

Your complete guide to the Apple Mac

WIN! - 10 copies of Autoroute

mac FORMAT

**EDITING FOR
BEGINNERS**

How to get started
with your own
publication

Explore a new world!

A world where you can get free
software, instant information and
send files anywhere in seconds

All you need is a Mac, a modem
and this magazine...

No modem? Incredible deal inside!

UNBELIEVABLE!

35

Programs: You've never
seen so much brilliant
software crammed onto
one disk in your life!

mac FORMAT

**HIGH DENSITY
DISK**

Over two megabytes on one super
value disk! If your Mac can't read HD
disks, don't despair - see page 6 for
details of getting replacements.
Compatibility information on page 6.

DISK 7 DECEMBER 1993

- **DISINFECTANT 3.2**
Kills all known viruses - dead
- **SMART LAUNCH**
All your programs just a mouse
click away
- **QUARK XTENSIONS**
Seven useful DTP add-ons
- **PATRIOT COMMAND**
Missile Command all over again

**PLUS 20
OTHER PROGRAMS**

See the magazine
for full details

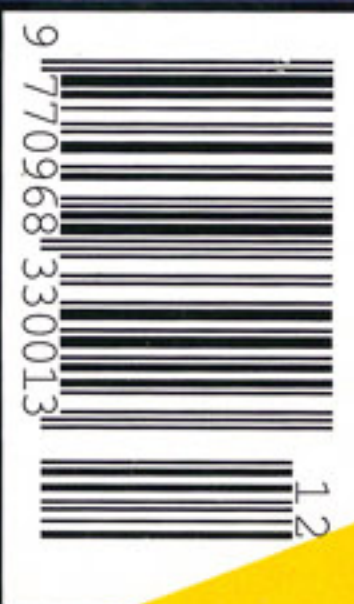
**BIGGER,
BETTER AND
BEST VALUE!**

See page 6 for program details

**NO COVER
DISK?
ASK YOUR
NEWSAGENT
FOR IT NOW**



Inside: How your Mac can
teach you to type
and correct your
English!



DECEMBER 1993
ISSUE 7 £3.95

Future
PUBLISHING
Your guarantee
of value

PLUS: Regular columns on design,
shareware, databases,
spreadsheets, HyperCard,
utilities, CD-ROM, graphics,
DTP, games and more!

Softline products are available at these resellers:



AppleCentre Aberdeen
Aberdeen 0224 770717
AppleCentre Edinburgh
Edinburgh 031 557 5995
AppleCentre Glasgow
Glasgow 041 226 3250
Tower Records
Glasgow 041 204 2500

AppleCentre Kidderminster
Kidderminster 0562 822 222
AppleCentre Preston
Preston 0772 615 512
Central Studios Ltd
Merseyide 0704 534534
LCS (North West) Ltd
Kendal 0539 741 777
MacGold
Scarborough 0723 582100
MacPoint
Birmingham 021 333 3448
Quodport Limited
Manchester 061 274 3797
Superplate Computer
Leeds 0532 340800
Tomorrows World
Hull 0482 29583
Tailor Made Solutions
Tyne & Wear 091 519 0101

Absolute Computers
Oxford 0865 53072
AppleCentre Norwich
Norwich 0603 630252
AppleCentre Oxford
Oxford 0865 20 11 00
AppleCentre Romford
Romford 0708 384 242
Beatties Virtual Reality
Leicester 0533 512 697
PC World Lakeside
West Thurrock 0800 486111

AppleCentre Acton Park
W3 081 749 9909
AppleCentre West One
W1 071 631 5305
Chromasonic Computer
NW4 081 203 8989
Dixons
W1 071 408 0674
Globus Office World
NW9 081 205 4466
Globus Office World
W3 752 0006
Input! Software Ltd
W1 071 636 2666
Micro Anvika Ltd
W1 071 580 6382

PC World
NW2 & Brentford
0800 486111
Stirling Micro Systems Ltd
NW1 071 935 5262
The Macintosh Centre
W14 071 602 9444
Tower Records
Piccadilly Circus 071 439 2500
Virtual Reality
EC2 071 588 4831

Amsys Technology Ltd
Kenley 081 660 7750
AppleCentre Cambridge
Cambridge 0223 247111
AppleCentre Croydon
Croydon 081 681 0772
Bidmuthin Technologies Ltd
Harrow 081 868 4400
Callhaven Plc
Kingston 081 549 5612
Gordon Harwood Computers
Derby 0773 836781
Guernsey Computers Ltd
Channel Islands 0481 728 738

Imago Europe Plc
Haslemere 0428 645 225
Ind Ltd
Maldon 0621 840666
Logic Computer Solutions
Bournemouth 0202 319845
PC World
Bristol 0800 486111
PC World
Croydon 0800 486111
PostScript
Bath 0225 483 151
Visual World
Bristol 0272 258 823

Copystat Cardiff Limited
Cardiff 0222 566133
Clwyd Computers
Clwyd 0745 814156
PC World
Cardiff 0800 486111
Virtual Reality
Cardiff 0222 641089

software available from these selected retail stores



Edinburgh, Princes St
Glasgow, Finnieston
Glasgow, Argyle St
York, Coney St
Liverpool, Church St
Manchester, Market St
Birmingham, New St

Birmingham, High St
Coventry, Precinct
Leicester, High St
Brighton, Western Rd
Oxford, Cornmarket St
Reading, Friar St
Reading, Oxford St

Ealing, Waterglade
Croydon, North End
Kingston, Bantalls
Oxford St, London
Oxford Circus, W1
Trocadero, W1
Cardiff, Queen St

GAME

Manchester, Arndale
Southampton, Bargate
Coventry, W. Orchards
Romford, Liberty 2
Leeds, Schofield

Thurrock, Lakeside
Hemel Hempstead, Marlowes
Watford, Harlequin
Bromley, Glades
Newcastle, Eldon Sq

Woking, Peacocks
Aberdeen, Union St
Sheffield, Meadowhall
Tunbridge Wells,
Victoria Place

John Lewis Partnership

John Lewis Stores:

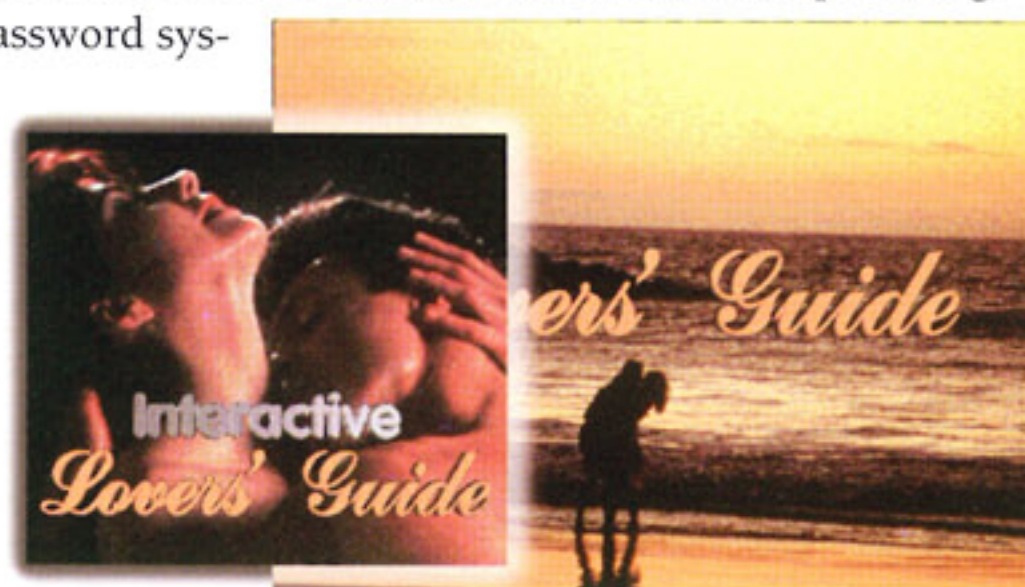
Aberdeen
Brent Cross
Bristol
Edinburgh
High Wycombe
Kingston
Milton Keynes

Oxford Street
Peterborough
Welwyn Gdn City

Also available at:

Robert Sayle, Cambridge
George Henry Lee, Liverpool
Bainbridge, Newcastle
Bonds, Norwich
Heelas, Reading
Tyrrell & Green, Southampton
Peter Jones, Sloane Square
Cole Brothers, Sheffield

lovers guide is a sensitive guide to sex, desire and communication and is one of the best selling videos ever. It has been adapted and enhanced for CD ROM by combining the material and footage from the video with entertaining, well researched psychometric tests which enable users to enhance their relationships. Using the in-built password system it can be easily turned into an educational aid.
SRP £34.03



zoa The Zone of Avoidance. Alone in space on the border, your job is to defend the space station against hordes of asteroids and hostile aliens bent on your destruction. Zoa includes fluid full 3D graphics and excellent sounds. You'll need to sharpen up your space fighter skills before trying this one!
SRP £39.99



virex 4.0 is the new version of the popular virus protection package. Virex was the first comprehensive solution to threat of computer viruses. Not only does Virex detect whether there is a virus present it will also remove it. The new versions features include an enhanced interface supporting drag-and-drop testing and a variety of startup discs to work on all Macs which include the dual function Scan/Installer program.
SRP £69.99

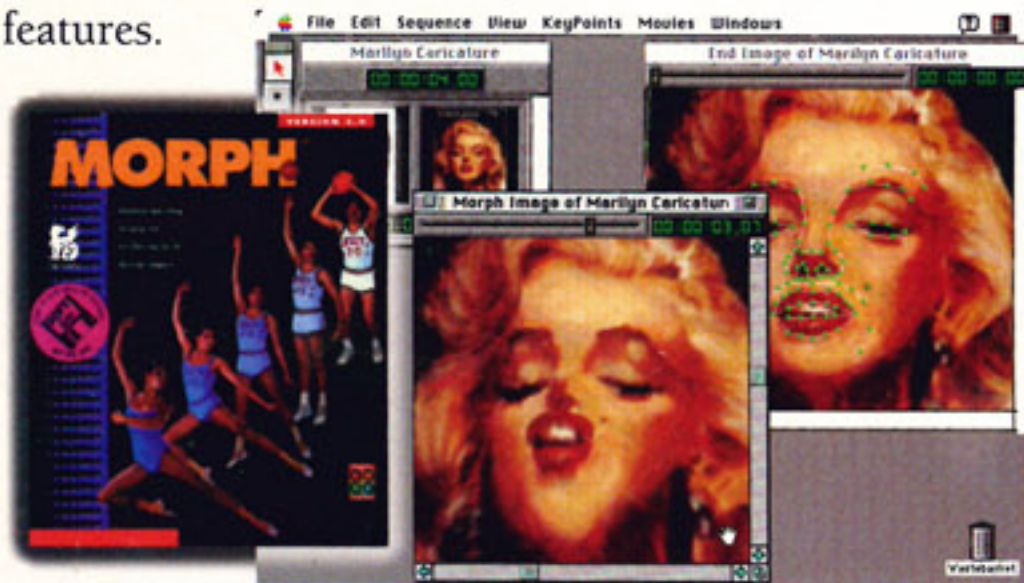


iron helix. Control a robot probe whose mission is to stop a renegade starship on an automated course of destruction. Prevent intergalactic war and the spread of deadly a virus by destroying the doomsday weapon—codenamed Iron Helix. Navigate through dozens of corridors and rooms. Search for ways to stop the looming annihilation while eluding the ships deadly defender robot. Iron Helix takes advantage of the CD ROM and blazes a new trail for interactive virtual media, every scene and all movements happen entirely in 3-D!
SRP £34.03



morph 2.0 is the latest version of the breakthrough application which lets you smoothly transform one image into another. With v1.1 you can take two static images and create a movie of the transformation. With v2.0 you can additionally take two movies and morph between them, you can warp an image (make Mona Lisa smile!) or use the innovative caricaturing features to accentuate various key facial features.

Morph v2.0
SRP £179
Morph v1.1
is SRP £119



crystal crazy It's back! The all time favourite Crystal Quest now has a sequel and it's even more addictive! Crystal Crazy continues the quest to collect the crystals but this time there are also jigsaws to complete, ridiculous pictures to erase, pool balls to sink and beautifully fragile ornaments to smash against the walls! To aid you in battle try collecting different shields and guns to help increase your chances against those nasties!

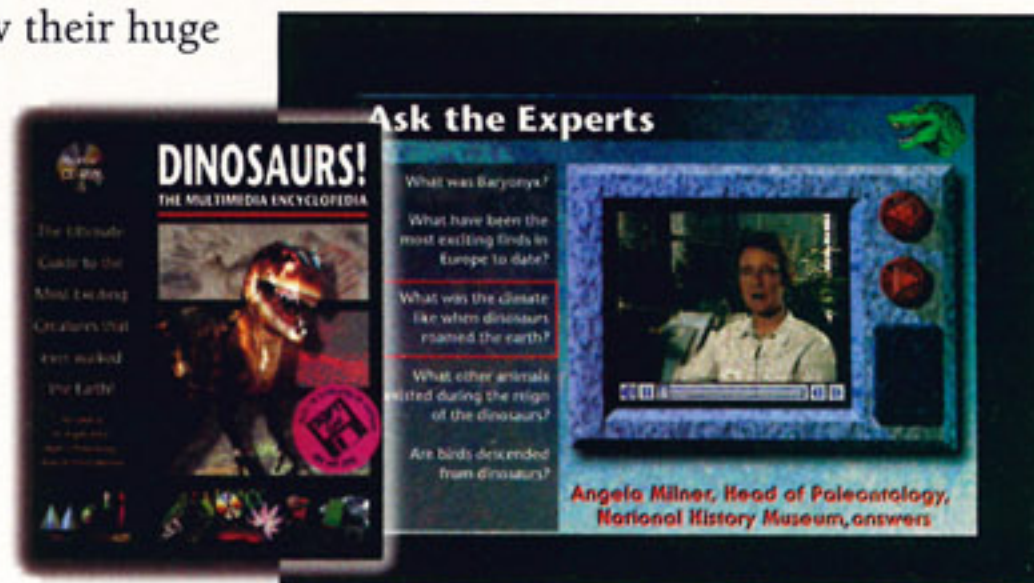
SRP £39.99



dinosaurs! The ultimate guide to the most exciting creatures that ever walked the earth! Dinosaurs answers almost every question people have to ask about these fascinating prehistoric creatures. Over 600 megabytes of video, photographs, illustrations, narrations and animation make this by far the most comprehensive dinosaur reference work available. You'll find out how dinosaurs lived and died and how their huge bodies worked.

Total and unadulterated dinosaur bliss!

SRP £51.09



free demo disk

softline memory The amount of memory you need depends on the software you use and whether you want to have more than one application open at each time. If you find yourself wanting to try more demanding applications or you've already come up against out of memory problems Softline Memory Kit's are the answer. They supply you with everything you need to upgrade the memory of your Mac in convenient boxed Kits. Each Kit contains detailed installation

instructions, SIMMS and an anti static wriststrap. Upgrades from 2MB upwards available.



don't delay—act today!!!

Complete and return this form to Softline. Please send me a free ☐ Morph 2 demo disk.
☐ Details of a reseller near me.
Are you on a network?

☐ Send me more info on:
Which Mac do you have?
Who is your preferred reseller?

Name:
Address:
Postcode:
Tel:



Have you ever bought a Softline Product before?

macformat dec

Softline Distribution, Mill House, Mill Lane, Carshalton, Surrey SM5 2WZ

Tel 081 401 1234 Fax 081 401 1235 AppleLink UK0037 CompuServe 100012,21

All trademarks registered and are copyright their respective holders. Softline, the Softline Disc and logo are registered trademarks of Softline Distribution Ltd. All text and graphics ©1992 Softline Distribution Ltd. Unauthorised use is strictly prohibited.

THE FINDER

Your cover disk

How to get your new programs up and running in moments

..... 6

News update

New Macs, a new System, plenty of printers and Peter Gabriel

..... 14

Apple Expo preview

What goodies are in store at the Mac show of the year?

..... 19

Cover feature: Comms

All you need to explore a new world...

..... 23

Special modem offer

An incredible top-notch modem, and an even better deal for subscribers!

..... 32

Editing for beginners

You don't need an expensive Mac and tonnes of software to get started

..... 33



Using graphics

A common-sense guide to using the right graphs in the right places

..... 36

Using a bureau

Avoid the many pitfalls of using a typesetting bureaux with our 12 point guide

..... 39

Grammar checkers

Can a computer program really help you with your English?

..... 42

Astound on test

Is Gold Disk's presentations package a Persuasion beater?

..... 46



Illustrator 5.0

Is it worth upgrading to the latest version of this graphics classic?

..... 50



CD-ROM Round up

First regular monthly look at what's new on CD-ROM

..... 53

Spreadsheets tips

Speed up the way you work with data

..... 58

CDU and QuickKeys tested

Connectix Desktop Utilities and QuickKeys evaluated; can they help you with your work?

..... 63

Subscriptions offer

Your last chance to pick up PGA Tour Golf or Prince of Persia free!

..... 66

Mac Answers

Dozens of tips as our experts answer your real-life questions

..... 69

SCSI for Beginners

The arcane art of connecting peripherals to your Mac laid bare

..... 76

Learn HyperCard

Discover how programming your Mac isn't as hard as you think

..... 79



Win AutoRoute Express

We've got 10 copies of NextBase's Mac road atlas to give away

..... 82

Back issues

Missed an issue? Fret no more...

..... 83

Sorting with speed

Tips on sorting and exporting your database data

..... 84

Cheap software!

This month's round up of the latest and best shareware and public domain software

..... 87

MIDI file magic

Your favourite songs only available for the Atari ST? Here's how to convert them to the Mac

..... 90

Typing tutors

Double your wpm with the aid of a plumber and a non-existent American woman

..... 90

Apple Talk

This month's postbag for all to read

..... 90



Chuck's Air Combat

Chuck Yeager's flight sim again, with missiles this time

..... 102

Pathways into Darkness

3D-rendered action adventure

..... 104



Zoa: Zone of Avoidance

Shoot anything that moves in space

..... 106

GameBusters

Cheats for Lemmings, Monkey Island and more...

..... 108

Reader ads

All the little adverts which everyone really should read to bag a bargain

..... 110

MacMart

Check out the small ads

..... 112

Next Month

What, finished this issue already?

..... 114

mac FORMAT

COMMENT

It used to be that the Mac was a business machine, pure and simple, used in design consultancies up and down the land but nowhere else. But Apple has spent a great deal of time and money trying to convince people that the Mac was a great home computer. And it's succeeded.

Advertising showing Performas as family computers has led to Macs flying out the doors of Dixons, Ryman's and the rest. Tens of thousands of machines are ensconced in homes, being used by every member of the family, from 6 to 60.

But although Apple has changed its image and marketing to get the Mac into homes, one area of the Mac world is lagging sadly behind - AppleExpo.

AppleExpo is an essential visit for any Mac fan - unless they are under 16. Then they can't get in. Sorry, it's a business show, no families allowed.

So all those thousands who bought the Mac as a family computer are left out in the cold.

EMAP Exhibitions who run the show say the under 16 rule is because of exhibitor pressure. The exhibitors should wake up to the direction Mac computing is taking, with Apple leading it.

If not, perhaps MacFormat will have to run a show where everyone who loves the Mac would be truly welcome.

