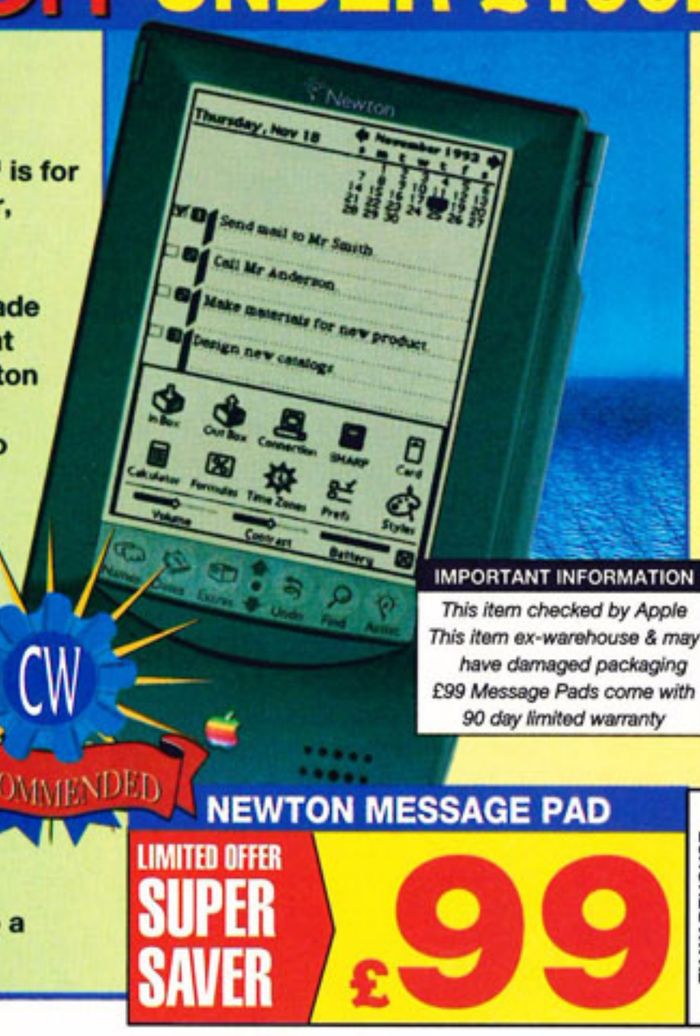
Newton™ UNDER £100!!

EX WAREHOUSE MESSAGE PADS

The Newton Message Pad™ is for anyone who needs to gather, organise and communicate information. And in this incredible coup CW have made available a limited quantity at LESS THAN £100! With Newton you can organise your life, take notes, turn doodles into drawings, format and print letters, - even send faxes. (Requires Comms System).
Each unit comes complete with a 90 day limited warranty.

- Note Pad
- To-do List
- Names & Phonebook File
- PCMCIA slot
- Weighs only 1 pound.

Very Limited offer - call in to a Warehouse NOW!!



CW RECOMMENDED

IMPORTANT INFORMATION
This item checked by Apple
This item ex-warehouse & may have damaged packaging
£99 Message Pads come with 90 day limited warranty

NEWTON MESSAGE PAD
LIMITED OFFER SUPER SAVER **£99**
EX WAREHOUSE STOCK. MAY HAVE DAMAGED PACKAGING

SAVE! MESSAGE PAD 100 & 110

NEWTON MESSAGE PAD 100

The new Message Pad 100 has more memory and facilities than the original. Buy NOW and save ££'s

- Complete with built-in calendar, address book, notepad and comms capabilities
- Works with PCs and Apple™ Macintosh™ computers* • PCMCIA slot • Easy and fun to use
- Weighs under 1 pound • Battery powered

***Fax/modem , Message Card and Newton Connection software sold separately.**

NEW & BOXED WITH FULL 1 YEAR WARRANTY!

NEWTON MESSAGE PAD 100
THIS ITEM BOXED NEW **£349**

NEWTON MESSAGE PAD 110

More than 3 times the memory space and twice the battery space of the original. The Newton Message Pad 110 runs a wide range of useful software, and it can connect with your Apple Macintosh™ computer or Windows-based PC (with the optional Newton Connection Kit).

- 20MHz ARM 610 processor
- 1MB RAM, 4MB ROM
- LocalTalk™ compatible • Protective flip cover
- Exchange data with Macintosh computer or PC
- Group 3 Fax compatible
- Enhanced user memory

NEW & BOXED WITH FULL 1 YEAR WARRANTY!

NEWTON MESSAGE PAD 110
THIS ITEM BOXED NEW **£399**

SAVE ££'s @ CW ON VALUE PRINTERS

STYLEWRITER II

INKJET FOR LESS THAN £200!!
Advanced inkjet technology delivers 'laser-like' printing at 360dpi and 2 pages per minute. Plus with Grayshare software (included) you get improved graphics!!

- 360dpi ink-jet engine for superb quality
- Prints to plain paper or envelopes
- 39 TrueType fonts • Free FunFonts! presentations and general color work.

STYLEWRITER II 360dpi INKJET
PLUS FREE FUN FONTS **£199**

GCC TECHNOLOGIES ELITE 8

BEST VALUE POSTSCRIPT LASER
The Elite 8 features Postscript, AppleTalk networking, edge-to-edge printing and a superb 8ppm operation!

- 300dpi Postscript printing
- AppleTalk networking
- On-board SCSI port
- Edge-to-edge A4 printing
- Expandable RAM memory

GCC TECHNOLOGIES ELITE 8
AUTUMN SUPER SAVER **£499**

LASERWRITER 320 PERSONAL

NETWORKABLE + LEVEL 2
CW has managed to secure a strictly limited quantity of this Apple PostScript Level 2 printer that is just packed with features.

- 300DPI Laser printing - great quality
- Networkable over LocalTalk
- Postscript Level 2 • 4ppm RISC
- 2Mb RAM (upgradable to 6Mb)

Monotype FunFonts is packed with display, picture & dingbat fonts. Your documents will never look better!!

PERSONAL LASERWRITER 320 300dpi
PLUS FREE FUN FONTS **£549**

LASERWRITER 300 PERSONAL

LASER @ LESS THAN £400!
The Apple Personal LaserWriter 300 brings you laser quality printing for the price of an inkjet. Ideal for both office and home use.

- 300dpi genuine laser quality
- 39 scalable TrueType fonts
- GrayShare software
- Energy Star Compliant

Monotype FunFonts is packed with display, picture & dingbat fonts. Your documents will never look better!!

PERSONAL LASERWRITER 300 300dpi
PLUS FREE FUN FONTS **£399**

COLOR STYLEWRITER P

CMYK A4 color printer. 360dpi resolution and 1/2 page per min printing (color).

- ColorSync™ color-matching
- 4 ink cartridges - CMYK
- Tray for 100 sheets of paper and 15 envelopes
- Ideal for visuals and general color

STYLEWRITER PRO
360DPI COLOR A4
£399

NIKON SCANTOUCH

This new scanner from the people with THE camera background. An 8.5" x 11" color scan takes just 30 seconds!

- Clean saturated colors
- 2400 x 2400 interpolated dpi
- Optional transparency adaptor
- Complete with Photoshop LE image re-touching

SCANTOUCH
NIKON COLOR SCANNER
£999

MICROSOFT EXCEL 5

Includes loads of attractive new features with the Wizard technology getting better than ever. For Macintosh & Power Mac machines.

- Compatible with Microsofts OLE
- Easier database handling
- Drag & drop editing
- PivotTables
- In stock

EXCEL VERSION 5
MICROSOFT
£219

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- Check out CW1 or CW2 today.

Newton's At Under £100 From CW

IONA HOME PUBLISHER

The makers of PageMaker have created the perfect solution for every home or office publishing job. And at what a bargain CW price!

- Over 50 professional designed templates
- 100 FREE excellent ClickART images
- 12 FREE Bitstream fonts • 100,000 word spell checker
- 660,000 synonym thesaurus
- AutoCreate feature creates documents in a hurry!
- Great value!!

IONA HOME PUBLISHER DTP
AUTUMN SUPER SAVER £69

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"I just can't believe these super prices. It's more than any sane man can take!."

YOU SIMPLY CAN'T BEAT CW FOR PRICE & VALUE!

XPRESS 3.3 LOWEST EVER!

When it comes to value you just can't beat CW and here's a deal to prove it. Genuine UK supplied Quark Xpress version 3.3 (latest) for less than £550!
An incredible saving on the rrp price. Hurry - limited stocks!

- Drag & drop colour & text
- Full CMYK separation
- EfiColour management
- Direct import Kodak PhotoCD
- Compatible with Windows version
- best type control of any DTP

QUARK XPRESS v3.3 LIMITED OFFER!
LIMITED SUPER SAVER £549

SCANMAKER II AND PHOTOSHOP LE

Only CW brings you colour scanning with photo re-touching software for less than £450!! Yes a 300 dpi 24bit colour scanner with bundled Adobe Photoshop LE AND FREE 1 year On Site Warranty. With the Microtech Scanmaker II you can capture 24-bit colour images, 8-bit greyscale images and black and white line art at resolutions up to 1200dpi. Plus Photoshop LE allows you to manipulate & re-touch ready for placement in to DTP applications!!

- Super quality 24-bit full colour scanning
- 300 x 600dpi optical resolution
- Up to 1200dpi interpolated line art
- **Free Adobe Photoshop 2.5 LE**
- **Free 1 year on-site warranty**

SCANMAKER II + PHOTOSHOP 2.5 LE
AUTUMN SUPER SAVER £449

NEW 20" MULTIPLE SCAN

The monitor deal of the season! CW now offers this superb Apple Trinitron display for less than £1300!!

- Excellent quality 20" Trinitron screen
- Built-in ADB ports
- Front panel controls
- Flicker-free operation
- Ideal for DTP, CAD etc
- **Incredible value!!**

NEW & BOXED WITH FULL 1 YEAR WARRANTY!

APPLE 20" MULTIPLE SCAN DSIPLAY
AUTUMN SUPER SAVER £1299

APPLE CD-150 CD-ROM

CW brings you a CD-ROM for less than £100!! Put the world of CD-ROM at your fingertips with this excellent value Apple Branded (Sony mechanism) CD-ROM!

- Single session PhotoCD compatible
- SCSI connection
- **incredible value!!**

NEW & BOXED WITH FULL 1 YEAR WARRANTY!

APPLE CD-150 CD-ROM DRIVE
AUTUMN SUPER SAVER £99

4MB 72-PIN SIMMS

Memory at an all-time super-low price. 4Mb SIMM suitable for:

- Quadra 800, 840AV
- Quadra 610, 650, 660AV
- Centris 610, 650, 660AV
- LCIII, LC475, LC630
- All Power Macintoshes
- **Call for incredible savings on 8, 16 & new 32 Mb SIMMs and PowerBook memory!**

4Mb 72-pin SIMM EACH FROM
CW PRICE EACH ONLY £97

POWERMODEM 24/96

How about a full-function fax/ modem for your PowerBook? And for just £69!!

- 2400bps send & receive data modem
- Send & receive fax modem
- Comes complete with fax software
- **Also external 14.4 fax/ modems modems available for just £149!**

POWERBOOK 24/96 MODEM
LIMITED SUPER SAVER £69

ADOBE ILLUSTRATOR 5.5

The postscript drawing package of choice. This incredible deal is complete and includes 5.5 PowerPC upgrade. Nothing to send for - it's all in the box!

- Plug-in technology
- New trapping features
- Excellent text handling
- Superb Filters for special FX and polygons
- Acrobat aware

ILLUSTRATOR 5.5 NATIVE* VERSION
AUTUMN SUPER SAVER £249

FILEMAKER + W. PERFECT

How about this great Database / Word Processor package from good 'ol CW!

- FileMaker Pro - fully featured database manager
- Word Perfect - feature packed word processing package
- **Buy both and save £££'s in this great CW bundle!**

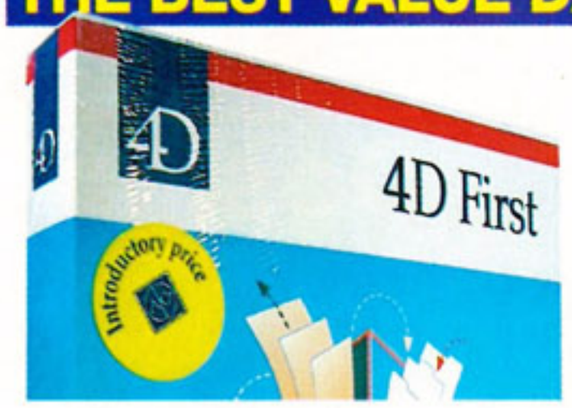
FILEMAKER PRO + WORD PERFECT
AUTUMN SUPER SAVER £249

SUPER QUALITY STORAGE FROM D2

Don't take the 'un-branded risk'. Buy the best, buy D2. A superb range of storage peripherals from DAT to 3.5" optical drives and new 270Mb Syquests. Call for super-low prices!

- All drives come complete with full cables, manual, and media
- Excellent back-up & warranty.
- Be safe. Buy D2 from CW

THE BEST VALUE DATABASE FROM 4D



If you're looking for a powerful database manager that will be easy to use now and will accommodate your growing needs, CW wholeheartedly recommends 4D First.

- Packed with features to make setting -up your database easy
- Powerful enough to cater for your expanding needs

4D FIRST DATABASE
AUTUMN SUPER SAVER £99

Bumper Autumn Special From CW!

LOWEST UK PRICES!
CW buys BIG so you get the very best deals available in the UK. You just can't buy better than CW!

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A Palette of Tools for Professionals

DesignToolbox: An interactive interface to demo movies, galleries of work, and information on all the products from Gomark's Design Division.

Plus, fully functional demo versions for you to try out for yourself.

For the first time, these market-leading tools are here at your fingertips. So now you can choose the right tools for you.

PRODUCTION CAD
form•Z
MiniCad
Blueprint
Azimuth
ContoursPro

CONCEPTUAL DESIGN AND ANALYSIS
Alias Sketch!
Upfront
DesignWorkshop
VirtusWalkThrough
Virtus VR
Touch-3D

3D VISUALISATION AND ANIMATION
Infini-D
Backburner
Replicas
StrataVision 3D
Strata StudioPro
Strata Virtual 3D
RenderPro
StrataClip 3D

SPECIALISED PRODUCTS
Collage
LogoMotion
StrataType
TREE 2D
TREE Professional (3D)
TextureScape
Elastic Reality
Special Delivery
Kurta Tablets
YARC Coprocessors
MacHandwriter

Come and see us at Apple Xpo Grand Hall Olympia Stand No C2

DesignToolbox CD

issue 2

Gomark Limited, 10 Hurlingham Business Park, Sulivan Road, London, SW6 3DU.
Tel: 071 731 7930. Fax: 071 736 1215.

Big Performa 630 deals for Xmas

Apple wants you to buy its new multimedia Mac and is putting together special bundles to attract home users.

Like the look of Apple's new Performa 630? This Christmas you'll be able to buy it with special software bundles aimed to appeal to different types of user. The bundles are being supported with a national advertising campaign.

The Performa 630, as reported in MACFORMAT 16, is designed with easy access to expansion slots, so you can add extras such as a video capture card and even a gadget that enables you to receive TV on your Mac. Most 630s will be fitted with CD-ROM drives as standard.

Apple is also trying to raise the profile of the Performa range in the United States, to win a bigger share of the home computer market.

Mark Floisand, Apple UK's Consumer And Retail Marketing Manager, claims the growth in CD-ROM sales, as well as the availability of more powerful computers, means the home market is ripe for expansion. 'We really see an opportunity to capitalise on the learning end of the market,' he said, 'where people are purchasing computers for their kids, and for their own education and entertainment at home. We're trying to cater for the family.'

Home users are interested in the new types of CD-ROM software, such as reference works and 'edutainment' programs. There is also a demand for easy-to-use but powerful business software for home users. 'There're two angles there,' Floisand said. 'One is the written communication / home publishing element, the other is the education / home learning end.'

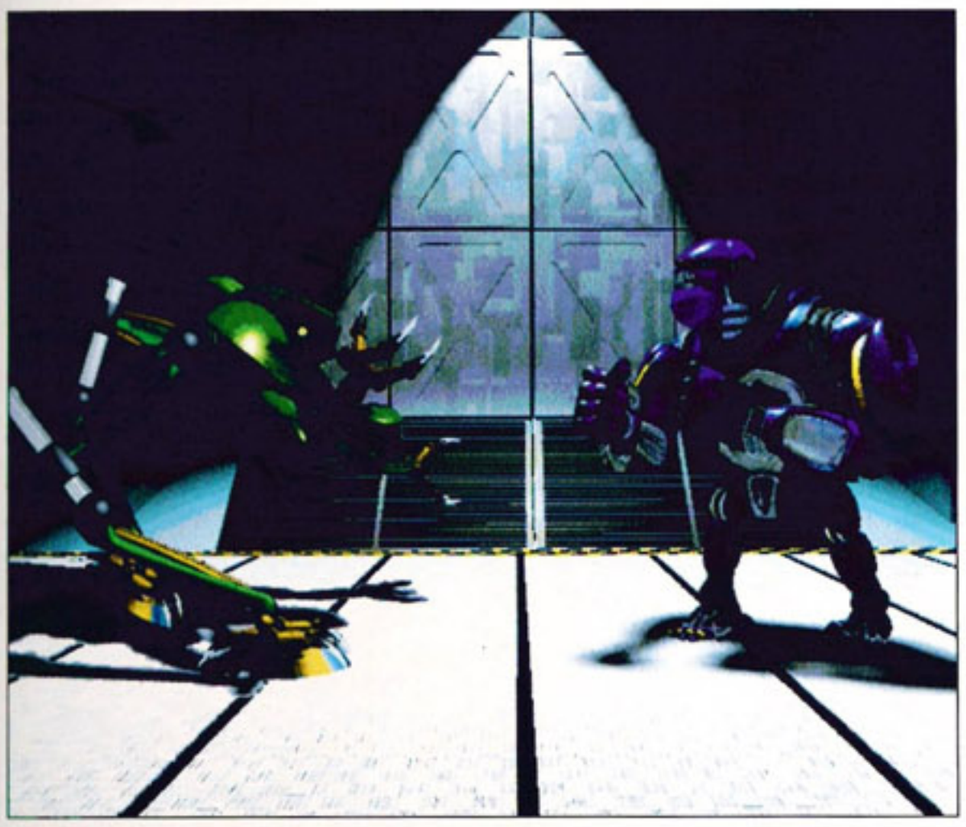
Apple is trying to win these buyers with a choice of Performa software bundles aimed at specific aspects of computing. We'll bring you details when they're available.

The Performa, which has proved successful in chain stores like Dixons, is now being sold through independent dealers as well. The expansion in distribution follows research by Apple that indicated a demand from non-business customers for more choice of sales outlets and a more confident after-sales service. Floisand says that as a result of the changes, 'the customers can actually choose where they want to purchase [their Macs] – without any barriers.'

Apple is also working more closely with its retailers in the hope that with suitable literature and training, sales assistants will be better able to deal with customer queries. For more details, contact Apple on 0800 257753.

With support from national advertising, the Performa 630 should be making its way into a lot more homes by Christmas. As Apple says, 'Home is where the Mac is.'

Doom and Robots go Macintosh



One of these robots will be eating metal before too long. *Rise Of The Robots* is your chance to get obsessed with trying to get the special moves right.

Some of the biggest names in the games industry are readying new titles for the Mac that promise an explosive time for Mac games fans next year.

The smash hit *Doom* is expected to be released in the first half of 1995. This frantic, pulse-raising, 3D-action shoot-'em-up is being developed by Lion Entertainment on behalf of the original creator, Id Software.

A standard Macintosh version is 'under active consideration', but the lead format for *Doom* will be the PowerMac. And with the new machine's blistering speed and exceptional graphic capabilities, PC owners are sure to be eating their hearts out with envy. *Doom 2: Hell On Earth* will follow later in 1995.

Rise Of The Robots is one of those great side-on fighting games that get the blue-rinse censor-it brigade in such a tizz. Mirage is licensing the development of this graphically-superior beat-'em-up, and expects to release it around Easter.

For more new games due next year, don't miss next month's issue of MACFORMAT. And if you want to see them for yourself, don't miss the Future Entertainment Show – see page 18.

The tactics for playing *Doom* are rather complex, but can be summarised as follows: shoot it! Shoot it!

ClarisWorks 3.0 – here to help!

The popular integrated package *ClarisWorks* has just received a facelift, and a new version should be out soon at just over £150. The program, which combines word processor, database, spreadsheet, art program and communications modules, goes from v2.1 to 3.0. The number may indicate a major upgrade, but Claris's intention seems to be to standardise *Works* across the Macintosh and PC platforms – although it has also taken the opportunity to tweak the programming.

One significant change, though, is the inclusion of Claris Assistants. These are on-line tutorials that take you, step-by-step, through the process of creating a certain type of document – such as a report or a database. Claris has rejected the option of making *Works* more complicated by adding tons of extra features, preferring to keep things simple instead.

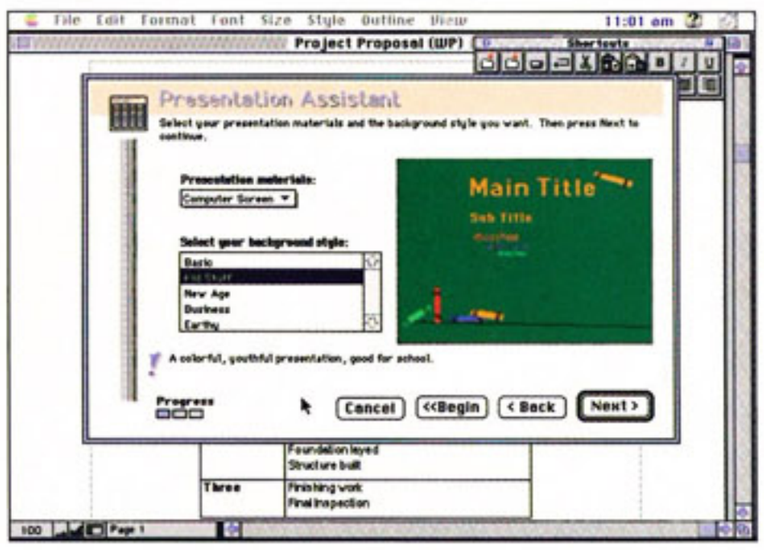
As Øyvind Lundgreen, Claris's Managing Director for Northern Europe, explains, 'The main focus of this version is to continue to make the product easier to use – to get users up and running.'

This welcome move is in response to research that Claris has been conducting into how owners actually use the program. The company has also added crowd-pleasing freebies, like a selection of clip art and seven TrueType fonts, including Bodoni and Gill Sans. One other small, but welcome, addition is a word-count function.

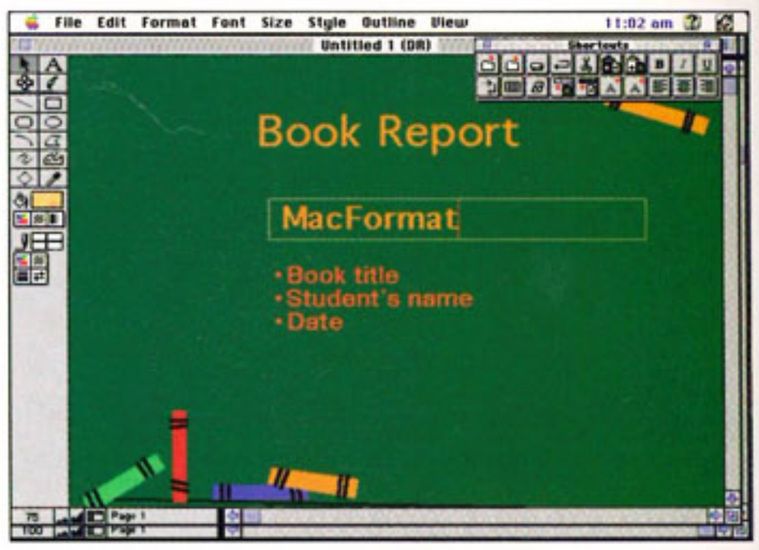
This is the first time that both the Mac and PC versions of *Works* have shared the same number. If you use both versions, you'll notice only minimal differences between the two graphic interfaces (although those differences are all the Mac version needs to look so much better), and you'll be able to swap a *Works* file between one computer and the other with no fuss.

ClarisWorks 3.0 is scheduled to be released in November at a reduced price of £152. You can call Claris on 081 756 0101 for more details.

The new introduction screen for *ClarisWorks* is fairly indicative of the company's latest initiative, which aims to make its packages inviting and easy to use.



The Presentation Assistant (which is one of *ClarisWorks'* new help features) offers step-by-step instructions to enable you to insert your own words into pre-formatted templates.



In addition to those appearing in its own products, Claris is hoping further templates and Assistants will be released by third-partiy companies in the near future.

Step into the Future now!

Future Publishing – the home of MACFORMAT – is about to launch two new magazines, and the Mac plays a part in the contents of both. *.Net* is a monthly guide to the Internet, the nebulous space inhabited by e-Mail and bulletin boards. The first issue shows you how to link up to the 'Net, including a personal account by someone who's attempting to log-on for the first time ever. An answers section continues the mission to make life on the 'Net easier. Another highlight promises to be the Directory, which is a listing and critique of the services you can find with a Mac and a modem. *.Net* costs £2.95 each month, and the first issue is out on Wednesday 26 October.

Don't know your modem from a madame? Well, grab a copy of this and you'll never need to visit the clinic again.

Tuesday 1 November sees the debut of *Ultimate Future Games* magazine, a colourful look at major game releases across all current platforms. The mag will also cover previews of titles for the powerful next generation of games machines. It'll include news of big releases on the Mac, too. *UFG* will usually cost £2.25, but the first issue will be available for the bargain price of 95p. And if you go to the Future Entertainment Show, you'll be able to take a shuffty at the new mag in advance – which brings us to...

The FES: the UK's biggest leisure computing show, which this year is being held at Earl's Court. Come along and you can see all the new Mac developments in multimedia, music and games, as well as catching up on the latest releases for all the other computer and console platforms. CD-ROMs are booming, and all the new releases will at the FES.

The show runs from Wednesday 26 October to Sunday 30 October, and the doors are open between 9.30am and 5.30pm each day – except for Sunday, when we pack up and go home at 5.00pm. Tickets cost £6 each in advance, or £7 on the door (groups of ten or more can buy tickets in advance for £5 each). You can get your tickets to the event of the pre-Christmas season by calling the Future Entertainment Show hotline on 0369 4235.

Early Bird winners

Here are five people who are certainly going to enjoy the show, because, after buying a ticket and entering the Silica Early Bird draw, they've each won a £100 voucher to spend at the Silica stand. The winners are: Mr P Rumens of Becksley Heath, Mr L Ross of Northumberland, Mr A Harris of Somerset, Mr A Cheese of Bristol, and Miss I Jackson of Essex. Congrats, one and all.

ClarisWorks for me

"I love my work — but I also love my free time. That's why I use ClarisWorks. Because ClarisWorks is so easy to learn and use, I'm able to finish all my work quickly and easily, giving me more time for myself."

So, what's stopping you?

Discover what more than two million users have already learned: ClarisWorks is the only software you need to produce outstanding letters, reports, presentations, sales flyers, contact lists, newsletters and more.

With the flexibility to create and present text, graphics, charts and data any way you want, and a recommended retail price of £129*– nothing could be simpler, faster and better value for your money. And its compact file size doesn't take up valuable space on your system.

Try the latest release of ClarisWorks, version 3.0, today. ClarisWorks 3.0 features new Claris Assistance Technology which helps you achieve consistently professional results. The Assistants offer step-by-step guidance and expert advice on layout, design and content.

Shouldn't you be using ClarisWorks 3.0? After all, ClarisWorks integrated software is the No. 1 best-seller for business, education and home use.

To find out how ClarisWorks for you, or how to upgrade from your current version for only £49**, telephone Freephone 0800 929005 in the UK, or 1 800 732732 in the Republic of Ireland. Or simply return the coupon below by post or Freefax 0800 929015 in the UK.

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MF11/94

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* Excl VAT and shipping
** Incl VAT and shipping

Apple hard drive protects and saves

The Apple External Hard Drive snuggles up nicely to your Mac, and comes ready-formatted with some very useful programs.

The world famous Apple logo is set to grace yet another new hard drive. Made by California-based La Cie Ltd, the Apple External Hard Drive offers simplicity of use and an opportunity for mass data storage – all without taking up too much space on your desk.

The disk is already formatted when you buy it. And, once you connect it up, you'll find a trio of utilities intended to improve your system. *Norton DiskDoubler* compresses files, meaning you can fit more on your disk, while *Central Point Backup* (which is part of the *MacTools* package – reviewed on page 45) automatically makes regular copies of your hard disk, thereby acting as a safeguard in case you accidentally trash a file. The third program is *Safe And Sound*, a disk maintenance program that can also detect viruses. The Apple External Hard Drive is available in the following sizes:

160Mb	£316.08
270Mb	£398.33
325Mb	£445.33
500Mb	£586.33
1 gigabyte	£997.58.

The drive, which plugs straight into any Mac, is distributed in the UK by Thame Systems. For more details call 0844 261226.

Animators drawn to CD-ROM

Two top animation creators have joined the Mac multimedia action by producing material for two new CD-ROM releases. The involvement of directors Chuck Jones and Don Bluth, in addition to well-known actors, is all part of the on-going maturation of the CD-ROM medium.

Peter and the Wolf, which was originally written as an introduction to the orchestra by Sergey Prokofiev, is now being released as an interactive production featuring character designs by Jones, who is perhaps best known for his work on *Tom and Jerry*.

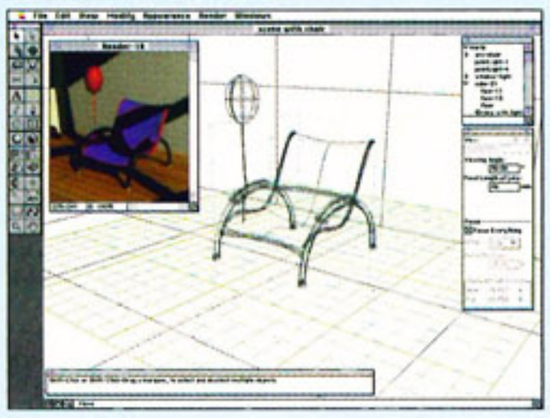
Prokofiev's music will be set to animation, with Lloyd Bridges and Kirstie Alley providing some of the characters' voices. This CD will also give you the opportunity to try out the instruments that make up the orchestra and watch documentaries about the creators involved in the project. Scheduled for a November release, the *Peter and the Wolf* package (which also includes a newly recorded version of the entire score on audio CD) costs £44.99.

Bluth (who directed the much-loved film *An American Tail* and produced the *Dragon's Lair* and *Space Ace* video games) is currently hard at work animating Hans Christian Andersen's *Thumbelina* for the forthcoming film and CD-ROM.

Unlike the film, the CD-ROM enables you to play educational games starring the characters and watch a documentary on how the film was made – there's even Barry Manilow's soundtrack and animation from the film. *Thumbelina* costs £39.99, and should be available in November. Both releases are from Time Warner Interactive. For more details call 0604 602800.

This sketch, featuring Peter from *Peter And The Wolf*, couldn't have been done by anyone other than Chuck Jones.

Sketch! offers 3D rendering



Build a framework structure and than fit a textured surface over the top of it with the illustrator's tool in *Sketch! 2.0*.

The powerful new version of Alias's graphics program *Sketch!* enables you to create fully shaded, 3D-style images. The new tools in *Sketch! 2.0* include one called Loft. Using this tool you can create a skeleton image and then fit a 'skin' (which you can render with natural textures) over the top of it.

The program also gives you settings for adjusting light sources and shadows. And designers will no doubt be pleased to discover that the program is capable of producing CMYK separations.

Available through Gomark, the demanding *Sketch! 2.0* requires a Mac IIci or better, System 7 and a whopping 12Mb of RAM – although more memory and a faster machine, like a Quadra, will help no end. The price of the program is £732, and you can call Gomark on 071 731 7930 for more information.

Apple Bytes

MacFormat's on the up

The independent Audit Bureau of Circulation has confirmed that MacFormat's average circulation in the first half of 1994 was 35,068 – that's over a third higher than six months ago and makes us the UK's best-selling Mac magazine. Thanks for all your support! Your feedback is always welcome too, to help us keep MacFormat the Mac magazine you want to read. Our address is on page 4.

Double your drive

A new suite of programs to help you save valuable disk space is out now. Previously known as *SuperDoubler*, *Norton DiskDoubler Pro 1.1* is a suite of three copying and compression programs. *AutoDoubler* offers automatic compression and expansion of files as you use them. *CopyDoubler* copies files while you work on another task, and *Norton DiskDoubler* enables you to compress a file, or batch of files, at will, and is useful for simple backup file protection. *DiskDoubler* (the original program – without the *Pro*) is also still available separately.

The release of the *DiskDoubler Pro* bundle, which costs £93, has been timed to coincide with the release of new versions of *Norton Utilities 3.0* (which is reviewed on page 45) and the £93 *Symantec Antivirus for Macintosh* (for an exclusive interview with its creator, turn to page 50). For more details on all three products contact Symantec on 0628 592222.

Two-for-one speakers

As well as the usual sound enhancement features you'd expect from any speaker setup (a boost in volume, for starters), Sony's new pair of speakers offer an ingenious additional function. The CSS-B100T system fits neatly under your monitor, doubling as a sturdy stand that can support any screen up to and including a 17-inch monitor.

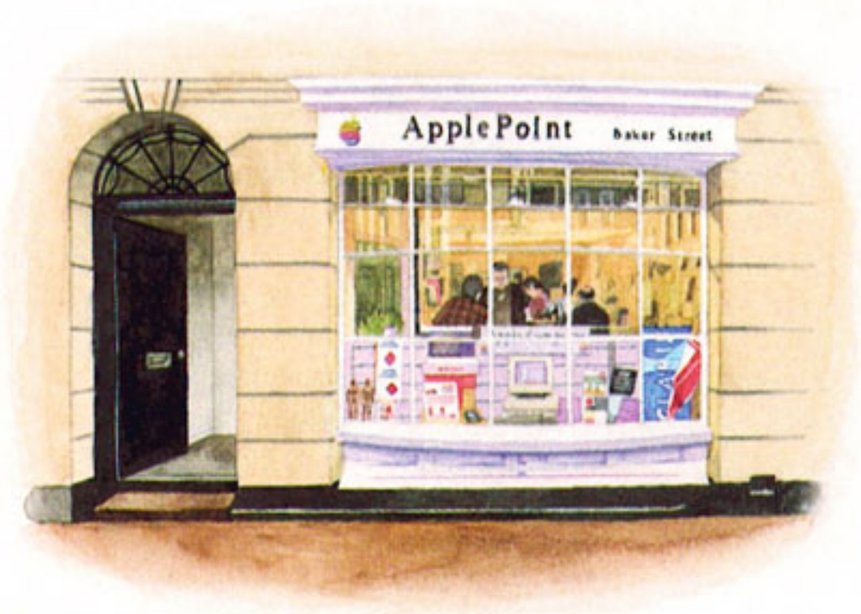
Sony claims that the stand design also acts to substantially reduce screen interference from the magnetic field created by the speakers. Out now, the speaker system includes connection sockets for headphones, microphones and your CD-ROM drive or sound card. It costs £104.50. For more information contact Sony Computer Peripherals on 0932 816000.

Boston update

Two of the products mentioned in last issue's report from Mac Expo in Boston are now here in Britain. *PhotoEngine* increases the speed of *Photoshop* with the aid of four Digital Signal Processor chips. For details on the £1,291 card, call Radius on 0483 772773.

Morph 2.5 enables you to show one image transforming into another – in the style of many pop videos and car adverts on TV. The price has not yet been decided, but it should be less than *Morph 2.0*, which cost £179. Contact Softline on 081 401 1234 for more info.

MacSpertise.



You'll be pleasantly surprised when you walk into this quaint looking shop.

Because behind the delightful 1800s facade is one of the most highly respected Apple Dealers in the country.

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Apple Expo '94

There are only a few days to go before the biggest Apple jamboree of the year. MACFORMAT has all the pre-show news to whet your appetite.

All the latest hardware and software for the Apple Macintosh and PowerMac will be on show at this year's Apple Expo, which is taking place at the Grand Hall in Olympia, London between Wednesday 12 October and Saturday 15 October. The doors will be open between 10am and 6pm every day except Saturday, when they will be open from 10am until 4.30pm.

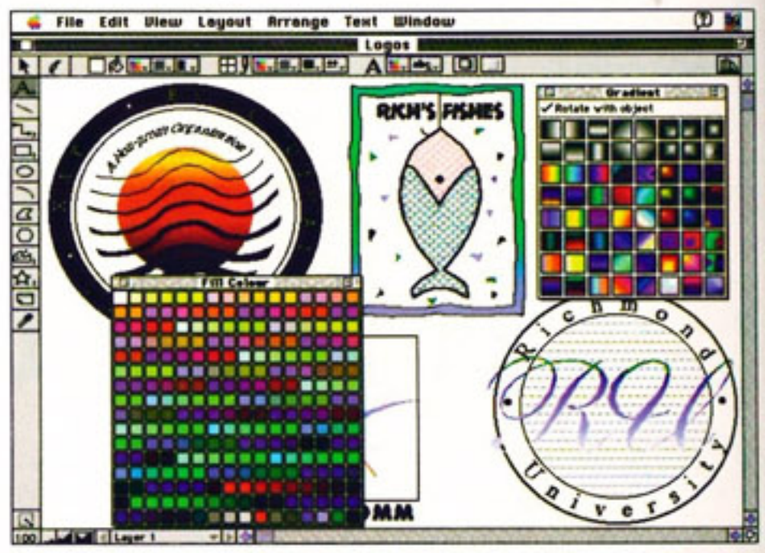
So, apart from the hundreds of companies who'll be vying for your attention, what else has the show got in store for you? Well...

- Apple will be putting the LC and Performa 630 Macs through their multimedia paces, as well as displaying the PowerMac's newest native applications.
- There'll be numerous Apple dealers taking up stand space, who'll be offering special show prices on new releases and old favourites.
- Claris will be showing off brand new versions of *ClarisWorks* and *ClarisDraw* as well as its more familiar range.
- The business division of Microsoft will be promoting the new-look *Office*, while the Microsoft Home division has a selection of games and leisure packages that will be out just in time for Christmas.

One of the main intentions behind this year's Expo is to offer education to visitors. The Mac Applications Area will enable you to try out software with on-the-spot tuition, while the MacUniversity workshops will offer more intensive training in specific areas. An ambitious new area will be the Pre-Press Forum: a non-stop demonstration of print production that will show how cameras, scanners, imagesetters and a printing press work together with the Mac to publish material, including current adverts and a special Apple Expo magazine.

Free tickets are available until Monday 10 October by calling the Ticket Hotline on 081 984 7711, otherwise they'll be available on the door for £10. Please note that children aged 16 or under will only be admitted on Saturday 15 October; up to two will be admitted (free of charge) with each accompanying adult. The Grand Hall will be open between 10am and 6pm on Wednesday, Thursday and Friday, and between 10am and 4.30pm on Saturday. Final admittance will be half-an-hour before the end of each day's action.

Apple will be showing you how your Mac screen can look like this with the help of its new video cards – including one that can accept a TV aerial or VCR lead.

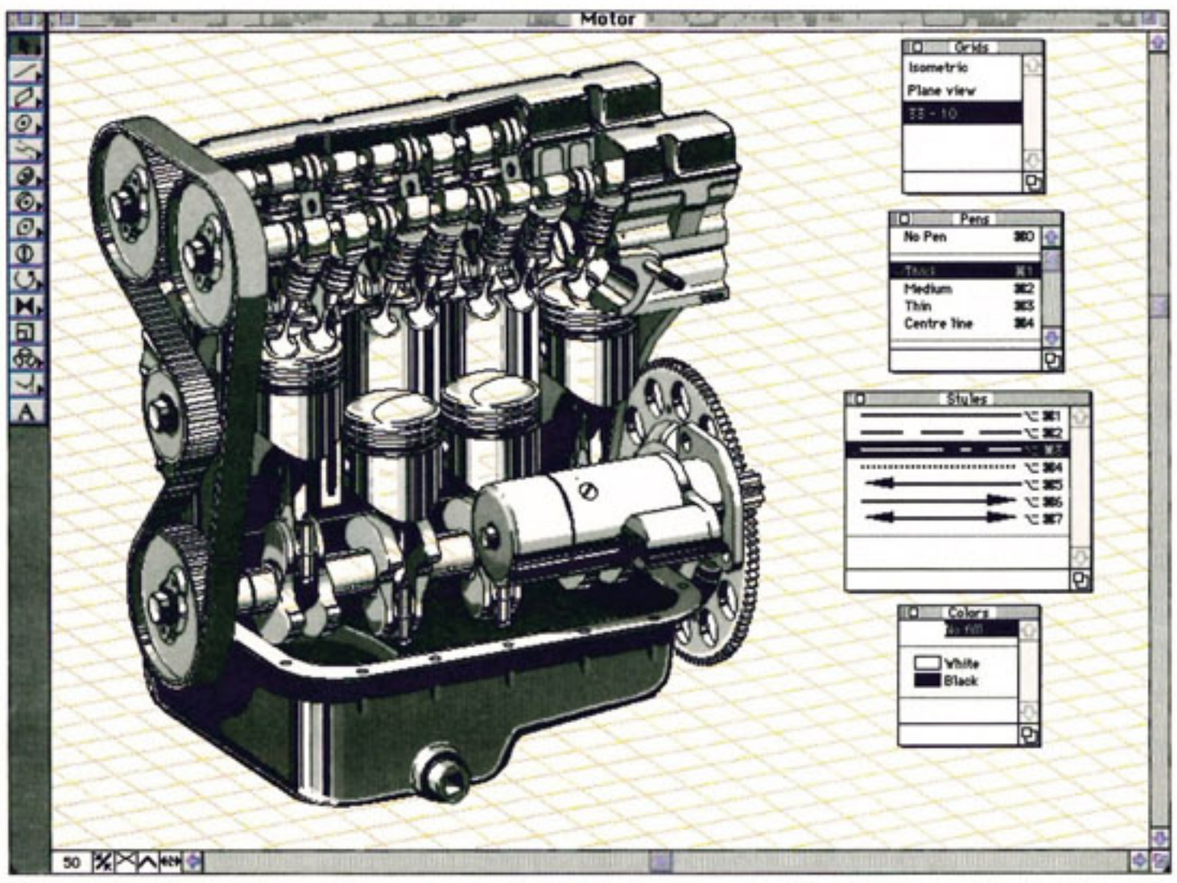


You can see our review of *ClarisDraw* on page 82, but if you want to see it for yourself go along to the Claris stand, where they will also be showing off the new version of *ClarisWorks*.

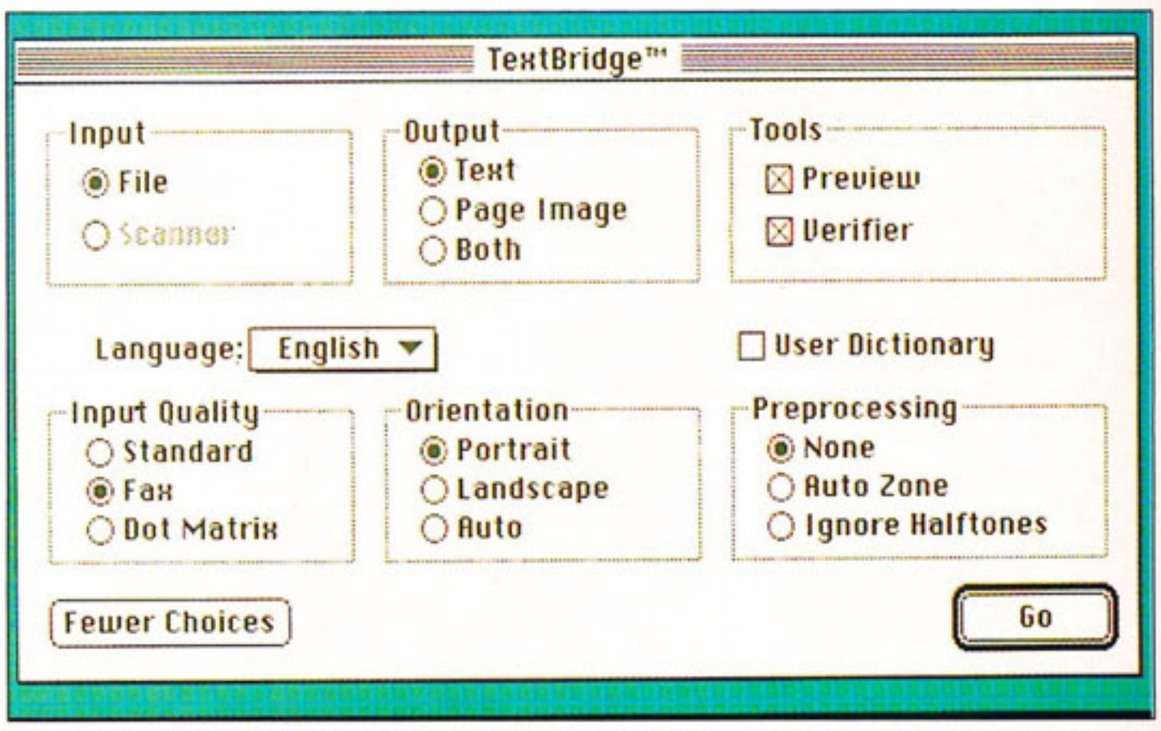
Specialist spotlight

A host of specialist companies will be offering their wares at Apple Expo, so you'll have an ideal opportunity to discover some less well-known products which might just fit the bill.

Granthams will be showing an extensive upgrade of its technical illustration program *IsoDraw*. Featuring completely overhauled menus and toolboxes, version 3.0 adds to the program's range of 3D drawing tools, enabling you to use perspective accurately in your drawings. *IsoDraw* uses vector drawing – the file of a drawing contains the instructions needed to create the image, rather than dot-by-dot (bitmap) information. The advantage is that you can zoom in on an image and the detail remains just as precise. You can also import an



The new *IsoDraw 3.0* enables you to create detailed and precise illustrations, using tools such as customisable grids and vector drawing.



You could win *TextBridge* by entering Xerox's competition, and save yourself a lot of tedious typing – but only if you can type quickly enough to beat the program.

MACFORMAT IN WILD CD-ROM GIVEAWAY!

MACFORMAT will have a stand at the show, alongside *CD-ROM Today* and new kid *,net: the internet magazine*. We'll be giving away CD-ROMs featuring the best of MACFORMAT's cover CDs, including *The Journeyman Project* and *FA-18 Hornet*. There'll also be displays of software and special show offers on subscriptions. *Net* will be giving away copies of an introductory supplement – but hey, that's bundled with this issue, so you already have it, don't you?

image and add vector details, creating a hybrid image. It's aimed at professional users like those in the car and plane industries, where it's used to create artwork for technical manuals and catalogues.

Modulus is an accounting program from Vector Software, and is available in several forms. *Modulus Gold* is the most powerful of the range, offering facilities for stock control, purchase orders and invoicing on a huge scale. Its cut-down sibling *Modulus Silver* is more suitable for small businesses, meeting all the basic requirements in one package.

A potential rival to *Modulus* is *Freagra Accounting*, published by a UK-based firm also called Freagra (the word is apparently derived from the Gaelic for 'solution'). *Freagra Accounting* is a suite of separate modules, including sales, purchase orders and stock controls. The company has been selling customised versions of its software across Europe for some time, but now it's finally broken into the UK market. In doing so, it's had to cope with multiple currencies and several languages, so the modules should prove particularly useful for companies who are involved in business across the EC.

Kagema's stand will be full of royalty-free images that you can use in publishing or many other applications. A limited edition CD will be available in the PhotoLib range. *PhotoLib Great Britain* contains more than 100 images taken from around the country. Kagema says the CD will only be on sale at Apple Expo.

The rather awkwardly named *ChemIntosh* is a powerful package for the scientifically minded who want to create accurate chemical structures, illustrations and diagrams that show how elements from the periodic table can be brought together to form different substances. Also available will be *Ball And Stick*, which enables you to make models of molecule structures. And making its debut at the Expo, *EndNote Plus 2*, which is designed to help you make vast bibliographies for scientific texts. All these will be on the Cherwell Scientific stand.

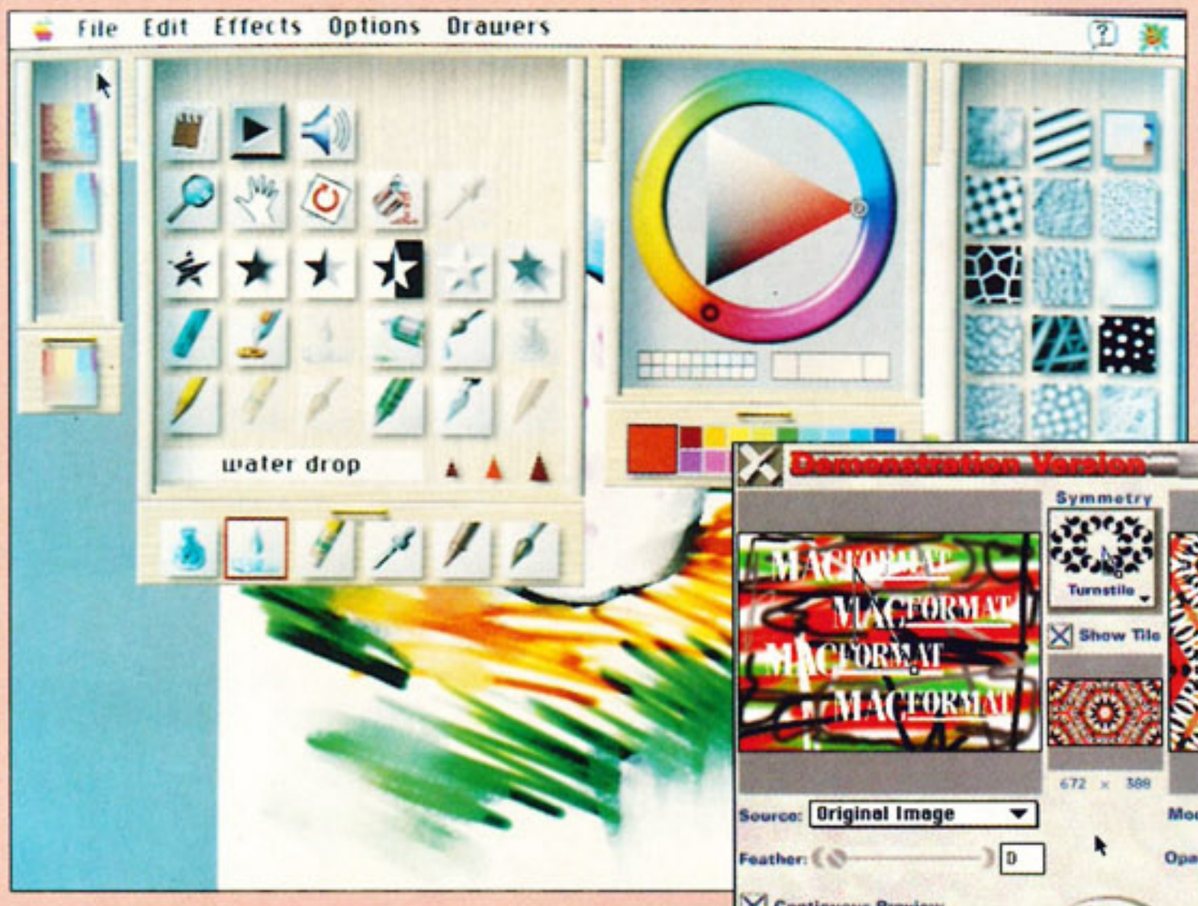
Take the OCR Challenge

The Xerox stand will be hosting a competition where you could win a Fujitsu scanner. All you have to do is take a printed document, which should be one or two A4 pages of black text on white or lightly-coloured paper, along to the stand. If you can type in the text faster than *TextBridge* – Xerox's optical character recognition software – can read your document, you'll win a copy of either *TextBridge* or *WordPerfect*. You will also automatically enter the draw for the ScanPartner Junior scanner. Even if you're not faster than *Textbridge*, don't worry, every entrant will get a voucher worth £20 off the price of *TextBridge*, which you'll also be able to see running native on the PowerMac for the first time.

Letraset's art show

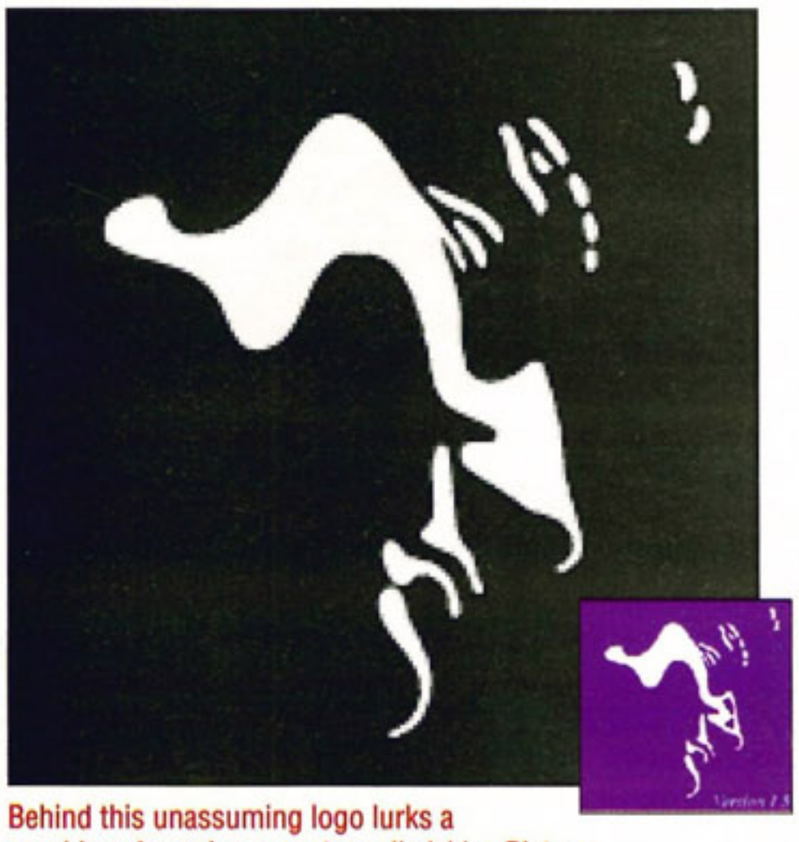
The highlight of the Letraset stand this year will be Fractal Design's *Painter 3.0*, which Letraset is distributing in the UK. It was featured in MACFORMAT's Macworld Expo report in issue 17 (if you missed that issue turn to page 100 to order your back issue). *Painter 3.0* looks like being popular with illustrators because of its inventive drawing tools. It also has libraries of brush shapes to which you can add your own designs. You can also build up a set of shapes that are applied randomly as you use the brush, creating an impressively rich and textured effect. One lovely touch is the program's ability to tip the work area to an angle, just as you would turn a sketchpad.

Letraset's also showing a new compact-sized graphic tablet from Wacom: ArtPad. This enables you to draw with a pen instead of your mouse. Aimed at the home user, the ArtPad has a compact 5-inch by 4-inch drawing area. You will also be able to see *Terrazzo* and *Paint Alchemy* from Xaos, two Plug-Ins for *Photoshop* (and any other programs that accept the Adobe standard for Plug-Ins). *Terrazzo* enables you to create complex tile patterns from any picture source, while *Paint Alchemy* contains brush shapes that enable you to render your picture



Letraset will be giving demonstrations of a creativity tag team at the Expo this year – *Dabbler* in tandem with the Wacom ArtPad. Expect this to sell for about £235.

With *Terrazzo* running as part of *Photoshop*, you can take a simple image and turn it into a kaleidoscopic delight.



Behind this unassuming logo lurks a graphics-chomping monster called *Live Picture*.

with natural-looking strokes and effects. Also from Xaos comes *Fresco*, a collection of 80 textures that you can use in design or illustration – you'll have noticed the use of background textures on the MACFORMAT logo, for example.

Mac Seminars

There will be a wide range of daily seminars for you to attend at Apple Expo. Organisations such as Microsoft, Adobe and Kodak will be hosting presentations that will be aimed at specific sectors of the legion of Mac users, such as education users or newcomers. If you have a ticket, you can book a place for the presentations through the Ticket Hotline. Ticket prices for the seminars vary: one seminar for £5.88, two for £9.40 and three for £12.93. Some of the wide range of subjects covered include:

- *Microsoft Office* on the PowerMac – a close-up glimpse of this powerful bundle.
- OCR – how optical character recognition works, and how you can use it.
- The Reality Roadshow – a guide to the opportunities of multimedia.
- A Simple Guide To Networking – the British Macintosh User Group takes you through the pitfalls of networking.
- Great Graphics Made Easy – hosted by Claris.
- Designing For An Interactive Medium – how multimedia will change the design process.

Flying toasters ahoy!

The latest version of the *After Dark* screensaver, *After Dark 3.0*, will be one of a multitude of goodies on the Softline stand. The ubiquitous flying toaster is still very much in evidence in this new collection. Items that will be launched at Expo include a new set of Brøderbund's Living Books: *Little Monster At School*, *Arthur's Birthday* and *Ruff's Bone*. At the more business-orientated end of the scale is the newly revamped *Nisus Writer* (see MACFORMAT 17) and *Fontographer*. *Morph 2.5* will appeal to the creative types, who will also be well served by Softline's on-going tutorials about morphing and animation. A full complement of titles distributed by the company will be available, including *Return To Zork* and the superb *Complete Maus*, a CD-ROM exploration of the award-winning comic by Art Spiegelman.

Live Picture

A highlight of the Expo will undoubtedly be *Live Picture 1.5*, a massively powerful image processor. At a price of £4,112, *Live Picture* is hardly being placed against typical professional Mac fare like the ubiquitous *Photoshop*. It is, in fact, competing with dedicated graphics machines, such as the Quantel Paintbox, that are used by the design and video industries. According to its developer, FITS Imaging, this is the first program that enables the relatively low-cost Mac to equal the capabilities of such powerful but expensive equipment.

The program uses what's known as the Functional Interpolating Transformation System (FITS) to enable you to load huge files in short times and render them on your screen. Live Picture saves files as sequences of mathematical equations rather than series of dots, which means they can be redrawn astonishingly quickly. It also converts files into the CMYK colour separations used by printers, and claims to maintain colour values within an accuracy of 1 to 3%. Sadly, a Mac Classic won't be up to handling this behemoth of a program – a Quadra with at least 32Mb of RAM would be more like it. *Live Picture* will be on show at the Principal stand.

Members of the new Appleworld club will be offered special deals on a range of Apple products.

Xyratex range grows

Xyratex specialise in data storage, with hard and optical drives by the barrel-load. The Datablazer line of external and removable hard disks can be found on the Xyratex stand. The external drives are available in a range that can store between 170Mb and 810Mb. The new, lightweight MOlite optical drive also features prominently. This can use 230Mb and 128Mb optical cartridges.

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The first issue of the AppleWorld magazine will be given away free at the Expo, and the subscription fee for becoming an AppleWorld member will also be announced. For more details contact Apple on 0800 257753.

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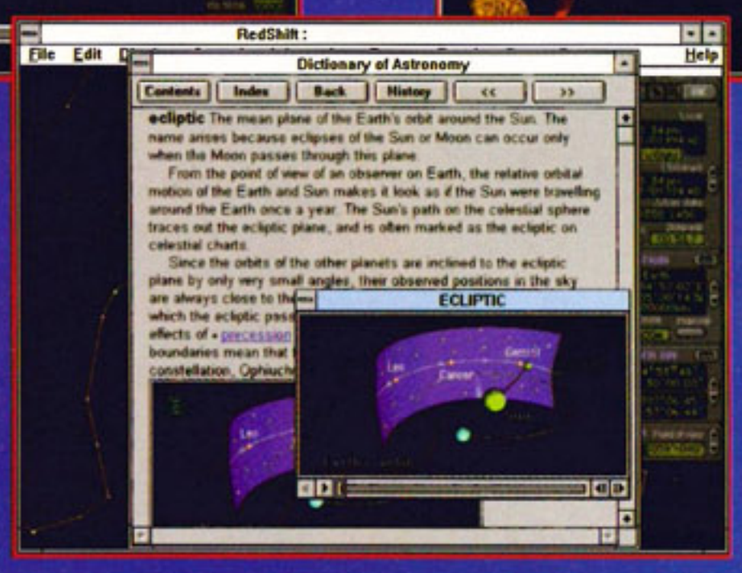

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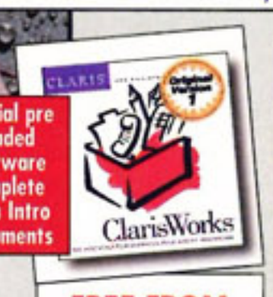

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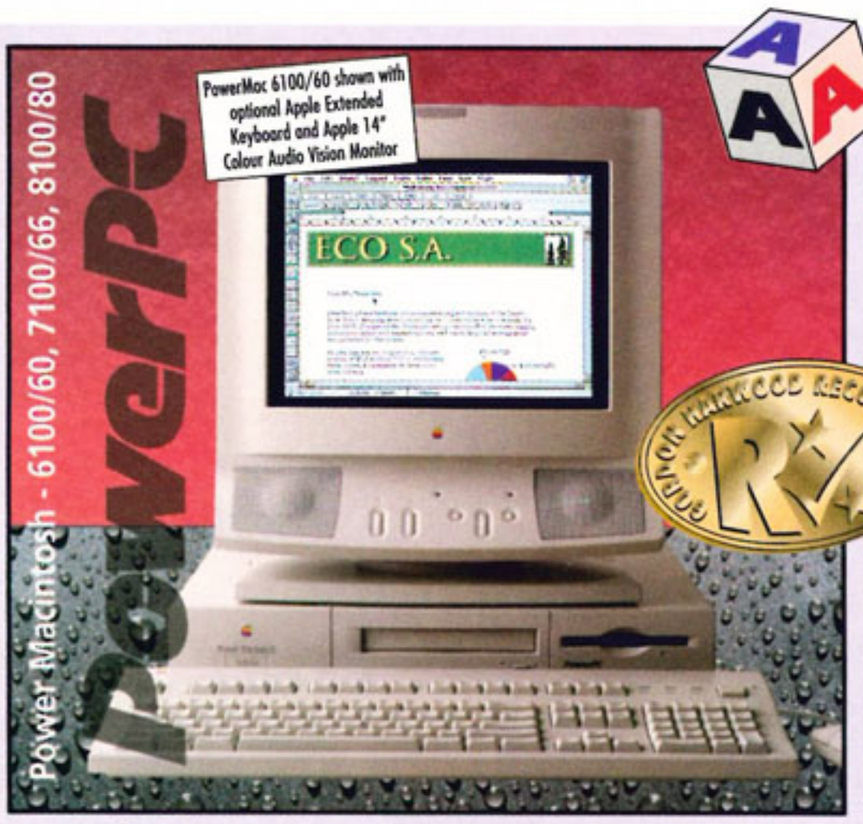

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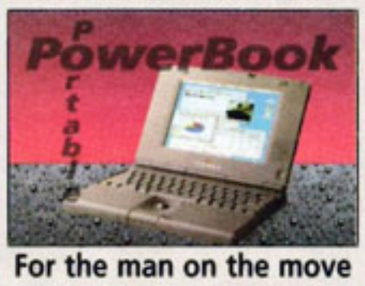

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This month

Macintosh devotee Josef Morrell looks at this month's hot gossip from the world of Apple...

This month, one of the most important innovations ever to hit the Mac has quietly sneaked in, virtually unnoticed – even, it seems, by its developers. You see, while Apple refused to give a definite release date for this ground-breaking software, I picked it up on a user group's stand at Macworld Expo in Boston for $20. Left hand, meet right hand...

Unbeknown to Apple, the $20 CD-ROM being flogged under its nose included the new version of *QuickTime*: *QuickTime 2*. This upgrade to the video system Extension will have a huge influence on the Mac over the next few years, much more than even its predecessor. It enables you to display virtually full-screen video on a PowerMac, and a decent quarter-screen renditions for those of us with more elderly machines. That may not sound like a big deal, but compared to the sad little postage-stamp video clips the older version could handle, the change is astronomical.

There are those (and I'm one of them) who consider that many of the so-called 'multimedia' programs that usually appear on CD are more hype than substance. Much of the multimedia content is in the form of tiny video clips so small you'd miss them entirely without the huge frames they run in. *QuickTime 2.0*, however, enables you to run very high-quality, quarter-screen video – even on a knackered old single-speed CD-ROM drive and Centris 610 setup like mine. This upgrade is the first thing to make me go 'wow!' since my Newton got my name right in February.

With *QuickTime 2.0*, makers of encyclopedias and producers of adventure games can now get down to producing some incredible software, which, let's hope, will return some credibility to the term 'multimedia'.

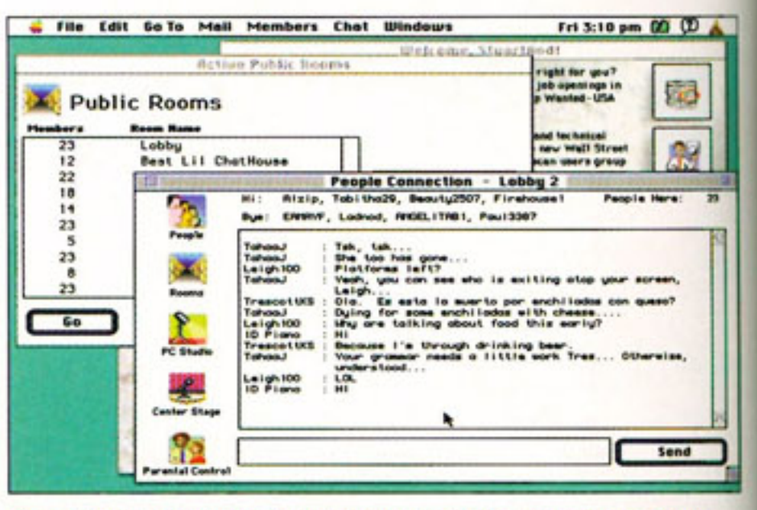
The age of the game

You may be under the impression that the critical programs that will make or break the PowerMac are the native versions of *XPress*, *Word* and *Excel* (see our review of the latest version on page 84). This is complete crap. The real killer PowerMac software will be a game.

You see, for years we Mac owners have been starved of decent games. Despite having machines with superb sound and graphics, we've been pretty much ignored by the mainstream games publishers. But now the focus of the games industry has shifted from Amigas to PCs, and the PC programmers are looking lustfully at the PowerPC chip. As well they might. With built-in stereo sound, 256 colours as standard, a consistent internal structure for programmers and a processor chip that can whip the backside of a Pentium, games programmers are chomping at the bit to get working on PowerMac games, which has got to be good news for the Mac scene as a whole.

Although there's still only a limited number of PowerMacs in use out there, programmers usually get what they want. Indeed, the first crop of PowerMac games are already making their presence felt: the follow-up to *Flying Nightmares* from Domark (which is much better than the previous version), *Sensory Overload* and, the one to make PC owners weep, *Marathon* from Bungie.

Soon, PC owners will be looking enviously at PowerMac games and waiting months for inferior conversions to the 486. Then it will only be a matter of time before the trend-setters in the software houses start to shift wholesale to the PowerMac, and we'll all live happily ever after. And don't forget, you read it here first.



If you have difficulty dealing with real life, you can join the saddos in the chat rooms – sort of CB by modem.

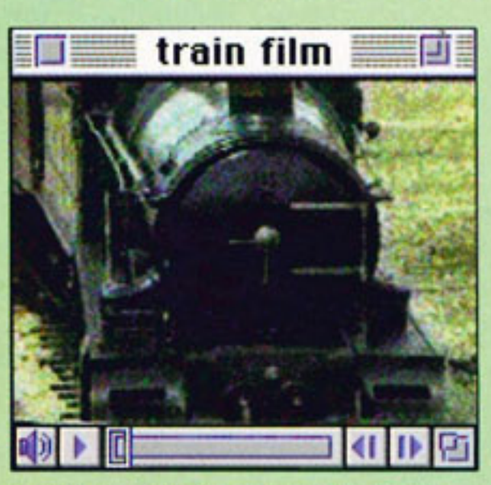
The 540 bombs out

It seems that one of the exciting new PowerBooks ('exciting' here being the journo-code for 'I want one') has already been discontinued. It appears – although I haven't heard it officially, yet – that the 540 is no more (having only been 'more' for a few weeks). This is apparently due to supply problems with the unusual 16-greys active display. But, on the other hand, who would be seen dead without a colour PowerBook these days? Well, OK, discounting John Major!

AWOL on AOL

I am lucky enough to have the extreme luxury of a dedicated, leased line to the Internet. This means I can browse my way around the planet at ridiculously high speeds, without any of those irksome 'phone bills' that seem to concern other Internet users so much. During a recent bout of coffee-break world exploration, I

WOW! LOOK AT THE SIZE OF THAT!

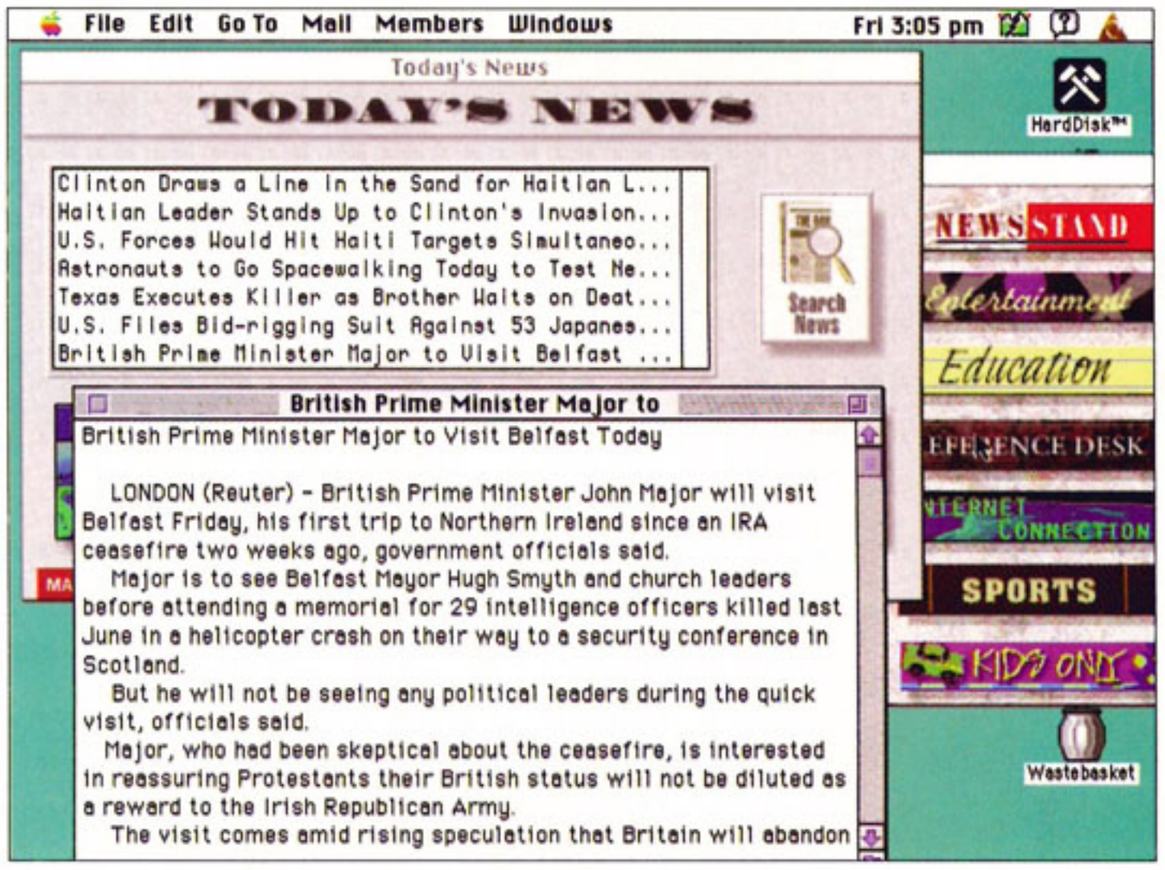


QuickTime 1.6.2 can handle moving video this big – not particularly impressive, is it?

But the new souped-up version of QuickTime can go this big. Wow!

AOL offers a wide range of interesting subjects to choose from. Book your holiday or find out the latest weather report – it's all so easy to use and looks very colourful too..

America On-Line has direct access to the Reuters news service, which will provide you with up-to-the-minute world news – although naturally everything has an American slant°.



discovered that America On Line, that most parochial of dial-up services, has a direct Internet access feature built into its software. So if you have an Internet connection (and you really should have one, you know) you can connect up to AOL, as we surfers call it, for the simple price of a local phone call. Or in my case for nothing.

Why would you want to? Well, AOL puts home-grown services, like CIX, and even transnational ones, like CompuServe, to shame. It has a true Macintosh interface, a million users and support from hundreds of commercial companies. There is so much useful information there – including up to the minute news and an on-line encyclopedia – that it is beyond description. And, with a dreamy interface that other services should most certainly rip-off mercilessly, it's just so easy to get to.

Unfortunately, it isn't free – but it is a lot cheaper than CompuServe, and you even get a human-sounding e-Mail address rather than just a load of figures.

To have a look for yourself, download the software from ftp.aol.com and log-in with the special code of '71-4759-0721', password 'WINY-BREVET'. You'll need to lie a bit during the log-on sequence, because the overly user-friendly software doesn't accept non-American telephone numbers or postcodes. An e-Mail afterwards should set things straight.

If you haven't the least idea what all this is about, have a quick read of the free supplement included with this issue – you should find all the beginner's advice you need there!

Repeat after me

I'm afraid I'm very much of the school of thought that thinks the only things you need to be able to say in any foreign language are: 'A beer, please' and 'Take me to the airport'. However, when it comes to Spanish, even that level of fluency completely escapes me. I was exceptionally pleased, therefore, to receive Hyperglot's *Learn to Speak Spanish 4.2*. This is one of those CD-ROMs that I was talking about before – you know, the ones with microscopic video clips. But putting all that aside, this particular CD-ROM is actually rather good.

Its technique is almost identical to the box of 1950s LPs that I remember my father used to learn French from – you know, the 'repeat after me' variety. But the beauty of *Learn to Speak Spanish's* computerised approach is that the software records your efforts, and then plays them back alongside the original so you can hear exactly where you're going wrong.

I haven't been using it for long enough to figure out how catch a plane yet, but I am looking forward to confusing the landlord of my local by asking for 'una cerveza fría, por favor' a little bit later. Actually, I think I might try it out now. See you next month! *Josef Morrell*

Learn to Speak Spanish is divided into situations, and teaches you what you need to know for each one.

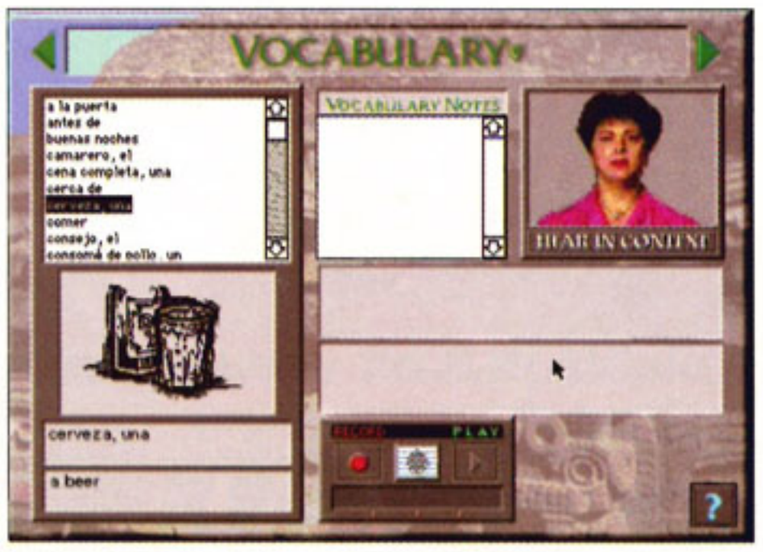
Listen to Manuel say the words, speak them into the microphone yourself, then play it back to hear the comparison.

IT'S HOW BIG?

Remarkably, it seems like the huge volume of data you can fit on a CD-ROM is already a limiting factor for some people. 650Mb can hold several *Encyclopedia Britannicas*, with room for a few dozen copies of the *Complete Works of Shakespeare* on the side. But it still isn't enough, it seems, for a history of the Superbowl.

In fact, it takes no fewer than three CD-ROMs to do this fascinating subject justice. On these discs you'll find video clips of all the major plays of all 28 Superbowls, pictures of the tickets and the Superbowl rings worn by the players. (Rings? What kind of sport is this? Give me rugby any day.) And, of course, there are the team and game statistics. Millions and millions of them.

The Official Superbowl Commemorative Edition costs just $79.95, and all you American Football enthusiasts out there can contact DiscUs in the US on 0101 415 306 1000 for more details.



Here you'll find all the essential vocabularly from *Learn to Speak Spanish*. There's no 'in the pub on the Costa', though.

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More kids for sale?

After using a Classic II for over a year, I decided to take the plunge and move up a Mac or two to an LC475. I was more than impressed by the speed that it rattles away at, until I started using my favourite applications. When I try to place a file in *PageMaker 5* it reports that I don't have an FPU and bombs out. Some of the filters in *Photoshop 2.5.1* also report that I don't have an FPU and bomb out. The same happens with a lot of less well known applications. So after spending over £2,000 on my new computer (and selling several of the kids to raise the money) I must now save up to buy an upgrade to turn my troublesome LC into a full-fledged '040 flying dream machine with FPU. Come on, Apple and all you software developers, get your act together!

Dave Andrews
Chorley, Lancashire

To be fair, the LC475 is such a bargain because the 68LC040 chip inside it is cheaper to manufacture than a 'real' '040 – and it does run just about as fast until your programs hit the kind of intensive computations that Floating Point Units or 'math co-processors' were designed to handle. If you're having trouble with programs that just won't co-operate without one, don't sell any more kids yet! Try installing Software FPU *– it's yours on this issue's cover disk.*

Price-ist policy

I have had enough of Apple's 'price-ist' policy. As soon as the Colour Classic came out, I thought it was a great chance to get a good Mac at a good price. Less than a year later, Apple has completely cut off this range. The same has been happening with other Mac models. Now I find that almost all of the CD-ROM titles at my local dealer need a 13-inch monitor. Are we supposed to go and buy a new £2,000 Mac just to be able to play the latest CD? I feel that I am being treated as a second-class Mac owner just because I can't afford a flashy Quadra. Shouldn't Apple ensure that all its devoted users have the same rights?

Dimitri Kerkentzes (age 15)
London SW15

Over to you, then, readers. Are Apple and the software producers leaving more humble Macs behind too quickly?

Protect and survive

I'd like to offer some reassurance to Martyn King [see MACFORMAT 15]: a virus infection on a Mac is not anything to be afraid of, provided you have a good virus hunter installed. A couple of weeks ago my brother asked me to print out a couple of word processed documents for him, as his printer at work was awaiting a new toner cartridge. My virus hunter (*Disinfectant 3.5*, which I received with MACFORMAT 14) politely informed me that both of my brother's disks were infected, and asked if I'd like the virus permanently removed. A couple of quick mouse-clicks later, the virus was just a memory.

My Mac, like Mr King's, is also a (very hard!) working machine, but for this reason I will continue to run any program which I feel will be useful. The message is simple. *Always* have the most recent version of a good virus hunter installed, and *trust it* to keep your Mac healthy and virus free.

To all at MACFORMAT, keep up the good work, guys, and thanks for the excellent *Disinfectant*.

John Barr
Kilwinning, Ayrshire

Don't thank us, thank John Norstad, the author of Disinfectant, *who not only updates his magnificent program as soon as any new virus rears its ugly head, but also releases new versions absolutely free, no strings attached!*

Long live shareware

Paul Mason claimed in MACFORMAT 15 that shareware was just second-rate software. I admit that if you want sophisticated word processing or spreadsheet functions, the best thing is the existing high-cost commercial software. But there are countless shareware applications that perform other tasks a lot better. Take envelope printing for instance – *Address Book* and *Easy Envelopes+* do this much more quickly and easily than Microsoft *Word*. And other shareware programs such as *SpeedyFinder* certainly aren't second-rate.

Furthermore, as long as the huge companies (Microsoft, Claris, etc) feel the breath of shareware down their necks, they will realise

TRYING TO START A WAR OR SOMETHING?

In MACFORMAT 16 you published an article, 'The Mac at War' by Christopher Long, which I would like to comment upon. The journalist talks of the 'primitive' Balkans and how one wouldn't find spares, repairs and system managers. Of course this is true of the front lines and Bosnia-Herzegovina – what do you expect from war? But the author seems to imply that the whole of ex-Yugoslavia is in these same conditions. That's like saying that Britain has no computer stores because you can't find any in the middle of the Highlands. If he wanted spares for his PowerBook Mr Long could go to the Apple dealer in Zagreb (Croatia) or Ljubljana (Slovenia).

As regards areas closer to the front lines, let me tell you about my experiences in Split, where Mr Long sets up his base. I've just come back after a month there, and I can tell you that there is as good a supply of computer magazines in Split as there is in Edinburgh. I bought the August edition of a US Mac magazine in mid-July (in Edinburgh it hasn't arrived yet) and found both July and August editions of another (which I can't get anywhere in Edinburgh). There were plenty of other computer magazines, including US and Croatian editions of *Byte*.

Maybe if Mr Long weren't so preoccupied with mythologising himself (this constant preoccupation with spies is a bit odd) and spent more time worrying about the death and destruction of a great people and less about the safety of his PowerBook, he would also look around some more and maybe notice, as I did, that most newsagents in Split were displaying on their main shelf (next to the dailies) a Croatian computer weekly that had a big article on its front page about the distributor of PowerMacs.

Before you publish any other articles about the hardships of travelling with a PowerBook and a modem (there are many for sure wherever you go), please ask the journalist not to make sweeping and imprecise generalisations on whole countries or areas of the world.

Jonathan Broadbent
Edinburgh (via CIX)

Christopher Long made clear in his article that he was writing about working 'in and around Balkan front lines'. Other readers have written saying that they enjoyed the article, but we felt like stirring up some controversy... Oops, I mean 'your comments are always welcome'.

that the high prices they charge for their software may lead people to turn to shareware alternatives for the applications they need. If shareware were not there, we might have to pay a lot more for *Word, Excel* and others!

Walter Van Lerberghe
Deurne, Belgium

And that is certainly a prospect too horrible to contemplate...

Vroom for what?

Having purchased the 'miracle' product *RAMDoubler*, I found that it was incompatible with my PowerMac. Any idea when a PowerMac version is to be released?

Another point which has been eating away at me for years: there are hardly any car simulation games for the Mac. (I can think of only two: *Nascar Challenge* and *Vette*.) There are countless numbers of flight sims around, but why is it that I have to go to my aged Commodore Amiga 500 to have a game of the fabulous *Microprose Formula 1 Grand Prix, Vroom!, Continental Circus, Super Monaco GP, SuperCars,* etc, etc? It's a shame the sheer processing power of the PowerMac can't be used by us car sim freaks out here.

PS: Any ideas on what modem I should buy with my next grant cheque? I can afford around £200.

G S Gahir
Ilford, Essex

We reckon RAMDoubler *is pretty incredible too – for well under £100, it can double your usable RAM without any extra hardware. That's why we awarded it a 96% MACFORMAT rating in issue 11. A PowerMac version is due within the next month or so. Car racing sims? I do remember a mono game called* Ferrari Grand Prix *as well as the ones you mention – anyone know of any others? As for a modem for around £200 – have I got good news for you!* *Turn to page 99 for details...*

Violence does pay

Why is *Civilization* such a violent game? On a number of occasions I have built all the wonders of the world, made peace with all my neighbours, built a thriving trade by both land and sea, have a huge civilisation of over 30 million and launched a spacecraft to colonise another planet, only to receive a score of under 10%. If I destroy all the other civilisations around me as quickly as possible, I can often get scores in excess of 70%. It would appear to be useful in the scoring department for the player to decide he wants a violent rather than a peaceful civilisation.

Dominic Sylvester
Bristol

What, you mean all that success and achievement isn't enough for you – you want points for it as well? That's like saying we shouldn't be satisfied with producing the UK's best-selling Macintosh magazine, but should expect to be paid for it as well! [Um, hang on a minute... – The rest of the team]

Anybody find any 'hidden lessons' in other programs? Write to 'Crime Does Pay' at the address on page 31.

Alex Summersby

CRUISING THE KEYS

Some useful System 7.1 tips from Henry Merrit of Cambridge. Henry says they are not 'original' and he doesn't particularly care about credit for them, but we're feeling generous so we'll send him a T-shirt anyway...

■ If you don't really need it, consider turning Background Printing off in the Chooser. That way, if you need to rescue a file you deleted some time ago, you won't find that the hard disk has been filled with useless print spool files.

■ When you're using a Quadra, it's often annoying to have to disable the caches and restart before you can use older applications incompatible with the 68040 chip's RAM caches. Solution: simply hold down the [option] key when clicking in the Cache Switch dialogue box. You *don't* have to restart. Make sure, though, that you don't have any applications open and (especially important) that no floppies are mounted on the desktop. Make sure you've closed the incompatible applications before you switch back to 'Caches Enabled'.

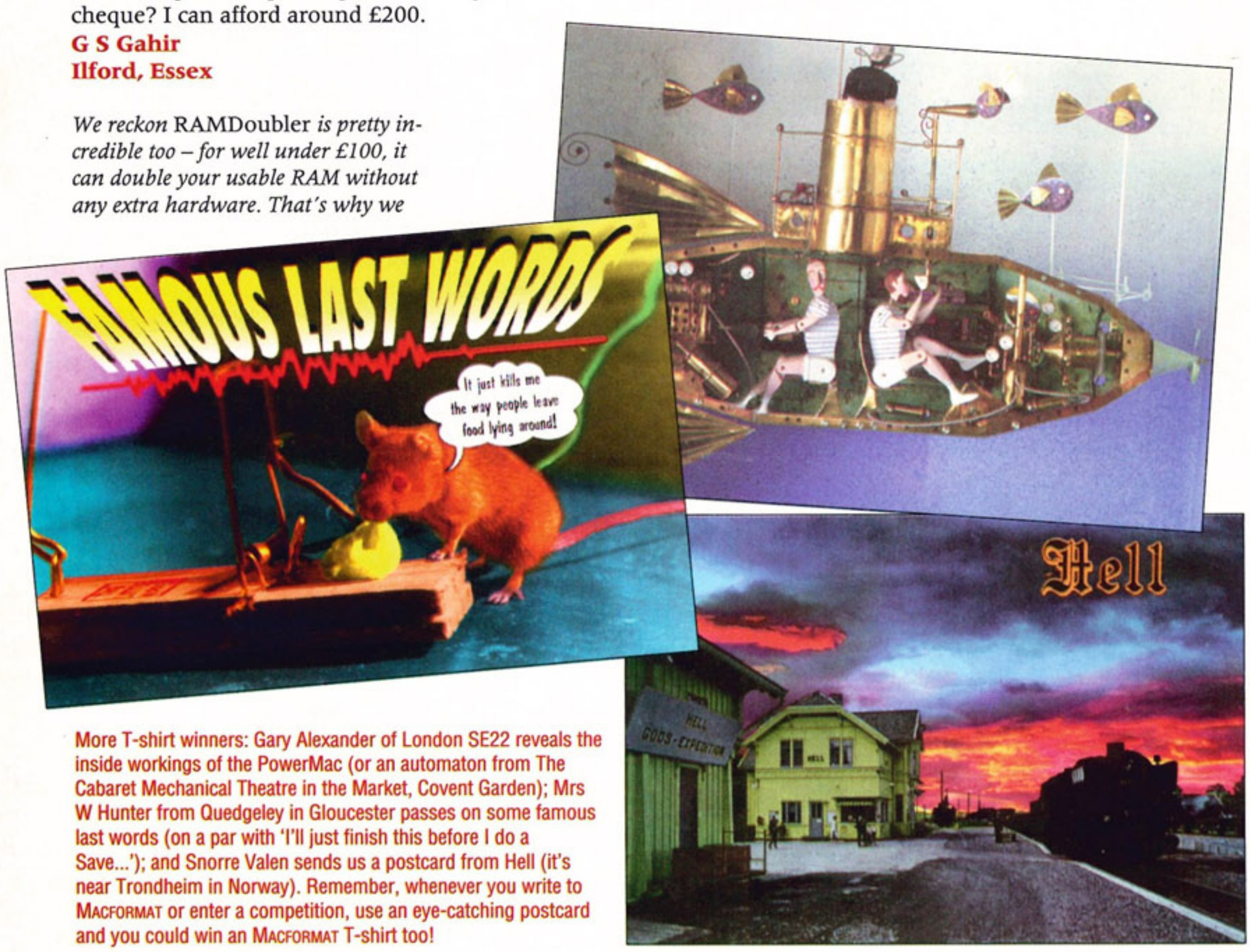
■ Get a copy of the System Update 3.0 from your Apple dealer. It's only for System 7.1 and later, but it includes a very much improved Disk First Aid, an improved and faster SCSI driver for your hard disk, and many System improvements. It also comes with *SimpleText*, the long-awaited update for the abysmal *TeachText*. *[Well, I didn't think it was so bad... – Ed]* It's free; you only need to provide the disks for it (two formatted high density disks). It's worth it. Disk First Aid can occasionally fix things that utilities suites like *Norton* or *MacTools* can't.

We're out of space, so there's more next issue. Do you have any keystroke shortcuts, tips or discoveries? Send 'em in and you could win a T-shirt too.

Got some Mac related info you wish to share? Or just want to air your views? Write to 'Apple Talk' at the address at the top of page 31.

ELECTRONIC SOAPBOX

Unfortunately, space on these pages is limited, so we can only print a selection of the letters we receive – and the shorter your letter, the better its chances of being printed. If you have something to say at greater length, write to our 'Soapbox' section (see page 124) or send your musings on disk for our CD-ROM 'Readers' Corner'. Give us your letter as a *TeachText* document (so everyone can read it) and we'll put it on the CD (subject to legal considerations – no defamation or obscenity, please!). Mark your disk 'MACFORMAT Readers' Corner', be sure to add your name and address, and please note we cannot return your disk. Our address is at the top of page 31.



More T-shirt winners: Gary Alexander of London SE22 reveals the inside workings of the PowerMac (or an automaton from The Cabaret Mechanical Theatre in the Market, Covent Garden); Mrs W Hunter from Quedgeley in Gloucester passes on some famous last words (on a par with 'I'll just finish this before I do a Save...'); and Snorre Valen sends us a postcard from Hell (it's near Trondheim in Norway). Remember, whenever you write to MACFORMAT or enter a competition, use an eye-catching postcard and you could win an MACFORMAT T-shirt too!

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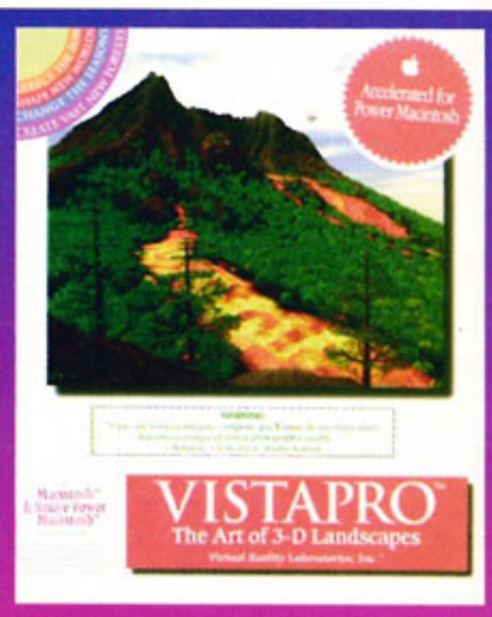

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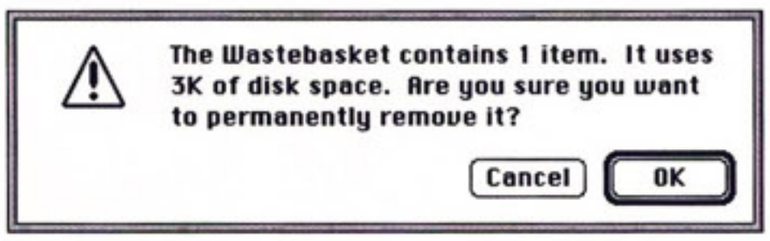
BOMB BUSTERS

Don't panic! If your Macintosh is giving you grief, let Alex Summersby and Stuart McHugh show you how to beat those bombs, freezes and startup problems in the first part of MACFORMAT'S complete troubleshooting guide.

Like every other computer ever built, all Macs crash, freeze, or refuse to start up at some time or other. The good news is that it's very rare for the cause to be a serious hardware problem. The bad news is that you're very likely to lose some of your precious data. But once you accept this, and recognise that this is about the worst that a crash can do to you, you'll be in the proper serene frame of mind to cope with anything. The golden rule is: don't panic! Proceed methodically (we'll show you how), think before you OK anything (we'll explain what the consequences are), and always stay alert for signs of further trouble (we'll tell you about those as we go).

In fact, a Mac crashes in the same way as it does everything else: very helpfully. Like a well-bred young gel who thoughtfully announces that she thinks she is about to faint, your Mac will try to keep its wits about it long enough to inform you of what's happening. You've probably already grown used to its system of alert boxes without quite realising how helpful they are. If you see an alert that tells you 'There is not enough room on this disk to copy this file – an additional 16K is needed', you probably hit OK as a matter of course and set about deleting 16K's worth of old data, or find a new disk with more space on it. Really, System alert messages are not very different – they try to tell you what the problem is, so you can try to find a solution. The only major difference is that if the Mac's System itself is in an unstable state, it may not be the best judge of what the real problem actually is. But more about that later.



Relax, it's only an alert. Your Mac's just trying to be helpful. Consider the consequences and decide if you want to go on.

This general guide covers System 7 and above. If you are still running System 6, you almost certainly have a Mac that's more than three years old and you're probably an old hand at all this anyway. Most of the general principles are the same, but quite a lot of the procedures have changed, and changed for the better. In fact, if you've resisted upgrading to System 7 because you couldn't see any compelling reason to do so, this may be it. Yes, System 7 needs a lot more RAM, etc, etc, but its error-management and recovery routines really

How to master the ten essential Mac techniques

Have a quick skim through the next six pages and you'll notice that we keep suggesting you try the same handful of procedures time and time again. In fact, there's not that much you have to know how to do – the secret really is just knowing when to try what. Here are the ten vital techniques – and even some of these, with luck, you may never need...

1 Restart. Don't be daft, you say, everyone knows how to restart a Mac – select Restart from the Special menu. You're right, and this is the only method that does a spot of housekeeping first (so your Desktop re-opens with windows in the right places, etc), but this may not work after a crash. A less gentle alternative is to hold down the key combination [command] [control], press the power button on your keyboard if it has one, then release all three at once. Or if your Mac has 'programmer's buttons', press the one marked with a dot. If none of these works, you'll have to resort to switching off the power. But make sure you wait a good ten to twenty seconds before switching it on again, to prevent a power surge effect.

2 Restart without Extensions. Hold down the [shift] key as you start up, and keep it held down until you get the message 'Welcome to Macintosh. Extensions Off.'

3 Force Quit. Press [command] [option] [esc]. This should work for any application, including the Finder, but the Finder will re-load straight away.

This message means, um, the Extensions are off. Simple, right? It also means your Mac may be less likely to crash...

4 Allocate more memory. Make sure you've quit out of the application. Highlight the application icon (not an alias) by single-clicking on it, then select Get Info from the File menu (or press [command] I). The memory settings are at the bottom of the Info box. It's not a wise move to allocate less than the minimum recommended.

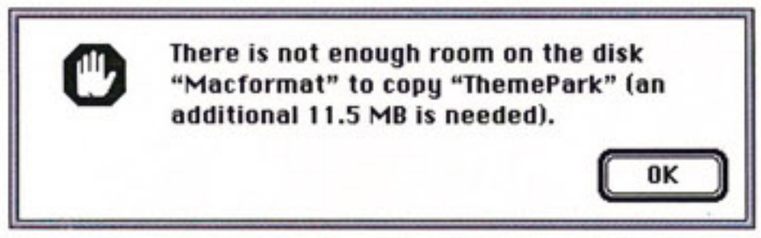
5 Rebuild the Desktop. Hold down the [command] and [option] keys as you start up, until you see a dialogue box asking if you really want to rebuild the Desktop. Click OK. This forces the System to recreate the Desktop files.

6 Trash a Preferences file. Open the Preferences folder in the System folder and

are a vast improvement over System 6's. Most of the time, troubleshooting and problem solving are much easier too. End of advert!

Just as importantly, there are differences between different models of Macintosh (some start up from a power switch on the keyboard, some – including some of the very latest PowerMacs – don't; some have two little 'programmer's buttons', some don't), so if you find that your Mac simply isn't equipped for some of the solutions given here, sorry, you'll just have to try something else.

If you have a Performa, everything is mechanically identical to the corresponding Mac model (Performa 200 = Classic II, Performa 400 = LCII, 450 = LCIII, 475 = LC475, and 600 = Mac IIvx), but we'll assume that you are using the Finder, not *At Ease* or some other substitute. (If you're not, you certainly should be.)



This kind of alert means you *can't* continue. Clicking OK just means you've read and acknowledged the message.

One important final word: no matter which model you have, if your Mac is less than a year old it is still covered by warranty. Any real faults will be fixed for free – but opening up your Mac yourself (even just to check whether everything is in the right place) may invalidate the warranty. You have been warned!

Ready? Take a deep breath and join us in the world of bombs, freezes and eight-note error chimes, where your worst nightmare has probably just come true...

The big freeze

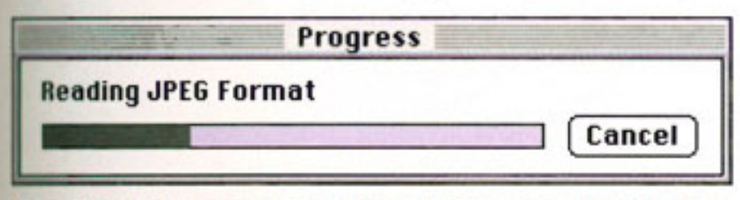
The worst part is the uncertainty. Is anything still happening? Do you dare *do* something?...

Problem: freeze

The application you're working in just freezes or 'hangs'. The stopwatch hand may keep turning as normal, or it may spin madly, or it too may freeze. It might move as you move the mouse around, or it may be stuck fast. Either way, nothing seems to be happening – the process you began is taking much longer than normal, or the 'progress bar' (like the one you see while copying) has stopped moving, and you cannot access any menus or activate anything by clicking.

Possible cause

(a) The Mac's not frozen at all, just very busy. Are you *sure* nothing is happening? Printing a large PostScript document from an LC is likely to keep the processor chip occupied for some time. Applying filters to a 30Mb image using *Photoshop* is going to take a while even on a PowerMac. Is the processor trying to print in the background? (The cursor will normally get 'jumpy', but it could freeze up for several seconds. Check in the Chooser whether 'Background Printing' is on. When you get control back, that is...) Is someone on your network using a shared application, copying from your shared folder or writing data to it?



If your Mac is busy with a lengthy process, you *should* get an indication of its progress. If the bar just stops, start worrying.

(b) A cable – keyboard, mouse, printer or SCSI device – has come loose.

(c) The application has got stuck in an 'event loop'. (Don't ask. It's a programming thing.)

(d) The application has run out of memory.

(e) The application is conflicting with an Extension or Control Panel.

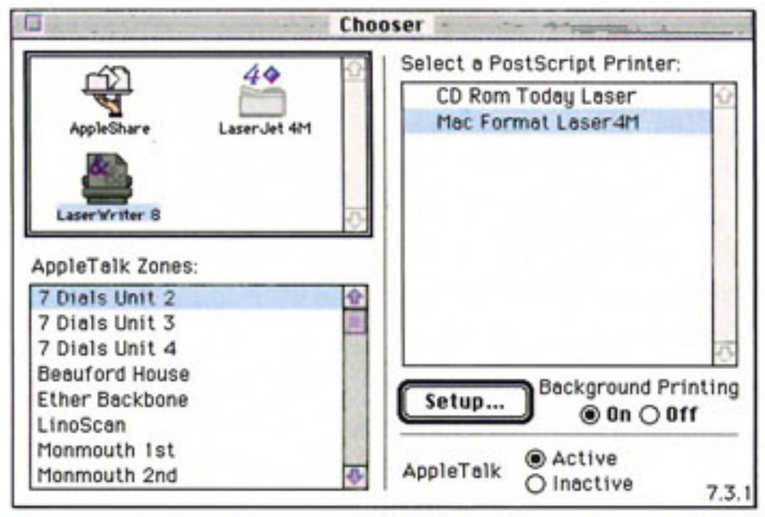
(f) The application program, or the disk it's on, may have become corrupted in some way, or there is some problem with an ancillary file (possibly a Preferences file is corrupt).

Action

(1) Wait a bit longer. If the problem is (a), your Mac will come back to life and something will happen before very long. Probably it will start executing all the mouse-clicks and keystrokes you furiously tried while you thought it was frozen, and the air will start getting thick with signs of life – quacks, beeps and Wild Eeps...

(2) A 'frozen' stopwatch doesn't necessarily mean an application freeze – it just means that the screen isn't being updated, and that could be simply because the System is too busy with other things. If the cursor doesn't move at all, it could possibly be (b) – check the mouse and printer cables first. These won't cause a real freeze, but the Mac won't be receiving any instructions to respond to. A loose SCSI connection may well cause a genuine System freeze.

WARNING: If you find a loose SCSI connection, switch off both the Mac and any device at

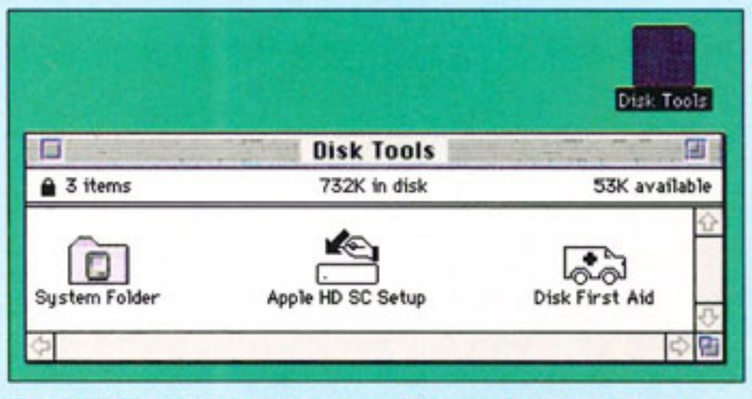


Open the Chooser in your Apple menu and check if Background Printing is on. It can make your Mac *seem* frozen.

drag the appropriate Preferences file out of the folder. (Trash it later – if all goes well.) The application will revert to defaults and lose any custom settings, but otherwise the Preferences file should be recreated from scratch next time you use the application.

7 Zap the PRAM. The PRAM (pronounced 'pee-RAM', short for Parameter RAM) is a 256 byte segment of RAM, controlled by the battery, which holds information such as keyboard, mouse and other Control Panel settings, including startup disk settings. To 'zap' (reset) the PRAM, hold down [command] [option] P R as you start up.

8 Start from a floppy disk. At startup, every Mac looks for a valid System on the attached drives in this order: first the internal floppy drive, then any external floppy drive, then the internal hard drive and then any external hard drive. To start from a floppy, just insert a startup floppy as soon as you switch on or restart. You can use your Disk Tools disk, or one of the emergency startup disks supplied with *MacTools, Norton Utilities*, etc. Any floppy with a System file and the Finder on it (both in the same folder) should do the trick – but if the System folder on your hard disk has a System Enabler in it, your startup disk must also have this on it. Check now before you need it!



The Disk Tools disk that came with your System disks can be used as a startup floppy, because it has a System on it.

9 *Not* start from a floppy disk. If there is a floppy disk in the drive on at startup but it has no System on it, the Mac will simply eject it and look elsewhere. If there *is* a System on it, but you don't want to load it (say because it is defective, or a version you don't want to run for this session), hold down the mouse button at startup.

10 Not start from your internal hard disk. If you want to start from an external hard disk or removable drive (say because you suspect a System software problem on your hard disk but you don't have a startup floppy), hold down [command] [option] [shift] [delete] until the 'Welcome to Macintosh' screen appears, then release the keys.

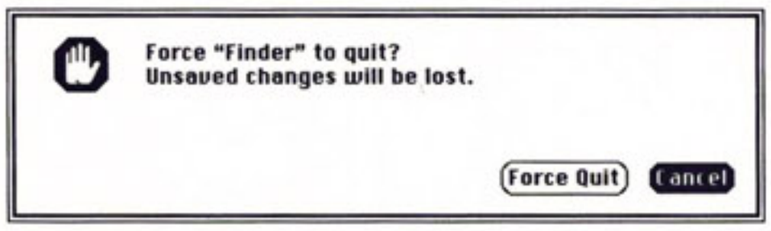
the other end of the cable before you reconnect them. SCSI cables are 'live', and plugging them in or unplugging them could not only cause a severe crash but could 'fry' your chips – that is, burn out your circuitry.

(3) The application *might* still respond to some keyboard input – try [command] S if you're feeling lucky.

WARNING: Doing a Save (in any application, not just the one acting up at the moment) means you are writing data to disk. This runs the risk of overwriting any temporary 'buffer' files that an application may have created to hold 'unsaved' data, or even replacing a perfectly good file with corrupted data. Either way, you might end up making it *harder* to recover your data. Just thought you'd like to know.

(4) If you have a real freeze, the first thing to do is try to break out of the 'event loop' – tell the program to stop trying to do what it is hung up on doing. Try the universal 'cancel' command [command] [period] a few times.

(5) If things are still frozen, try to force the application to quit using [command] [option] [esc]. No luck? If your Mac has 'programmer's buttons', try pressing the one marked with a triangle symbol (*not* the one with a dot) and



With [command][option][esc], you can force any application to quit, even the Finder. But the Mac does ask if you're sure.

then type G FINDER and press [return] to return to the Finder.

(6) If any of this returns you to the Finder successfully, you will have lost any unsaved data in the application. (Well, we did warn you.) Quickly do a Save in any other open applications while you can. It *might* be safe to continue working, but this is unlikely. Your Mac's RAM will be in an unstable state, and you really need to restart. Do you get a bomb when you try to do so? Told you it was unstable.

WARNING: If your Mac has a hard disk activity light, never attempt to restart or switch off while it is flashing. If it has no light, listen for any disk activity. If the power is interrupted while data is being written to the hard disk, there's a very good chance that the data will be corrupted. This means you'll not only lose unsaved changes but probably be unable to open that document again – or worse, the whole System or Finder may have been corrupted.

(7) Before you resume work, it might be wise to do a bit of prevention – allocate more memory to the application, avoid having so many applications open at once, or something more fundamental. Check the 'Eleven ways to prevent problems' box on page 41.

(8) If you find that the application freezes or crashes again at roughly the same point as before, it may be an Extensions conflict – remove any Extensions you've added since the last time you used the application without any trouble. It may be that the application's Preferences file has become corrupted – trash it. If you still have the problem, check any other ancillary files (a corrupted data file, for instance, can cause your database to crash, and a corrupted dictionary will do the same for a word processor) – try opening them in another application. Still having trouble? Try reinstalling the application itself. Check the manual or contact the software publisher for any known bugs or incompatibilities.

(9) If you're still getting unexplained freezes, there is very likely a disk or hardware fault. This will certainly cause other, more spectacular problems as well – see those headings for more advice.

Bombs away!

It all sounds so violent and messy, doesn't it? Bomb, crash, and all that. Those nice alert boxes make it seem so much less threatening: 'Sorry, a System error occurred.' Oh, never mind, you say; anyone can make mistakes. 'The application has unexpectedly quit.' A minor faux pas, surely, not much worse than unexpectedly belching in public...

Problem: crash!

The application you're working in crashes, with or without a 'bomb' alert. If it's not just the application but the System that's crashed, the bomb alert box may flicker spectacularly (very common when you've tried to restart after a freeze), or you may get bits of other windows showing through the display.

Possible cause

(a) Whatever the error message may say (see the 'Number please?' box), the most common cause of application crashes is poor memory management. This may be due to the program needing more memory than it was allocated (and either trying to muscle in on more or else just hitting a wall it can't get through), or a bug in the program, or some form of corruption in the application or the System software. (This can occur because of a 'write error' when the program was written to your hard disk, a power glitch during disk access, a physical defect in the hard disk medium itself, or no very readily apparent reason at all. Bad karma, maybe. Were you ever cruel to an ant in a previous life?)

(b) There may be a conflict between a number of Extensions or Control Panels, or between any number of these and the application.

(c) It's less likely, but you may have a hardware problem with memory chips, the Mac's power supply or a SCSI device.

Action

(1) Try the procedures for a frozen Mac, steps **(2)** to **(8)** above. If it's the System, not just the application, which has crashed, you'll have lost

EXTENSIONS CONFLICT

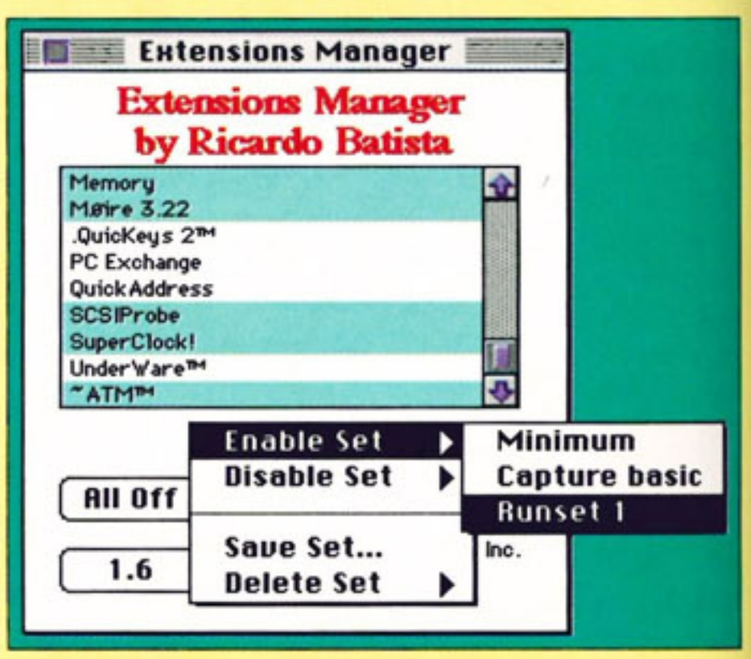
To solve a conflict between Extensions, begin by dragging the last one you added out of the Extensions folder and try to restart. If this doesn't work, you'll have to resort to trial and error. The most reliable method is to remove one Extension at a time, restart and see if that cures the problem.

Some people reckon it's faster to separate your Extensions into two groups, remove one group completely, and then restart. If the problem doesn't recur, the offender is in the other group; if it does, it's in this group. Then you repeat the process, splitting the problem group into halves again, and so on. This can save time, but it won't work if you have by sheer fluke separated the two (or more!) conflicting Extensions right at the start – you'll have to go back and begin again with two different groups.

In any event, it will take quite a bit of trial and error to track down the culprit, though there are 'Extensions managers' available that might make it easier, including commercial packages that can even test for conflicts (see page 119). We've included a shareware Extensions utility called *ExAminer* on this issue's cover disk (see page 42).

Sometimes just changing the order in which Extensions load can solve the problem, and you can do that simply by renaming them. (They load alphabetically, but some use special characters to load earlier or later – the virus checker *Disinfectant*, for example, likes to load first to scan everything else for viruses, so it has a space before its name and gets sorted before 'A'; *Adobe Type Manager* likes to come last, so it is listed as *~ATM*.)

WARNING: If you change things around, keep track of what you're doing. Some Extensions won't work with changed names, or get temperamental if you alter the order.



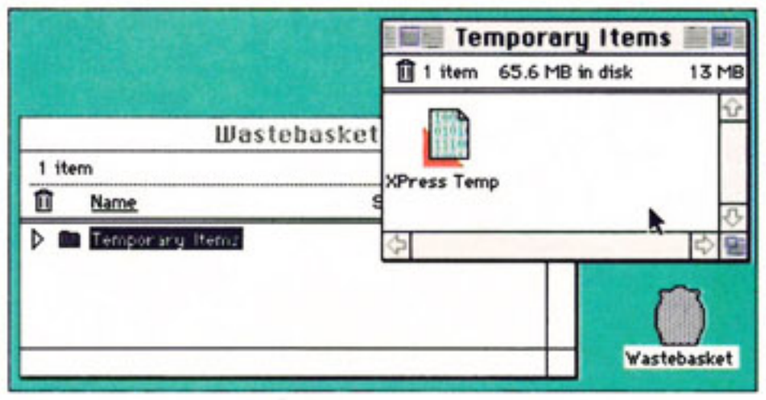
Extensions Manager is one program that enables you to save and disable whole sets of Extensions very easily.

any unsaved data in all the applications you had open, and you'll need to restart to do anything further.

(2) In the case of a System crash, the dialogue box may give you a Restart button. This only works about 30% of the time, but there's no harm in trying. (If there's a 'Continue' button, this is even less likely to work. It's some programmer's idea of a joke. Ignore it.)

(3) Quite often, trying to restart just results in an even more spectacular crash. This is nothing to worry about – it just means the System is so far gone it can't get its act together. Your only option may be to switch your Mac's power switch off.

WARNING: If you do this, wait at least ten or twenty seconds before switching your Mac on again. Otherwise the effect on the Mac's circuitry could be the same as if there had been a power glitch or surge, and you already know the harm that could cause.



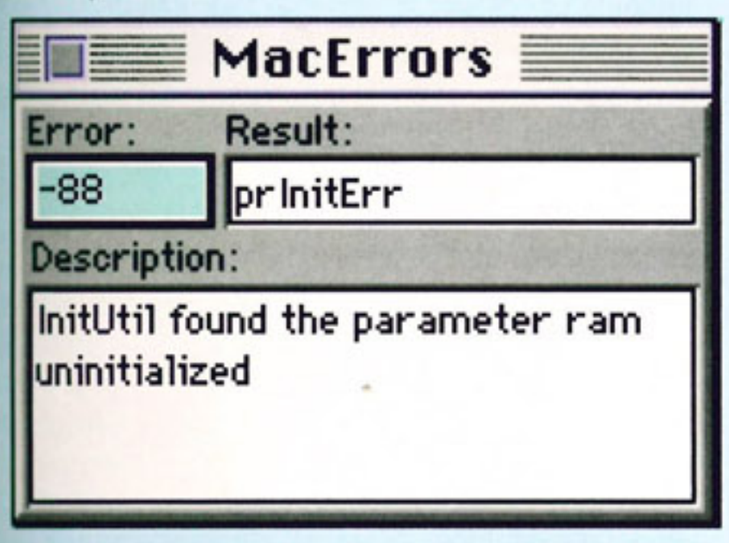
After a crash, your Mac tries to rescue any 'buffer' files with 'unsaved' data. Whether you can read them is another thing.

(4) There is the remote possibility that you might be able to rescue unsaved data, *if* the application(s) you were working in write temporary files to disk. Check the application manuals to find out. You *might* find them in a folder called 'Rescued Items' (or something similar) in the Wastebasket, but they might be invisible, and if so you'd have to use a utilities package (like *MacTools* or *Norton Utilities*, both reviewed on page 45) to find them, let alone recover them. The details are far too complex to go into here – watch for more in MACFORMAT soon, and don't get your hopes up: you'll almost certainly have lost *something* for good. Have a nice day now!

NUMBER PLEASE?

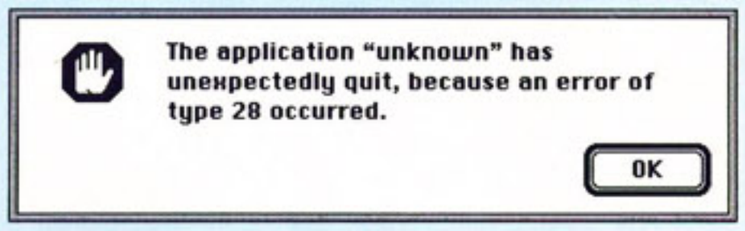
Look, let's be honest with each other. Your Mac may be trying to be helpful, but its 'bomb' error messages really aren't that much help. 'Sorry, the application "Unknown" has unexpectedly quit, because an error of Type 1 occurred' might at least confirm that you have indeed crashed, but it doesn't tell you much that you want to know. (Why does the System bother to try to name the application that's crashed? It's invariably the one you were working in, and you know which one that was. And how often have you ever seen it actually come up with the right name?)

If you really want to know what the codes mean, this issue's MACFORMAT cover disk includes a neat little program that will tell you. Much good may it do you. Type 1 is a 'bus error' ('Oh dear, I've caught the number 12 by mistake'?). Type 9 is a 'line 1010 trap error'. Any the wiser? In fact, Apple classes most errors as 'software faults', and the codes are designed for programmers, to give them some idea of where their code went wrong. Most of the time, there's nothing you or I could do about it anyway.



MacErrors, on this month's MACFORMAT cover disk, can tell you what those errors are. Hours of fun to be had there.

Most of the time, but not always. Errors 1 to 11 are 'runaways' – the application program has strayed into an area of memory it shouldn't have – and error 25 is 'out of memory'. All these may occur because the application was badly programmed in the first place, but it may be because it needed more memory than you had allocated to it. (Try allocating more.) It may be that there were too many other applications open at the same time, and they were hogging available memory. This is especially likely if you're using some form of memory management software, such as *RAMDoubler*. (It may be heresy to say this, but do you *really* need more than one application open at once?) It may be that a System Extension (a badly programmed one?) has grabbed itself a bit of memory that really doesn't belong to it. This is a likely cause of an error 28 ('stack has moved into application heap'),



In our straw poll, Type 28 rated third most common after Type 1 and Type 3. It's one you can do something about...

another memory problem. (Find that Extension and trash it.)

Error –34 is a 'disk full' error, and –39 is likely to be a faulty disk (though it *could* be a corrupted document which can't be read). At least for errors 25 and 28 you can try fitting more RAM, and for –34 and –39 you could get a new disk...

But the biggest problem with error codes is that at the end of the day you can't really trust them. Your Mac is reporting what it *thinks* caused the problem, but that may not be the *real* cause. It's a bit like having car trouble: the car stalls and you leap to the conclusion that it's out of petrol, when actually the problem could be the ignition system or the engine timing or the fuel line... or even the way you're using the clutch. It really makes better sense to prevent problems in the first place, and that means good general maintenance and a few sensible precautions. See 'Eleven ways to prevent problems' on page 42.

False starts

It's bad enough when you suffer a crash or a freeze. But it's positively insulting when your Mac won't even start up for you. It's as if your dog refused to wag its tail when you got home, or your key wouldn't fit in the lock...

Problem: dark screen

The screen stays dark at startup. The hard disk is whirring, but nothing shows on-screen.

Possible cause

Almost certainly a monitor or power supply problem. This may be true even if you have a separate monitor with a power light and that's lit as normal – there may be a connection problem, or the cathode ray tube itself may be bust.

Action

(1) Check that the brightness isn't turned right down. (Well, that's a monitor problem, innit?)

(2) Check all your power cables, fuses and monitor connections.

(3) If there is a video card installed, test it – it may be defective, or may simply not be seated firmly. Swap it out for another if possible.

(4) If the monitor power cable is 'piggybacked' (plugged into the back of your Mac), try the other sort of cable and plug it straight into a wall socket instead – it may not be getting enough power.

Problem: sad Mac

Instead of the 'happy Mac' icon and the 'Welcome to Macintosh' screen, you see a black screen with a 'sad Mac' and hear a different tone or set of tones.

Possible cause

Believe it or don't, this is your Mac being helpful again. As it starts up, your Mac runs a series of self-diagnostic tests, then searches for the System and loads it into memory, then loads Extensions and Control Panels, and finally

launches the Finder. If it finds a problem at the diagnostic or System stages, it sounds a warning tone instead of the usual startup tone, and the 'sad Mac' icon appears, with an error code (two lines on all current Macs) below it.

(a) The number of chimes may give you an indication of the problem – see the 'Sounds bad' box on this page.

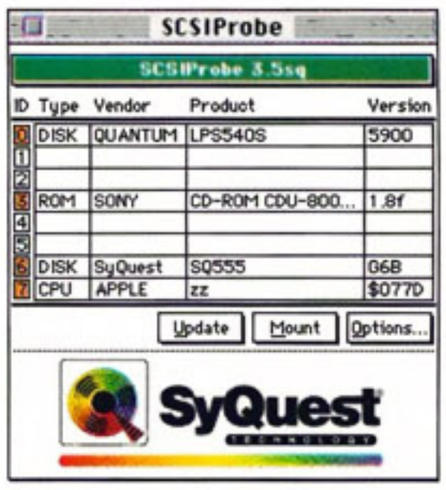
(b) If you don't hear any tones at all, the most likely cause is simply a problem with the speaker or the speaker circuitry. Leave this for a qualified service engineer. (But if you have anything plugged into the headphone (Audio Out) socket, this will disable the speaker – check this first!) However, in my experience, it is quite common not to get any startup tone at all when you are restarting (using Restart in the Special menu) after a System crash. This does not seem to be of any significance.

(c) There may be a problem with an external disk drive or other SCSI device, or with a SCSI connection itself.

Action

(1) Try starting up again. It could very well be a one-off glitch.

(2) Disconnect all attached SCSI devices (such as scanners, external hard drives and CD-ROM drives) and try again. Your Mac is checking all the attached drives at startup, and it will interpret a problem with any of the SCSI connections as a fault. SCSI chains can be temperamental at the best of times, and disconnecting them could be all it takes to solve the problem. (We'll go into SCSI problems in more detail in MACFORMAT next issue.)



Take it from us: SCSI is a minefield. All those ID numbers, terminators, problems with mounting... yeah, I'll say, mounting panic.

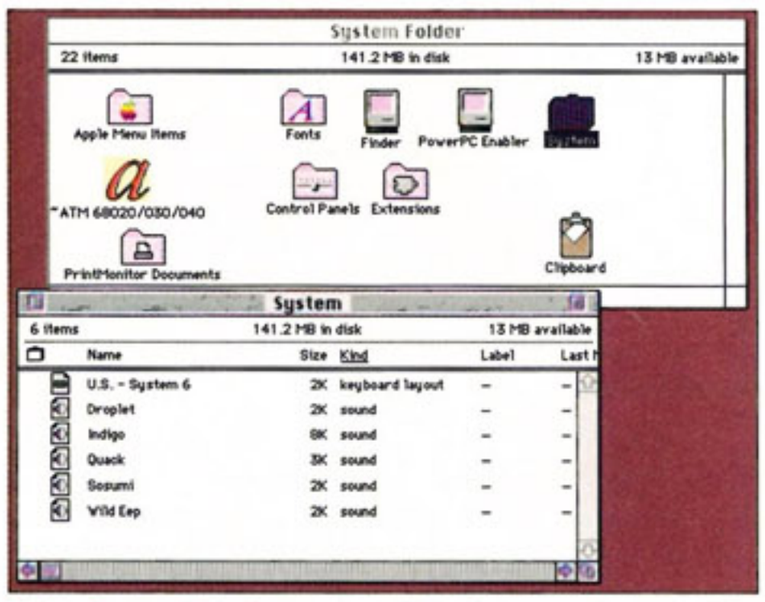
(3) Try starting from a startup floppy disk such as your Disk Tools disk. If your Mac starts OK from a floppy, the problem is most likely the System software on your hard disk – reinstall the System from your original System disks.

WARNING: This doesn't mean you lose all your Extensions and Control Panel settings (as you did in System 6), but under System 7 you *will* lose the fonts and sounds stored in the System file itself, so you'll have to reinstall them separately. In System 7.1, the Fonts folder is conveniently separate from the System file.

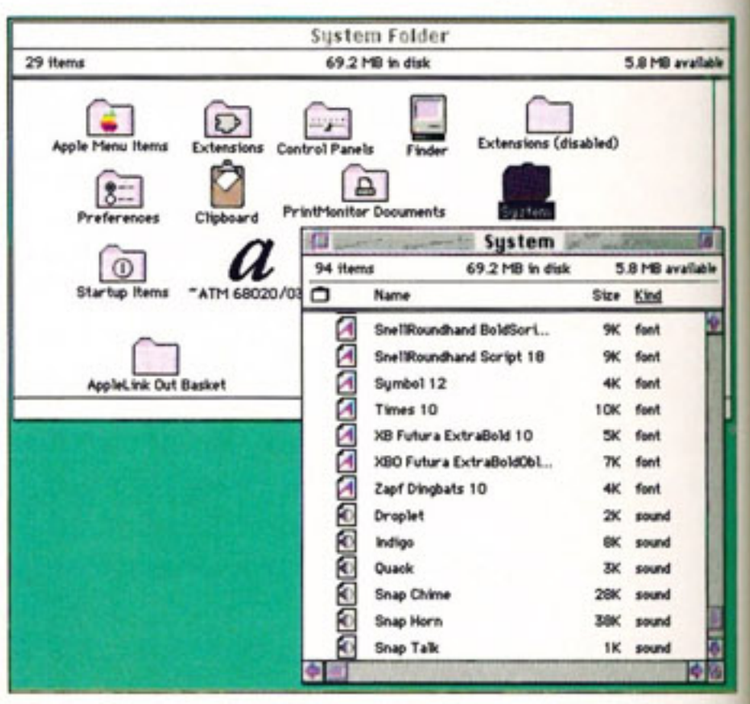
(4) If this doesn't work, run a disk utility such as *Disk First Aid* to check for problems on your hard disk and fix them. (It's on your Disk Tools disk – and even though it came free with your Mac, it actually is pretty good.) *HDSetup* also has a 'test' option. You may still need to reinstall the System as well.

(5) If your Mac won't start from a floppy, the problem is almost certainly a hardware fault – but don't panic yet! If you know your way around the insides of a Mac, check that the SIMMs are firmly seated in their sockets. Is the configuration correct for your model of Mac – SIMMs of the same capacity in the correct banks? Try replacing them with SIMMs you know work (from a friend's Mac?). Check for loose connections, especially the hard drive connector cable.

WARNING: If you're not sure, leave it to someone who is. Don't go poking about – if nothing else, a spark of static electricity can burn out the Mac's delicate circuitry, which is bound to be a bigger problem than the one you started out with.



Under System 7.1, if you reinstall the System suitcase itself you don't lose all the fonts you've added, just a few sounds.



Under System 7.0, there's no Fonts folder and the System suitcase contains heaps of stuff you'll have to reinstall.

Problem: blinking thing

Instead of the 'happy Mac' icon, you get a picture of a disk with a blinking '?' on it.

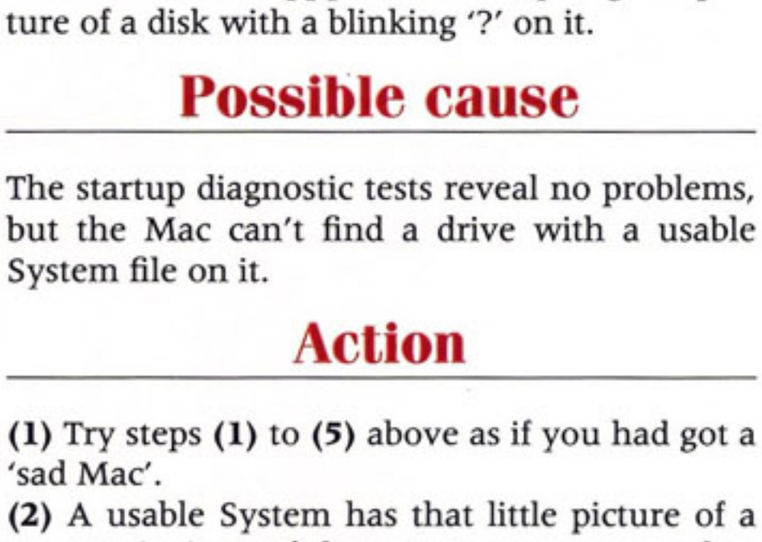
Possible cause

The startup diagnostic tests reveal no problems, but the Mac can't find a drive with a usable System file on it.

Action

(1) Try steps **(1)** to **(5)** above as if you had got a 'sad Mac'.

(2) A usable System has that little picture of a Mac on its icon. If there isn't one, you need to 'bless' the System you want to use. To do this, drag the System file out of the System folder. Close the System folder window, then open it again and drag the System file back into it. Close the window again. This usually does the trick (but to check – guess what? – you have to open the *blessed* window again! Must be where the term comes from...).



HD Setup on your Disk Tools disk can test for hard disk problems. Mind you, it's not particularly informative...

Problem: X marks the spot

Instead of the 'happy Mac' icon, you get a picture of a disk with a blinking 'X' on it.

Possible cause

This means there is no recognisable System folder on the floppy disk you are trying to start up from.

Action

(1) Wait. The Mac will soon eject the disk and try the other drives, and eventually your internal hard disk.

(3) There may be a problem reading the startup disk settings in the PRAM. Try 'zapping' it.

WARNING: You will have to re-set any of your custom Control Panel settings.

(4) If your Mac is a few years old, the PRAM may be unreliable because the battery itself may be failing. Check your manual for details of how to replace it.

(5) If none of this does the trick, there may be a connection problem – possibly the internal hard disk connector. If you know your way around the insides of a Mac, check it.

WARNING: If you don't, don't. Leave it for a qualified repair engineer.

SOUNDS BAD

At startup, a 'sad Mac' and a single note (which is different from the usual startup chime) indicates a hardware problem, probably on the main logic board or a memory chip.

- **Two notes mean a problem with SIMMs (Single in-Line Memory Modules or RAM chips).**
- **Four notes mean an unknown System problem, probably software-related, or a disk problem. If there is an 'F' in the first line of the error code (particularly the last character), this usually means a System software problem.**
- **Eight notes may mean a memory problem.**

ELEVEN WAYS TO PREVENT PROBLEMS

1 Save often. OK, this won't prevent crashes, but there won't be so much unsaved data to lose when a crash does happen. Paranoia is *good*!

2 Back up your data regularly – not elsewhere on your hard disk, but on another disk entirely. It is extremely rare for a hard disk to 'die' completely, but it can happen, so make sure you won't lose all the work you have ever done. (You can always re-install applications, the System or Extensions from their original disks, but not your own files.)

3 If you have a Performa, you probably didn't get your software on floppy disk, so make a backup on floppies of everything that came installed on your hard drive before you do *anything* else. Make yourself an 'emergency startup disk' (see page 37 for details of what needs to be on it), or ask your local dealer for a backup System disk.

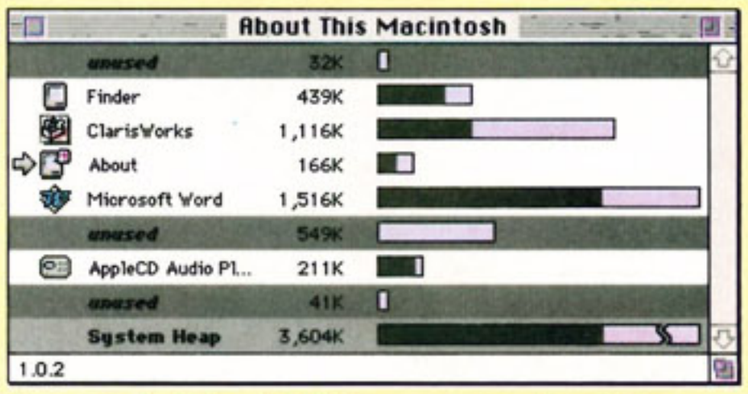
4 Rebuild the Desktop regularly – once a month at least. This helps your Mac keep track of everything and can prevent a surprisingly wide range of problems.

5 Every now and then, check your hard disk for file fragmentation and other disk problems (or potential problems). You can use the programs on your Disk Tools disk or a whole range of utilities – *Snooper, Norton Utilities, MacTools,* and many more.

6 Manage your memory intelligently. Allocate plenty of RAM to applications, and never give them less than the minimum specified. Avoid having too many open at once – after all, you almost never actually *work* in more than one at the same time.

7 Don't go mad on Extensions and Control Panels either – every one of them takes up memory, and adding more increases the risk of conflicts.

8 If you must open more than one application, first open the one you intend to keep open longest, *then* the ones you intend to open and close again. This helps avoid 'memory fragmentation' – applications need complete chunks of RAM to open in, not little bits. Think of it as a pile of building blocks – the ones you pile on top ought to be the ones you'll take off again first.



A graphic depiction of RAM fragmentation. You *think* you have over 600K free, but there's only 549K in a single block.

9 When you're working, *never* ignore 'memory is getting low' alerts. Save, quit out of all open applications, then reload them. In the right order.

10 If an application keeps crashing whenever you try a certain operation, stop doing whatever it is you're trying to do. Otherwise, begin to suspect a bug in the program – check with the software company, user groups, or on-line conferences.

11 Viruses are nowhere near as great a problem as some people fear – *if* you always use the latest version of a reliable virus killer such as *Disinfectant*. Enough said.

(2) Of course, if you're trying to start up from a floppy because you can't start up from your hard disk, this won't help. Find another emergency startup floppy disk – remember, it must have both the System file and the Finder on it. If you have an external drive with a System, try bypassing both the floppy and your internal hard disk (see how on page 36).
(3) The real problem may be that your Mac *can't* eject the troublemaking disk, probably because it is jammed. Insert an straightened paper clip into the little hole next to the disk drive and push – this operates a little lever that physically forces the disk out. If this doesn't work, you'll have to switch off, remove the lid of your Mac and try to extract the disk the hard way... (More on disk problems next month!)

Problem: flash happy

The 'happy Mac' icon flashes on and off repeatedly, or you get a flashing, empty dialogue box instead of the normal 'Welcome to Macintosh' screen.

Possible cause

(a) Similar to a flashing '?' – damaged System software, corrupted PRAM or a SCSI connection problem.
(b) The Finder won't load.

Action

(1) Try starting from an emergency floppy or disconnecting external SCSI devices, or both. Try zapping the PRAM.
(2) The root cause is likely to be a corrupted Finder or Finder Preferences. Once you've succeeded in starting up, try just deleting Finder Preferences (it's in the Preferences folder – where else?) and then restart as normal. The Preferences file will just be recreated from scratch. If this doesn't work, try reinstalling the Finder itself. No luck? Then you may have to try reinstalling the System.
(3) If you have just deleted a Finder substitute like *At Ease*, your Mac could still be trying to load that. You must switch *At Ease* off before deleting it – check the manual. You'll need to reinstall it, switch it off and *then* trash it.

Problem: getting nowhere

Your Mac can't get past the 'Welcome to Macintosh' screen. It may freeze or crash, with or without an error message, before it manages to display the Finder's Desktop or shortly afterwards. Or it may crash as soon as you try to click on something on the Desktop.

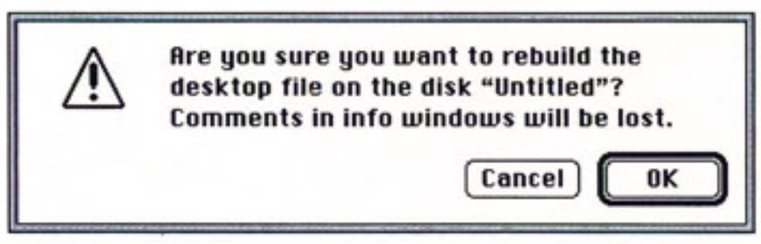
Possible cause

Possibly a corrupted Finder or Desktop, corrupted PRAM or SCSI problem. But most likely an Extensions conflict.

Action

(1) Restart without Extensions. If you reach the Desktop, the problem is a conflict between two or more System Extensions, usually because of poor programming – they may be competing for the same chunk of memory, for example. The solution is simply to get rid of the troublemaking Extension – see the 'Extensions conflict' box on page 38.
(2) The System may not be able to open the Desktop because the Desktop files are corrupted. (These store all the details of windows, icons and such like. If your icons start going funny – in particular, if they start reverting to 'generic' application or document icons – this is the first thing to check.) You simply need to rebuild the Desktop.
(3) If you get the error message 'Can't open the Finder', simply try restarting – this is a common one-off glitch and often just goes away. Otherwise you may have to reinstall the Finder, Finder Preferences, or System.
(4) Zap the PRAM.
(5) Check the hard disk using *Disk First Aid* or a similar utility.

If none of this is any help, try shouting. It helps *us*... *Alex Summersby & Stuart McHugh*



Rebuilding the Desktop can solve a multitude of ills, and there's only one drawback, as this alert tells you. Live with it.

Hard problems

What do you do if your hard disk icon just vanishes? What if you can't copy a file, or empty the Wastebasket? Next month, we look at hardware, disk and SCSI faults, plus problems with applications and functions (like emptying the Wastebasket). Coming up later in this series: font and printing problems, and data recovery solutions.

If you have a specific problem we haven't covered here, or you have a favourite troubleshooting tip, write to Mac Answers, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

Troubleshooting shareware

A problem sharewared... is a problem halved. So here's a guide to some of the great software that we have included on this month's cover disks.

Troubleshooting your Mac with commercial programs can be expensive, but there is a more cost-effective solution: shareware. OK, so there probably isn't a shareware program to solve *every* problem you'll ever have, but on this month's cover disks you'll discover some highly useful utilities that may well save you money and hair loss.

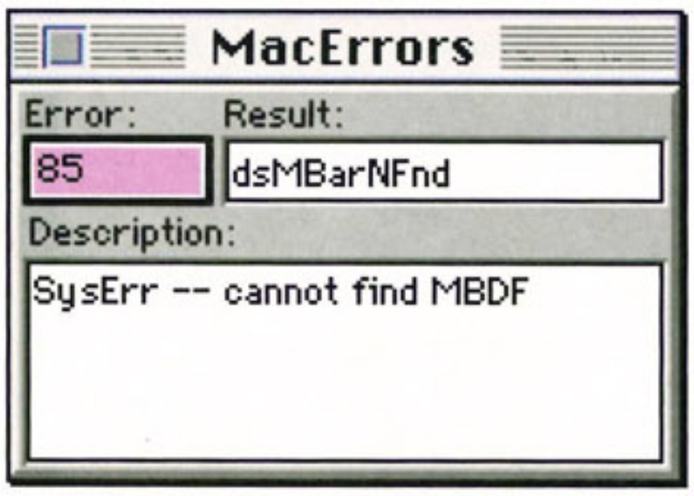
All the programs mentioned here are on both the floppy disk and CD-ROM edition (although the CD contains many extra troubleshooting programs, as well as over 200Mb of general utility software). *Derek Smith*

MacErrors

It's really annoying when your Mac crashes, so to make you feel a little better, sometimes it will give you an error message along the lines of 'Error type -31'. Erm, yes... now I fully understand what the problem is. Not!

MacErrors is a handy little program that'll tell you what these errors actually mean. Simply type in the number (remembering to include any minus signs) and press [return] or [enter]. A message comes up to tell you what that number actually means.

Sometimes the message is of little use, but occasionally it can give you a clue about what's going on – and may give you an idea of what to do to solve the error. This is the ideal sort of program to keep in the Apple menu (just open your System Folder and place it in the Apple Menu Items folder). There are three similar programs on the CD, but this is the best, which is why it's made it on to the floppy.



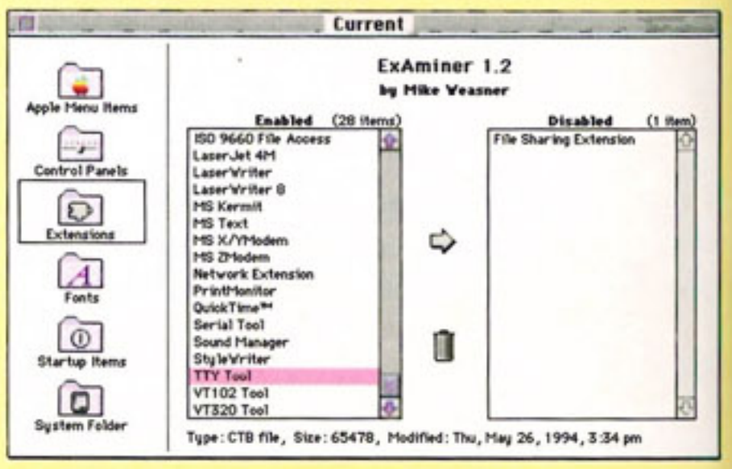
I got the error message -1873 the other day, which turned out to mean that my Mac was just feeling depressed and having a really bad time.

ExAminer 1.2

Extensions, don't you just love 'em? Unfortunately, if you love 'em too much you end up with a bulging System Folder, giggling to itself, just waiting to produce a conflict between two of the Extensions to send your Mac spinning to an inglorious death. Commercial programs like *Conflict Catcher 2* (reviewed on page 119) can help, but there's also a shareware program called *ExAminer* that might help tame those little beasties.

Equipped with this utility, you can easily turn on or off Extensions, Control Panels and anything else in your System Folder.

ExAminer also enables you to create various setups that can be stored and used at a later date. So you could create a setup that uses a minimal number of Extensions to free up memory, or a setup that excludes Extensions that clash with a particular program.



Take control of those pesky Extensions by disabling them safely with *ExAminer*. This great utility can make your Mac much more manageable.

Software FPU

If you ever find yourself stuck talking to someone you want to get rid of, then just simply change the subject to Floating Point Units and watch with glee as they fall to sleep. Although an FPU doesn't have the same attraction as a good game, chances are that sooner or later you will need one. In fact, this will most probably be at exactly the same time as you need a maths co-processor, because they are one and the same.

An FPU is a separate chip that speeds up mathematical calculations. Any program can use one, although it's only maths intensive programs, such as spreadsheets and rendering programs, that really need them. Some very unfriendly programs actually won't run at all without one, and give you an error message to tell you so. If your Mac doesn't have an FPU (*Speedometer* can tell you whether you do have one or not) and you get such a message, then this piece of clever shareware will trick the offending program into believing that you do have one, and the program will run anyway.

System Picker

This utility will enable you to have two System Folders on your hard drive and choose which one you would like to boot from. What's the point? Well, the main use for this program is that it enables you to install Systems 6 and 7 and swap between

Monitor 1.5

What goes on inside a Mac is a mystery to most people. Apart from the hum of a fan and the whirring of a disk drive, we've little idea of what's really happening. *Monitor* is a utility that reveals the arcane mysteries and gives you a better understanding of how your Mac handles things, such as running several programs at once, memory usage, and disk space.

Monitor is designed to sit in the background when other programs are running, so you may want to manoeuvre its windows around so you can see them behind the current application. Graphs slowly form to display useful information, such as which programs hog the processor power, or how much disk space is used when programs save temporary files to your hard disk without your knowledge.

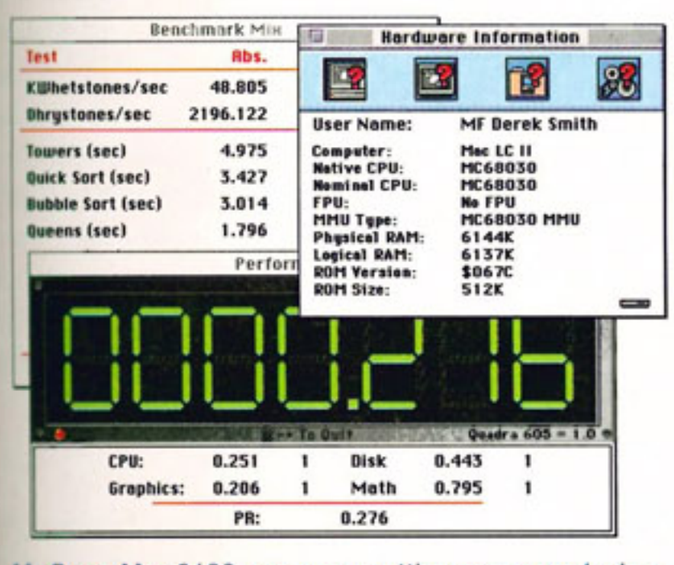
SPEEDOMETER

Forget boasting about size, why not boast about speed? Because quicker is better, right? To help you in your bragging, here's a brilliant program called *Speedometer*, which is one of the best known benchmark programs around.

It measures the speed of everything to do with your Mac, including the processor and hard disk. It'll also tell you everything you could possibly want to know about your hardware, such as the resolution of your screen.

Speedometer is also useful for comparing two different Macs, as well as testing the speed of your system when you've installed extra software or hardware.

To use it, simply open *Speedometer* and select either 'Performance Rating' or 'Benchmark Mix' from the Test menu.



My PowerMac 8100 was away getting re-sprayed when I tested *Speedometer*, so I used an LCII instead.

TechTool 1.0.4

TechTool does a couple of other really useful things. First, it can zap your PRAM (fortunately, this involves very little child abuse). The Parameter RAM is a small piece of battery-powered memory, which, therefore, does not lose its data when the Mac is switched off. Resetting the PRAM can solve a few serious problems, which you may come across if you're very unlucky.

You can zap the PRAM by holding down [command] [option] [P] and [R] at startup, but this doesn't zap the entire PRAM – something which this utility does do.

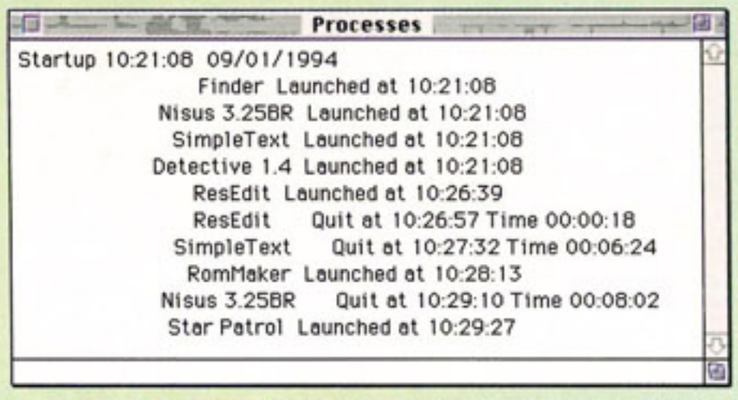
The other feature of this program is it can rebuild the desktop, a process that can solve a multitude of icon and other related problems. You can do this by holding down [command] and [option] at startup, but that only updates the existing Desktop file, and may not get rid of the problem. *TechTool* actually deletes the original file and builds a whole new one, so that if the old file was corrupted, the problems won't persist.

What do a pregnancy-testing kit and *TechTool* have in common? Well, you only need them in emergencies and they both affect the PRAM (Boom boom!).

DETECTIVE

'Who's been playing with my Mac?' said father bear (at least he did in the modern version). *Detective*'s a neat little program that runs silently in the background noting what software's been run on a Mac and saving the information to a text file. To use it, place an alias of *Detective* (not the original) in your Startup Items folder, so that it opens automatically when you switch on your Mac. The text file's kept in the folder that contains the original program, and can be opened using any word processor.

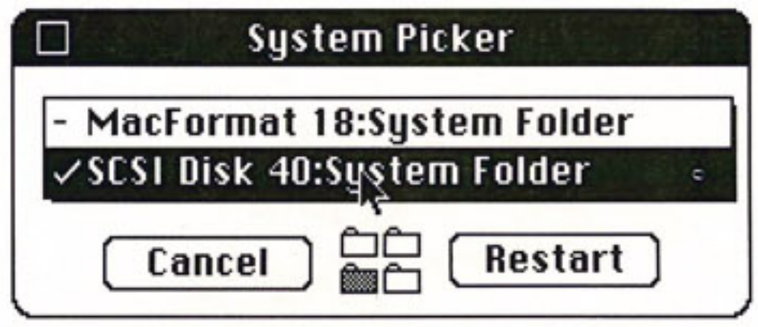
It's also handy for for keeping track of what programs you've been running. If you suffer from crashes, *Detective* may help you work out what was going on at the time.



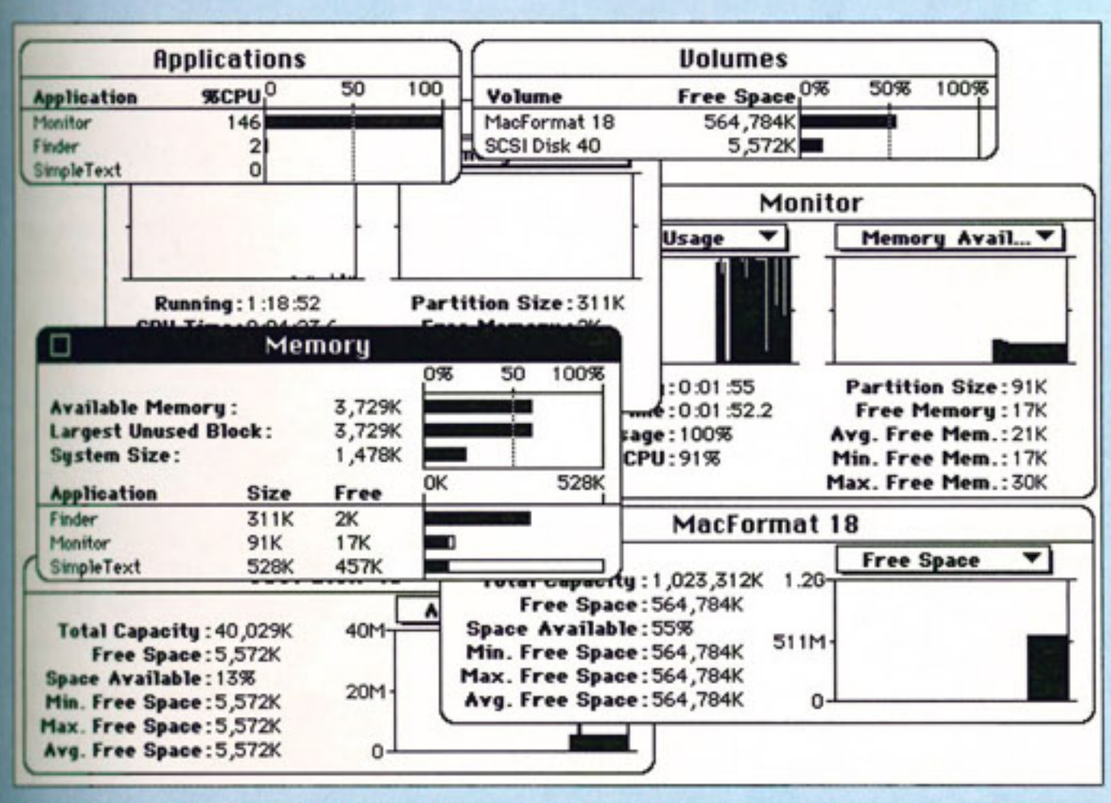
Be a snoop by using *Detective*. It'll tell you what software has been run on your machine and when it was used.

them. System 7 users may find it handy to swap back to System 6 occasionally, because it needs a fraction of the RAM to run, thus enabling you to open a program that's too large to open with System 7. It may also be useful for running very old software that's incompatible with System 7.

On the other hand, people who like System 6 may need to swap to 7 occasionally to run new software that refuses to have anything to do with System 6. Either way, it's the only safe way to have two different Systems on the same disk at the same time.



You can install as may System Folders as you like on your Mac and swap between them using *System Picker*.

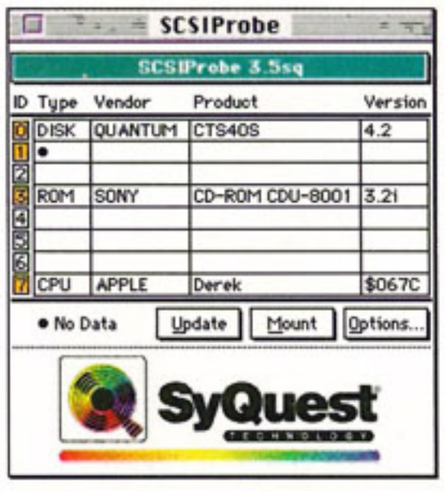


Monitor can show you a plethora of information about almost everything to do with your Mac – except how much it has devalued in the last hour.

SCSI PROBE

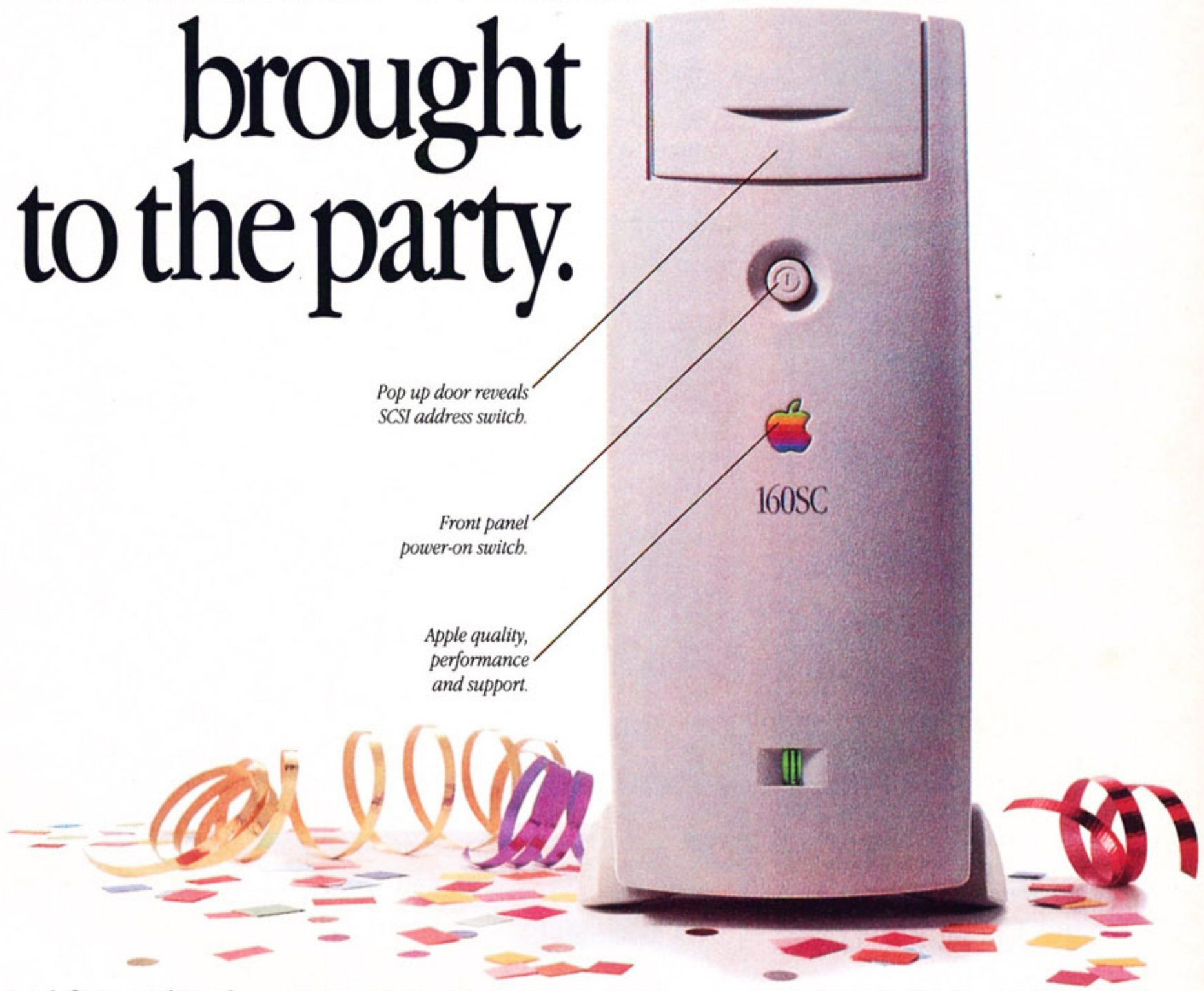
A SCSI chain is a wondrous thing. If you have any SCSI devices attached to your Mac, you'll probably find that one day they'll work fine, and the next they won't – despite the fact they haven't been touched. Several things can cause problems, such as termination and ID numbers, but if you've fiddled around without success, try *SCSI Probe*. What it does is examine your SCSI chain and tell you a bit more about what's happening.

Most usefully, *SCSI Probe* can mount devices that refuse to appear on the desktop otherwise. It's a Control Panel, so to use it, simply drag it on to your System Folder and restart.



Being shy will get you nowhere with computers; if you have a problem with your chain, then you need a good probe.

Before you consider a third party external drive, look at what we've brought to the party.



Introducing Apple® External Hard Drives. Now you can add reliable external storage to your Mac with all the quality you expect from Apple, at prices that will surprise you.

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Norton Utilities MacTools

New versions of two of the most popular troubleshooting packages compete in a fight to the finish. In the red corner – *Norton Utilities*. In the blue – *MacTools*. Richard Hill referees.