Editorial enquiries:

MacFormat, Future Publishing Ltd,
30, Monmouth Street, Bath BA1 2BW
Tel: 0225 442244 Fax: 0225 446019
AppleLink: MacFormat
E-mail: sanderton@cix.compulink.co.uk

Advertising enquiries:

Mike Hawkins Tel: 0225 442244

Subscription enquiries:

Future Publishing, Freepost,
Somerton, Somerset TA11 7BR
Tel 0458 73279 Fax 0458 74378

© Copyright: Future Publishing 1993



Explore a new world!

Armed only with your Mac and a telephone there's a whole world of free software, instant advice, up-to-date information and rapid communications to be had. Discover how easy it is with our comprehensive explanation of comms, and take advantage of our modem offer to get started on the cheap

p23

ON THE DISK

For full details of what's on this month's packed High Density MacFormat cover disk, turn to pages 6, 7, 8, 9 and 12.





Start here!

MacFormat's coverdisk is now a high density floppy, so that we can fit more on. Almost all Macs made in the last four years have a SuperDrive and so can use these disks, but older models can't. Don't worry, however, you can exchange your HD disk for two ordinary ones - see below for details.

Because we've compressed the software to fit more on, you can't run the programs on the disk straight from the floppy: first they must be decompressed and copied on to your hard disk. To do this just double-click on the MacFormat December icon, and select your hard disk. When it's finished you'll find a new folder called MacFormat December, and inside that there are five more folders called Games, Applications, Extensions, Control Panels and Quark XTensions. Inside those you'll find the programs themselves. You'll need around 2.9Mb of free disk space before you begin. If you bought August's MacFormat you'll have a copy of *Compact Pro*, which you can use to open the archive and select which programs to decompress - useful if you don't have enough free disk space for them all.

If you have an older Mac

If your Mac is chronologically challenged and it can't use high density disks (Pluses, old SEs and original Mac IIs can't; anything since the SE/30 including Classics and Performas can) don't worry. To get the same programs on two ordinary disks, just send your disk with a self-addressed return envelope to: MacFormat Disk Swap, DisCopy Labs, PO Box 21, Daventry NN1 5BU. Make sure the envelope is big enough for two disks and sturdy enough to make it through the post. If you don't want the hassle of doing this every month, then subscribe and you can choose to get your two disks delivered for no extra money! See page 90 for details.

Compatibility

We spend hours checking all the programs on the disk with as many different machines as possible, but we can't check every combination and we can't guarantee that the programs will work with your system. The information on compatibility in these pages and on the disk is intended as a guide only. Nor can we warrant the programs or be in any way responsible for any problems arising from their use. Check the Read me! file on the disk for common-sense guidelines you should follow when installing any software.

Your cover disk

Disinfectant 3.2



Shareware fee: none

Compatibility

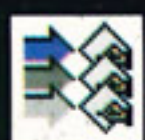
Macs: any

System: any. Display: any

Disinfectant 3.2 is the latest version of the freeware virus finder

and killer. It destroys all known viruses, and allows you to install a protection program to prevent infection whenever your Mac is running. A superb piece of software, and one that no-one should be without.

Smart Launch



Shareware fee: \$5

Compatibility

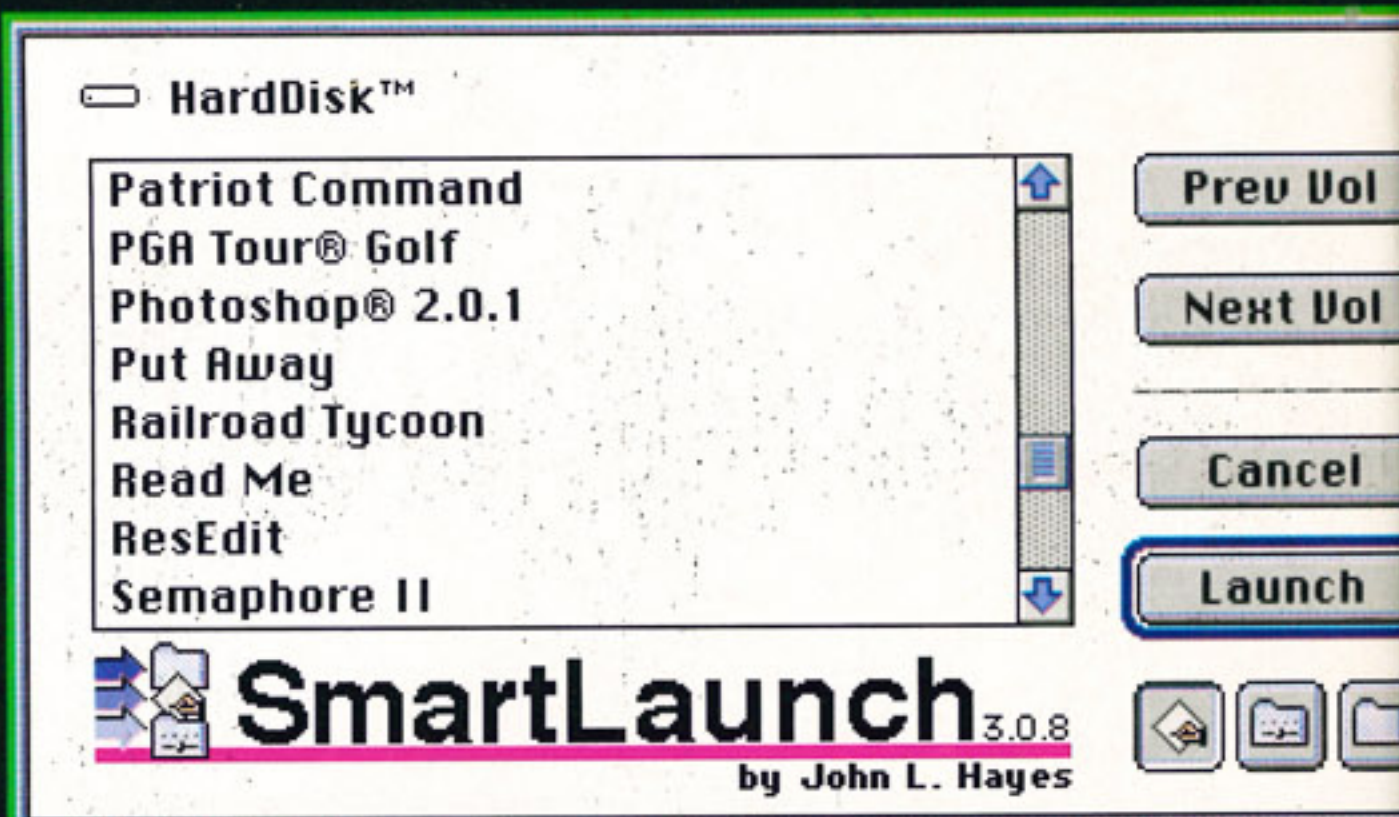
Macs: any

System: System 7

Display: any

A ridiculously useful program. Drop it in the Apple Menu Items folder in the System folder, then whenever

you select *SmartLaunch* from the Apple menu it will provide you with a scrolling list of all the applications on your hard disk. Clicking on one will launch it. It scans your hard drive whenever you ask it to - so you can keep it up to date with new applications you install. You won't want to live without it!



SmartLaunch gives you instant access to all your programs

Quark XTensions

ASave XT

Shareware fee: none

Compatibility

Macs: any

System: any, requires *QuarkXPress*

Display: any

This XTension adds a hierarchical auto-save menu to the Utilities menu. If one of the time items is checked, *XPress* will automatically save the current document after the elapsed time. A 'Save As...' option is also available.

PrintStatus XT

Shareware fee: none

Compatibility

Macs: any

System: any, requires *QuarkXPress*

Display: any

One of the less well publicised new features in *XPress 3.1* is the ability to show a printing status window on screen, showing the page, separation and image that is currently being output. This is usually displayed by pressing the [shift] key when you click on OK on the Print dialogue.

The only trouble is that it can be a real pain remembering to hold down [shift] when you click on OK or hit [return]. The *PrintStatus* XTension is a fix for that one,

simple drawback. It adds an item to the Utilities menu, appropriately enough called *PrintStatus*.

Selecting it will turn a check mark on or off. If the check mark is turned on then the status box will be displayed when printing.

Changecase XT

Shareware fee: none

Compatibility

Macs: any

System: any, requires *QuarkXPress*

Display: any

The *ChangeCase* XTension allows *QuarkXPress* users to change the case of characters in text boxes to either upper case or lower case by choosing the appropriate menu item from the Utilities menu. This is particularly useful when you look at the screen after a long typing session and find that the [caps lock] key was down!

PiXize XT

Shareware fee: none

Compatibility

Macs: any

System: any, requires *QuarkXPress*

Display: any

PiXize will adjust the size of the selected picture box to match the bounds of the picture within it. To

install *PiXize*, just drag the XTension to the *QuarkXPress* folder. The next time you open the program, *PiXize* will appear under the Utilities menu. The short-cut command for this XTension is [command] [option] [R] with the editing tool selected.

Stars and Stripes XT

Shareware fee: none

Compatibility

Macs: any

System: any, requires *QuarkXPress*

Display: any

Stars and Stripes adds a new starburst tool to the toolbox, allowing complex starbursts to be created instantly. The starbursts are graphics boxes, so can be filled with whatever you like. The XTension also enhances the underline options in *XPress*.

SpeedOpen XT

Shareware fee: none

Compatibility

Macs: any

System: any, requires *QuarkXPress*

Display: any

If you commonly exchange files with other *XPress* users, you probably frequently come across the dialogue box which asks if you want to use the document's own preferences settings or your *XPress* settings. *SpeedOpen* eliminates this dialogue by allowing you to define a default which will automatically be used.

Stamp XT

Shareware fee: none

Compatibility

Macs: any

System: any, requires *QuarkXPress*

Display: any

This QuarkXTension will add a heirarchical date and time stamp menu item to *XPress*' Utilities menu.

Patriot Command



Shareware fee: \$15

Compatibility

Macs: 68020 or better

System: 6.0.7 or better

Display: 256 colours

Patriot Command is an implementation of the (once) popular arcade classic *Missile Command*. The object of the game is to protect your cities from an onslaught of ICBMs and other nasties that an unnamed dictator has decided to launch against the world. Your only defences are three Patriot missile silos which you command. Each Patriot missile is capable of creating an explosion large and powerful enough to destroy any enemy objects that are engulfed by it.

This is an 'enhanced' version of the early-1980s arcade game, but the game play is similar and it's just as much fun.

Default Folder



Shareware fee: \$20

Compatibility

Macs: any

System: any

Display: any

Default Folder is a Control Panel that lets you link a default folder to any application or desk accessory. When you launch a desk accessory or a linked application by itself (that is, not by double-clicking on a document), *Default Folder* sets things up so the file dialogue boxes initially open in your default folder.

Default Folder can also provide pop-up menus in the file dialogue box to allow you to switch between folders and between volumes. The folder menu allows access to:

- The current application or desk accessory's default folder.
- Any one of the last 10 folders you used.
- One of a reserved set of folders 'locked' in the menu.

The volume menu allows instant switching to any available volume. It also provides 'smart volume switching'. *Default Folder* remembers the last folder you accessed on each volume, and switches to that folder rather than to the top of the folder hierarchy when you change disks. This feature works with both the Volume menu and the Drive button.

Default Folder prevents all that switching around when saving files



Alias Styler



Shareware fee: none
Compatibility
Macs: any

System: System 7
Display: any

This is a Control Panel that allows you to change the style in which names of System 7 aliases are written. The normal style is italics, which can be hard to read. bold is much clearer.

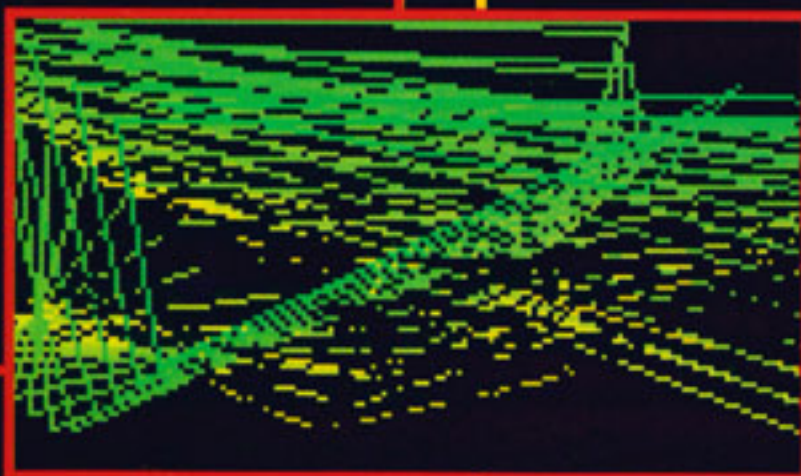
Moiré



Shareware fee: \$10
Compatibility
Macs: any

System: any
Display: any

Moiré is a screen saver; it displays a dynamic, colourful and ever-changing pattern when your Mac has remained unused for a few minutes; the patterns and time delays are fully customisable. *Moiré* can also add a clock to the menu bar.



Moiré: a colourful screen saver.

AutoBoot



Shareware fee: \$15
Compatibility
Macs: any

System: 6.0.4 or later, no virtual memory
Display: any

AutoBoot is a Control Panel/System Extension which will reboot (restart) your Macintosh after a system error or a freeze-up has occurred. This comes in handy when your Macintosh must be 'on-line' all times, even when it is left unattended for long periods of time.

For instance, if you're using *Timbuktu* (a package which allows to operate a Mac remotely by modem) and the machine crashes, you'd have to go and physically restart it. Very nice if the Mac is located at the other side of town! The program can be used in many other situations, too, such as file servers, systems that carry a bulletin board, systems with a fax modem, systems which have file sharing turned on - *AutoBoot* will make sure that as little disruption as possible is experienced if they crash.

AutoBoot ensures that your Mac is always available, even when it's unattended

FileTyper



Shareware fee: \$10
Compatibility
Macs: any

System: any
Display: any

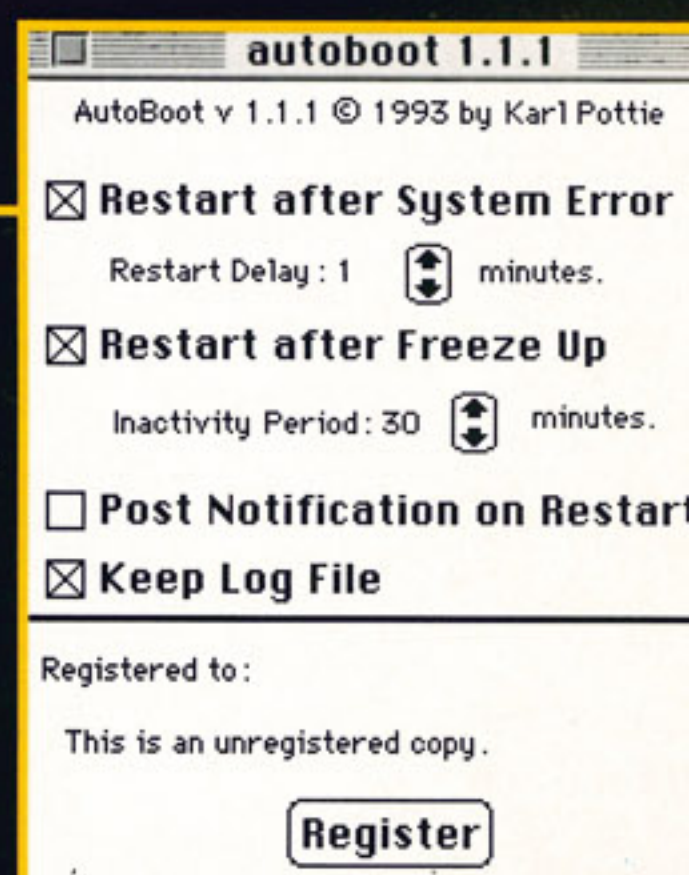
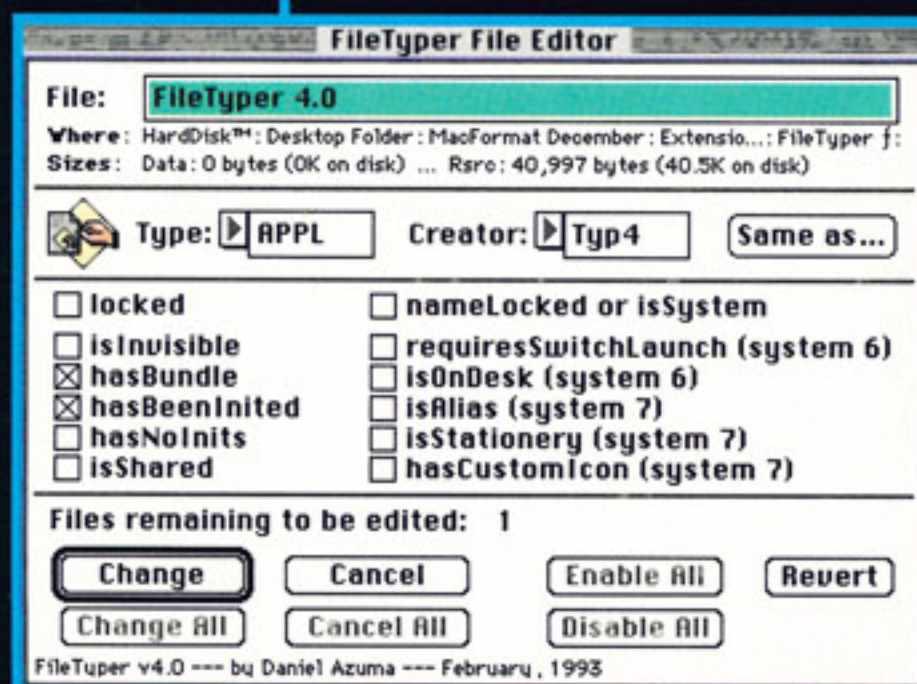
FileTyper is a small application that allows you to edit file types, creators, and Finder flags without having to open a program like ResEdit. Just put *FileTyper* in a handy place, drag files and folders onto it, edit them, and click 'Change'.

Also included with *FileTyper* is a utility with which you can create and edit custom 'AutoTyper's', which are very small applications that automatically make a specific change to files dropped on them. For instance, you can

FileTyper lets you easily alter a file's characteristics

create an *AutoTyper* which changes the creator of TEXT files to your favourite word processor.

Also included is an extension that adds a *FileTyper* command to the Finder's File menu, so you can have quick access to *FileTyper* without cluttering up your desktop.



List Files



Shareware fee: \$5
Compatibility
Macs: any

System: any
Display: any

List Files is a utility that creates text catalogues of any folder or disk you drag on it. The text file can be edited and saved for later use (you'll be able to read or print it with any word processor or text editor). Text catalogues are a very convenient way to keep track of unmounted volumes (like floppies or SyQuests) because they are small, easy to read and easy to search.

Put Away

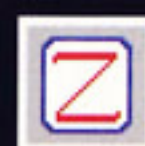


Shareware fee: none
Compatibility
Macs: any

System: System 7
Display: any

Put Away is a System 7 drag-and-drop utility which puts files in folders based on their file types and creators, much like the System 7 Finder puts System-specific files in special folder locations such as the Control Panels folder.

You can configure *Put Away* to recognise as many types, creators and folder locations as you wish.