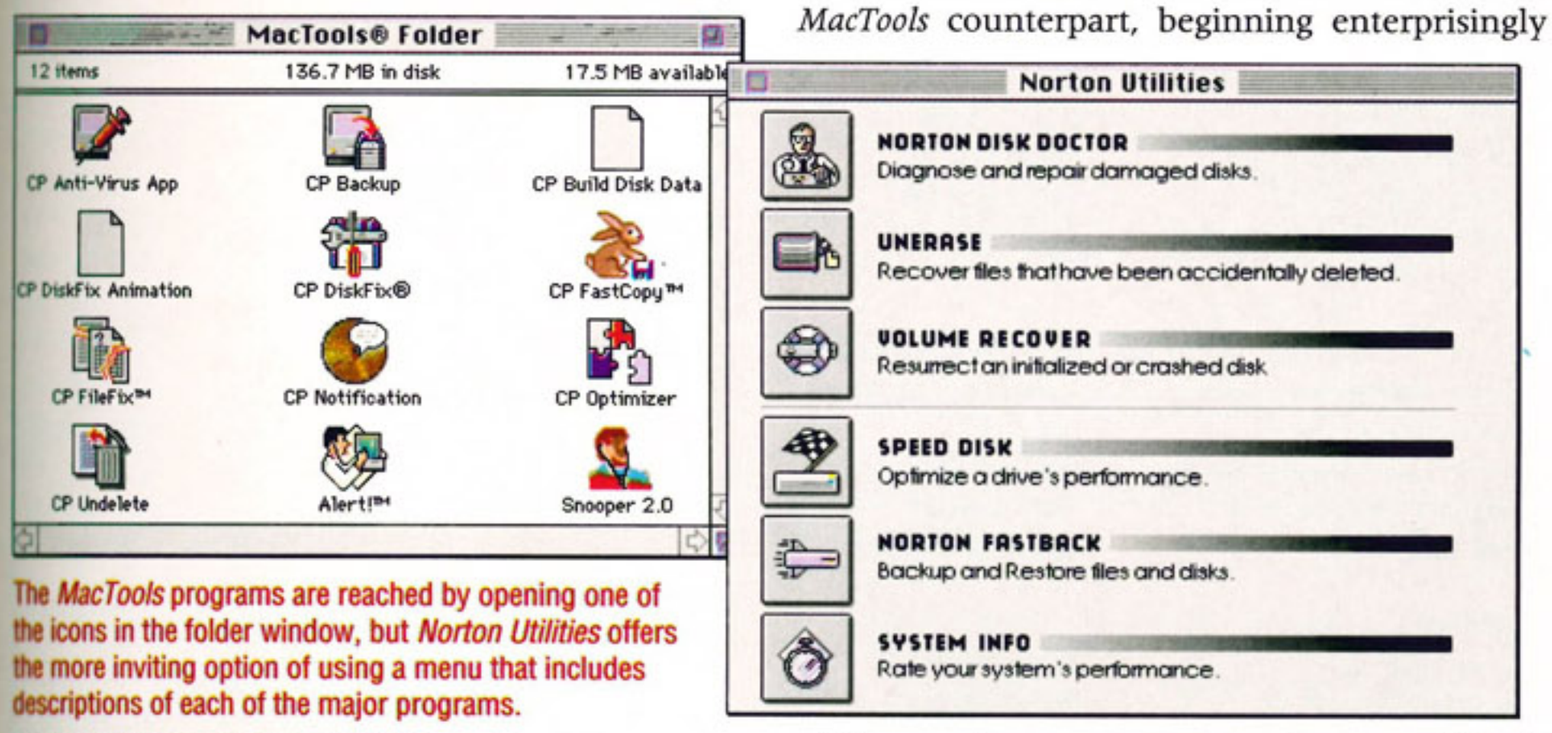
Anyone who's used a desktop computer for a reasonable length of time will be familiar with Murphy's Law: 'Anything that can go wrong, will go wrong'. Despite the constant leaps in technology, the computer continues to have the frustrating ability to pack up on you at exactly the wrong point. While Mac owners will find they experience fewer problems than owners of *some* Personal Computers we could mention, it's still worth investing in software to get you out of trouble should the worst ever happen.

Norton Utilities from Symantec and *MacTools* from Central Point Software are two packages that aim to prevent disasters occurring, or to stage a rescue if it's already happened. Central Point, by the way, is actually owned by Symantec, which dominates the fix-it utility market with this pair. There are no plans to merge the two products for the moment, but who knows what might happen in the future?

While each package comes in one box and is marketed as a single product, each is actually a collection of programs – some simple, others earth-shatteringly complicated. As smaller companies have been swallowed whole by larger ones, one-off utilities have been absorbed into these software suites. By following this practice over time, both companies have risked making their packages less cohesive, but it's felt that the value of the products' names outweighs that possibility altogether.

Sticking together

Norton tackles the potential problem of a lack of cohesiveness by including a launch program – double-clicking on this produces a graphical menu of the main options. Other programs remain hidden from view in the Utilities menu, which lists all of the available programs.



The *MacTools* programs are reached by opening one of the icons in the folder window, but *Norton Utilities* offers the more inviting option of using a menu that includes descriptions of each of the major programs.

MacTools, on the other hand, avoids the graphical interface option, preferring you to pick the program you want by double-clicking on its icon. Once you're using one program, you can often launch another by using the list under the MacTools menu. This menu doesn't always appear, though, in which case you have to quit your current program to launch the next one. In short, neither package makes moving between programs as seamless as it could be.

In the case of each package, the various components share a similar graphic sensibility: *Norton Utilities* has a clear, punchy look, while *MacTools* opts for tidy embossed windows and the popular 'PC buttons'-style approach. By using pictorial controls when it can – as in the diary-style, automatic backup program, for example – *Norton* certainly scores over its rival in terms of enticing the user to use all its parts.

While both packages are easy to install and look pretty simple to operate, with step-by-step options being offered to you as you go through a given process, it's still worth reading the manual thoroughly. These programs have the power to wreck your precious files, so it's best to know what you're doing.

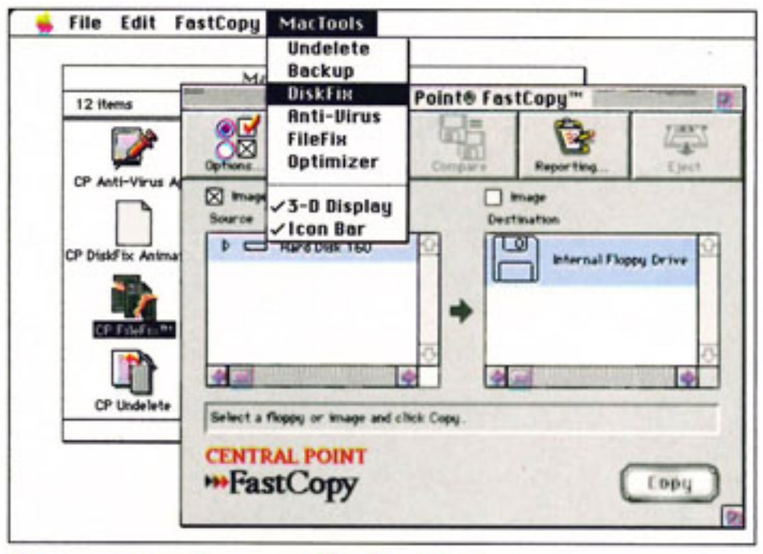
The *Norton* manual is more extensive than its *MacTools* counterpart, beginning enterprisingly with a quick, emergency reference guide. It then takes you through a list of common problems – again, useful for reference – before entering the main section, which describes the programs clearly. An appendix enables you to roll up your sleeves and get involved with disk sectors and catalogue B-trees (mind-blowingly complicated stuff!).

If you are feeling less brave, you'll prefer the *MacTools* guide. This offers a brisk, uncomplicated tour of the programs, as well as a basic glossary of terms. Both packages also provide emergency disks, which you can use if you find your hard disk refuses to work one morning.

The first step in good disaster prevention is to make regular backup copies of everything you keep on your hard drive. There are plenty of programs available that'll do this, but *Norton Utilities* and *MacTools* offer their own options. A particularly valuable feature of both packages is the way they enable you to set up a regular, automatic backup process – say, once a week. In both instances, you can choose to compress your backups. *Norton* is slightly more inviting to use, thanks to its presentation, but *MacTools* offers a wider range of options, such as the ability to protect your backup with a password.

Fix your disk

Norton also includes *FileSaver*, which automatically creates files that hold information on how and where your data is being stored; this information is used by other programs in the suite when they're trying to rescue items. *FileSaver* also checks your disks (hard or floppy) for signs of damage, so you can nip trouble in the bud. Covering the latter function on behalf of *MacTools* is *CP AutoCheck* (the CP stands for Central Point, by the way). This checks your disk while your Mac isn't busy, and suggests you launch *CP DiskFix* if it finds something wrong. Basically, *Norton* offers several levels of protection for the paranoid (who, of course, aren't necessarily



Once you're using one of the *MacTools*, you can use a menu to switch between them – most of the time. This inconsistency in the way you can move between programs afflicts both *MacTools* and *Norton Utilities*.

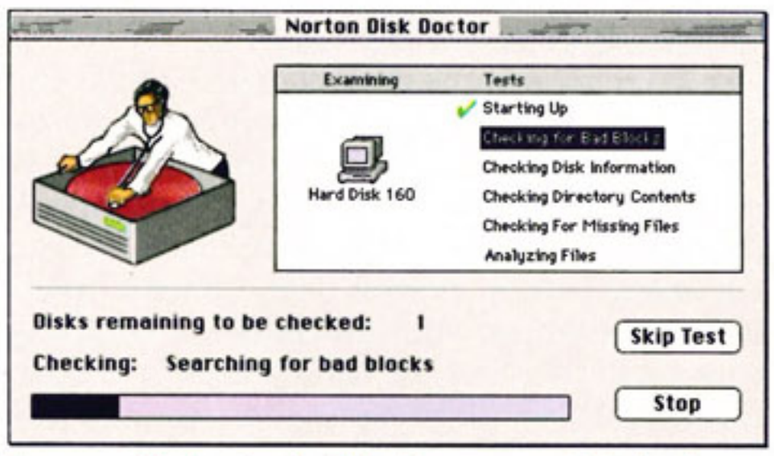
wrong!), while *MacTools'* protective measures are more sparse.

Floppy disks are gradually being used less in everyday roles, but are still used frequently for installing software or making backups. Both packages enable you to make multiple copies of floppy disks.

One area where *Norton* slips badly behind its rival is in virus protection. Possibly because of the existence of another Symantec product, *SAM* (see our interview on page 50 for more details), *Norton* has no provision for even checking for viruses, let alone destroying them. *MacTools' CP Anti-Virus*, on the other hand, can constantly monitor your hard disk and other sources for viruses, and offer to alter anything it sees as suspicious.

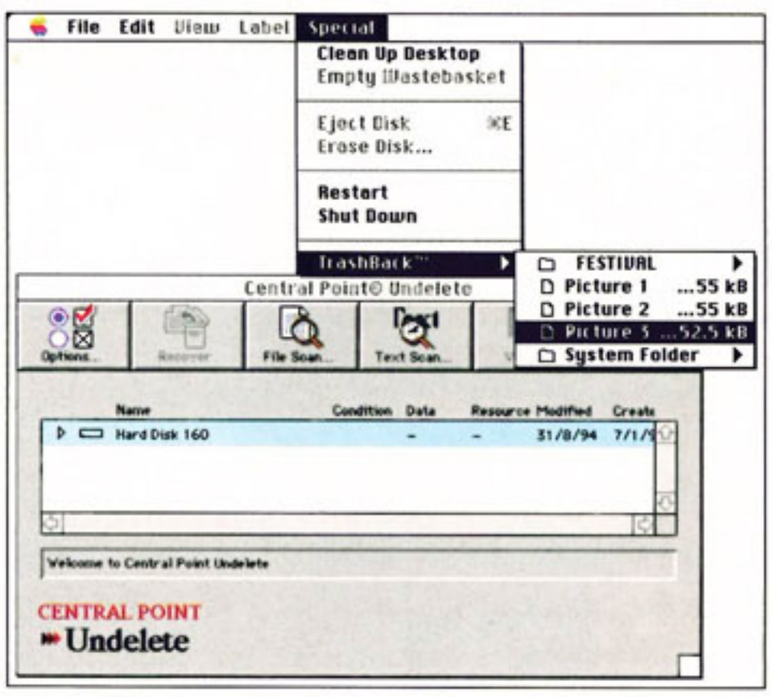
Disaster strikes!

The cornerstone of each package is a program that tests your hard disk for any damage, such as a file that's become corrupted and can't be read properly. There seems to be little to choose between *Norton Disk Doctor* and *CP DiskFix* –



The core of both sets of utilities is a program that checks your hard disk and other drives for any damage. *Norton Disk Doctor* and *CP DiskFix* assess damage on your hard disk with equal vigour – but only *DiskFix* checks for lurking viruses.

both identified the same problems on my hard disk, but *Norton* went into greater detail with its descriptions of the problems. *MacTools* gave me fewer hard facts about specific file damage, but was able to repair the faults with equal confidence. *CP FileFix* can solve simple faults in any file (including incorrect dates) and is far more likely to be able to rescue Microsoft *Word* and *Excel* documents. *Norton*, on the other hand, includes specialist tools for more serious problems: *Volume Recover* and *FileSaver* work together to restore data to a disk that's been reformatted by mistake. *FileSaver* also proves to be of great use when using *Disk Doctor*.



MacTools' TrashBack holds on to files you've put into your Wastebasket after you've emptied it – enabling you to rescue that one you've just realised was essential. You can also recover 75 different file types with *CP Undelete*.

CP Undelete in *MacTools* and *UnErase* in *Norton* are what you use when you need to recover 'trashed' files. Normally, once files have been emptied from the Wastebasket, they're gone forever, but both these programs are – in theory, at least – capable of rescuing files you've lost in this manner. Providing no other file has been allocated the space that the lost file previously occupied on your hard disk, this is a simple enough process – and under these circumstances both programs accomplish it with ease. *MacTools* also offers *CP TrashBack*, which, unusually, places itself in the Special menu of the Finder, enabling you to view recently erased files and recover them at will.

If you're feeling particularly destructive, or you want to delete a document containing sensitive information and make sure no-one has a chance of recovering it, you can use *CP Undelete*. Basically, this writes 'gobbledygook' over the file you wish to destroy. As part of *Norton*, *Wipe Info* also offers this function and, even more drastically, can wipe all the files from a disk. It also emphasises the power of *Norton*, in that it's one of several programs in this package that can run native on the Power Macintosh (this means it's optimised to take full advantage of the PowerPC chip's superior speed). See the table for more details.

Compared to *MacTools*, *Norton* features some

SPEED DISK ALERT!

Symantec announced recently that it has discovered a problem with the Speed Disk module of its *Norton Utilities 3.0* program, which has, in a few limited cases, caused data loss. It's therefore advising customers who've already bought the program not to use that particular module.

If you now buy *Norton Utilities* you'll receive version 3.1, in which the problem has been solved. Symantec will also automatically ship updates to registered users and upgrade subscribers within the next couple of weeks.

NORTON VS MACTOOLS HEAD TO HEAD

Both of the packages reviewed here contain a bewildering array of small programs. This table offers a quick reference guide to which program does what – and whether there's a program to do what you want.

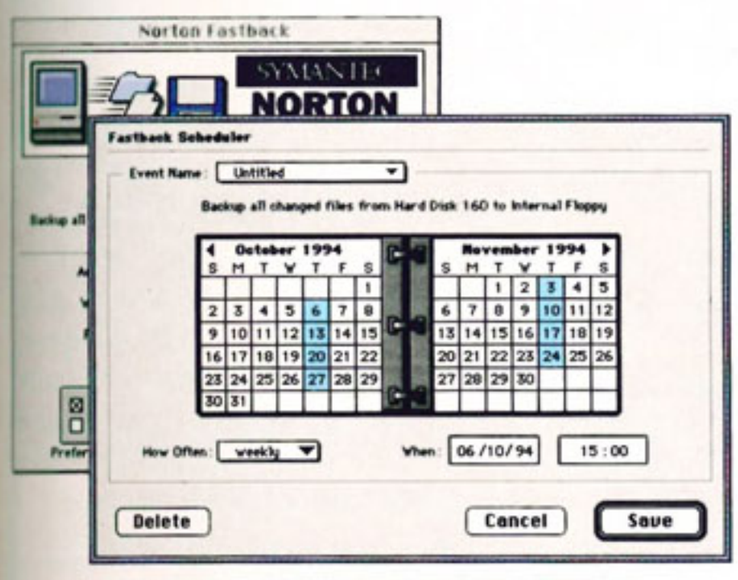
	Norton Utilities 3.0	MacTools 3.0
Requires	Any Mac with System 7.0 or better and 4Mb of RAM	A Mac Plus or later, with System 6.0.5 or later and 4Mb of RAM (unless stated otherwise below)
Emergency disk included	Yes	Yes
Drive repair and maintenance		
Check drive for damage	*Norton Disk Doctor*	*CP DiskFix*
Repair damage	*Norton Disk Doctor* and *Volume Recover*	*CP DiskFix*
Auto regular checks	No	*CP AutoCheck* (System 7.0)
Wipe drive clean	*Wipe Info* **PM**	No
Check for fragmentation	*Speed Disk* **PM**	*CP Optimizer*
Repair fragmentation	*Speed Disk* **PM**	*CP Optimizer*
Show graphic of drive access	*DiskLight*	*CP DriveLight*
File repair and recovery		
Check individual files for damage	No – checks entire drive	*CP FileFix*
Repair damage	*Norton Disk Doctor*	*CP FileFix*
Recover deleted files	*UnErase*	*CP TrashBack* (System 7) and *CP Undelete*
Throw away file permanently	*Wipe Info* **PM**	*CP Undelete*
Search for individual file	*Fast Find* **PM**	No
Edit code of file	*Norton Disk Editor*	No
Back-up and copying		
Make back-up	*Norton Fastback*	*CP Backup*
Auto regular back-up	*Norton Fastback*	*CP Backup*
Compress back-up	*Norton Fastback*	*CP Backup*
Set password	No	*CP Backup*
Encrypt file	No	*CP Backup*
Copy floppy disk	*Floppier*	*CP FastCopy*
Virus checking		
Check for viruses	No	*CP Anti-Virus*
Destroy viruses	No	*CP Anti-Virus*
System information		
Test performance	*System Info* **PM**	*Snooper* (System 6.0.3, System 6.0.7 recommended, 2Mb of RAM)
Test for program conflicts	No	*Alert!* (System 6.0.3, 1Mb of RAM or System 7.0, 2Mb of RAM for networks)

Key: **PM** means this program can be installed as a PowerMac native version.

overwhelmingly powerful tools for file recovery, but you need to make sure you know what you're doing.

Basic maintenance

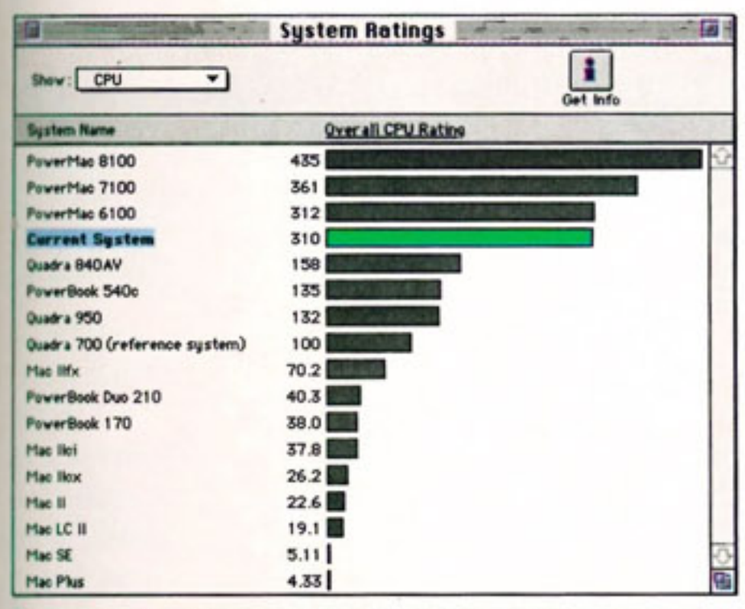
Apart from using programs that look out for problems arising while you work, you can also use programs that will keep your disk tidy, making difficulties less likely. Fragmentation is a constant problem. When you bring a new file on to your hard disk, your Mac looks for a clear space large enough to store the whole file. If one can't be found, the file has to be stored in several different locations. Over time, this creates lots of dissipated files, which can mean trouble. Both packages offer programs that can show you how fragmented your hard disk is, and sort out the mess – this also speeds up your



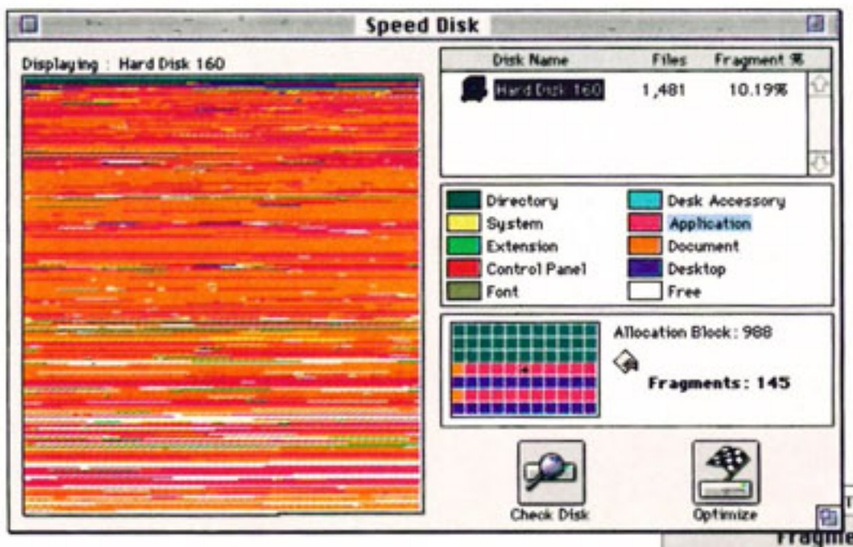
With the help of the well-designed graphics of *Norton Fastback*, setting up a regular automatic backup is simple.

hard disk. *Speed Disk* is part of *Norton Utilities*, while *CP Optimizer* nestles within *MacTools*. *Optimizer*'s display is less detailed than its rival's, but, perversely, it gives you a clearer idea of how bad the fragmentation is.

There are also programs that enable you to assess the performance of your System – the computer equivalent of a rev counter. Symantec's *System Info* runs a barrage of tests on your Mac's processor, monitor and hard disk, and displays a bar graph that rates your Mac against others in a range. It also shows how well it should be running. Meanwhile, Central Point has bought up *Snooper*, which is now bundled with *MacTools*, but remains entirely separate. *Snooper* really goes to town, assessing your processor or presenting you with a bank of less



Norton's System Info assesses the performance of your Mac in a range of areas, including processor speed. It then compares these results to the performance of a wide selection of past and present Macs.

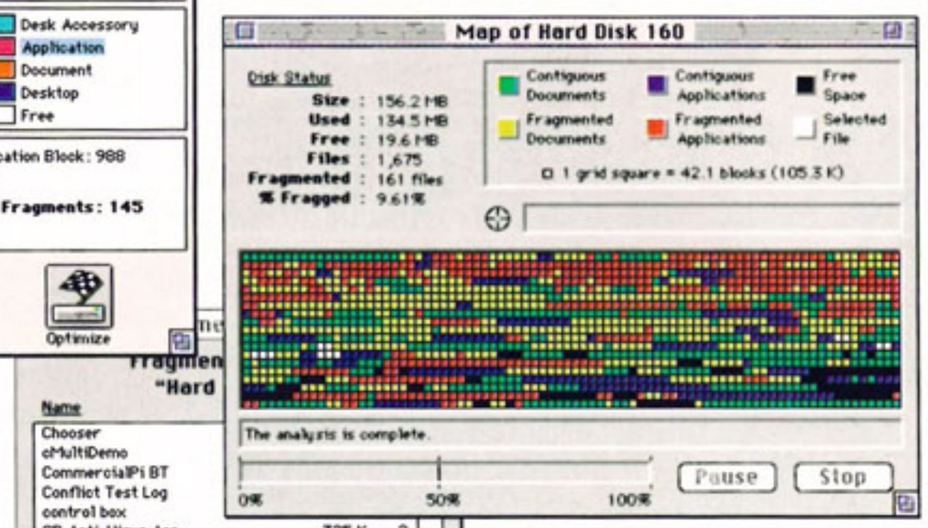


sophisticated tests for video and audio, which require you to use your own senses to assess your Mac. For example, if a screen of tightly packed straight lines is distorted, your monitor needs adjusting – but *Snooper* can't decide this for itself.

A companion to *Snooper* is *Alert!*. This tests your applications, as well as things like Control Panels and Extensions, to see if anything is clashing and causing problems – it will pick up whether you have two screensavers competing with each other, for instance. You can easily spot any such problems, because when you boot up your Mac, the icon of the software that's causing the trouble will be crossed out.

While a powerful point in *MacTools'* favour is its anti-virus system, *Norton's* unique assets include two general utilities for users at opposite ends of the experience scale. *Fast Find* closely resembles a program that Apple used to include with its operating System. A friendly dialogue box enables you to search for a file on your hard disk whose name contains a particular word, or part of a word. *Fast Find* then shows a list of all the file names that include that text, and details of where you can find them. Apple's current method of bringing each folder on to the screen one at a time is more laborious, and this small part of *Norton* is very welcome.

At the other end of the scale is *Norton Disk Editor*. This enables the technically-minded to view a file's code



Uurgh! The screenshot on the top left shows what happens to your hard disk after you've used it for a while, according to *Speed Disk* from *Norton Utilities*. Unfortunately, the image is so chaotic, it's difficult to make sense of it. The *MacTools* equivalent is *CP Optimizer*, which gives you a much clearer picture of what a dodgy state your disk's in.

and alter it bit by bit – not for the timid, but very useful in the right hands. It really is the last word in rescuing a vital file you've lost.

As you've seen, both these packages have a great deal to offer, and are so well-produced that they differ in emphasis and direction rather than quality. Despite *Norton's* in-depth capabilities, which are essential for the experienced daily user, *MacTools* is a better bet for more timid users who want a general problem-solving package with all the basics.

The distinction between these two satisfying packages is that *MacTools* offers a wider range of functions, whereas the ones found in *Norton* are dealt with in more depth. If you were to size up the range of options offered by both, *MacTools* would be measured in acres, while *Norton Utilities* would be measured in fathoms. Having said that, however, both packages earned scores in the 90s and, as a result, both packages have been awarded the MACFORMAT Classic Award. *Richard Hill*

MACFORMAT Classic

NORTON UTILITIES 3.0

Price: £128
Out: now
Requires: any Mac with System 7.0 or later and at least 4Mb of RAM.
For more details contact Symantec on 0628 592222.

Features 95%
The most powerful package you're going to find – perhaps too powerful for some.

Ease of use 82%
The basic utilities are a pleasure to use, but the serious tools require more expertise.

Documentation 80%
Very extensive, with tons of info for the technically-minded.

Value for money 90%
What price is too high for saving vital files?

MACFORMAT RATING 90%

MACTOOLS 3.0

Price: £116.33.
Out: now.
Requires: a Mac Plus or better, with System 6.0.5 or later, and at least 4Mb of RAM (but see the table for slight variations in individual programs).
For more details contact Principal on 0706 832000.

Features 95%
Not as intense as *Norton*, but the virus checker and *Alert!* are clear assets.

Ease of use 84%
Norton is more attractive, but *MacTools* is safer if you're unsure of what you're doing.

Documentation 84%
Very clear and easy to read.

Value for money 91%
Looks good to me.

MACFORMAT RATING 91%

So much information, it would take several lifetimes to read it...

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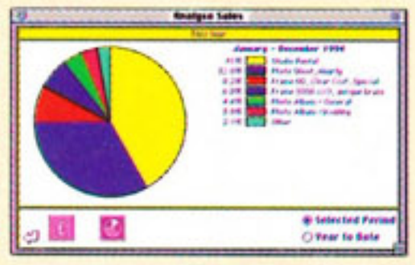

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BOMB BUSTING Books

Need a trusty problem solving bible for your Macintosh? Tim Norris has a look for one...

SAD MACS, BOMBS AND OTHER DISASTERS (AND WHAT TO DO ABOUT THEM)

Ted Landau

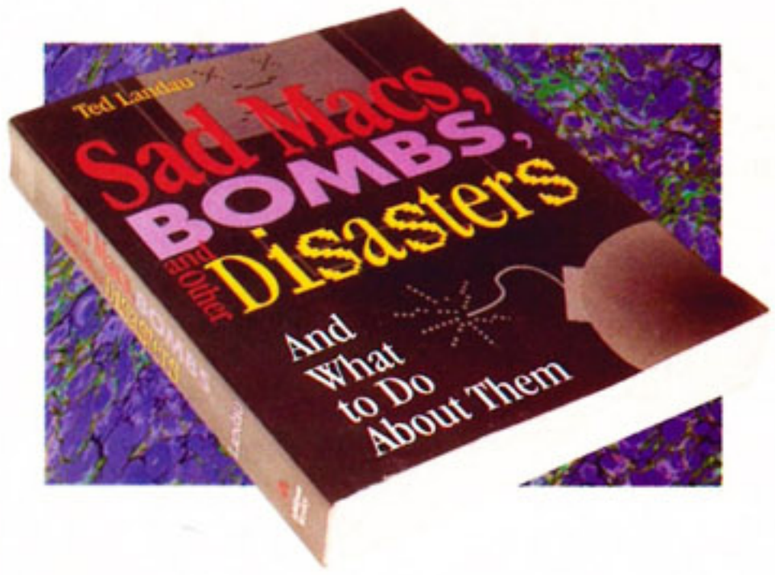
For my money, this is the best of the bunch. If you want a further recommendation, though, then you might like to know that the 'review' copy I had is actually our Editor's own copy from his very own private bookshelf.

The layout's very modern, it's very easy to read, and it goes into plenty of easy-to-understand detail about what's going on inside your Mac. I do like to know why things have gone wrong, and what I can do to put them right, and *Sad Macs* has just about the right balance.

I had a bit of a major Macintosh catastrophe recently. After a series of system crashes, I tried to restart and was greeted by (horror of horrors) the dreaded black screen and Sad Mac icon. I hadn't a clue what to do and (since it was one o'clock in the morning) there was no one I could call. I checked the manual, which told me there was something wrong with my Mac (thanks). I needed info and I couldn't get any until the shops opened the next day.

So one of the principal tests I used in reviewing each of these books was to see how they would have helped me in that situation. Each of the books would have helped me get things going again, but *Sad Macs* was by far the best at explaining exactly what might have gone wrong, and what all the mysterious sounds and symbols meant.

It's got everything you'll ever want to know about your Mac and what might go wrong, and it'll be a useful thing to have around – even when things are working fine. I'm going out to buy my own copy right now.



■ **Price: £20.95.**
ISBN: 0-20162-207-6.
Publisher: Addison Wesley.

MACFORMAT RATING 88%

HELP! THE MAC ANSWER BOOK

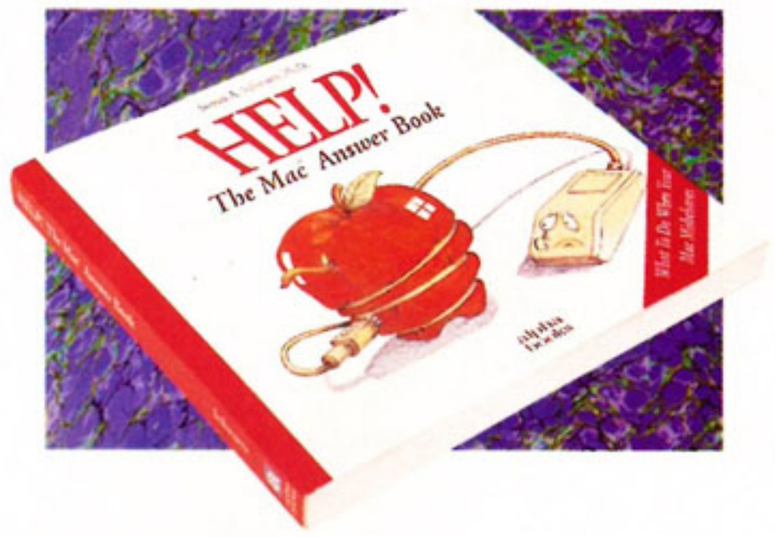
Steven A Schwartz, PhD

This is bound to be a good book – the person who wrote it is an academic. At least, I assume that's what I'm supposed to think when I see the letters 'PhD' after an author's name.

However, whether System 7.1 users will give it an enthusiastic reception is rather doubtful. You see, *Help!* doesn't cover the most recent System upgrades, although it does give a good comprehensive coverage of System 6.

As with the other three books, this has pretty much everything about Mac errors that you'd ever want to know. Whatever might go wrong with your Mac in the years to come, you'll find some suggestions here that may help. Its style is approachable enough and it's very easy to read. It also goes into quite a helpful amount of detail about most of the problems. It's not laid out in a particularly friendly way, though, and it was the worst of the four books at explaining my Sad Mac problem (see *Sad Macs* above). That's not to say it wasn't of any use though – far from it – just that it wasn't as thorough as the others.

As you can see from these reviews, there are plenty of Mac troubleshooting books and this one, unfortunately, doesn't really stand out. It's not a bad book, but it's competing in a crowded marketplace against tough opposition.



■ **Price: £17.50.**
ISBN: 1-56761-033-1.
Publisher: Alpha Books.

MACFORMAT RATING 75%

MACINTOSH FIRST AID KIT

Erica Kerwien

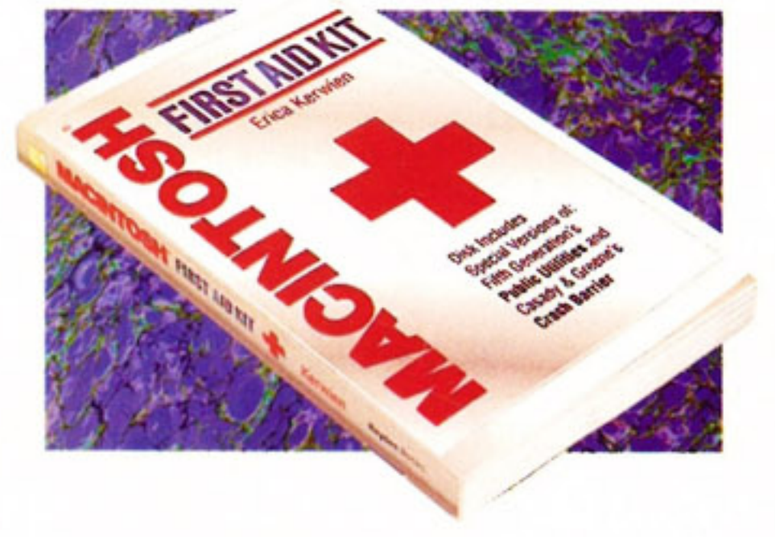
According to the 'about the author' blurb, Ms Erica Kerwien has been around Macs for a very long time. So, obviously, she knows what's what when it comes to Macintosh problems, and I got the distinct impression from *Macintosh First Aid Kit* that there is nothing she hasn't come across before, and no problem she can't solve. Whatever goes wrong with my Mac, Erica can sort it out for me.

That much is true of all the books that I reviewed. Whether my fonts were looking strange or my Mac refused to start up, whether I wanted to upgrade my RAM or zap my PRAM, it's all there. The difference between the books is in the way the information is presented and, indeed, how much of it there is.

Macintosh First Aid Kit is terse. It's divided neatly into sections: printing, fonts, sounds, startup problems, etc, and within each section there's a list of problems accompanied by a list of possible solutions. The solutions are very

ON THE DISK

Public Utilities demo
Crash Barrier
Disk First Aid
Extensions Manager
SCSI Probe
System Picker



much of the 'do this, do that, then do the third thing and everything should work OK', variety. But if you want to know exactly what's gone wrong, or for what reason you should do those things, then you're going to be disappointed.

There's a strange mix of attitudes here. One minute it says 'this is what you do and you needn't trouble your pretty head about why', and the next, it's troubling that same pretty head with jargon and half explanations that assume you know quite a bit about computing.

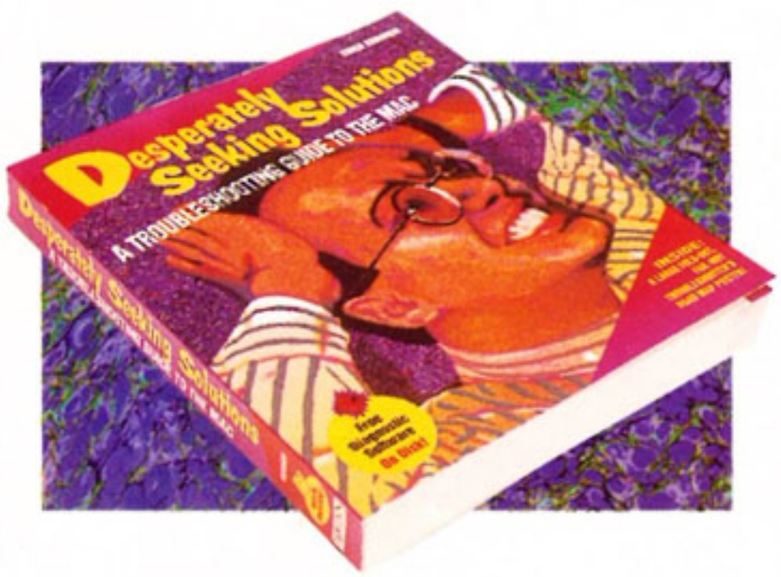
It'll guide you through any Mac hassle you could encounter, but it'll never make it to 'constant companion' status. Sure, it comes with a disk, but the contents won't set the world alight – you can get most of the software from bulletin boards anyway.

■ Price: £18.82.
ISBN: 1-56830-063-8.
Publisher: Hayden Books.
For more information contact Paramount Publishing International on 0442 881900.

MACFORMAT RATING 78%

DESPERATELY SEEKING SOLUTIONS
Erica Kerwien

I was confused when I began to read *Desperately Seeking*, because it seemed I had already read something very similar. Of course, I was reviewing a small pile of similar books, so there was bound to be a certain feeling of déjà vu. But I was sure I was reading whole sentences for a second time. Then it dawned on me: *Desperately Seeking Solutions* is written by Erica Kerwien and I'd just been looking at *Macintosh First Aid Kit* by the same author. And the same publisher. So I took another look. Sure enough, they're almost exactly the same book – except this one's better.



This is the book that *Macintosh First Aid Kit* should have been. The information is organised in much the same way, but it's far more attractively laid out, and goes into significantly greater detail than its sibling. *Desperately Seeking Solutions* deals with the Sad Mac problem quite well (see the *Sad Macs* review above), and I would have found it moderately reassuring if I'd had it on that lonely Sad Mac night.

Despite the similarity between the two books, there's less on the disk that accompanies this one than on that supplied with *Macintosh First Aid Kit* – but that's by the by, really.

As you've probably concluded by now, there's not much difference between the four books reviewed as far as their content is concerned. They each cover pretty much the same ground and in the end that's all you need. But I liked this one more than *Macintosh First Aid Kit* and *Help!*, probably because of its layout and thoroughness. *Desperately Seeking Solutions* ranks a close second behind *Sad Macs*.

ON THE DISK

Disinfectant 2.9
SCSI Probe
Tattle Tale
System Errors DA
System Picker

■ Price: £ 27.98.
ISBN: 1-56830-009-3.
Publisher: Hayden Books.
For more details contact Paramount Publishing International on 0442 881900.

MACFORMAT RATING 84%

SAM: portrait of a virus killer

One area of troubleshooting where a lot of confusion arises is viruses. What exactly are they? How do you get rid of them? And how big a risk is there anyway?

A virus is simply a program – a piece of code written by a human being – designed specifically to cause destruction on your Mac, like wiping files. The solution is a virus killer like *Symantec Antivirus for Macintosh* (*SAM*).

Gideon Luke, International Product Manager for the Peter Norton Group (part of the Symantec company), observes: 'There is a high level of risk, and it's always at the most unexpected time. People say, "I've never seen a virus." Some viruses you won't see, but there are some highly visible ones, like Pink Bunny, which has got a pink bunny bouncing across the screen. It's nothing more than nuisance value, but there are many other destructive viruses, which eradicate all Microsoft applications, or hypertext applications.

'There are just over 55 [common] viruses, but those 55 account for over 70% of the damage. The Macintosh is a more infected environment than the PC right now, even though there are more PCs.'

A virus can get on to your Mac easily, as Luke explains. 'The most common way that viruses are passed is by floppy disk, and obviously there's a danger if people have modems, that they could inadvertently download files that are infected with a virus. We've launched a campaign in the States to help bulletin board [operators], so that if they make sure their whole system's clear, we'll give them a copy of our anti-virus program.'

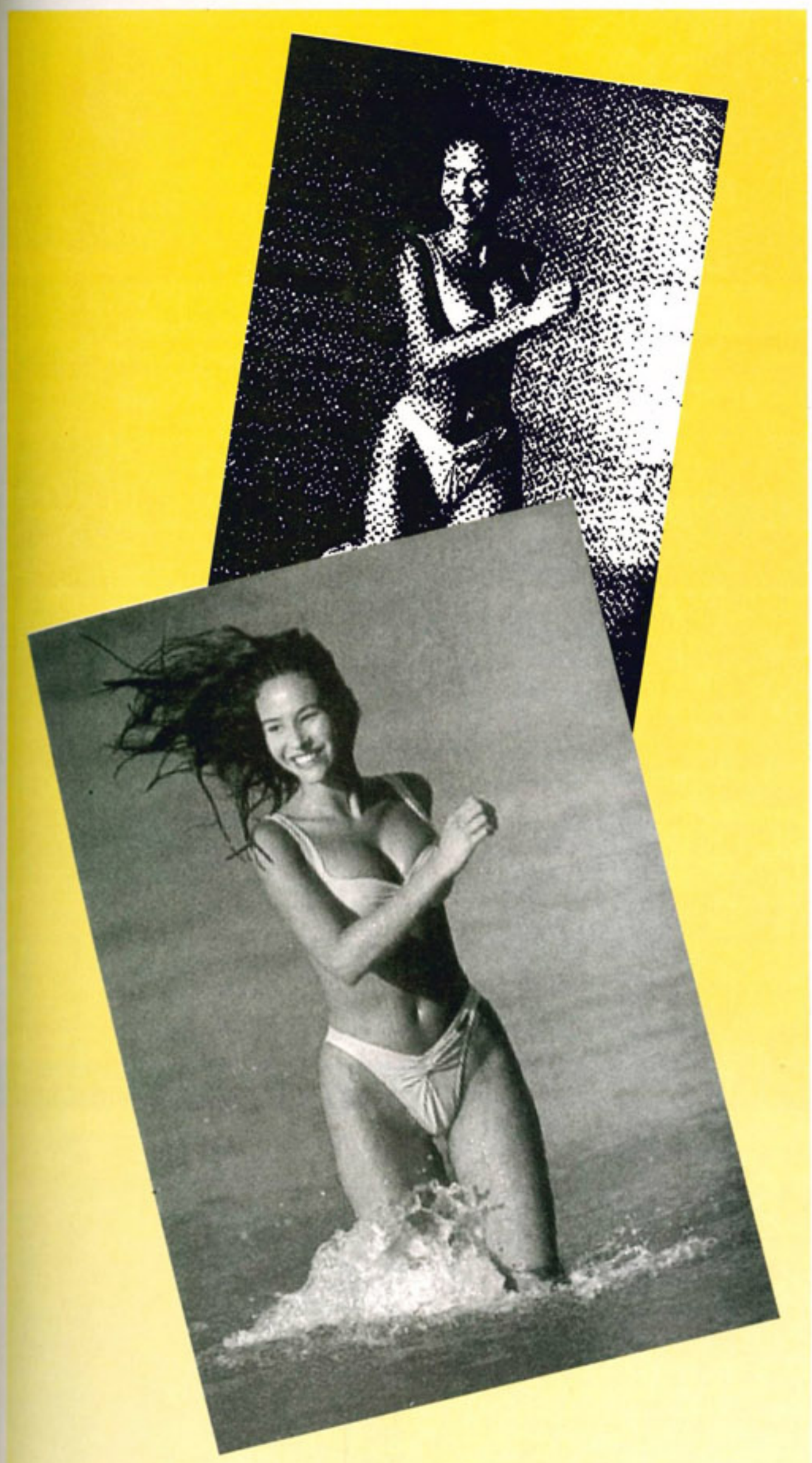
Gideon Luke, International Product Manager for the Peter Norton Group

Some viruses you won't see, but there are some highly visible ones, like Pink Bunny

The best method of protecting your Mac is to ensure that you detect a virus as soon as it appears. You can do this with the freeware program *Disinfectant* (a regular on the MACFORMAT cover disk), which is regularly updated in order to detect new viruses. Companies with networks and extremely valuable data may prefer the more sophisticated protection that commercial programs like *SAM* offer.

SAM users can take out a postal subscription to receive regular disk updates that add details of new viruses to the program's data files. If you're on-line in the US, the latest version of *SAM* can even call a bulletin board to download details of any new viruses to update itself – all without you lifting a finger. A UK bulletin board will be coming on-line soon. Luke comments, 'We've developed the software, which we're rolling out across Europe in the next few months.' And as Luke enthuses, if you have a modem, getting up-to-date protection 'can be totally automatic.'

SAM 4.0 is out now and costs £175 (which includes a year's update subscription), or £93 for the program alone. It runs on any Mac with System 6.0.5 or later and at least 1Mb of RAM (System 7 needs 2Mb). For more details contact Symantec on 0628 592222.



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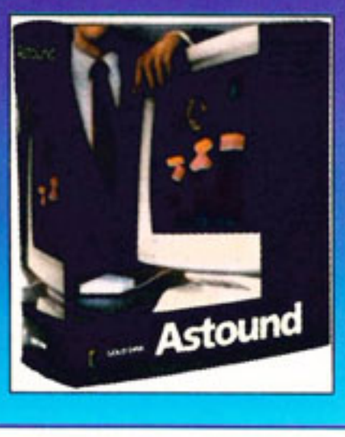

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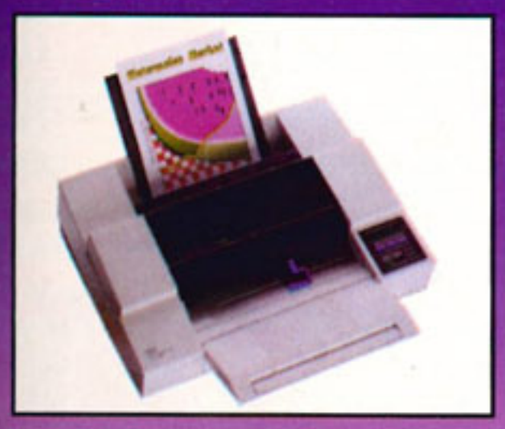

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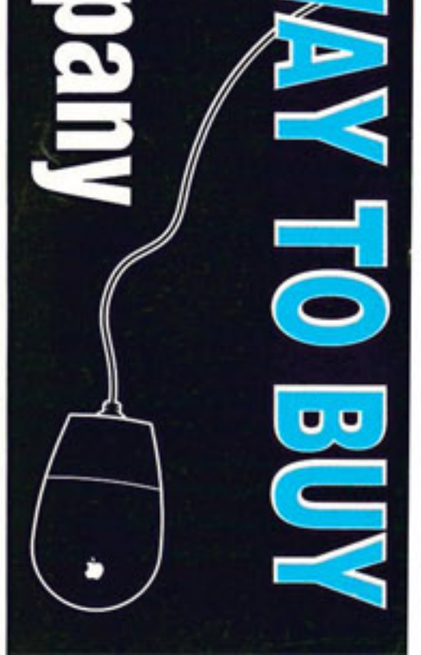

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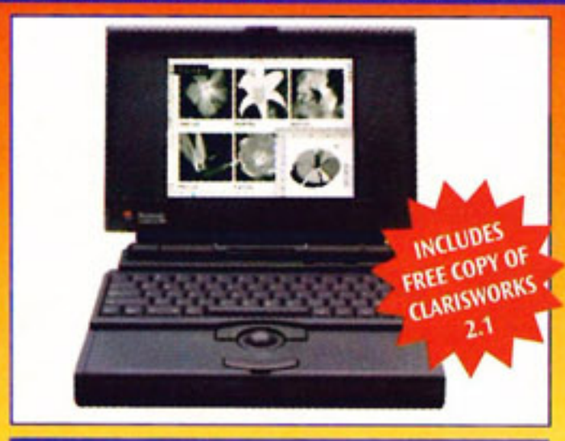

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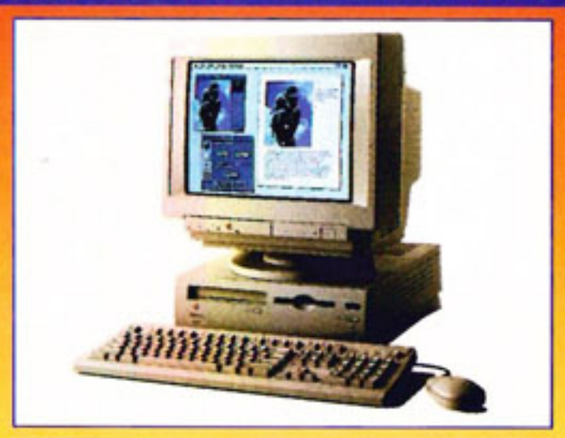

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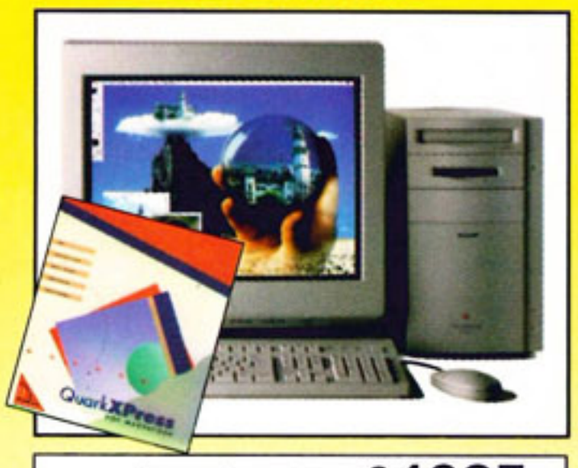

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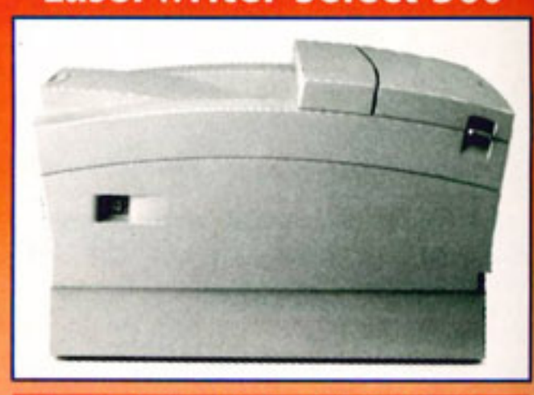

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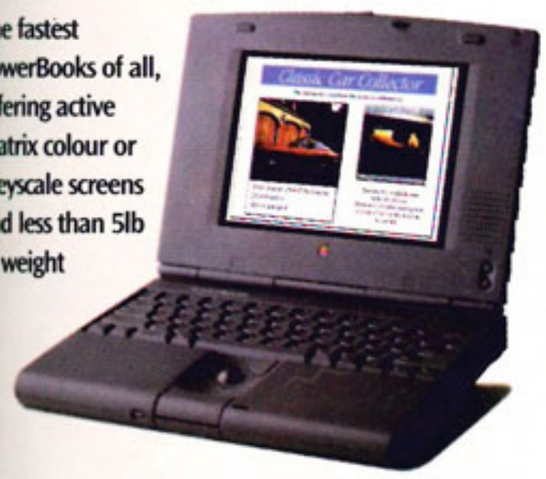

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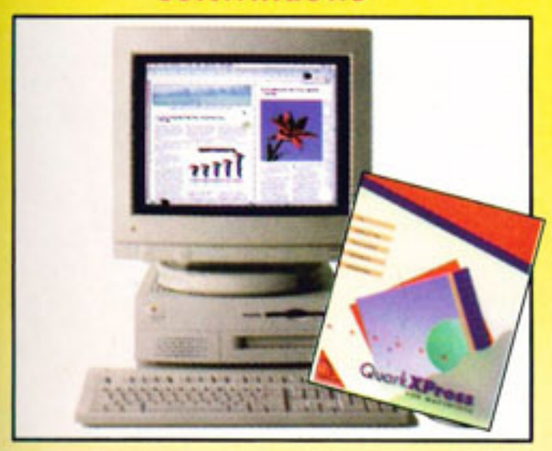

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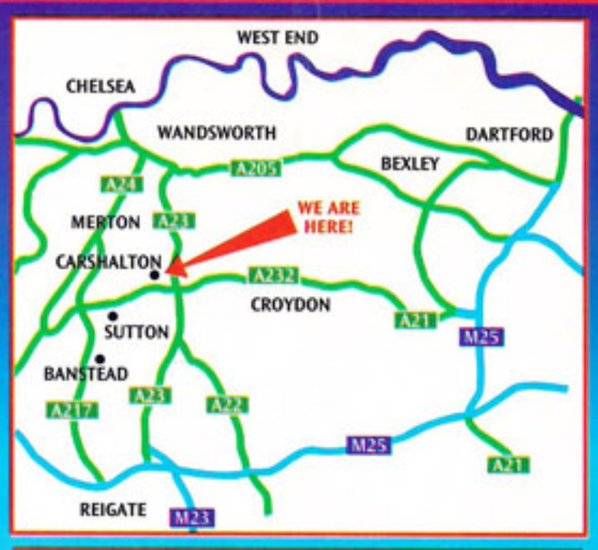

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Getting your CIX

FREE! Save yourself £25 and get on-line with this exclusive MACFORMAT offer of free CIX registration

With modem prices dipping as sales go through the roof there's never been a better time to get on-line. But what about the cost of all those phone calls? Andy Storer shows you how to get the most out of CIX and keep your costs to a minimum...

Compulink Information eXchange, or CIX, is arguably the best bulletin board in the UK. Providing an e-Mail forum for all computer users, CIX is a gateway to the worldwide Internet and a handy place to find all the latest shareware. Based in London, and consisting of a network of hard disks and optical devices offering over 130 gigabytes of storage, CIX is available to as many as 100 users at a time, and at a range of different modem speeds.

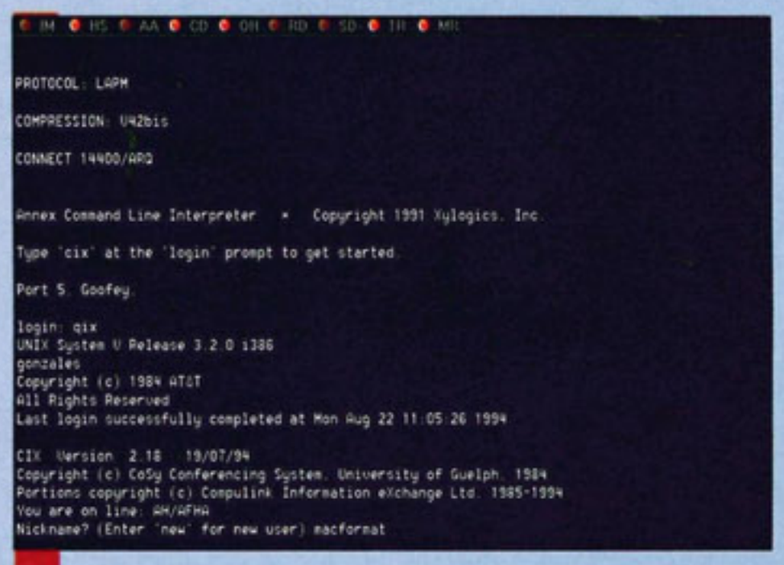
Strictly speaking, though, CIX is a conferencing system, in that it's organised around a whole host of diverse conferences, which are further divided into topics. Each topic is best thought of as an on-line lounge, a thread of discussions, in which callers can upload and download messages and files. Each topic is managed by a moderator, who oversees its contents and makes sure the files that have been uploaded by users don't contravene copyright or obscenity laws.

Once you've joined a conference and entered a topic, it's easy to read the messages of other users – all you do is simply enter 'Read' at the command line. You can also add or respond to messages by inputting 'Say' and 'Reply'. CIX's UNIX-based front-end, although a little unfriendly towards Mac users who've been spoilt by Apple's point-and-click system, is relatively straightforward and prompts you with on-line help if you run into trouble.

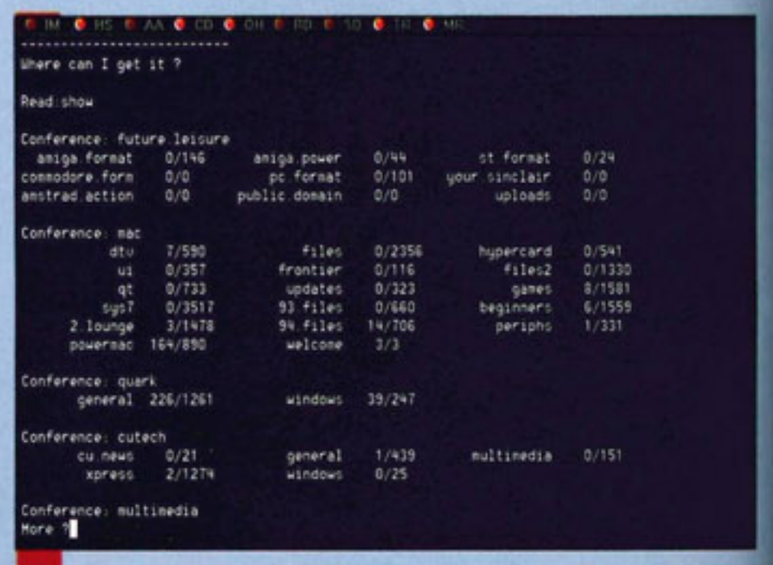
Also available is an e-Mail system. This will enable you to send electronic mail to any user with an e-Mail address anywhere in the world – you can also receive mail in the same way. This personal mail area also acts as a storage facility for any other files you may wish to send or receive. And considering you automatically

CIX START YOUR MAC

When you log-on to CIX for the first time, its UNIX-based interface may seem a bit unfriendly compared with the Mac's. There's no clicking on icons to get things done – you have to type in commands, such as 'join' to join a conference or 'read' to read your mail. But at least they are all fairly straightforward – and if you suffer a sudden loss of memory or panic attack, you can just type a question mark and hit [return] for a list of commands. It's not so hard after that – here's a quick guide to your first few steps through CIX...



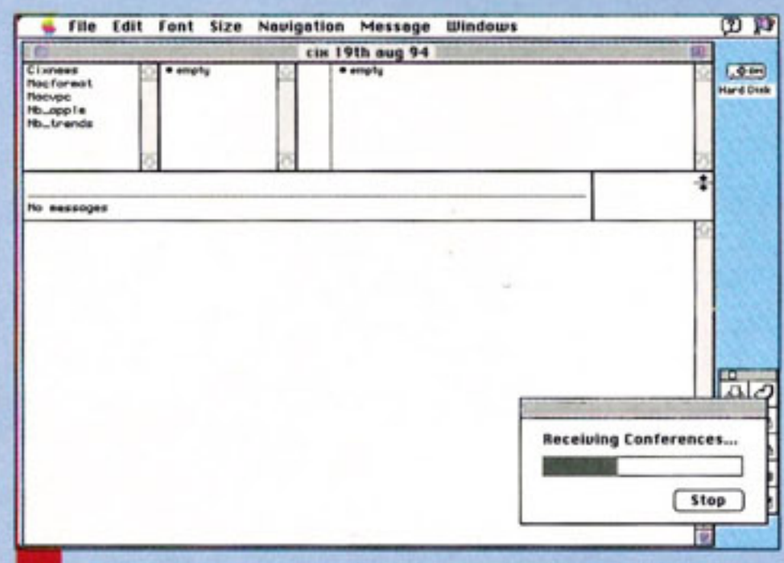
1 While CIX may not offer a recognisably friendly front-end, the UNIX-based command line does, at least, mean your input can be handled quickly. Here we're logging-on to Gonzales – one of CIX's many available modem ports.



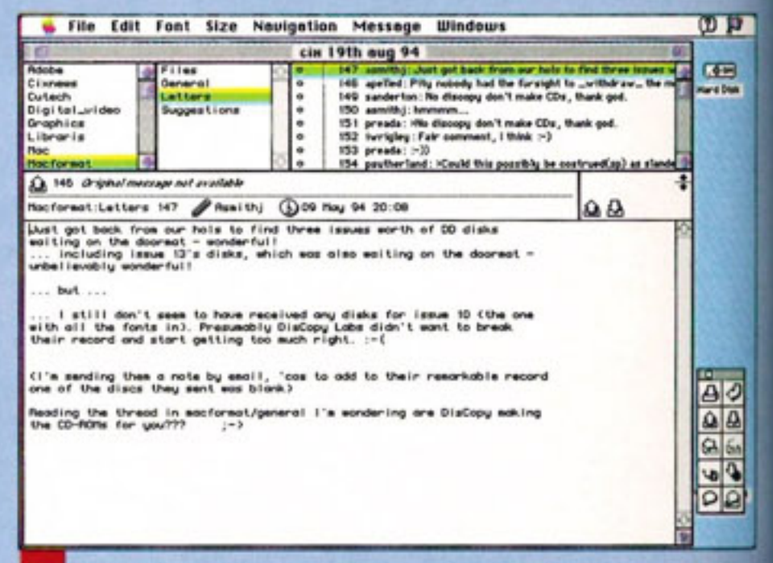
2 Entering 'Show' at the command line displays a list of all the conferences of which you're a member and the topics they contain. The numbers alongside the topics indicate how many unread messages you have.

FLAGGING DOWN A MESSAGE

But a much better – and cheaper – way of seeing which conference topics contain new messages is to wait for the prompt and then enter 'File Read All'. This rounds up all those unread messages and holds them in a temporary area, known as a Scratchpad file. If you now type 'Down' at the prompt, a list of messages and their contents will be downloaded on to your hard disk in the form of a text file. As you can see from screenshot 4 above, there's over 1 megabyte of unread messages here – time to load up *Semaphore 2*, methinks.



1 Once you've opened *Semaphore*, you can set it to receive the Scratchpad you've just downloaded and give it a date-stamped name. From now on you can add any subsequent Scratchpads to build a comprehensive update of all your conference topic message threads.



2 Once you've scrolled through the conference areas in the left column, and the topics contained within those conference areas in the middle column, it's just a question of highlighting the actual message you want to view in the right column. The full message appears in the central display area.

HAILING FREQUENCY OPEN!

While CIX's conferences are too many and too diverse to list here – covering everything from atheism to zoology – many should prove interesting to anyone with a Mac. For starters, MACFORMAT has its own conference area where you can e-Mail the editor and publisher directly to let them know what a wonderfully spiffing mag MACFORMAT is. Or if you have any Mac related info or just want to air your views, you can send a letter to MACFORMAT's AppleTalk section via CIX.

There's also a separate massive Mac conference that contains literally hundreds of shareware and freeware files, as well as topics on all Mac-related subjects. Here you can get answers to your queries and problems, as well as debate current issues and catch up on gossip from developers and journalists. Moreover, many Mac software publishers have their own conference forums, so you can address techie questions directly to the program's creators, and even receive upgrades for download. Apple can also be e-Mailed via the Internet.

For many people, though, simply being able to quickly get in touch with friends and colleagues via e-Mail will be the main reason for going on-line and, since CIX is connected to the Internet, your personal network of contacts can circle the globe.

receive unlimited on-line storage, it's never likely to fail to meet your needs. With a gateway to the Internet, where you can browse the international news-groups, and even a fax gateway, where you can upload documents for subsequent faxing, CIX provides a comprehensive on-line service. Indeed, many people don't bother to look any further – a fact substantiated by CIX's 14,500 members.

But, while CIX's charges for access to the on-line world are modest – six pence a minute during peak rates and four pence a minute at all other times – there's still BT's overheads of at least ten pence a minute to take into account. Of course, you can minimise your on-line bills by limiting the number of conferences you join and the amount of e-Mail you send and receive, but for most people this is tantamount to making a solo visit to the same pub every evening, buying a mineral water, downing it in one and leaving without as much as a nod to anyone. In other words, you may as well get a take-away.

So what's the solution? Well, what you need is an off-line reader. This is a software utility that enables you to log-on to CIX, automatically download all the new conference and e-Mail messages that you've received since your last call in, and hang up. It depends on how fast your modem is, and how many conferences you've joined, but this process usually takes only a minute or two, instead of the entire evening.

CIX's only Mac-based off-line reader, the excellent shareware utility *Semaphore 2*, does this job to a tee. Using *Semaphore* is completely straightforward. After logging-on to CIX with your comms package (try a good shareware communications application like *ZTerm),* you simply type 'File Read All' at the command line. This transfers all your unread messages to your own personal Scratchpad – which is a temporary holding area in your personal mail box. Typing 'Down' downloads your Scratchpad (via the phone line) on to your hard disk, where it resides as a text file. Then, when you log-off, you can load up *Semaphore* and open the Scratchpad file.

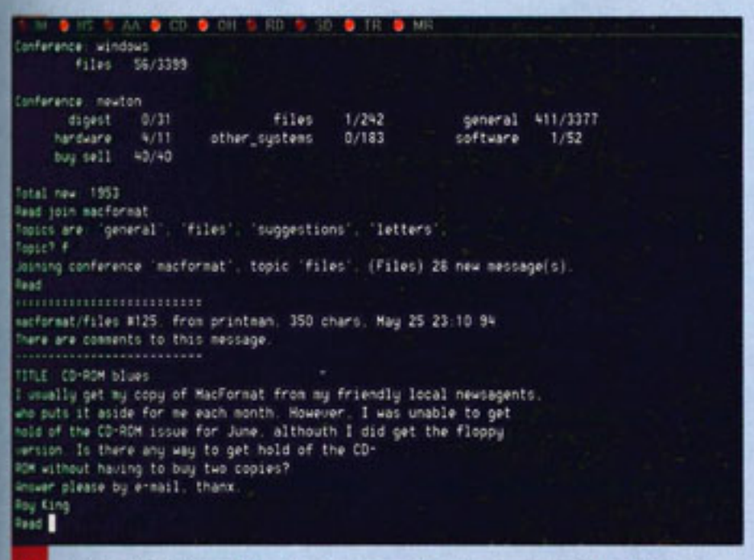
CIX provides a comprehensive on-line service… many people don't look any further – a fact substantiated by CIX's 14,500 members.

As you can see from the accompanying screenshots, *Semaphore* reconstitutes all the conferences of which you're a member, along with their topic areas and any unread messages they contain. Where *Semaphore* is really smart, though, is in the way it retains all the links between those unread messages. If you read your messages on-line or live, the order in which they appear is based solely on the time they were uploaded – confusing doesn't begin to describe it. *Semaphore,* however, is much less baffling – a single click on an icon will take you to all the linked messages within a particular con-

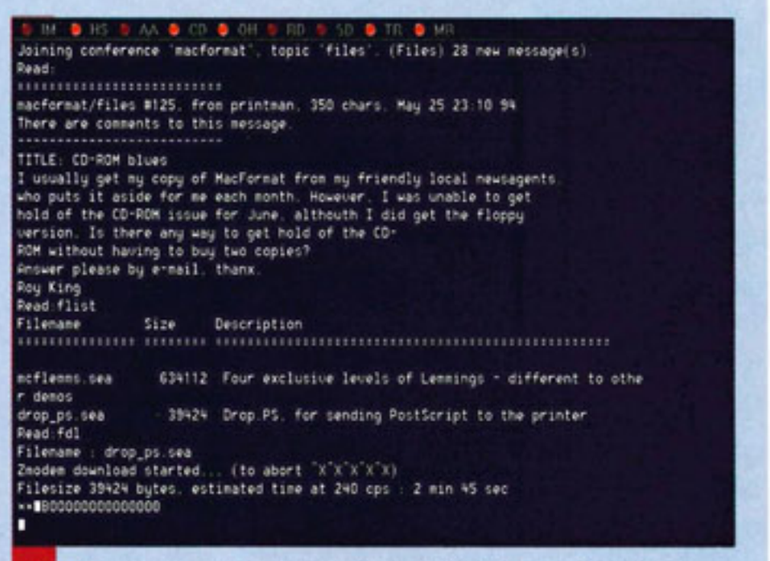
FREE REGISTRATION!

As a special offer to MACFORMAT readers, CIX is offering free registration (worth £25) to any new member quoting the special code 'macformat' when they log-on as a new user.

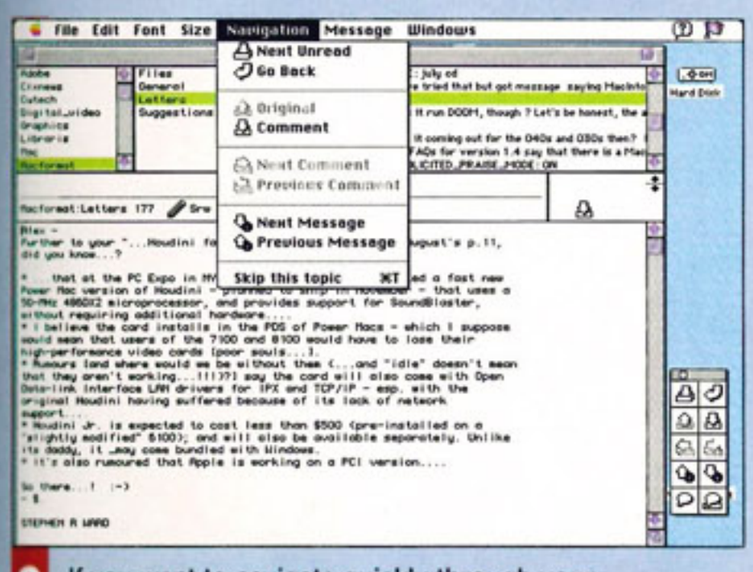
To take advantage of this incredible offer, just log-on to CIX on 081 390 1244. Type 'CIX' at the Log-in prompt, then 'new' at the Nickname prompt. You will then be asked whether you have a special code. Type 'y' (for yes) and then, when asked for the code, enter 'macformat'. You will be charged as normal for the time you spend on-line, but you will not be charged a registration fee.



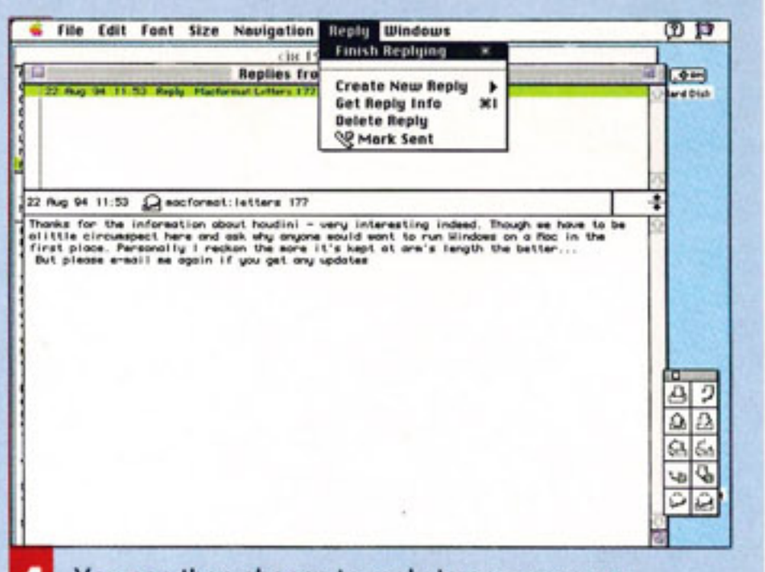
3 If you join the MACFORMAT conference, you can choose which topic you wish to explore (they include General, Files, Suggestions and Letters). Here we've chosen the Files area in the hope that there's some hot new shareware there.



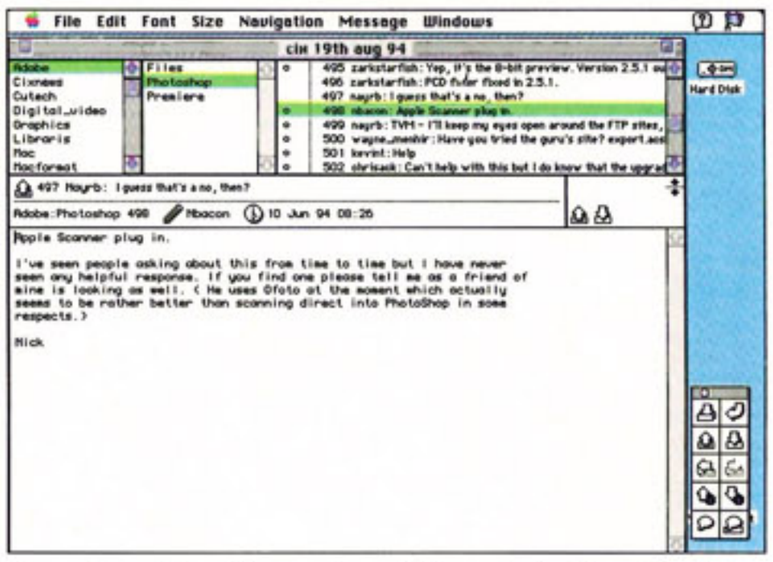
4 So you want to try out that utility for sending PostScript to your printer? All you have to do is type 'FDL' (which stands for File DownLoad), enter the file name, and instruct your comms software to download the file.



3 If you want to navigate quickly through your messages to find something specific, you can either use the pull-down menus or their iconised equivalents, which you will find in the floating toolbox at the bottom-right of the screen.



4 You can then choose to reply to any message you've selected and enter the appropriate text. If you save out your replies, log-on to CIX again, upload your new replies and log-off again, you'll save yourself a packet in on-line fees.



Semaphore 2 enables you to quickly navigate through all the linked threads of discussions. To see messages, their replies and comments, you simply click on the up and down arrows.

ference topic. This is an absolute boon because it enables you to quickly catch up on an area or issue you're interested in, and respond quickly to any new comments made.

Once you've used *Semaphore* to read all your messages and make any replies, you can save out your correspondence, log-on to CIX again, upload your new replies, and then log-off again. The uploaded file will wind its way through all the conferences and topics to which you've made a contribution and update CIX's storage devices to include your points of view. Then, the next time you log-on and download a new Scratchpad, you can read all the replies to your replies! In this way, you never need be on-line for more than a few minutes, which prevents your telephone bill from becoming a quarterly nightmare that threatens you with impending disconnection.

In short, *Semaphore* is an indispensable utility for anyone using CIX. What's more, its excellent manual is as good a guide to navigating your way around CIX as you're ever likely to come across. At the amazing price of just £10, *Semaphore* will pay for itself very quickly. What's more, it'll give you the opportunity to become part of the growing on-line world while still having time to go down to the local and have a pint.

Andy Storer

WHERE CAN YOU GET THEM?

■ You can contact CIX on 081 390 8446 (or by modem on 081 390 1244). CIX costs £3.60 an hour at peak rate, and £2.40 an hour at all other times. There's also a minimum monthly charge of £6.25. But the good news is that CIX is offering free registration to all MACFORMAT readers (see 'Free registration' box for more details).

■ For a copy of *Semaphore 2*, join CIX's *Semaphore 2* conference, or send your £10 shareware fee direct to Mark Allerton, 5a Broadway Parade, Crouch End, London N8 9TN.

JARGON BUSTERS

Download: transferring data from a bulletin board or other on-line centre to your Mac. This may sometimes be a two-step process – first from the Internet to your local BBS, then to your Mac.

e-Mail: electronic mail. Messages you send and receive via your modem. Unlike conference messages, e-Mail is private – it is stored in your private directory, which normally only you can access.

Internet: the informal, worldwide electronic communications network. See the free supplement with this issue for more details.

UNIX: an old-fashioned, clumsy, 7-bit operating system using command lines that you have to type in. Originally developed for mainframe computers, UNIX has since been superseded by graphic interfaces like the Mac's, but, unfortunately, many of the 'host' computers running services on the Internet still use it.

Upload: transferring data from your Mac to a bulletin board or other on-line centre.

FutureNet – the Future of publishing?

Newcomers to the world of comms often get confused about what the Internet actually is. CIX is a BBS or Bulletin Board Service – a single entity. There's a real room somewhere in the depths of Surrey with all these modems, computers and hard drives, and several miles of cables holding them all together. The Internet doesn't 'exist' in quite the same way. That is, it isn't located in a single place. Rather, 'the Internet' is the collective term for hundreds (probably thousands) of separate BBSs, individual users and 'service providers' all over the world, linked only by the fact that they are all connected by modem.

When someone describes CIX as a 'gateway to the Internet', therefore, this means simply that CIX enables you to connect to all those other on-line centres through it.

Disappointing? Not on your nelly. You see, the Internet offers much more than just electronic messages in the form of endless boring text files (or even endless fascinating text files). You can send and receive files of almost any type, provided only that they can be 'translated' at both ends. (This normally means using arcane protocols with names like BinHex and UUencode, but it's all easy enough to operate.) Beyond even this, recent developments mean you can view graphical displays on the Internet. It's not quite at the stage yet where you can get, say, a page created by *QuarkXPress* on your screen over the modem link – but that's not far off: WWW filters are being developed for *XPress* that can translate RTF to HTML – and if you understand that, you probably understand better than most of us just how exciting a development this is. It opens the door to true 'on-line publishing'.

MACFORMAT's publisher, Future Publishing, is taking a bold step in just this direction. To coincide with the launch of *.net, The Internet Magazine,* Future Publishing has set up a World Wide Web (WWW) server, called FutureNet. It will contain articles from all of Future's wide range of magazines – including, of course, MACFORMAT. This information will be available to anyone with a suitably Internet-connected computer, wherever they may be in the world.

The average on-line article won't look exactly like its paper counterpart. Have a quick glance at this magazine and you will notice that there are things like pictures, side bars and boxes which are not really part of the main text. The hypertext format used by the WWW means that this sort of thing can be referred to by a hypertext link somewhere in the text. A simple mouse-click on this reference then loads up the desired document. A handy side-effect of this approach is that only those elements which you actually want are loaded. This is especially important in the case of pictures, which can be very large, and hence take a long time to download. In this case a small version of the picture can be included in the text, with a link to the full-size version.

Given the number of articles that will end up on FutureNet it will be very important to keep a decent index, and luckily hypertext links are the ideal way of doing this. From the welcome page of FutureNet your favourite magazine will only be a couple of clicks away, and any article in that magazine will be another couple of clicks on from that.

Of course someone has to convert these articles and maintain these indexes. So welcome our friendly FutureNet Web Editor, Neil Elkins, and watch for more details soon. The Internet software on this issue's bonus second disk (or included on your CD if you got the CD-ROM edition – see page 10) is your key to this whole exciting world!

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Reflections and Highlights

Give your Mac artwork an entirely new sense of depth with our guide to producing reflection and highlight effects in your art program.

After mapping out the basics of Natural Media painting over the last few months, we thought it was high time we turned our artistic eye to some basic design techniques. The first thing most novice Mac painters attempt to create is a gradient-filled sphere. At first this looks really good, but if you look again, you'll see it's only a crude visual trick. To appear real, the sphere needs subtle lighting effects – highlights, reflections, shadows and shading. Besides, if you want to draw a decent illustration, a simple sphere is only the starting point – maybe it's actually transparent like a soap bubble, or part of a larger object, or maybe it's not even spherical at all. What about a cube, or a bottle?

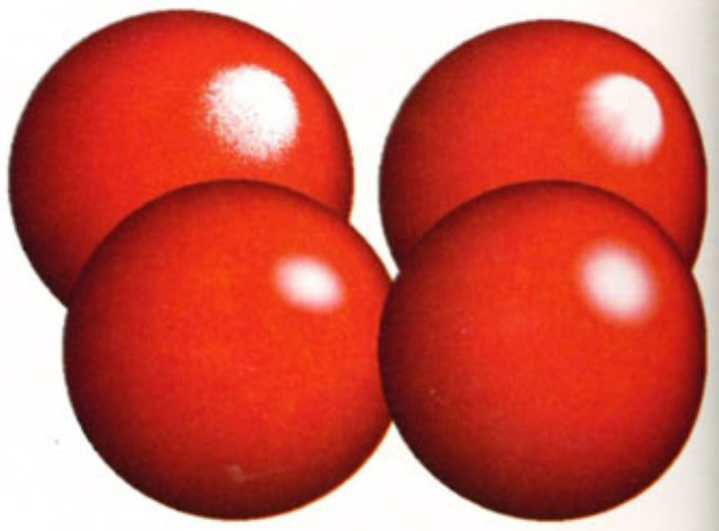
Here we'll deal specifically with how you can produce reasonable reflections and highlights quickly and easily. (But don't worry if your picture still lacks depth: we'll be looking at shading and transparency effects in later issues.)

Working on a Mac at 72 dpi (the pixel-size or 'grain' of a normal screen) with the 256 colours of an 8-bit display, a normal gradient

SPECULAR HIGHLIGHTS AND THE WINDOW ILLUSION

1 You can produce a gradient of colour in most paint programs as a type of fill effect, or as an option when you're drawing shapes. Some programs enable the fill gradient to vary – horizontally, vertically, radially. They can even follow the shape of the box they're filling. The most useful tools enable you to set the direction of a shaped fill, so that you can draw a smooth graduated object in one action.

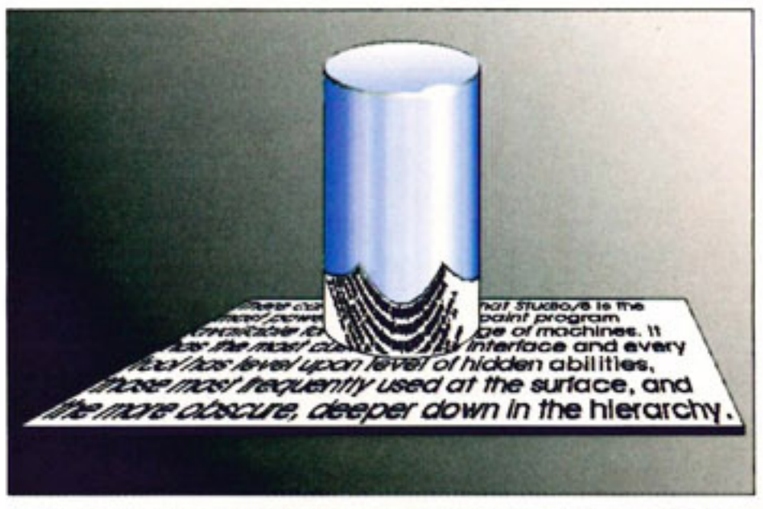
2 A curved object – a sphere or cylinder, for instance – will tend to distort and concentrate the brighter lights to form a regular spot or band of specular reflection – even when the surface won't reflect anything else (as is the case with matt or darkly coloured objects). You can create a simple glossy effect if you give the highlights a harder edge. We drew this using an Ellipse tool.



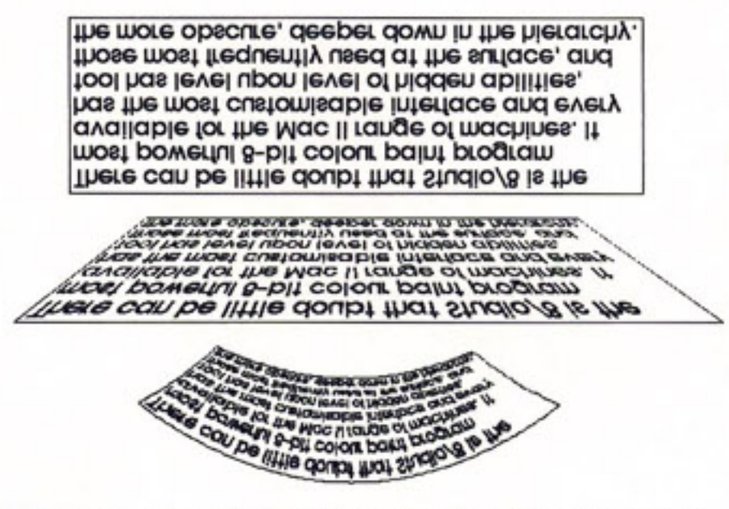
3 A lighter shade placed at the palest part of a gradient fill can give you a similar effect, but you'll find it is usually rather large and blurred (top right). Some programs use dithering, which creates a speckled effect (top left). Usually it is better to paint the highlight after you've created the object with a normal gradient, either as another smaller gradient fill (bottom left) or with an airbrush (bottom right).

CYLINDER REFLECTIONS

1 Cylindrical surfaces distort reflections in simple bands. Here the specular highlights are drawn along the whole length of the cylinder. We used a simple black/white/black double-horizontal gradient to create a basic rectangle. This was then masked, before a Tint Brush was wiped down it using constrain. The lettering on the top was created in *FreeHand* and transferred via the clipboard.



2 You can create more realistic, 'true' reflections with the help of the Select Bend and Select Distort tools – if you have them, that is. The basic cylinder here is a dark-blue to white double-gradient. Beneath this we've placed a texture that was laid down in perspective using the Distort tool. The reflection is then placed on to the cylinder, and cut off at the edges by its mask.



3 For convincing distortions, use observation from life – stainless steel saucepans are invaluable! In fact, the rectangular pattern becomes curved, with peaked corners. First you must flip the texture vertically, then lay it down according to perspective using the Distort or Perspective tools. The curve is best produced with a Bend tool, but you can rotate, squash and distort the corners if need be.

REFLECT ON THIS!

Let's zoom in on the surface of an object to see why it behaves in the way it does. The reflectiveness of a surface is dependent on how rough it is. If the surface is perfectly smooth and flat, light rays striking it will be reflected with no distortion – that is, they're exactly mirrored.

If the surface is smooth but curved, the rays will be reflected but distorted. If the surface possesses an intrinsic colour, however, part of the light ray will be absorbed, while the rest of it is reflected, tinting the reflection with the object's colour.

Striking a flat but roughened matt surface, the light rays are jumbled to some degree. With increasing roughness, reflections are progressively disturbed until only the object's basic colour is visible, shaded according to light direction. Although they may not show true reflections, even quite rough surfaces will reflect the brightest light sources in the form of highlights at edges or on suitably angled curves and faces.

These highlights are extremely important in an illustration because they give the most obvious clues to surface texture. Your brain can easily fool you into believing that a simple, flat red disk is a shiny sphere, providing you place a hard-edged white spot at the correct point.

can make matt objects look completely smooth. The only difference between the matt surface of this simple gradient-shaded object and a more realistic reflective surface is the reflection itself.

Painting all the true reflections found in the real world is too time consuming for normal work, but there are a number of short-cuts and illusions that can simulate the real thing – such as the familiar window and desert illusions, and the less obvious specular highlight effect.

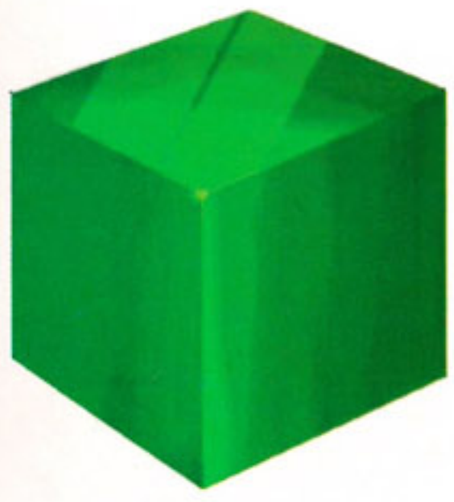
If you really need accurate reflections, there are a number of common transformation tools that will enable you to turn parts of your illustration into reasonable mirror images. All these techniques are described briefly in the tutorials, but the principles behind them require a little more discussion.

Specular Reflections

A curved matt object will distort and concentrate bright lights (even the more diffuse ones) to form a regular, though 'fuzzy', spot or band of specular reflection – even when the matt surface itself won't reflect anything else. This lighter spot, placed at the lightest part of a basic gradient-fill, enhances the 3D effect.

If you want a simple glossy effect, all you have to do is give the highlight a harder edge. Specular reflections can be added automatically in some programs, providing you can add a much brighter shade to the gradient without changing the other colours. Many programs don't have this ability, though, so you have to paint the specular reflections yourself.

A hard-edged cube will also create highlights at the edges nearest your viewpoint. These can be applied by hand using the Brush/Lighten option and a small brush. Or, if you prefer, you can use a pale Tint and the line tool. The near-

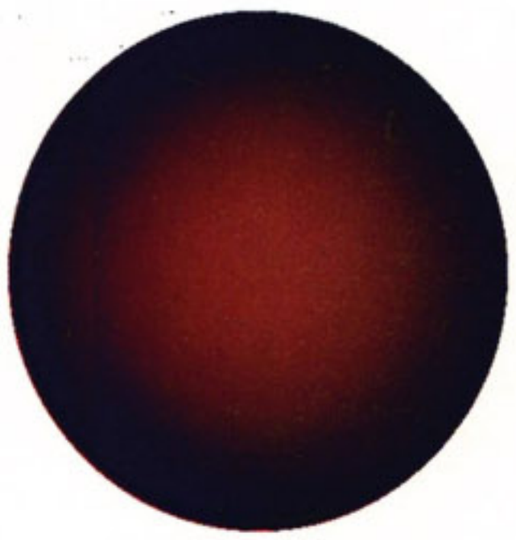


4 The lighter bands on top of this cube show light reflected from a window, the most common highlights on a glossy object in daylight. To create this 'window illusion', spray the paint on with a mask or draw it using a 'tint' or 'lighter effect' brush (constrained to vertical). Notice the highlights on the edges. You can apply these using the Brush/ Lighten option or by applying a Tint using the line tool.

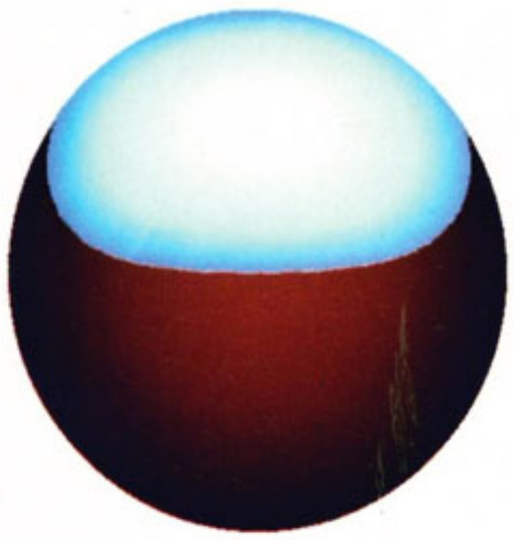
5 If the surface of your object is curved, you can tilt the bands of a window highlight and bend it to model the object's contours. To do this, draw the highlight in a Scratch area and bend it using any Selection Bend, Distort or Rotate tools available in your art package. Alternatively, you can draw the window by hand. You can then use this shape as a brush or spray-mask.

6 Some Natural Media and image processing programs provide very poor shape-drawing and gradient fill tools. In this case, you can use a circular mask and spray smoothly in a spiral, from edge to centre, using the base colour of the object. You can then smoothly spray darker shading and lighter highlights before using a mask to paint window highlights as shown here.

SPHERICAL DISTORTION – THE DESERT ILLUSION



1 Spheres produce what could be called 'Fish-Eye' effects – that is, they reflect almost everything in their immediate surroundings, so some form of simplification is virtually essential. If you want to suggest a mirrored sphere, the desert illusion is very effective, but you must take care to make it wrap around the object with an almost 'liquid' feel. You could perhaps start with a black/brown gradient biased toward the brown.



2 The sky reflection shown here is essentially made up of a large gradient ellipse that runs from white to sky-blue, with the shape of its top edge (drawn initially in the scratch area) just fitting that of the sphere. You can easily flatten the lower edge by selecting the lower half and scaling it down. After that you just mask the area outside the sphere and move the sky reflection to it. Now you can paste it carefully into place.

3 The ground reflection is a smaller gradient ellipse, which ranges from sandy yellow to the reddish-brown, and is used for the initial sphere. (If you prefer, you can use various shades of green to give a somewhat less Californian look to your chrome effect.) It should just overlap the bottom edge of the sphere, with the mask flattening the lower edge. The top edge should almost touch the sky ellipse that you've just added.

est point should always contain a brighter light spot – even on a matt surface. On glossy surfaces, all highlights should be much more obvious, and there should be more reflections.

Window Illusion

If you examine the highlights on a glossy surface, it becomes obvious that they are, in fact, reflections of a local light source. For any interior horizontal surface, this source is likely to be a window. If you need to simulate this type of reflection, you can use vertical bands of a lighter tint to create a 'window illusion'. If the surface in question is angled or slightly curved, you can use any of your art package's Selection Bend, Distort or Rotate tools to tilt or bend the bands of light. This will effectively emphasise the object's contours.

Desert Illusion

Curved reflective objects in an exterior setting tend to reflect the sky and the earth, as well as other objects, such as trees, mountains, buildings, etc. In simplified form these can be represented by:

- The dome of the sky, graduated from pale blue to white.
- The horizon, slightly broken.
- The ground, graduated from dark brown to pale yellow.

This is known as a 'desert illusion' and is widely used (some might even say over-used) to represent chrome and other mirrored surfaces. If you apply it carefully, it can create a very realistic simulation of a true reflection. You can set up a single gradient to create one-step 'desert' reflections, but the dither (which is used to produce an unbanded gradient) breaks up the horizon too much. Consequently, separate sky and ground gradients work better.

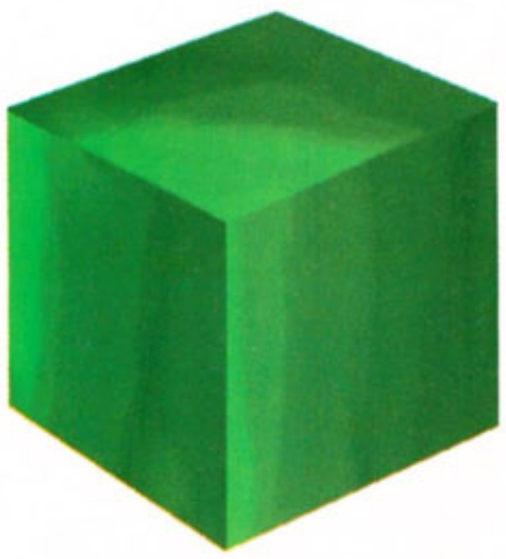
Although you'll always see reflections of the brightest light source, the surface of a coloured or transparent object probably won't reflect the darker areas of its surroundings. Instead, what you see is the object's surface colour or, in the case of a transparent object, its interior. So, in a desert illusion, for example, only the sky part of the reflection would be visible. The shape and direction of the sky gradient depends on the contours of the object, so this type of reflection – like the window illusion mentioned above – can be used to model, or at least emphasise, quite complex curved objects.

This technique is often used for rendering pictures of cars. As a rough guide, horizontal convex surfaces reflect light from their highest point, and are darker at the edges; concave surfaces flip the reflection, so they're dark at the top and light at the bottom. On vertical curves, the surface nearest your viewpoint is usually lighter. So, concave surfaces are lighter in the middle and convex ones are lighter at the sides.

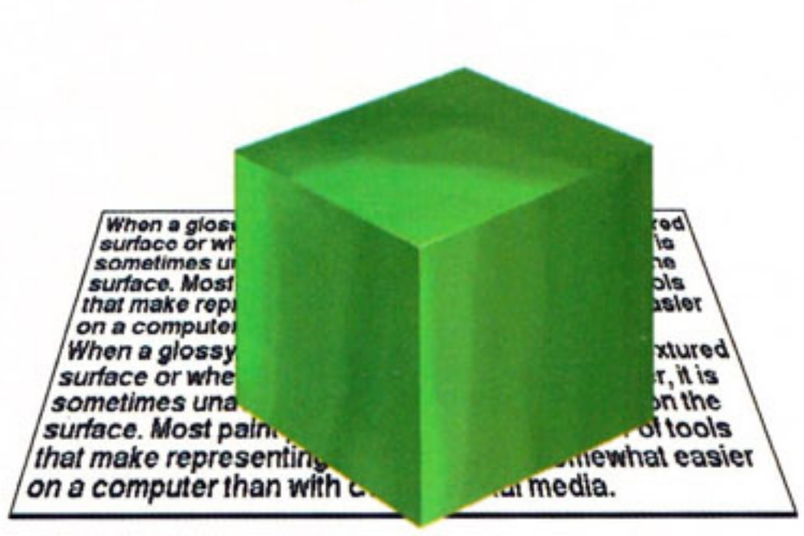
True Reflection

Sometimes you have to have 'true' reflections on the surface of a glossy object, like when it's resting on a textured surface or when several objects are close together. Most paint programs provide at least a few tools to do this. In fact,

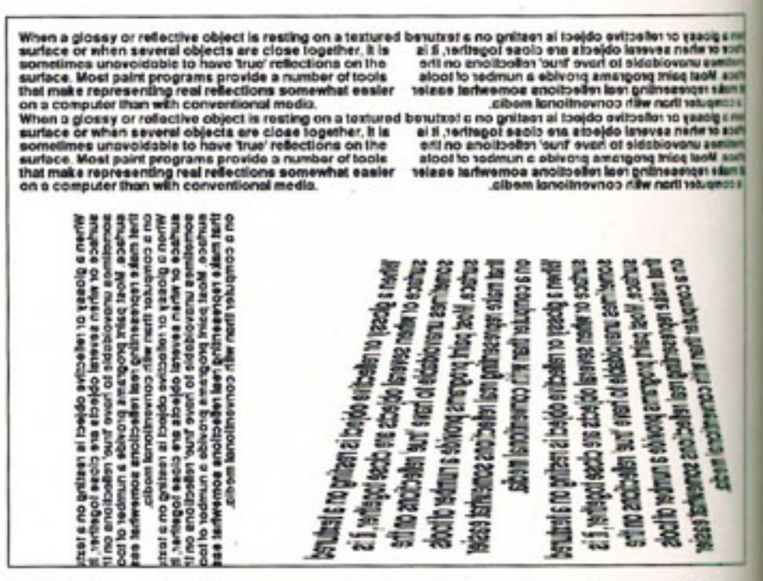
TRUE REFLECTIONS



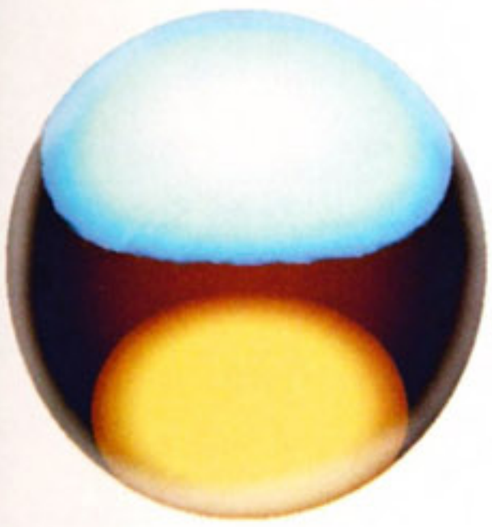
1 The original isometric cube outline was drawn in a drawing program and imported as an EPS file. We selected each face, and then created and saved a mask. You can create the cube's shading by running gradient fills from the front corner to the back, from light to dark. Alternatively, you can use an airbrush for greater subtlety or to add secondary lighting effects.



2 We typed the text out using the paint program's text tool. Here the text was anti-aliased when placed on the page. Select the text, and then you can use a distort or perspective tool to rotate it down into the plane of the cube. You can use a copy of the text, leaving the original for the reflections. If possible, you should keep copies of each element, so you can assemble them in layers later.

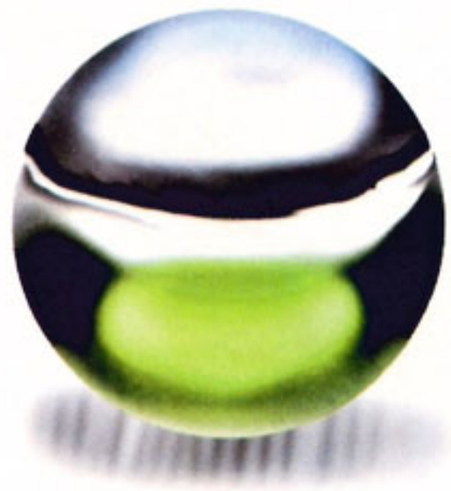


3 The reflections must obviously be mirror images, but must also be rotated and placed into perspective. A true perspective tool, such as that used in *Studio 32*, is best, but you can also use the Distort and Rotate tools to good effect. Be careful to use a copy of the original text, and experiment as much as you can. Try using a mirror on some printed text as a guide.



4 Although this basic sphere looks reasonable, there is something about the 'perfect' look of a Mac drawing that detracts from the liquid feel. There are, however, two tricks you can use to rectify this situation. First (with the main sphere mask selected) you can spray a thin wash of white around the outside edge as a secondary highlight. Then experimentally drag 'trails' along the horizon with the Smear or Finger tool. The other technique is as follows…

5 The finished chrome sphere can now be selected and distorted to produce a wide range of other shapes. Once you have created the basic shape, it should be quite a simple matter to build up almost any curved reflective object from simpler bits. Remember that concave surfaces will reverse the images of the sky and earth. Once you've stuck all the bits together, blend the edges with either a Finger or Smear tool.



6 If your art package has poor gradient and shape tools, you can still paint a good chrome sphere with the aid of any reasonably smooth airbrush. Use the same stages and colours as described in points 1 to 5. In this example, the colours were chosen to suggest a damp grey day at a cricket match (don't ask). The horizon is where you'll find any detail, but this can also be smeared. Here we used *Painter's* Distorto effect.

many of them make representing real reflections easier on a Mac than it is in real life.

All reflections are mirror images of their originals. A vertical and horizontal flip of selected areas can always provide almost instant mirroring, but true reflections are rarely just a matter of reversing an image. Objects shown both in front of the surface and reflected in it will be reflecting their hidden side – which may be quite different from your viewpoint and will seem further away in perspective.

What's more, if the reflective surface is even slightly skewed, the reflection must be angled accordingly. Surprisingly, very few programs (except *Studio 8* and *Studio 32*) provide a means to bend selections smoothly, so the type of distorted reflections seen in curved surfaces are very difficult to produce without drawing them by hand. If your program can use *Photoshop* Plug-Ins, the Distort Effects may be of some use to you here – although most of them require *Photoshop* specific features.

Some of these problems are discussed and solved in the tutorials on these pages, but you can only use them as a guide. There is no substitute for observation and experimentation. Go through the tutorials as many times as you like, but use them as a starting point for your own experiments. Relax into the Mac environment and be bold.

Every stage of your work can be saved, each with a different name, so any successful element can be used again. Don't be precious – be prepared to start again and again. Repeating things and taking note of your mistakes is the only way to learn.

Brian Larkman

Where can you get them?

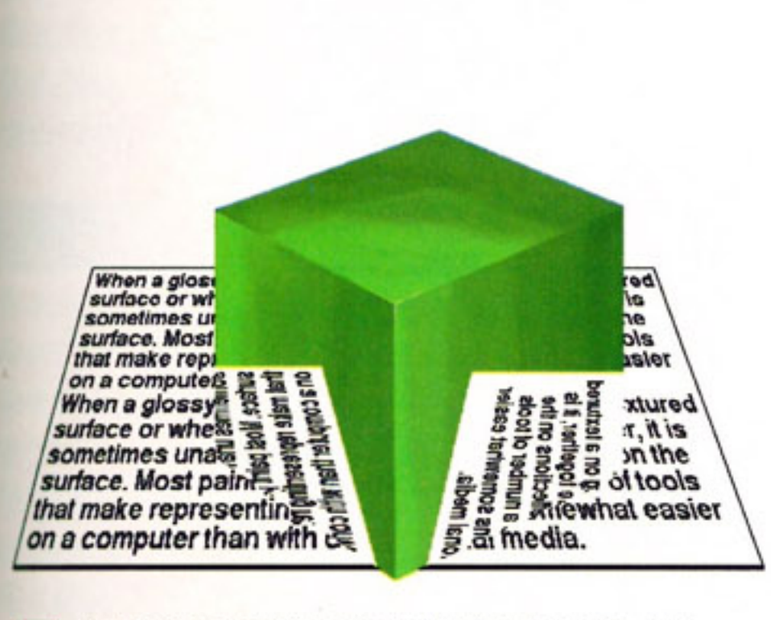
- Fractal Design's *Painter 2.0* costs £381.88 Contact Letraset on 071 928 3411.
- Fractal Design's *Painter X2* costs £116.33 Contact Letraset on 071 928 3411.
- Adobe's *Photoshop 2.5* costs £851.88 Contact Principal Distribution on 0706 831831.
- *Studio 8* costs £199. Contact Electronic Arts on 0753 549442.
- *Studio 32* costs £500. Contact Electronic Arts on 0753 549442.

JARGON BUSTERS

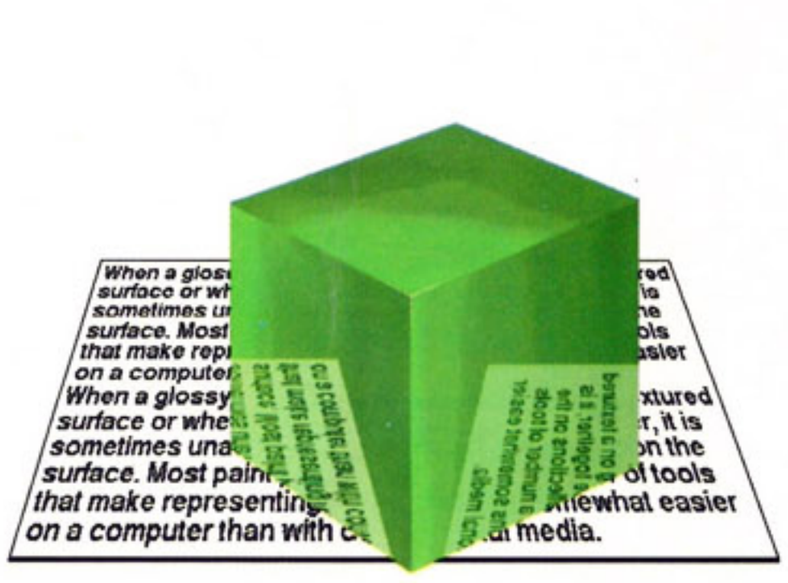
Anti-aliasing: the process whereby the stepped, pixellated effect that is created when two colours meet at an edge, is replaced with a smooth, mid–tone line. An anti-aliasing brush blends the two colours at the edge, thus creating a much smoother line.

Scratch Area: this is an area away from the main drawing for trying out ideas, and storing brushes and objects temporarily. Some programs provide a special 'spare' page or enable you to use the area outside the defined drawing.

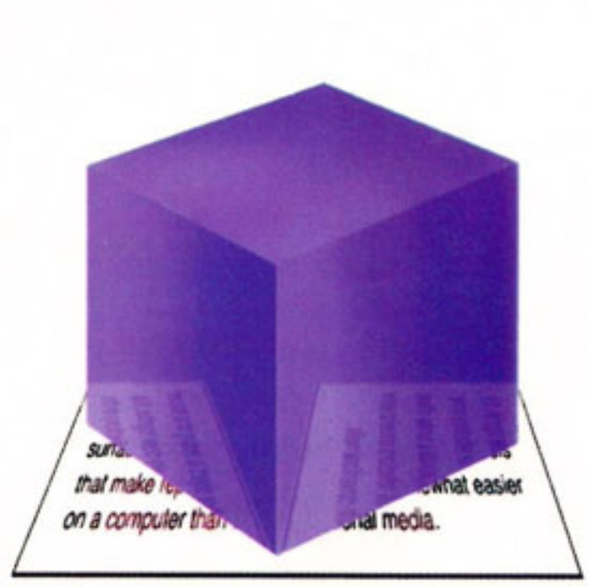
Specular Reflections: mirrored image.



4 In order to place the reflected text on the cube, you need to mask each face separately. This is where saving masks is vital. You will need to experiment to discover how the text should be rotated in order to get a good match. The text used here wouldn't line-up convincingly, but it rarely matters – it's the effect that counts. Notice how the face bisects the angle between the text and its reflection.



5 If the object is self-coloured, the reflection will need to be tinted. Some programs enable the pasted reflection to tint the background transparently. If not, you can just paint with a tinted brush of the right colour. Notice that the darker faces are more tinted than the lighter ones. If the object is not very shiny, the reflection will be blurred – much easier to reproduce!



6 Natural Media programs, like Fractal Design's *Painter X2*, don't provide much in the way of polygonal drawing tools or gradient fills, so you will have to import the outline and shade the cube using the airbrush. If the two nearest faces are at the same 45 degree angle, placing reflections is fairly simple – they recede directly away from your viewpoint.

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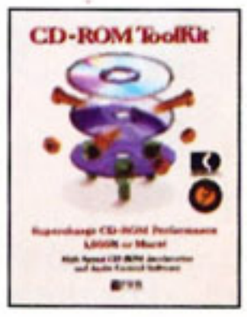

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Getting into print

Whatever publication you're producing on a Mac, the editing process only reaches fruition once you get into print. Knowing what you want is the secret.

Printing is not a single procedure, it's a baffling array of different processes and skills. For the first time you are utterly dependent upon other people to get the results you want. It's worth taking the time to see what happens at each stage (see the chart on page 69 opposite).

Before you decide on which printer to use, ask for recommendations from other people involved in similar types of work. Next find an existing publication that has the feel you're hoping to achieve. Then, when you visit the printer, take it with you and ask what kind of paper was used? How much would it cost? How many colours of ink were used? Could you do something more cost-effective without losing quality? What kind of binding was used?

The printer will show you samples of his work. Examine them closely. Is the print crisp and black? Do the black and white pictures have a full range of greys, from black to almost white? Do the staples fall out? Then you can draw up a specification, which will include:

- Page size (if you want to stray far from the A4/A5 norm your costs will increase).
- Number of ink colours (black ink only? Black plus a spot colour? Four colour?)
- Type of colour, if any (Pantone? Process?)
- The number of copies.
- Type of paper.
- The arrangements for collating, folding, cutting and finishing.
- Any special finishes (embossing, laminating, spot varnishing, etc).
- What you'll be giving them (camera-ready copy? Bromides? Film? Unscreened photographs for processing?)
- What you want in the way of proofs.
- How long the job should take.

Quotes and costings

Once you've discussed all of this, your printer should be able to give you a written quotation including price, specification and turnaround time. Obviously, the more of the process he handles, the more he'll charge. Be warned, anything he can't do himself (embossing, for example) he'll sub-contract out and charge you at a premium rate.

The more copies you have printed, the lower the cost of each one. The printer will give you a price for the run you agree upon, and a second price for any extra 'run-on' copies printed while the machines are set up and running. These will be cheaper.

For very small runs, bulk photocopying may be your best bet. However, it's better to print any run above 400 copies, anything which includes photographs or anything with more than eight pages. Local, high street 'instant' printers are fairly expensive compared with ordinary commercial printers, because they are paying high street rents; you'll also pay a premium for the 'instant' service – although you may find them more approachable. Ideally you want someone with DTP experience; many small printers are real enthusiasts. So ask around and make your choice.

When you visit your printer, take a good look around and familiarise yourself with all the equipment and what it does.

Colour

To produce something in full colour using the four-colour process, you will need software capable of producing the necessary separations, plus the hardware to see what you're doing. But you can do mono or spot colour work on much more basic equipment, even with a mono screen, so long as you've visualised it properly using mock-ups with coloured markers or whatever.

Say you want your headlines to be in red – you don't need to produce separations from your software, just mark your proof with the colours you want and give it to the printer, along with your camera-ready artwork. The printer can do the appropriate masking, tints and any reverse-outs (where white type appears from a printed area). Of course, you'll be charged for the time he spends doing this.

The major complication with spot colour work is 'registration' and 'trapping'. These are how two, or more, colours coincide on the page. A program like *QuarkXPress* includes arrangements for the control of trapping, but you should tell your printer exactly what

Jargon Busters

Camera ready copy: usually refers to finished pages ('pasted-up' by you or printed out as a 'bromide' print by a bureau), which are ready to be made into a printing plate.

dpi: dots per inch. Tones of any sort are output as dots of ink, and the number of dots per inch determines how fine or coarse the tone will appear.

gsm: grams per square metre. The standard measurement used for weighing paper.

Half-tones: reproduces shades of grey by using different densities of black dots.

Imagesetter: machine that outputs type and images to film at very high resolutions and creates professional quality magazines such as MACFORMAT.

Line art: black and white line drawings.

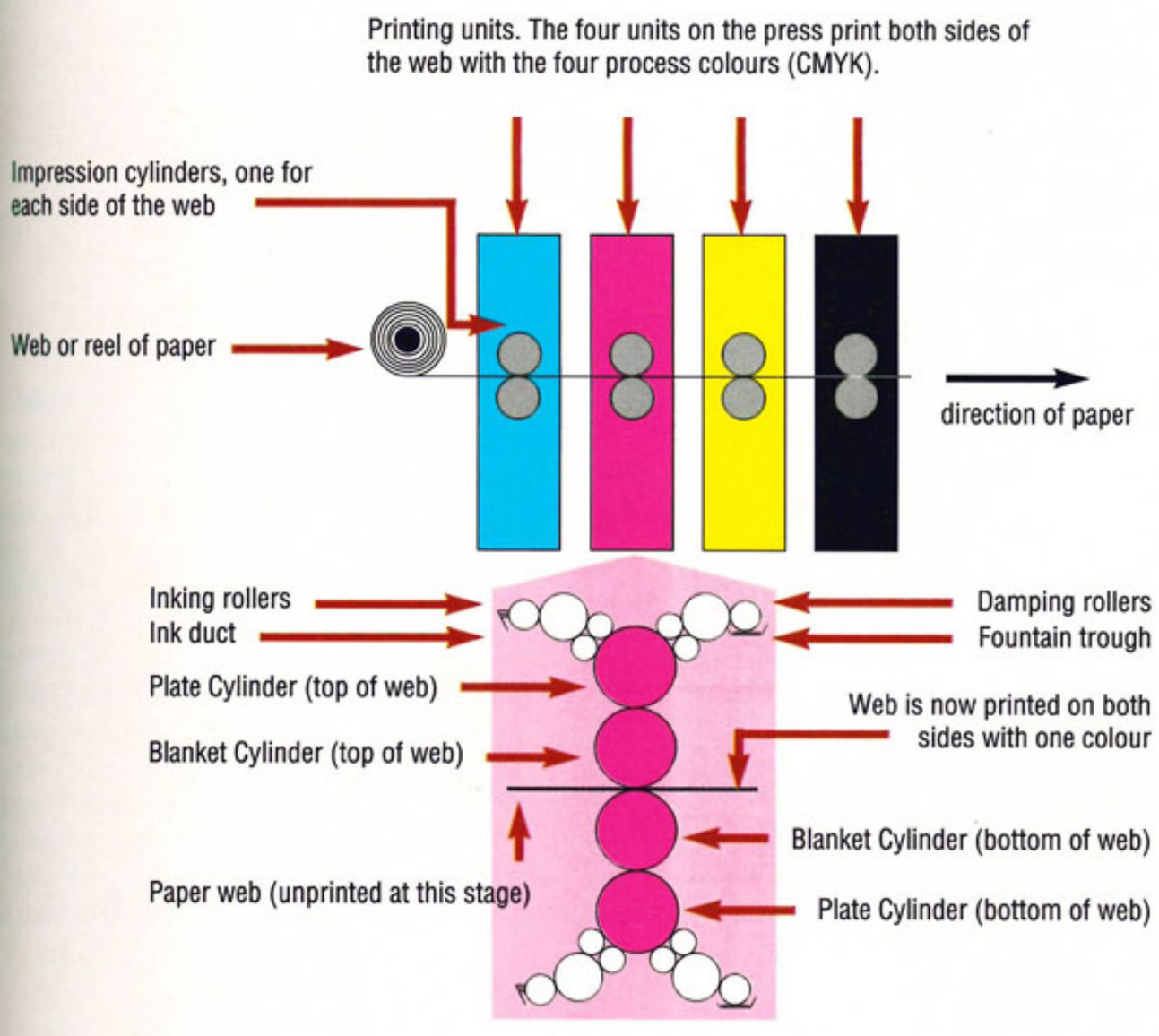
lpi: like dpi, but lpi is a linear measurement whereas dpi is a square measurement.

Registration: term used to describe the process of lining up the colours when you are printing more than one colour. Registration marks are guides that enable printers to correctly line up the different colour plates.

Trapping: term used to describe a slight overlap of colours, which DTP software creates as a safeguard against small misregistration problems. (See MACFORMAT 14.)

THE PRINTING PROCESS

An offset press is a complicated piece of machinery. If you understand a little of what goes on during the printing process, your discussions with your printer will be a lot clearer.



you're trying to achieve and ask for advice. The cheaper the paper, the more problems you'll have with trapping and registration.

Choice of paper is also important in other ways. The cheapest paper is newsprint (paper used for newspapers), but unfortunately this does not combine well with the cheapest method of setting type. Newsprint is like blotting paper: the ink spreads. Even type from a high-definition imagesetter gets a bit fuzzy on newsprint, and the combination of blurred laser printer type and newsprint (which you often see in community papers and the like) is appalling. So if you use cheap paper, you ideally need more expensive typesetting.

Half-tones and scans

On the other hand, there are savings to be made when it comes to photographs. As you may know, photographs are printed by breaking them up into a series of dots. The greater the number of dots per inch, the sharper the picture. Newsprint is incapable of reproducing nice neat lines of tiny dots – they spread into one another and lose all definition. So, unlike a glossy magazine, where you would expect to use a screen of, say, 133 lines per inch, on newsprint you would only need approximately 85 lines per inch. On ordinary 80 gsm paper – used for flyers and newsletters (it's basically photocopy paper) – you shouldn't go above 100 lines per inch.

The coarseness of your output resolution means you don't have to scan at very high resolutions – indeed, if you do, you'll be wasting an awful lot of disk space, memory, time and processing power handling detail that'll be discarded. Certainly there's no point in scanning at anything over twice the resolution of your output half-tones. Indeed, some people advocate scanning at only 120% of the resolution of your half-tone, so that for a 100 lpi output you need only scan at 120 dpi. Obviously we're talking here about same size reproduction; if you're going to do any enlarging, you must increase your scanning resolution accordingly.

Some people prefer dealing with only the text, placing photo boxes in their layouts and handing over their photographs to someone else to scan. Your bureau, repro-house or printer may have the technology to do this, and to produce half-tones from your originals. You can use low-resolution scans for positioning, if you like, or even revert to the traditional method of placing a piece of tracing paper over the picture and marking up which bits you want to use and how big you want them (although you'll need to indicate the percentage enlargement you want).

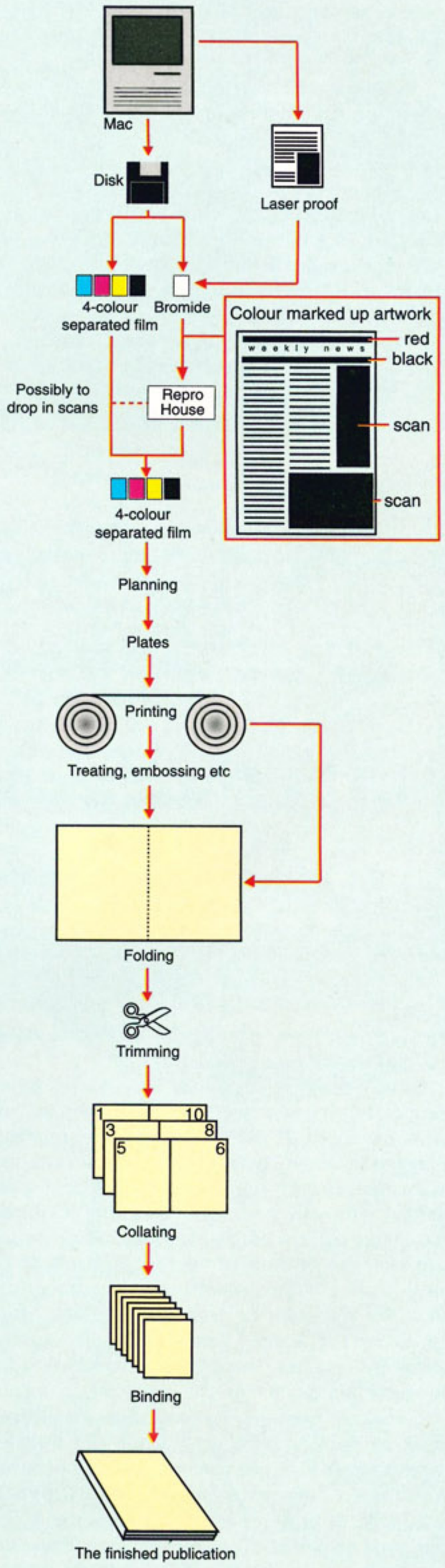
Camera-ready copy

Producing your own camera-ready type and getting someone else to process your half-tones is an economical way of working.

If you want to do this, ask your printer how he wants the material presented. He'll tell you how to mark up your photos, and whether you need to fix your original artwork to a board. If, as is most likely, you're using an A4 original to produce an A4 print, you don't need to give him any registration marks; and if you're doing mono work, you don't need to worry about

FROM THE SCREEN TO THE PAGE

Of course, your work isn't over once your publication leaves the safety of your Mac. Oh no. You've still got to get plates made, repro scanned and then sort out the printing and distribution.



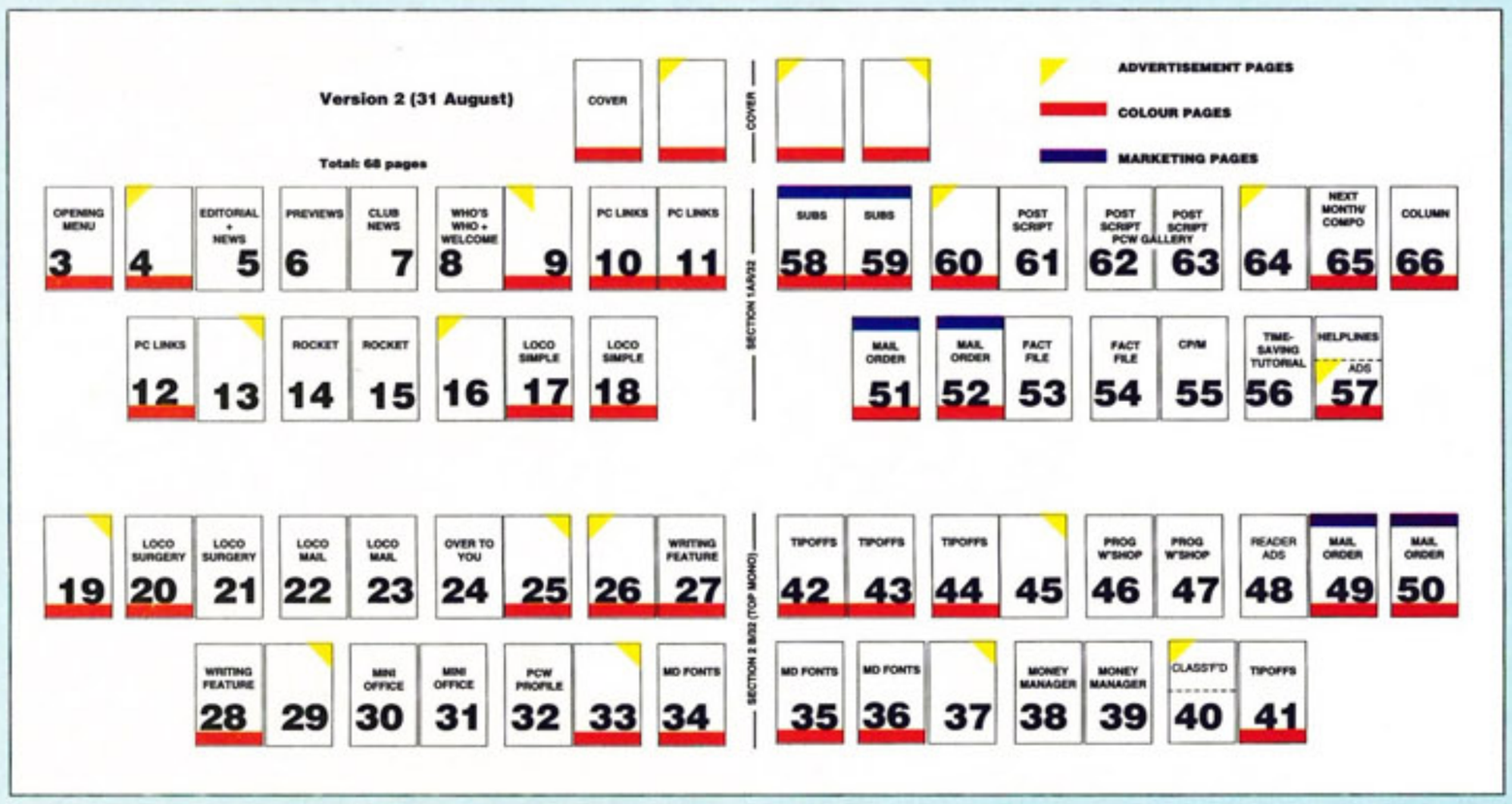
BE METHODICAL

As soon as you send out your work (whether it is bromide, film or a file on disk) it becomes twice as important to be methodical. If you are sending material off, you must log it in and out, and make a list of every file you've sent, and when the finished bromide is due back. This is absolutely essential when you are dealing with multiple pages, although you should do this even for a simple leaflet or flyer (which might include just two or three files).

Another area in which it pays to be meticulous is in dealing with proofs. You will probably have realised already that it is impossible to really proof-read anything on screen and you will have got used to the idea of printing things out as often as possible. But making interim proofs while you are working is different from the kind of proof-reading necessary before you commit something to print.

You need a procedure for proof-reading. For a start, it pays to have more than one person checking for errors – you won't always see your own mistakes. No-one does. Make a check-list of the elements on the page and tick them off. This should include the headline, any intro's or standfirsts, captions, the copy itself, the date, issue and page number (known as the 'folio'), any pictorial material (is that photograph the right way round?), and any rules or line artwork. Is everything spelt and positioned correctly? Make sure it doesn't breach copyright laws or defame anyone. It is now ready to send to the printer.

You must also let your printer know which pages go where. If you are supplying camera-ready artwork, mark each page number very clearly on the non-printing area of the board using a pale blue pencil (which won't be picked up in the film-making process). Give him a flatplan, so he can mark off each page as it arrives. A football fanzine editor I know goes one step further: he pastes up his proofs into a full-sized mock-up of his issue and sends it to his printer as a final piece of guidance.



A flatplan is an essential part of the editing process. It helps you to plan your publication and to keep track of what you've done and what's left to do. Always update your flatplan and give a copy to your printer with the rest of your material.

them at all. You should allow a reasonable margin, though, for practicality.

Using line art (drawings, etc) makes scanning easier because there are no shades of grey to worry about. If you're worried about getting a jagged or irregular image when you output it to an imagesetter (such as a linotronic, for instance), you can start off by printing it out on your laser printer at, let's say, 400%, and then you can get the printshop to camera it down until it reaches the correct size. (If you want to cut costs, you can use a photocopier to reduce the size of the image.) This will smooth-out any unsightly 'jaggies' and greatly enhance your line art's appearance on the page.

If you are planning to use mock ups of your work to explain what you want the finished pages to look like, use the best possible paper in your printer – even the humble old StyleWriter is capable of producing excellent results if you use good paper and a new ink cartridge. You can then take your finished printouts to the printer, give him a bundle of half-tones and clear instructions about what you want done with them.

Using a bureau

If you're prepared to spend a bit more, you can use a bureau. Here there's no alternative to discussion. First, you'll need to find a bureau you trust and let its staff guide you. They'll need to know exactly what programs and fonts you're using, and you'll need to know what files they expect you to supply. This'll be an elaborate collection of files for each page, including any scans and graphics. You should also send or fax your laser-printed hard-copy so they can check their output against it. You should also supply a hard-copy listing of all the files you've sent, the fonts you've used and what you want done with them.

Your bureau will expect you to fit in with it (which is why it pays to find one good bureau and stick with it), but you won't be free to get out of step: if it changes its software version or font company, so must you. Don't expect to find anyone who's eager to print your *PublishIt Easy* and *Home Publisher* files (although some might, if you give them the program disks), or overjoyed about using TrueType fonts. Unfortunately, this rather elegant font technology arrived too late to play a prominent role in the DTP revolution. Imagesetters don't like TrueType fonts, because even if they can print them, it's an exceptionally slow process. TIFF images and graduated and radial tints are equally slow when it comes to imagesetting.

Film vs bromide

You may want to send film to your printer, rather than bromides straight from the imagesetter. On the face of it, this is a good idea because it cuts out a whole processing stage. However, there's more than one way of presenting film to your printer (negative or positive, right reading or back to front, etc) and it is a costly mistake if you get it wrong. Moreover, it's surprising how often errors seem to be invisible until you get the bromide – for example, rules in the wrong place, typographic errors (known as 'literals') and so on. You can change these at the bromide stage – just as people did before the invention of page layout software – with Tippex, a scalpel and cow-gum. It isn't so easy to make changes on film.

At the printers

Depending on the size and complexity of the job, you may get various proofs from your printer. The most useful will be the one printed from the correct plates on the correct paper (printers have small hand 'proofing presses' for this purpose). This proof will enable you to see if any mistakes have been made by the printer. When possible, you should also check the quality of the job as it comes off the run. Is everything there and in the right place? If you're working in colour, this is where you check the registration (the way the different colours overlay one another), though obviously the printer should be as concerned about that as you are. Are the blacks strong and unblemished? Are the white areas clear? Look at the half-tones. Are there any scratches or blemishes that weren't on the original?

If you see anything you don't like, mark it on the proof and ask for an explanation. Don't allow yourself to be dazzled by jargon. Make sure that all your discussions with your printer are clearly understood on both sides. You're making a major investment and you want to get it right.

When your publication is delivered, your job still isn't over. You have to distribute or sell it. But you must also find time to sit quietly and study it carefully. What could you do differently next time? Now start your next issue.

Over the last 12 months MACFORMAT has covered many aspects of the editing process: structuring articles, use of colour, researching and interviewing techniques, page layout and much more. We hope we've been of some use to you, but remember there's no better teacher than experience. Good luck. *John Morrish*

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Type Twister

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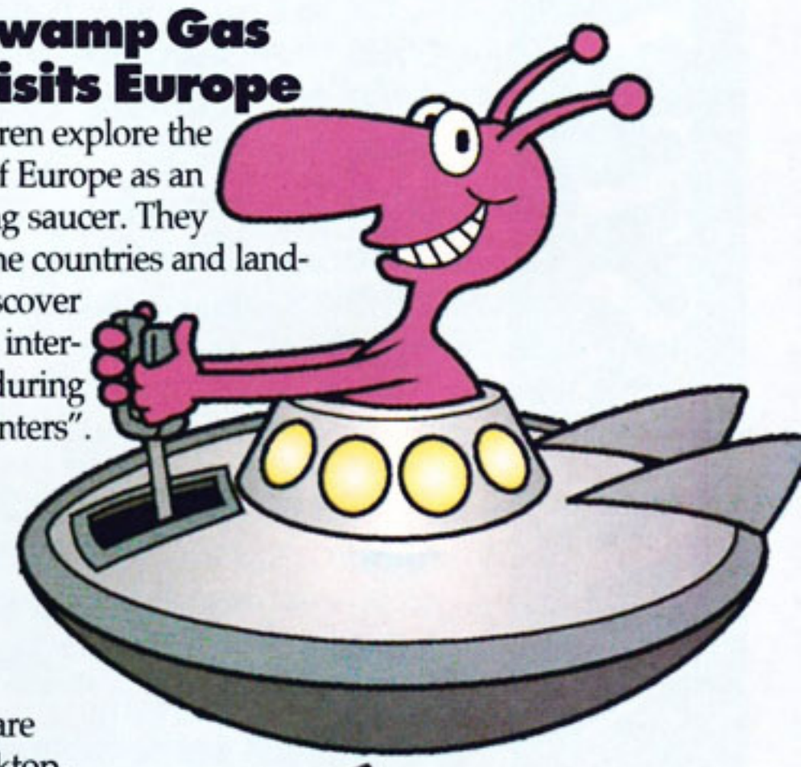

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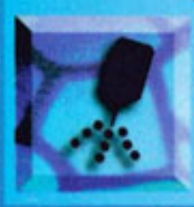

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Share and *share alike!*

If you build up a collection of useful handlers that you want to use with more than one stack, you don't have to build them into each stack. No? No, you can 'share' stacks. Here's how...

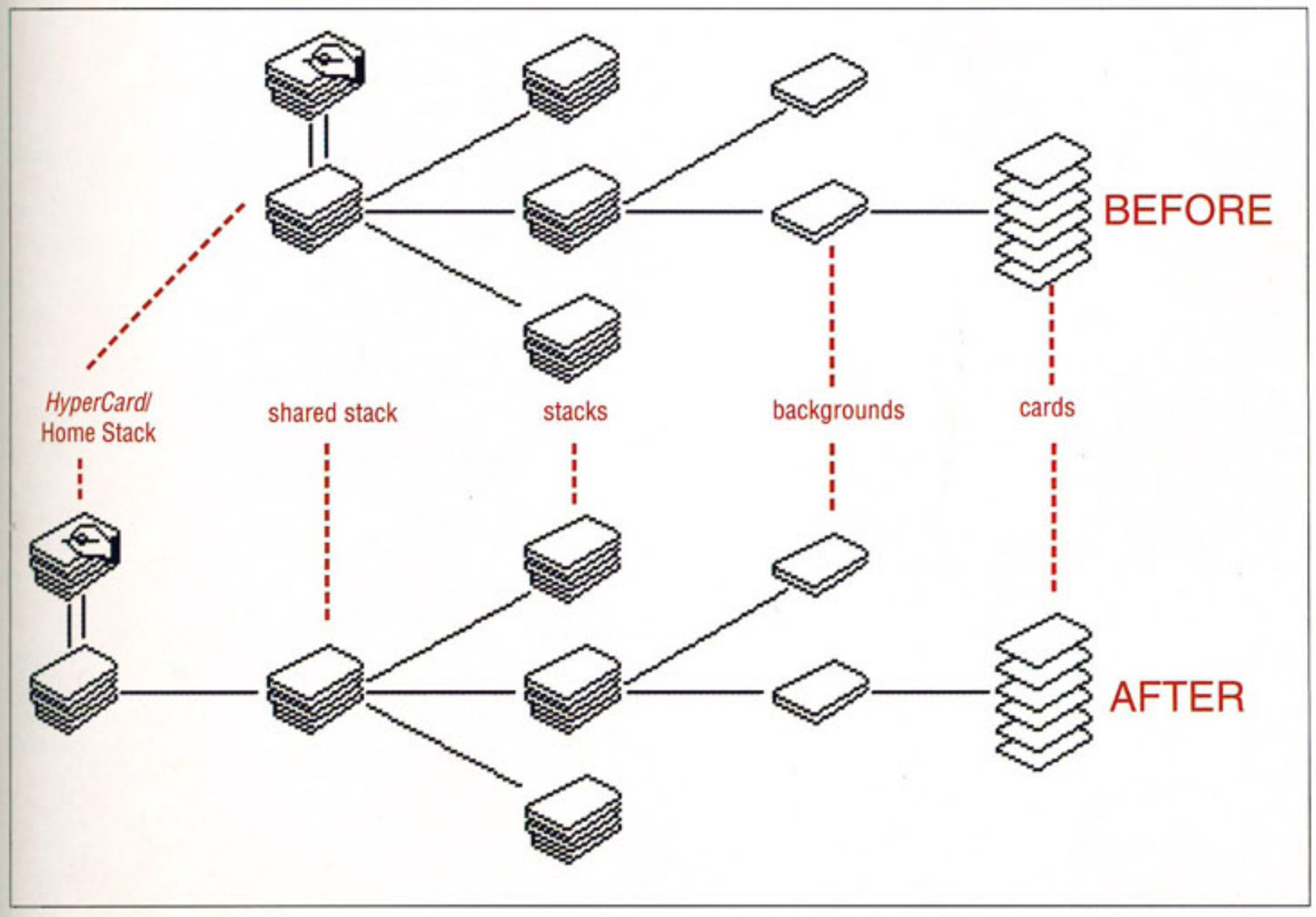
Where in *HyperCard* should you place your most worthwhile handlers? Imagine that you had worked out a routine to calculate what day of the week it was going to be on any given date in history. That's the sort of handler that could come in really handy whatever stack you're working on. So there's not much point in putting such a handler in the stack script of any single stack.

The other alternative is to put the handler in your Home Stack script – but mistakes made here are potentially far more dangerous than mistakes made in any other stack scripts. What's more, your Home Stack script is a fearsomely complicated thing with which to start tinkering. Besides, you might not want it available all the time – and the last thing you want to do is clutter up your Home Stack script with handlers you only want to use now and then.

As you've probably guessed from this build-up, there is another solution: sharing stacks. A 'shared' stack is inserted between your current stack and the Home Stack. All the messages sent from your current stack, and the objects within it, now pass through the shared stack before reaching the Home Stack and *HyperCard* itself. In effect, another step has been introduced in the message-passing hierarchy.

What you can do now is put all your useful handlers in the stack script of a single stack, and then you can 'share' this as and when you need it. The HyperTalk command to do this is `start using stack "[stack name]"`. When you want to stop using a stack, the HyperTalk command is, not surprisingly, `stop using stack "[stack name]"`.

This opens up lots of interesting possibilities.



This is what happens when you start using a shared stack. The stack is inserted between the current stack and the Home Stack, and all the mesages sent from objects and cards now pass through the shared stack on their way back to *HyperCard*.

For a start, you may realise that one of your other stacks has a handler in its stack script that you want to use right now. If this is the case, type `start using stack "[stack name}"` into the message box. You'll now be able to use that handler, either by sending a command via the message box or by creating a button. In fact, you can work as if that handler was in the current stack script.

Stacking your Tools

Here's another idea. You may have amassed dozens of useful everyday handlers that you don't want to insert into the stack script of every stack you use. So why not put them into the stack script of a single 'Tools' stack? That way you can use them whenever you need to.

True, it's just as effective to put them all in the Home Stack script, but you can switch 'shared' stacks on and off. All you need is a simple button that starts or stops using your 'Tools' stack according to whether or not you need it at the time.

This actually highlights a difference between storing handlers in the Home Stack script and keeping them in stacks to be 'shared'. The Home Stack script is always available, but as soon as you quit *HyperCard*, any 'sharing' arrangements you have made are cancelled. To put it another way, if you are currently 'sharing' a 'Tools' stack, and then decide to quit *HyperCard*, when you re-launch it, that particular 'Tools' stack will no longer be shared. You have to `start using` it again.

OK, you can do that with a simple button, or by sending the command via the message box, but what if you want it to happen automatically? This simple handler will do the job:

```
on openStack
  start using stack "Tools"
end openStack
```

Put this in the stack script of any stack and it'll start 'sharing' your 'Tools' stack automatically.

If, on the other hand, you only want the 'Tools' stack to be available to that particular stack, you would need a handler like this:

```
on closeStack
  stop using stack "Tools"
end closeStack
```

This means that the 'Tools' stack will only be available to this one stack. (Actually, if you wanted to be really pedantic, you should inter-

A NIP, A TUCK AND A WHOLE NEW FACE FOR PHONELOGGER

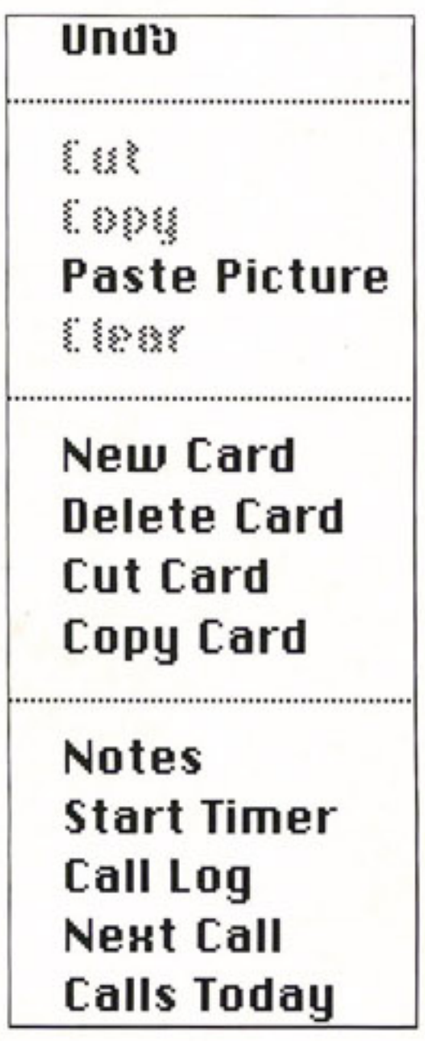
Last month we talked about menus – how you could create them, modify them and make them do almost anything you wanted. To demonstrate what's possible, the *PhoneLogger* stack, which we included on MACFORMAT 16's cover disk (if you missed that issue, turn to page 100 to order your copy) has been rewritten so there're no buttons at all – everything is done by menu commands.

OK, the original *PhoneLogger* stack worked well enough as it was, but it did suffer from a fairly major drawback as an application – it looked like a *HyperCard* stack. This was a definite problem because (a) there are certain Macintosh users who cannot bring themselves to take any *HyperCard*-based application seriously and (b) *PhoneLogger* contained many *HyperCard* menus and options that simply weren't relevant.

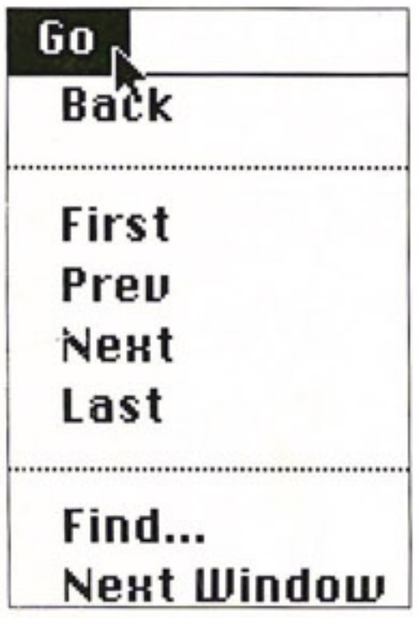
That's why we chose to revamp *PhoneLogger*. All the buttons ranged down the left have been converted into menu options, and the menus and options that weren't used have gone. You'll note there's nothing in the way the menus perform or look to suggest that they're home-made or transient. In fact, there's not much to suggest that it's running under *HyperCard* at all. As ever, the stack is unprotected and, if you load *PhoneLogger 2* from this month's cover disk, you can examine all the scripts to see how it's done.

There is one neat trick that we didn't cover in last month's magazine, though. Different users will have different *HyperCard* menus, depending on any external commands (XCMDs) installed. How can you delete existing menu items without knowing if they're there or not? (If you try to delete a non-existent menu item, you get an error message.) Simple. You don't try to delete menu items individually, you simply replace the entire menu contents with a set of your own items held in invisible shared fields! If you want to take a look at them, type `show field "[menu name]"` in the message box.

If you want to quit, [command] Q still works. Or, on the other hand, you can choose 'Quit PhoneLogger'. This takes you back to your Home Stack.



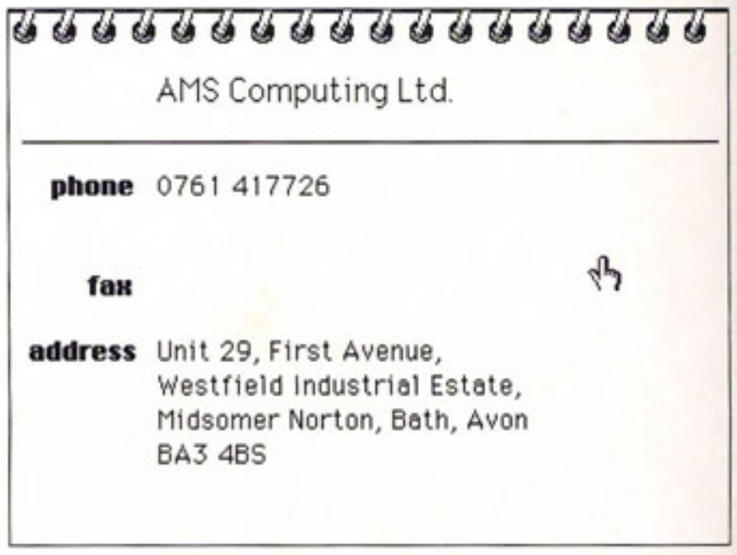
The modified 'Edit' menu. Some standard items are missing from the old 'Edit' menu, but new items have been added to replace them.



Redundant *HyperCard* commands have been deleted from the 'Go' menu so that only relevant functions remain.

Redundant *HyperCard* functions have been taken out of the 'File' menu and 'Quit PhoneLogger' has been inserted instead of 'Quit HyperCard'.

The original *PhoneLogger* worked well enough, but you could spot it was a *HyperCard* Stack a mile off.



The new *PhoneLogger* has none of the original buttons, instead all its commands have been built into the menus.

cept the `on suspendStack` and `on resumeStack` handlers too.)

A word of warning

Since you can automatically start sharing another stack like this, it seems logical to take it one step further and build features into your stacks that rely on these 'shared' handlers. That's all well and good, but you should proceed with caution – because you might move your 'Tools' stack, modify it or even lose it. And if you intend other people to use your stacks, it's best if they are entirely self-contained. So, you should avoid building elaborate dependencies between your stacks. Even if they make sense at the time, complicated sharing setups can be a nightmare to unravel later.

XCMDs

HyperTalk handlers are not the only stack resources you can share. *HyperCard* can also cope with bolt-on eXternal CoMmanDs (XCMDs) and eXternal FunCtioNs (XFCNs). These are resources that are made up of compiled code, which either carries out standard HyperTalk functions at a much faster rate than normal, or offers commands and features that are not available with the standard program. The *Audio* stack, which was provided with *HyperCard*, and the *AddMotion* 2 stack, which you get with *HyperCard 2.2*, are just a couple of examples of these resources.

Many useful stacks are available from third-party developers. Here what you are buying is a combination of professionally-designed stacks complete with additional functions and commands. A third-party stack may be nothing more than a clever use of existing *HyperCard* features, or it may contain a whole new set of commands, with *HyperCard* merely acting as a sophisticated interface.

In any event, these commercial stacks run in conjunction with your own stacks and *HyperCard* – they are 'shared' stacks. The way in which this sharing is initiated varies considerably: some stacks which you get will automatically be 'shared' on startup, others may be toggled on and off by a button on your Home Stack's first card.

XCMDs are outside the scope of this series because they are usually written and compiled in other languages – and this is a *HyperCard* series, after all! Nevertheless, there are many powerful third-party stacks out there, both in the commercial sector and in the public domain. And they all work via the principle of 'sharing'.

Rod Lawton

NEXT MONTH

Most *HyperCard* users give the Home Stack a wide berth, on the basis that if it isn't broken you shouldn't fix it. But you can actually do some very useful things with it. Find out what next month...

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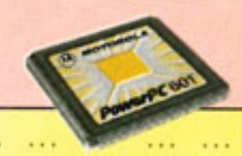

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MAC ANSWERS

GOT A PROBLEM WITH YOUR MAC? WE'RE HERE TO SOLVE IT!

Whatever your Mac problems we're confident that MACFORMAT's experts can solve them. All you have to do is fill in the form on page 80 – or photocopy it if you don't want to cut up your copy of MACFORMAT – and then post or fax it to us. Include as much detail as you possibly can about your setup and the software you're running, in particular the version number (to get this, highlight the program icon, then select **Get Info** in the **File** menu or press **[command] I**).

Please note that we are unable to answer questions over the phone – so there's no point ringing us up with technical enquiries. We're also unable to enter into personal correspondence – even if you enclose an SAE.

Do-it-yourself problem solving

One of the main causes of a program not working properly is something called an INIT clash – this ominous-sounding term means your program isn't happy with one of the system-level Extensions (INITs in System 6) 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 telling you 'Extensions 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 is the culprit is to move them all out of the System folder, then put them back in one at a time – not forgetting to restart your Mac after each one – and test the program again after each one has been replaced.

This month's queries and questions are quashed by the quintessential quintet of Simon Cox, Jim Chandler, Stuart McHugh, Derek Smith and Garrick Webster. An even better team than the 1954 Spurs side!

Mac Talk

PROGRAMMING

Q *I would like to do some programming on the Mac. The only programming I have done before is on the Commodore, BBC and Acorn Electron. I want to know what programming language you recommend – I don't want anything like BASIC. Also I'm worried that my Mac won't have enough memory for the language that I buy.*

Joel Winston
Edgware, Middlesex

A You don't say why you want to avoid BASIC, but I suspect it's because it's not especially good! (Though it has improved a lot recently, with the likes of *Visual Basic*.) If you want to do work that will generate a Mac application quickly but simply, working with *HyperCard* would be a good bet. If you want similar easy coding but graphics are important, then *SuperCard* would be a good choice. But if you are keen to do 'real' programming then Pascal or C would be a logical option. The best implementations of these are *Think C* or *Think Pascal* from Symantec. Both of these programs cost £176.25. For more details call Principal on 0706 832 000. *SMcH*

Backup blues

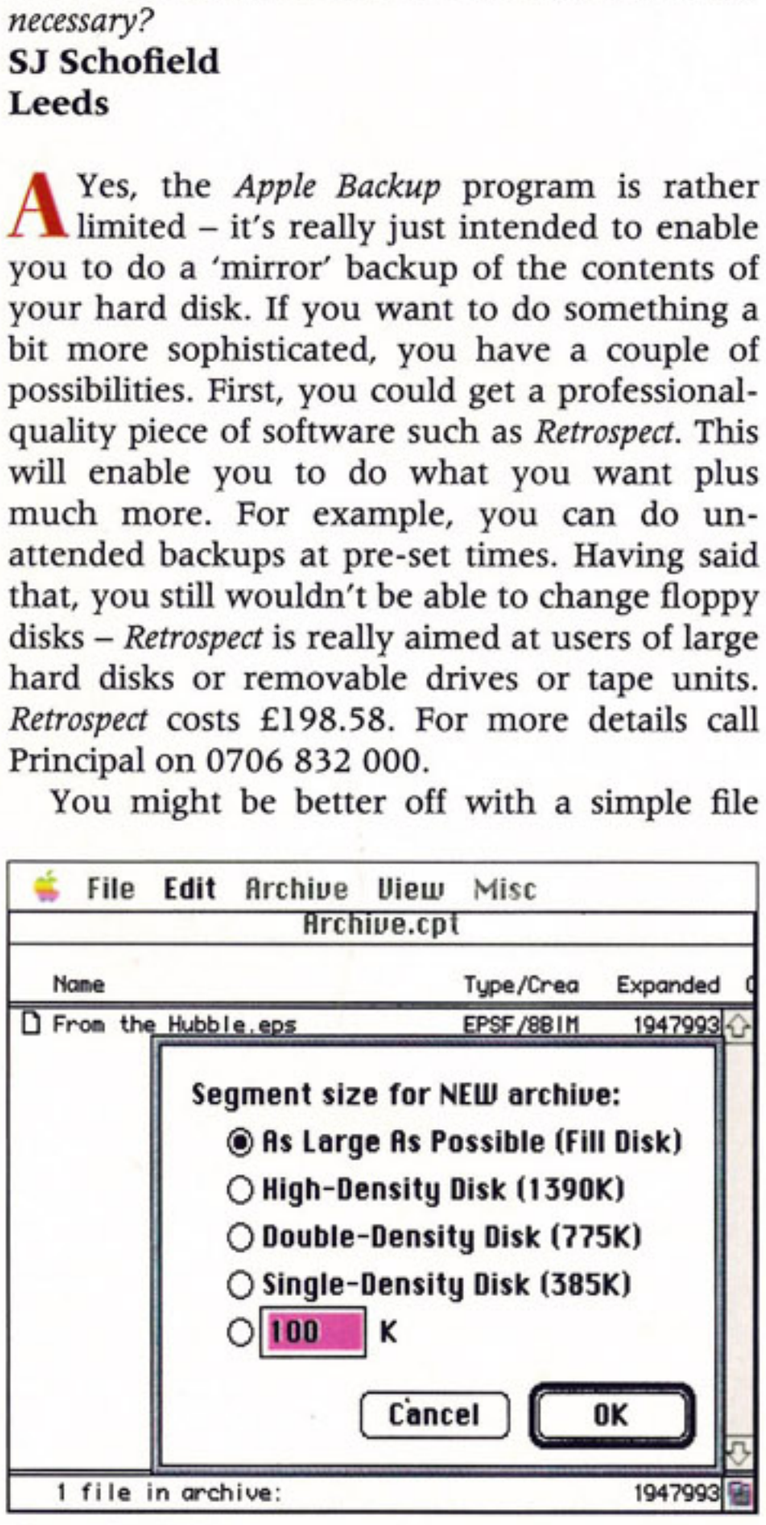
SOFTWARE

Q *Using the* Apple Backup *utility that came with my Performa 400 I can see no way of taking a backup copy of my software that is larger in size than the 1.4Mb limit of the internal drive on my Mac, other than backing up the whole System. Is there any backup/restore software available that is more flexible than the rather limited* Apple Backup, *will enable me to be selective in the programs I want to back up and will enable me to use more than one disk where necessary?*

SJ Schofield
Leeds

A Yes, the *Apple Backup* program is rather limited – it's really just intended to enable you to do a 'mirror' backup of the contents of your hard disk. If you want to do something a bit more sophisticated, you have a couple of possibilities. First, you could get a professional-quality piece of software such as *Retrospect*. This will enable you to do what you want plus much more. For example, you can do unattended backups at pre-set times. Having said that, you still wouldn't be able to change floppy disks – *Retrospect* is really aimed at users of large hard disks or removable drives or tape units. *Retrospect* costs £198.58. For more details call Principal on 0706 832 000.

You might be better off with a simple file compression utility such as *Compact Pro* (my favourite, and it's shareware) or *StuffIt*. Then you can back up your files in compressed form, thus saving space. Both of these programs will also enable you to segment files, so even if the compression doesn't take them down sufficiently in size to fit on a 1.44Mb floppy, you can still split the larger files over several floppy disks. And you can select any file or combination of files to form part of the archive. *StuffIt* costs £76.38. For more details contact Principal on 0706 832 000. *SMcH*



We use *Stuffit Deluxe* to segment our cover disk on to two double density disks for people with old drives.

Ripped off?

GENERAL

Q *I own a Mac LC 4/40 which was purchased as liquidation stock. As I look through* MACFORMAT *I realise that it is somewhat behind the times. Also the computer came with no manuals and hardly any software except for the Finder and System 7 Suitcase (fonts, etc), so I am having to start from scratch again! Have I been ripped off and can anyone help? The main problem is that I cannot alter screen formats or memory allocations, etc.*

Darren Bennet
Barnsley

A First, whether you were ripped off when you bought the LC depends entirely on how much you paid for it – the asking price for similarly-configured LCs in MACFORMAT's reader adverts seems to be around £500 or so at the moment. Certainly the only software you could expect on the hard disk would be the contents of the System folder – which you have.

Other utilities that usually come with a newly bought Mac, such as backup programs and the like, tend to be on the System floppy disks, which in your case were missing. You can't really expect any programs like *ClarisWorks* or *At Ease*, which are usually part of a specific deal from a high street dealer or a

promotion in conjunction with Apple.

It does sound as if you could do with upgrading your System – not being able to alter settings suggests to me that it is damaged or that some of the Control Panels have been trashed. Short of borrowing System disks from a friend you'd need to buy a System 7 set, which will cost about £35 from any Apple dealer (check your local computer shop or the advertisers in MACFORMAT). It does sound as if you only have System 7.01, so this will be of some use – and you'll get the manuals, which may prove useful too. *McK*

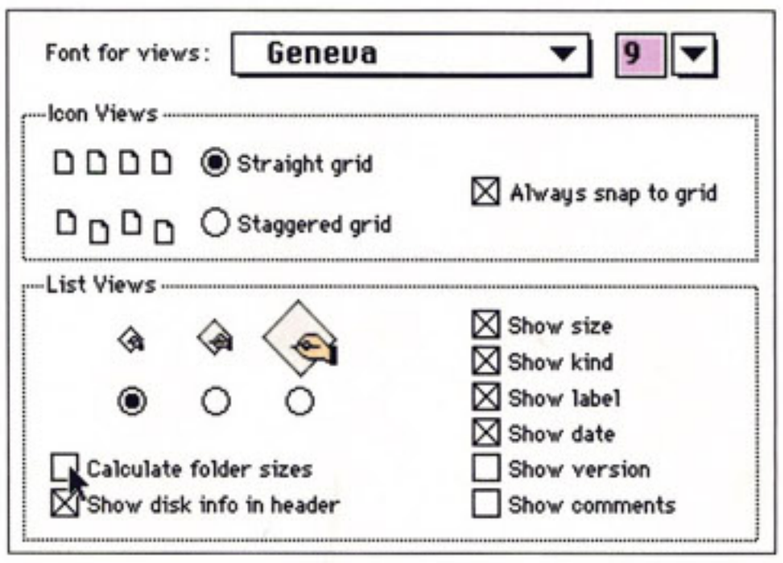
They've been BinHexed

GENERAL

Q *I have a friend who has a modem attached to his PC-compatible machine. He has downloaded some files for me from the Internet. Now, while I can copy them on to my hard disk, I can't do anything with them once they're there. They all appear as just blank document icons, and they've all got names that end in .hqx. Are they compressed or something?*
Janet Cousins
Swindon

A The .hqx is the key. This shows that a file has been BinHexed – that is, converted from the 8-bit binary format used by the Mac, to a 7-bit format, which enables the file to be stored on the archaic UNIX machines that make up the backbone of the Internet.

If you have a decompressor program, like *Stuffit* or *Compact Pro*, then you should have no trouble. Choose 'Convert FROM BinHex4' from *Compact Pro's* Misc menu, or 'Convert BinHex4 file' from *StuffIt's* Translate menu, choose the file you wish to unBinHex, and choose a place to save it. You will probably still need to decompress it before you can use it. *JC*



The Views Control Panel is often overlooked, but it contains handy features, like an option for calculating folder sizes.

The wrong way up

MEMORY

Q *1. Does it take a lot of RAM to leave the 'calculate folder sizes' option checked in the Views Control Panel?*
2. I may be a peculiar person, but if I want to move the mouse to the top right of the screen, my brain tells my hand to move to the bottom left. I have to use the mouse upside down. Is there any way to reverse the way the mouse works?
Cathy MacArthur
London

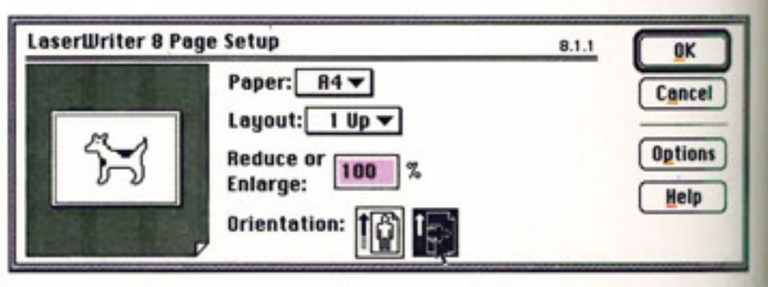
A 1. It doesn't take a lot of RAM to calculate the size of your folders on the Desktop, but it does take time. Unless you really want to know how big your folders are, I'd suggest turning it off. You can always switch it on occasionally to see where all your hard disk space has gone or do a 'Get Info' on the folder.
2. You are definitely not peculiar; this is a reasonably common brain disorder and there is a shareware program to help. I believe the program was designed as a joke, but it does exactly what you are suggesting. I used it about three years ago, but I can't remember what it was called. Can anyone out there help? *DS*

Pint-sized pix

PRINTING

Q *Using* Kid Pix, *I can produce a title page that fills the whole screen, but when I come to print it on my HP DeskWriter 550C, it only comes out at half of A4 size. Is there a way round this problem ?*
Clive Richardson
Hull, Humberside

A The problem here is that your printer thinks the pixels that make up your picture should be smaller than they appear on screen. There isn't an easy way around this using *Kid Pix* on its own, but it's not difficult to fix if you



If you use 'Page Setup' from the File menu you can flip a page on its side, so the image will print out horizontally.