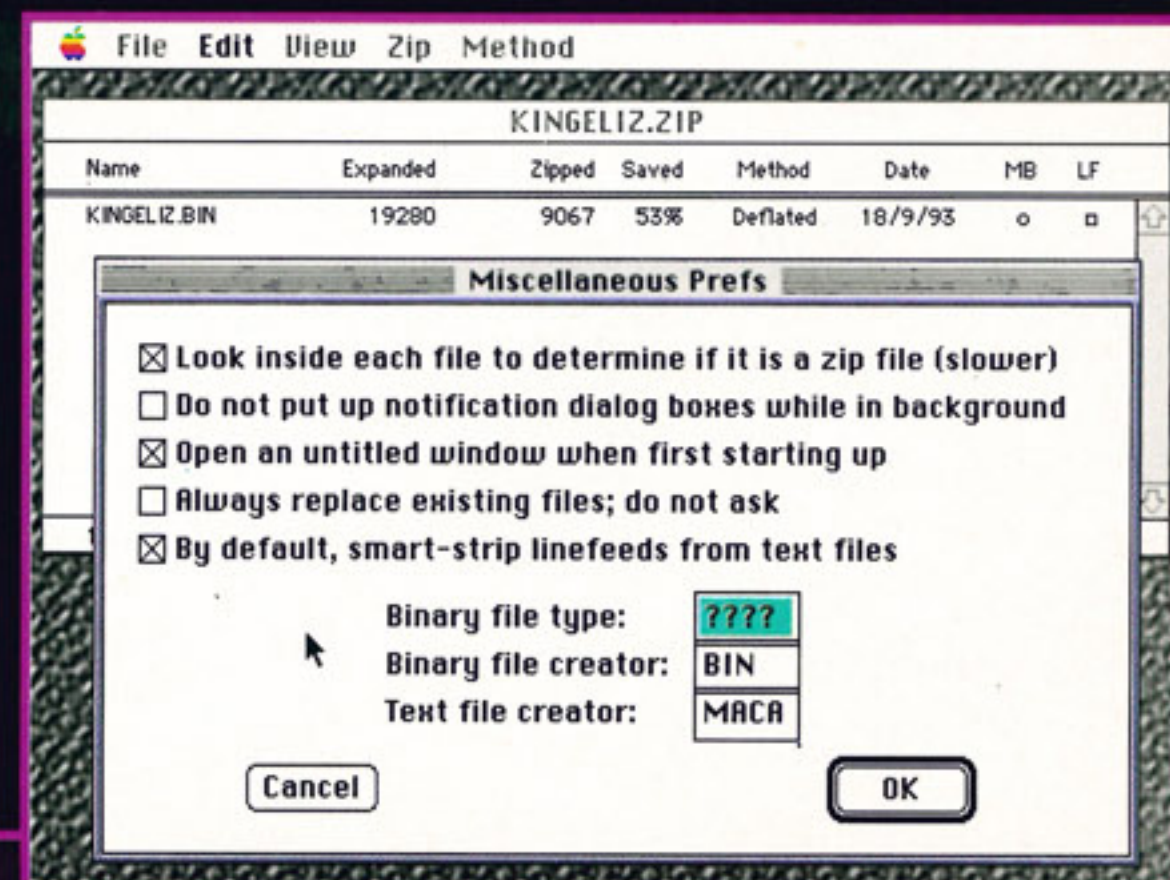
Shareware fee: \$10
Compatibility
Macs: any

System: any
Display: any

In the big, bad, CLI-based world of MS-DOS computers, *PKZIP* is the

industry standard file compression program - the equivalent of the Mac's *StuffIt* and *Compact Pro*. *Ziplt* allows Macs to read and write ZIP archives produced by *PKZIP* and to create new archives that a PC program can read. *Ziplt* supports the new *PKZIP 2.0* format, too.

Ziplt is essential for anyone who regularly swaps files with an MS-DOS user, as you can fit many more files on a disk and know that it can be read at both ends.



Ziplt produces compressed files which are compatible with MS-DOS computers.

Shutdown Delay



Shareware fee: \$5

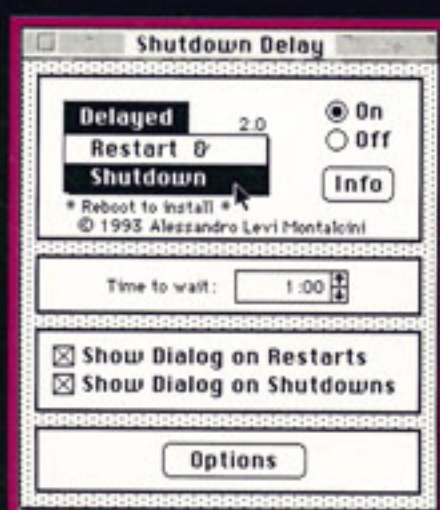
Compatibility

Macs: any

System: any

Display: any

Avoid unnecessary shutdowns!



How often have you hit Shut Down and instantly regretted it? *Shutdown Delay* gives you a dialogue at Restart/Shutdown time that gives you four choices so you can change your mind:

- Wait for the chosen command to be automatically completed after a while.
- Cancel and smoothly return to the Finder.
- Restart (you can always turn a Shutdown into a Restart).
- Shut down (turn power off or safe-shutdown alert as usual).

A fifth key combination choice for power users is Force Quit, which attempts to return to the Finder (this can sometimes recover from system crashes if you get to the dialogue after the restart button of the error alert).

PICTify



Shareware fee: none

Compatibility

Macs: any

System: any

Display: any

PICTify is a screen capturing Control Panel/Extension and is very easy to use. Just drop the icon into the Control Panels folder in the System Folder and restart.

You can use *PICTify* to capture a rectangular area of the screen that you define. Simply click the mouse while holding down the 'hot key' combination that you define via the Control Panel ([shift] [option] is the default). While holding the mouse button, drag until the area you wish to capture is enclosed by the rectangle. When you release the mouse button, a dialogue will appear asking you for the name of the PICT format file and where you want to save it.

Prophylaxis



Shareware fee: \$5

Compatibility

Macs: any

System: any

Display: any

Prophylaxis is a System Extension that forces the user to enter a password whenever the Mac is turned on. It is not difficult for a knowledgeable Mac user to bypass *Prophylaxis*, but it provides enough protection to prevent the casual user from messing with your Mac while you aren't there. If you use this extension, don't forget your password! Should you forget it, then simply start up the Mac from a floppy disk such as the *Disk Tools* disk, and drag the *Prophylaxis* extension out of the System folder.

B-Panel



Shareware fee: \$3

Compatibility

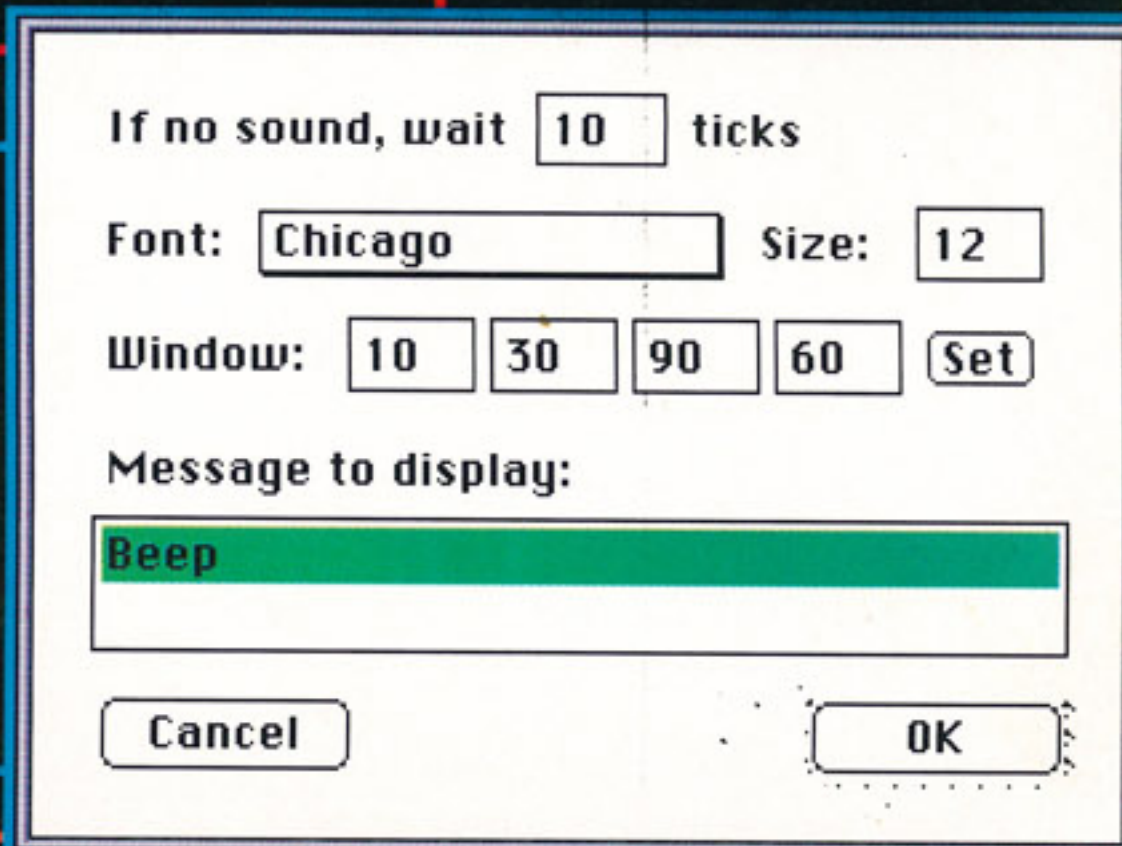
Macs: any

System: any

Display: any

B-Panel is a small Control Panel that lets you configure the system beep by adding a text message to the standard beep procedure. What you get is a window popping up whenever your Mac wants to beep at you. After a pre-defined time, it goes away – with or without a 'real' beep.

Add a silent beep with B-Panel



File Buddy



Shareware fee: \$15

Compatibility

Macs: any

System: any

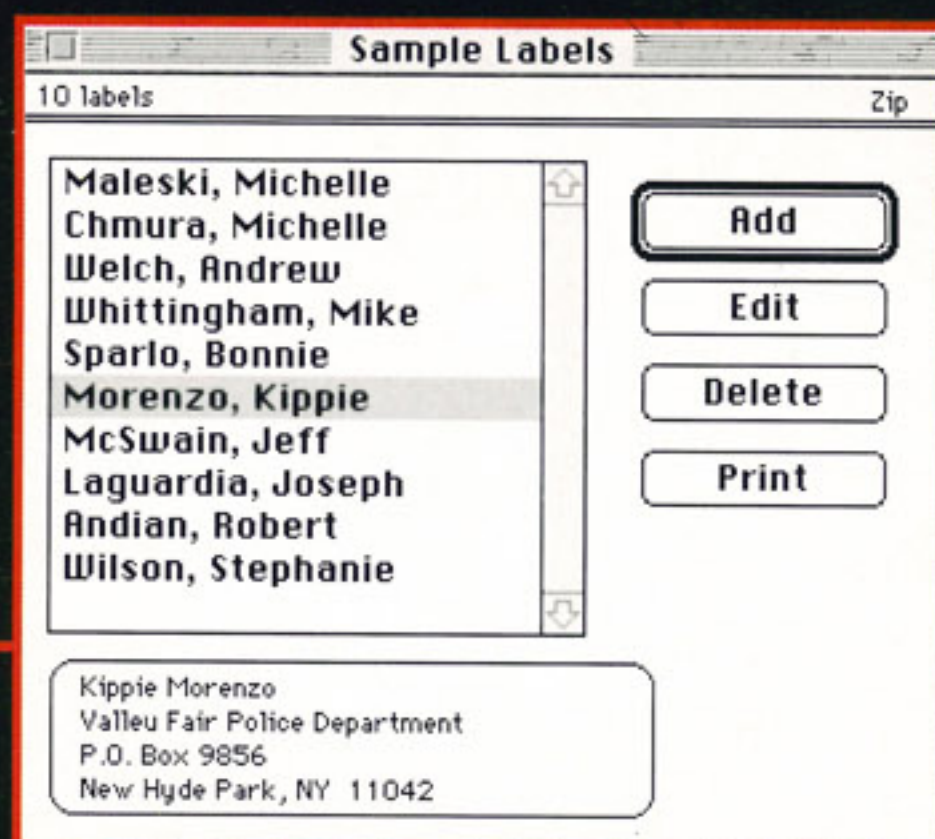
Display: any

File Buddy allows you complete control over your files: their types and creators, aliases, visibility and so on. It also allows you to clean your disk of unused aliases and preferences files, and to rebuild your Desktop without having to restart your Mac.

As well as running as a stand-alone application, *File Buddy* can be used with System 7's drag and drop feature to change a file's type and attributes just by dragging it on to *FileBuddy's* icon.

File Buddy provides a huge range of control over file types and aliases

Label Manager



Shareware fee: \$19.95

Compatibility

Macs: any

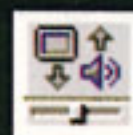
System: any

Display: any

This label printing program is no spring chicken, but it works well. If struggling with your word processor or database's label printing options fills you with dread, give this much simpler approach a try.

Label printing made simple with *Label Manager*

Depth&Volume



Shareware fee: \$5

Compatibility

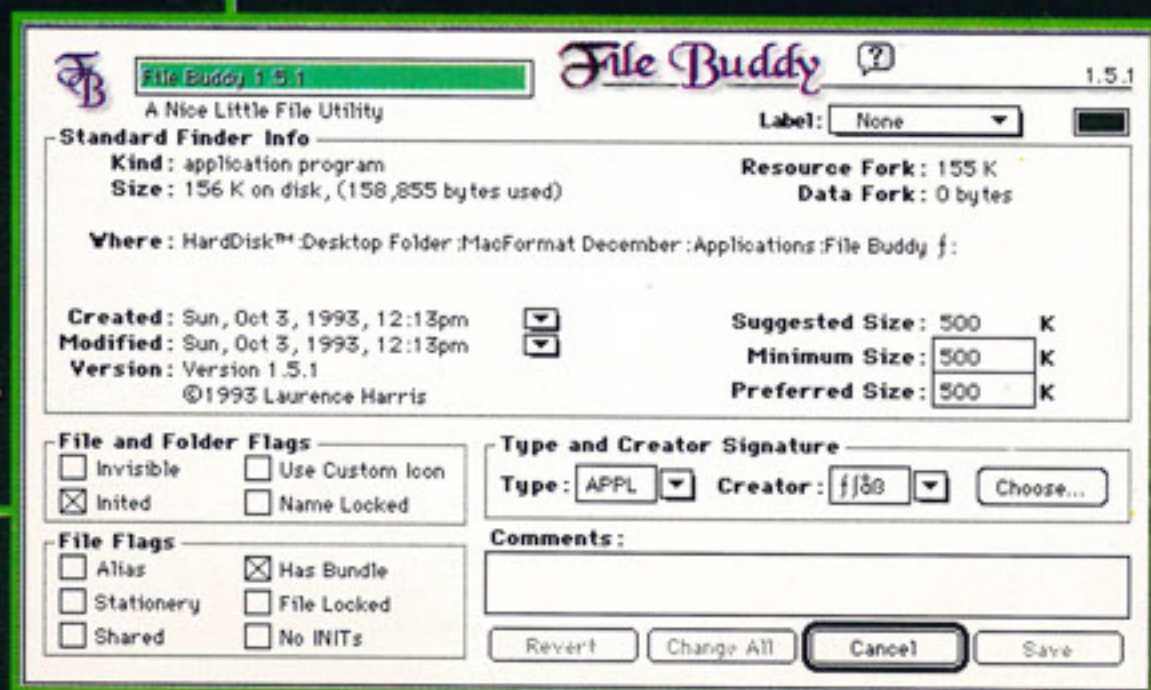
Macs: any

System: any

Display: any

Depth&Volume is a Control Panel that lets you change

the main screen depth (that is, the number of colours displayed) or the speaker's volume on the fly with a keystroke. *Depth&Volume* is very small (it uses about 2K of System memory) and very easy to use.





This is...

"A NEW way of Shopping"

"Why pay more? - Dial 071 724 4104"

computer warehouse

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



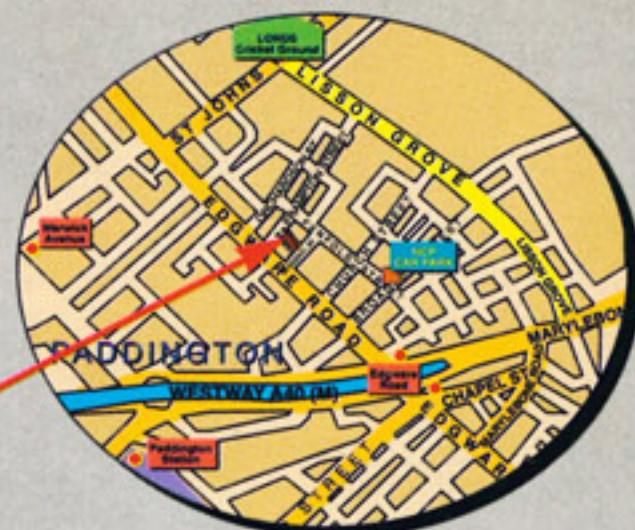
Authorised Reseller

OPENING SOON!

THE CW TECHNOLOGY STORE
Another branch of CW will open in November. - It's gonna be a dandy!



Easy to find - just off Edgware Road, London



UK's Premier Macintosh Mail Order Store

NEW MAC LC 475

THE POWERFUL NEW LC 475
How's about a Quadra in an LC case. Well that's what the new LC475 almost is. Mega power for little cash and ready for you at CW's favourite store.

NEW PRODUCT

LC475 4/80 WITH 14" PERFORMA PLUS COLOUR DISPLAY + STD KEYBOARD
£899.00

MACINTOSH LC475
It's the fastest LC ever and here at CW! This little beauty packs a 20Mhz Motorola 68040 processor, and that means bundles of power for business, entertainment and education applications.

- Motorola 68040 processor running at 20Mhz
- 4Mb RAM (max 36)
- 80Mb hard drive
- LC expansion slot
- Built-in monitor support to 21"
- System software
- Desktop Mouse
- Energy Star compliant
- Almost as fast as a Quadra 700!

LC475 4Mb RAM, 80Mb DRIVE
£799

LC475 NO KEYBOARD 4Mb RAM 80Mb HARD DRIVE
£799

LCIII MEGA DEAL

MACINTOSH LCIII
The superb LCIII features a zippy 25Mhz Motorola 68030 processor which makes it the ideal machine for general business tasks and home entertainment. AND now The Warehouse has it at a great CW price. Better hurry - at this saving they won't hang about!

- Motorola 68030 processor running at 25Mhz
- 4Mb RAM (max 36)
- 80Mb hard drive
- LC expansion slot
- 16" monitor support
- System 7 software, mouse and standard keyboard included

CHEAPEST COLOUR MAC

LCIII 4MB RAM, 80MB DRIVE
£599

LCIII 4/80 14" PERFORMA PLUS COLOUR DISPLAY TILT SWIVEL BASE .28 DOT PITCH
£699.00

TOP CW VALUE

Classic II 2/40

ALL THE HARDWARE YOU NEED FOR LESS THAN £400!

Perfect for work, education and entertainment the Macintosh Classic II comes complete with Keyboard, Mouse, System 7 software.