THE CD SIDE OF LIFE

Keep on driving

Q *How does a CD-ROM drive work? How do you extract information from it? How much RAM do you need to get full use out of a CD?*
Brano Ilic
Australia

A The internal workings of a CD-ROM drive are basically the same as those found in any audio CD (see MACFORMAT 14 for more details). In practice, though, you use it in the same way as a floppy disk. Pop a CD into your CD-ROM drive and its icon appears on your Desktop. Double-click to open the first window; you can then drag stuff to your hard disk or open a program. Unfortunately, CDs are similar to floppy disks in another way: they're both frustratingly slow.

How much RAM you need varies. Most people find 4Mb a bit limiting. Indeed, many applications require an 8Mb System to work fully, so if you upgrade to 10Mb that should be sufficient. Buying a CD-ROM is an extremely wise move – providing, of course, that you can afford to buy the CDs for it, which are currently selling at about £50 a throw. Of course, MACFORMAT's cover CD makes shelling out for a CD-ROM drive worthwhile all by itself. *DS*

Playing with a CD

Q *CD-ROMs have become very popular. Is there a specific Mac version for such discs, or can I play any CD on an Apple CD-ROM?*
Walter Van Lerberghe
Belgium

A No, you can't use just any old CD in your drive. To work properly, the CD must be a Mac version. However, most important CDs are released for both PC and Mac formats, so you should be able to get any application you want.

Incidentally, you can put a PC CD into a Mac drive and get it to appear on the Desktop. The reason is that the Mac includes a couple of Extensions in the System Folder that enable it to use PC data. Your machine won't be able to open a PC application, but you will be able to copy many standard formats of text and graphics. *DS*

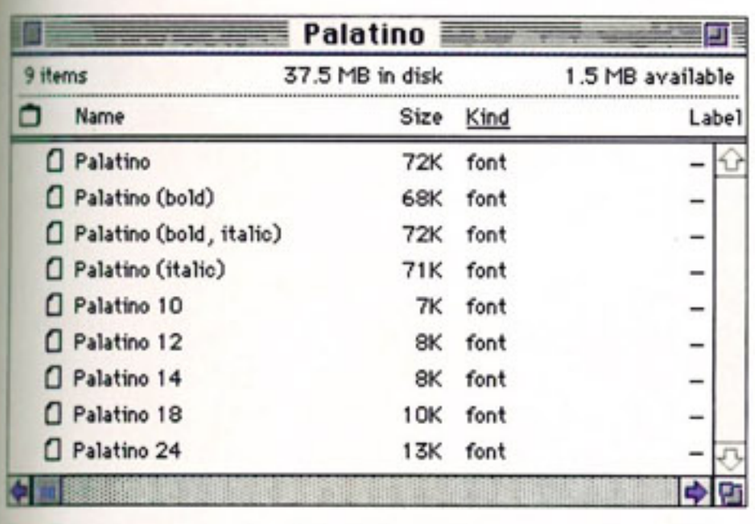
Do I need a bigger one?

Q *I own a Colour Classic and would like to purchase a CD-ROM. However, I've noticed some of the CDs you review require a 14-inch monitor. Do most CDs require a larger display, and do I therefore need to buy a second screen?*
Andrew Humphries
Milton Keynes

A The Colour Classic has a 10-inch screen (with the same resolution as Apple's old 12-inch colour monitor). Many graphics-intensive and multimedia CD applications do require a 14-inch screen.

Although buying a second monitor would work, you should consider trading-in your machine for an LC475 (or better) if you want to get into CDs seriously. This is because many CDs require hefty processing power just to handle the sheer volume of information. You may even want to consider a larger machine than the LC475, because then you could get an internal CD drive. Not only is this slightly cheaper and aesthetically more pleasing, but it also saves messing around with SCSI cables. *DS*

"Will it play 78's?"



TrueType fonts contain all the information needed in one tidy suitcase to take up a minimum of menu space.

have a word processor or graphics package.

Save your title page in *Kid Pix*, and then start up your other program – let's say *ClarisWorks*. Select a new blank page, then choose 'Page Setup' from the File menu, and click on the right-hand icon under the heading Orientation. Then click on OK. The page displayed on the screen should now be landscape (wider than it is tall). Now, choose 'Insert' from the File menu, and choose the *Kid Pix* file containing your title page. When it appears on the page, you should now be able to select it and drag the corners of the image out to fill the page. If you now print out the page, the picture should fill your A4 sheet. *JC*

Lies, all lies!

SPREADSHEET

Q *I was trying to get a cell in my* ClarisWorks 2.1 *spreadsheet to calculate a number and round it to two decimal places. I looked up 'rounding' in the functions section of the* ClarisWorks *User's Guide, then typed in the quoted formula exactly as stated (substituting my own variables, of course). The problem is I keep getting the 'Bad Formula' message when I try to calculate that cell. Can you tell me where I'm going wrong?*

Neil O'Sullivan
Dagenham, Essex

A You're not going wrong anywhere. The problem is that *Claris* has consistently printed commas instead of semi-colons in the Functions appendix of the User's Guide. Hence, almost any formula copied from the manual won't work.

Rather than going by the book, the best way to enter a formula into a cell is to use 'Paste Function' under the 'Edit' menu. That way you won't have to worry about typing in the formula correctly – all you have to do is get your variables right.

To get the cell to round a number to two decimal places, select 'Paste Function', then scroll down and select 'ROUND(number; number_of_digits)'. Paste it into the cell, then replace 'number' with the calculation you want to execute. If you're dividing the sum of cells D3, D4 and D5 by cell E5, for instance, you type '=SUM(D3..D5)/E5'. The 'number_of_digits' part of the formula refers to the number of decimal places you want. All you have to do is replace that phrase with the number 2, and you're away. *ClarisWorks* will calculate the value for the cell, rounding the result to two decimal places.

If, however, you want to round cells to whole numbers (that is without any decimals), all you have to do is enter a negative figure where it asks for the 'number_of_digits'. For instance, to round the same outcome to the nearest ten, the formula you'd enter in the cell would be '=ROUND(sum(D3..D5)/E5;-2)'. *GW*

Monotype's multiple sins

FONTS

Q *I installed the Monotype Photina font family from the July* MACFORMAT *cover disk on my PowerBook 165c. Now, when I pull down a font menu, I see all four font styles listed separately. My font list is becoming unnecessarily long.*

Why don't Adobe and Monotype fonts work in the same way as Apple's TrueType fonts, with only the typeface name listed in the menu?

Tony O'Brien
Tipperary Town, Ireland

A This is probably to make life easier for the font manufacturers, and to allow a degree of backwards-compatibility. Monotype Photina has been around for some time as a PostScript face in those four cuttings (or styles): roman, italic, bold and bold italic. Rather than combine them, it's easier for Monotype to just convert all four faces to TrueType separately.

Also, many people are used to seeing which cuttings are available in their font menus, and prefer to see exactly what they've got. Not showing all the available fonts could be misleading. If they had Photina installed, for instance, they wouldn't be able to see from the menu whether they had Photina Italic available. If they hadn't, they might end up with an italicised version of Photina Roman, which looks ugly.

I expect things will change in the near future, though; Apple is improving the System's font handling with every new release. It can't be long before those dreadful, endless font menus get an overhaul. *JC*

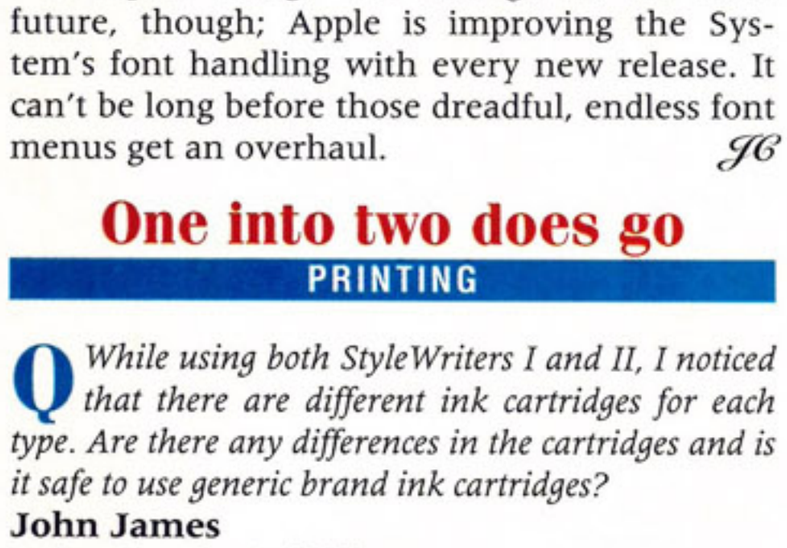
One into two does go

PRINTING

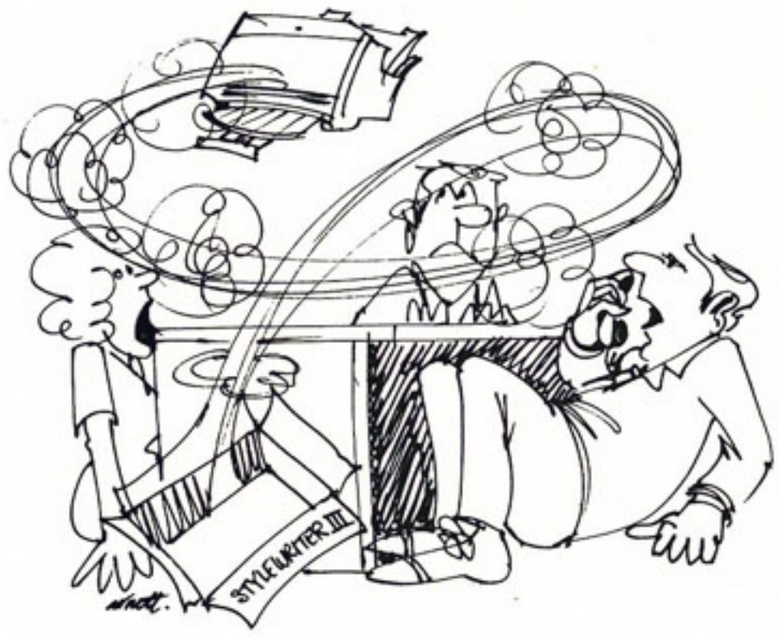
Q *While using both StyleWriters I and II, I noticed that there are different ink cartridges for each type. Are there any differences in the cartridges and is it safe to use generic brand ink cartridges?*

John James
Lakenheath, Suffolk

A It is possible to purchase ink cartridges for use in both the StyleWriter I and II. However, before you start swapping them around, make sure they're designed to work with both types of printer, because some of the cartridges that were originally released with either one of these printers are incompatible with the other – so, a cartridge that was originally released for the StyleWriter I, may not work with the StyleWriter II. Your dealer should have the appropriate cartridges. *JC*



The best way to get a formula into a cell is to use 'Paste Function'. That way you don't have to mess about with incorrect formulas that you've copied from the manual.



"...Yes, it is very fast. But we were expecting more bubble and less jet."

All at C Programing

PROGRAMMING

Q *I am interested in writing applications for the Macintosh and have several questions.*

1. Is it possible to program windows, icons and menus in Think C*?*

2. Where does one get specialist documentation on how to do this?

3. What is a registered developer and how do I become one?

4. I am thinking of learning assembler on my Quadra 610 and was wondering whether this is different from the assembler on a PowerMac?

Anonymous,
Nuneaton

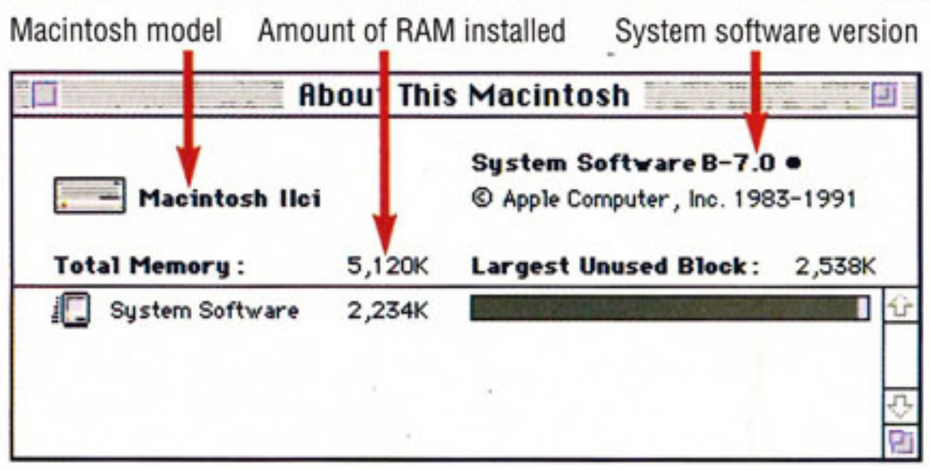
A 1. *Think C* is an ideal application for developing Mac applications, and any of the features that you see in existing applications can be programmed with it.

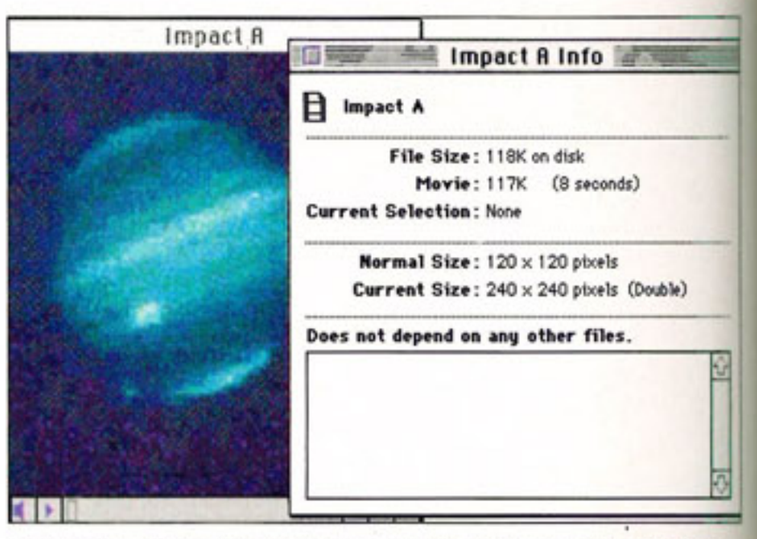
2. To find out how to do this, you'll need to study various manuals – the most well known of which are the *Inside Macintosh* series. These are written by Apple, published by Addison Wesley and available from most large bookshops. Be careful, though: there's a bewildering number of these books and they don't discuss how to actually write programs for the Macintosh. Your best bet is probably just to visit a large bookshop and browse through the available titles, because your choice will depend largely on your level of experience. There are a number of books that deal specifically with programming in *Think C*.

3. If you want to develop a number of Mac applications, then it makes sense to become a registered developer. This is organised by the Apple Programmers Developer Association (APDA), which is part of Apple. For an annual fee, it will provide you with privileged access to forthcoming software and documentation, as well as discounts on some developer products. When you hear about people using test ver-

HOW MUCH RAM HAVE YOU GOT?

Obvious, but true: even the same models of Mac can have different amounts of memory or run different System software. To solve your problem, first we need to know all about your setup; find out here. Ensure you are in the Finder, point to the **Apple menu** and go to the first item, **About This Macintosh**, then release the mouse button, and all will be revealed.





QuickTime 2.0 will introduce smooth, full-screen video for fast Macs, like the PowerMac, and reasonable quarter-screen clips for older models, like the LC or Mac Classic.

sions of new Apple software, they have usually obtained them by being registered developers. For more information contact APDA at Apple Computer Inc on 0101 716 871 6555 or e-Mail: APDA@applelink.apple.com.

4. Assembler programming is the lowest level of programming available – you will be writing programs in a language that is very close to the one the processor executes. The PowerMac and other Macs use different assemblers because they have different processors. I don't think there is much to be gained by learning assembler. Most modern compilers can produce efficient code for languages like *C* and these languages are great deal easier to program. *SC*

Going Native

SYSTEM

Q *When is a fully native (PowerMac) System coming out? Is* QuickTime 2.0 *bundled with System 7.5?*

Juha Mikkola
Finland

A First, the good news: System 7.5 will run native on the PowerMac; this means speed improvements across all the software you use. The PowerMac and standard Mac versions of the software will be marketed in the same box, and the installer will automatically install the correct version.

Now the bad news: as we reported in the News section in MACFORMAT 15, System 7.5 won't include *QuickTime 2.0*, simply because it wasn't ready in time to be included in the bundle. However, *QuickTime 2.0* is now available in the US and will be available here very soon (see page 28 for more details). This will mean shelling out more money because *QuickTime* will be sold as a separate commercial package. (But watch for more news soon...!) *DS*

MACANSWERS

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, IIfx, PowerBook 145):

.....

Approximate age of machine: .....

System version
(see About this Macintosh screenshot above):

.....

Amount of RAM
(Total Memory figure from the About This Macintosh dialogue box):

.....

Are you using virtual memory? .....**YES/NO**
(This is accessed from the Memory control panel under System 7)

Do you have 32-bit addressing turned on? .....**YES/NO**
(This is accessed from the Memory control panel under System 7)

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:

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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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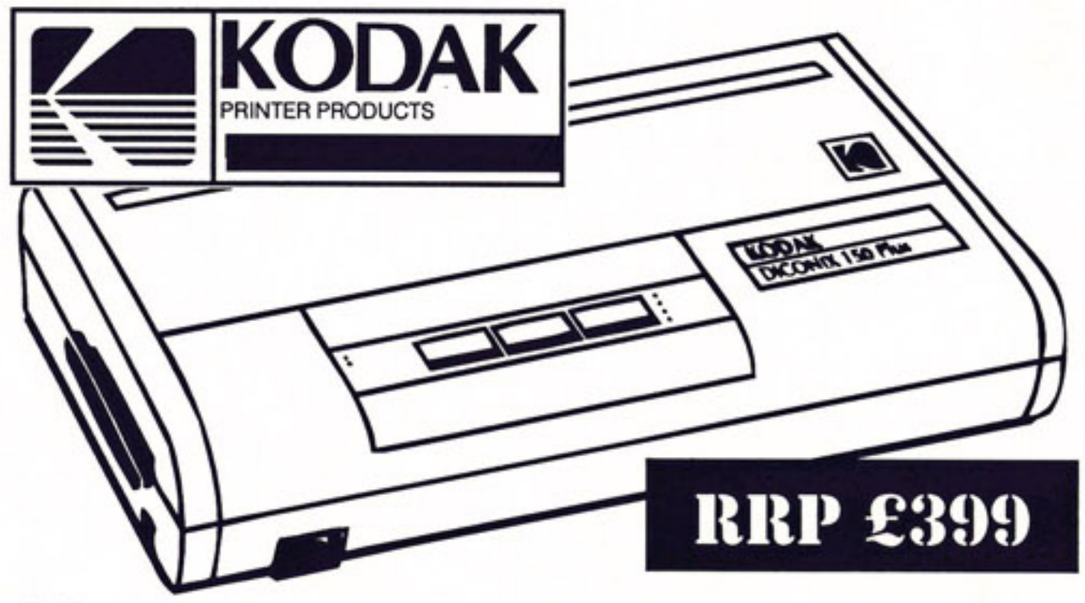

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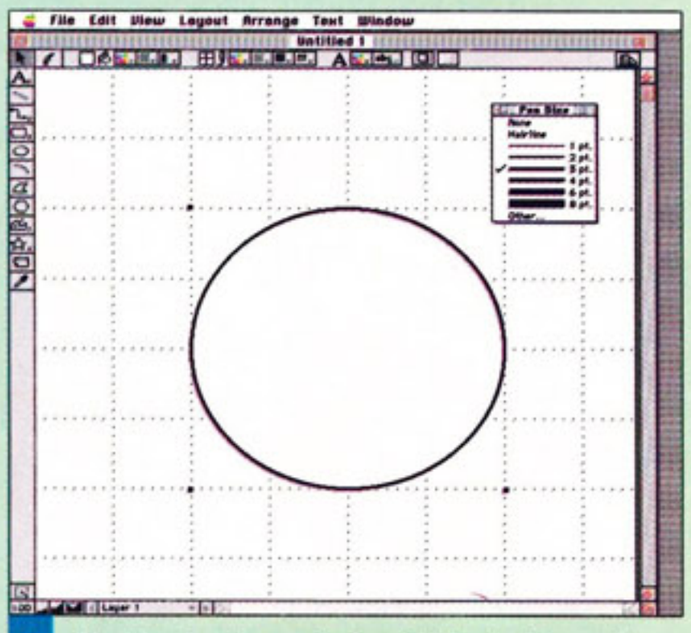
ClarisDraw 1.0

An old favourite gets a new name and a whole load of new new features – including intelligent tools.

CREATE A LOGO

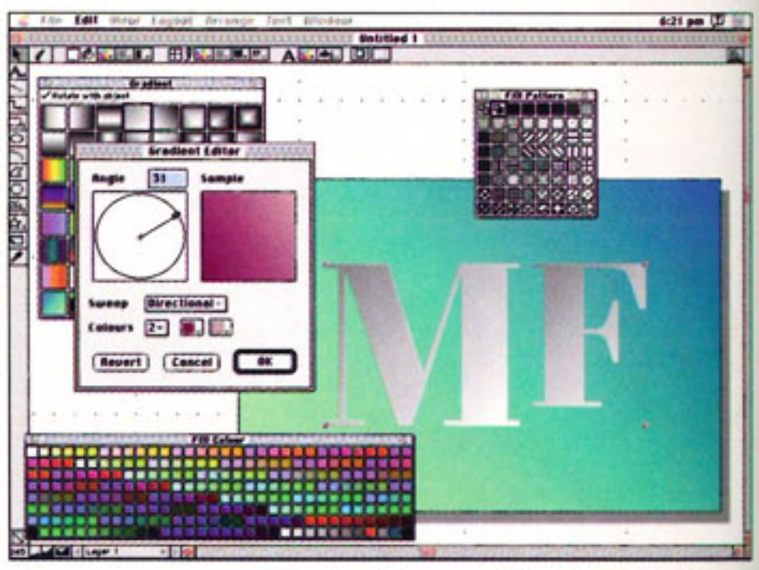


1 Start by drawing a circle with the tool from the left side of the screen. You can then thicken the circle's line with the pen toolbox.

One of the most popular drawing programs on the Mac has to be *MacDraw*. Claris has taken the old soldier and given it a complete overhaul – including changing its name. It also has many new features that'll change the way you use the existing ones. As well as the familiar drawing tools, the program now has a simple, *Photoshop*-style paint editor. As John Motson would say, *ClarisDraw* is a program of two halves.

The program's look has been updated to feature docked palettes that you can 'tear away' for easy access. Each palette has a 'window blind' button that temporarily closes the palette so it doesn't get in your way. *ClarisDraw* closely resembles *ClarisWorks*, making the program less intimidating for many newcomers.

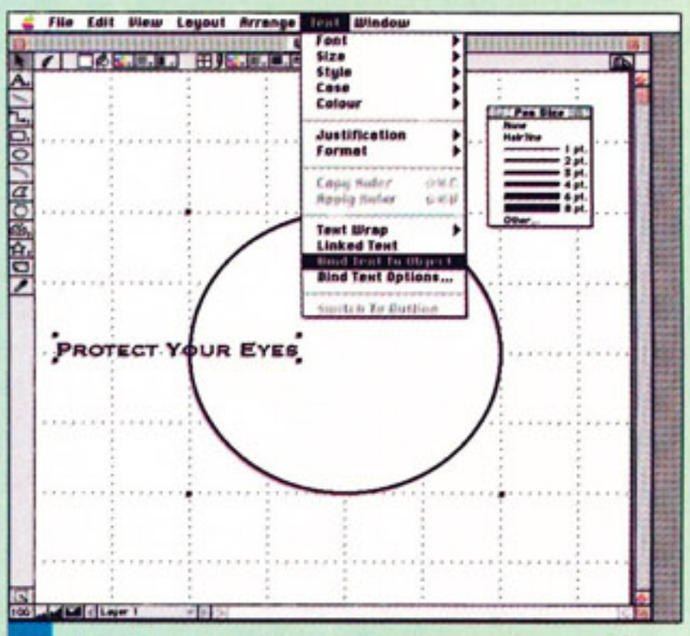
The core of *ClarisDraw* is the drawing toolbox, which runs down the left-hand side of the screen. This has all the basics you'd expect, including polygon creators and bezigon curves (flexible lines that you can adjust at will). Also included here is an icon that brings up a box where you can type text.



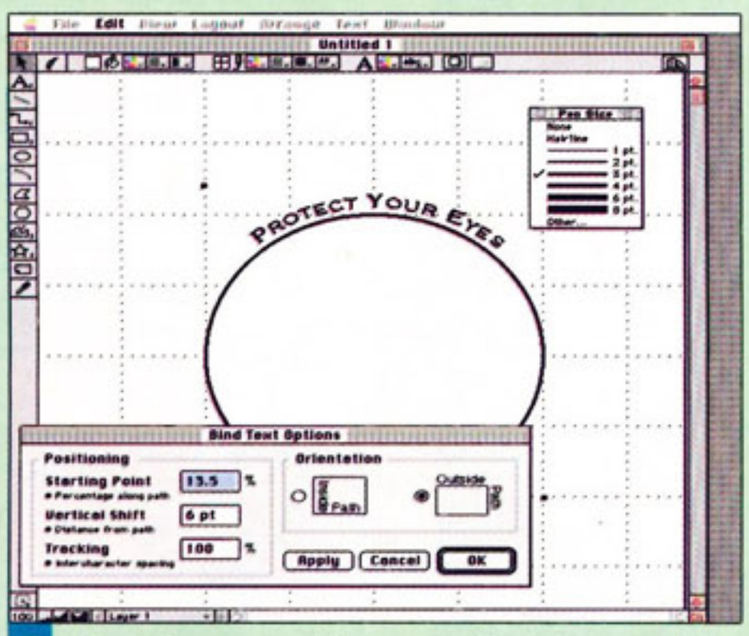
After calling up a palette, by clicking and holding on its icon, you can drag it to any point on the screen.

There's a basic word processor lurking inside *ClarisDraw*, with adjustable fonts, sizing, styles and so forth. There's also an option that gives you a standard font and style for headlines or body text – desktop publishers will be familiar with this idea. You can call up a text ruler with buttons for justification, and convert the text shape into an image, so you can colour and manipulate it just like anything else.

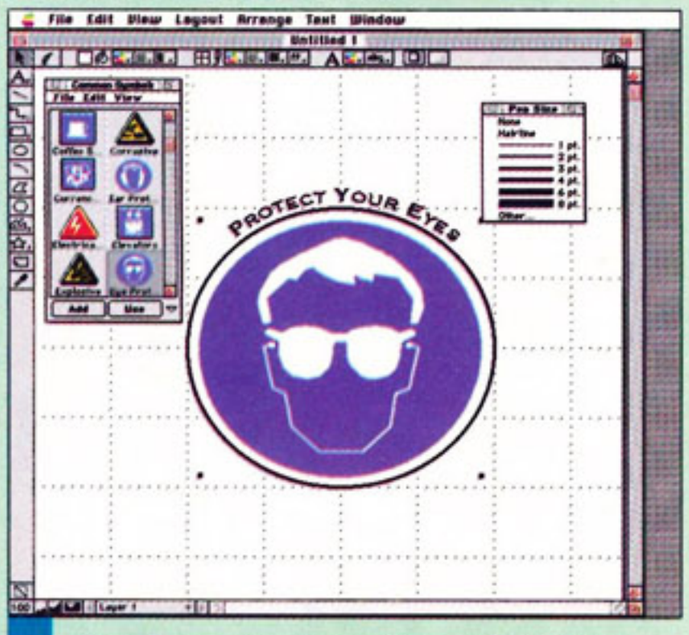
You shouldn't really expect the same quality of text-setting standards as you'd get with a full word processing package (such as tracking, horizontal scaling, and the normally automatic adjustments that are made when you're using a different type face). But considering the program's primary purpose, the text functions do their job extremely well. Would you believe



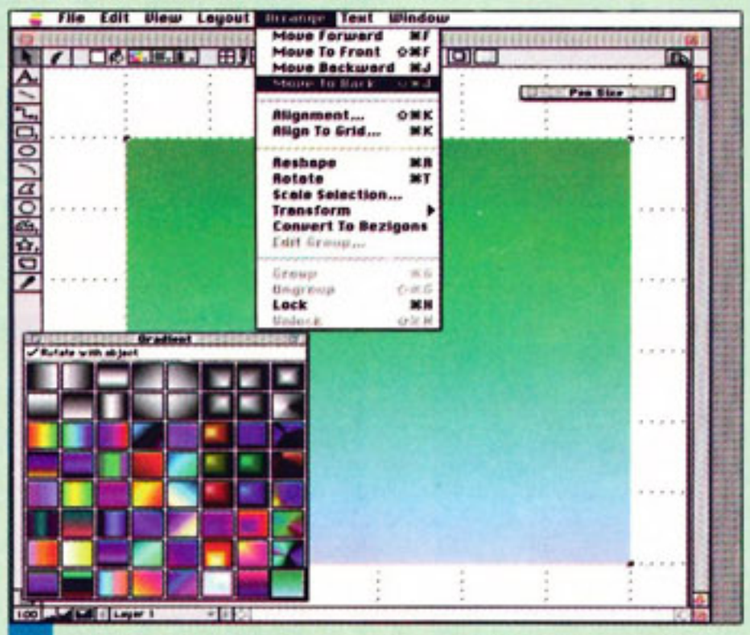
2 Use *ClarisDraw's* text editor to create your title. Next, we're going to curve our text. Click on both items and use the 'Bind Text To Object' option.



3 The text wraps round automatically, but you need to position it properly by using this dialogue box. You can have the text inside or outside the circle.



4 *ClarisDraw* comes with a library of pre-drawn symbols that you can pick out and use. Here we've taken a safety icon and enlarged it.



5 We've drawn a square and used the gradient toolbox to fill it in, but – oops! We've covered up all that other stuff. You'll need to push the square to the back.

6 The finished article. You can close down the toolboxes to get a better look, and use the text colour box to fiddle about with your headline.

there's even a spell-checker?

Right next to the drawing toolbox is a paintbrush icon. If you click on this and mark a box on your work area, it'll reveal a set of new icons that give you basic painting functions. These include brush shapes and a spray can, as well as a Magic Wand to mark out a specific area where you want to work. There are also commands that enable you to lighten, darken or tint an area. You can import and work on all standard image file types. And while the paint editor can't hope to match those found in bigger programs, many people will find it more than adequate for their needs – though flicking between the Draw and Paint modes can be confusing at first.

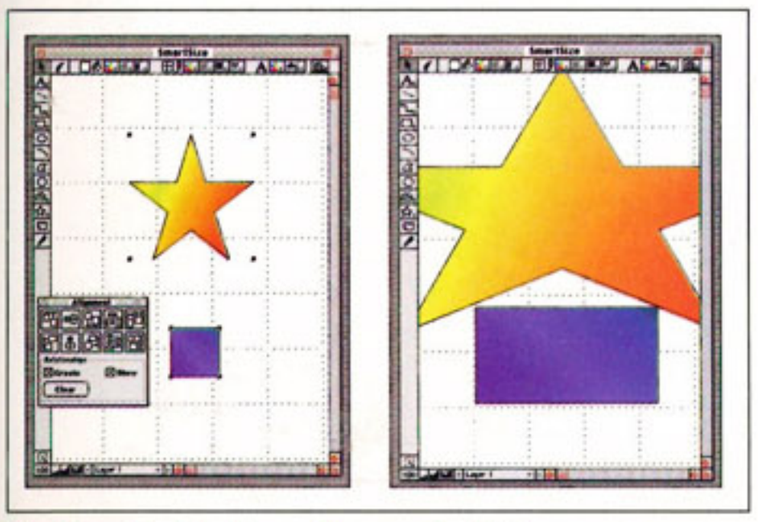
The reason you mark an area specifically for painting is because the drawing tools use vector techniques: they use the mathematical description of a line or shape. The painting tools are bitmap, however, which means your Mac remembers the image dot-for-dot. The way to make these two systems work together is with the Layer Manager. This enables you to divide

ClarisDraw closely resembles ClarisWorks, making the program less intimidating for many newcomers.

an image into several planes. You can work on each layer separately without interfering with the others; or you can mark a paint area on the base layer, and overlay it with drawn shapes. This is useful when you're creating complex drawings that need fiddly adjustments.

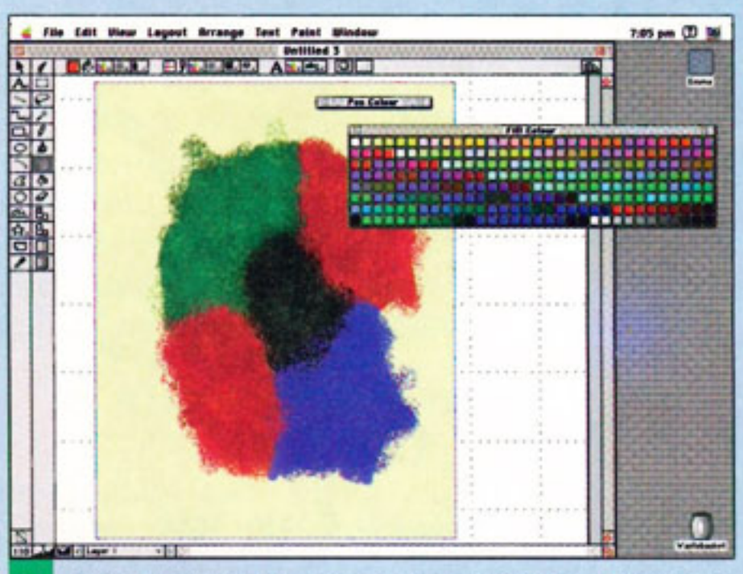
Along the top of your work area are sets of icons for altering your pen, fill and text options. Each of these options includes a palette of up to 256 colours – and if you don't like the preset selection, you can change any of the colours via a colour wheel. You can fill shapes (and text if you convert it) with colour gradients that smoothly change from one hue to another. In addition, there's a palette of 64 gradients and, again, you can alter any of these. There's also a customisable pattern palette.

ClarisDraw is capable of fancier footwork than all of this, though. It's easy to make text bend around a shape by making it part of that shape. There're also options for adding shadows

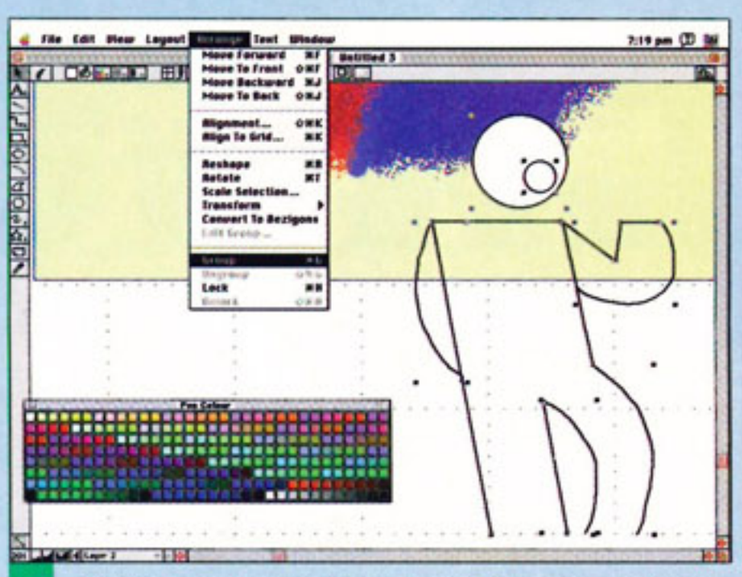


The 'SmartSize' facility enables you to link two or more shapes together, meaning that when you change the proportions of one object, the others adjust automatically.

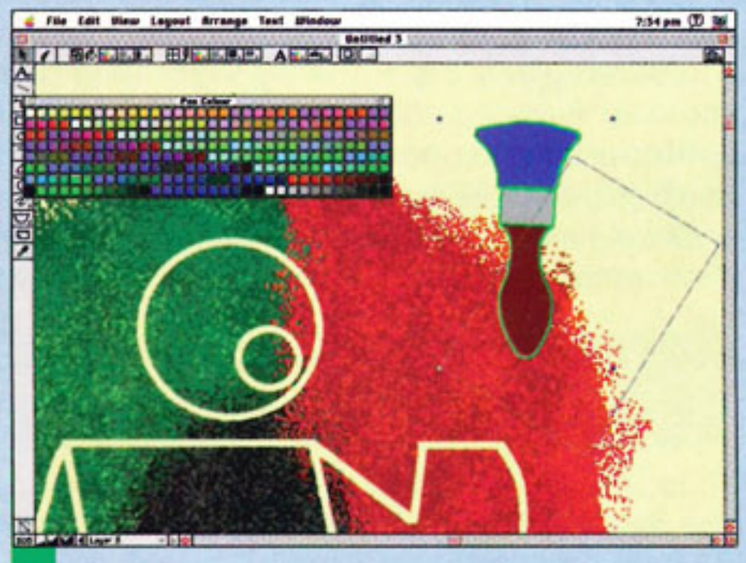
DESSINEZ UN OBJET D'ART



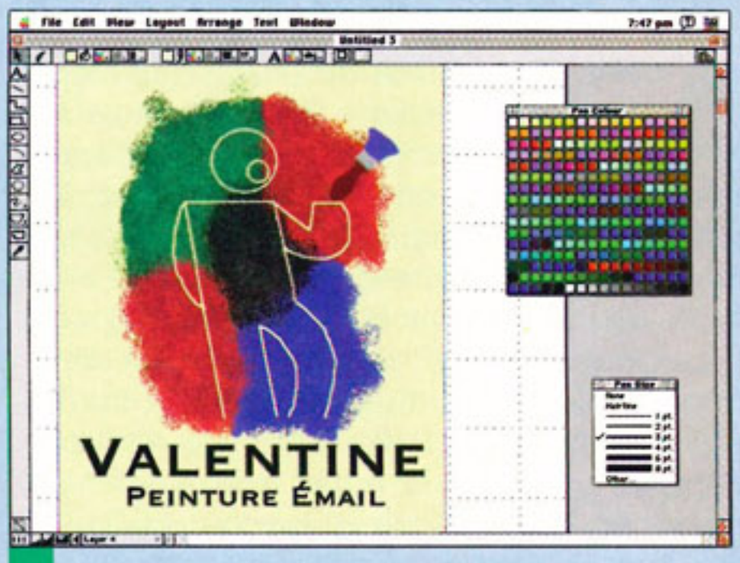
1 With the Layer Manager, you can make the Draw and Paint toolboxes work together. Begin with a Paint window, spraying it to make a splodgy backdrop.



2 Create a new layer with the Layer Manager, and make a figure with the drawing tools. Make the shapes into a single element with the 'Group' command.



3 On to layer number three; use the drawing functions to design a brush. Again, use 'Group' to join the elements, and use 'Rotate' to place it at the correct angle.



4 Add a title – c'est finis. You can change the backdrop without upsetting any of the other parts. The original poster was designed by Charles Loupot, by the way.

to shapes, or for giving a shape a 3D embossed effect. A button at the top-right of the work area gives you access to a wide range of predrawn symbols and designs, which are kept as libraries. You can drag any of these designs out of its window and drop it on to your work area, changing its size and shape if you like. You can also store your own designs in a library. There are also many 'intelligent' options that enable you to group lines and shapes together, and move and manipulate them as one. Another useful function enables you to make several objects exactly the same size.

ClarisDraw is excellent for creating basic designs, but it wouldn't be fair to expect the same range of capabilities as you'd get in a more expensive program. It can also be used to quickly create diagrams for business purposes, and there are several options to help you do this. A connection tool will link together two shapes with a line, so when you move one of the shapes, the line will adjust to the shape's new position. Using this tool in combination with the text editor enables you to make flow diagrams quickly, for example. In addition, a presentation editor enables you to plan a sequence of drawings – you can set the time before the next drawing automatically appears on screen.

ClarisDraw has a good variety of options, and, generally, the menu commands and tool icons are intelligently grouped together. There'll be few occasions when you'll misplace an option because it would have been better placed elsewhere. However, the redesigned interface makes using the program very intuitive – which means you'll be able to create work quickly, with little fuss. The other point in its favour is it doesn't demand a lot of memory, an asset that can never be underestimated in these times of RAM-hungry programs.

Reservations? Considering the competitive price of, say, *ClarisWorks*, it's a shame the pricing of *ClarisDraw* couldn't have been more aggressive – but it's still very reasonable value for such a complete package. *Richard Hill*

CLARISDRAW 1.0

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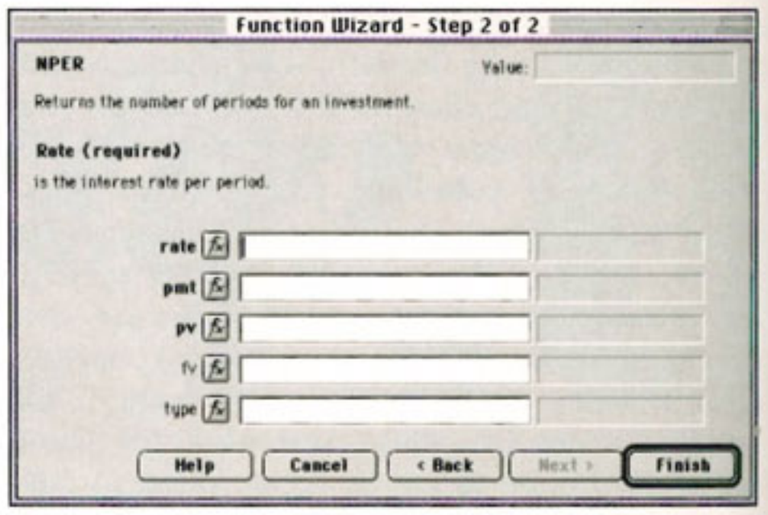
Excel 5.0



You no longer have to remember all the arguments to a function – just ask the Function Wizard.

With the demise of *Lotus 1-2-3 and Claris Resolve, Excel* now has a clear field as far as dedicated spreadsheet applications are concerned – but how does this new version measure up?

Any new version of *Excel* is something to be welcomed – if only because it's the only dedicated spreadsheet application left on the Mac. In the last year, its only real competitors, *Claris Resolve* and *Lotus 1-2-3*, have both been discontinued, leaving the spreadsheet modules of the integrated *Works* applications as *Excel's* only competition.

You'll notice the differences between this new version of *Excel* and its previous incarnations as soon as you install it on your Mac. For starters, there are now loads of installation options. The 'typical' installation (which requires about 16Mb of disk space) gives you most of the add-ons you'll need.

On the other hand, you could go for the 'complete' installation. This gives you an extra 6Mb of additions, including tools that enable you to access external databases. And finally, if you're struggling with a fairly small hard disk, you can opt for the 'minimum' installation (with the smallest possible set of extras), which needs just 8Mb of space.

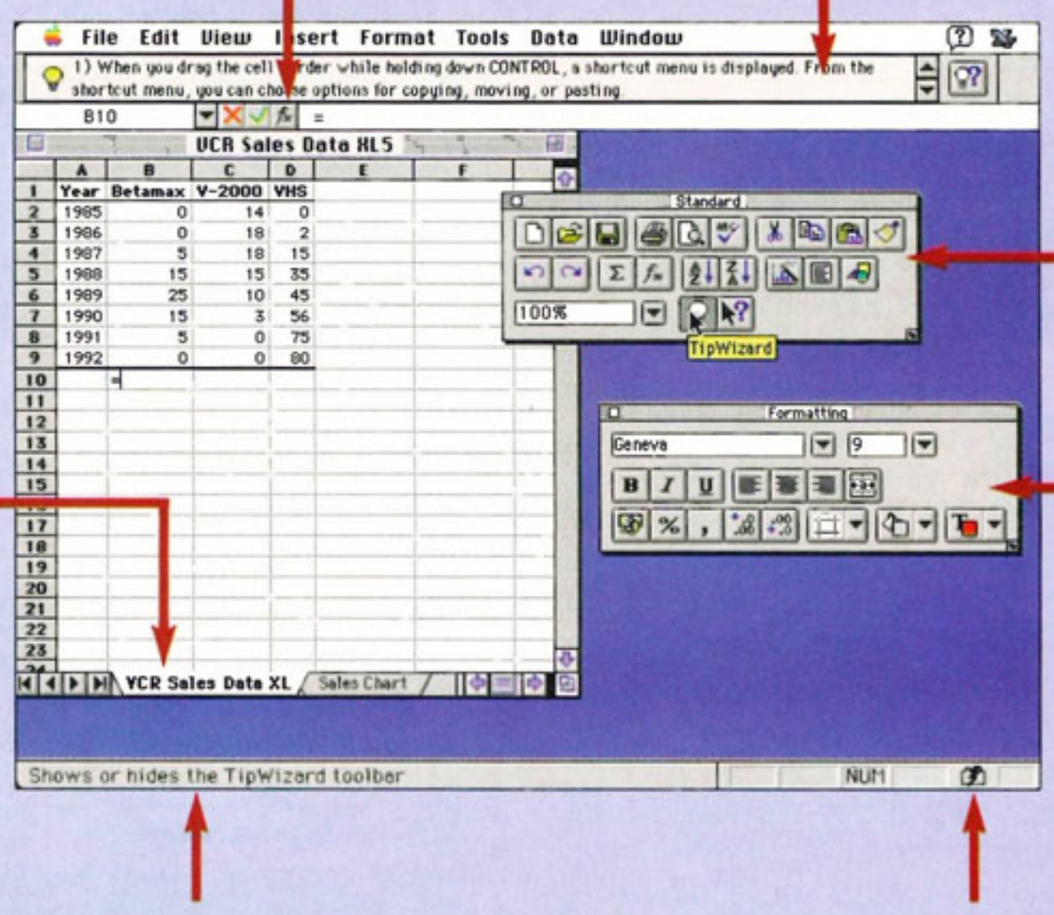
Once you've selected your installation type, *Excel* 'quietly' slips a few files into a number of places on your Mac, including your System Folder – then you just restart and you're away.

First impressions

The first thing you will notice after launching *Excel* is a collection of thumbnail buttons that are placed along the bottom of the worksheet window. These buttons represent the upgrade's first major change: the inclusion of three-dimensional worksheets like those used in the now defunct Mac version of *Lotus 1-2-3*, and the shareware spreadsheet *Mariner*. These three-dimensional worksheets will greatly help with the organisation and analysis of data.

Usually a worksheet is divided into cells, which are accessed by a vertical column letter and a horizontal row number. This structuring is suitable for certain styles of data, but not for others. For example, it is difficult to structure a worksheet that contains a complete year's monthly sales statistics in a way that makes calculating a monthly average straightforward. As you may remember, the previous version of *Excel* attempted to overcome this problem

THE NEW FACE OF EXCEL 5.0



JARGON BUSTERS

Apple Guide: an extended help facility available with System 7.5 that provides 'how to' examples.

AppleScript: a new Apple System Extension that provides a scripting system for controlling applications.

Drag Manager: a new facility in System 7.5 that enables you to drag an object from one application into the window of another application.

OLE: Object Linking and Embedding. This is Microsoft's way of enabling you to edit an object from one application in another application.

OpenDoc: a forthcoming Apple System Extension. It does the same thing as OLE, but will be supported by other non-Microsoft manufacturers.

Palette: a floating window with buttons.

Pivot Table: a summary table that produces different views of sections of data according to your formulas.

PowerTalk: a new Apple System Extension that unifies many network services. In particular, it provides a mail service.

QuickDraw GX: System 7.5's new graphics system. It provides better graphic and type control.

Toolbar: a docked palette.

Worksheet: where the values are entered and manipulated.

through the use of 'Work Books', but they proved rather unwieldy to use.

Excel's new depths

With the new three-dimensional approach, the worksheets contain pages like a book. So, for the previous example, a separate page can be allocated to each month's statistics. Extra pages can then be added to produce summary information and charts.

The formula notation used to reference cell ranges has also changed. So, while you can still use the function AVERAGE(A1:A10) to calculate the average of cells A1 to A10, you can now also specify a range across a number of worksheets. For example, in the new version of *Excel*, the function AVERAGE(Sheet1:Sheet5!A1:A10) will calculate the average of all the cells numbered A1 to A10 on sheets one to five. You can also give the sheets meaningful names like 'January Sales' or 'Sales Summary'. The three-dimensional worksheets can contain up to 255 layers, which should be quite adequate for most uses.

The worksheets aren't the only things to have undergone changes, though. The toolbars have also been tweaked. They can still be dragged away from their docked position to become floating palettes, but now if you leave the cursor on one of the toolbar's options, a short description appears. While these 'tool tips' are neat, they're really just 'balloon help' by another name. Having said that, they're less intrusive and slightly more useful than the balloon system, because they isolate an area where such immediate help is useful, rather than telling you everything an application does.

Meet the Wizards

The program also contains a new toolbar: the TipWizard. This offers hints that are specifically tailored to help you with the type of work you are currently doing. Its repertoire includes keyboard shortcuts and brief explanations of what error messages mean.

Excel 5 has also improved the way you can turn toolbars on and off – you can now simply hold [option] and click in any toolbar to bring up a pop-up menu where you can choose whether you want to display the toolbar or not. There's also a full-screen option that will make a worksheet expand to fill the entire screen, covering all the ribbons and toolbars.

Another nifty addition comes in the form of the Function Wizard. This tool is designed to help you enter functions when you can't remember what they do or what arguments they take. This is particularly useful, because it saves you constantly flipping back and forth through help screens or the manual. What's more, the worksheet remains active behind the Wizard, which means the values for a function can be entered by clicking on the appropriate cells in the worksheet.

Top of the charts

One of *Excel's* main strengths in the previous version was its charting ability. While it may not be as exciting as some of its now discontinued predecessors, it's always produced good charts with the minimum of effort. One of the main reasons for this has been the Charting Wizard, which takes you through the procedures step-by-step. While this tradition continues in the new version, there are few extra features too, like the excellent 'drag and plot'. This enables you to add new data to an established chart – you simply select the new information and drag it on to the chart. The chart will then be redrawn to include the new figures.

Excel 5 is also useful when you want to view your data in a slightly different way. AutoFilter creates a pop-up menu at the top of each column that contains a summary of the data in that column alongside some keywords, such as '(All)' and '(Custom)'.

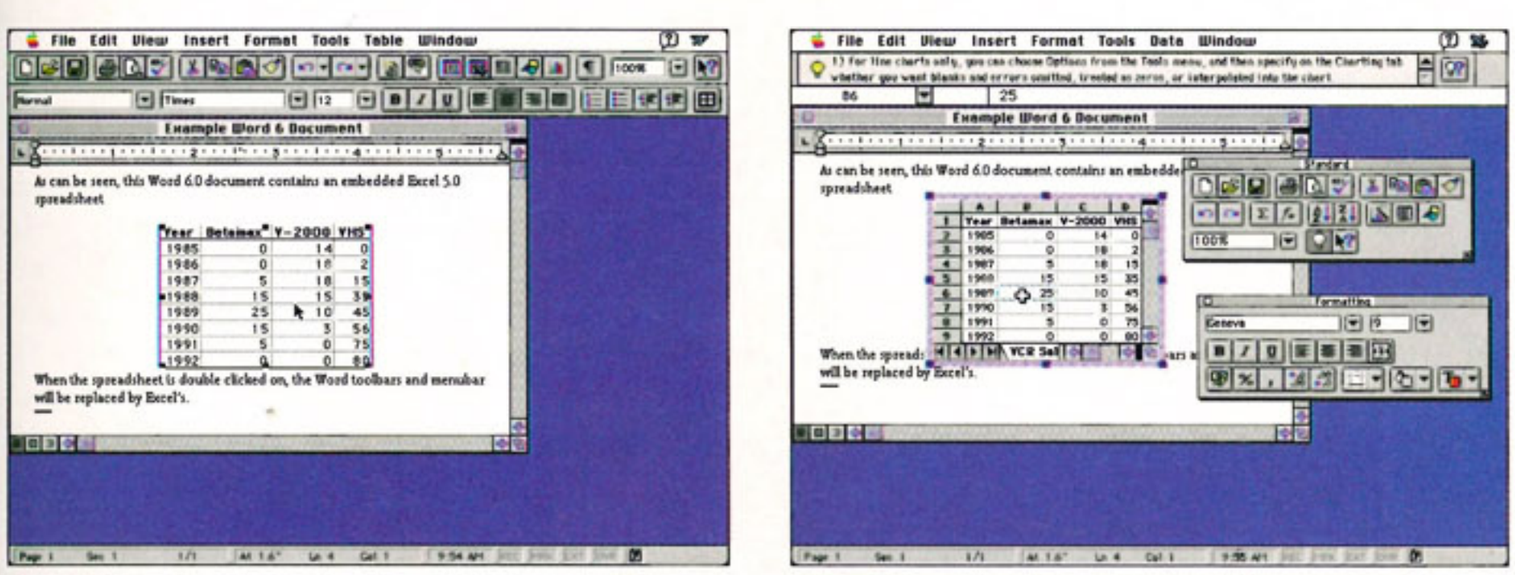
Selecting one of these keywords initiates a search for any data in the column that matches the criteria of the keyword. '(All)', for instance, displays the complete column, whereas '(Custom)' enables you to request more complex information, like all the values in the column that exceed a certain amount. If you select these keywords on all your columns, it acts like a database query in the previous version of *Excel* – except it's substantially easier to work with.

Turn the tables

In addition to this flexible system, *Excel 5* also introduces Pivot Tables. These are interactive tables that transfer sections of data from

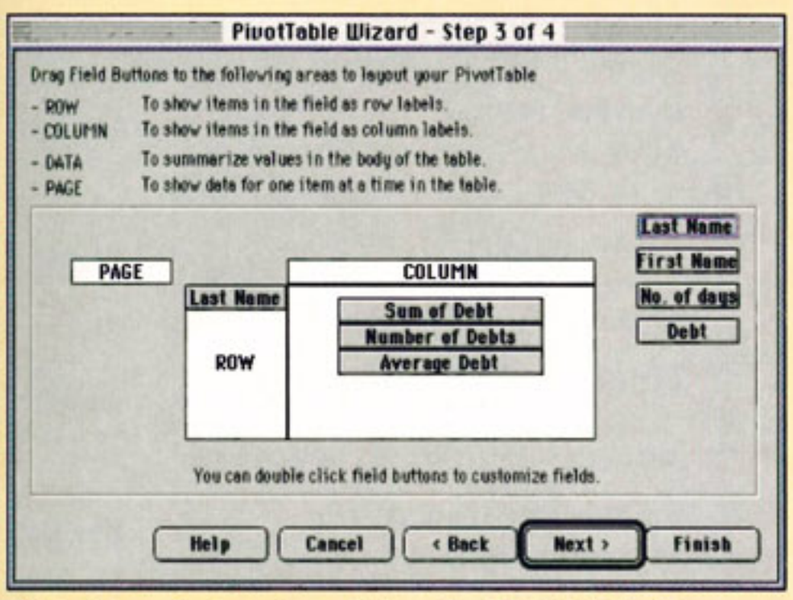
MICROSOFT OFFICE INTEGRATION

OLE is just one part of the new version of *Microsoft Office*, which includes new versions of *PowerPoint* and *Word* too. Also included in the bundle is Connectix's *RAMDoubler*, which you're going to need, because the new Microsoft applications require a large amount of memory. However, the new version of *Office* has a new level of integration. In addition to OLE 2.0, Microsoft has kept the same underlying structure in each of the applications – menu items, dialogues and palettes all work in the same sort of way. This makes the new suite easier to learn and use.

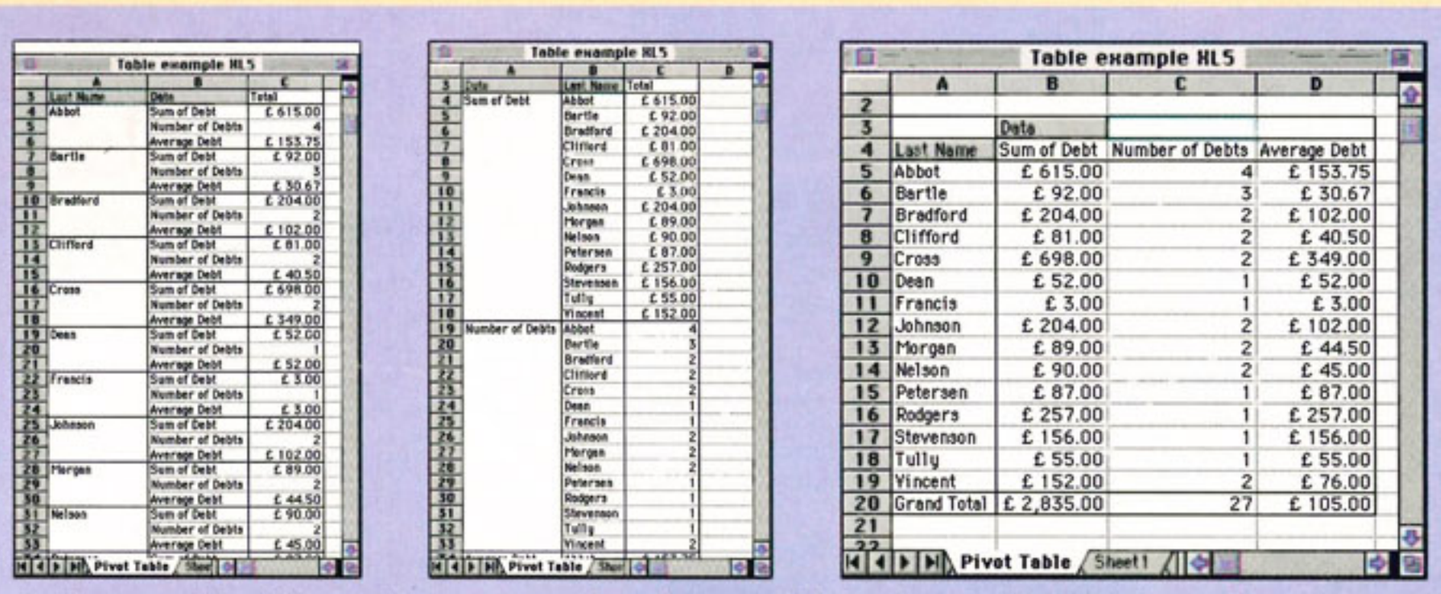


OLE 2.0 in action. When the spreadsheet in the *Word* file is double-clicked, *Excel* takes over so you can edit it.

SWINGS AND ROUNDABOUTS?

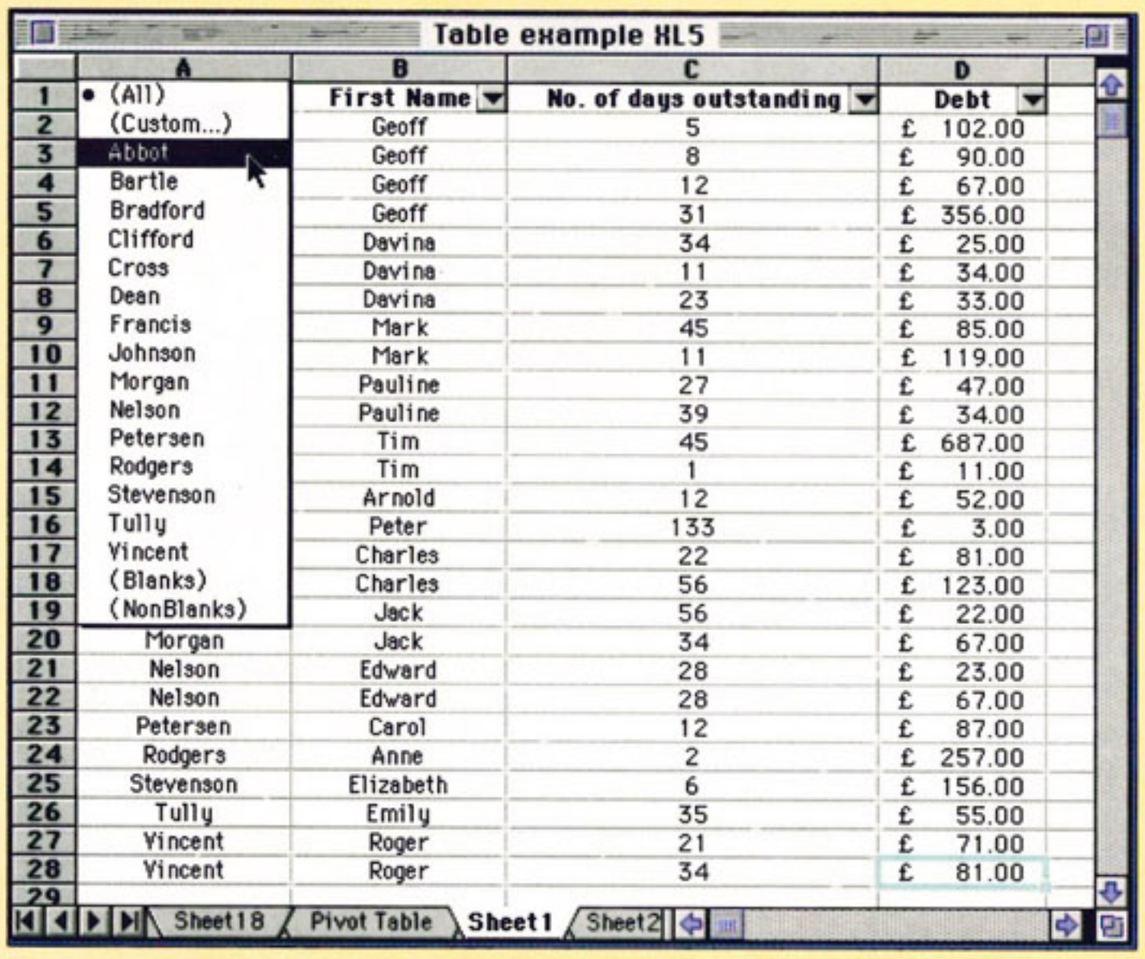


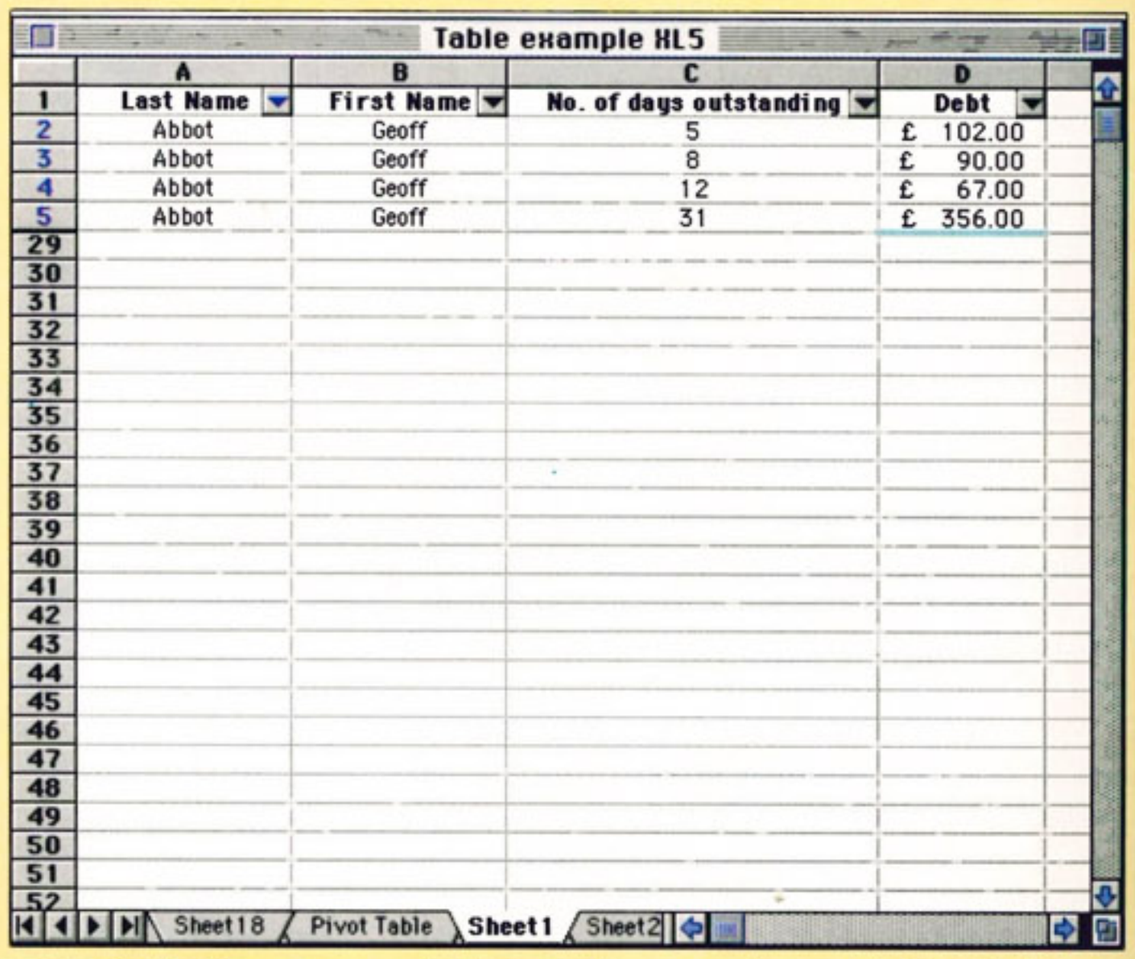
This table can be transferred into a PivotTable that holds summaries for each person, showing the sum of their debts, etc.



And here are all the different views you can get from the same table by using the PivotTable feature. The only trouble is if your boss gets hold of it, he may just discover you're being paid more than you're worth! Hide it, quick!

AUTOFILTER – A WHOLE NEW WAY OF LOOKING AT DATA





If you use AutoFilter the column headers have pop-up menus to filter out various entries. You can customise the filter – so you can look at a single surname, for example. See Abbot above.

OBJECT LINKING AND EMBEDDING

One of the many reasons people use applications such as *ClarisWorks* is because of their integrated nature. The ability to embed pictures or spreadsheets in a word processing document and effortlessly edit them has a great appeal.

Microsoft, recognising how useful this would be in larger applications, has provided a mechanism called Object Linking and Embedding (OLE) that does just that (Apple's OpenDoc system will do much the same thing when it finally appears). This OLE system is put to good effect in the new *Excel 5.0* and the forthcoming *Microsoft Office*.

The level of integration is identical to that of an integrated application. So therefore, double-clicking on a spreadsheet in a word processing document will cause the word processor's menu and toolbars to be replaced by those found in the spreadsheet application. This facility works extremely well and is much easier to use than the clipboard or Publish and Subscribe system that it replaces.

your other spreadsheets and summarise them (according to your formulas) in an easily digestible form. Pivot Tables are particularly useful for pulling together information and data from disparate spreadsheets to create straightforward at-a-glance grand totals, averages or other such information.

The upgrade also includes *Visual Basic Application Edition*. You'll be pleased to hear that this

The program also provides substantial support for AppleScript and other System 7.5 features.

language, which is available in a number of Microsoft applications on both the Macintosh and PC, offers a much friendlier approach to writing macros and very small applications than *Excel's* original macro language. But, of course, it is another language to learn.

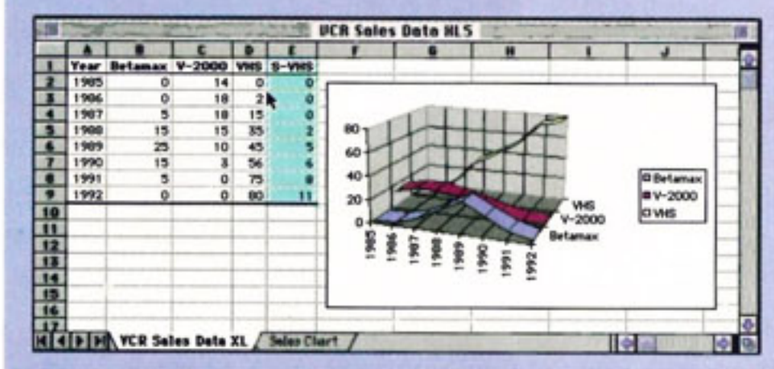
The program also provides substantial support for AppleScript and other System 7.5 features, including PowerTalk and QuickDraw GX, although it doesn't support Apple Guide or Drag Manager.

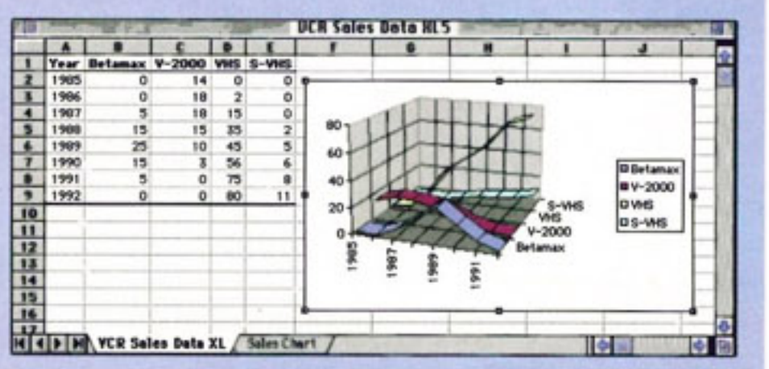
The on-line help facility remains useful, however, particularly as it includes the page number references of the appropriate manual, so if you have a problem you should be able to sort it out quickly. Furthermore, there is a level of integration available with OLE (see the Object Linking and Embedding box) which won't be available from non-Microsoft software until Apple's OpenDoc system arrives. There are also a number of facilities in the new *Excel* to share spreadsheets among workgroups and access data from external sources.

All in all, *Excel 5* is a worthwhile upgrade. There are many features that the enthusiastic spreadsheet user will want – but, as usual, there are a number of features that are less desirable. That's a moot point, though, because if you want a dedicated spreadsheet program to run on your Mac, *Excel* is now your only option. But then, considering that it's a much better program than all the previous Mac spreadsheet applications, that shouldn't prove too great a hardship.

Simon Cox

NEW POSITION IN THE CHARTS





With *Excel 5.0*, you can update a new chart simply by dragging a highlighted column of data on to the already established chart. This is a great little feature if you are unfortunate enough to have a boss who's always giving you new statistics.

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Question Mark

If you want answers, then write to Claire Rayner; if you want questions, then try *Question Mark*.

According to Douglas Adams, the answer to life is 42 – but what on earth's the question? Don't know? Well, don't worry, because here's your chance to formulate your own questions – and lots of them too! *Question Mark* enables you to create tests and questionnaires with a wide variety of questions – from multiple-choice to fill-in-the-blanks. Unfortunately, it can't handle essay tests such as: 'Explain post-modernism and its effects on the modern psyche – use both sides of the paper if necessary'. But then again, who can?

Question Mark has two main functions in life: education and data collection – although it's education that it really caters for. But why should a school go high-tech? Well, *Question Mark* offers several advantages over paper tests, perhaps the most important of which is automatic marking. Marking a single test paper and calculating the result manually can take ten minutes – or a whopping five hours for a class of 30. And if you consider how much a teacher is being paid for such a tedious job, you begin to realise what a bargain this package really is – I mean, it could virtually pay for itself at one sitting.

Question Mark not only calculates a pupil's score, but it also saves all the answers to disk, so a teacher can take a closer look if necessary. There's also an option that controls whether or not the pupil is told his score, and whether he may be told which questions he got wrong.

These, and other features, make it ideal for real-life school tests. *Question Mark* is also simple enough for non-computer-literate teachers to use – although they may need to ask the school swot for help occasionally.

Let's say you want to create a maths test. First, select 'New' from the 'File' menu to get a blank test. Then select 'Introduction Text', and enter the words that you want displayed at the start of the test – instructions, advice and the like. Now click on 'Control Information' to define any time-limits, as well as whether the students have access to the correct answers and whether they may re-try questions or skip those they don't know.

Now you can start entering your questions. Click on one of the seven question types listed down the left-hand side of the screen. Take 'Multiple Choice' as an example. The first thing you have to do here is define, using a pop-up menu, how many choices the pupil will have. Next type in the question and the choice of answers, making sure you mark the correct answer by checking the box next to it.

WIN
A copy of *Question Mark*! See the 'Win a quizzical prize' box for details

You now have several options. If the pupil gets a question wrong, you can enter up to six hints (usually with each one easier than the last). You can then select how many marks a correct or incorrect answer will get. This is particularly handy, because you may want an incorrect answer to receive either a zero or minus score.

Branching is one of the program's most powerful features. Depending on the answer a pupil gives, one of three things can happen. He can get the next question in the sequence, skip a number of questions, or begin another test.

At this point graphics can also be added. Unfortunately, *Question Mark* has no clip art library

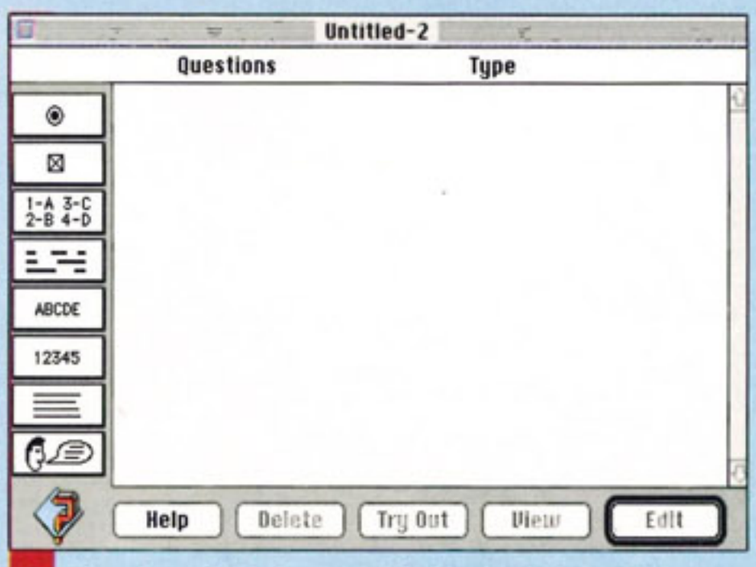
IT'S NOT JUST KIDS' STUFF

Although the majority of interest may come from schools, *Question Mark* could be useful in creating business questionnaires. For £1,120 (£650 for educational establishments) you can buy the right to distribute the test-delivery software. This enables a business to write a questionnaire and send it out on floppy disk to potential clients, employees or what have you. The delivery software can also be configured so non-computer-literate users can save their answers on to the disk, before returning the whole thing to the business concerned.

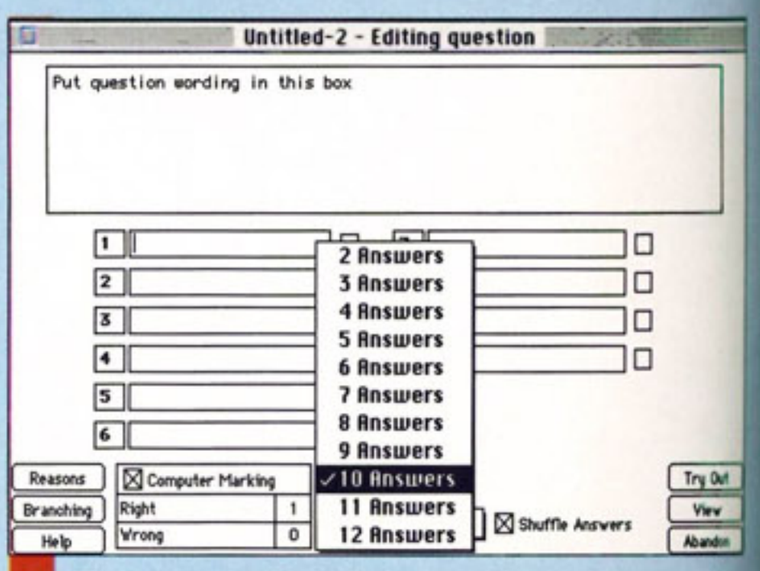
What's more, the program is powerful enough to ask questions and then immediately follow up on the answers. For example, if it receives an affirmative response to the question 'Do you own a television?', it can then go on to ask what sort it is; and if the answer is negative, it can ask why not.

Moreover, because different marks can be allocated to different answers, you can create an electronic version of the 'How good a lover are you?'-style tests, which prove so popular with women's magazines. For instance, you can configure the marking system so that each answer carries a different score. For example: 'When you kiss, do you...
'(a) Close your eyes? (ten marks)
'(b) Stand on tip toe? (eight marks)
'(c) Sneeze violently? (minus-five marks)'
Real progress, eh?

QUESTIONS, QUESTIONS...

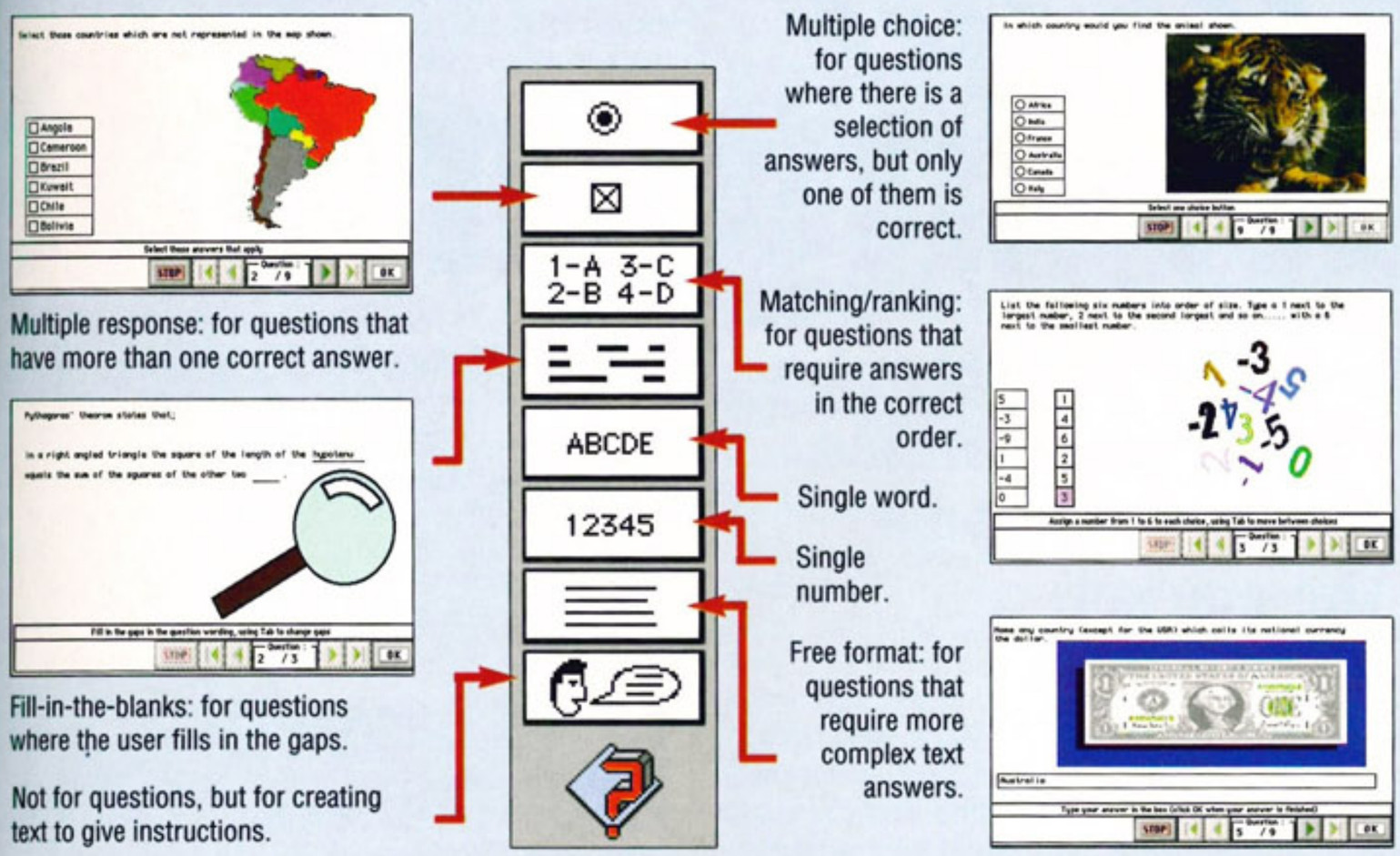


1 Opening a file brings up this blank window. Click on the buttons down the left side of the screen to choose which type of question you want to create.