- 2Mb RAM (easily expandable - see sidebar)
- 40Mb internal Hard Drive
- Built-in 9" mono screen
- Compact and portable - the ideal computer where desk space is at a premium
- The complete system

CLASSIC II 2Mb RAM 40Mb Hard Drive
SAVE £399

2 Megabyte Upgrade **£69.95**

LIMITED OFFER



...and corporate too!

Newton IS HERE AT CW!

Newton Message Pad

The Message Pad™ is for anyone who needs to gather, organise and communicate information. With Newton CW can organise his life, take notes, turn doodles into drawings, format and print letters, communicate with his PC, - even send a fax!

- NotePad - Write down notes, memos, sketches
- To-do list - Schedule events, things-to-do etc
- Names & Phonebook file - So easy to use
- PCMCIA slot for adding software

MESSAGE PAD INC. REC-CHARGE BATTERIES & CASE
£519

NEWTON MESSAGE PAD INC. BATTERIES & AC ADAPTOR
£499

NEWTON SOFTWARE CARDS IN STOCK!

CW has got the lot + loads of PCMCIA cards from business application to great entertainment titles. eg: Columbus Mystery capers and Fortune 500. We also have in stock a great selection of Newton accessories.

ONLY £2445

ONLY £4790

A3 Apple Color Printer *LIMITED OFFER*

SAVE £££'S TODAY THE CW WAY!



A3 COLOR PRINTER FOR LESS THAN £600!
Look at the features, check the spec and the ogle the amazing CW price. No you're not dreaming. This superb 360dpi A3 colour printer is now at a crazy low price!

- 360dpi ink-jet engine for superior quality
- ColorSync
- Plain paper
- 64 scalable TrueType fonts
- SCSI connection
- Prints to A3!

APPLE COLOR PRINTER SAVE £££'S
£599

Apple Select 300 *LIMITED OFFER*



A LASER FOR THE PRICE OF AN INK-JET!
Whoops! CW's done it again. Here's a LASER printer for everyone. Why compromise on an ink-jet when you can have smooth text and graphics for the same money?

- 300dpi Apple laser printer
- Networkable via GrayShare
- Superb graphics
- 250 sheet A4 tray
- 39 TrueType fonts

SELECT 300 LASER
APPLE SELECT 300 LASER SAVE £541
£399

Apple Select 310 *LIMITED OFFER*



POSTSCRIPT LASER FOR LESS THAN £550!
YES! A quality 300dpi Adobe Postscript A4 laser printer with 39 scalable fonts and speedy 5 page-per-minute operation. These have been selling like hot cakes so hurry, last few left.

- RISC processing
- Great graphics
- True Adobe Postscript
- Prints from Mac or Windows
- 250 sheet tray
- A4 paper size

SELECT 310 POSTSCRIPT
APPLE SELECT 310 LASER SAVE ££££
£549

071 724 4104

No 9 HATTON STREET. LONDON NW8 8PR FAX: 071 724 3775



LOWEST PRICES

CW's HUGE buying power means he can offer the absolute LOWEST UK prices.



VISIT THE WAREHOUSE

"Big time bargains & service too The Warehouse is the place for you!"

POWERBOOK SAVINGS!



Powerbook 165

- 33Mhz 68030
- 16 grey level Supertwist backlit screen
- Runs external colour monitors direct
- 4-14Mb RAM
- 80Mb Hard Drive
- Built-in floppy disk drive
- Optional Fax/Modem

BUNDLE WITH WORKS

£1099.00

LIMITED STOCKS AT THIS PRICE

BUNDLE WITH FAX/MODEM

£1199.00

POWERBOOK 165 EXCELLENT VALUE

A 33MHZ MACINTOSH NOTEBOOK FOR UNDER £1000!

Terrific value greyscale Powerbook features a supertwist display providing 16 levels of grey letting you display crisp text and CW stunning graphics. It's also CW fast with a Motorola 68030 running at a speedy 33MHz - that's quicker than a lici and llvx!

- Motorola 68030 processor running at 33Mhz
- 4Mb RAM (max 14Mb)
- 80Mb drive (160Mb option)
- 16 grey level backlit screen
- Direct colour display output - connect external Apple & VGA monitors

POWERBOOK 165 4/80

POWERBOOK 165
4Mb RAM
80Mb H. DISK

£999

EX VAT
£1174 INC VAT

LIMITED STOCKS AT THIS PRICE

Mac Quadra 950

SAVE ££ ON THE MOST EXPANDABLE MAC TODAY!

The Quadra 950 combines superb expansion options with CW blinding speed. If you're a serious user into graphics & high end publishing or if you're constantly running out of slots you need this machine.

- 33MHz 68040 with integrated PMMU & math co-processor
- Built-in Ethernet
- 5 NuBus + PDS slots
- CW Massive maximum 256Mb of RAM
- 3 internal 5 1/2" storage bays
- Built-in video up to 24bit on 16"

Let CW build a 950 configuration for you!

QUADRA 950
8Mb RAM
230 Mb H. DRIVE
SAVE!

£2495

CW SPECIAL DEAL



CW CHOICE

Colour Duo & More Deals

PowerBook Duo 270c

This is the Duo CW loves. A speedy 33Mhz 68030 processor, co-processor, beautiful Active Matrix screen displaying 1,000s of colours and built-in monitor support!

- 68030 processor running at 33Mhz
- 4Mb RAM
- 240Mb Hard Drive
- Active Matrix 1,000s col display
- Built-in monitor support

DUO 270C 4/240

£1999



STOP PRESS..180C CRASH! CALL FOR SPECIAL 180C DEAL!!

Duo 250

- 33Mhz 68030
- Active Matrix screen
- 4Mb RAM. 200Mb H.Drive
- Built-in monitor support

NEW! DUO 250

£1699

PowerBook 145B

- 25Mhz Motorola 68030
- Backlit Supertwist
- 4Mb RAM. 80Mb H.Drive
- Very Limited Offer

POWERBOOK 145B

£949

Duo 230

- 33Mhz 68030
- 16 grey level screen
- 4Mb RAM. 80Mb H.Drive
- Built-in monitor support

DUO 230

£899

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

computer warehouse

Authorised Reseller

Mac Quadra 650

THE MAC YOU'VE BEEN WAITING FOR!

And at a CW price you didn't expect. What an amazing piece of kit this is. Masses of power from the Motorola 68040 processor running at a Quadra 800 matching 33Mhz, built-in video to 21", 3 Nubus slots, space for an optional CD-ROM drive, PDS slot and much more.

- 33MHz 68040
- 4Mb RAM (max 136Mb)
- 160Mb Hard Drive
- 3 NuBus Slots • PDS Slot
- Built-in video up to 21"
- Built-in Ethernet

NEW! PRODUCT

QUADRA 650
4Mb RAM
160Mb HARD DRIVE

£1299

This is...

"Zippy Zippy here we go - prices at an all-time low!"



QUADRA 650

- 33Mhz 68040
- 3 Nubus slots
- Optional CD
- Monitor support



Pictured with optional RGB monitor, keyboard & CD-ROM drive

NEW AV MACS + GREAT DEALS & BIG DISCOUNTS ON QUADRA'S

CW SPECIAL DEAL



Pictured with optional RGB monitor & keyboard

Macintosh Quadra 610

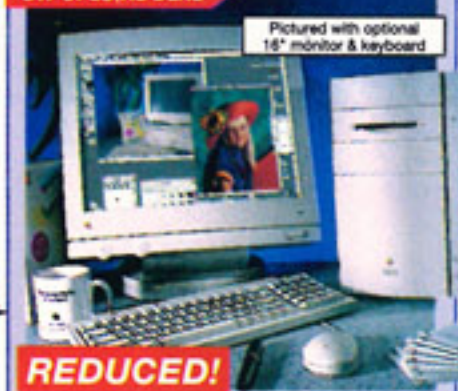
CW gives you all the power of an '040 Macintosh for less than a grand! The Quadra 610 is ideal for DTP, graphics & other power hungry applications. Plus, like all Quadra machines, it has Ethernet built-in!

- Motorola 68040 processor running at 25Mhz
- 4Mb RAM (max 68Mb)
- 160Mb Hard Drive
- 21" Monitor support
- Optional CD
- Mouse, System software, Microphone included

QUADRA 610 4/160

£975

CW SPECIAL DEAL



Pictured with optional 15" monitor & keyboard

Macintosh Quadra 800

Maximum oomph at reasonable cost. Now CW can offer the superb 33Mhz Quadra 800 at a greatly reduced price. The 800 is a serious user machine designed for high-end graphics, DTP and modelling.

- Fast Motorola 68040 processor at 33Mhz
- 8Mb RAM (max 136Mb)
- 230Mb Hard drive
- Monitor support to 16bit on 16"
- 3 NuBus slots
- 5 internal bays
- Optional CD-ROM
- Mouse, System software

QUADRA 800 8/230

£1999

CW LIMITED OFFER



Pictured with optional AV monitor & keyboard

Macintosh Centris 660AV

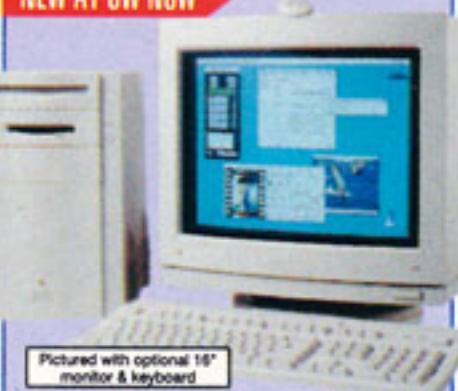
Advanced Multi-Media functionality & 16bit audio! CW loves the great video capabilities and the on-board DSP chip for speedy graphics editing and CD-quality sound. Amazing capabilities!

- Motorola 68040 processor running at 25Mhz
- 55Mhz DSP chip
- Built-in GeoPort for connection to ISDN, PABX & direct fax capability
- Optional AV monitor inc. stereo speakers & mic
- Built-in CD-ROM

CENTRIS 660AV 8/80 CD

£1499

NEW AT CW NOW



Pictured with optional 15" monitor & keyboard

Macintosh Quadra 840AV

The most powerful Macintosh made and a real CW powerhouse! 40Mhz Motorola 68040 with a 66Mhz DSP chip means CW blistering performance for video, audio and graphics applications.

- Fast Motorola 68040 processor at 40Mhz
- 8Mb RAM (max 136Mb)
- 500Mb or 1Gig hard drive
- Monitor support to 24bit on 16"
- 3 NuBus slots
- On-board 66Mhz DSP
- Built-in CD-ROM
- Mouse, System software

QUADRA 840AV 8/500 CD

£2999

EDUCATION DISCOUNTS!

Call CW NOW to see if you qualify for special extra Education discounts!

OFFERS ONLY AVAILABLE WHILE STOCKS LAST!



FAX FOR A QUICK QUOTE

Fax 071 724 3775 with your requirements and we'll fax back a CW "super quote".



SEE US AT THE APPLE EXPO '93
OLYMPIA LONDON 24th -27th NOV



071 724 4104

No 9 HATTON STREET, LONDON NW8 8PR FAX: 071 724 3775

DragAnyWindow



Shareware fee: \$5
Compatibility
Macs: any

System: any
Display: any

DragAnyWindow is a Control Panel that allows you to easily move any kind of window, including dialogues, alerts, standard Open and Save dialogues, game windows and other non-movable windows. It's very useful for old applications designed for the 9-inch screen (which often use fixed windows), and for moving modal dialogues.

Chuuzr

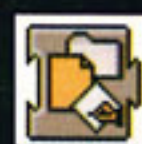


Shareware fee: \$20
Compatibility
Macs: any

System: any
Display: any

Chuuzr adds a hierarchical menu to the Chooser in the menu, which allows you to select and mount AppleShare file servers instantly, rather than having to open the Chooser and select the appropriate one. It is not compatible with *BeHierarchic*, though – so you can only use one of them at

ICONOpen!



Shareware fee: \$10
Compatibility
Macs: any

System: any
Display: any

As you navigate through your files, folders and disks via the Open File dialogue box, *ICONOpen!* displays the icon of the currently selected file. If the file is already open, *ICONOpen!* displays its icon in the opened state – to let you know that it's unavailable. If the icon has been assigned a label colour in the Finder, the

PowerClicks



Shareware fee: \$3
Compatibility
Macs: any

System: any
Display: any

PowerClicks is a Control Panel which enables any Macintosh to:

- Make a key combination act just like the mouse button
- Make a different key combination toggle the mouse button on and off
- Disable the 'real' mouse button (in case it's broken...)
- Assign graphical effects to mouse clicks

These are particularly useful for PowerBook users having trouble with their trackball, but can also assist when using graphics and drawing programs.

MemINIT



Shareware fee: none

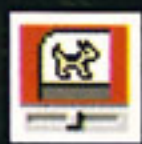
Compatibility
Macs: any
System: any
Display: any

MemINIT monitors the amount of memory the current application has free. It uses either a bar in the menu bar or a pie chart in the menu to show how much is free – if you find that almost all the memory is used it might be a good idea to increase the program's memory allocation.

MemINIT lets you keep an eye on your memory usage.



Zipple

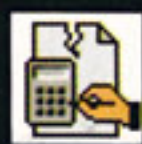


Shareware fee: \$10
Compatibility
Macs: any

System: any
Display: any

Zipple is an Extension and Control Panel which places an animated image of your choice over the title of the Apple, Balloon Help, or Application menu (in colour if you have a colour screen). Supplied animations include a rotating apple and the planet earth, but you can design your own. Pointless, but fun!

Verifile



Shareware fee: \$5
Compatibility
Macs: any

System: System 7
Display: any

Verifile is a small utility that calculates a checksum and a CRC-32 on both the data and resource forks of any file that's dropped on to it. This is useful if you want to compare two files that are not on the same machine. If the numbers displayed by *Verifile* match, chances are that the two files are identical.

Zoomin'



Shareware fee: none
Compatibility
Macs: any

System: any
Display: any

Zoomin' is a simple little extension that will speed up your Mac's window opening routine up to 600%. That's all it does – but it's vital for people with slower machines, where every little speed increase is worth its weight in gold!

Backing up your cover disk

We recommend that you back up your cover disk before you do anything else with it, because floppies can easily become corrupted. Then work with the backup – keep the original safe. All you need to do to back up your disk is this:

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

If your cover disk won't work

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

If it still won't work then return the disk by 20 December, along with a stamped addressed envelope, to:

MacFormat November Disk
Disk Copy Labs Ltd
PO Box 21
Daventry
NN11 5BU

We regret that we cannot answer telephone enquiries on faulty disks or disk installation.



ClarisWorks is simple enough to let anyone tear through their work.

When it comes to slashing, ripping and tearing through his workload, there is very little you can teach Mr Rex. His egg-sized brain sees to that. But with the help of a convenient time slip, a mega Macintosh and a lot of artistic licence, we showed him that you don't have to be highly evolved to take full advantage of the best-selling integrated Macintosh package.

ClarisWorks 2.0 is simple to use because the word processor, database, spreadsheet, painting, drawing, outlining, presentation, charting and communication tools are seamlessly integrated. There's no need to leap out of a spreadsheet analysing Stegasaurus-to-Diplodocus kill ratios in order to write a strongly worded memo about it to Allosaurus. You can stay in your original document.

Not only that, but each tool has the same look and feel. Once you've learned one, you've mastered the lot. Exclusive one-button short cuts, plus on-line help and the elegant, intuitive interface all make learning and using the software even easier. ClarisWorks has all the tools you need for the office, at home and in school. And it's fast and compact, taking up less than 600K of space.

ClarisWorks' recommended retail price of £195 looks like its been frozen since the last Ice Age and makes it unbeatable value for money. If only the same could be said for giving a 30' high scaly carnivore customer service.

To order your dino-friendly copy of ClarisWorks, see your local Claris authorised dealer today.

You can upgrade now from ClarisWorks 1.0 for just £70.50, inclusive of VAT and postage. You can also trade-in from other integrated packages for just £117.50, inclusive of VAT and postage. Simply call Freephone 0800 929005 in the UK or Freephone 1 800 732732 in the Republic of Ireland. Alternatively, return the coupon for more information.

Yes, I want to know more about ClarisWorks 2.0.

(Please print)

First Name

Last Name

Institution

Address

.....

Town County

Postal Code Tel No

Please complete and send this coupon to
Claris Information Service,
PO Box 2935, Dublin 1, Ireland.
Or send your request on
FREEFAX 0800 929015. MACF1293

CLARIS

Peter Gabriel plays on CD-ROM

Peter Gabriel, whose live shows this year have been Mac-controlled multimedia extravaganzas, is coming to the Desktop.

Realworld Multimedia, a spin off of the singer's Realworld Records, is working on a CD-ROM provisionally entitled *Experience*. The CD will incorporate recording, video making and live performance sections introduced by Gabriel, and will have a game element to make it interactive.

As well as Gabriel's work, the CD-ROM will feature Realworld's world music roster, and it will be possible to explore the world and discover more about the local music.

Perhaps most interesting though is a simulation of the Realworld recording week, where dozens of artists descend on Wiltshire and jam furiously. With the CD you'll be able to select your own combination of musicians and hear the results, as well as trying out instruments from around the world yourself.

Experience will be out around Christmas; more details soon.

AppleExpo set to draw crowds

Tens of thousands of Macintosh users are expected to descend on London's Olympia later this month for the biggest show of the year - AppleExpo 1993.

The show, which runs from November 24 to 27, is an opportunity to see an immense variety of hardware and software in one hall. Most manufacturers choose AppleExpo to show off their latest products, and this year is no exception.

As well as the new

products, there is a series of seminars aimed at new Mac users, and, of course, there's the chance to meet the MacFormat team in person!

Highlights of the show (apart from meeting us, that is) include the first chance to see Claris' new pair of *ClarisImpact* and *ClarisDraw*, a major upgrade of the *Helix Express* database and the Nikon CoolScan 35mm scanner. All the major Mac companies

will be there, and every conceivable application will be on display.

An 'Applications Area' will have dozens of Macs loaded with the latest software for you to try out for yourself. And of course the Newton will be there in force.

The exhibitor's list is huge, and the show is expected to be crowded throughout its four day run. Call 081 984 7711 for ticket information.

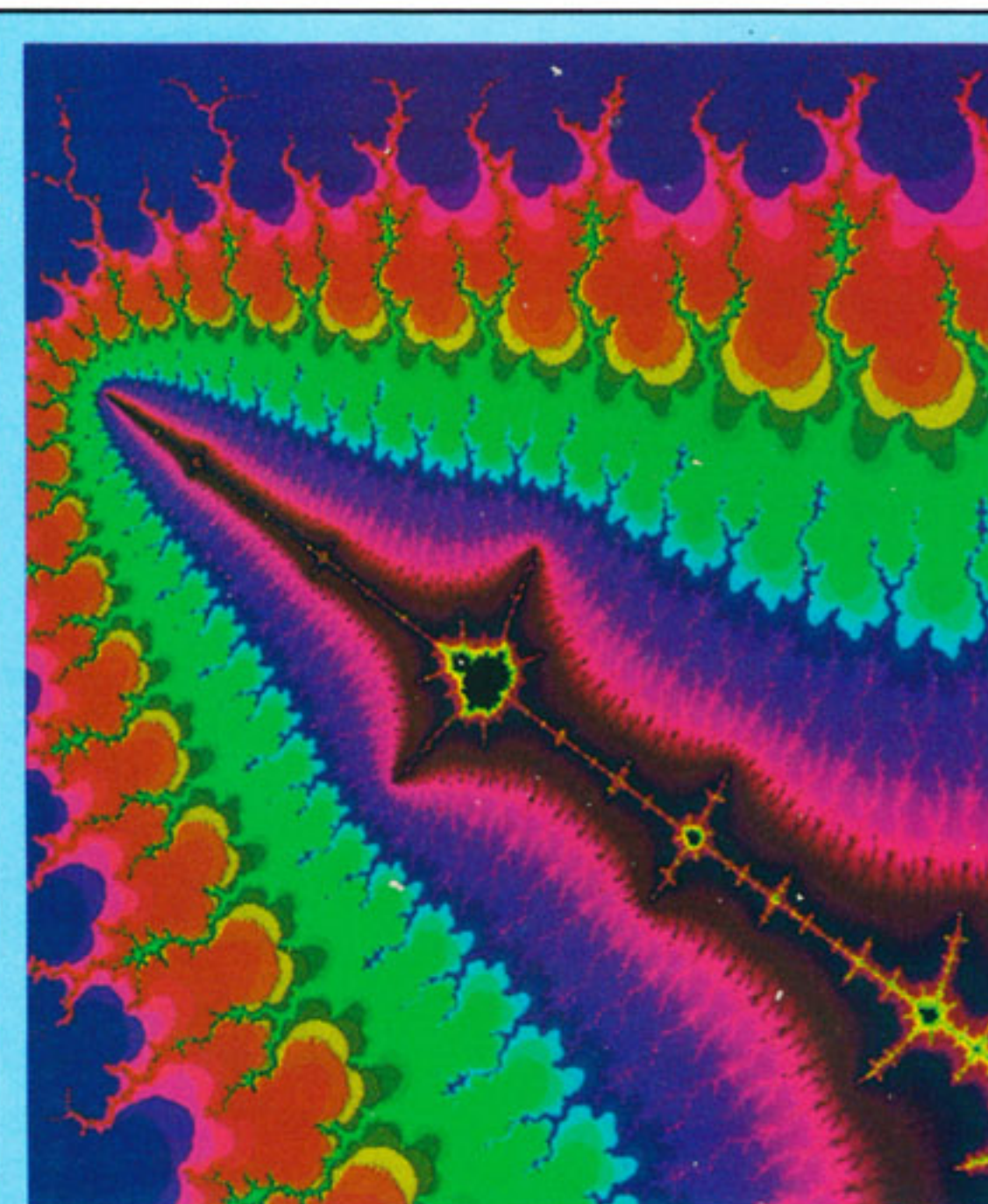
■ Turn to page 19 for our AppleExpo preview.

Apple



Sponsored by MacUser magazine

A date for your diary: AppleExpo at Olympia from November 24 - 27



Lazy fractals

Explore the Mandelbrot set without having to wait for hours while they are calculated with a new CD-ROM disk from Rocky Mountain Digital Peaks.

The disk, *Calculated Beauty*, contains more than 6,000 square feet of pre-calculated fractal, along with a viewer program. Plus you can hear the fractals by converting them to sounds!

The disk also contains software to calculate your own fractals. *Calculated Beauty* costs \$44 from Rocky Mountain on 0101 303 258 3779.

Tiny tablet

A graphics tablet small and light enough to use on your lap is available from CalComp.

Graphics tablets allow you 'draw' directly on the tablet and the results are displayed on the screen.

The DrawingSlate is just 3mm thick, weighs less than 400 grammes, and is operated with a pressure-sensitive cordless pen. It is accurate to 0.01inch.

The price is £323 for an A5 tablet; other sizes are available. Contact CalComp on 0734 320032.

APPLE BITES

Surface CD

128 different kinds of brick, metal, stone, wood and skin are now available on a CD-ROM from Pixar.

The collection of images, *Pixar One Twenty Eight*, is intended for presentations and graphics work. Pixar reckons that images can be seamlessly tiled to give large areas of texture.

£281 from distributor Computers Unlimited on 081 200 8282.

Team work

Mac-mediated teamwork will be made easier by *TeamAgenda 1.5* from MacVank.

The program allows groups of people to automatically co-ordinate their diaries, and the new version adds support for non-working holidays - presumably to the relief of those using the old version.

The upgrade is free to existing users: call MacVank on 0932 222821.

Mouse tips

A colour-coordinated set of mouse mat, mouse cover and wrist rest is described by its maker Inpace as "a colourful triumph of ergonomic technology".

Inpace reckons the mouse cover "maintains constant metacarpal elevation", while all three are available in raspberry red, jade green or royal blue.

Prices start at £7.95, call Inpace for more on 0993 706303.

Sales dip

Mac software sales have slipped slightly in the last few months.

A survey by the Software Publishers Association of European software sales showed Mac software decline slightly by 1% to just over \$34 million. Meanwhile DOS software dropped by 43% and Windows programs soared by 47%. Windows now has 72% of the market, compared to the Mac's 8%.

Big screens

Two power saving large-screen monitors from Radius can cut energy usage by up to 87%.

The TDP/20gs and TDP/21gs are both greyscale devices which can display up to 256 greys using the built in video of Centris and Quadra machines. Both feature 1,152 x 870 pixel resolution.

Prices are £1,174 and £1,409 respectively, call Radius on 0483 772773.

1995 MACS LIKE "SOMETHING OUT OF STAR TREK"

A range of designer Macs intended for smarter offices where PCs just will not do is planned for next year.

Rumours from the States describe a computer which "wouldn't look out of place on the set of *Star Trek: the Next Generation*", with rounded edges and a heavily styled appearance: not so much a computer as an appliance, more a computer as furniture.

Key features of these Macs, code-named Pomona, include

a colour active matrix LCD display and an infra-red wireless keyboard.

The word is that the mouse will be replaced by a touch sensitive pad, and the machine will incorporate a built-in TV camera for video conferencing.

It may look and sound like a science fiction machine, but all the technology is here now with the AV Macs and the PowerBook range; all Apple has to do is put them together.

The designers of the Pomona

are thought to want to build it with the PowerPC 603 chip, but that was only announced last month and is unlikely to ship in quantity in time. A Motorola 68040/DSP combination seems the most likely.

Surprisingly, despite its expensive designer appearance Apple is said to be hoping to price the machine at an absolute rock-bottom level. The same price as the Classic II has even been mentioned, but seems wildly optimistic.

The Pomona will use the AV technologies to act as an answering machine and voice mail device. The use of an LCD screen means the monitor can be very thin, and LCDs are also more relaxing on the eye and use less power.

The largest screen available at a reasonable price at the moment is just 10.4 inches in size. The monitor would have built-in stereo speakers and a microphone, as well as a camera.

FontWorks fights font theft

FontWorks is taking the fight against font piracy seriously and is offering a free guide to getting legal with fonts.

The *FontWorks Guide to Legal Typeface Use* contains advice on getting and keeping your set-up legal, and includes draft agreements for employees to sign and details on how to obtain site licences for fonts.

The booklet also contains advice on staying within the law when using a typesetting bureau. For your free copy, call FontWorks on 071 608 1854.

● Discover more about the problems of using a bureau on page 39.

Super-fast LC will cost under £1,000

The powerful LC475, revealed in last month's **MacFormat**, will sell for under £1,000, writes Sally Taylor.

The latest extension to the LC line will be the fastest yet, with a 68LC040 processor running at 25MHz, equivalent to the old Centris 610. Prices start at a recommended £967 for the basic 4/80 model and £1,146 for a machine with 8Mb RAM and 160Mb hard disk. A 4/80 with Apple 14-inch monitor will cost £1,174.

The machine will also be available as part of the Performa range of consumer Macs, dubbed the Performa 475.

Besides speed and price, the new LC's other selling points include RAM expansion capability to 36Mb, the ability to use a 16-inch monitor with thousands of colours



Power without the price, as another home computer maker might say

and Energy Star compliance. This means the machine cycles down to around 10 per cent of its usual electricity consumption when it's not being used.

And there's good news for LC, LCII and LCIII owners – you can upgrade to the 475 by swapping the logic board. No price has

been announced as yet.

Apple claims that the 475 measures up to the Quadra 610 (formerly Centris 610) as regards price and performance – in fact the price tag is a third the cost of the comparably fast Quadra 700 when it was first released.

This won't be the last LC upgrade either: "We see the LC continuing for a while yet, and even becoming a part of PowerPC development," said a spokesperson.

Call Apple free on 0800 127753 for more information.

■ The release of the LC 475 heralds the demise of the LCII, further streamlining the Apple computer range. It also provokes a big price drop of the LCIII/Performa 450, likely to be as low as £880 for a 4/80 machine with monitor.

APPLE BITES

Trade up

Macintoshes should become more widely available now they are being distributed to the trade by Frontline rather than Apple.

The change comes after Apple's restructuring which left it unable to handle distribution properly. Frontline handles 6,500 products and distributes to 7,500 resellers. Other key clients include Claris.

Frontline is on 0256 847110.

Scots board

Scottish modem owners now have their own Mac-based bulletin board, ETEL. The board uses the First Class system, which gives a Mac-type desktop rather than having to type arcane commands. It's based at Telford College in Edinburgh and has a CD-ROM drive on line so there's plenty of shareware to be had. A sub is £28, £21 for students. Call on 031 332 9949; speeds up to 14,400.

Chat line

The *TeleFinder* bulletin board software has been upgraded to version 3.1. Additional features are real time chat, thumbnails of graphics and QuickTime movies available before downloading and the ability to style text in messages, so you can emphasise things with italics.

Bulletin board sysops should contact A M Micro Distribution on 0392 426473, the recommended price is £434.

Virtual Mac

A Mac-based virtual reality headset has been created by Ambitron. Its CrystalEyes system uses a special switching LCD goggles and head movement is detected by an ultrasound array mounted in the monitor sampling 50 times a second.

Don't expect any great games for it though, as it's designed for use with modelling software. Ambitron is on 0734 440500.

Dantz deal

A hard disk back-up program complete with 10 HD disks to get you started is available from Principal.

Dantz DiskFit can create a back up of your disk in case anything goes wrong, and after the first back up only smaller incremental ones are necessary, cutting disk use.

The *Dantz DiskFit Backup Kit* costs £46 from Principal on 081 813 5656.

Have Powerbook – will travel

Globe-trotting PowerBook users could find a set of accessories from TeleAdapt come in handy.

The Powerbook Portfolio range includes software to defer faxes until the machine is properly connected, and to monitor the battery level. *PowerSwap* allows batteries to be changed without powering down, a power cable extender allows access to tricky sockets, and *PowerPrint* allows access to over 1,000 brands of printer.

Also in the range is an 'Air Force quality' steel lock to prevent your PowerBook being swiped. Each item in the range is individually priced, from £159 for *PowerPrint* down to £15.26 for the extension cable.

TeleAdapt also offers adapters which can, it claims, connect you to any telecom system in the world. Call TeleAdapt for more on 081 429 0479.

XPress 3.2 gets a colourful upgrade

By the time you read this *QuarkXPress* 3.2 will be shipping at last, with a sheaf of improvements added to its features list.

The upgrade has enhanced colour facilities and now features full interoperability with the Windows version of *XPress*. Besides these there are a number of smaller enhancements, and a claimed overall increase in speed.

XPress 3.2 includes the *EfiColor* colour matching system. Using this, colour can be relied upon to be the same at every stage of the process from scanning to screen and final output, either on a cheap colour printer or separated film.

A big advantage of using the *EfiColor* technology is that it allows direct colour separation of colour continuous tone images, eliminating the pre-processing into

compatible format which is currently often required.

XPress 3.2 is file-compatible with version 3.12 on the PC, so users can swap files seamlessly between platforms; font matching problems are eliminated with the font substitution system.

XPress 3.2 is available now, and the upgrade price is £176 from version 3.1 and £305 from version 3.0. Quark UK is on 0483 451717.

● Look out for **MacFormat's** review of *XPress* 3.2 in next month's issue.

Those extra features in full...

- AppleEvents support for scripting and macros
- Compatibility with Windows version
- Fonts mapped between PC and Mac
- Auto Save saves at intervals
- Auto Backup keeps previous versions of the document
- Up to 25 documents open at once
- Collect for Output gathers together all graphics in one folder
- Colour Swatch Drag for easy colouring
- Cool Blends adds more graduated tints
- Save pages as DCS files
- Suppress printout of individual pictures
- Multiple picture updating
- Drag groups between documents
- Copy linked boxes
- Flip text and picture boxes horizontally
- Flip text and picture boxes vertically
- Slant the contents of text and picture boxes
- Scale text by dragging
- Smart 'curly' quotes when typing
- Adobe Multiple Master font support
- Drop caps up to 16 lines deep
- Vertical character scaling
- Force justify at the end of paragraphs
- True typographers' em space
- 'Next style' to speed up formatting
- Ability to show style overrides
- Intelligent resolving of name conflicts in imported styles
- Replace deleted styles
- Drag and drop editing
- Greeking of pictures during scroll
- Automatic window tiling
- Use multiply and divide in dialogues
- Line width pop-up on Measurements palette
- Network-compatible templates

A duo of new Duos

Details have firmed up on the two new PowerBook Duos we told you about last month.

The Duo 250 will feature a 640 x 480 active matrix display capable of 16 shades of grey. It weighs 4.2 pounds, has a 200Mb hard disk, features a 33MHz 68030, and the batteries will keep it going for up to six hours.

The slightly heavier Duo 270c has a colour active matrix display which allows you to choose between 640 x 480 with 256 colours and 640 x 400 with thousands of colours. It has the same processor as the 250, but adds a floating point unit, and a 240Mb hard disk. Battery life of up to four hours is claimed.

Suggested prices are £1,970 for the 250 and £2,350 for the 270c, both with 4Mb RAM. Meanwhile the price of the 230 drops to £1,322 including an external floppy disk drive, and the 210 is no more.

Existing Duo owners can upgrade their screens to either the 250's active greyscale or the 270c's colour. They can also purchase the new longer lasting batteries and can upgrade their DuoDock to take the slightly thicker 270c. Upgrade prices were not available at press time.



The PowerBook 270c: the first 16-bit colour notebook. It boasts 33MHz, a floating point unit and a rather generous 240Mb hard drive. Existing owners can upgrade their screen to a colour one.

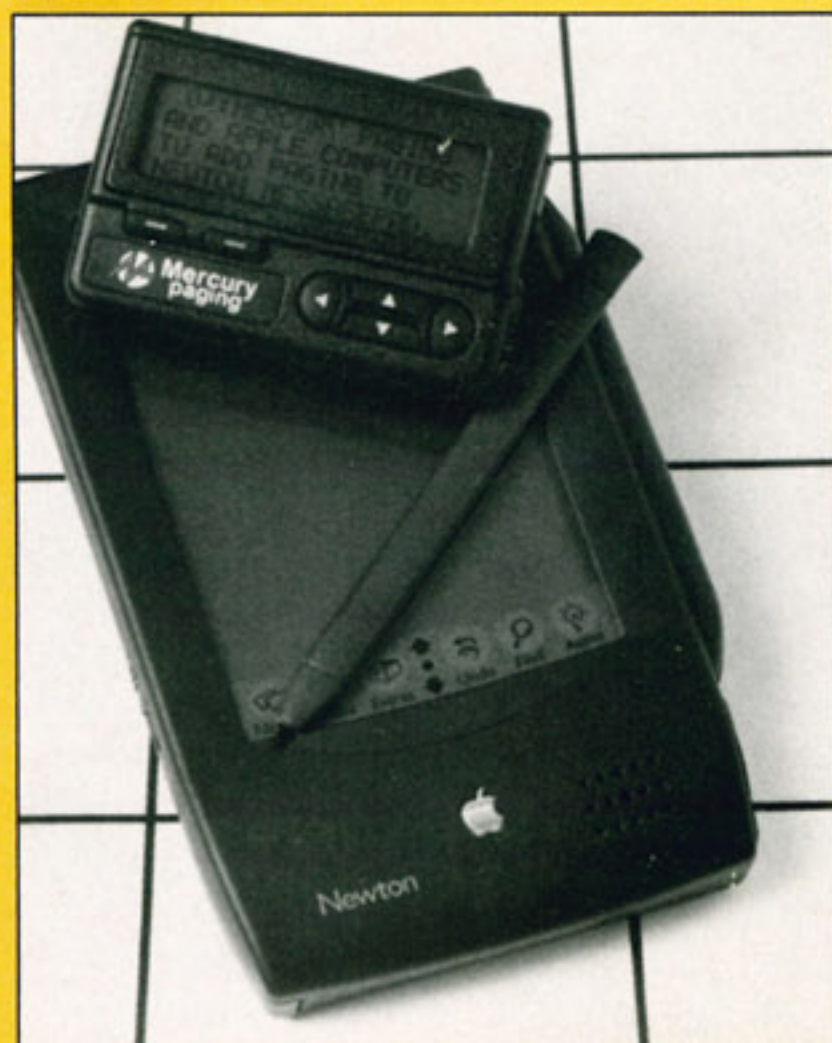
Paging Newton

The paging facilities that Newton users enjoy in the States will soon be available here.

Mercury has signed up with Apple to provide a service in the UK. The paging service will probably work as a separate pager which slots in to the Newton for the detailed information to be extracted from it. The Newton can then file the information and help you act on it.

No product is expected until next year. Mercury is on 0500 505505.

Mercury's conventional pager will soon be outdated, as a PCMCIA version which slots into the Newton is released next year.



Newton defies gravity

Sales of the Newton MessagePad have topped 50,000 worldwide, Apple is claiming.

"The Newton MessagePad has hit the ground running," said Gaston Bastiens, Apple vice president. Apple says the MessagePad is one of the fastest selling products it has ever introduced.

Next generation PowerBooks come to pieces

The next generation of Apple PowerBooks is scheduled for release in March, and will feature a radical 'modular' design intended to put them back in the forefront of technology.

Apple is planning a range of machines code-named Blackbird, according to sources in Cupertino, California. At least one of these machines will feature a 68040 chip, but whether Apple is expecting the low-power portable version of the chip to ship by then or has some extra power management tricks up its sleeve isn't clear.

A larger (9.4-inch) colour screen capable of 24-bit display will feature, as will a new kind of nickel-

hydride battery. A dual battery arrangement seems likely, so one can be replaced while the other carries on without shutting down. Rumour has it that the floppy disk slot will accommodate a third battery if required. The processor will be on a daughterboard so that it will be removable and upgradable to the PowerPC 603 when it becomes available.

The Blackbird will feature built-in Ethernet, a microphone and a PCMCIA socket, as used in the Newton, according to the rumour.

Most radically, the trackball will be replaced by a touch pad which detects the movement of your fingers with no moving parts.



Pathways Into Darkness: out now

3D action game out

Regular readers will already be familiar with *Pathways into Darkness*, which was featured on October's cover disk, and now the finished game is shipping.

Featuring stereo sound, 256-colour graphics and over four million square feet of dungeon to explore, *Pathways into Darkness* is distributed by Softline on 081 401 1234, and costs £47.

● See our review of *Pathways* on page 104.

System 7 Pro adds electronic mail

Apple believes that the latest additions to System 7 are so significant that it's given the package a new name: System 7 Pro.

Pro incorporates several of the improvements you can currently add to System 7 such as AppleScript (for automating repetitive tasks) and QuickTime (for sound and video control), but adds a new feature: PowerTalk.