2 Clicking on the 'Multiple Answers' button gives you this screen. Here you need to select how many possible answers there can be to your question.

THE DIFFERENT QUESTION TYPES



(a bit of an oversight if you ask me) and no facility for drawing. So, if you want to add artwork to your test, you'll need to use a separate graphics package, and then copy and paste the graphics into the document.

Clicking on 'Try Out' enables you to experience the question exactly as the pupil will see it, and if it isn't quite correct, you can now go back and edit it. The whole process is very straightforward, and after half-an-hour, you'll be creating your first real test.

There are practical concerns, though. First, if you want a group of 30 pupils to take a test simultaneously, you'll need a computer room with 30 machines. Having said that, *Question Mark* is available on PC and tests created on one platform can easily be transferred to the other, so if you have a mixed environment you will be able to utilise all your computers.

You only need one copy of *Question Mark*, though, because the package comes with a separate test-delivery program, which simply asks the questions created in the full program. The test-delivery program can be installed on an unlimited number of machines on the same site. The full program, on the other hand, can only be installed on one machine, but this will probably be adequate for most schools.

Question Mark is very easy to use and has a vast number of features. There are a few criticisms, though. For instance, only being able to have a maximum of six possible answers to multiple-choice questions is somewhat limiting. This shouldn't prove too much of a problem for teachers setting tests, but it will affect business users who are planning to use the package for data collection. And with no similar program currently on the market, I can only hope that the programmers re-think this before releasing the next version.

As far as schools are concerned, though, this package is thoroughly recommended – not least because pupils will probably prefer to take a computerised test, rather than a paper one, if only because it's different from the everyday norm. Teachers will have no problems using the software, and the tests take surprisingly little time to compile. Try it out for yourself – the demo is in the Highlights folder on this month's covermounted CD. *Derek Smith*

Win a quizzical prize, courtesy of Question Mark Computing!

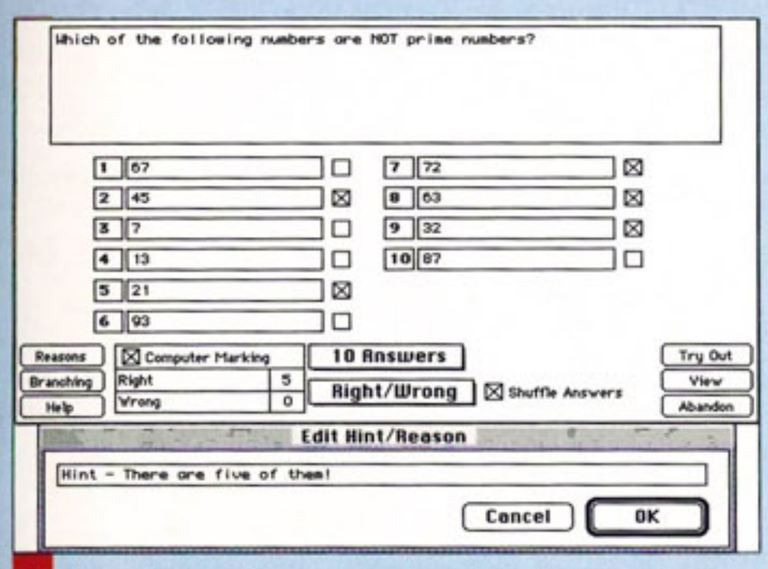
In addition to the cover CD demo, we also have a copy of *Question Mark* to give away this month, courtesy of Question Mark Computing. All you have to do to stand a chance of winning it is – yeah, you guessed it – answer this question:
How many question types can you ask with *Question Mark*?
Send your entry on a postcard to: 'There are more questions than answers', MACFORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW.

Employees of Future Publishing or Question Mark Computing, and their families, are not eligible to enter. No multiple entries allowed. Please state if you don't want your name added to a mailing list. The Editor's decision is final, and closing date is Friday 11 November.

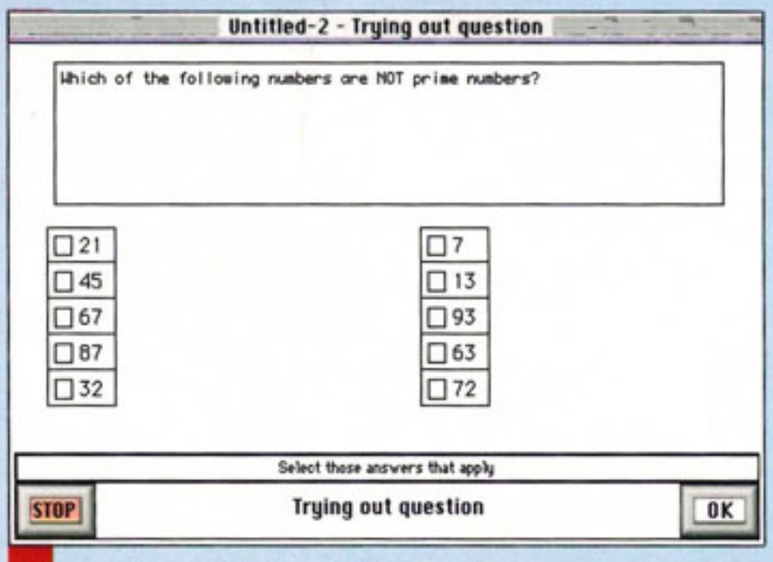
QUESTION MARK

Price: £350 (£234 education).
Requires: Mac Plus or better, System 6.0.7 or later and 1Mb of RAM.
For more details contact Question Mark Computing on 071 2843797.

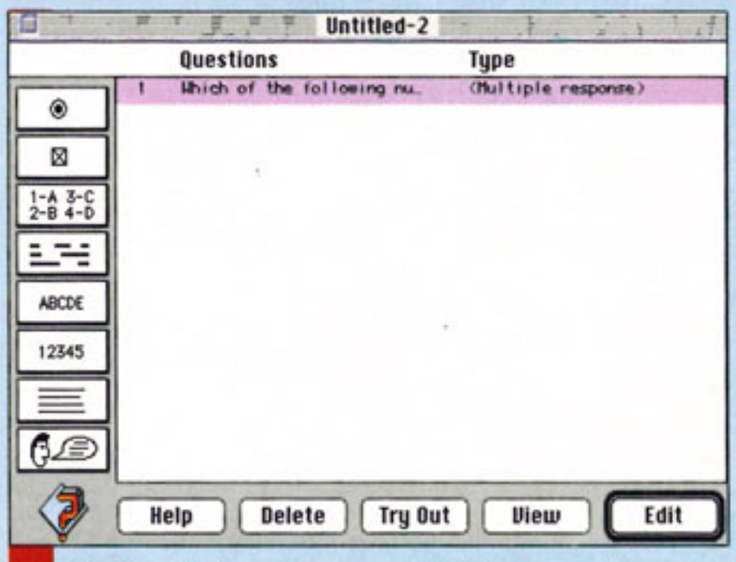
Features Extensive range, but lacking a little in power.	85%
Ease of use Simple enough even for a woodwork teacher.	90%
Documentation Comprehensive and easy to understand.	85%
Value for money One copy is sufficient for an entire school.	90%
Educational value It makes tests more interesting for pupils.	92%
MACFORMAT RATING	89%



3 Enter the question and answers in the boxes, using the [tab] key to move between them. You can also enter hints for when the pupils get it wrong.



4 Clicking on the 'Try Out' button gives you the chance to see how the question will work as part of a real test. If it's not right you can go back and edit it.



5 Closing the box returns you to this screen. Your question now appears. To enter the next question just click on a question type again.

Coming to an arrangement

OK, so you've got a sequencer, but what about a program to help with your accompaniment and composition? Ian Waugh checks out the best arrangement programs on the market.

While a sequencer may form the heart of your Mac studio, there are many other programs that can help with the composition and arranging process. Here we look at programs that can create backing tracks, produce musical ambience and even help with the composition of music lines.

But before you start reaching for your flexible friend, it's only fair to point out that none of these programs will write a hit song. Well, if you'd created a pop song composition program, would you sell it? However, the programs are capable of generating interesting, and often useful and practical music. They can be used as an aid to composition and anyone interested in exploring the other side of music composition will find them fascinating.

BAND-IN-A-BOX

PG Music's *Band-In-A-Box* was the first accompaniment generation program of its kind, although it has since gone through several updates. It is based on the auto accompaniments you find in portable keyboards and is really very easy to use.

The main screen looks like a sheet of paper that contains bar numbers, into which you can enter a song's chord sequence. These chords could be taken from rock and pop sheet music, or, if you prefer, you can enter a chord sequence for your own material

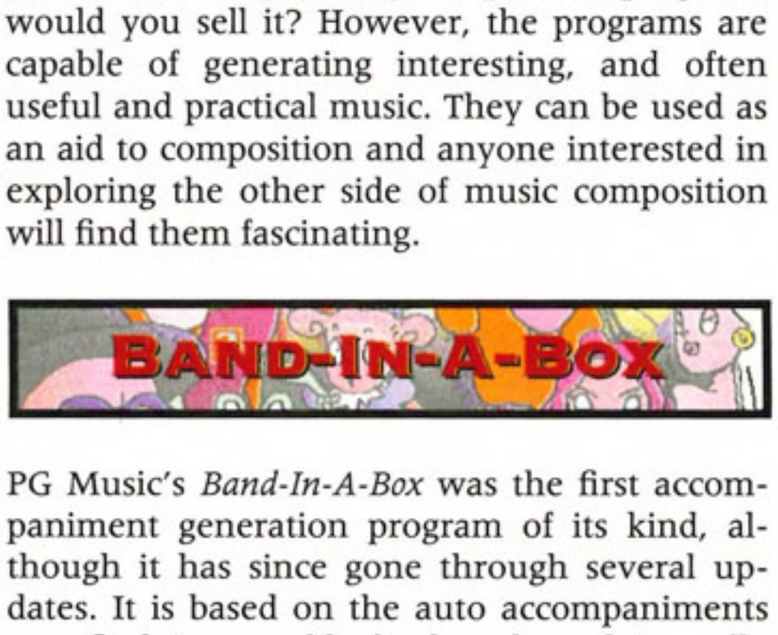
Next you can select a song Style from a list of 24. There's a massive range to choose from; the Styles range from Rock, Pop, Latin and Ethnic, to Jazz, Country and even Irish. You can also load additional Styles from disk and you can create Styles of your own. When you are happy with the accompaniment you've created, you can record a melody on top of it.

The song Styles contain up to six instrument parts – Piano, Bass, Drums, Horn, Strings and Guitar – and you can pick a sound to be used for the melody. The program defaults automatically to GM sounds but it is fully customisable – and you can even adjust the reverb and the chorus settings.

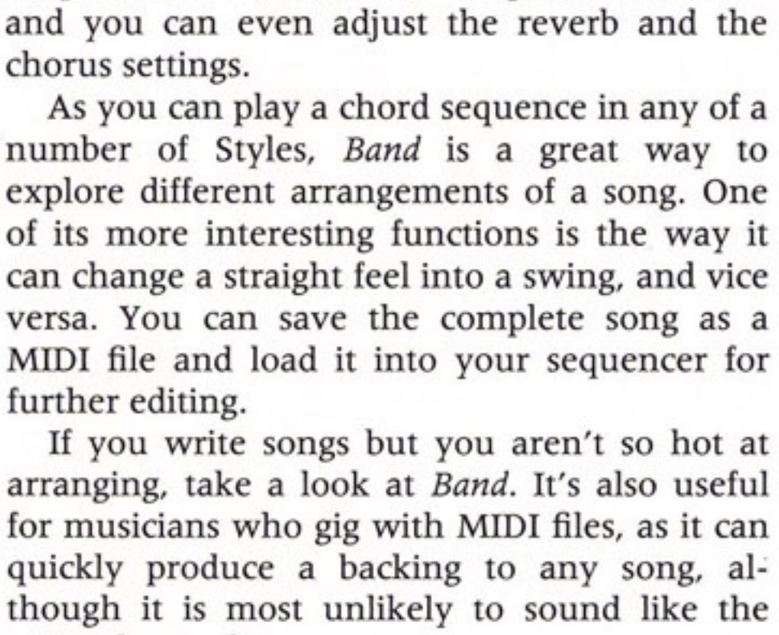
As you can play a chord sequence in any of a number of Styles, *Band* is a great way to explore different arrangements of a song. One of its more interesting functions is the way it can change a straight feel into a swing, and vice versa. You can save the complete song as a MIDI file and load it into your sequencer for further editing.

If you write songs but you aren't so hot at arranging, take a look at *Band*. It's also useful for musicians who gig with MIDI files, as it can quickly produce a backing to any song, although it is most unlikely to sound like the original record.

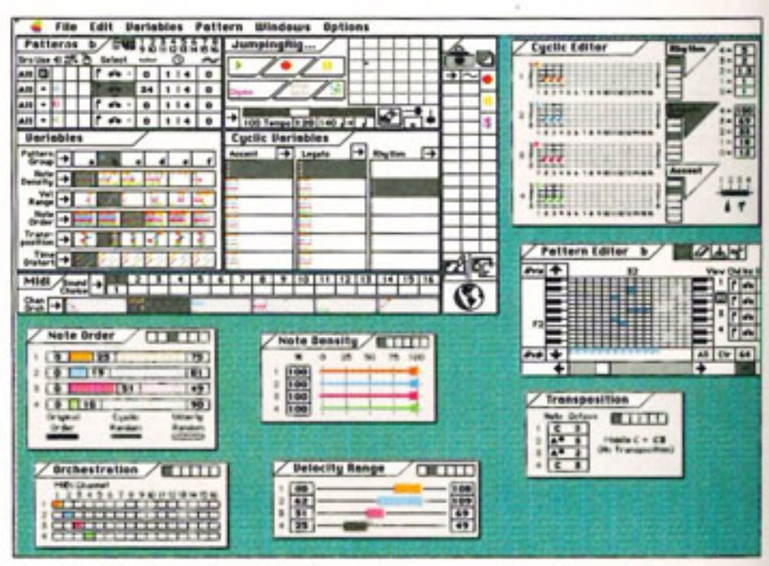
- **Price: £89.00.**
- **Requires: Mac Plus or better, System 6.0 with 2Mb of RAM (System 7.0 with 4Mb of RAM).**
- **For more details contact Arbiter on 081 202 1199.**



PG Music's *Band-In-A-Box* will create an accompaniment in dozens of styles taken from a chord sheet.



Band-In-A-Box defaults to General MIDI settings, but you can easily change any of the sounds.



Dr T's *M* – the algorithmic composer – has lots of windows that pop up to help you edit the various parameters.

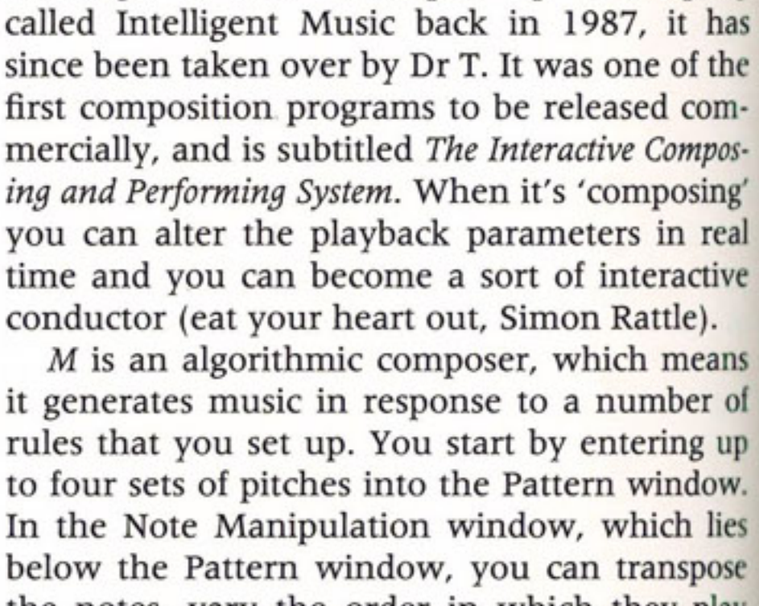
M

Although *M* was developed by a company called Intelligent Music back in 1987, it has since been taken over by Dr T. It was one of the first composition programs to be released commercially, and is subtitled *The Interactive Composing and Performing System*. When it's 'composing' you can alter the playback parameters in real time and you can become a sort of interactive conductor (eat your heart out, Simon Rattle).

M is an algorithmic composer, which means it generates music in response to a number of rules that you set up. You start by entering up to four sets of pitches into the Pattern window. In the Note Manipulation window, which lies below the Pattern window, you can transpose the notes, vary the order in which they play and change their percentage chance of playing.

In the Cyclic Editor you can create a set of durations that will, in turn, be applied to the note pitches. (Like most programs of this type, *M* treats note pitches and note durations as separate entities.) And then you start playback.

With a careful selection of parameters you can produce quite interesting and harmonic, even melodic, music lines. In mainstream



M's six main windows control all the major aspects of music generation, but don't expect a pop song to emerge.

music, however, note pitches and durations are indelibly linked, so don't expect a smash hit pop song to emerge.

The output is very New Age, but *M* can also produce more tightly regulated output that might be useful for bass lines and so on. I used *M* to produce some ambient music that has since been used on a Positive Thinking video.

You can store snapshots of all the settings and can record the results of your conducting as a 'Movie', which can then be saved as a MIDI file. If you are interested in more experimental approaches to composition, *M* is well worth exploring.

- **Price: £79.95.**
- **Requires: Mac Plus or better and System 6.0 or 7.0.**
- **For more details contact Key Audio on 0245 344001.**

OVALTUNE

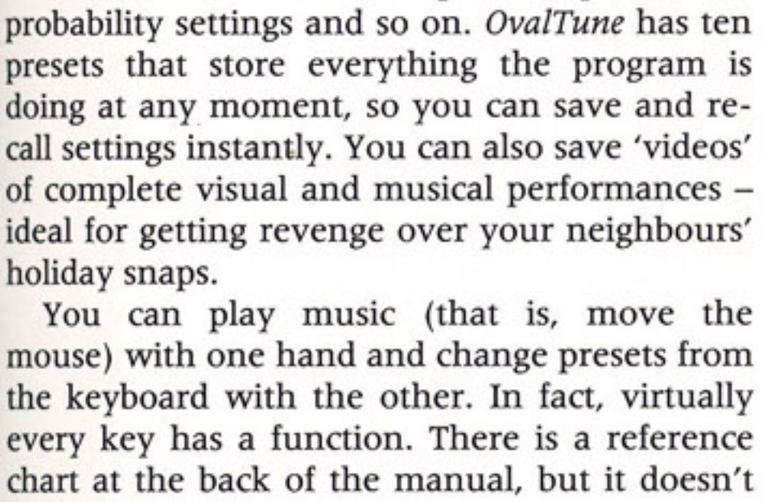
OvalTune, also from Dr T's, combines music and graphics – the idea being that one helps to generate the other. At its simplest, you move the mouse around the screen, drawing various shapes as you go (the default shapes are ovals but you can use other images). Mouse movement is linked to the generation of music lines, so the one act – moving the mouse – is linked to both functions.

As you might expect, there are lots of parameters that you can twiddle, such as the speed and timing of notes, as well as the interval between them. You can also adjust the volume. The program offers you some preset melodies, although you can alter these in various ways and, in effect, 'teach' *OvalTune* new melodies.

As with *M*, there are rhythmic cycles, note probability settings and so on. *OvalTune* has ten presets that store everything the program is doing at any moment, so you can save and recall settings instantly. You can also save 'videos' of complete visual and musical performances – ideal for getting revenge over your neighbours' holiday snaps.

You can play music (that is, move the mouse) with one hand and change presets from the keyboard with the other. In fact, virtually every key has a function. There is a reference chart at the back of the manual, but it doesn't make for intuitive use.

The program comes with over 50 sound samples, and will play back over MIDI, although it hasn't got a GM default. *OvalTune* was last updated in 1991, which probably accounts for its low price. It wasn't terribly happy running under System 7.1 on the Quadra review machine, and even with all the Extensions disabled it crashed frequently.



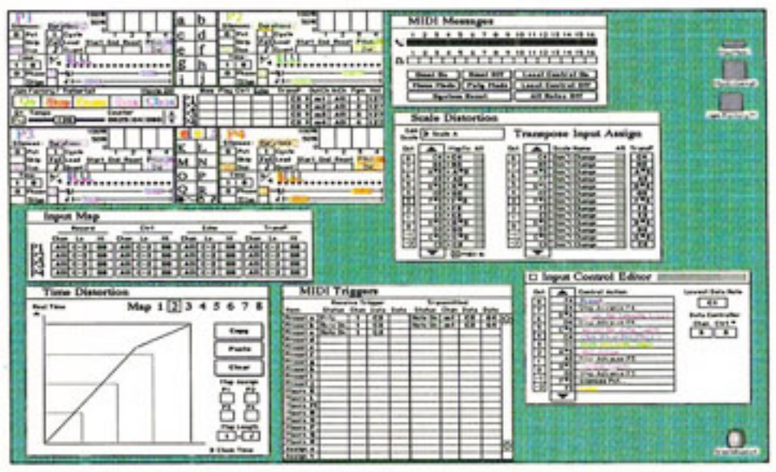
Move the mouse, create music and generate pictures – the ideal complement for a budding Picasso or Stockhausen.

- **Price: £29.95.**
- **Requires: Mac Plus or better, hard disk drive; System 6.0.2 or later. Colour recommended but not essential.**
- **For more details contact Key Audio on 0245 344001.**

JAM FACTORY

Jam Factory shares similarities with *M* and *OvalTune* and it will probably come as no surprise to learn that they were all the brainchild of one man, and that they are all produced by Dr T's. This one is subtitled *The Improvisation and Live Performance Processor*.

The main screen is divided into seven windows: four Players where you can change the settings of four independent 'performers'; the Presets window, which stores settings for all the Players; the Control Strip, which controls playback; and the Macros where you can record your actions.



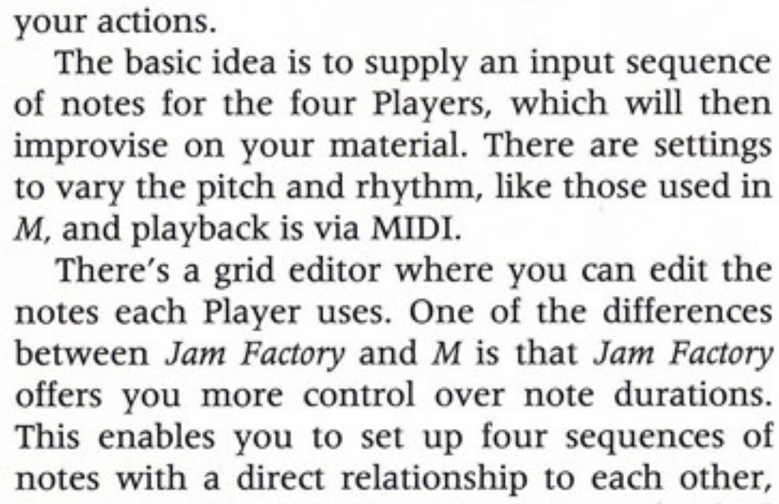
Jam Factory has several editor windows, which can be placed anywhere on the screen.

The basic idea is to supply an input sequence of notes for the four Players, which will then improvise on your material. There are settings to vary the pitch and rhythm, like those used in *M*, and playback is via MIDI.

There's a grid editor where you can edit the notes each Player uses. One of the differences between *Jam Factory* and *M* is that *Jam Factory* offers you more control over note durations. This enables you to set up four sequences of notes with a direct relationship to each other, though by the time the Players have finished jamming you might find the relationship is not quite as obvious.

As with *M*, if you choose the notes carefully, the output can be quite harmonic. There are some interesting functions such as Scale Distortion, which enables you to map one note on to another. You can save a performance as a MIDI file to load into your sequencer.

Like *M*, *Jam Factory* provides a fascinating insight into algorithmic composition, and enables you to experiment with it in a practical way.



Jam Factory's seven main windows enable you to control the main settings for each of the four Players.

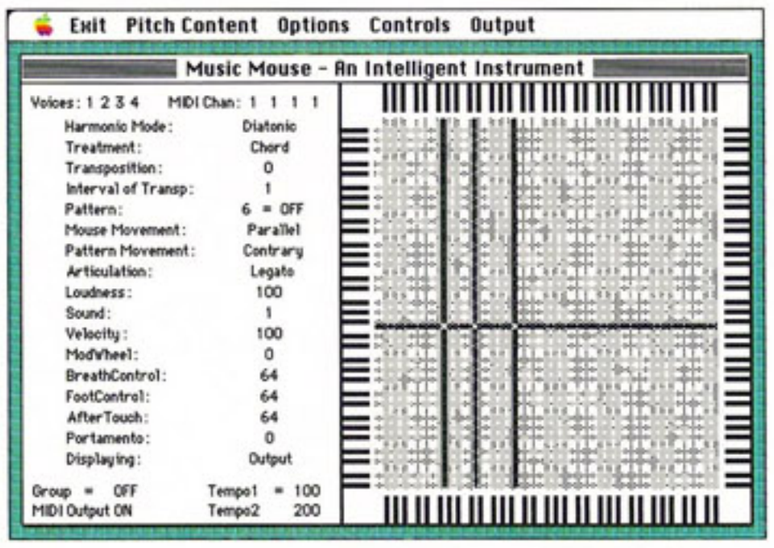
- **Price: £79.95.**
- **Requires: Mac Plus or better, System 4.2 or higher.**
- **For more details contact Key Audio on 0245 344001.**

MUSIC MOUSE

Dr T's *Music Mouse* was not written by the *OvalTune* man, but it does share a few similarities with that program. Basically, you move the mouse around the screen to generate music. The window follows the mouse with vertical and horizontal lines, but it doesn't draw on the screen like *Ovaltune* does.

Music Mouse will also work over MIDI or sampled sounds, so you don't need a MIDI interface to use it. The output usually consists of a three-note chord plus a melody note – although you can alter the way the four notes are assigned. The various settings in the program ensure that everything stays within an acceptable harmonic framework.

Although it doesn't have as many options as *OvalTune*, there are several adjustable parameters, such as tempo, volume, velocity, aftertouch, portamento and scale types. However, just as with *OvalTune*, a great deal of control comes via the QWERTY keyboard.

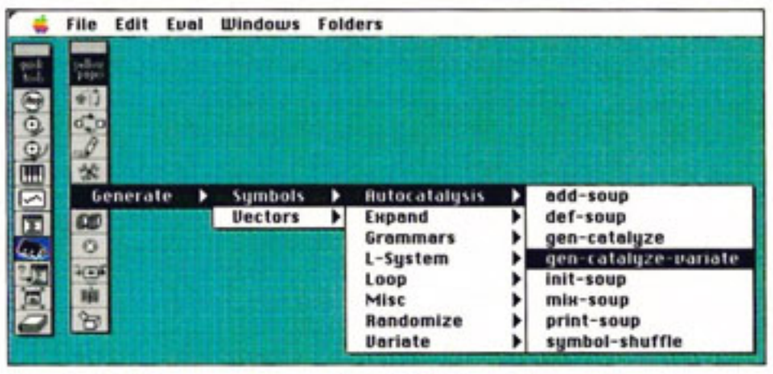


Move the mouse and make music, although with *Music Mouse* the Mac's keyboard also plays a major part.

The last update was in 1990. It's hardly surprising, therefore, that the program occasionally decides there's something about the Quadra and System 7.1 it just isn't happy with.

The main drawback with *Music Mouse* is its inability to store, and hence subsequently play back, the music you create; nor can you save it as a MIDI file. You could probably save a performance using a Macro program, but *Mouse* does not recognise MIDI Manager, so you can't route the output to a sequencer.

- **Price: £29.95.**
- **Requires: any Mac, MIDI recommended but not essential.**
- **For more details contact Key Audio on 0245 344001.**



Symbolic Composer has a host of interesting processing functions available from graphic toolboxes.

SYMBOLIC COMPOSER

Symbolic Composer is a music language with similarities to Lisp, although the latest version includes 150 music tools that can be used from standard graphic Mac windows.

The potential of the program is immense. It is already being used in academic circles and by several serious composers, although the designers claim it can be used equally well for Dance, Techno and New Age.

The program can turn virtually any data into music and comes with a vast range of scales, tonalities, and music processing functions, such as morphing and chord generation. It supports GM, although it can also produce works of orchestral complexity, and you can save its music as a MIDI file.

If the far side of composition tempts you, and you don't mind a bit of programming, *Symbolic Composer* is a must. As the blurb says, 'it's a step beyond sequencing'.

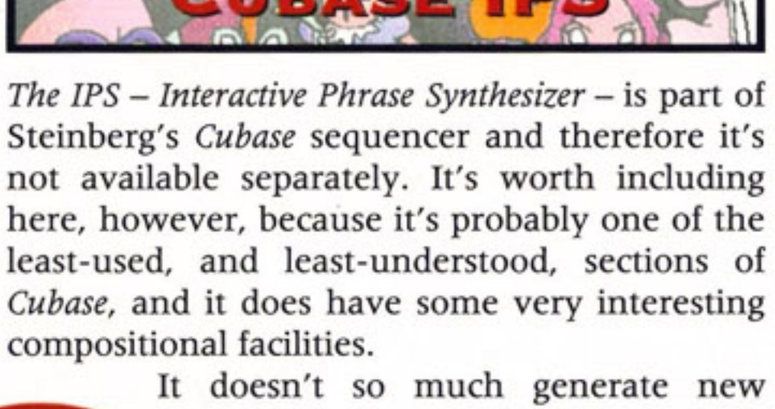
- **Price: £350.**
- **Requires: Mac Plus or better, System 6.0.5 or later and 8Mb of RAM.**
- **For more details contact Tonality Systems on 0924 383017.**

CUBASE IPS

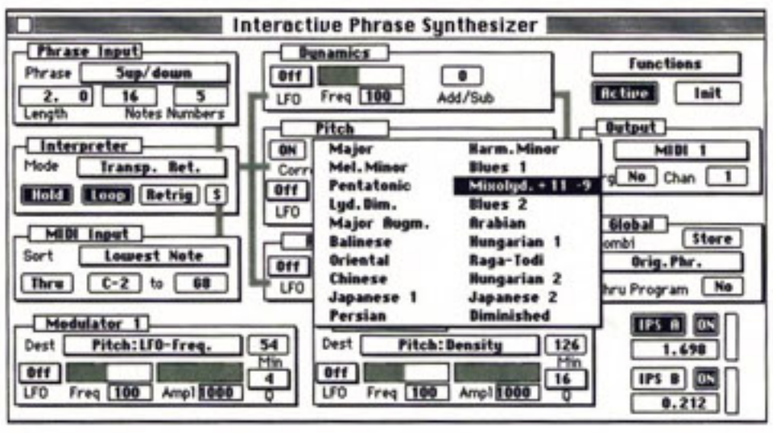
The IPS – Interactive Phrase Synthesizer – is part of Steinberg's *Cubase* sequencer and therefore it's not available separately. It's worth including here, however, because it's probably one of the least-used, and least-understood, sections of *Cubase*, and it does have some very interesting compositional facilities.

It doesn't so much generate new music as process existing music parts. It can, for example, play a music line using any of 20 scales. This feature alone is enough to completely transform the character of many music parts. Subtle adjustments in the timing parameters can make a piece composed in 4/4 play with a 3/4 feel. There are also 30 Modulations that can alter pitch, scales, rhythm, dynamics and so on.

Try out the demo of Cubase 2.5.1 on this month's cover CD



The Interactive Phrase Synthesiser can process a music line in any number of ways and can use any of 20 scales.



IPS's vast range of options gives you loads of control – even changing the scale can dramatically alter a music phrase.

You can tweak these settings as the music is playing, so you get instant feedback. If you're still considering which sequencer to buy, and you have an interest in computer composition, perhaps the *IPS* will help influence your decision. If you already have *Cubase*, dig out the manual and spend an afternoon experimenting with the *IPS*.

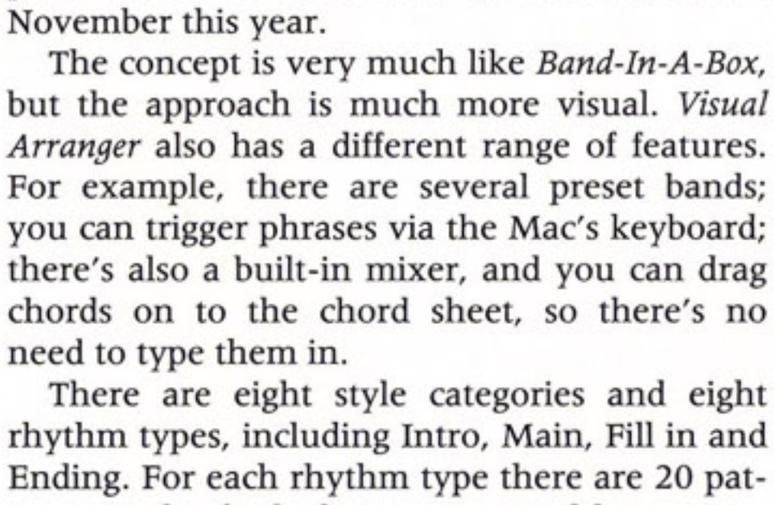
- **Price: £399.**
- **Requires: any Mac, System 6.0.7 or later with 8Mb of RAM and standard MIDI interface.**
- **For more details contact Harman Audio on 081 207 5050.**

VISUAL ARRANGER

Just before going to press we got our hands on a brand new program from a brand new division of Yamaha, the musical instrument manufacturer. *Visual Arranger* has been set a target price of £69 or less and is due for release in November this year.

The concept is very much like *Band-In-A-Box*, but the approach is much more visual. *Visual Arranger* also has a different range of features. For example, there are several preset bands; you can trigger phrases via the Mac's keyboard; there's also a built-in mixer, and you can drag chords on to the chord sheet, so there's no need to type them in.

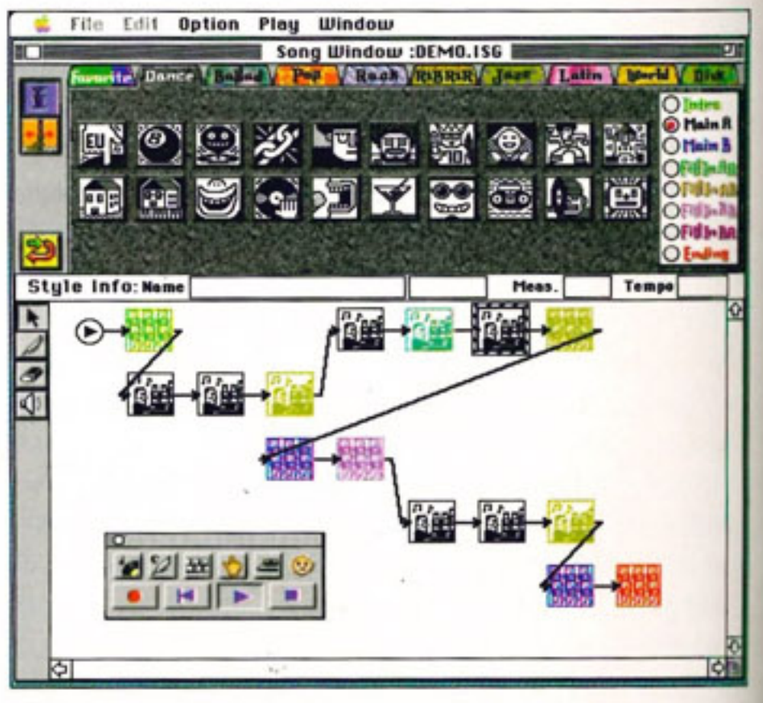
There are eight style categories and eight rhythm types, including Intro, Main, Fill in and Ending. For each rhythm type there are 20 patterns, each of which is represented by an icon (that's 1,280 patterns in all! And you can load new ones from disk). To create an arrangement, you simply drag the icons on to a window and connect them with virtual leads. It's brilliant fun and really quite easy.



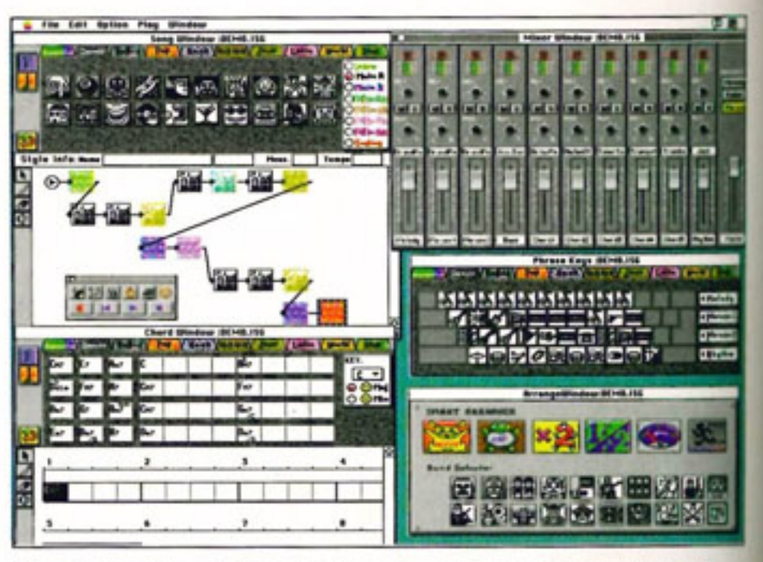
Visual Arranger's Start-up window – notice how the buttons are cleverly concealed against a picturesque backdrop.

Not all the arrangements had been completed by the time we went to press, but what was there was very good. A definite one to watch out for – but don't worry, MACFORMAT will bring you the full lowdown just as soon as the completed version is released.

- **Price: £TBA.**
- **For more details contact Yamaha Media Technology on 0908 366 700.**



Visual Arranger's Song window is where you connect accompaniment patterns with patch leads.



Yamaha's *Visual Arranger* is very, erm, visual and it enables you to arrange things. Yeah, that's about right.

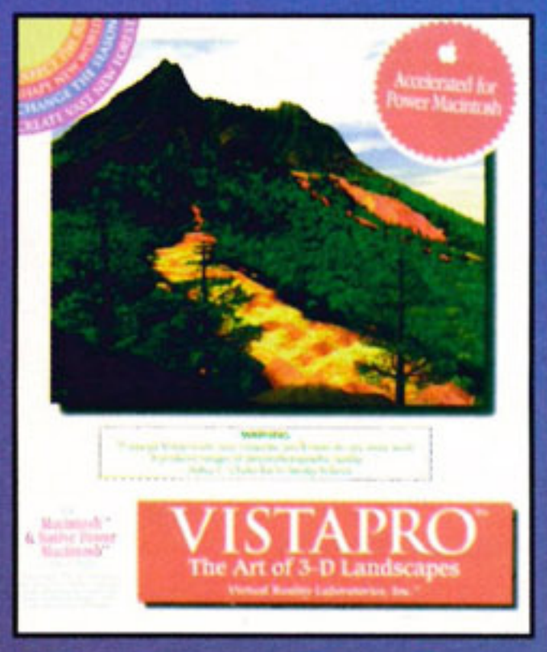
JARGON BUSTERS

GM: General MIDI. A standard which specifies that all General MIDI instruments contain a certain set of sounds, so a MIDI file that is played on any General MIDI instrument will always sound roughly the same.

MIDI: Musical Instrument Digital Interface. A communications standard that enables musical information to be transmitted from one device to another.

NEXT MONTH

We take a look at instrument editors and librarians, digital audio-related software and educational programs. See you then.



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ITN World News '93

Tonight: how the people at Softline are preparing for the release of *ITN World News '93*... Bong!

Whether a CD that offers all the news events of '93 at a glance is likely to be on your wanted list, depends on how enthusiastically you study current affairs. The TV news programme's daily diet of carnage and horror makes depressing viewing, and taken en masse is even worse. And while *News at Ten* tries to add a little relief to the general gloom with its 'And Finally...' stories, good news and humour are always at a premium.

So as far as content is concerned, *ITN World News '93* is little different. But it does offer five different ways of viewing ITN's raw data.

First is a simple chronological view of the news stories. You can access this via the Index icon on the opening screen. The chronological view presents you with a list of daily stories, but you can also jump to any month. You just click on an item for associated text, stills and any accompanying video footage. This certainly illustrates the range of data on hand, as you scroll through over 950 stories with accompanying stills, and a further 64 *ITN* video clips.

The Find function's the fastest way to retrieve a specific item. You can enter up to three words or topics; the program will then find and retrieve a story that matches your criteria. So entering 'Sniper', 'Bosnia' and 'UN' will find all stories that involve snipers firing at UN patrols in Bosnia; entering just 'Bosnia' and 'UN' will retrieve all relevant stories – snipers included.

The most interesting options are the Calendar, Timelines and World View search facilities. The Calendar view is self-explanatory (click on a date and you get the stories from that date), but the Timelines option is more sophisticated.

Here you're able to choose from nine generic subject areas: Royalty, Politics, Conflicts, Sport, Business and so on. You're then presented with a chronological list of selected stories. If you choose Politics, for instance, you can select which continent's political history you're interested in. Then by simply clicking on the 'backwards' and 'forwards' arrows you can view all the relevant stories, and track the progress of any given story throughout the year.

The World View section is similar, except here you can sort the news data by geographical location. And finally, there's an 'And Finally...' section that pulls together all those less gloomy stories.

These different methods combine to make *ITN News '93* and its '92 predecessor (which is also included in the package) a unique interactive source of the 3,500 news stories that shaped the world during those years.

It isn't a definitive reference work, however. While the scope is large, the amount of text each story contains is never more than a hundred words, and the video clips no longer than a few minutes. Not all the stories have accompanying stills – and even the ones that do only have one photo. Still, what it lacks in depth, it more than makes up for in ease of use. It's something for browsing through rather than a definitive chronicle – much like the programme from which it takes its name. *Andy Storer*

ITN News '93

Price: £69.99.
Requires: any colour Mac with 4Mb of RAM and System 6.07 or later.
For more details contact Softline on 081 401 1234.

Features 80%
Although the scope is vast, a little more depth would've been appreciated.

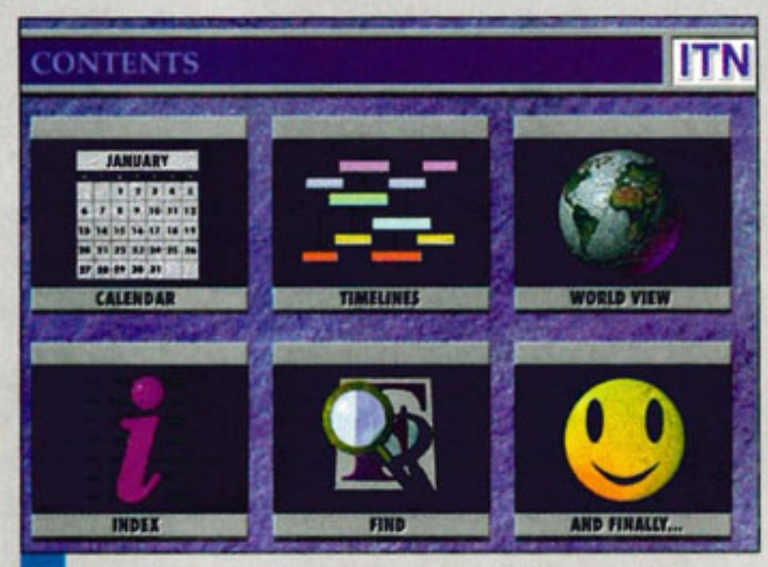
Ease of use 94%
An extremely friendly front-end combines well with fast search routines.

Documentation 50%
Not a lot on offer – but, then, it doesn't need much.

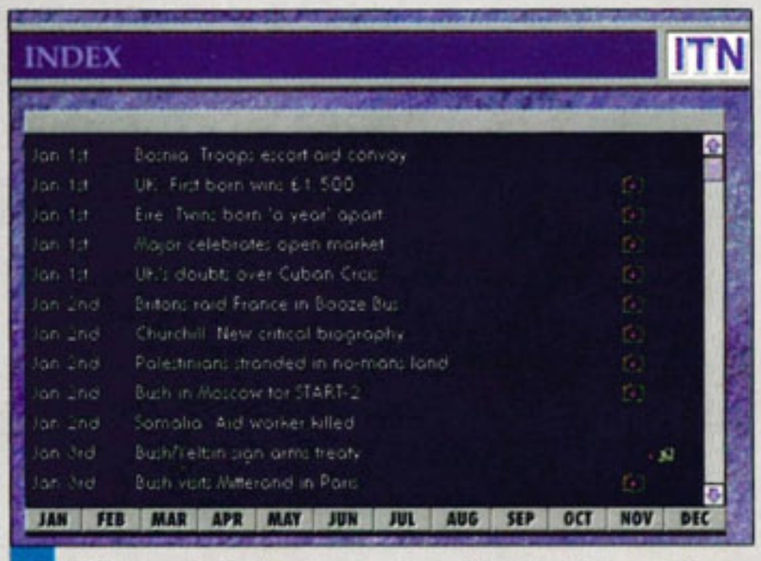
Value for money 85%
Good value, considering you get *ITN World News '92* thrown in as well.

MACFORMAT RATING 77%

STEP BY STEP THROUGH 1993'S NEWS

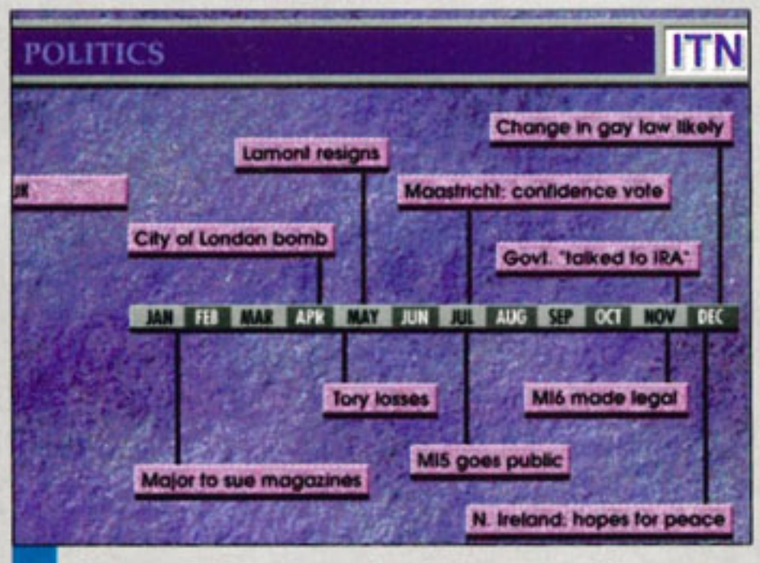


1 From here you have access to 1993's news. Click on any of the squares to go to a different search area. Click on the ITN logo to go back to your last location.

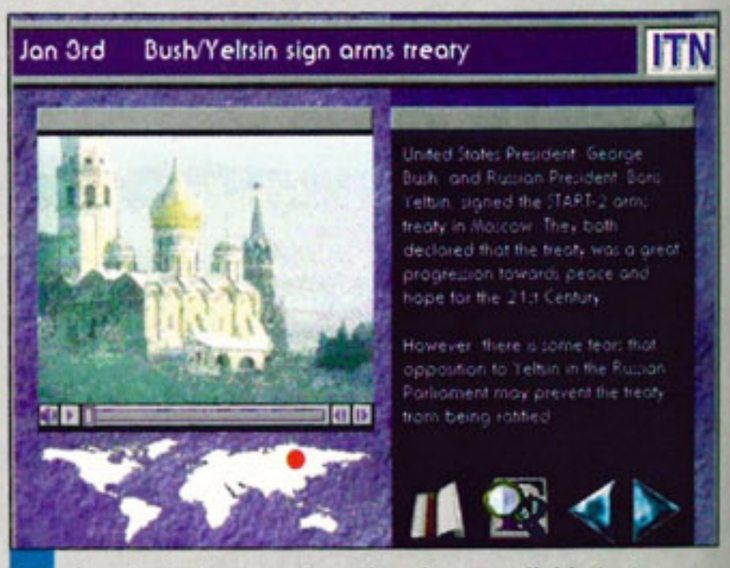


2 Click on the Index icon and you'll get to this scrolling list of all the year's news stories. The icons here tell you whether the item has associated stills or video clips.

3 But a better way of navigating the huge number of stories on offer here is to go into the Timelines area and choose a theme from the varied subject matter



4 Choose Politics, then select UK to get to this screen. You can click on any of the major political events here and you'll be able to see the corresponding news story.



5 In a typical news story there's a scrollable text window, a video clip, and facilities to add bookmarks and conduct word searches for related material.

Take a step into the amazing world of multimedia!

Our latest issue will change the way you think about CD-ROM. We give you the liveliest reviews on some brilliant new titles that redefine multimedia. There's also a chance to browse through art treasures, as we unveil the best art galleries on CD, including superb new projects. Our own coverdisc is again packed with 650Mb of PC and Mac essentials, and now has a great, new-look interface.

WOODSTOCK

Woodstock

25th Anniversary CD-ROM

Rediscover the glory days of sex, sun and psychedelia with this new CD-ROM release.

The Woodstock festival came at the tail-end of the 1960s, which were full of conflict and self-examination, and certainly a difficult time for the United States. For a few days, Woodstock was host to hundreds of thousands of people, who overcame the doubts of the era and enjoyed free music and free love. For each person there, it was one of those events that probably still colours his or her life as a golden memory.

For others, of course, Woodstock was nothing more than a field full of hippies. But whichever way you look at it, it's become one of the best-known musical events in history. 25 years on, Time Warner and Opcode have produced a CD-ROM that attempts to capture the flavour of the occasion.

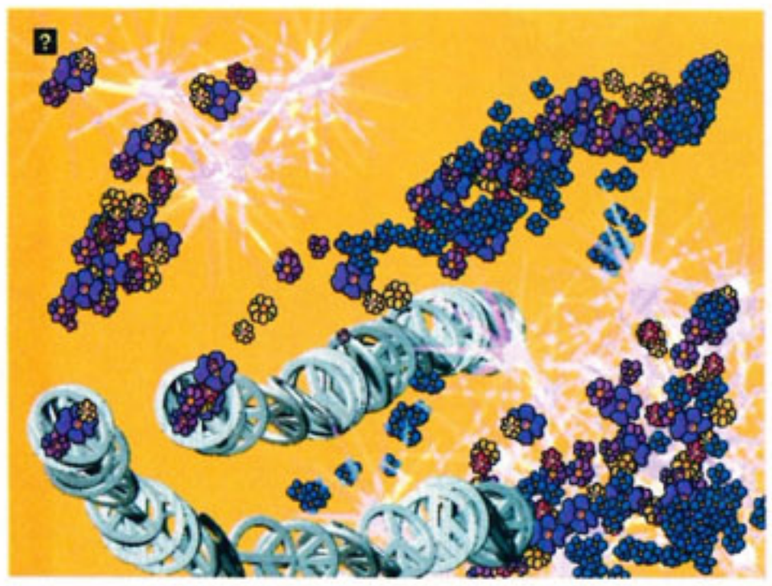
Woodstock uses footage from the film documentary of the same name, as well as photography, newspaper excerpts and clips of interviews with people who were in the crowd or had a hand in running the festival. The video clips look blocky (I've certainly seen it done better), while the newspaper scans are sometimes impossible to read. Most of the people interviewed are not named, and there's a lack of basic information needed to fully understand the context of their words.

Some live performances are captured in audio form, and you can also read the lyrics for each song, view a biography of the artist concerned, or – and this smacks of desperation – use a selection of shapes and effects to create a visual canvas to suit the vibes of the music. Oh, man!

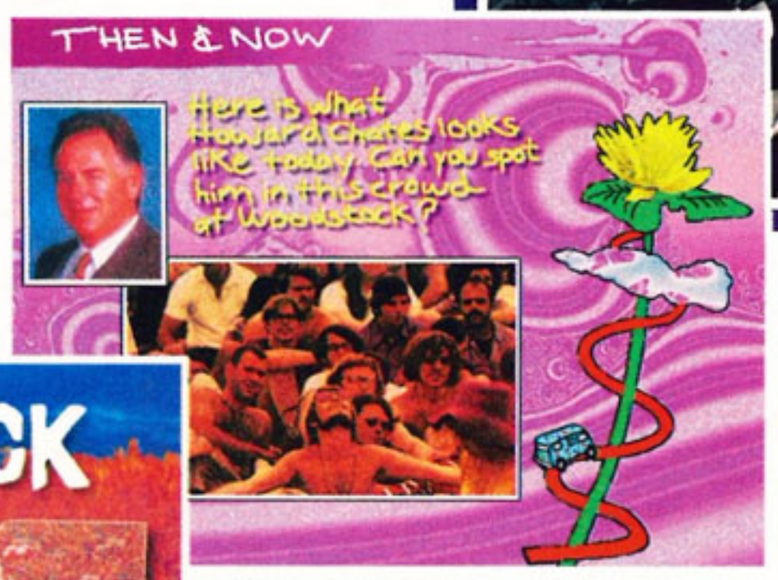
While the material on *Woodstock* is interesting and easy to use, it's hard to see why it's been released on CD-ROM – it adds nothing to the wealth of material already available in films and books, and shows a distinct lack of imagination in the way it's been put together.

Anyway, you'll be able to judge for yourself next issue when we'll be featuring the demo on the covermounted CD. But, in the meantime, don't feel you have to rush out and buy it. *Richard Hill*

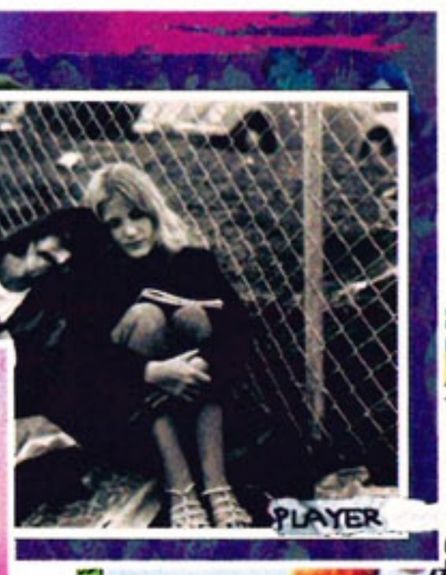
Sly and the Family Stone take the art of lyrics to a new plateau. All together – 'Boom lack a lack a lack a...'



Feel the music of Woodstock surround you, and splodge around with paintbrushes of psychedelia.



This game, which involves taking the bus up the stalk to reach Nirvana, is unique to the *Woodstock* CD-ROM. What a bummer, eh?



Encounter the wide-eyed idealism of youth – this bloke's probably a lawyer now, with maintenance demands from two divorces, and a child he doesn't understand.

WOODSTOCK

Price: £29.99.
Requires: LCII or better, 14-inch colour monitor or larger, System 7.0 or later, 5Mb of RAM, 5Mb of hard disk space and a double-speed CD-ROM drive.
For more details contact Softline on 081 401 1234.

Features The CD-ROM format could've been used with more imagination.	61%
Ease of use Finding your way around can initially be confusing, but it's generally straightforward.	75%
Documentation Barely any instructions, but you won't need them to get things going.	77%
Value for money A good price.	78%
MACFORMAT RATING	67%

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THE MACFORMAT STAR BUYS

These are four of the best programs that MACFORMAT has ever seen. We are proud to be able to offer these special products direct to you from our magazine. Fill in the order form and get your copy of these essential programs to make your Mac more fun.

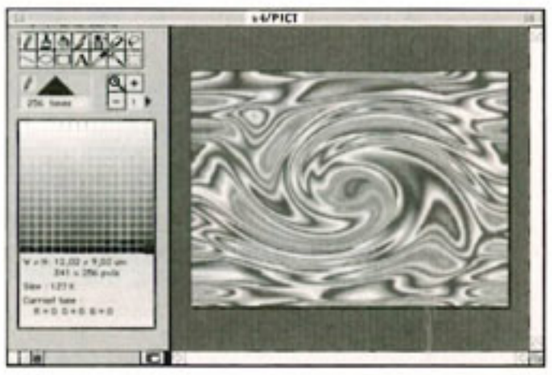
ColorStation 2

(MACFORMAT 13: 90%)
Other software producers could certainly learn a thing or two about ease of use and value for money from Le Pixel. It's hard to fault *ColorStation*. With its straightforward controls, this is an excellent choice for novice 'DTPers', covering all the graphics and printing bases in a convenient one-stop program.

Price: £49.95
Order code: MFCOLS

GrayStation 2

GrayStation is a kind of mini-*Photoshop* for greyscale images. *GrayStation* enables you to take

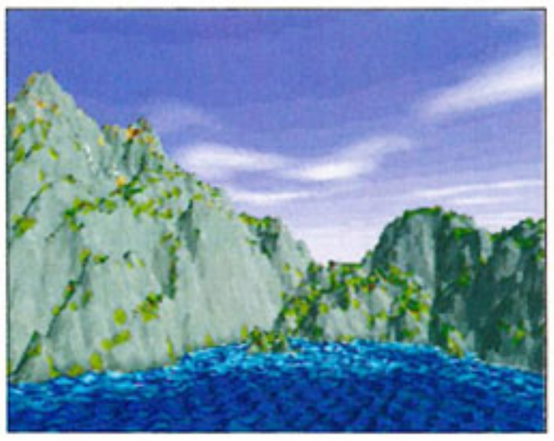


an original image and edit it, altering brightness and contrast. Using the program's own unique High Quality Print system, you can create superlative images that print out better than ordinary scans – even on cheap printers.

Price: £39.95
Order code: MFGRAY

Vistapro

(MACFORMAT 15: 90%)
With *Vistapro* you can create your



own landscapes including trees, clouds, rivers, oceans, waves and buildings. Its sheer versatility is breath-taking and the results will stun you. *Vistapro* is a wonderful program that grabs you in much the same way as an addictive game.

Price: £89.95
Order code: MFVIST

Redshift

(MACFORMAT 13: 95%)
Redshift is the best astronomy program there is, and it will provide hours of fascination for anyone with even the slightest interest in star gazing. It's a brilliantly conceived and excellently presented CD, with some genuinely innovative features. It's all that a budding astronomer needs.

Price: £59.95
Order code: MFREDS

ORDER NOW! CALL THE HOTLINE ON 0225 822511

Need help with ClarisWorks?

If you need to know more than the manual tells you, then try this Black Mouse guide to *ClarisWorks*. Inside you'll find pages of practical advice and worked examples to help you get the most from your software. Special MACFORMAT offer – £2 off RRP.

ClarisWorks book
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The essential shareware collection

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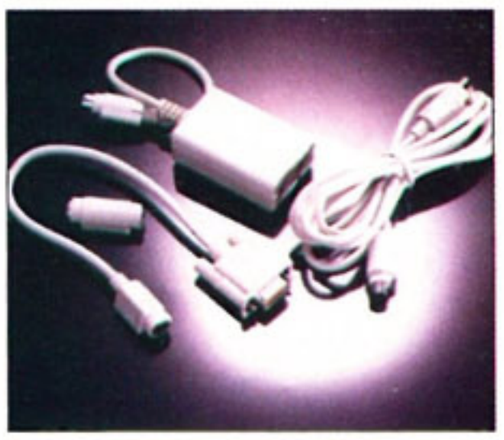
Get networked!

Networking two Macs means you can move files without using floppies, run applications on the other Mac, and share printers. You'll need one kit per Mac (includes about 2m of cable) and an extension cable if your Macs are further than 2m apart. System 7 is required (not included).



AppleTalk connector kit
Price: £29.95
Order code: MFNET
10m extension cable
Price: £19.95
Order code: MFEXT

Excel, Word and FileMaker help

In the same series of Black Mouse guides are books teaching you the best of Microsoft *Excel 4*, Claris *FileMaker Pro* and Microsoft *Word 5*. All are available at the same bargain price.

FileMaker Pro book
Price: £7.95
Order code: MFFMPB
Microsoft Word book
Price: £7.95
Order code: MFWD5B
Microsoft Excel book
Price: £7.95
Order code: MFEXLB

Myst

(MACFORMAT 9: 95%)
An adventure that has you exploring an island world with enthralling puzzles to solve and luscious visuals. This graphics extravaganza comes to you on CD-ROM.

Myst
Price: £39.95
Order code: MFMYST

Join the Syndicate

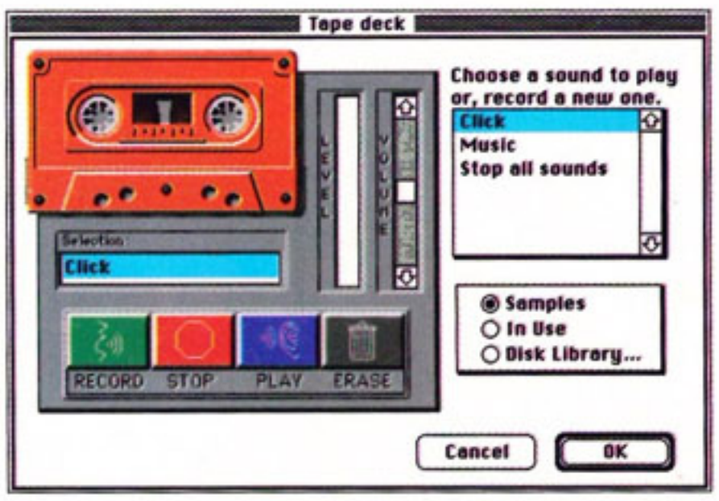
You tried it for yourself on issue 13's cover disk, now upgrade to the full mission-packed game. *Syndicate* combines action with strategy to create a truly enthralling virtual world. We gave it 92% in the June issue, so why not try it for yourself?

Syndicate
Order code: MFSYND
Price: £38.95

Exclusive HyperStudio offer

We were so impressed with *HyperStudio*, and its ability to enable any Mac user to create multimedia, that we got together with the UK distributors TAG Developments to offer MACFORMAT readers an exclusive deal on the software. We can offer you *HyperStudio* at the special price of £117 – that's almost £50 less than the recommended retail price. For just £117 you can be creating multimedia masterpieces in moments (sorry).

This offer is strictly time-limited, so apply now to get your copy at this special MACFORMAT price before it resumes its normal £165 price.



HyperStudio
Price: £117
Order code: MFHYPER

Internet Starter Kit

This is the second edition of this indispensable guide to everything you need to know about using the 'Net. The book comes complete with The Internet Starter Kit disk, which is packed full of useful software. Inside you'll find practical guidance on how to get the most from the 'Net without going bankrupt, and where to look for all the latest info.

Internet Starter Kit second edition
Price: £27.50
Order code:MFISKIT

Keep it clean!

Regular readers will now have over a year's worth of MACFORMATS on the shelf, so to keep them tidy and in absolutely pristine condition, why not store them in a specially designed MACFORMAT binder? Adorned with the MACFORMAT logo, the binder will keep your MACFORMAT issues in perfect nick.

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Baskerville MT Semi Bold Italic
Bell MT
Bell MT Italic
Bembo Bold
Bembo Semi Bold
Calisto MT
Calisto MT Italic
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Calisto MT Bold Italic
Centaur MT
Centaur MT Italic
Centaur MT Bold
Centaur MT Bold Italic
Century Gothic
Century Gothic Italic
Century Gothic Bold
Century Gothic Bold Italic
Colonna MT
Ehrhardt MT
Ehrhardt MT Italic
Ehrhardt MT Semi Bold
Ehrhardt MT Semi Bold Italic
Ellington MT
Ellington MT Italic
Ellington MT Bold
Ellington MT Bold Italic
Footlight MT Light
Footlight MT Light Italic
Footlight MT Bold
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News Gothic MT Condensed Bold
Nimrod MT
Nimrod MT Italic
Nimrod MT Bold
Nimrod MT Bold Italic
Photina MT
Photina MT Italic
Photina MT Bold
Photina MT Bold Italic
Plantin
Plantin Italic
Plantin MT Light
Plantin MT Light Italic

The silliest software ever!

UnderWare is a screen-saver, and it can customise the desktop background, but it's much more than that. It's fun. In fact it's downright silly. *UnderWare* animates the screen as you work! Tarzan swings in and collides with the window, a thief makes off with your 68000, babies crawl everywhere, a dragon burns holes in the desktop and so on. It even runs *After Dark* modules in the same way. *UnderWare* has to be the ultimate Mac customiser! We gave it 93% in February's issue. Imported direct from the US, where it costs $59.95, MACFORMAT brings you total silliness for just £34.95.

UnderWare
Price: £34.95
Order Code: MFUNDER

The ultimate value modem

We rate the US Robotics Mac & Fax as one of the best modems around, and now that USR has slashed its prices, we can bring it to you for an extraordinary £200. Only six months ago, it was £469!

The Mac & Fax is a super-fast modem that can transfer data at up to 56,000 bits per second – 20 times as fast as a typical 2400 modem. It does this by combining raw speed (14,400 baud) with the v32 compression system which shrinks the data before sending it. The modem works with any on-line service and comes complete with a Mac cable and all the software you need to access computers worldwide.

As well as being a modem, the Mac & Fax includes software that enables you to send faxes direct from your Mac, simply by printing from your document as normal, and the Mac & Fax can receive faxes too.

All in all then, it's pretty fab and you definitely shouldn't be without it. Our price for this remarkable piece of kit? Only £200!

US Robotics Mac & Fax modem
Price: £200
Order code: MFMODEM

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MACFORMAT welcomes credit card orders by phone on our hotline – 0225 822511 – or you can use this coupon.

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TOTAL £.....

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May 1994

- **On the disk:** *Prince Of Persia 2* demo; *Scrapz*
- **Inside:** What you can do with shareware; hard disks, removables and optical drives; tips for using colour; a special report on CD-ROM technology and primary schools; *QuicKeys 3*, *INITPicker 3* and *PGA Tour Golf II* reviewed

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June 1994

- **On the disk:** *Syndicate* demo; *Disinfectant 3.41*
- **On the CD-ROM:** sorry, CD-ROM edition is no longer available
- **Inside:** How to double your RAM and disk space – without buying extra hardware; *Print Shop Deluxe*, *ColorStation* and Fargo Primera printer reviewed

ISSUE 15
August 1994

- **On the disk:** *GrayStation*; *Vistapro* demo; *Quill*;
- **On the CD-ROM:** *Redshift* demo; *Stuffit Lite*; *Flying Nightmares* demo; *Pirates Gold* demo
- **Inside:** art on the Mac, including reviews of *Dabbler*, *Fine Artist* – and the Wacom, CalComp and Summagraphics tablets

ISSUE 16
September 1994

- **On the disk:** *ColorStation 2* and *HomePublisher* demos
- **On the CD-ROM:** everything on the HD disk plus *ColorIt 3*, a set of Time Warner Interactive Group demos and much more
- **Inside:** our guide to weird Mac software, plus reviews of *Multimedia Workshop* and *HomePublisher*

ISSUE 17
October 1994

- **On the disk:** *Crunch 2.0* and *Conflict Catcher* demo
- **On the CD-ROM:** *Multimedia Workshop* and *Colorize* demos. Plus more
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SHAREWARE AND PD

This month MACFORMAT's Derek Smith uncovers the terrible secret that shareware was invented by none other than the telephone companies. Gasp! Shock horror! Conspiracy! Grassy knoll!

PowerLock

COMPUTER PROTECTION

Shareware $25

PowerLock is designed to password-protect your Mac on startup, so unwanted guests can't fiddle with your machine. However, during the thorough and vigorous testing we do here at MACFORMAT, I found a really fun feature that wasn't documented in the manual.

If, while installing the program, you make a mistake entering the password, the installation process stops, but not before it has done enough to restart your Mac and ask for the password – you know, the one that doesn't exist because you make a mistake while entering it. Oh dear!

But, all's well that ends well – it only took me about two-and-a-half seconds to work out a way around the password system and get my trusty little Mac up and running again. Now, while this was lucky for me (and my Mac), it did a good job of demonstrating *PowerLock's* capacity to protect – that is, it's about as secure as a Group 4 prisoner van with paper windows.

Needless to say, this won't be appearing on the cover disk, and I'd advise you to avoid this program whenever you see it in the future.

Sourcing the shareware

We often get calls from keen readers who want to know where they can get hold of some of the shareware we review in these pages. Well, here are some of the ways:

1. Buy the CD-ROM version of MACFORMAT, because all the shareware we review is on there in a separate folder. There's also a wealth of other shareware on the CD, which we've sorted into categories for you.

2. Write to a shareware dealer; there are several that advertise in the back of MACFORMAT. They should have the program you are after, especially if they subscribe to our CD!

3. Use the Internet, if you have access. One of the best sources around is Imperial College at src.doc.ic.ac.uk. Use ftp to connect (login: anonymous; password: your E-mail address) and "cd" to computing/systems/mac. Personally I use the umich directory, but sumex is fine as well.

4. In a few months we will be setting up our own bulletin board using a brand new version of a wonderful BBS program, which should be absolutely brilliant, and a joy to use. We will let you know as soon as it is up and running. Future Publishing is also about to become an Internet site, so you'll soon be able to access us like any other Internet server.

5. Local user groups often have libraries of shareware, so see if you have one near you. There are some listed in the Reader Ads section (see page 122).

Finally, wherever you get your shareware, beware of viruses. At the time of going to press, *Disinfectant 3.5* (on MACFORMAT 14's cover disk) was the best and cheapest way of staying safe.

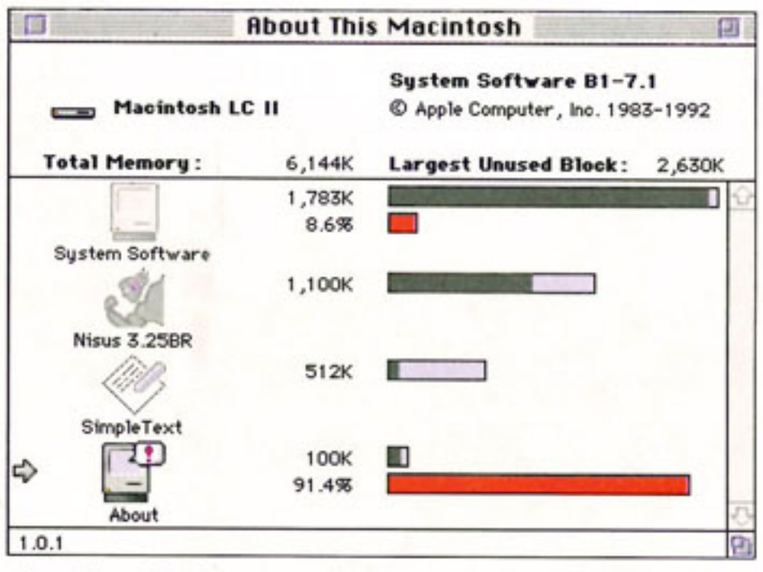
About

SYSTEM UTILITY

Freeware

Looking at the screenshot, you may think this program looks a bit like the 'About This Macintosh' window. Well, it's supposed to, because Michael Hecht wrote this program as a replacement for it. *About* adds several enhancements to the original, one of which is the ability to bring a program to the front by clicking on it within the window.

You can also choose to view the open programs by size, or in the order they were launched. A red bar next to each program shows you how much of the processor they're using. *About* is not going to change the face of computing as we know it, but the author recognises this by not charging for it. However, it's a handy little gadget that'll find a home with all those people obsessed with customising and improving their Macs.



About is an ideal program for those who love to fiddle with their pride and joy. Stop sniggering at the back.

AppDisk 1.6.1

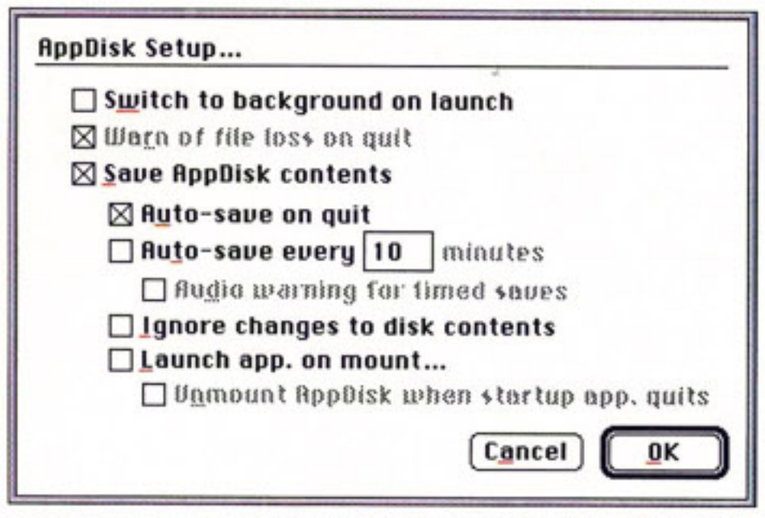
RAM DISK

Shareware $15

If you have a Quadra or other top-end Mac, you'll have an extra feature in the Memory Control Panel called RAM Disk. This enables you to create a 'disk' composed entirely of RAM, instead of a physical medium like a hard disk. The point is the RAM Disk is very fast, even compared to a hard disk. This is very useful for disk-intensive tasks, such as databasing.

If you have a more modest Mac, like an LC or Mac Classic, but still have high-end needs, then get *AppDisk*. And even if you have a built-in RAM disk, you may find this program offers you several advantages. For instance, to turn on Apple's own RAM disk you need to restart your Mac; with *AppDisk*, on the other hand, you can start your RAM disk by launching the *AppDisk* application, and stop using it by dumping the *AppDisk* icon into the wastebasket.

The age old problem with RAM disks is if your machine is switched off, you lose all your work in a pool of soggy electrons that leak out of the bottom of your Mac. *AppDisk* is very friendly – it can automatically save your work to your hard disk at regular intervals, or when you quit. Get in the fast lane and live dangerously – you never know when the next power cut will strike!



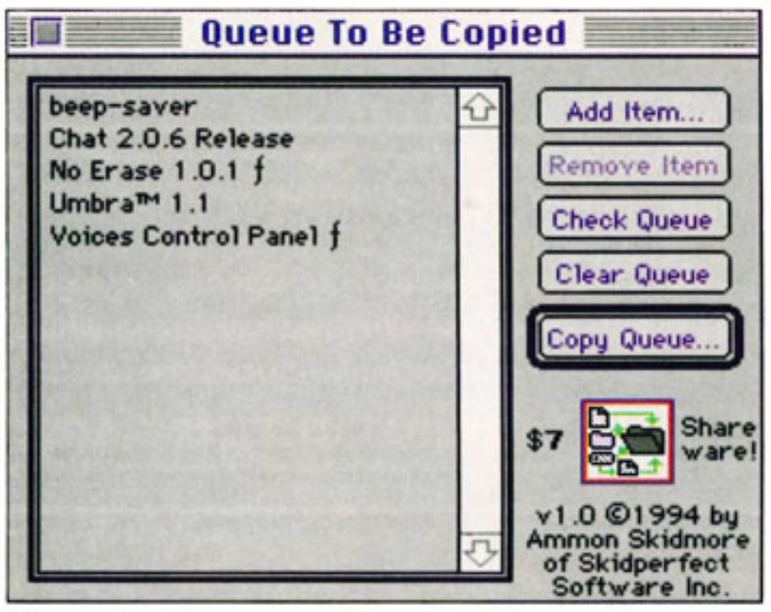
Don't let those power users boast about their RAM disk, get yourself an improved version and go for speed.

CopyQueuer

FILE COPIER

Shareware $7

The Desktop is highly flexible, but there's always been one thing that's frustrated me: the inability to select files in different windows by holding down [shift] and clicking on the mouse button. This means if you want to copy lots of



It's easy to add and remove items from the queue. You can also test to see whether you have duplicated any files.

disparate files, you have to drag them a few at a time from their various folders.

CopyQueuer removes this hassle. All you do is drag and drop a file on to *CopyQueuer* and it's added to a list within the program. Once you've dragged all the needed files, hit a button and the whole lot will be copied, while you go off and beat the dog, or something. There's also an option that turns your Mac off when it's finished copying, but the program lacks a timer, so you can't set it up to copy at a later time or date. This aside, it's a really handy application that'll save you hours of watching that annoying grey bar snaking across your screen at the speed of an athlete's drug test result.

DiskDup+

DISK DUPLICATOR

Shareware $25

There you are showing off your new Mac to your Amiga-owning friend. 'It's got a built-in CD, optical drive and 1 gigabyte DAT,' you say. Everything's great until he asks you how many floppy drives it has. 'Erm... one?' you say, hoping another appears when your back is turned. (The closest Apple's come to putting two floppy drives in a Mac came with the blocked-off second bay in the original LC – after Apple changed its mind half way through making it.)

So with all this technology in your hands, you'll still end up swapping disks six times, just to back up one floppy on to another. *DiskDup+* is the ideal program for anyone who needs to

DESK TIDY

In schools, offices and homes, you'll often find Macs used by many people – that's one of the drawbacks of them being so darn good. This can lead to files being deleted and rearranged. So, short of shooting all the other users, you'll need a program to keep your desktop tidy. Commercial programs like the excellent *MacPrefect*, which costs £41.13 from Hi Resolution (tel: 0892 724050), will do the job, but here are a couple of shareware possibilities.

Blindfold

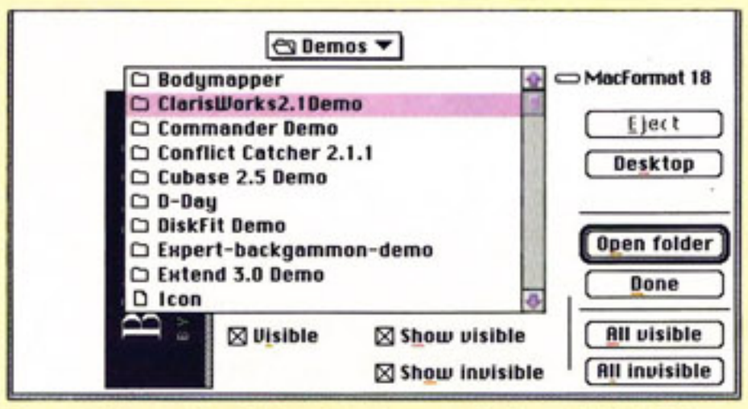
FILE HIDER

Freeware

The best way to keep a secret is to make sure no-one knows that a secret exists in the first place. In the same way, if you want to stop someone using something on a Mac, then make it invisible. *Blindfold* does just that job.

Blindfold is really useful for hiding the System Folder or, indeed, those secret love letters. All you need to do is use a standard file dialogue box to find a file or folder, and then uncheck the 'visible' box. To reverse this process you'll have to re-check the box.

On the other side of the coin, you can make normally invisible files, such as the Desktop file, visible. Of course, if they are invisible it means that you're supposed to leave them alone and not touch them. But let's face it, if you see a little thread of cotton dangling from your shirt, you still pull it, despite the knowledge that the seam is almost certain to fall apart. Curiosity killed the Mac.



You could use *ResEdit* to do the same job as *Blindfold*, but then again you could use a chainsaw to cut your cucumber sandwiches, if you get my drift.