PowerTalk is the first fruit of AOCE, the Apple Open Collaboration Environment. It allows networked users to work together in a much more smoothly integrated way.

The feature of PowerTalk which most people will immediately use is integrated electronic mail. Using the *AppleMail* software supplied with System 7 Pro, networked users can send messages to each other and send each other documents.

AppleMail is not as sophisticated as *QuickMail* or *Microsoft Mail*, but it is perfectly functional, and exist-

ing e-mail systems can be integrated with it via PowerTalk.

More importantly, however, any application which is aware of PowerTalk can implement electronic mail directly within the program. So, for instance, you could be working on a word processed document and merely select Send from the file menu to transmit it to a colleague.

PowerTalk extends beyond standard electronic mail, and can also handle fax, voice mail and page information, if your network has the right hardware.

As well as mail PowerTalk provides other features to help groups of people work together. Catalogues allow users to share information using a kind of networked database. Each catalogue takes the form of a 'business card' which can store information. You can send a document to a colleague by dragging it on to their card, but cards can also contain

information such as phone directories or image databases.

PowerTalk also provides security by allowing users to imprint documents with a unique electronic signature. The technique, known as DigiSign, involves a passport-style application form sent to a third-party company which provides you with the signature file.

PowerTalk works with any network and doesn't require a server, but its facilities get a whole lot more usable if you can afford to dedicate a machine to be a PowerShare Collaboration Server, as they are grandly titled.

Apple sees System 7 Pro as being the system of choice for the business user, while other Mac owners continue with System 7.1.

System 7 Pro costs £117 to upgrade from System 7, and is available this month. The server software will be out early 1994 for £762. Call Apple on 0800 127753.

Centris 610 speed up

Centris 610 owners can now make their Macs run even faster and add maths power thanks to a set of accelerators from A M Micro.

The Centris 610 is no slouch as it stands, but with the Magellan 040f-40 board it can be speeded up to Quadra 840AV levels. The accelerator, containing a 40MHz 68040 chip, slots into the original processor's socket, so doesn't need any special software to work. Thanks to the 68040's built-in cache the speed-up is considerable.

More modestly, the Magellan 610-25 adds a maths co-processor and a 5MHz speed hike. A 20MHz version is also available. The Magellan 040f-40 costs £1,468, and is also available for the Centris 650 and Quadra 700 and 900. The Magellan 610-25 is £582, and the slower 610-20 is £469. A M Micro: 0392 426473.

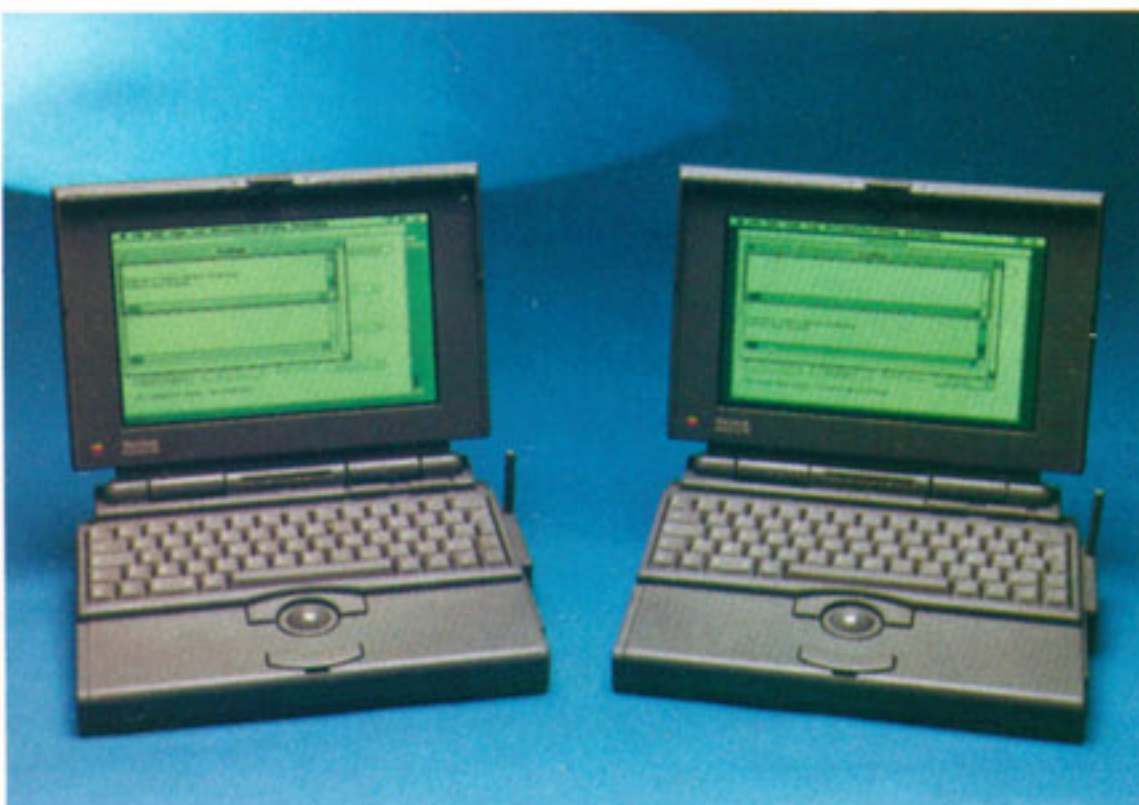
Three more Apple printers debut

A portable StyleWriter and additions to the LaserWriter Select and LaserWriter Pro ranges have broadened Apple's printer options.

The Portable StyleWriter uses the same Canon engine as the desktop model, but is battery powered and styled in PowerBook dark grey. Battery life is a claimed 60 pages, and the price is expected to be around £350.

The LaserWriter Select 360 is a 600dpi machine with PostScript Level 2, as well as built-in support for TrueType. The machine uses a RISC processor, and has parallel and serial connections as well as LocalTalk. Pricing is expected to be around £1,500.

Finally the LaserWriter Pro 810 is a powerful printer designed for workgroups. Apple: 0800 127753.

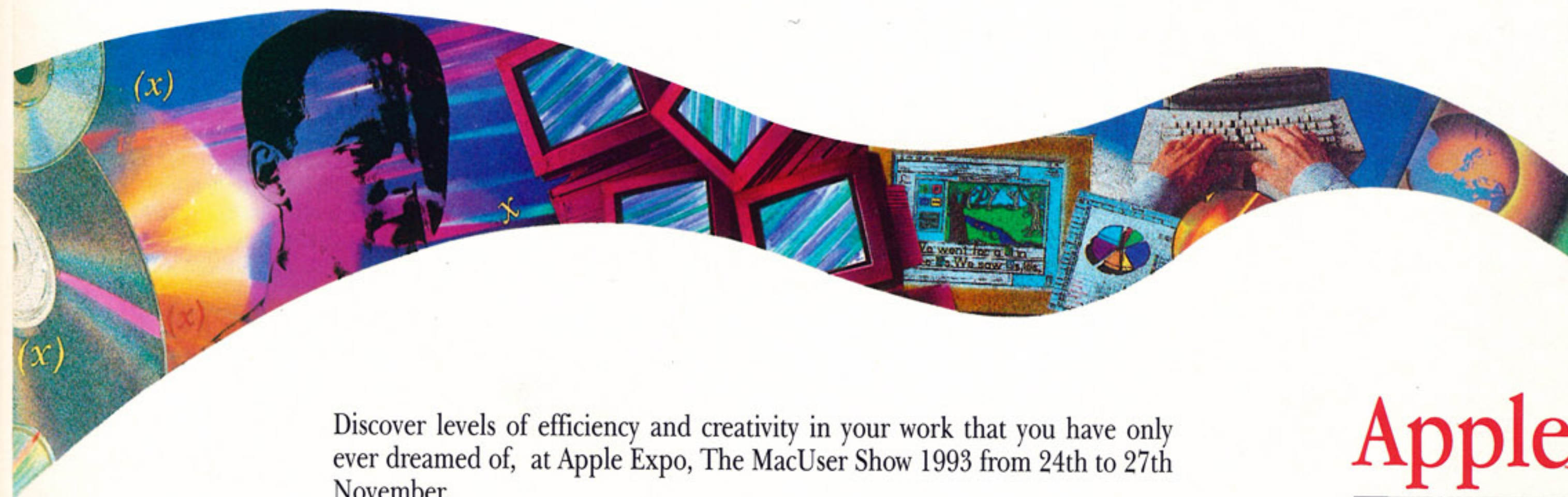


PowerBook and Newton users will soon be able send and receive information electronically without being connected to the telephone, and have a voice link simultaneously. Symbionics uses a wireless PCMCIA card and the device can handle both data and voice at the same time. Symbionics: 0223 421025.

reach new heights of



Mac*tivity*



Discover levels of efficiency and creativity in your work that you have only ever dreamed of, at Apple Expo, The MacUser Show 1993 from 24th to 27th November.

Not only will you see thousands of the most exciting creative developments and new products, but you can try them out for yourself. You'll be able to explore the latest products and innovations at numerous hands on sessions and in the bigger-than-ever Mac Applications Area.

Choose which of the 70 free seminars suit your level of experience and realise the vast potential of your business.

Indulge your passion. Let yourself go at Europe's largest, independent Macintosh event.

For complimentary tickets, previews and seminar programmes either complete and return the coupon or call the Ticket Hotline on 081 984 7711.

No admission to under 16's.

Apple



1993 the MacUser *show*
OLYMPIA LONDON
24th - 27th November

Sponsored by MacUser magazine

Organised by

emap
INTERNATIONAL EXHIBITIONS LTD

For Free Tickets call 081 - 984 7711



Please send me complimentary tickets and previews.

Name

Position

Company

Address

Postcode

Tel no.

Please return to : Apple Expo '93
MF
DDM
The Davenport Centre
Renwick Road
Barking
Essex IG11 0SH

Apple Expo is an independent exhibition not affiliated with the Apple Computer Group of Companies. Apple is a registered trademark of Apple Computer, Inc. The Apple Expo logo is copyright of Apple Computer Inc. January 1992.

Roll up!

Last year's AppleExpo – this time it will be even bigger, with over 160 exhibitors.

There are only days to go before the Mac show of the year.

But why is it worth

making the

trek to

Olympia? We

look at the

highlights of

AppleExpo...

It's November, so it's time for the biggest Mac show of the year. This time AppleExpo is filling to the brim London's Grand Hall Olympia, with more than 160 exhibitors and a crowds of over 30,000 predicted over four days.

The show runs from Wednesday November 24 to Saturday 25, and it's free to get in if you book your tickets in advance – call the hotline number 081 984 7711 for details.

As well as exhibitors showing off every piece of hardware and software you've ever heard of, and a few more besides, there's also a seminar program, with events aimed at all levels of Mac user, and every area of interest.

If you prefer a more 'hands-on' approach, the Applications Area features dozens of Macs loaded with the latest software for you to try out for yourself, and if you like it, plenty of stands will be selling software and hardware at show



Roll up!

special prices. The AppleExpo show is traditionally a place for new products to be launched, and this year is no exception with dozens of companies displaying their latest wares. To tell you what is going to be on every stand would take the rest of the issue, so we'll just have a look at some of the highlights.

Adobe

C150

Illustrator 5 (reviewed in this issue on page 50) is the star of their stand, and you'll be able to see its new features demonstrated by experts.

Aldus

D171

As well as the major upgrade to *PageMaker*, version 5.0, Aldus will be exhibiting its *Prepress Collection*, featuring advanced trapping and imposition software.

Apple Computer

E181

The new LC475 and the new Duos will be on display, and we may get a chance to see a working PowerPC machine, you never know...

Callhaven

E183

The company will be offering 'The Big Cheque', which will offer substantial savings on hardware and software.

Claris

A106

The UK unveiling of *ClarisDraw* (the new *MacDraw* upgrade) and *ClarisImpact* (a presentations package) will be the centre of interest on the Claris stand.

EFI

F204

EFIColour 2.0 – a new version of the colour matching system supported by *XPress 3.2* – will be launched.

Helix

E187

A major upgrade of *Helix Express* – the firm's reasonably-priced relational database – will be on display for the first time.

Hi Resolution

F196A

If you run an education network, check out Hi Resolution's *MacPrefect 3.0* network management system.

IMSI

F214

TurboCAD, a low cost computer-aided design package, will see its debut.

Letraset

D169B

The first UK showing of *Fractal Design Painter 2*, and the latest Wacom A4 digitising tablet star here.

MacFormat

K264

Yes we'll be there, to answer your questions and be bought beers.

Macintosh Association

C156

If you're a Newton owner, you'll want to join the new Newton User Group on this stand.

Nikon

F198

See the Coolscan LS-10, a tranny scanner which fits into the drive bay of a Quadra!

Radius

F202

The Rocket 33 accelerator will be on display.

Ritz

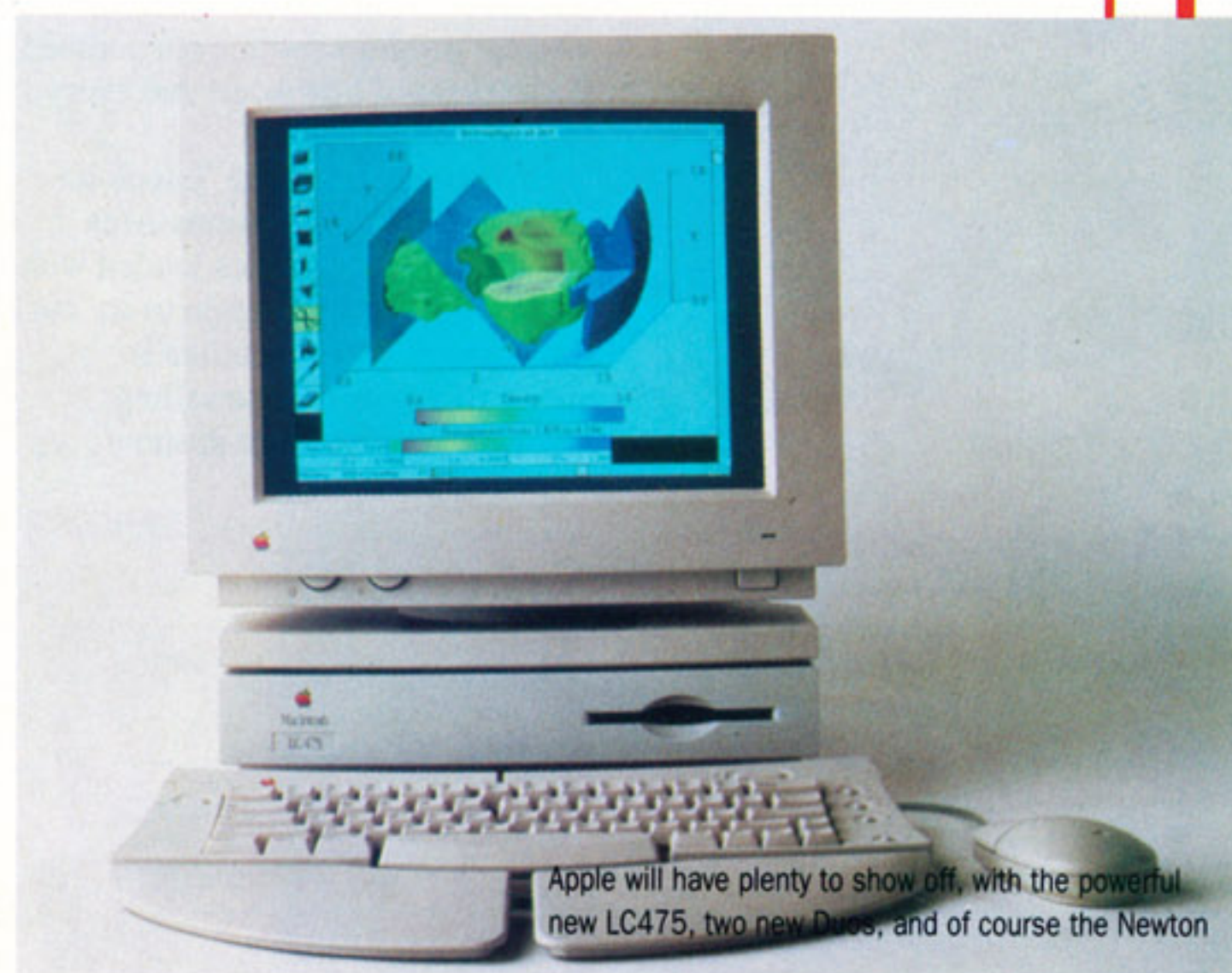
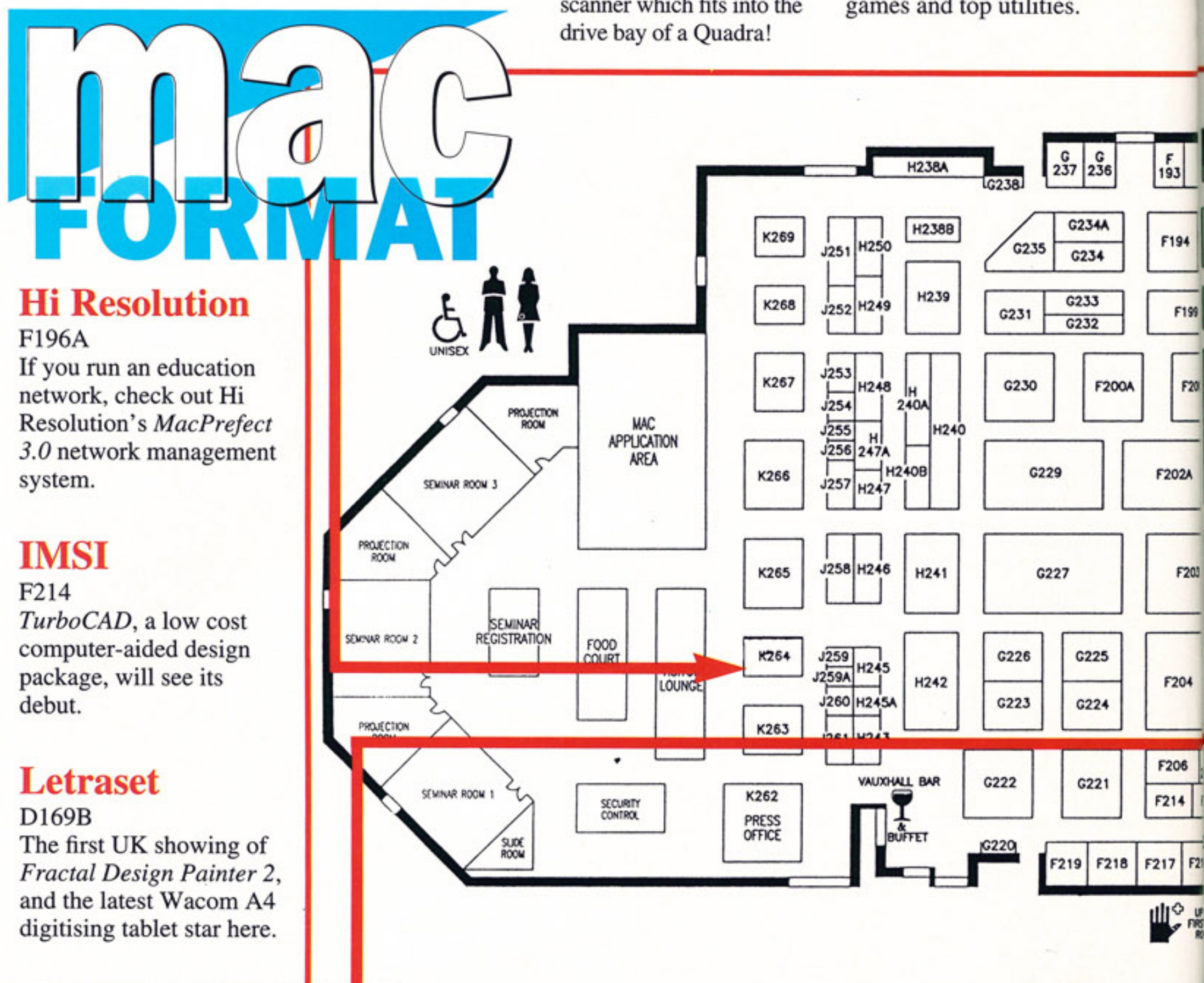
D175

Ritz will be showing up a new more powerful upgrade to the *Starter Accounts* package – *Ritz Median*.