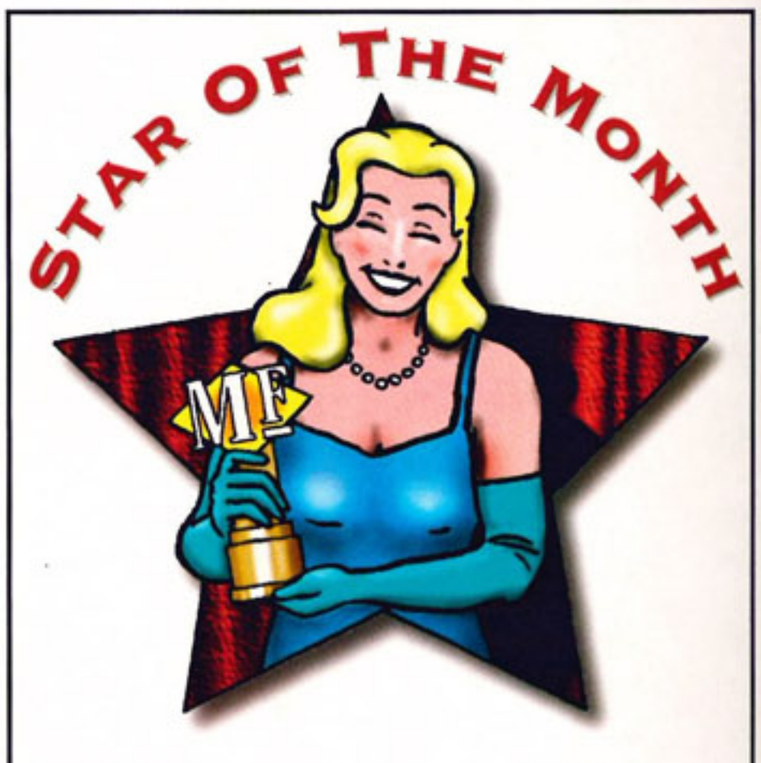
Garbage Collector

DESKTOP TIDIER

Shareware $10

Here's an approach that's different to anything I've ever seen before. If you want to treat users as more than mindless vandals, then *Garbage Collector* will enable people to have complete access to your Mac, without being able to trash anything important. What it does is create a catalogue of all the files and folders on a hard disk at a set time. Then, at a later date, you can ask the Mac to restore itself to the state it was in when it was catalogued.

Garbage Collector will put files back where they should be, reset changes made, and rename folders where possible. Any extra files are copied to a folder called 'Student Work' – which is a bit of a clue to *Garbage Collector's* intended audience. Missing files cannot be replaced, but are listed so at least you know they're missing *[Fat lot of use that is – Ed]*. *Garbage Collector* is far from perfect, but I like the original approach to an old problem. If it were more flexible, and had the ability to replace missing files from a server or external disk, it would be even better.



Alias Director 3.5.2

ALIAS UTILITY

Shareware $10

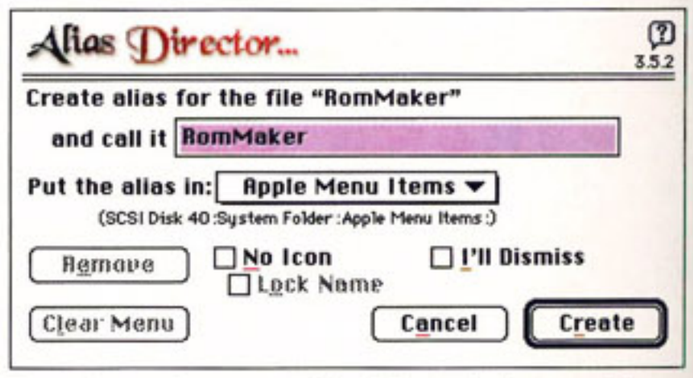
The alias facility introduced in System 7 seemed a weird idea at the time, but let's face it, so did the idea of an Englishman playing a Frenchman playing the captain of the USS Enterprise. But once you've got used to it, you love it.

If Apple had employed a time and motion bod to examine the use of aliases, they would have noted a slight problem. Usually when you create an alias, the process goes as follows: you choose 'Make Alias', move the alias to its desired location (often the Desktop or Apple menu), and then delete the word 'alias' from the end of the icon's name.

Alias Director recognises this and streamlines the process: you can drag and drop an icon on to the program and a dialogue box appears that contains the default name of the alias-to-be, which is exactly the same as the original. A pop-up menu enables you to save it to the Apple menu, or the Desktop, or anywhere else via the usual file dialogue box.

But wait, that's not all. If you hold down [option] as you drag and drop, the alias will be automatically saved into the Apple menu; hold down [shift] and the alias will go straight to the Desktop.

Alias Director can also update your aliases. This is handy if you update a program, because normally this entails throwing away the original alias and making a new one. If you like aliases, you'll love this program. If you hate them, then maybe you should get out more. No, hang on, that's not right...



Dropping an icon on to *Alias Director* brings up this dialogue box that enables you to save it directly to the right spot on your hard disk, with a minimum of hassle.

!Dos

COMMAND LINE INTERFACE

Freeware

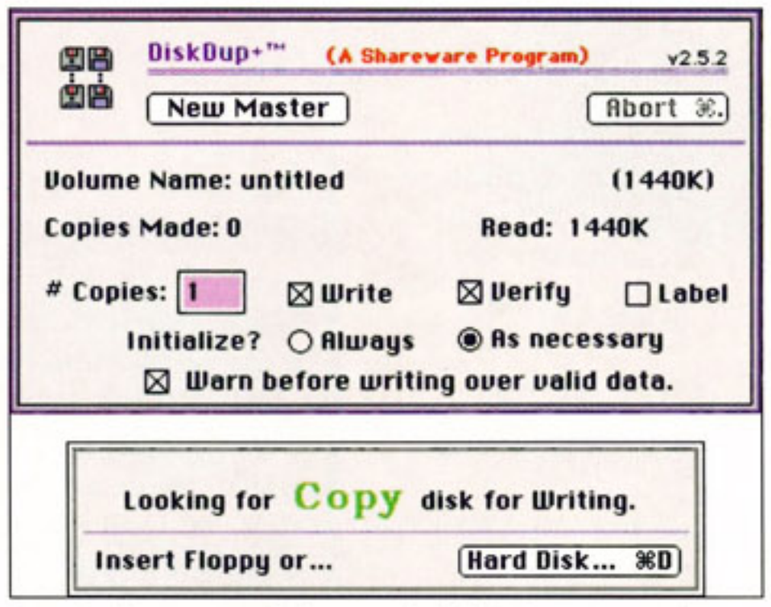
I once had this nightmare that involved me arriving at school (not wearing any trousers, of course) only to find that a course on DOS had been introduced to the curriculum. If you're lucky enough to have never come across DOS, it was introduced by IBM at the 1980 Masochists Convention in Dallas. Despite some people's objection that it was too excruciating for public consumption, it was updated several times until it reached version 6 – which could reduce people to tears who merely glanced at the packaging.

After a legal injunction made by a small compression software house, all copies of DOS 6 were withdrawn and burnt, having been officially classed as a dangerous substance. The world calmed down. Mac users continued typing on their machines, oblivious to all the commotion. But (according to *Nightmare on Elm Street*) evil never really dies, it just slumbers. Then one day an innocent shareware reviewer switched on his Mac to be presented with the terrifying word 'prompt'! Too scared to breathe, he typed 'list' and the full scale of the horror dawned on him. DOS was back, and this time it was on the Mac!

I knew this chap once who used a PC until forced to use a Mac. He complained that there wasn't a CLI. I showed him how the Mac did things, but to no avail. He got rid of the Mac and bought a PC. I guess there's no hope for some people.

```
Double quotes may be used to enclose literal string parts.
Directory names should end in a colon (:)
Relative paths use several colons; ":" means this directory,
and "::" means the one above it.
File names may contain a star as a wildcard, matching at minimum
ONE character (i.e. *BC matches ABC but not BC)
As a special case, two-star file names of *A* are matched as well
There is no way to avoid matching a star.
There is no way to move the console window.
Most operations multi-task splendidly in the background.
prompt
list
:!Dos
:!Dos README
prompt
directory
MacFormat 18:Shareware in MacFormat:!Dos Folder:
prompt
quit - please go away
Error -1
prompt
CD:/
Error -1
prompt
Help Help! I'm trapped inside a PC!
```

Now that we have DOS on the Mac, how long can it be before we get '*Windows* for Mac'. Come on, Bill Gates, it's not as if you copied it from anyone.



Despite this program being very helpful, there are no plans as yet to use it for making the MACFORMAT cover disks.

duplicate floppies on a regular basis. All you have to do is pop the master floppy in, tell your Mac how many copies you need and off it goes, making your duplicates and ejecting each floppy when it's done.

While we're on the subject, have you ever noticed how much longer it takes to back up a disk with just one little program on it, compared to the amount of time it takes to simply copy that same file? The reason is that when you back up a floppy disk by dragging its icon on to a blank disk, the Mac copies the entire disk, including the blank bits. *DiskDup+* enables you to just copy the bits of the disk that actually contain something. The result is even faster disk duplication.

LaterLaser

PRINTING UTILITY

Freeware

If you try to print when the target printer is unavailable, you will get a message that basically tells you to forget it. Informative, but somewhat limited in its usefulness. *LaterLaser* is an Extension that improves on this situation.

If you try to print when the printer is disconnected, you get a dialogue box that enables you to print later – not at a specific time, just later. When the printer does become available, you'll automatically get a message to that effect, along with an enquiry as to whether you would now like to print. This is great for PowerBook users who don't want to have to remember which documents they have to print when they get home and connect to their printer.

StuffIt Expander 3.5.1

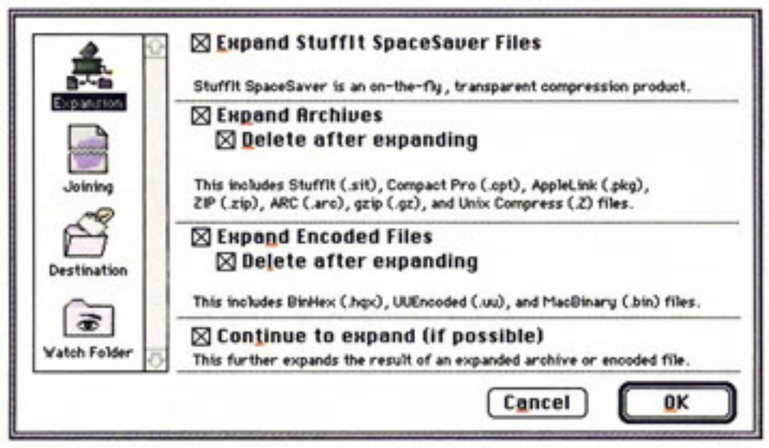
ARCHIVE EXTRACTOR

Freeware

StuffIt is one of the best file compression programs around. In fact, we use it to create the MACFORMAT cover disk each month. It also has a sister program called *StuffIt Expander* that, surprisingly enough, decompresses files.

Up until now, *StuffIt Expander* was a quick way of extracting *StuffIt* files, and useful for people who didn't need the full program, because it was free. However, in its latest incarnation it's become a total gem. It has always been able to extract files compressed with some compacting programs, such as *CompactPro*, but this range has been extended and *StuffIt Expander* can now extract many more compressed file formats.

If you use the Internet, this should be one of



StuffIt Expander can now extract just about anything, except a rebate from the Inland Revenue.

the first programs you download. Files from the Internet are often compacted three times, and whereas before you had to use three separate programs to unpack them, *StuffIt Expander* now does it all in one go.

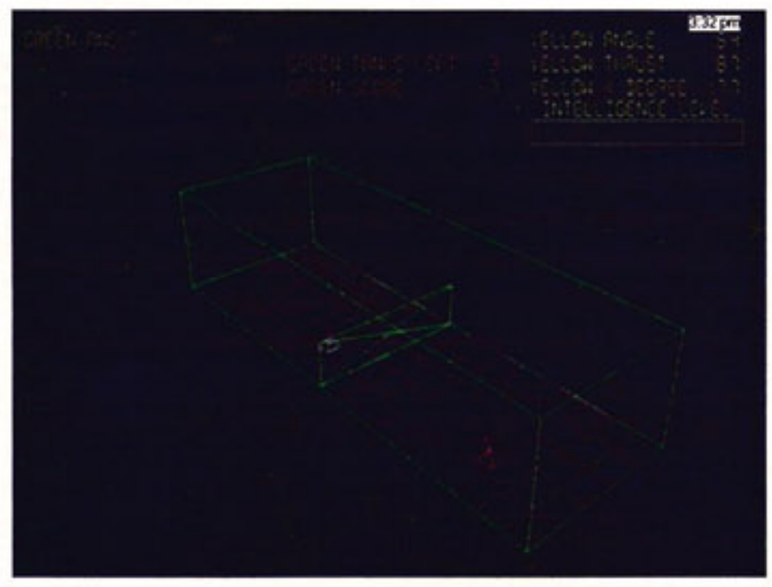
Technomaniac 1.0

ARCADE GAME

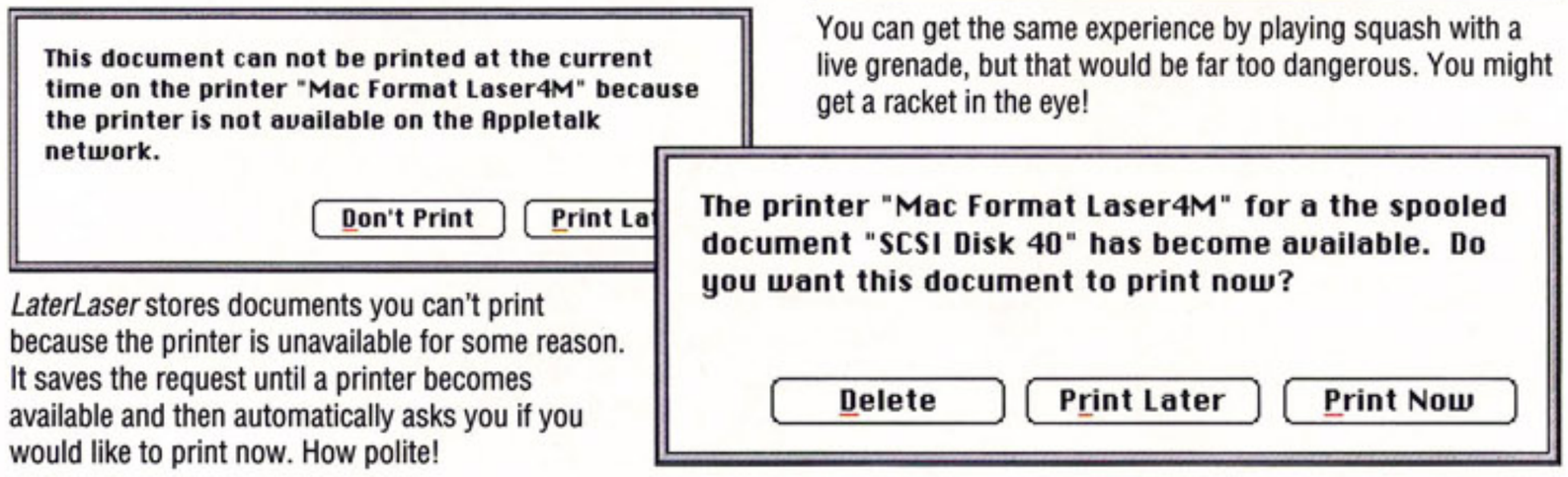
Shareware $10

Do you remember that old tank game where two tanks shot at each other over a hill? Well, if you were to cross that game with squash and *Tron*, you would end up with *Technomaniac*. The idea is that two opposing tanks shoot at each other – the first one to hit, blows the opponent into hundreds of tiny pixels.

Using the keyboard, you can move your tank around a grid, altering the angle of the turret



You can get the same experience by playing squash with a live grenade, but that would be far too dangerous. You might get a racket in the eye!



LaterLaser stores documents you can't print because the printer is unavailable for some reason. It saves the request until a printer becomes available and then automatically asks you if you would like to print now. How polite!

WEIRD AND WONDERFUL

Following on from our 'Weird and Wonderful' feature in MACFORMAT 16 (if you missed that issue turn to page 100 to order your back issue now), here are a couple of classic weirdos from the Internet. By definition, much shareware is odd and specialised, but occasionally you come to a program that makes you wonder 'Who are these people?'

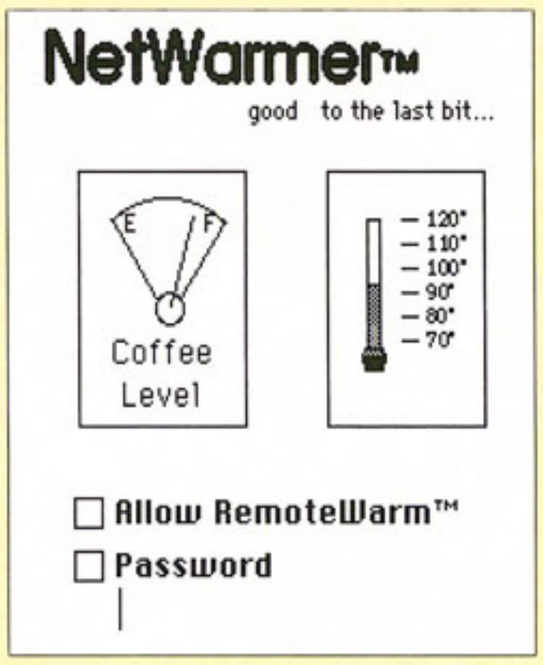
NetWarmer

COFFEE WARMER

Freeware

If you're connected to an AppleTalk network, then you may just be very interested in *Netwarmer*. It claims to be the first Network coffee warmer and, thinking about it, I have to admit I can't remember seeing one before. You'll need extra hardware, namely a coffee mug warmer with network adaptor, but that shouldn't be too hard to find.

Apparently, a new version should be released soon that supports tea to cater for us Brits. A built-in password facility is a welcome addition to the program – well, let's face it, you wouldn't want just anyone warming their coffee with your Mac, would you?



Say goodbye to cold mugs of coffee forever with this superlative piece of software. However, please note that it should not be used in conjunction with small pets.

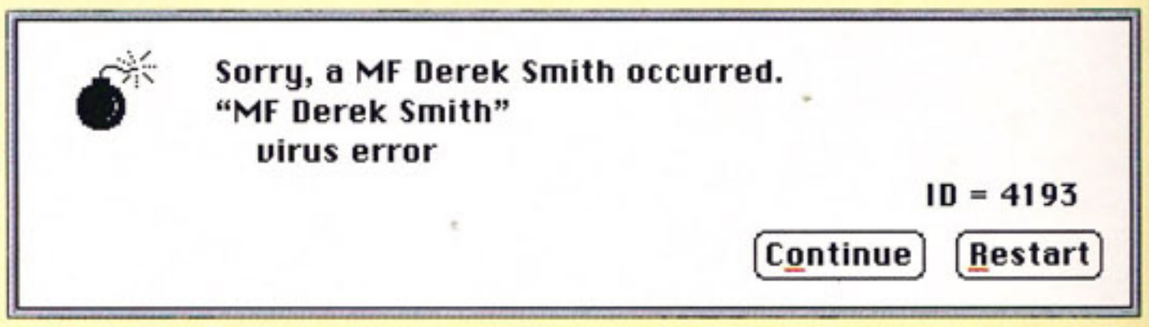
Personal Bomb!

ERROR CREATOR

Shareware $1

You are probably sick to death of obscure crashes that render your Mac an obese paperweight. Well, *Personal Bomb!* solves your problems by giving you a much more personal sort of crash. In fact, it's so good you'll want to crash just to receive that cheery personal note. This program takes your details from the Sharing Setup Control Panel, which can lead to some very odd messages, such as the one shown.

The only reservation would have to be the shareware fee, which many people will find just a bit too steep. Why, oh why, oh why, don't shareware authors get realistic and start charging what their programs are really worth? After all, I already have plenty of perfectly good commercial programs that will crash my Mac for free – like *Word*, for instance. (Please note that *Personal Bomb!* is a joke and will not damage your Mac in any way... Well, no more than other shareware programs anyway.)



You can personalise a wide range of things on your Mac, and now – not before time – you can customise the way your Mac crashes. Phew, well that's a relief then!

and the force with which the shell is fired. If you miss the opponent, you destroy the piece of his grid where the shell lands, slowly limiting his movements. This leads to some tense finales, where you're both confined to a small space, fine-tuning your bombardment to strike the killer punch.

You can also try your hand at various trick shots, by bouncing your shells off the walls and ceiling. But don't take too long lining-up your shot, because the enemy's sure to work out your position and blast you into smithereens. You can also make the whole playing area rotate slowly around, which should completely disorientate both tanks. *Technomaniac* is a marvellous game and – like sex – is even more fun with a friend.

Glider Design 1.2.1

AERODYNAMIC SIMULATOR

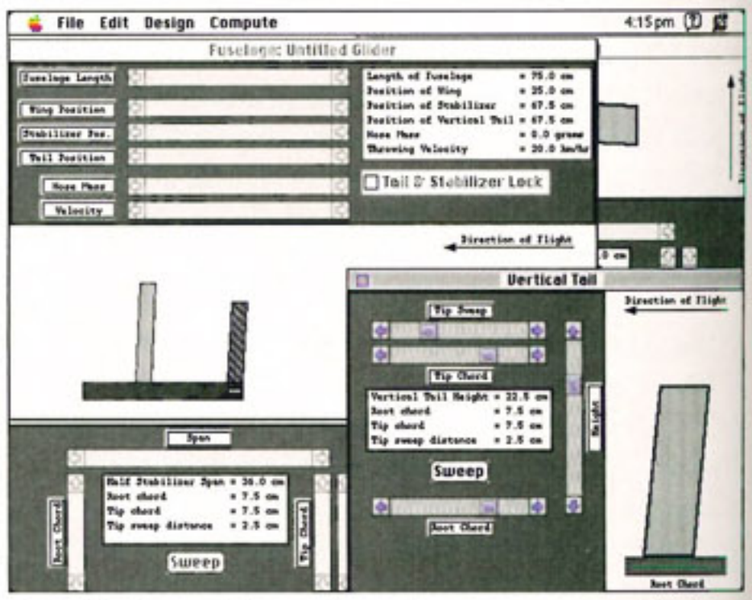
Freeware

Well, I have to say, this has got to be the first program I have ever come across that will help you design a wooden glider. Don't get me wrong, this program doesn't just let you draw a few pretty pictures of wings. Oh, no. This will help you design a fully working model that should fly. Bearing in mind that the programmer works for NASA, he should know how to design something that flies (unless he worked on the Challenger shuttle that is).

There are four basic screens, each of which controls a different aspect of the plane: the fuselage, tail, stabilizer and main wing. Each screen contains controls that enable you to alter the size and angle of each aspect of your glider, which will affect how it flies. You can choose how the tail will taper and what angle the main wing will sweep back at.

Once you have finished designing your super-cool glider, the next step is to choose 'Analyse Design' from the Compute menu. This completely crushes all your hopes into a sad pool of mush, by informing you that your precious glider has all the flight potential of an elephant with a firework stuck up its bottom. Fortunately, it does give you advice about how to fix the problem such as adding more weight to the tip, which, if you believe the techie buffs, will alter the centre of gravity.

I'm not sure it'd be useful to design a real life glider because there are too many variables not taken into account. Such as the weight of materials used and, erm, other technie things. But it's an interesting lesson in flight dynamics and saves spilling glue on the cat.



Glider Design enables you to create your very own virtual glider. Next month we feature a program that simulates sticking an Airfix kit together. Simple pleasures.

SO WHAT IS ALL THIS SHAREWARE STUFF THEN?

Shareware is a form of 'try before you buy' software selling and it's a great idea so long as people are honest. When you get some shareware, the documentation will tell you how much it costs – typically it's somewhere between $5 and $40 – and where to send your money. If you like the software and decide to keep it, then you are morally obliged to cough up. Not only do you get the satisfaction of boasting to friends about how honest you are, but the author will often give you something in return, like a printed manual, or updates when released. The most common problem is sending money abroad, but as many shareware authors now accept credit cards, it's getting easier.

Freeware means that you don't have to pay for it at all. There are many derivations such as postcardware, which means that you have to send a pretty postcard to the author. However, freeware is not the same as Public Domain (PD) because although you don't pay for freeware, the author keeps copyright and you have to follow his terms and conditions to use the program. This often means keeping all the files together and not using or selling them for profit.

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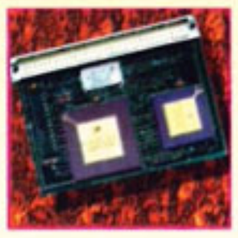

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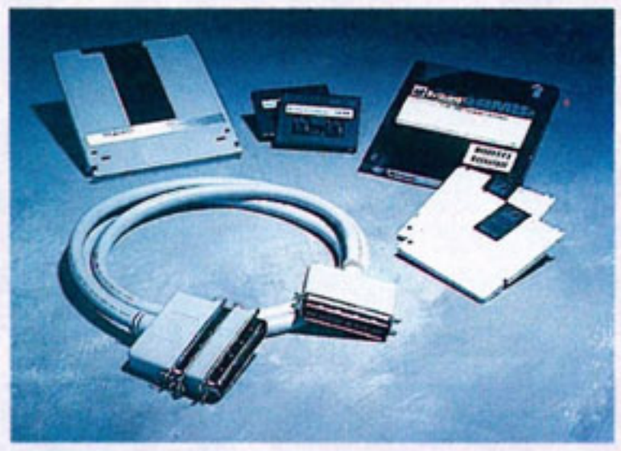

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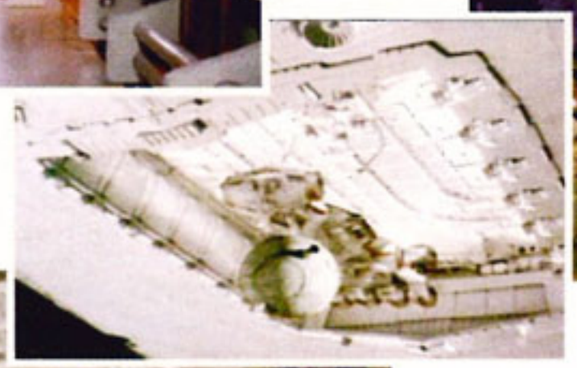
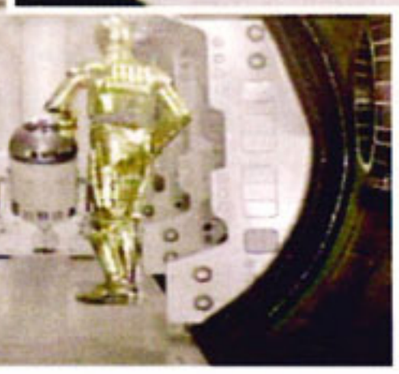




The incredible animated sequences set the tone and atmosphere for the proceedings. In *Rebel Assault*, suspension of disbelief is very easy indeed. Utterly gorgeous.

Look at that Storm-trooper. Mad as a small Welsh village and waiting around for you to show up. Then he can shoot you with a quad-phaser turbo cannon. There's a laugh for you. If only you were good at that Force business, like Luke Skywalker.

Rebel Assault

The Empire has got the hardest ships and the best costumes, but Frank O'Connor's got the Force and a very large light sabre...

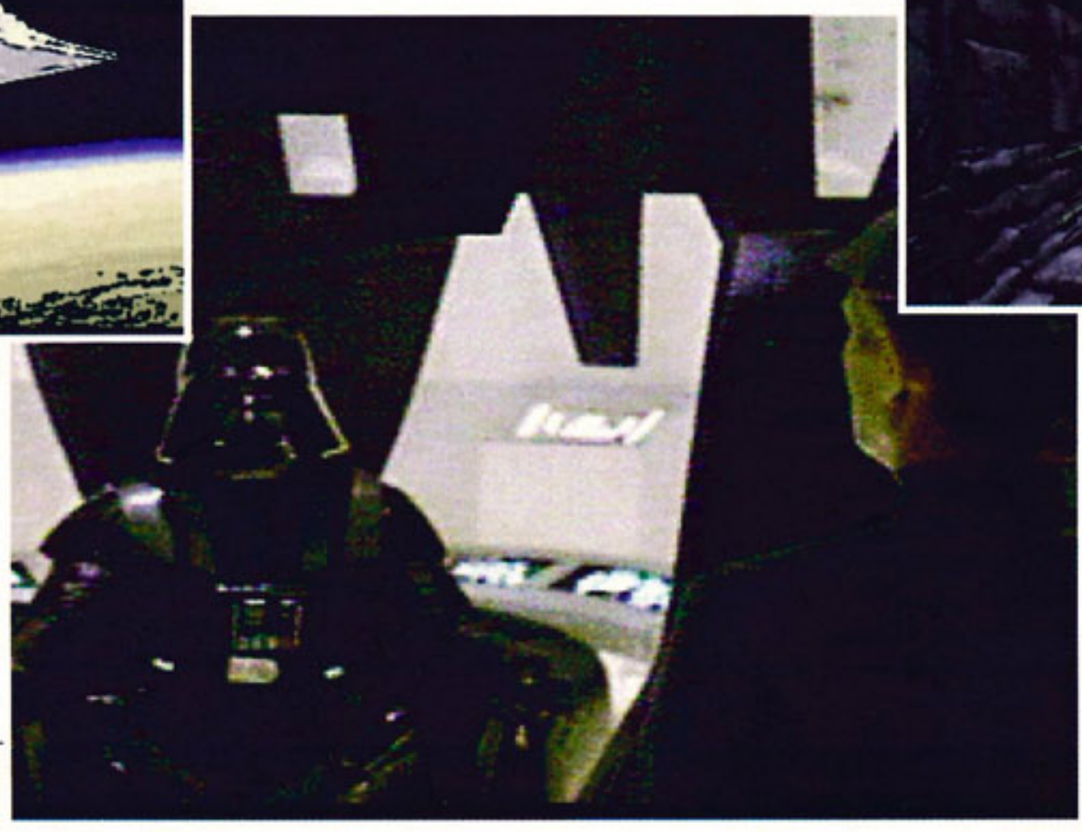
You know the score. A long time ago, in a galaxy far, far away, some stuff happened. Explosions mostly, and a bit of fighting. Good blokes, bad blokes, huge blokes in leather with big helmets. No, it's not a Village People video – this, of course, is *Star Wars*. And now you can experience the legend on the Mac. What's more, you don't need a monster Mac to play it. *Rebel Assault* will play happily on anything from an LCIII upwards.

This, it must be said, is quite simply the best Macintosh CD-ROM product to date. It has been optimised to take advantage of every Mac feature, and as a result, it's far superior to the rather disappointing PC version. A PC owner at first glance might think this is a straight conversion – but it's not: it's cleaner, sharper and much, much better.

The object of the game is to 'live out' what amounts to a mini *Star Wars* saga. You play the obviously named Rookie One, a trainee pilot for the Rebel Alliance. You start off as a bit of a talentless fop, with little or no aptitude for flying anything more than a paper dart. However, the Alliance has seen a spark of promise and decides to invest billions of, erm, space-pounds in a training programme. This makes up the first third of the game.

You have to master the various spacecraft employed by the alliance in a series of dummy missions. These range from simple canyon-flying to complicated bombing runs over the rugged landscape of Tatooine – Luke Skywalker's home planet. Once you complete your training, it's off into deep space for the fight with the evil Imperial forces – led by Darth Vader, of course. This is when you get to shoot real things, as opposed to the training droids who don't shoot back.

Apart from the overhead scrolling sections, the craft all move and handle in exactly the



Obi Wan's apprentice, Darth Vader, appears from time to time to say nasty things about you. Unfortunately, the actor supplying the voice sounds more like Kermit the Frog, so fear and intimidation are a little lacking at this point. Yup, Darth Vader is a bit of pansy...

The tricky flying sections make up the vast bulk of the game. The X-Wing fighter doesn't make an appearance until late in the game. The training ships are a bit rubbish and some of them aren't even armed. All ships move and handle in exactly the same way though.

That's not you. You never get to see your own face, just the back of your head. Possibly wise in some cases.

same way. The spaceships are very sensitive indeed. Learning how to move in anything less than a catastrophic lurch is half the battle.

It must be stressed at this point that although this game isn't difficult in itself, the incredibly sensitive controls make guiding your character or ship very tricky. The controls have been improved since the horrifically tricky PC version, but it's still not enough. You'll spend exactly half the game scraping your spacecraft against subterranean walls.

The missions are, it must be said, a bit simplistic: you either have to reach the end of a set course or destroy a specific number of hostiles. If you fail to destroy enough bad guys, or lose all your shields, it's back to the start with you. And once you lose all your lives, it's back to the beginning of the game. Fortunately, though, there's a password system, so you can skip the stages you've played before.

As you progress through the game, cinematic interludes reveal a cursory plot – but this takes place very much within the Universe established by the movie, so don't expect to blow up the entire Empire or anything. These animations are backed up by the best cinema soundtrack ever written: the amazing *Star Wars* suite, by John Williams. The way this adheres to the game action should present a valuable lesson to other multimedia and game producers: it's absolutely flawless, which adds an amazing depth of atmosphere.

One slight niggle is the rather dreary impersonation of Darth Vader. The actor sounds bored and not at all like James Earl Jones – the actor responsible for the original Vader baritone. The 'acting', however, is generally good, and doesn't spoil the atmosphere. And atmosphere is what it's all about. *Rebel Assault* makes a vague pretence at being space battle simulation, but is effectively a simple shoot-'em-up.

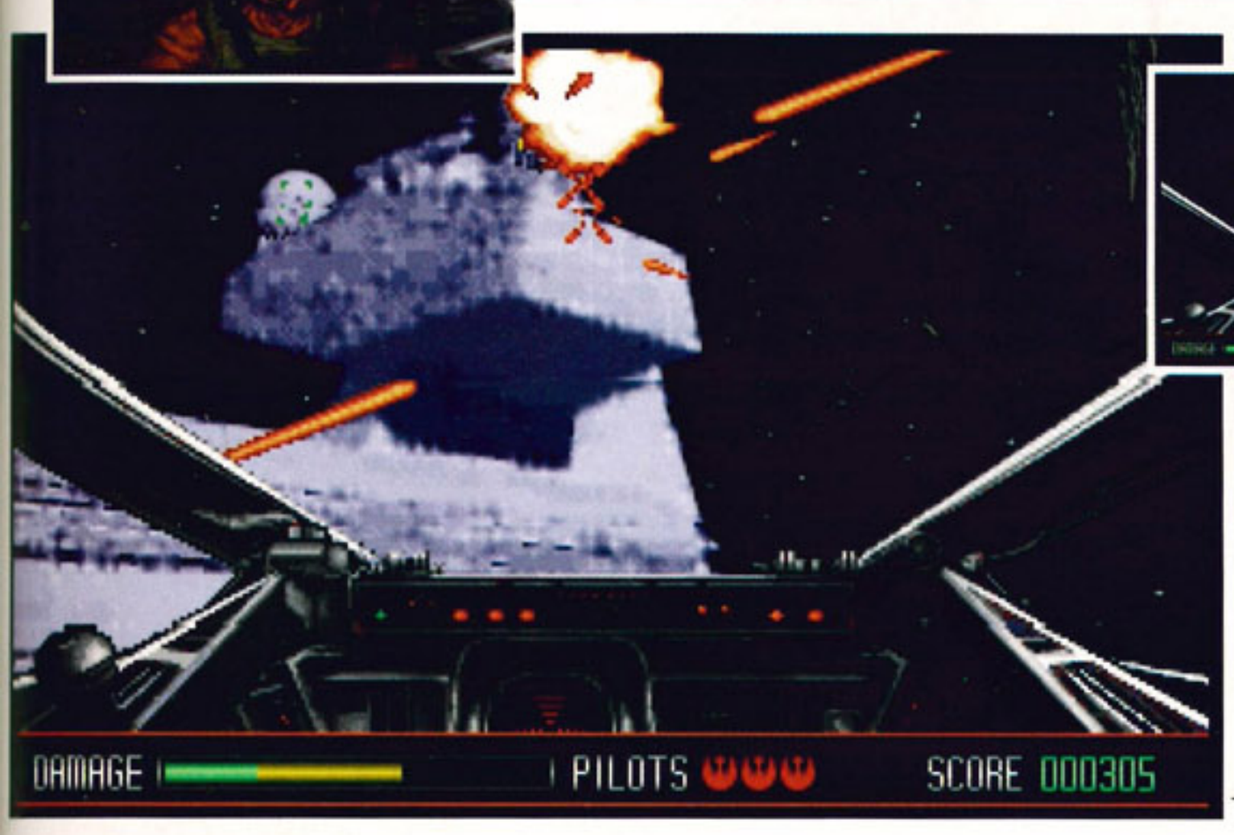
As you can see, the pre-rendered graphics are delicious. They are played straight from the CD, and are exceptionally smooth. In fact, on a double-speed CD-ROM drive they're seamless. Single-speed drives suffer a tiny bit of lag, but not enough to upset you.

It all plays exceptionally well: you shoot stuff, you learn to fly properly, and the urge to see the next level is fairly overwhelming. Frankly, there's not a lot of this stuff available on the Mac, but things are getting better. With the imminent arrival of *Doom* and the already excellent *Sensory Overload*, the Mac is pulling itself out of the hobbyist's closet and straight into mainstream multimedia. Try this on a PowerMac and it'll blow your mind. *Frank O'Connor*

From Little Macs...

One of the great things about the Macintosh version of *Rebel Assault* is that it works perfectly even on smaller Macs. The game structure is very simple at heart, with rudimentary sprites being animated over what amounts to pre-rendered video footage. We tried this on everything from an LCIII (the suggested minimum) to a PowerMac 7100. We tried the game on single-, double- and even triple-speed CD ROM drives and it worked smoothly with each and every configuration.

There are a wealth of options that enable you to resize the screen or use line splitting to speed up the display, and even an auto-check facility to suggest the ideal screen and sound configuration. You can also choose different controls: keyboard (which is useless), mouse (which is better), or joystick (which is definitely the best). Get a joystick, or die. And may the Force be with you! (Sorry, but no *Star Wars* review would be complete without that old chestnut.)



The assualt on the Imperial Star Destroyer is possibly the most fun of all the sections, and easily the most visually gob-smacking. A good pilot can take it out in a couple of orbits. It took me 12 – but then, I didn't want to go round to the Dark Side. Ahem.

Rebel Assault

Price: £49.99.
Requires: LCIII or better (Not PowerMac native), System 7 or later. 4Mb of RAM, 256 colours, 640 x 480 resolution and any CD-ROM drive (double-speed recommended, but by no means essential).
For more details contact US Gold on 021 625 3388.

Graphics 92%
Brilliantly directed and cleverly displayed selection of superb pre-rendered animation.

Sound 95%
Good acting and the best music on a game, ever.

Gameplay 86%
Good, sometimes brilliant, but flawed.

MACFORMAT RATING 90%

Theme Park

Screaming kids, cruddy food and vomit-inducing rides. Andy Hutchinson decides to open an amusement park. And then changes his mind...

All my visits to theme parks have been soul-destroying experiences. The last time I went, I thought I'd be clever and wait for a really grotty day, in the misguided belief that the place would be empty and I could savour all the rides at my leisure. Of course, that's what everyone else in the UK thought, and so despite the force seven gales, the queues for the rides were still two hours long. Then some brat decided to unload his ice cream cone on my head... I'm not the biggest fan of theme parks.

Having said all that, this new Bullfrog game offers everyone a chance for revenge. It enables you to build the funkiest or the crappiest amusement parks you like, charge excessive amounts for entrance, build no toilets, populate the place with manky tea-cup rides, and then watch with glee as the visitors toodle around with desperately unhappy expressions on their gullible pixelated faces. Deep joy.

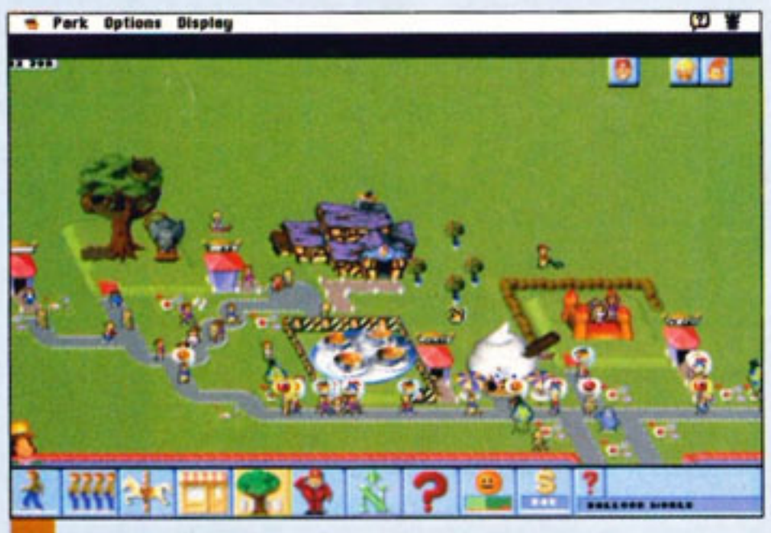
The key to running a successful theme park lies in balancing the satisfaction of the punters with how much you charge them. Naturally, if you're going to charge a fortune for a couple of miserable rides, then they aren't going to be too chuffed – word will get around and your gate receipts will fall. Similarly, if you charge them naff all for the best rides in the world, then you're heading for bankruptcy.

When you start the game you're loaned £100,000. Your aim is to build a successful park, pay off your loan and put your opponents out of business. You can do this by inventing new rides and concessionary stands, keeping the park neat and tidy, catering to your customers' basic needs and kitting the place out with entertainers.

Your immediate job is to build your park's infrastructure. This involves laying paths, choosing sites for your rides and concessionary stands and picking a suitable location for the toilets. Once you've picked a suitable layout you can pitch your first ride. The obvious choice here is the bouncy castle, because it's so cheap. With this in place you can join it up to the path and switch it on. Add a few hot-dog and ice cream stands, another ride (such as a ghost house) and you've already got a theme park more impressive than most on offer at British stately homes.

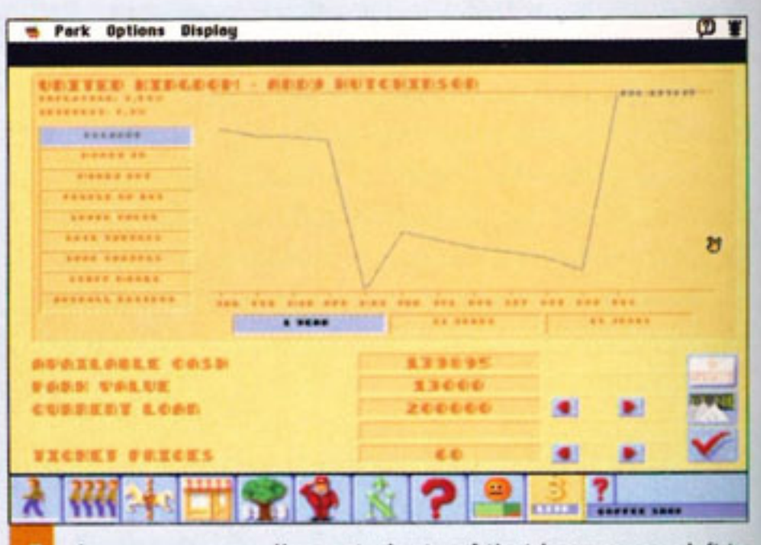
No theme park can afford to stand still, though. In order to tempt back old customers

1 The theme park's open, but you haven't got much in the way of rides yet, just a manky bouncy castle. They even have those at village fetes these days.



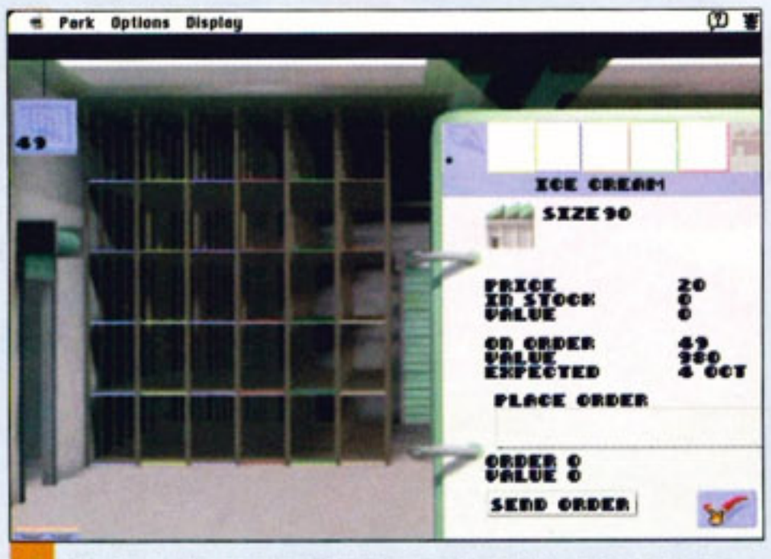
2 That's a bit better, there's now an adventure playground, a bouncy castle, a tea-cup ride and an ice cream stall. Shame about that crappy path, though.

3 It's very important to keep a close eye on your finances. At this moment in time I'm top of the theme park league, but the others are snapping at my kiosks.

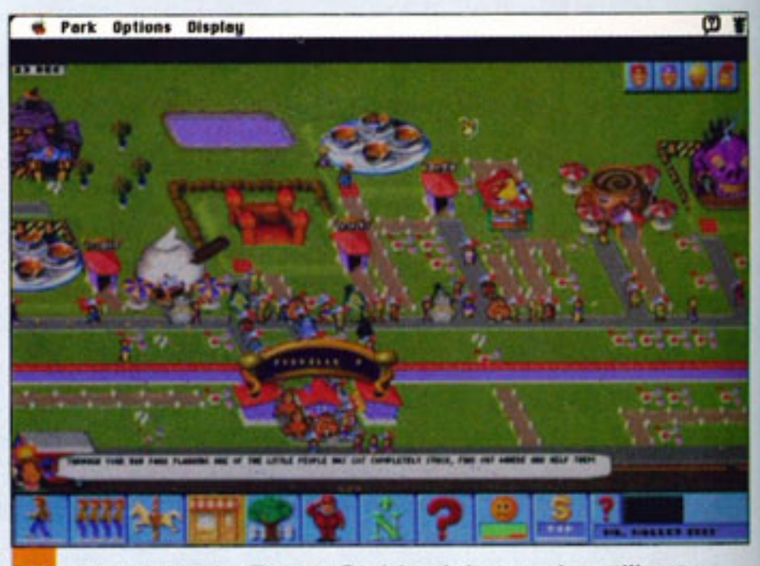


4 As you can see, I've got plenty of that loan money left to spend. My built-in adviser's warned me to up the entry price though, so that I can pay it back a bit quicker.

5 All human emotion is dealt with here: they're happy, sad, hungry, thirsty – and they're all customers. The chap top row, third from left isn't very pleased though.



6 To keep the punters happy, you've got to keep an eye on your stock. Here you can order ice cream for the screaming masses. Wonder if I can invent a deep-freeze ride.



7 It's raining in *Theme Park* land, but you've still got plenty of sorry suckers arriving – it's that Dunkirk spirit that the British are so good at, you know.

and lure in new ones, you've got to come up with new rides. To do this you have to feed money into your research lab. Leave the men in white coats for long enough and they'll come up with mazes, dragon slides, clown shows, car rides and, of course, a roller coaster. Plonk one of these down in your park and the crowds will soon come flocking.

It doesn't end there though: you'll need to maintain your rides, order stock for the concessionary stands, hire and fire staff, and most of all, look after the punters. So, once you've built your park, you'll have to spend a long time tinkering with it to ensure its smooth running.

Obviously your ultimate aim is to make enough money to keep adding new rides to your park. Thus, you can change the price of your food and drink, shift more people through each ride, and up the entry price to the park. If you're not sure exactly what to charge for something, the built-in adviser will tell you where you're going wrong. I seemed to charge too little for everything.

My greatest moment of glory was when a group of Hell's Angels descended on the park and proceeded to beat everyone up.

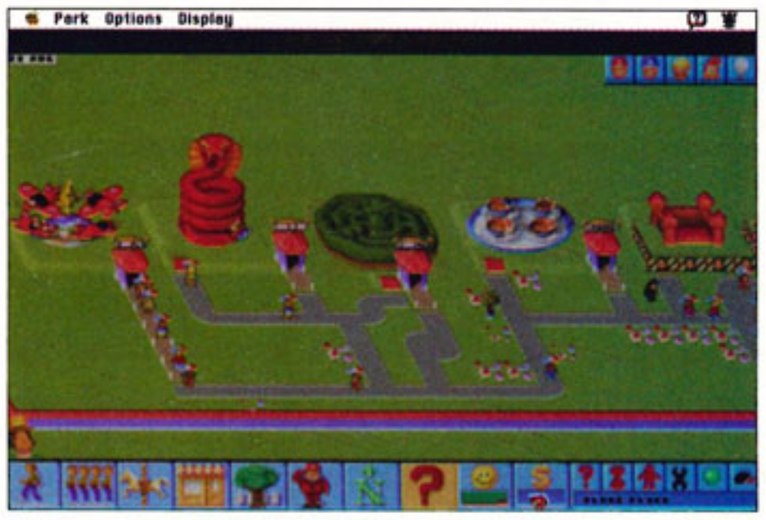
You can modify each and every ride and stand in any number of wonderful ways. Let's say you're not getting enough profit return from that flashy new ride. Take a tip from the experts, and feed as many people as possible through it, in as short a time as is practicable. Even little things, like providing plenty of room for people to queue in, make all the difference to a struggling profit margin.

So how can you tell if your carefully planned strategies are working? It's quite simple really; the answer's written all over your customers' faces. There're a cunning selection of icons that appear over your patrons' heads, which indicate how happy or annoyed they are, and what they're happy or annoyed about. For instance, a yellow hamburger floating above a patron's head means he's hungry; a dollar sign means the price of a ride is too high. Pay close attention to these indicators and it's easy to get everything running smoothly.

Theme Park's got surprisingly addictive gameplay. I was never the biggest fan of previous Bullfrog games, like *Populous* and *Powermonger*, but I found torturing this game's punters to be a peculiarly fun exercise. I realise the object of the game is to accrue as much money as possible, but I found it much more fun to turn the rides up to full and then put the toilets right up in the corner of the site, miles from anywhere. My greatest moment of glory was when a group of Hell's Angels descended on the park and proceeded to beat everyone up.

The quality of the graphics in the game depend entirely on the capabilities of your Mac. I played it at its highest resolution on a Centris 610 and it ran jolly fast, with detailed and colourful graphics. However, if you're a mono-Mac owner, you'll still be able to enjoy the game – simply choose the appropriate setting when you install it. The samples are damned funky too, plenty of realistic background noise and even the odd 'oooh' and 'aaah'. No vomiting sounds, though, unfortunately.

On the down-side, I got bored fairly swiftly. The game's not got the longevity of the *SimCity* series, but then those games are quite possibly the most anally retentive ever conceived. Thanks to its pedigree, excellent design and clear attention to detail, *Theme Park* will sell in the thousands. If your idea of fun is to make the public ill, sell them tacky gifts and charge them a fortune for the honour, then you'll be right at home (and if it's not, you'll be able to find out next month when the *Theme Park* demo will be appearing on our covermounted CD). Just make sure you build a Disneyland and not a EuroDisney. *Andy Hutchinson*



The icons at the bottom of the screen (on the far left) enable you to add paths, queues, rides, stands, shrubs and staff. The other icons enable you to modify charges and buy stock.

THEME PARK

Price: £37.60. Out: this month.
Requires: LC or better, at least 16 colours (or shades of grey), 13Mb of hard drive space, at least 2.5Mb of available RAM – and a sadistic streak.
For more details contact MacLine on 081 401 1111.

Graphics 90%
Cheery pixelated punters and masses of colourful detail.

Sound 85%
It sounds like they went to Alton Towers with a tape recorder.

Gameplay 90%
Plenty of stuff to create and tweak, but you may tire of it too soon.

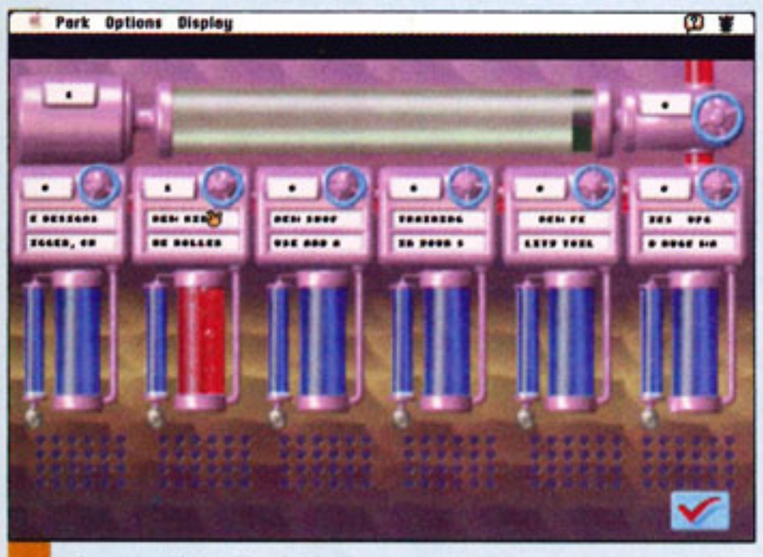
MACFORMAT RATING 88%

ONE SMALL, PERFECTLY PLACED, MOAN

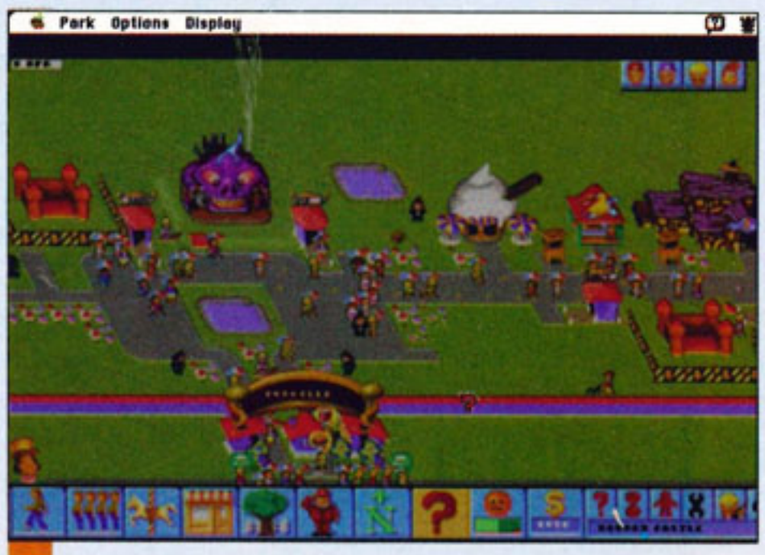
There are some things that get right up my nose – traffic wardens, telesales and that scratchy bog paper provided in council-run bogs – but worse than all those is advertising. You can't go anywhere or do anything without some company or another forcing its product down your throat. Once upon an expense account, computer games were a blissful oasis in a desert of adverts. No more.

Midland Bank have taken it upon themselves to advertise their wares in *Theme Park*. Their logo adorns the packaging, it's on the title screen and every time you call up the bank screen you're greeted with the logo. All right, so it's not overkill, but it still bugs the hell out of me. It's not as if software companies like Electronic Arts and Bullfrog are so strapped for cash they've got to seek outside funding.

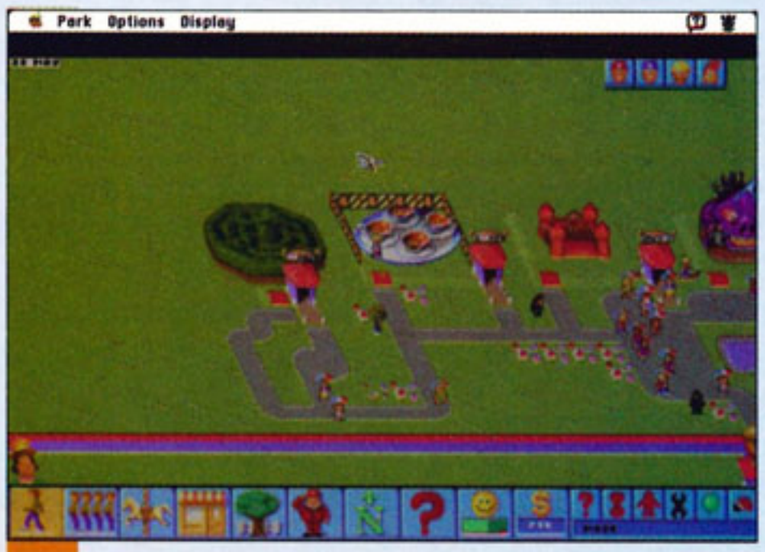
I play Mac games to escape from real life for a few blissful moments, and I can do without any reminders about institutions that make my life hell. Needless to say, I keep all my money under the mattress now.



8 Descend into the laboratory and you can come up with masses of new designs for amusement park rides and stands. As with everything else, though, it'll cost you.



9 I'm out of dosh. And it's raining. And the handymen have gone on strike. And the house of horrors is knackered – this tycoon biz isn't all it's cracked up to be.



10 And here's the newest attraction – a maze. If you're clever (or just have sadistic tendencies) you'll charge the punters extra for rescuing them when they get lost.

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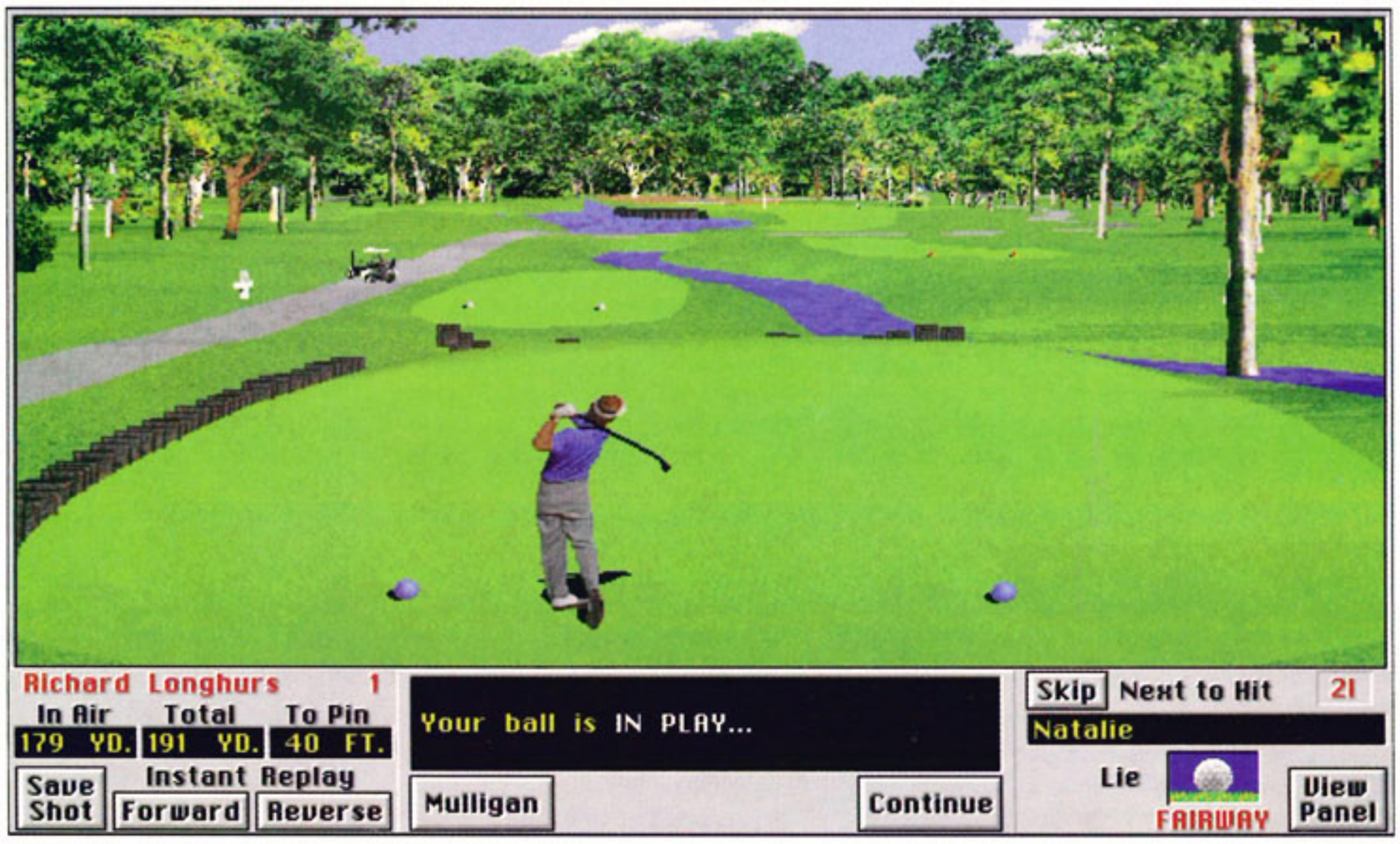


Links Pro has plenty to offer Mac golfers: beautiful graphics and an excellent range of controls – including options that enable you to change the colour of your shirt and the way you address the ball *[Dear sir? – Ed]*. But can it beat *PGA Tour Golf*?

Links Pro

It's a beautiful day for a game of golf, the sky is clear, the sun is shining, the birds are singing and there's a party going on at the 19th hole. Richard Longhurst gets into the swing of things.

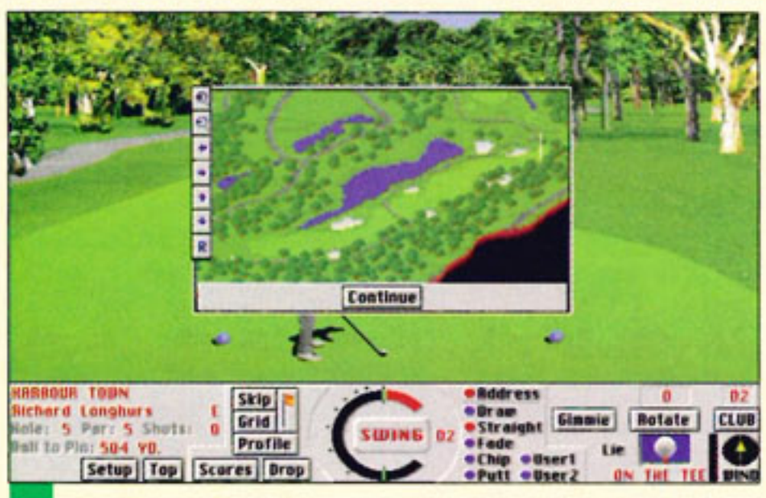
Electronic Arts' *PGA Tour Golf* has ruled the roost for far too long. The Mac's most popular golf game hasn't had too much to worry about in terms of rivals, but all that is set to change now US Gold's *Links Pro* has swaggered arrogantly on to the tee, sporting its favourite multi-coloured sweater and a natty pair of slacks.

Links Pro is the Rolls Royce of golf games, offering more golfing gameplay subtleties than you can wave Sam Torrance's stupidly long putter at. The first thing you need to do is create a virtual golfer in your own image. You begin by typing in your name (I had to play as 'Richard Longhurs' because the program – rather pathetically – only accepts names of up to 16 characters). You then select either male or female animation, choose your ability (which affects how forgiving the game is when you make a mistake), and pick a tee (there are four distances to choose from). Last, and most importantly, you choose your player's shirt colour (there are no patterns, I'm afraid). You can also choose to have an automatic electronic caddy so you don't have the hassle of selecting your own club for each shot.

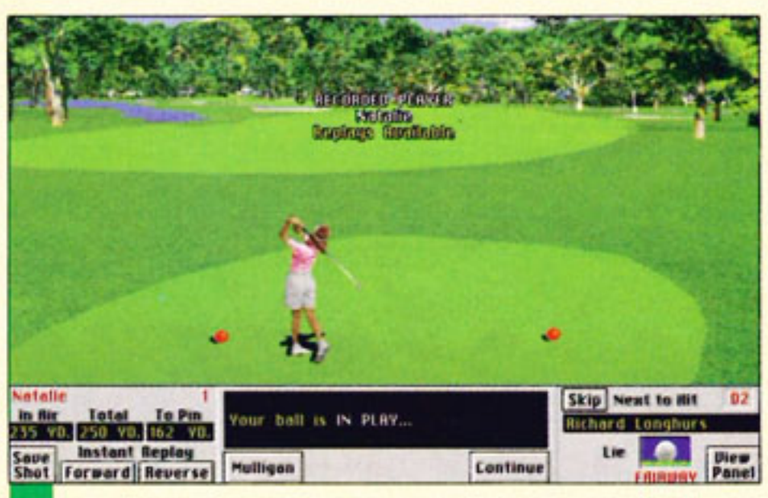
And then it's out on to the first tee to get to grips with the control system. A huge status bar across the bottom of the screen gives you every conceivable piece of information about your shot – but, at first, all you're interested in is how to hit the ball. Press and hold down the mouse button to start the stroke, release the button at the top of the backswing, and then click it the moment the clubhead strikes the ball. It's simple enough once you get the hang of it, but is always rather fiddly when you're playing short chip shots.

Once you've mastered the basics, it's on to more advanced matters, such as changing the shape of your shot to steer the ball around trees or under branches. Several pre-defined stances are available for straight shots, fades (where the ball moves from left to right in the air), draws (where the ball moves from right to left), chips and putts. Alternatively, you can take total control over your stance. Even weekend golfers can appreciate the importance of being able to open or close your stance, move the ball forwards or backwards, and open or close the face of the clubhead, but *Links Pro* is the only golf game on the market that actually gives you this degree of control. It's only when you get hugely serious about the game that you'll begin

A GLORIOUS BOUNDING DRIVE...



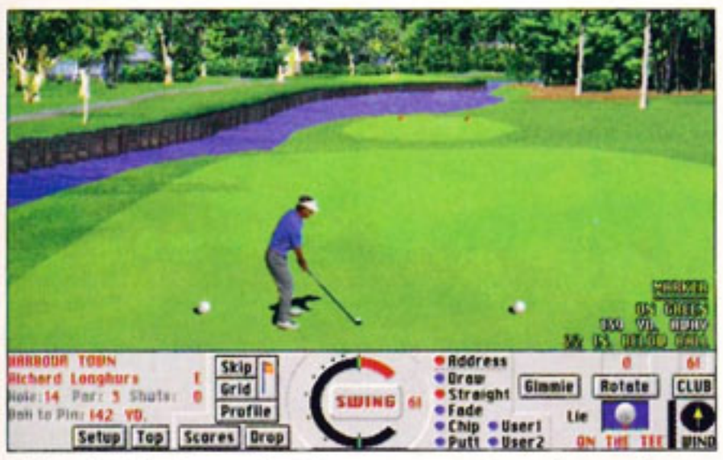
1 With *Links Pro* you can set up the screen to suit your playing style. The top-down view is very useful when you are planning your strategy for that hole.



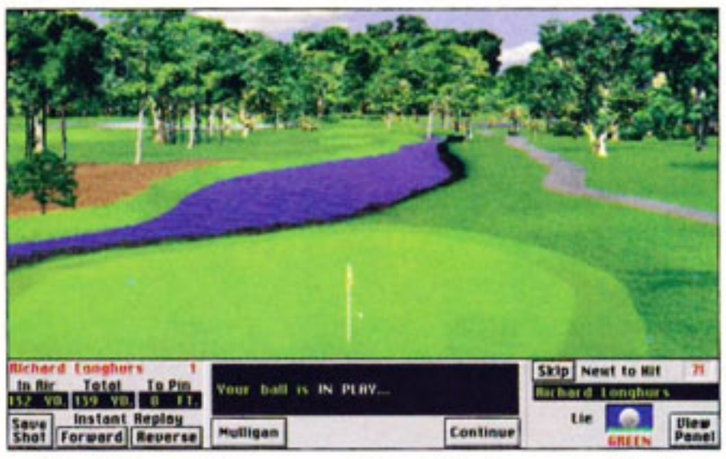
2 Golf's a wonderfully sexist game in which the ladies sometimes get to start 150 yards in front of the men, which is why Natalie's out-driven me by a mile.

3 You can position a marker to judge distances on your shot. On this par 5, the green's too far away to reach in two, so an easy two-iron lay-up is the shot to go for.

FOR PURE SELF-SATISFACTION...



Although it looks pretty, the reverse-angle action replay doesn't really serve any useful purpose at all...



... Apart from when you want to admire your excellent approach shots. Easy, these par 3s, aren't they?

to use the setup option, but at least it's there when you do need it.

As well as all this Faldo-esque attention to detail, *Links Pro* also features some of the most realistic graphics ever seen in a computer game. Visually, comparing US Gold's title with Electronic Arts' ageing effort is like putting Barry McGuigan in the same ring as Lennox Lewis: absolutely no contest. *Links Pro* is simply the best-looking sports game around, which is remarkable considering it only takes up around 4Mb of disk space.

To create the stunning visuals, the game's designers scurried over famous golf courses (at least, they're famous in the US), and took thousands of photographs from every conceivable angle. After some technical trickery, the pictures find their way on to your Mac's screen, looking as fresh and as detailed as the day they were taken. Hell, *Links Pro* looks so good that you can almost taste the 19th hole's G 'n' T as you stroll up the fairway of the 18th.

The downside of all this detail is the length of time the game spends drawing the scene for each shot. The view is gradually constructed with objects in the distance being overlaid by objects in the foreground, which means the program spends time drawing buildings that eventually get completely obscured by trees. The re-draw time isn't a problem on a PowerMac (*Links Pro* automatically switches its code to native mode), but you'll be impatiently drumming your fingers on anything less than a Quadra. You can make things slightly faster by adjusting the display settings to make the program draw less background detail, but it's not an entirely satisfactory solution.

Apart from its lack of speed on less powerful Macs, *Links Pro* has two other major problems. One is the absence of a tournament mode. The great thing about *PGA Tour Golf* is that you get the chance to pit your wits against the greats of American golf, but in *Links Pro* you can only participate in match-play games against human or computer opponents. A neat little touch is the way it enables you to record your round so you can play against yourself at a later date, or send it to a *Links*-owning friend so he or she can try to match your score. The option to play with up to seven other golfers over a network is welcome, but neither this nor the round-recording feature can replace the tension and excitement of strokeplay tournament golf.

The other problem is the courses that come with the program – or, more to the point, the lack of them. Harbour Town is the only course that features in the game, and even though it offers quite a decent range of holes with a smattering of sand and water, it's not long before you want a bit of variety – that is, to be able to play somewhere else. Naturally, there are more courses available, but they'll cost you a not-inconsiderable £25.99 each.

Had *Links Pro* featured a tournament mode and offered slightly better value for money, it would have happily cruised to a score in the 90s, but, as it is, it's only a near-perfect game. Having said all that though, *Links Pro* really is an immensely enjoyable game to play and absolutely beautiful to look at, and, what's more, you don't have to be a dedicated golfing fanatic to enjoy it.

Richard Longhurst

READY, AIM, FIRESTONE

Most golf games come with more than one course, but not *Links Pro* – you have to pay for the extras. The first of many add-on disks is *Firestone Country Club*, but at £25.99 it's a little pricey.

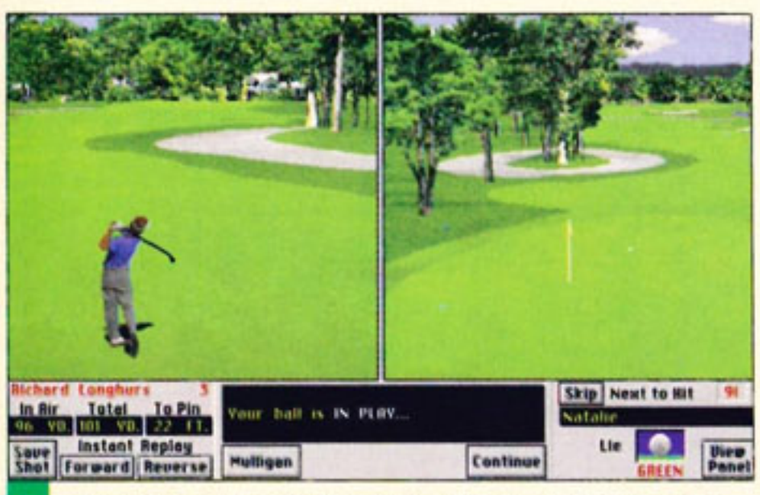
Trees, trees and more trees are on offer at Firestone. You need a straight and steady drive to avoid them.

But even if you manage to hit the fairway, you're often left with an interesting shot to the green. Trees, trees, more trees and water... (You'll need a lot of luck here.)

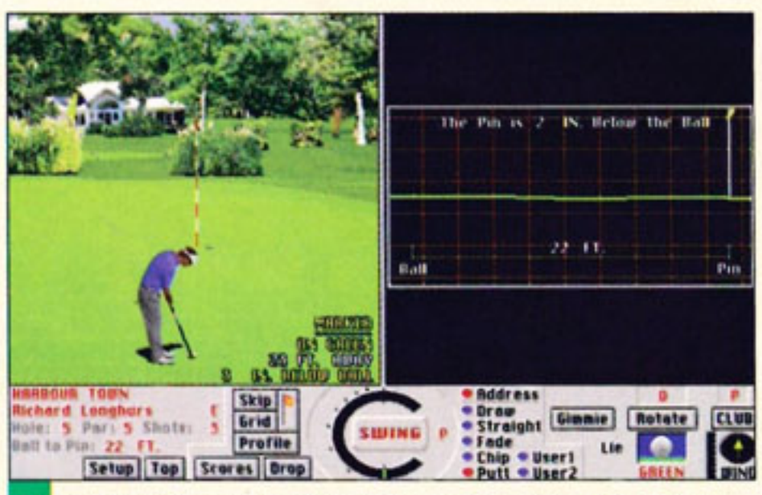
LINKS PRO

Price: £45.99. Out: now.
Requires: LC or better (not PowerBook), System 6.07 or later, 4Mb of RAM (8Mb recommended), 256 colours, 13-inch monitor and 4Mb of hard disk space.
For more details contact US Gold on 021 625 3388.

Graphics You don't get images this good on the TV.	**93%**
Sound Good speech and digital effects.	**85%**
Gameplay If only there was a tournament...	**81%**
MACFORMAT RATING	**88%**



4 The spilt-screen mode with the reverse view from the green is ideal for admiring your delicate approach shots. This one's got to be worth a decent round of applause.



5 Putting's one of the trickiest parts of *Links Pro*, which might sound like a feeble excuse for why I'm going to miss this birdie putt, but it's true.

6 And so to the tap-in. Natalie's made her birdie and I've spent far too long fiddling about with the screen modes to pay any proper attention to the game.

The Battle of Britain

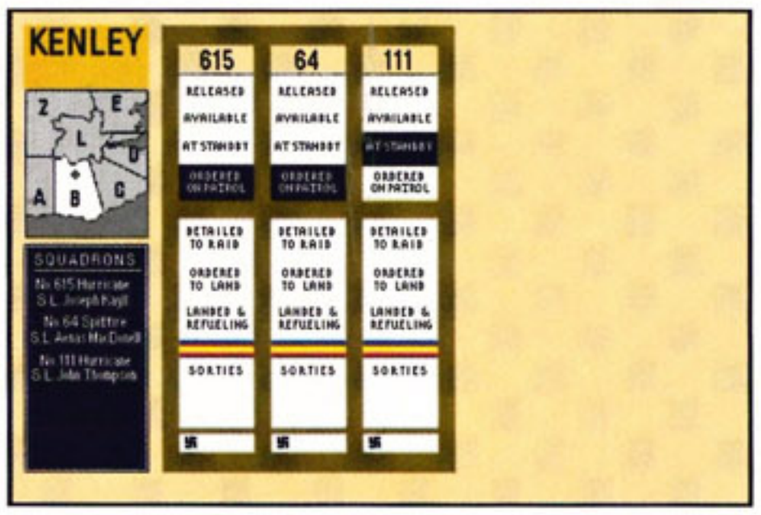
We fought them on the beaches. And now we can fight them on our Macs as well. Er, if we want.

Blimey. If masterminding the Battle of Britain was as straightforward as this game suggests, the Air Chief Marshal, Sir Hugh Dowding, could have done it while holding down a part-time job as a window cleaner (to supplement his RAF salary), and still had plenty of time to spend with his family. All it involved, if the game is to be believed, was sitting around waiting for the Luftwaffe to attack, and then maybe sending some planes to intercept them, and maybe not. A humble games reviewer could have done it – although possibly without an ounce of success.

A certain amount of judgement's needed in deciding when to counter-attack; I consistently ended up getting all my planes shot down and watching as the enemy invaded our nation, their landing craft safe from my planes' bullets.

The game's simplicity means pretty much everything's done on the one screen: a map of south-east England. The area's divided into seven sectors, each with one or two air bases. The idea's that the radius of operation for each base overlaps the ones on either side, so there aren't any gaps in your defences. But in practice there are one or two blindspots, and if one of your bases gets knocked out, the enemy will have a clear route through to London.

When deciding whether to intercept a raid once it's been reported by your radar network or observers on the ground, you've got to bear in mind that the RAF is horribly outnumbered by the Luftwaffe. All the Germans need to do is blow up all your planes, whatever the cost, so their troops can cross the Channel unmolested. If you're to survive for the year required by the rules, you'll have to do as the RAF did in 1940, and ignore many raids to save your planes.



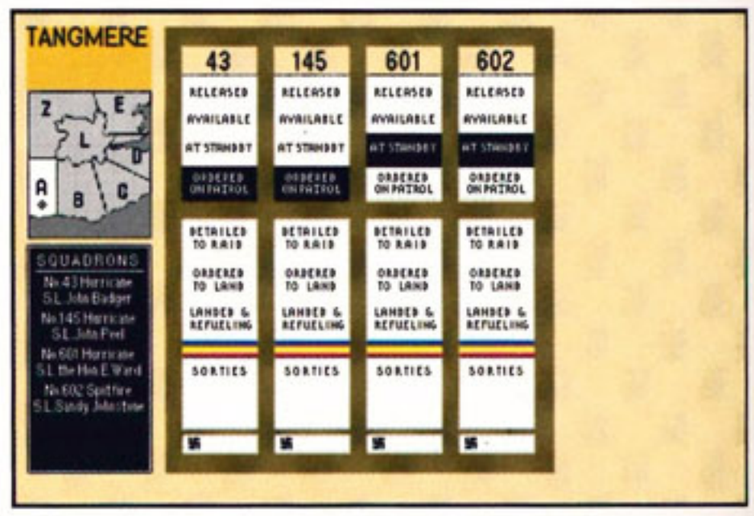
This is RAF Kenley, where you've got three fighter squadrons stationed. Well, if you sort of squint a bit it could be.

Down at the bottom, you might be able to make out some German planes attacking Brighton. The cold-hearted swines.

Still, it doesn't take long to establish a working routine. Basically, you should attack any planes that look like they may be heading for your airfields (which you can't afford to lose) or your radar stations (also pretty important), and only occasionally bother about defending civilian targets like cities. This might sound callous, but it was the strategy used successfully in World War 2, and if you don't take this approach, you'll only lose anyway.

And that, apart from a bit of shuffling about of patrols, is it. Some German planes attack and you look to see where they're heading and if you've got any planes nearby to launch against them, then you either counter-attack or you don't. Day in and day out. At the end of each day you get quite a nice newspaper front page, summarising the day's action, but like the newspapers of the time it tends to exaggerate in Britain's favour, so you've got to read the ministry's reports to get the real picture.

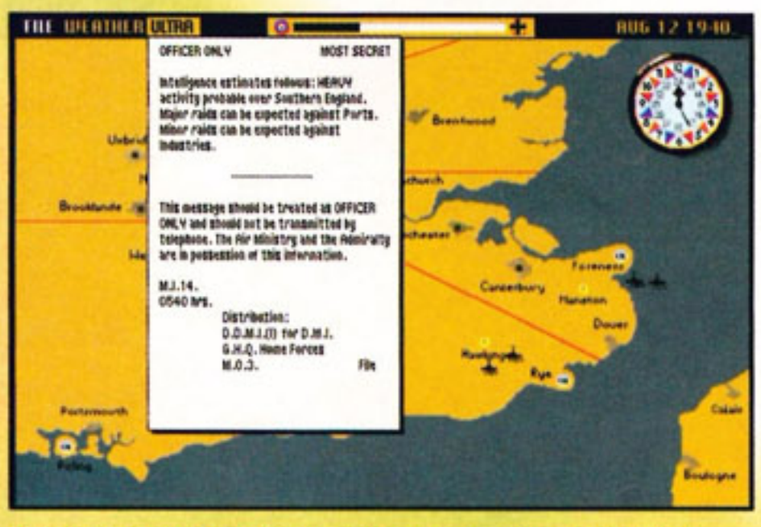
There are hardly any options to play with. In fact, you don't even seem to be able to save the game unless you quit at the same time. So, if you make a mistake, you either live with the consequences or go right back to the beginning again. Also, the features the game does provide are poorly implemented. For example, there's a button at the top of the screen that says 'Weather'. When you click on it, 'Weather' disappears to be replaced by 'Rainy' or 'Cloudy' or whatever. Why not just write 'Rainy' in the first place? And it didn't seem to travel too well, Mac-wise. On a IIci the sea was dark brown, so planes didn't show up, and on a PowerMac the little circles to show the plane's ranges didn't appear, which made things rather tricky – and it crashed after a while anyway.



At first glance, this is the same as the picture of Kenley. But this is, in fact, RAF Tangmere, which is completely different.

The Battle of Britain is easy to get to grips with, but it's very repetitive and doesn't convey much WW2 atmosphere. You'll get fed up with staring at that map for hours on end. Fans of the board game, which it's apparently based on, might like it, but I didn't. *Jonathan Davies*

"Read all about it! RAF shoots down no more Nazis and loses no fighters!" These were certainly exciting times, eh, chums?



Here's some sort of top secret government report, which seems to be obscuring most of south-east England. Tsk.

Your squadrons will occasionally get shuffled about by Fighter Command HQ, to plug any holes you might cause.

BATTLE OF BRITAIN

Price: £35.20.
Requires: any Mac with 2Mb of RAM and a mouse.
For more details contact MacZone on 0800 393696.

Graphics There are some, but they're very small.	9%
Sound The occasional gunshot or explosion.	11%
Gameplay Disappointingly thin. It could have been quite entertaining, but actually isn't at all.	39%
MACFORMAT RATING	38%

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The Chessmaster 3000

Want to be a chess whiz? Get hold of this new multimedia enhanced program and gen up on all the top tips from the ex-world champion.

Regular readers will perhaps remember MACFORMAT 11's round-up of chess programs, in which *Chessmaster 3000* came out tops, narrowly beating *Chess Champion 2175* from Oxford Softworks. This latest version isn't an upgrade in the conventional sense, it simply adds a set of enhanced multimedia-style features to the basic program. But before you start thinking this might involve poring over hours of *QuickTime* footage where nothing much happens, rest assured, what we're talking about here are a handful of audio add-ons. Namely, the voice of Gary Kasparov's arch-rival and ex-world champion, Anatoly Karpov, as he annotates a dozen of his favourite games.

While accessing Karpov's undoubtedly useful insights is easy enough (you just load a classic game, call up the annotation window and wait for him to start chatting away), it's probably best to bear in mind that Russianised English isn't exactly the clearest of dialects to understand. A problem compounded by the fact that, like most great chess players, Karpov speaks as if oxygen's going out of fashion. Machine-gun analysis is the result, with an accelerated overview of positional proceedings given at every conceivable point. This is fine if you can keep up, but not so great for most of us, as there's no way of pausing him once he gets going.

Thankfully, the audio enhancements stretch further than these incisive excursions. So, in addition to Karpov's rattling commentary, the player is also treated to interactive tutorials and detailed advice, audibly delivered in English – or should that be American? – by a synthesised, though human-sounding, voice.

As you might have concluded already, however, this multimedia malarkey is nothing more than mere embellishment. After all, a chess program has only one function: to beat the living daylights out of you, time and time again, until you begin to gauge its weaknesses. In the process, you will presumably have learnt a great deal about how to improve your game and, subsequently, you can seek solace in beating the living daylights out of any humans you might play.

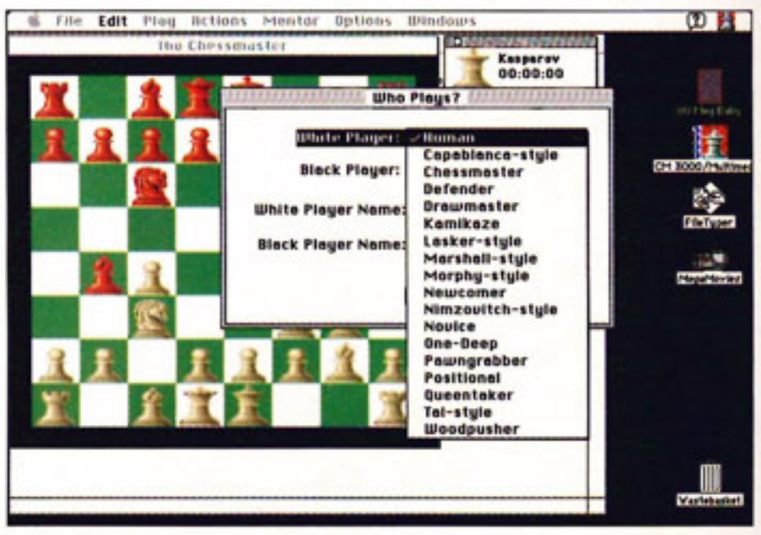
Chessmaster 3000 fits the bill extremely well in this respect, claiming a score of over 2,000 in world ELO ratings. By comparison, an average player scores 1,400, while Gazza (Kasparov not Gascoigne) achieves around 2,750.

Of course, the joy of computerised chess is not so much derived from the way you eventually defeat an opponent of far greater analytical resources (whether you choose to take back moves willy nilly or not), but from the fact that there's a whole host of historic games you can study in the process. And, with *Chessmaster's* 1,700 classic games on hand, you can study just about every opening, middlegame and variation you've ever heard of – and a few that you haven't.

What's more, because these games come replete with built-in audio commentary, which you can listen to at any point, you won't find a better learning tool – especially considering you can imbue any such commentary with your own voice-over analysis, using your Mac's microphone. In short, there's everything the enthusiastic amateur – and indeed, would-be professional – requires.

Add to these major functions the facility to solve mating problems, set up tournaments for up to ten human and/or computer players, choose from 18 computerised rivals, each with a different playing style, and view proceedings from multiple 2- and 3D perspectives, and you have a very formidable package. Moreover, there's even a do-it-yourself ranking tester to keep tabs on how well your play is progressing. Chess programs don't come better than this – unless they're the custom databases used by the pro's. So, if you have a CD-ROM drive and 40 quid, and you're hungry for a challenge, what are you waiting for?

Andy Storer



One of *Chessmaster 3000's* best features is the option to define which particular style of challenge you prefer. Here you can choose between 18 varied chess styles, from the decidedly useless to the bleepingly difficult.

After calling up one of the 12 classic encounters that feature spoken commentary by Karpov, all you need to do is use the VCR-style controls to navigate through the game and listen to the Grand Master's opinions via the Annotation window.

There are 11 different views to choose from, most of which are in 3D, such as this traditional Chinese offering. For the most part, though, you'll probably stick with the 2D view because it makes it easier to figure out what's going on.

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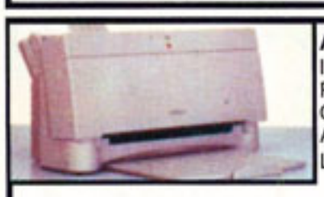

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Disk Manager Mac

Does your Mac sometimes have problems recognising and mounting your external hard drive? If so, maybe *Disk Manager Mac* can help.

Disk Manager Mac is an integrated set of utilities that enable you to mount and initialise virtually any SCSI hard disk, removable cartridge and read/write optical device, on any Mac. While any decent, newly bought storage device will come with its own drivers (enabling you to install it on your Desktop and read and write files to it), not all devices will come complete with advanced formatting features. And if you've bought one second-hand, or perhaps bought a SCSI device originally shipped as a PC-compatible drive, you might not be able to use the bundled software – if indeed there is any. So, in short, *Disk Manager* is a one-stop-shop solution.

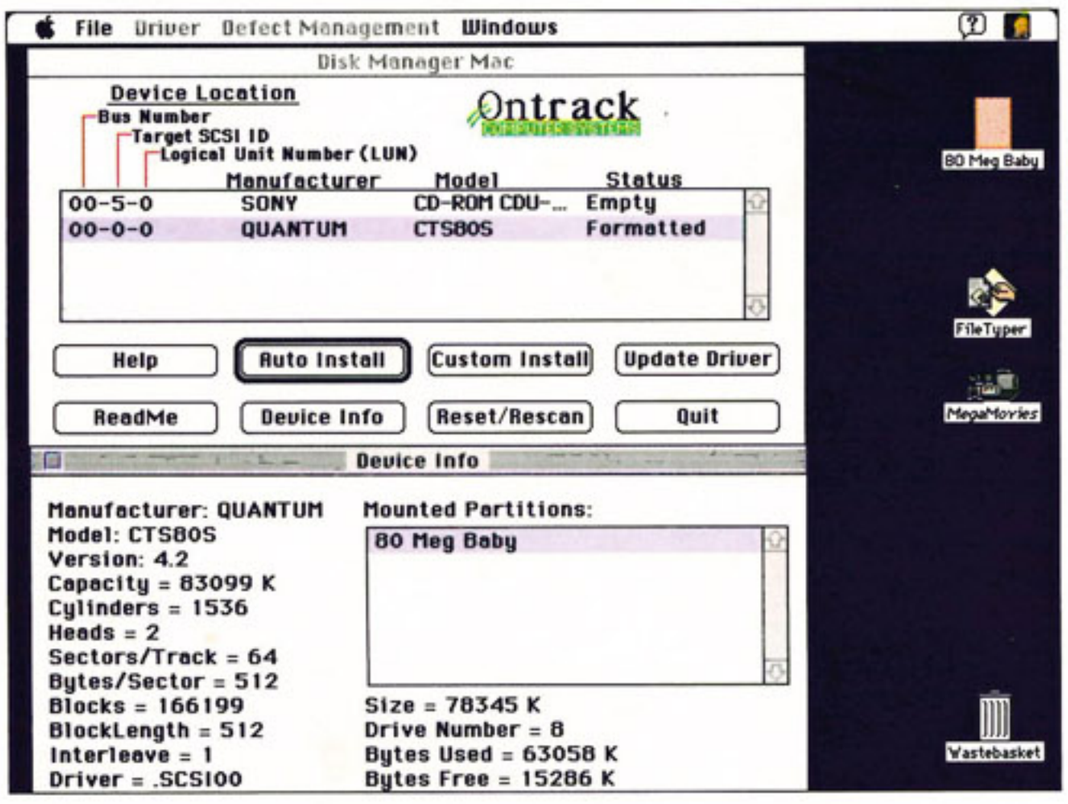
As any Mac owner who regularly uses external hard drives, removables and optical cartridges will tell you, even if you have all the correct drivers installed, getting a device to mount on your Desktop is never a bug-free task. What you need is a universal analytical tool that'll scan your SCSI bus and identify the make and type of attached devices, as well as enabling you to perform a range of low-level functions. *Disk Manager Mac* is capable of all these things.

Prime among its benefits is undoubtedly the ease with which it enables you to mount any device on your Desktop – and this includes those moments of (albeit rare) horror when your internal drive fails to appear. Life saving capabilities aside, *Disk Manager* also includes more advanced utilities.

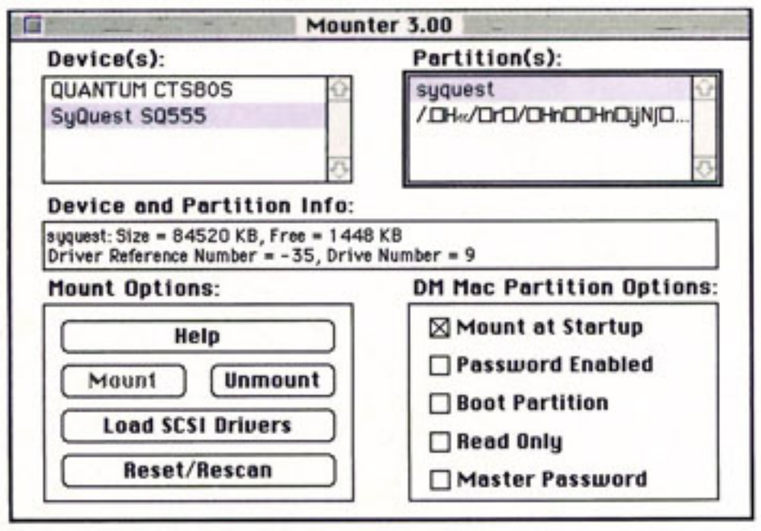
Device verification, creating single partitions, installing device drivers and high-level initialisation are all easily taken care of with just a mouse click. It's in the customisation of installations where *Disk Manager Mac* really comes into its own, though. While none of this may be for the faint of heart, custom installations give you the freedom to create multiple partitions – so you can select the sizes that best suit your needs.

Dividing your storage devices into partitions not only enables you to maximise data access speeds on your specific Mac model, but also safeguards data, because corruption problems are less likely to occur across partitions. *Disk Manager* also enables you to specify which partitions you wish to mount at startup, and which ones to make read-only or assign password protection to – all handy for added security.

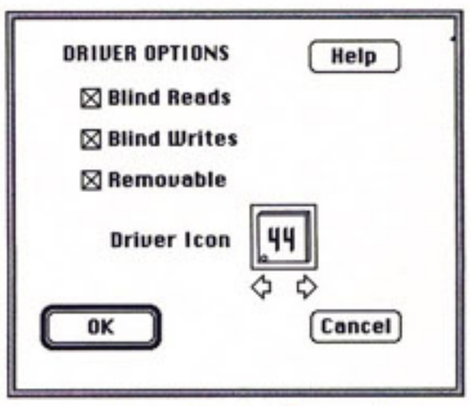
To add to the main program's effectiveness, *Disk Manager* also comes with three utilities. *Mounter* is perhaps the most readily useful. This is a Desktop utility that enables you to mount and unmount partitions at any time, as well as change specific partition options and scan and



Disk Manager Mac gives you complete access to the low-level attributes of any SCSI storage device attached to your Mac. Here we're taking a look at how an internal hard drive has been formatted.



Mounter 3.00b – a desktop accessory that enables you to mount any device – is one of *Disk Manager*'s bundled utilities. Usefully, *Mounter* also enables you to specify exactly how you want the device (in this case a Syquest removable-cartridge drive) to be mounted.



Here we're setting the Syquest's formatting option to support Blind Read and Writes – these are the fastest formatting options for devices, but not all magneto-optical drives support them.

Jargon Busters

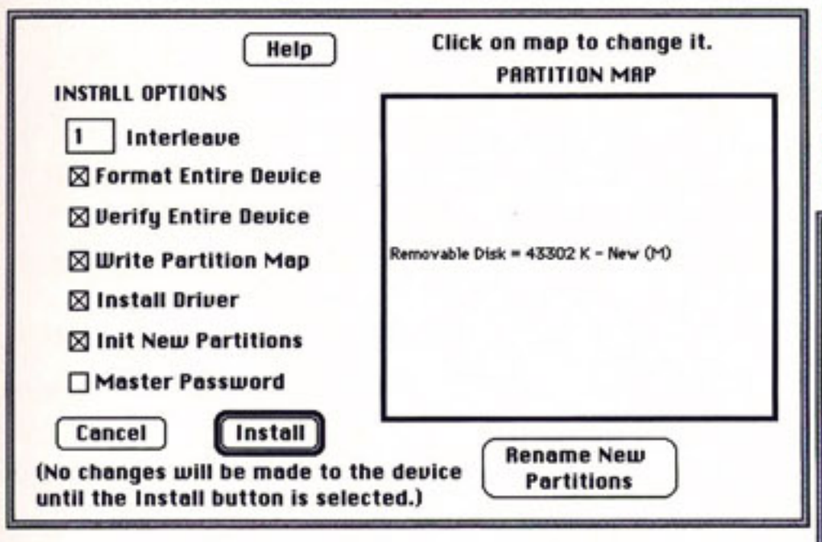
Device verification: although you may have SCSI drives connected, they may not all have drivers loaded, or be formatted, and therefore won't appear on your Desktop. A disk utility verifies their presence by scanning the SCSI bus and enables you to write a new driver, install it and mount the device in question.

High-level initialisation: low-level formatting includes the physical preparation, interleaving and partitioning of a device. Higher level initialising involves assigning a custom software driver to the device, which will determine just how efficiently data is transferred.

Partitions: a way of breaking the space on your hard disk into more manageable chunks, so each partition can be used as a separate hard drive. This greatly reduces the search time.

SCSI: Small Computer Systems Interface (pronounced 'scuzzy'). It is a standard system to connect devices to your Mac.

SCSI bus: the data transfer part of the SCSI system.



load drivers into the memory. This means you can turn on and mount a SCSI device while you're already up and running.

Load Removable INIT is designed to do more or less the same thing for removable drives – enabling you to insert a cartridge at any time so it automatically mounts on the Desktop. And finally, *Set Timeout* enables you to adjust the amount of time your Mac waits for a device to 'spin up' at startup.

The main problem *Disk Manager Mac* helps you overcome, though, is an inability to interrogate devices that have failed to appear on your Desktop. To this end, it includes various defect management functions with which you can perform read and write tests, as well as up-

After pre-setting the format type, enter the main part of *Disk Manager*. Here you can select the interleave for the drive and define which partitions you wish to mount on the Desktop. At this stage, you can also assign a master password to the device for added security.

Every stage and option in *Disk Manager* comes with on-line help facilities – which is just as well, because formatting devices and creating partitions is a bit of a nerve jangler at the best of times.

date and install the necessary drivers. If things get tough, you can even reassign low-level blocks of data to ensure the data's integrity.

But this is getting into deep water. Suffice to say, it's best to use a friendlier diagnostic tool like *Norton Utilities* or *MacTools* (see page 46 for details of the latest versions) before you get down to the nitty gritty. But as far as ensuring you can always mount a SCSI device when it fails to appear on the Desktop, *Disk Manager* gets the job done – and does it well. *Andy Storer*

DISK MANAGER MAC

Price: £55.25.
Requires: any Mac.
For more details contact Ontrack Computer Systems on 081 974 5522.

Features 88%
Excellent range of formatting and partitioning options. It handles just about everything other than DOS partitioning.

Ease of use 85%
Straightforward enough to operate, but for the more advanced options, you need to know what you're doing.

Documentation 80%
Comprehensive up to a point, but a prior knowledge of disk operations is assumed.

Value for money 85%
Arguably the most comprehensive and fastest suite of disk analysis utilities available for this price.

MACFORMAT RATING 85%

Conflict Catcher 2

Extension conflicts can cause crashes and start-up problems. Here's one possible solution...

There's only one problem with using lots of Extensions and Control Panels: the more you have, the more likely it becomes that you'll start experiencing Extension (or INIT) conflicts – inexplicable freezes, problems starting up, and applications or Extensions that simply won't work...

Ah, but which one is the culprit? Sometimes it's not just one Extension but a particular combination of them, or the order in which they're loading. Weeding them out can be a long, tedious process of trial and error – removing one or more Extensions and restarting again and again until you're heartily sick of that cheery little startup chime.

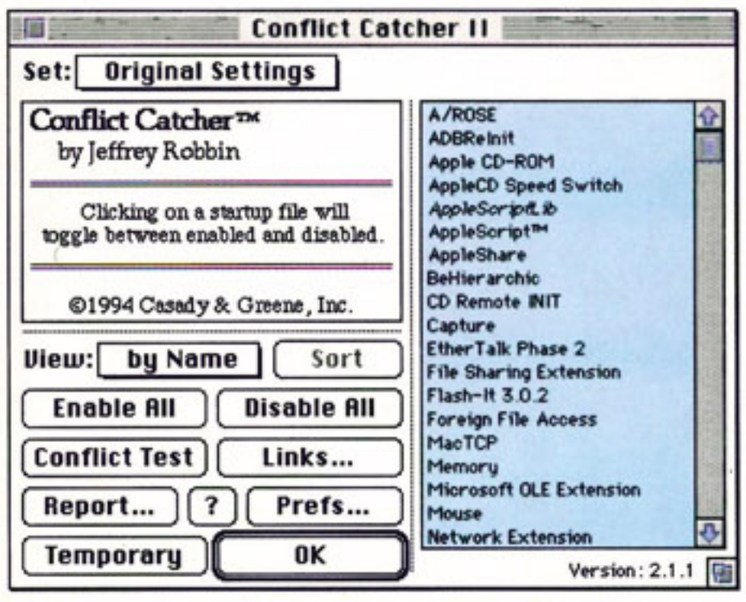
There are freeware and shareware 'startup managers' like *ExAminer* (which is yours on this month's cover disk) and *Extensions Manager* that can help – or you can try a commercial solution like *Conflict Catcher 2*. This enables you to select which of the available Extensions and INITs you wish to load, by highlighting them on a list. You can save different combinations of INITs and load the set you require for a particular work session when you start up.

The shareware alternatives can do that much too, but *Conflict Catcher* lives up to its name and helps you track down the cause of your INIT problems. It can conduct a series of tests, disabling certain INITs and combinations of INITs.

The catch is that it can't tell you what the problem is itself, so it's up to you to keep your eye out for crossed-out startup icons or check whether the problem has recurred. In other words, the program is simply saving you the trouble of dragging files from one folder to another – solving the problem is as much a matter of trial and error as it ever was.

However, *Conflict Catcher* does speed the process up quite handily and, once you have identified the root of the problem, it enables you to label or 'link' several Extensions, so that related ones always load together and incompatible ones never do. You can even specify the order in which you want them to load, which can solve some conflicts.

All this makes it just about the most sophisticated Extension manager around. It's easy to use and clearly laid out, but *Conflict Catcher 2* doesn't offer anything you couldn't do yourself with a little patience. It can save you some time, but it's only worth getting if you have a lot of problems at startup. *Richard Hill*



If you're having problems with conflicting Extensions, *Conflict Catcher 2* can help you test for the troublesome ones and regain control of your Control Panels...

CONFLICT CATCHER 2

Price: £69. Out: now.
Requires: any Mac with System 7.0 or later. The disk also includes *Conflict Catcher 1*, which works on any Mac with System 6.0.5 or later but has fewer features.
For more details contact Softline on 081 401 1234.

Features 75%
It's of genuine but limited use in solving those niggling conflicts.

Ease of use 81%
A little idisosyncractic in parts, but generally well-presented.

Documentation 84%
Clear explanations of jargon and step-by-step guides with lots of pictures.

Value for money 60%
No alternative shareware program tests for conflicts, but it's only really useful for the inexperienced, the lazy and the irredeemably INIT-addicted.

MACFORMAT RATING 79%

Top of the table!

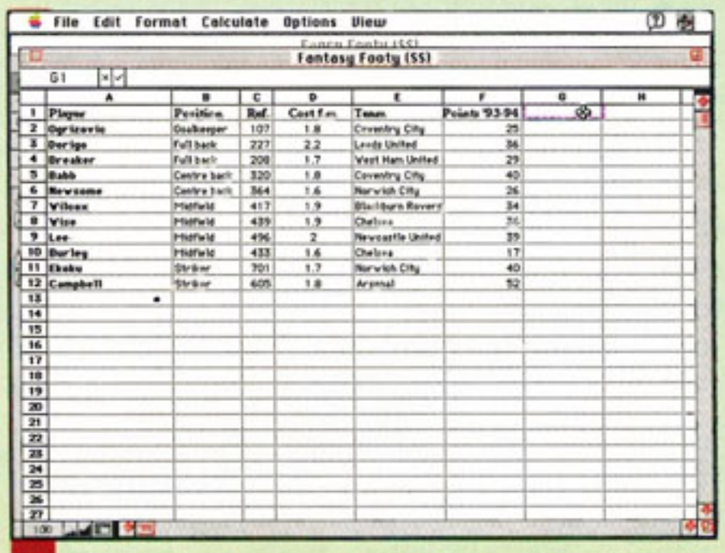
If you've got a Fantasy League Football team this season, why not use a spreadsheet to store all your players' stats? Gazza Webster shows you how to Mac-manage your team to victory.

Managing a Fantasy League Football team isn't as easy as it sounds. Picking a team at the beginning of the season is the fun part. The headaches begin when you try to keep track of your team's points tally, and your players' performances and liabilities.

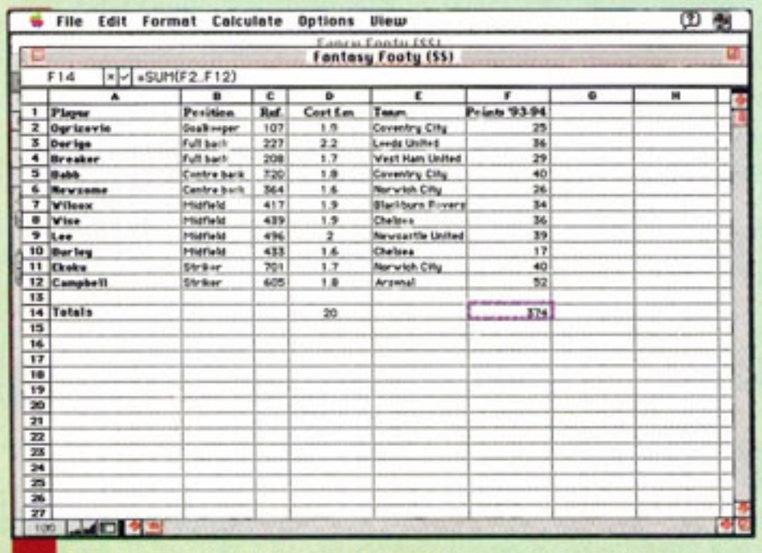
The answer is a spreadsheet. Yes, you can chuck out your pad and pencil and let your Mac worry about the sums, while you stretch out on the sofa and watch the stars in action. No matter which newspaper's Fantasy League Football system you've joined, using *ClarisWorks* will enable you to have your team running like a dream in no time. (We're using *ClarisWorks* here, but the same principles apply to any other kind of spreadsheet, although the functions themselves may differ.)

How far you take your Fantasy League spreadsheet is totally up to you. You might only want to keep points records for the players in your own team. But if the spreadsheet's to be of any use, it might be handy to keep records of the players you haven't bought, just so you have a basis for comparison. That way you'll have a good

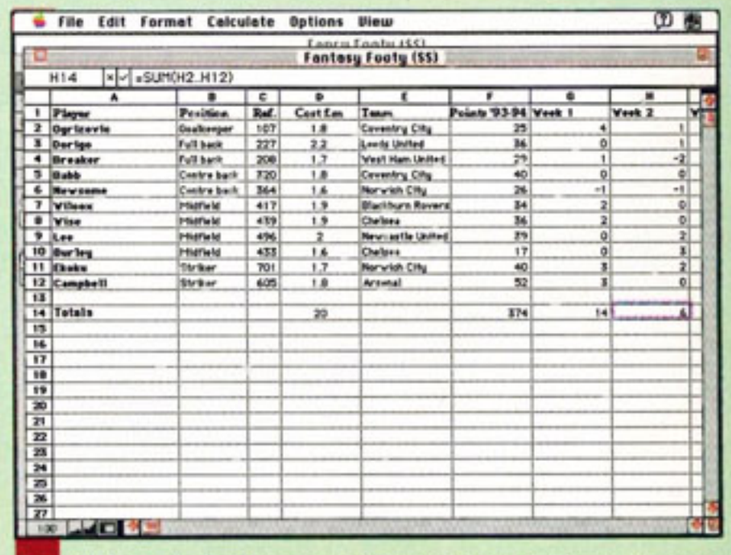
FANTASY SPREADSHEETS



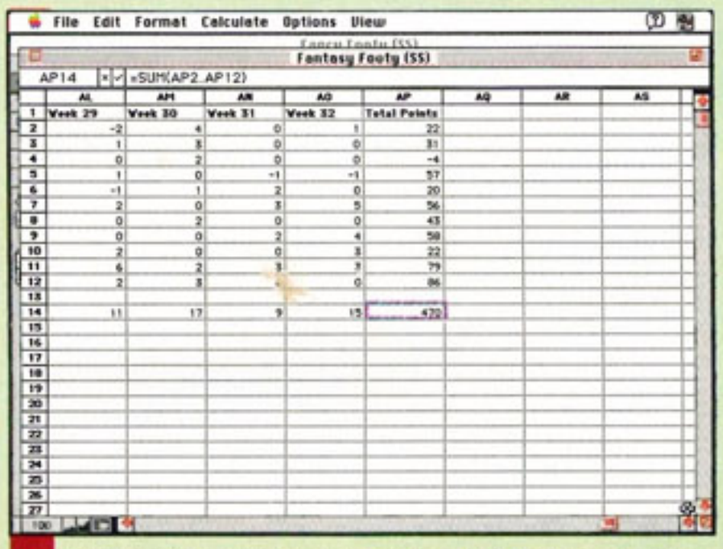
1 First, using one row for each player, set up different columns for the player's name, reference number and position (if necessary), team, cost, and points last season. Now you can enter the statistics you've got from the record of last season. It might even be better to do this before you have finalised your team so you can get the best selection. But since the season's already underway, it's too late for that this time, so just get those stats in there, and we'll get started.



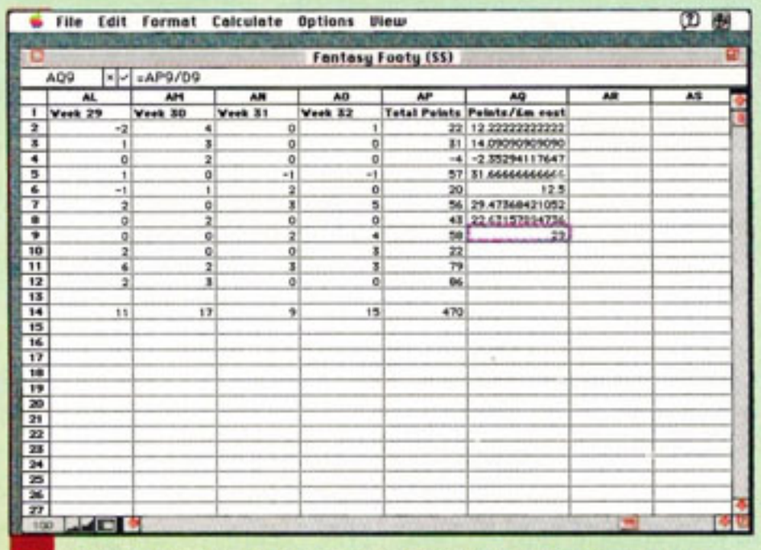
2 Underneath all this, make a Totals row, for calculating your team's weekly points total. Get the spreadsheet to calculate how much you've spent on players, and the total points scored by your lads last season – you can do this by pasting or entering the SUM function into the cells beneath your 'cost' and 'points last season' columns. Input the appropriate cell range that you want calculated (D2..D12, for example) where the variables go into the formula. Now just sit back as your spreadsheet does the work for you.



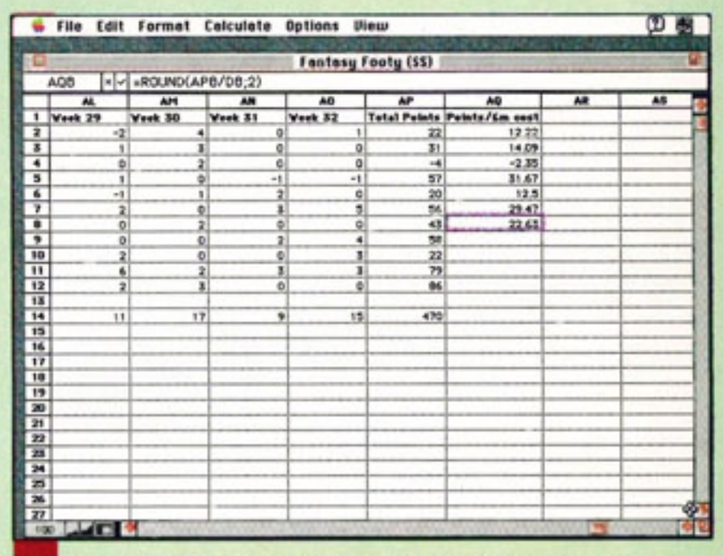
3 OK, so that's the groundwork covered. Now you need to prepare your spreadsheet so you can enter the points scored during each week. At the top of each column (to the right of the basic statistics) input the dates when you'll be entering new points. Copy the SUM formula from last year's 'points total' cell, and paste this at the bottom of each week's column. Zeros will appear at first, but don't worry, as you enter the results the weekly totals will be calculated automatically.



4 Calculating your team's running total is just as easy. Scroll past the last week of the Fantasy season, and start a new column for total points this year. Use the SUM function again, except this time you need to find the total for each row (player) for the whole season. The players' individual tallies will update automatically with new entries, as will the team total, which you can position at the foot of the 'total points this year' column.

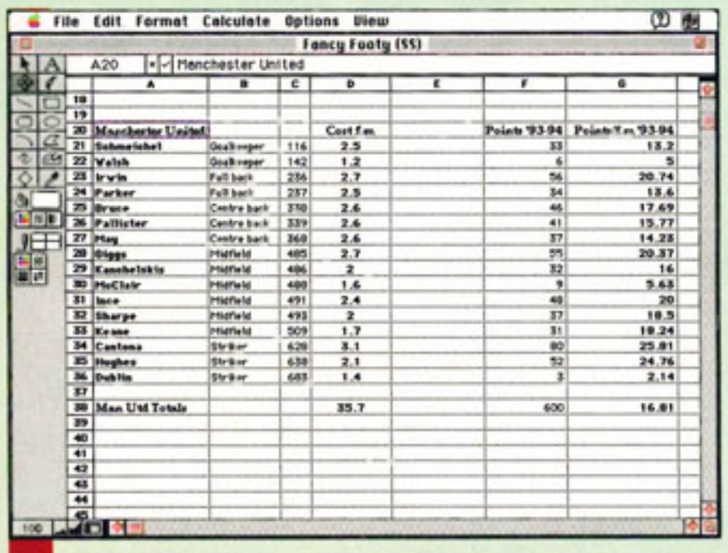


5 *ClarisWorks'* spreadsheet isn't only useful for doing plain addition. Its more advanced functions can be used to monitor a player's performance by dividing his points total by his cost. So, to the right of the 'points totals' column, make a 'points per £million spent' column. All you do is enter the formula to divide each player's total points by his cost. (If the 'Player's total points' is in cell AP2, and the 'Player's cost' is shown in cell D2, the formula will be AP2/D2.)

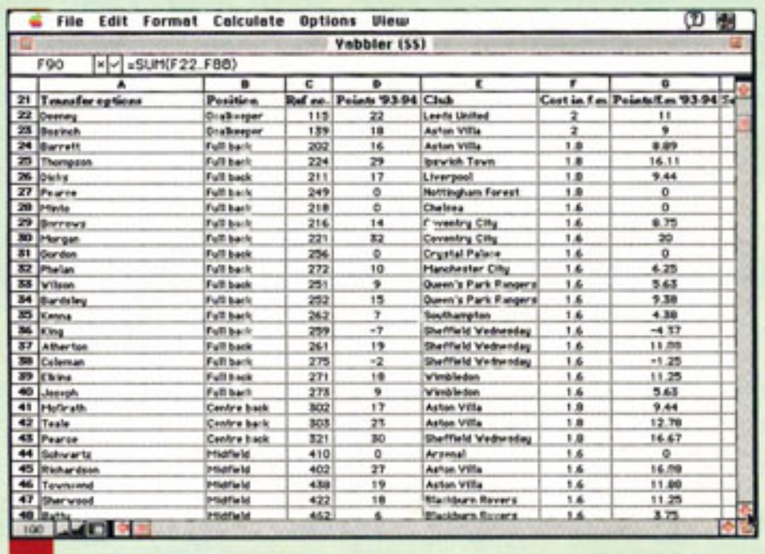


6 Sometimes, this will give you a long decimal number, so it's best to round it up to an accuracy of two or three decimal places. For *ClarisWorks*, the formula to do this is: '=ROUND(AP2/D2;2)'. The last 2 in the formula represents the number of decimal places. Now the figures will be much easier to deal with. There's nothing worse than looking at a twenty digit decimal number in every cell.

FANTASY SPREADSHEETS CONTINUED



7 It's always fun to compare the scoring of a real professional club with that of your own Fantasy League team. You might even keep stats on the club you support. I've listed all the Manchester United players here. They're not doing very well considering they'd cost £35.7 million to buy in the *Telegraph's* Fantasy League. Hmm, I wonder if Alex Fergusson has considered keeping stats on Ince and Giggsy using *ClarisWorks*.



8 Calculating the above information is useful if you're considering replacing a player. You'll need a basis for comparison, and you can get this by running stats on some of the players you want to buy. If one of yours breaks a leg, transfer him, and bring in the player at the same price with a better total in the 'points per £million spent' column. If a player's not bringing in the points expected of him, he must go. That's life; that's football!

9 If you have a spreadsheet that can make charts, you can use these to compare players graphically. Here, Stan 'the Man' Collymore is pitted against Big Eric Cantona. Collymore's points line is the black one, Cantona's is in red. I've made up the results for this graph, but Collymore's having a great season while Eric's performance has been hampered by an early suspension. That's why I'd buy Collymore rather than Cantona.

statisical idea of who's hot and who's not in the FA Carling Premiership.

Another interesting idea is to keep a points record for one of the top-scoring teams like Manchester United, Blackburn Rovers or maybe Arsenal. You'll be surprised at how mediocre these teams sometimes turn out to be by Fantasy League standards. My own team is whipping the hell out of Man U.

And remember, it's not just about how many points the players score, it's about value for money. Your Fantasy football spreadsheet will calculate all that for you.

Of course, it's a funny old game, and whenever you bring in a superstar, it's Murphy's Law that he'll stop scoring. *ClarisWorks* will keep your stats in top shape, but you'll need a little intuition and a lot of luck as well. Still, it's a lot better than scratching about with a pad and pencil whenever the results come in. Personally, I don't think a spreadsheet's ever been put to better use! *Garrick Webster*

Buying advice

Whether you're buying by mail or in person, here are some sensible precautions to bear in mind. Note that everything here applies to buying from a business; most of it does *not* apply to buying from a private seller in MACFORMAT's reader ads pages.

Always be absolutely clear about what is included in the price – postage and packing? Any necessary cables etc? VAT? (By law, an advert must say *explicitly* if VAT is not included; if it doesn't, VAT *is* included. But this could be in the small print – so read it all!) If you're buying in person, check that everything is there and it all works properly before you leave the shop. If you're buying by mail, ring the supplier first to confirm the price and availability, and ask what your options will be if there should be any problem. Find out when you can realistically expect delivery. Always keep all receipts and make records of all correspondence, whether it's by mail or by phone.

How to protect yourself

If you are buying goods of more than £100 in total value, always try to use a credit card. That way, in the unlikely event of anything going wrong, you will be legally entitled to claim against the credit card company as well as the seller, even if the seller has gone bust. You may also get extra insurance – check with your credit card company.

If you're not paying by credit card, pay by cheque. Never send cash through the mail – it is impossible to trace if it gets lost, you can't stop payment if you need to, and even if you have proof of posting you can't prove how much you sent.

Keep records. If you are paying by credit card keep a note of the exact time of the order and ask for an order number. If you are paying by cheque make sure you fill in the details of date, amount and payee's exact name in the stub – and keep it!

When a mail order arrives

Check everything carefully. If anything is missing, contact the supplier immediately. If something doesn't work, make obvious checks (the fuse, etc), but don't try to repair it. If there is anything you're not happy with, don't use the product – if you do, you could be deemed to have accepted it.

If there's a problem

Whether you bought it by mail or in a shop, the law says a product must be:
1. 'of merchantable quality' (that is, broadly speaking, it must work),
2. 'as described' (in the advert or in person – and this one criterion also applies when you're buying from a private seller, not a business), and
3. fit for the purpose for which it was sold or for the purpose you specified when you ordered it.

If it fails to meet any or all of these criteria, then you are entitled to return the goods for a refund, receive compensation for all or part of the value, or get a replacement or free repair, depending on the seriousness of the defect. These are the 'statutory rights' that adverts always say are 'not affected' by any extra guarantees. The supplier cannot change or deny these rights.

If you're not happy about something, always contact the supplier first and politely explain your problem. Most problems are sorted out at this stage with no fuss. If not, put your complaint in writing and send it to the manager or owner – ask for the correct name and job title. Give the supplier a reasonable time to reply – say ten days or so.

If the problem is still not resolved, you may need to take some sort of legal action to enforce your rights. This need not cost you a lot. Seek advice from a solicitor (ask about the free advice scheme) or from one of the following (check in your local phone book):

- Citizen's Advice Bureau,
- Trading Standards Office (listed under your local council),
- Office of Fair Trading, or
- County Court (ask about the 'small claims procedure').

Free reader ads

If there's anything that you want, be it kit or software, look no further...

HARDWARE FOR SALE

■ Personal LaserWriter LS – £195. Apple design powered speakers (brand new) – £65. Buyer collects. Write to: Mr Zed, 25 Birkdale Street, Manchester M8 9LU.

■ PowerBook 100 4/40, excellent condition, boxed, spare PSU, spare new battery, external drive, SCSI cables, Targus case – £675. Tel: 0932 356470.

■ ImageWriter II printer – £150. Microtek colour A4 flatbed scanner – £300. DAC optical 128 and CD–ROM in 9-inch rack – £1,200. Tel: Jerry on 081 698 7947.

■ Colour Classic 4/80, System 7.1 with Apple CD300. Excellent condition – £550. Tel: 081 960 2185.

■ Classic II 4/40. Home use only. Complete: manuals, keyboard, etc. Also StyleWriter II printer, manuals, etc. Sadly looking for new home. Tel: 0373 858475.

■ LC 10/120, light home use, System 7, complete with new PowerCD. All manuals. £725. Tel: 0803 864033.

■ MacPlus, upgraded 4Mb of RAM, 20Mb hard disk, System 7, other software – £250. Tel: 081 599 0358 (evenings).

■ LCII 4/40, monitor and keyboard with lots of goodies on board – £700 ono. *ClarisWorks* (offers welcome). Tel: 071 823 8893.

■ Performa 400 8/40 monitor, keyboard One year old – £600 ono. Upgrading is reason for sale. Tel: 0532 439200.

■ SE/30 4/40. Xceed video card. Will quickly display 256 colours on a monitor of up to 21 inches. Nice machine. £650. Loads of software and games. Tel: 0536 763694.

■ 4/80 ColourPlus monitor, mouse, standard keyboard. Brand new, rarely used, 10 months guarantee. £700 ono. HP 310 DeskWriter colour printer. £250 ono. Tel: Rob on 071 3443840 (work) or 081 6402606 (home).

■ Two IIcis 8/80 plus mouse and keyboard. Serious offers. Tel: 0628 23453.

■ SE, 2Mb of RAM, 40Mb hard disk, keyboard, mouse, leads, software. Ideal for student. £300. Tel: Tony on 0670 736150.

■ PowerBook 180c, mains adapter, case, excellent condition – £1,400. Tel: 0273 203935.

■ Classic 4/40, System 7.1, boxed with manuals, keyboard and mouse. Including external floppy drive. £350. Tel: 081 965 6250.

■ Upgraded Classic 2/40 to 4/40 running system 7.1 and *ClarisWorks*. Boxed with manuals. Little used – £400 ono. Tel: Brian on 0224 873501.

■ Performa 400 (LCII) 4/80, 14-inch colour monitor, keyboard, mouse, boxed with manuals, still under warranty. Plus *ClarisWorks*, *Monkey Island 2*, *SimAnt*. All for £600. Tel: Tom on 081 785 4909 (evenings) 081 891 6161 ext 204 (day).

■ Mac II 8/650 Maxtor, 750Mb hard disk, 19-inch colour monitor, 8.24 video card, twin floppy drives, extended keyboard and mouse. System 7.1 and manuals – £950 ono. Tel: Basingstoke 0256 465195.

■ Classic 4/40 68030 accelerator complete with manuals – £800. 16Mb upgrade – £380. Total – £1,180. Tel: 021 554 6947.

■ SE/30 8/40 with 19-inch Raster Ops monitor, Greyscale System, keyboard and mouse, excellent condition – £1,200. Tel: Barry on 0604 20414.

■ Classic 4/40, good condition, keyboard, new mouse, running System 7. Home use only. Manuals, some software, including *PGA Golf* – £450. Tel: Blackpool 0253 26942.

■ PowerBook Duo 230 4/80, good condition. £600 ono. Tel: Jonathan on 051 259 3344.

■ LCIII 4/80 with 14-inch colour monitor, mouse, keyboard, System 7. Mint condition – £700 ono. Light home use, software on HD, all leads. Tel: 071 738 2685.

■ Newton, hardly used, including Fax Kit, Mac Connection Kit, leather cased, all as new – £600 ono. Tel: Tim on 081 793 1201.

■ IIsi 5/40, co-processor, System 7.1, extended keyboard, Greyscale monitor – £500. Tel: Chris on 091 882 9135.

■ SE 4/20 good condition, running System 7. Boxed with manuals, excellent for home use. Bargain at £225. Tel: 0483 473397 evenings or weekends.

■ LCIII 4/80 with co-processor, system unit only, without mouse or keyboard – £345 ono. Buyer collects. Write to: Mr. Zed, 25 Birkdale Street, Manchester M8 9LU.

■ IIvx 20/100CD, 16–inch Apple monitor card, ADJ: Keyboard, speakers, plenty of programs and CDs, worth £5,570 (inc Upgrades). Will sell for £3,450. All new. Tel: Peter on 071 7369066.

■ LCII 4/40 boxed as new, light home use only. £400. 14-inch colour monitor – £270. *Think C v.6.0* – £70. All in one – £700 ono. Tel: 071 582 2521 evenings.

■ LCIII 4/40, keyboard, mouse, FPU, extra VRAM. Excellent condition – £400. Tel: Jim Parkes on 0438 352021 after 6pm.

■ II 8/80 Maths co-pro, 256 Greyscale 12-inch monitor, System 7.1 – £500. Tel: Slough 0753 575506.

■ SE, 20Mb hard disk, keyboard, mouse, leads. £400 ono. Also ImageWriter II – £150 ono. Tel: 0235 868668 (evenings).

■ Performa 400, System 7, keyboard, mouse, printer, *Mavis Beacon*. Under 1 year old, perfect condition – £700 ono. Tel: 0422 883827.

■ SE30 4/40, mouse, new extended keyboard, System 7.0 – £450. Tel: 0626 864698.

■ Centris 610 12/127, extended keyboard, 32,000 colour VRAM upgrade – £900 ono. Tel: Neil on 031 556 9132 (day). e-Mail neil@rackwick.demon.co.uk

■ LCII 6/40 CPU only, £275 ono. Apple CDSC CD-ROM – £50 including cables. Tel: James on 0707 271646.

■ SE30 Two-screen system. CPU 5/40 & colour Trinitron monitor. Used by graphics professional. Two screens ideal for DTP. Complete setup, with keyboard and mouse – £1,000 ono. Tel: 071 727 8158.

■ Mac Plus 4Mb of RAM, System 7.01 30Mb ext. hard drive. Manuals, software, home use only – £495 ono. Tel: Rick on 081 891 5463.

■ Performa 400 4/80, monitor, keyboard, FPU, *RAMTrebler*, *After Dark*. All with manuals – £750 ono. Tel: 081 660 6318.

■ Colour Classic 8/40, System 7.1, manuals, System software, *ClarisWorks II* and *RAMDoubler* installed (but unregistered). Keyboard, mouse, etc. Home use – £700. Tel: 071 272 0277.

■ Performa 400 4/40 with 14-inch colour monitor, keyboard, mouse and StyleWriter II. Only 4 months old. Under guarantee. Boxed with cables, manuals and much software. £700 ono. Tel: Simon on 0204 844824.

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■ StyleWriter II printer, cable, software, manual. 12 months old, light home use only. £150. Tel: Essex 0277 656938.

■ Modem 9600 Supra, plus Modem

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■ Adobe *Photoshop*, full version 2.5.1, complete, sealed, unregistered package. Unwanted 'bundle' item I already have. RRP £725, bargain at £275. Tel: Michael on 081 654 2684.

■ Games: *Syndicate* – £20, *Pathways into Darkness* – £20, *Indiana Jones and the Lost City of Atlantis* – £20, *Lemmings* – £10. Tel: Rod on 0407 720202/720830.

■ Magazines (all issues) MACFORMAT – £4.75 each. *The Mac* – £4.25 each. (Unwanted gift) *Autoroute Express v 3 02* for PC will exchange for *PowerPrint 3* or sell for £60. I'm emigrating, need to sell asap. Tel: Al (Flat 24), 0786 478196 (evenings 7 – 9)

■ *ClarisWorks 2.1*, new, unused, unregistered and *Snooper, Alert, MacTools* bundle, also unused and unregistered. Any offers? Tel: 0932 356470.

■ *HyperCard 2.2* newest colour version. Unwanted present, good condition, boxed, unregistered. £65. Includes *AddMotion 2*. Tel: 0790 753000.

■ System 7 software, not HD disks, new, unused – £20 & pp. Wanted: Kensington Turbo mouse and Apple ext/STD keyboard, also 2x2Mb SIMMs for LCII. Tel: Colin on 0502 584159 anytime.

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■ Daystar Fastcache PDS card for Quadra 700/900/950/800 as new, boxed complete. £120. *Microsoft Flight Simulator, Gravis Moustick II*. £70 as new. Tel: Alan on 081 941 3196 or e-Mail alan@hecate.demon.co.uk

■ *Myst* CD-ROM game complete with manuals. £40. Mint condition. Tel: 0482 815625.

WANTED

■ Apple Macintosh ImageWriter II, wanted complete with all the cables. Must be in good working condition. Tel: 081 470 4986.

■ Apple Standard II keyboard wanted. Tel: Greg on 0829 740762 anytime.

■ Logitech for Apple system. Tel: John on 0480 463493.

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■ *Letra Studio* will pay up to £50, Logitech Scanman will pay up to £75. Tel: Cherry on Oxford 0865 201112.

■ Any unwanted, unregistered software packages for Macs, including CD-ROM. Good price paid. Tel: Dave on 0522 528008.

■ Colour Classic urgent. Realistic price paid. Tel: Sue on 071 486 6771 (daytime).

■ Student needs old Mac for £100 or so. Can collect, London area. Tel: Adam on 081 881 5848.

■ External hard drive for Mac Plus. Tel: Tim on 0509 670 096.

■ Looking for Mac development work, permanent or contract. Experienced in *HyperCard, 'C', Pro*C* and *Oracle Sql*. Also need 4Mb SIMMs for LC. Tel: Paul on 0934 813899.

■ Assembler for Mac Performa 450. Manuals essential. Reasonable price paid. Tel: Keith on 0860 175230 anytime.

■ Colour video card for SE/30. Other upgrade parts considered (memory, accelerator board). Write with realistic prices to: Colin Shaw, 109 Camden Road, London NW1 9HA.

■ *MicroWriter Agenda Help!* software and Apple lead required urgently. Tel/Fax: 0935 824811.

■ Wholesome educational and/or entertainment software new/used for my four children. For Apple IICX and/or Mac LCII. Thank you! Send list with prices in US dollars to Joseph Chaffee, POB 10923, Salonika, Greece.

■ StyleWriter preferably, or other cheap printer for colour classic 8/80. Wanted urgently by student. Tel: 0890 882303.

■ Desperately seeking *CatchWord Pro* OCR, cheap Apple CD300 (external), *Fontographer, Sketcher, Dabbler*. Also: Statistical software or info/manual for Statistica. Buy or swap. Tel: 071 229 7633

■ RAM for Mac Plus – two 1Mb modules for unemployed user. Limited funds. Contact Barry Morgan, Flat 2, 5 Springholme Terrace, Hartingdon Road, Stockton, Cleveland, TS18 3DP.

SWAPS

■ My Apple 14-inch Trinitron monitor and 8-bit colour NuBus card for Greyscale monitor and bigger (or portrait) NuBus card. Tel: Leamington 0926 334594.

■ Will swap *Popup Folder* software for one LCII 6881 Maths co-processor, or sell for £30. Tel: Michael on Aldershot 0252 336895 anytime after 8pm.

■ *Iron Helix* or *Journeyman Project* swap for *Indiana Jones/Atlantis* CD-ROM version, *SimCity 2000* or both for Microsoft *Encarta*. Tel: Steve on 0482 564127.

■ *SimEarth* swap for other software game. Tel: Abed on 081 743 0105.

■ Not all Mac users are boring are they? Contacts wanted to swap shareware, Public Domain, etc. Contact: Colin Robinson, 6 Maude Street, Darlington, DL3 7PW.

■ *QuarkXPress 2.12, MacDraw 2 (1.1)* plus manuals. Consider swapping for anything, software, colour monitor, SIMMs (for CX), CD–ROM. Tel: Russell on 0633 601613.

FANZINES

■ *Scum*. Issue one out now. Send 40p plus an A5 sae to: James Babbayan, 101 Deanfield Road, Henley-on-Thames, Oxon, RG9 1UU.

USER GROUPS

Need hands-on help with a Mac problem? Want to swap shareware or freeware, or just meet other Mac enthusiasts? Try a user group near you...

■ Artists Bulletin Board now on-line 081 778 6547. We specialise in obscure software and magazines. It's all free. Modem speeds 2400 – 9600, 24 hours. (MF24)

■ New Mac User Group just starting up. We urgently need Mac-related literature, shareware, Public Domain and new members. Free membership to MACFORMAT readers. Can you donate a BBS program so that we can go on-line? Members asked for small monthly contribution to cover cost of BBS lines and newsletters (we are non-profit-making). Interested? Write to The Network, 11 Charnock House, Lancaster Court, Chorley, Lancs PR7 1PB. Or tel/fax Dave on 0257 265025 (BBS numbers will be posted to all applicants once software is obtained. (MF24)

■ Aston Univ Mac UG, Birmingham. Tel: Ray Tier on 021 359 3611.

■ A Mac user would like to start a BBS for other Mac users. I would like to talk to anybody who is interested in helping. I would also like to contact any Mac users in the West Country. Please write to: MacShare BBS, Lane End, Oak Tree Lane, Tavistock, Devon, PL19 9DA.(MF 23)

■ Blackburn Mac UG. Tel: Roger Moreton on 0254 670043.

■ Bournemouth Mac UG. Tel: Barry Cheesman on 0202 715859.

■ Bristol (BAUD). Tel: Malcolm Ingsley on 0454 616846.

■ Cambridge Apple UG. Tel: Ian Archibald on 0223 311157.

■ Cancer Research/RMH UG, Cancer Society/RMH. Tel: Raymond Henry on 081 643 8901 (Bulletin Board x 4636).

■ The Computer Textile Design Group. The essential link between computer and textile designer. Contact Dee Chester, 12 Le Brun Road, Eastbourne BN21 2HZ Tel: 0323 725781.(MF24)

■ Edinburgh Apple UG. Tel: John Beatie on 031 554 5096.

■ Gateway UG, Norfolk. Tel: Verne Anderson on 0638 513000.

■ Glasgow Mac UG. Tel: Stephen Broadfoot on 041 339 6646.

■ Highland Mac UG (HIMUG), Scottish Highlands. Tel: Bob Warner 0463 715322.

■ Liverpool Apple UG. Bulletin Board: 051 949 0307

■ London Macintosh User Group. Facilities include: telephone support for full members, shareware at reduced prices, monthly magazine and monthly meetings in London presented by leading hardware and software manufacturers. For full details write to: 43 Villiers St, London WC2N 6NE. Tel: 071 930 3757. (MF 23)

■ MacAssist, Cardiff and district. Tel: Nigel Arrighi on 0222 224682.

■ Macintosh Association of Users in EEC, 4 Chiou, Athens, 15231, Greece. Tel: 6725485. Meetings Wednesdays 8–10pm, Saturdays and Sundays 12–2pm. We are a non-profit organisation. Please help us by donating books (misprinted, used; by surface mail), disks, programs, CD-ROMs, etc for our library and program for the handicapped. (MF 18)

■ Mac user group (nationwide) All levels. Non-commercial. Newsletter, shareware, etc. Send large SAE for sample newsletter to Ref MF, 9 Burrill Drive, Wiggington, York YO3 3ST. (MF 23)

■ Midapple, West Midlands. Tel: William Watson on 0384 277921.

■ MidApple – Apple 2 and Macintosh user group meets monthly in West Midlands. SAE to MidApple, 24 High Street, Wall Heath, Kingswinford, DY6 0HB for details.(MF23)

■ Midland Mac UG, Worcestershire. Tel: Ivan Knezovich on 0299 402631.

■ North West Apple C.C – Cheshire area, North. Telephone: Mr George Evans on 0270 583714.

■ Nottingham Mac UG. Tel: David Nicholson-Cole on 0602 455077.

■ Poole Mac User Group. Tel: Bob Lister on 0202 684441.

■ SE Essex Mac User Group. Tel: Michael Foy on 0702 468062.

■ Southampton Mac UG. Tel: Geoff Parsons on 0703 2244957.

■ Southern Mac UG, Salisbury and district. Tel: Roger Ford on 0722 780102.

■ Southwest Mac User Group, Bristol. Tel: John Elver on 0272 693119.

■ The Southwest Macintosh Users Association. Membership of the group is £17 per annum, but the first 100 applications will be given founder member status. If interested contact the Club Secretary, SMUA, Firs, Rackstile, Wadeford, Chard, Somerset TA20 3AP. (MF 18)

■ Staffordshire Polytechnic Mac User Group, Staffordshire. Tel: Mark Stiles on 0785 52331.

■ Sussex User Group, Hastings, East Sussex. Tel: Garry Nevin on 0424 714110.

■ The United Shareware User Group meet Portuguese Mac users and our Shareware – Pra. Ferreira de Castro 1-3 Dto, Coruaxide 2795, Portugal (MF 19)

■ West Midlands User Group. Tel: Danny Torbica on 0902 336172.

■ Yorks and Humberside Mac UG. Tel: Derek House on 0423 358853.

■ Hampton Court (Riverside) UG has a new phone number: 081 224 1187. Small, newish group welcomes new enthusiastic members. (MF18)

Your user group will be listed here free of charge for six issues, then deleted in order to help weed out defunct groups. The number at the end of each entry is the last issue in which that entry will be included. If you want your group's entry renewed (or corrected), just send in the coupon on page 122 (opposite) a couple of issues in advance. If you run a group which is not listed here, then please send us your details!

Please note: this list is provided as a free service for amateur, non-profit-making Mac user groups. MACFORMAT does not endorse or recommend any particular group and cannot be held responsible for any losses or problems you might suffer as a result of contacting user groups advertised here.

Above all, it's crap!

The hot new PowerMacs are not all they're cracked up to be, says reader Az Abrahams...

Above all, it's a Macintosh. That's what they said about the new PowerPC machines. What they meant is that above all it's slow and unreliable, crashes a lot and has massive hardware problems.

Not only I, but also a publishing house I know, both bought the new 7100AV PowerMacs. 'RISC processors,' we thought. 'That's what mainframes use. Gosh, but it will be a wheeze, and fast with it.'

Little did we realise that the thing is slower than the IIsi's that we sold ('020 performance at top whack, so confirm all the speed-checking utilities). You want unreliable? You will not be disappointed. Will a crash a minute suit you?

It turns out that the SCSI bus has a design flaw. You cannot hook anything up to it. Simple as that. With no wires in the back it will struggle along at its snail's pace.

Now don't get me wrong. I have been using Macs since April '84, and I know a thing or two about checking the System, such as reformatting the hard disk and installing a new System folder (clean, with no INITs). I also realised that some programs would be a bit on the sluggish side until the kernels had been rewritten. What I did not expect was that over a gigabyte of external drives, with all the information that is on them, would be useless. Including the scanner, and the SCSI Apple Colour Printer. The thing falls over with any external devices merely a bit near it. Even if they are turned off. Sometimes it will not even recognise its own internal start-up disk.

Now if this was an old Mac you would say it has a hardware problem and get it sorted out PDQ. But this flaw was built in. And just how helpful is Apple about all this? Not very, that's how much.

'We aren't allowed to release details of the new Macs,' they said on the phone. I pointed out that I have one and how much more detail is there to a machine than having one?

'Any Quadra SCSI bus is easily repairable if you have a fault, sir,' they said. I pointed out that it's a PowerMac, not a Quadra, again. And again. And again. And again...

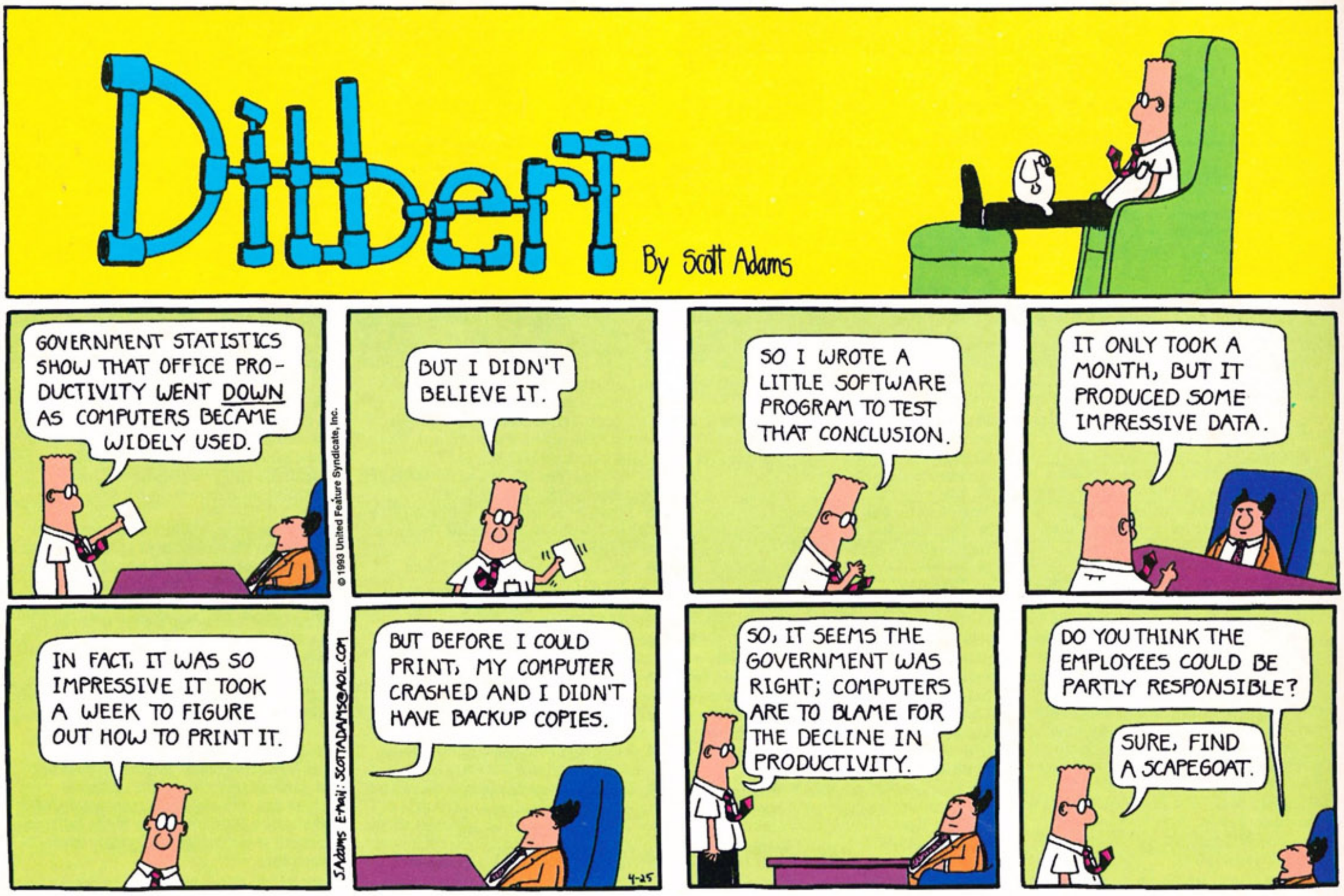
I've had enough. The best part of four grand down the drain for a pile of turgid poo. Anyone want to swap it for an IBM running Linux?

'Above all it's a bit similar to a Macintosh.' And, after all, so is *Windows.*

Az Abrahams
Scorton, Somewhere in the UK

OVER TO YOU...

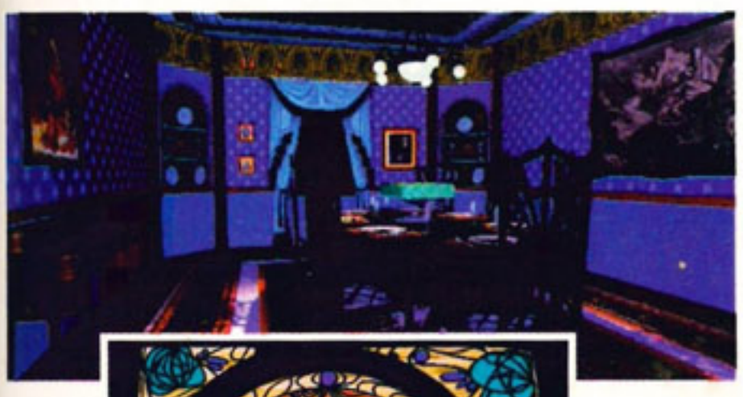
The opinions expressed on this page are those of the authors, not necessarily those of MACFORMAT or Future Publishing Ltd. If you have something to say, write to 'Soapbox', MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. ASCII text on disk would be nice, but it's not essential. We reserve the right to sub-edit your grammar, but we won't alter the sense of any opinions we publish here.



Everyone's a 7th Guest winner!

First prize: a copy of *The 7th Guest* plus the video *The Making of 7th Guest*, courtesy of Softline Distribution. 50 runners-up win the video plus £10 off the game. *Every entrant* gets £10 off the game – you can't lose!

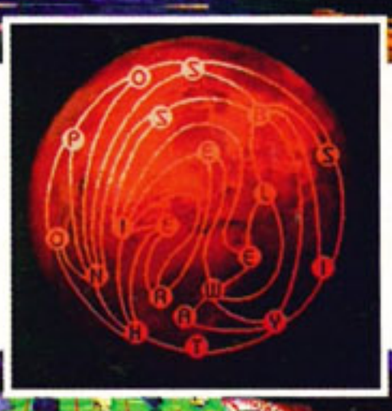
Be warned: this sophisticated CD-ROM title is not for kids. *The 7th Guest* is an intelligent, complex detective mystery, featuring state-of-the-art graphics, CD-quality digitised music and speech, challenging puzzles to solve... and a genuinely tense, even scary, storyline to unravel as you make your way through the game.



You find yourself in a huge, puzzle-filled house built by the sinister Stauf, a toymaker whose wares definitely aren't going to win a Standards Association kitemark – all the children who own his toys have died painful deaths... and the six guests in his house could be next. You must explore the house, solving Stauf's cunning puzzles to gain access to more of the rooms. As you do so, you get to view video sequences that enable you to piece together the whole terrifying story...

When we reviewed *The 7th Guest* in MACFORMAT 14, we said: 'It's an ambitious attempt to create a truly horrifying adult game using some of the most sophisticated graphics techniques around. Here, at last, is a game that offers something new... a marvellously atmospheric game.' Courtesy of Softline Distribution, we have a terrific range of *7th Guest* prizes to be won. First prize is a copy of the game (worth £50) plus the video *The Making of 7th Guest*, telling the behind-the-scenes story of this ground-breaking production. No less than 50 runners-up will also win a copy of the video, plus a voucher entitling you to *£10 off* the game. And best of all, *every entrant* wins a voucher for £10 off *7th Guest*!

To win one of these great prizes, just answer the three simple questions below. Send us your answers on a postcard or the back of a stuck-down envelope. Employees of Future Publishing, Virgin Games, Softline Distribution and associated companies, and their families, are not eligible to enter. No multiple entries are allowed, full stop. Please state if you don't want your name added to a mailing list. The editor's decision is final, and the closing date is Friday 11 November.



THE QUESTIONS

1. What is the name of the sinister toymaker who built the house in *The 7th Guest*?
(a) Stauf
(b) Von Stauffen
(c) Bates

2. What must you do to gain access to more of the house?
(a) Find the right objects on screen to click on
(b) Find the hidden keys
(c) Solve Stauf's logic puzzles

3. Which of the following does *not* feature in *The 7th Guest*?
(a) Sophisticated CD-based graphics and sound effects
(b) Video sequences
(c) Mr Blobby

Easy enough for you? Just send your entry on a postcard or stuck-down envelope to: 'Everyone's Invited' Compo, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

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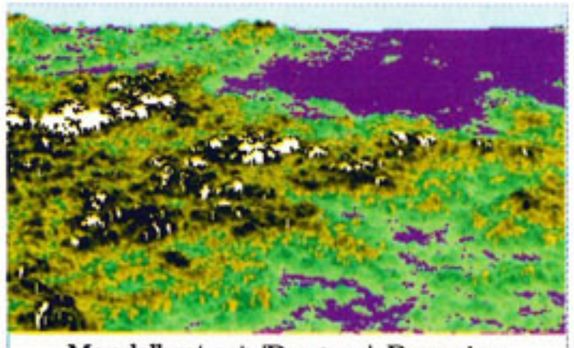

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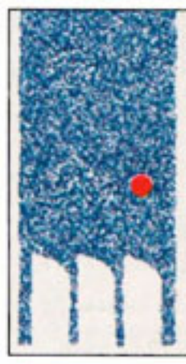

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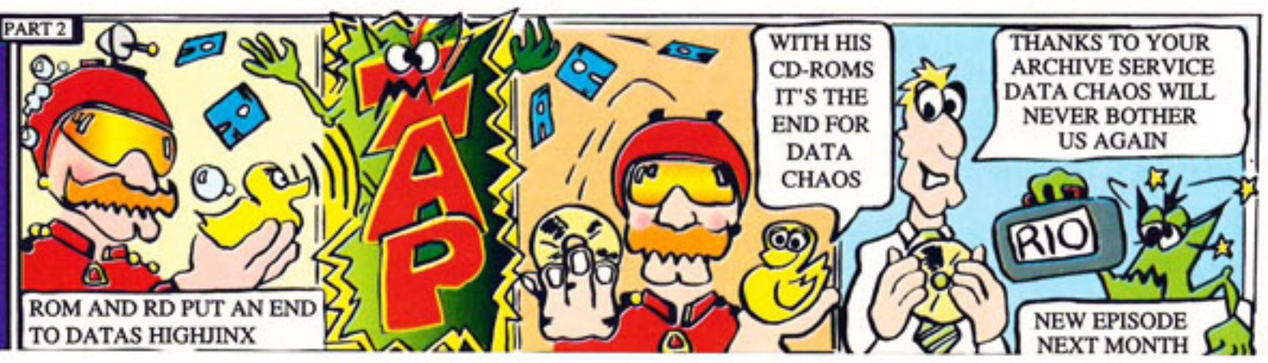

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But...
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Printed in the UK by TPL (UK) Ltd

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■ Standard 12 month subscription rate: UK £47, Europe £59, rest of world £79. Subscription hotline 0225 822511 (8.45am–6pm); subscription enquiries 0225 442244. Fax 0458 274378 (24 hours).

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35,068

Next month

Kids' Stuff?

Looking for Christmas presents? Next month, discover the top Mac games of all time, as well as the latest releases, and learn what's coming next year. Prefer something useful as well as fun? We'll also survey the vast range of educational software available.

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ARE YOU A WINNER?

In MACFORMAT 14 we gave you the chance to win a Screenie. The winners are: Steve Scanlan of Oxford, J Hamilton of Portpatrick, Mike Sim (not microphone simulator, surely?) of Slough, Julian Borg Barthet of Malta, W Parfitt of Glastonbury, K M Mason of Birmingham, D Young from Harrow, Paul Smith of Portadown, Northern Ireland, G Pennington of Bolton in Lancs, and Debi Fairminer of Richmond.

The winners of *Flying Nightmares* rugby shirts from Softline are Matthew Swain of Byfleet, C R Williams of Weymouth, Steven McClue of Cambridge, G Jones of the Wirral, Neville McClenaghan of Belfast, P Meagher of McLeod, Victoria, Australia, Jason Todd of Guildford, Andy Smith of Harrow, Nick Dey of Oxford and M Wye of Camberley. The first name out of the box was Anne Evans of Milton Keynes, who wins a copy of the game as well. Congratulations to all!

A small observation from the Tiny Zone...

Hello and welcome again to the Tiny Zone, the section of MACFORMAT that always has a little bit to add. Doesn't all this Internet stuff remind you of what they used to say about the 'paperless office'? You know, how the endless piles of memos, notes and publications would all vanish and everything would be kept on-line and viewed on-screen.... Hasn't happened, has it? There seem to be more bits of paper floating around our office than ever – laser proofs of our pages, memos, letters, post-it notes, the lot. Oh sure, our company has an internal electronic mail system, but (a) not everybody is on it, so if you want to spread a message around you print it out, and (b) the system gets so overloaded, what with Future's 30-odd magazines, that if you *really* need to keep something you print it out and file it away, just to make sure it doesn't disappear completely when the system crashes. Besides, it's impossible to find a particular message again when all you've got is a list of over 100 four-word 'headers' which are about as cryptic as their authors can make them. And you know what? I suspect even the software publishers aren't quite convinced yet that multimedia can supplant the book: the new *Guinness Multimedia Disc of Records* (reviewed in MACFORMAT last issue) comes complete with a copy of the book, right there in the box. Hedging your bets, or what? And you can't exactly read a CD on the bog, now can you...

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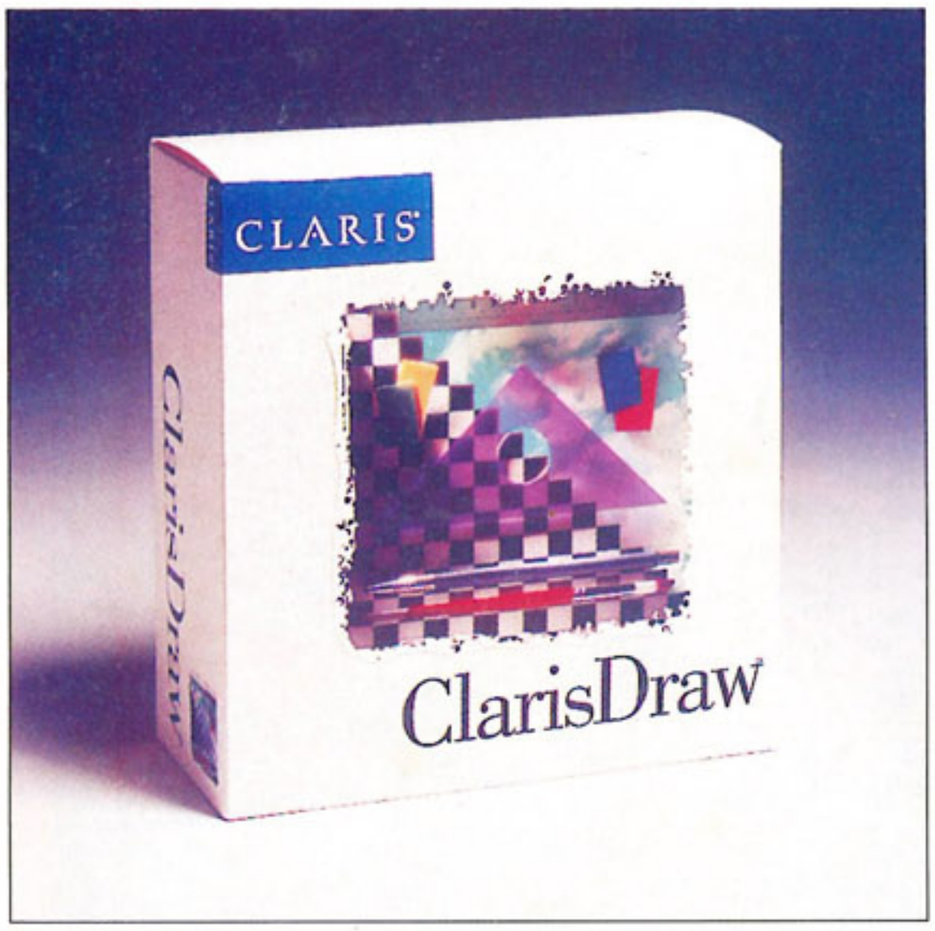

All this means fantastic flexibility. You can create your text, style it up, bind it to a shape you've drawn, and even convert fonts to Bezier curves so that they become graphic objects, which you can then fill with a gradient... the possibilities are awesome. You can import graphics in all the common formats – GIF, TIFF, PICT, and bitmapped EPS – and you can create libraries of images or use any of the 3,400 supplied.

ClarisDraw makes even tricky jobs simple. You can align objects easily with the 'Smart Align' feature, and rescale several linked objects at once with 'Smart Size', so they're always in proportion with one another – brilliant! With the Slide Manager, you can produce a simple presentation, complete with fades and loops!

ClarisDraw earns a whopping 88% in our review on page 82 of this issue. Courtesy of Claris, we have *ten copies* to be won, each worth over £320. Simply answer the three questions below and send us your answers on a postcard or the back of a stuck-down envelope. Employees of Future Publishing, Claris and associated companies, and their families, are not eligible to enter. No multiple entries are allowed, unless they are hand-painted on canvas. Please state if you don't want your name added to a mailing list. The editor's decision is final, and the closing date is Friday 11 November.

THE QUESTIONS

1. *ClarisDraw* includes a palette of how many gradients?
(a) 64
(b) 256
(c) 3,400

2. The program's drawing toolbox includes bezigon curves. What are bezigon curves?
(a) Flexible lines that you can adjust at will
(b) Regular sine-wave patterns
(c) Graphics with gradient fills

3. Which of the following is *not* a feature in *ClarisDraw*?
(a) Smart Align
(b) Smart Size
(c) Smart Arse

Tougher than usual? Check the review on page 82 for clues! Just send your entry on a postcard or stuck-down envelope to: 'Win, lose or *ClarisDraw* Compo', MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

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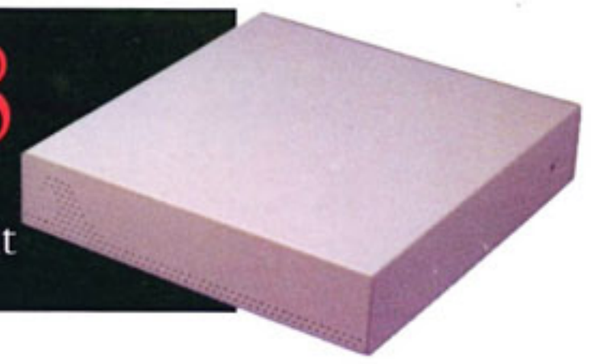

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