Softline

F201A

This is the place for the very latest games and top utilities.



Parsoft

J253

A new helicopter game, *A10 Attack*, will be on show along with *Hellicats over the Pacific*.

Pisa Systems

G221

A full colour A4 inkjet printer will be launched on the Pisa stand.

Principal

D170

On show will be a range of accelerator cards which are so new, they don't even have a name yet!

Tektronix

B117

An A3 dye-sublimation printer is bound to cause a stir, especially as it's PostScript level 2 compatible.

TekWare

F196B

Two new scanners will form the heart of TekWare's display

Wizard

B121

See the Mac version of *Sage Stirling* accounts for small businesses.

Complete list of exhibitors follows...

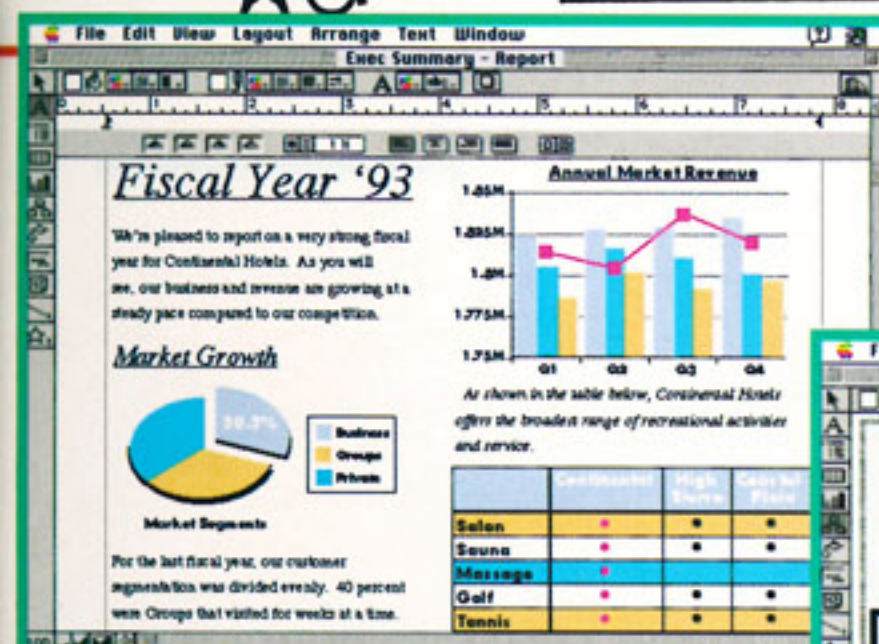
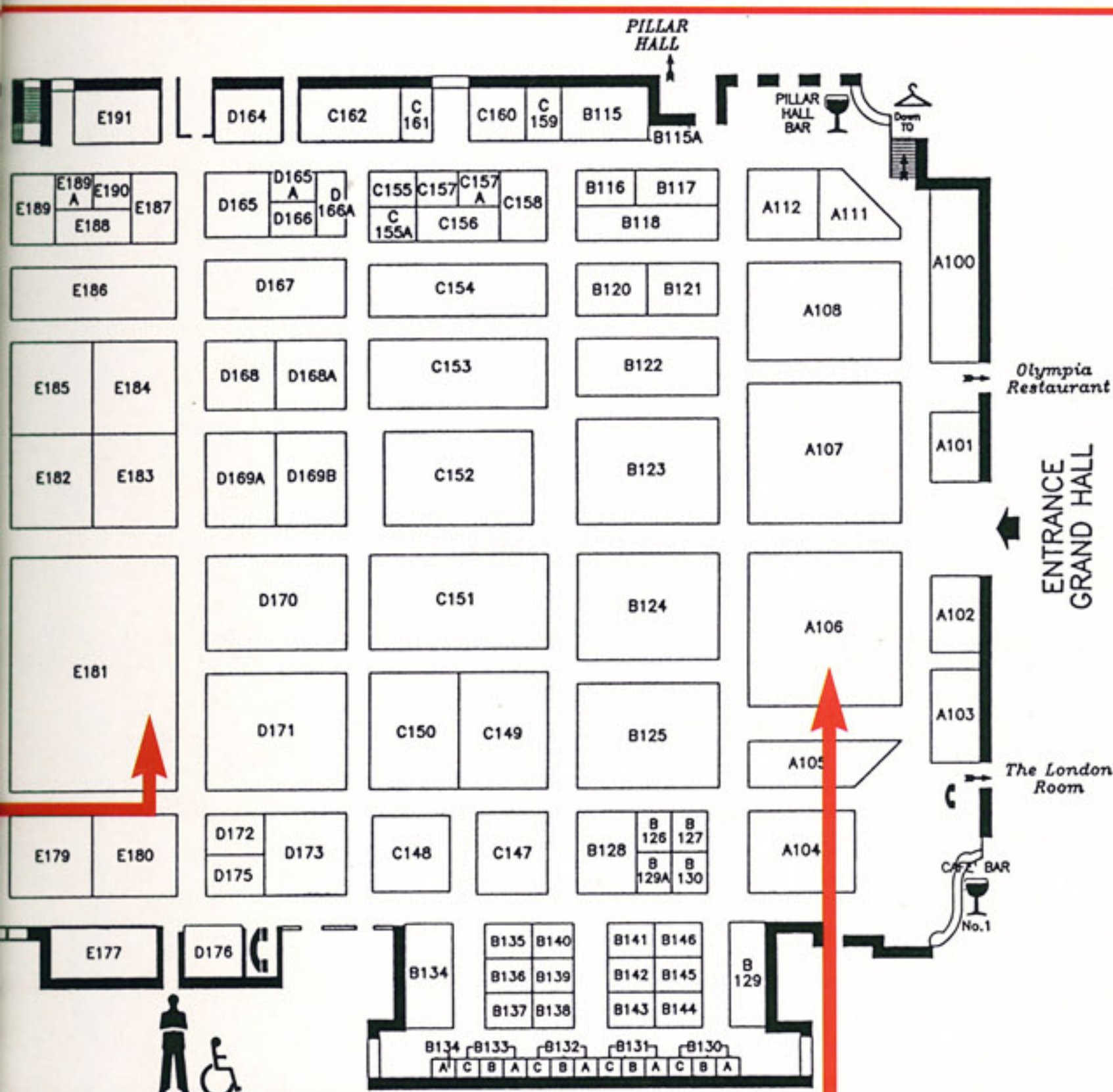
Those AppleExpo exhibitors in full...

3MF200A
4 SightE186
APSC162
Abekas Video SystemsC157A
ACIE184
Addison-Wesley Publishers D197A
Adobe SystemsC150
AGFA GevaertF203
AldusD171
AmbitronF199
AppleCentre Croydon.....B115
Apple ComputerE181
AppleCentre Maidstone.....H240A
AppleCentre Thames ValleyD168A

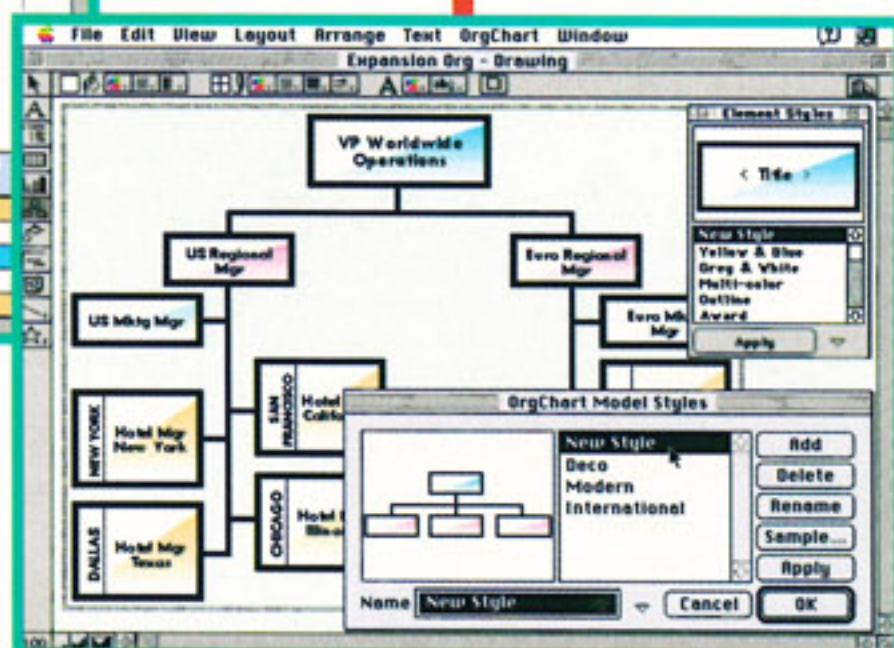
Applepoint Thames Valley....F208
ApplisoftH239
AptecD168
BBF PublishingB133C
CallhavenE183
CallhavenF195A
Camargue ComputingJ256
CanonF205
Central SystemsA103
Cherwell Scientific Publishing.....
.....F208A
ClarisA106
ColorgraphC148
Colossal Solutions.....B125
Computer GenerationB118
Computer ManualsG232
Computer Warehouse (TSC).E182
Computers Unlimited.....C152
Creative MagsJ259

Crosfield ElectronicsE177
Crown Software Solutions E189A
Dainippon.....C149
Dantex GraphicsH241
Data PeripheralsG226
Daystar DigitalF212
Direktek DistributionB122
ECRMG222
EFIF204
Euro SourceB120
Exact SoftwareF194
Faces129A
Fax Express/GlenwarneH249
Flame GraphicsB135
FormacB123
Frog SystemsJ257
Frontline DistributionC151
GF Smith & son.....D173
GCC TechnologiesD169A

MacLineF201
Mactel.....G238
MacTempsF207
MacUser.....A104
MacWarehouseH242
Makin RochardF197
Management GraphicsF195
MBC Macpoint.....A108
MCP InternationalB126
Mediatec.....B140
Mela ComputersG233
MeriselE179
Micronet TechnologyC160
MicrosoftA107
Midwich ThameB125A
More GraphicsG236
MygateB116
Nasa PromotionsG220
National Instruments Corp ..C161
NECF202A
NikonF198
No Limits ReprographicsH243
OptechG224
Oxford University Press ...B132A
Parsoft PublishingJ253
PC BookshopB146
Pegasus AccountsG230
Phase 4 SystemsD165
PhotobitionG225
Pisa SystemsG221
PrepressD166
Principal DistributionD170
Programs UnlimitedD176
QuantelD167
Question Mark Computing ...L274
Quill Marketing.....H245A
RadiusF202
Rapid DataH245
RapidocolorB141
Recruit MediaF193
RednetF211
Response Comp Maintenance
A112
Ritz SoftwareD175
S & S InternationalD164
SatelcomE188
Scangraphic VisutekA100
Silica Systems.....H238A
Simms InternationalE189
SoftlineF201A
Splash PrintingH247
TCCE190
TDS CAD-GraphicsF215
Team GraphicsJ254
TechprintD165A
TekdataG223
TektronixB117
TekwareF196B
Teleadapt.....H246
The Corps BusinessB127
The Macintosh Association .C156
The Music AcademyF206
The Printing Centre.....A102
TMIH247A
TramsA105
Type TechnologiesG229
UDO GroupG234A
Urban Computer Supplies...C155
Vector GroupA111
Vicom.....A101
Wizard Accounting SolutionsB121
Wolfram ResearchD172
WordPerfectB124
WordworkB130
XYZF219



Claris will be showing off its two new programs, *ClarisDraw* and *ClarisImpact*



Genix ImagingH240
Genomes
Electronic Book
COB130B
Graphic Dealers ..
.....K268
Helix Technologies
.....E187
Heyden & Son
.....H248
Hi Resolution
.....F196A
Hitachi New Media
.....H240B
Honeylight
Computers ...J255
HyphenF200
IMC.....G231
Icicle Distribution
.....C154
IMSIF214
Independent Apple
NewsB136
Ingram Micro G227
IntegrexC158
John Blisshen &
CompanyF209
Kewill Systems ..
.....B129
KRCS Group.E185
Lamb Macintosh..
.....D166A
Lan-U-Like Data
InstallationsC159
Lasermaster EuropeG235
LetrasetD169B
Lifetime Memory Products...F210
LinographicL273
Linotype-HellC153
LMUG.....J261A
Logical Engineering ...
.....C155A
Mac & MoreC147
Mac Accessory
CentreF218
Mac Connect.....C157
Mac EuropeB128
MacFormat.....K264
Mac in the Box...E180
Mac Recruitment
.....B115A
MacAddicts
InternationalJ252
MaccenL271
Mach Technology GroupH250

THE ALL NEW APPLE NEWTON MESSAGEPAD IS AVAILABLE NOW! CALL FOR PRICE.



GENUINE SYQUEST CARTRIDGES

Superior-quality 44, 88 and NEW 105MB cartridges now available!

44 MB Syquest: MED 0035

£49⁹⁵



MICROSOFT WORKS MacTools & Mavis Beacon Bundle

Get the Tools - Do the Works! Limited time offer - only six weeks to order!

All three packages for the amazing price of Ask for EUR BND 1004

£99!



NORTON UTILITIES & Stacker Bundle

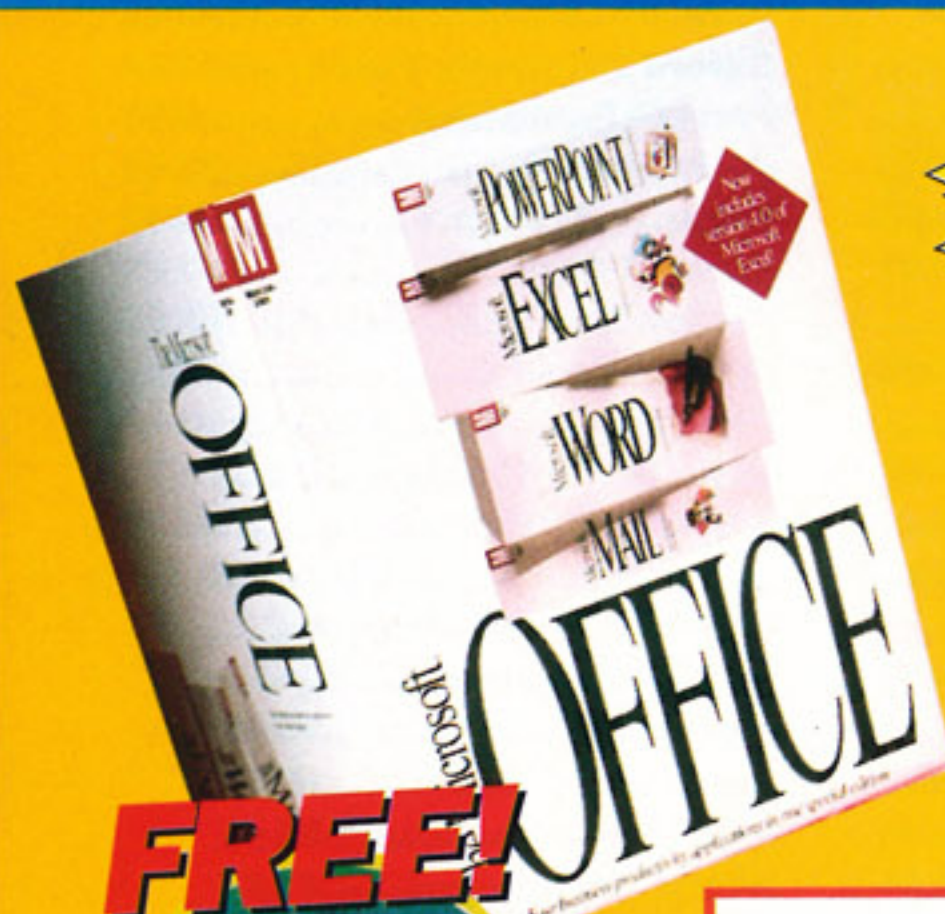
Twice the Space, Twice as Safe! An unbeatable combination for only

£99! EUR BND 1005

GET THE ALL NEW POWER USER'S TOOLKIT 17.0 FREE WITH YOUR ORDER!*

MacWAREHOUSE®

The Microsoft Office



Only **£375⁹⁵**

Get Microsoft PowerPoint, Excel, Word and Mail - over £1,150 worth of productivity - plus FREE Hunt for Red October - for one low price!

Ask for item no. EUR BND 1007

Less than **£93⁹⁵** per program!

The Hunt for Red October

Dinosaur Adventure

See, hear and learn all about the dinosaurs!



JUST **£29⁹⁵**

Travel back in time to when dinosaurs ruled the world. Filled with colour, sound and full-motion video!

Ask for item No. **MSB 0007**

*Diskette version - no CD-ROM Player required.

AppleCentre MacWAREHOUSE

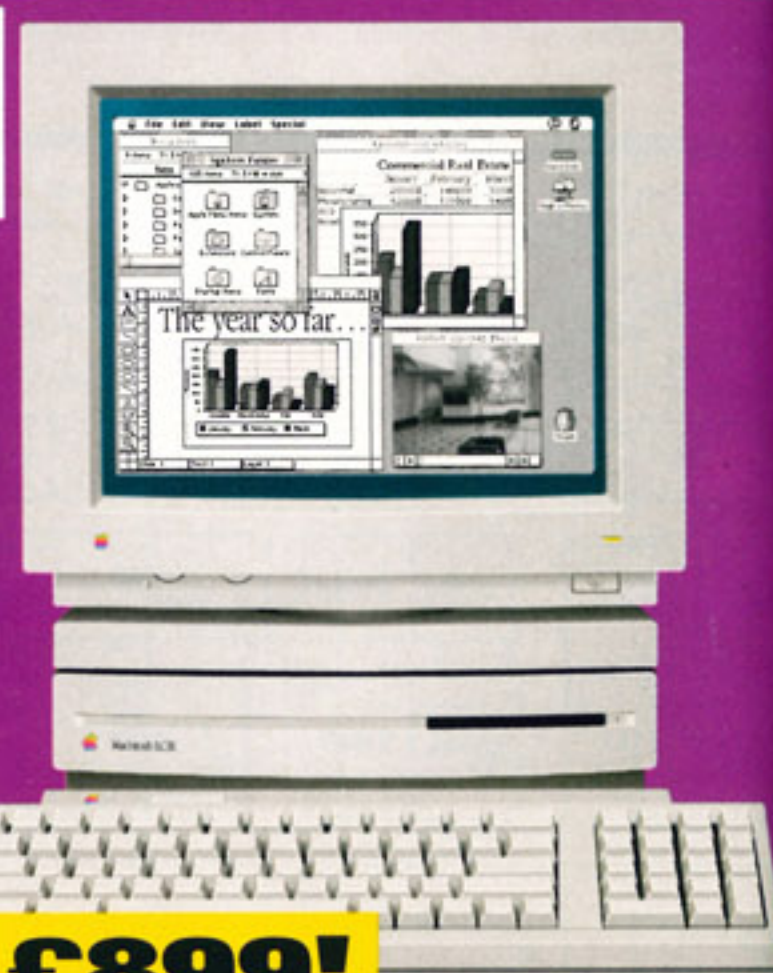
0800 445 000

NEW! LC 475

- 25MHz • Up to 36 MB RAM
- Supports all Apple monitors
- Energy Star compliant
- Includes keyboard and 14" Performa Colour monitor!

Only £899!

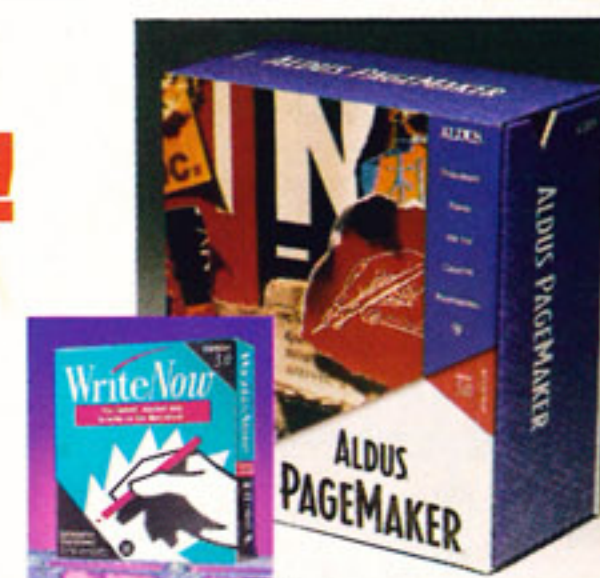
APC BND 0015



PageMaker 5.0 WriteNow Bundle!

While supplies last, get PageMaker 5.0 Cross Trade *plus* the award winning word processor, WriteNow! For only

£189! EUR SID 1000



FREE!

☐ YES! I want my FREE 1-YEAR SUBSCRIPTION to the MacWAREHOUSE catalogue!

Name _____

Company _____

Address _____

Post Code _____

Phone _____

No. of Macs _____

Are you a new customer?

☐ Yes ☐ No

MAIL THIS COUPON TO:

MacWAREHOUSE

Queens Road, Barnet,
Herts EN5 4DL
or FAX to:
081 447 1696



Call Freephone: Overnight Delivery - £5!

0800 181 332

FAX: 081-447 1696

CUSTOMER SERVICE: 081-449 7113

Explore a new world



By Ian Wrigley

The text of Bill Shakespeare's complete works. A conversation with someone from the US State department on the effects of pollution on Arizona's indigenous wildlife. A spirited discussion with a bloke from Streatham (or Saudi Arabia) on whether *Monkey Island 2* or *Civilization* is the best game available for the Mac at the moment.

The day's news headlines and weather forecast.

All of this – and a great deal more – is available without moving from your desk: all it takes is a Mac, a modem and a phone line. And since you almost certainly have a Mac and a phone line already, the total cost can be far less than you might think. Over the next nine pages, we show you why you'd want to get connected, how to do it, and what you can do once you're on-line. We also have a fantastic offer for subscribers to **MacFormat** who don't yet have a modem.

Comms is one of the most exciting – and fast growing – areas of computing. Turn the page and get involved!

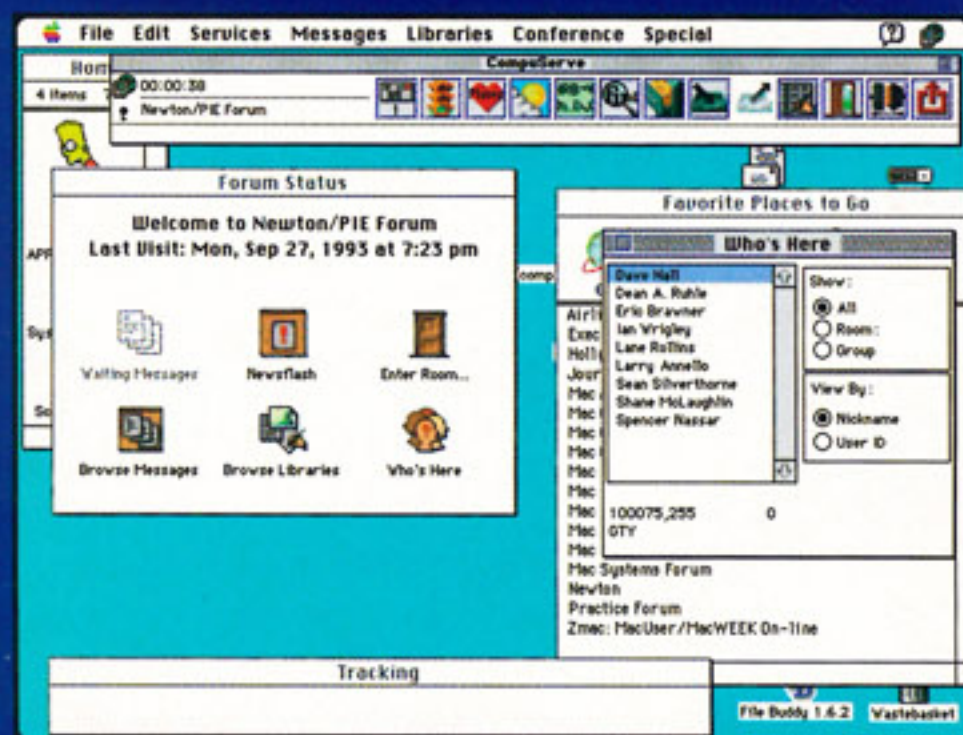
Comms: a beginner's guide

The word 'Comms' is pretty much a catch-all description for a wide range of different activities with one thing in common – you are connected to another computer somewhere else in the world, via a modem and your phone line. (There are other methods of connection, but we won't go into them here.) But why would you want to do such a

thing? What benefits does it give you – and, at least as important, what does it cost?

There's no limit

What you can do once you're 'on line' is pretty much up to you – the possibilities, if not endless, are certainly vast. At its most basic, you can log on to bulletin boards and download the latest shareware and public domain software at minimal, or no, cost (other than your phone bill). This includes things like the latest anti-virus software; within hours of a new virus being discovered, you'll find that an updated version of *Disinfectant* (a superb, free virus killer) is available electronically all over the world – so you'll never have any worries about your Mac being infected.



Whatever your interests, you'll find like-minded people somewhere out there. Here's CompuServe Information Manager and an area all about Apple's Newton PDA.

Likewise, many commercial software publishers make free bug-fixing upgrades to their programs available via bulletin boards – so you can be sure that you've got the latest version of *ZingWord* or whatever.

But downloading software is just the tip of the iceberg. The main attraction of comms for many people is the sources of information available on-line. These vary from discussions with experts on just about any subject under the sun, to official publications and public records. For instance, almost all bulletin boards (and the Internet itself, in the guise of Usenet news) have areas for people who log on to leave messages for each other.

Most boards have separate areas for different subjects, so you can read only those topics that you're interested in. And you'll find there are so many different types of people using these bulletin boards, that almost every subject is catered for – discussions are certainly not restricted to computers!

Talk is cheap

A good example of a bulletin board with a huge range of discussions is CIX, or Computing Information eXchange. This has hundreds of 'conferences' covering everything from computer-specific information (the 'mac' conference is thriving) and many experts frequent it, to whatever your question someone is likely to be able to help) to things such as motor biking, pinball, politics, sailing, film, music... on and on. There are plenty of 'silly' conferences, too, where people can let off steam, tell jokes, air their opinions and say whatever they want, although if you say anything too controversial you're likely to end up in a 'flame war' that can last days, weeks or even months!

If it's 'official information' you want, then boards like CompuServe and access to the Internet are the things for you. CompuServe is a huge, international system with well over a million subscribers; there are plenty of access phone numbers in the UK, so you're likely to be able to log on with a local phone call. Once connected, you can access a wide range of commercial databases; many of them are US-based, but there are plenty of European ones too. For example, you can perform a company search using the official UK database of registered companies and print out details of any company that you're interested in – registered address, directors' names, even a credit rating. Or you can search the contents of thousands of publications for a subject that interests you, and download the text of any relevant

Killing the myths

There are a number of myths which you may have heard about comms; here are some of them, along with the actual truth on the subject.

Modems are far too expensive.

Wrong. Check out our special deal for subscribers and you'll see that buying a high-speed, state-of-the-art modem won't cost the earth. And if you shop around, you'll find that you can buy a slightly slower modem for less than £100.

But the phone bills will be crippling, won't they?

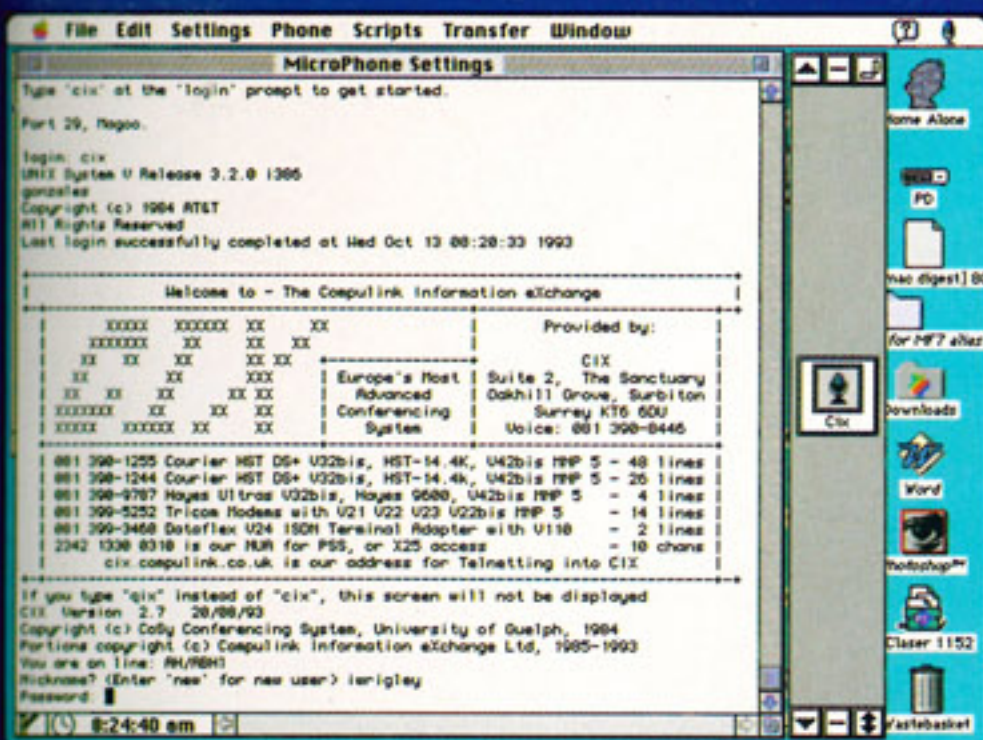
No. Of course, it all depends on how often you go on-line – spending ten hours a day connected to a bulletin board is, indeed, prohibitively expensive, but no-one does that anyway. Many large commercial services have a number of access points throughout the UK so you can connect with a local phone call, but even if you don't you will find that half an hour's call to London at cheap rates a couple of times a week is certainly not too bad.

It costs more when you use a modem than when you make a normal phone call.

Rubbish. You're billed by Telecom (or Mercury, or whoever) for the time that you're connected, regardless of whether you're chatting to Aunt Agnes or downloading *Maelstrom*.

Can't you infect your computer with a virus just by connecting to a bulletin board?

No – not if you're using a Mac. This particular myth came about because some Unix systems are susceptible to such a problem (although only in very specialised circumstances). A virus can only attack your Mac if you run an infected application (or, in the case of one virus, if you're running System 6 and you insert an infected floppy disk). So as long as you check any programs with a utility such as *Disinfectant* before you run them, you're perfectly safe. Indeed, most bulletin board sysops check software themselves before they make it available, so there's almost no chance of downloading an infected program.



CIX is one of the most popular systems in the UK. With over 5,000 subscribers, you can be sure that someone on-line will be interested in the same things that you are!

articles. US-based databases include demographic details of all areas of the States, phone directories and so on. Access to many of the databases involves an extra fee, but compared to the cost of going out and researching details by hand it's certainly more cost-effective. CompuServe also has an area known as 'The Electronic Mall', where you can order products from a wide range of American companies using your credit card, usually at discount rates, and have them shipped to your door. I wouldn't recommend ordering the sides of smoked salmon that at least one company offers – even if it passed Customs, it would probably be a little worse the wear by the time it arrived – but for things like compact discs, electronics and so on it's a great way of buying discount goods.

The Internet, because it's a world-wide network of computers, holds vast stores of information – all freely available, as long as you know where to find it. Whether it be historical works of fiction; the Magna Carta; data on earthquakes; pictures sent back from space probes; lyrics to the songs of your favourite band; the Oxford Dictionary of Familiar Quotations; all of this and much, much more (as they say) is available.

Call me!

Another use for comms is electronic mail. More and more companies are now linked up to one or more services, and electronic mail (e-mail for short) is becoming widely used. Some bulletin boards (especially non-commercial ones) will only allow you to leave mail for other users of that board, but many have e-mail links to the Internet which means that you can send electronic mail to anyone who uses any other Internet-linked system – including services like CompuServe and AppleLink.

In general, if someone tells you that their e-mail address and it includes the '@' character, then as long as yours too has that '@' symbol somewhere in it you can get e-mail to and from them.

As a (brief) explanation, Internet addresses – whatever computer or system they are on – take the standard form:

username@computer.site; the username is the person's unique identity on a particular system, and the 'computer.site' part describes to other Internet sites just where that system is. For instance, if you want to communicate with someone who tells you that her e-mail address is bloggs@ic.ac.uk, then their username on the computer system at Imperial College, London is 'bloggs'. Send e-mail to that name and they will receive it the next time they log on – e-mail gets from point to point very quickly, regardless of where in the world it's going to, so even mail to Australia will normally reach its destination at most a few hours after it's been posted.

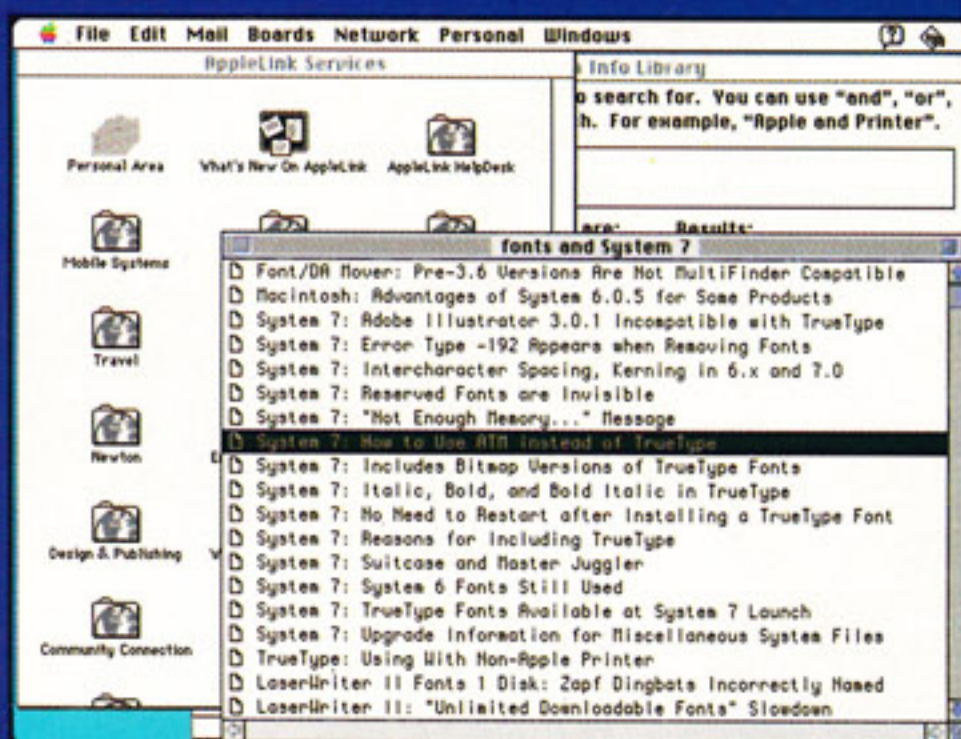
Now, that's not to say that things are foolproof – because the Internet is loosely linked, things don't always go as planned. If you get the e-mail address wrong, or for some reason the mail doesn't get to its intended recipient, it's often 'bounced' – that is, returned to you with some information which may (or may not) help you to determine what went wrong. On the other hand, occasionally mis-directed mail will just disappear

into the ether, never to be seen again – so if you're transmitting important information, it's as well to ask the recipient to e-mail you a confirmation that the message was received. Then, if you don't get confirmation in a day or two you can assume that something went horribly wrong, and try again.

Another factor to be considered is security. Remember that your e-mail can be read by the sysop of any computer that gets the mail – and since the Internet is so large, your message can be passed via several different machines before it gets to its destination. For that reason, it's a good idea not to send sensitive information by e-mail – although in fact it's very unlikely that anyone but the intended recipient will read it, simply because the volume of data that's transferred every day means that the sysop is unlikely to have the time to go browsing through people's mail.

Convinced?

If you're still not convinced that comms is for you, then perhaps it's not. But many, many people



AppleLink is the on-line service used by Apple staff, developers, dealers and so on. Here we're researching a Mac Answers question using the on-line technical documentation available.

get a great deal of pleasure – and concrete benefits, too – from connecting to bulletin boards, information services and so on via modem. It's an exciting, addictive hobby, and brings a whole new dimension to your computing.

Give it a try!

The Internet

You'll see the Internet mentioned frequently here; that's because it's a vast and incredibly useful service consisting of thousands of linked computers all over the world. The problem is that it's difficult to describe what's available and just how useful it can be in the limited space we have here. If you're interested in knowing more, check out the rather excellent *The Whole Internet: User's Guide and Catalog*, by Ed Krol, ISBN 1-56592-025-2. It's published by O'Reilly & Associates Inc, and should be available in the computer section of most decent bookshops.

Jargon Busters

Modem: short for MOdulator DEModulator, and pronounced 'mow-dem'. This is a device which takes the electronic signals in your computer and converts them into audio tones, which can be sent down the phone line (the 'modulator' part). It also takes these same audio tones, transmitted by a computer at the other end of the line, and turns them back into electronic signals ('demodulates' them).

Download: to transfer a file from a remote computer to your machine is to 'download' it

Upload: this is the process of sending a file from your computer to a remote machine

Bulletin board: a remote computer which is set up to allow people to log on and leave messages and electronic mail, and to upload and download software. It doesn't matter what make the computer is – anyone with a modem can connect. Some of these are run by people for the sheer fun of it, and a number are commercial operations which charge a fee.

Internet: this is a loosely-connected network consisting of tens of thousands of large computers throughout the world. On these computers are vast stores of information and programs, freely available to anyone who can connect. Connection is available though commercial 'service providers'.

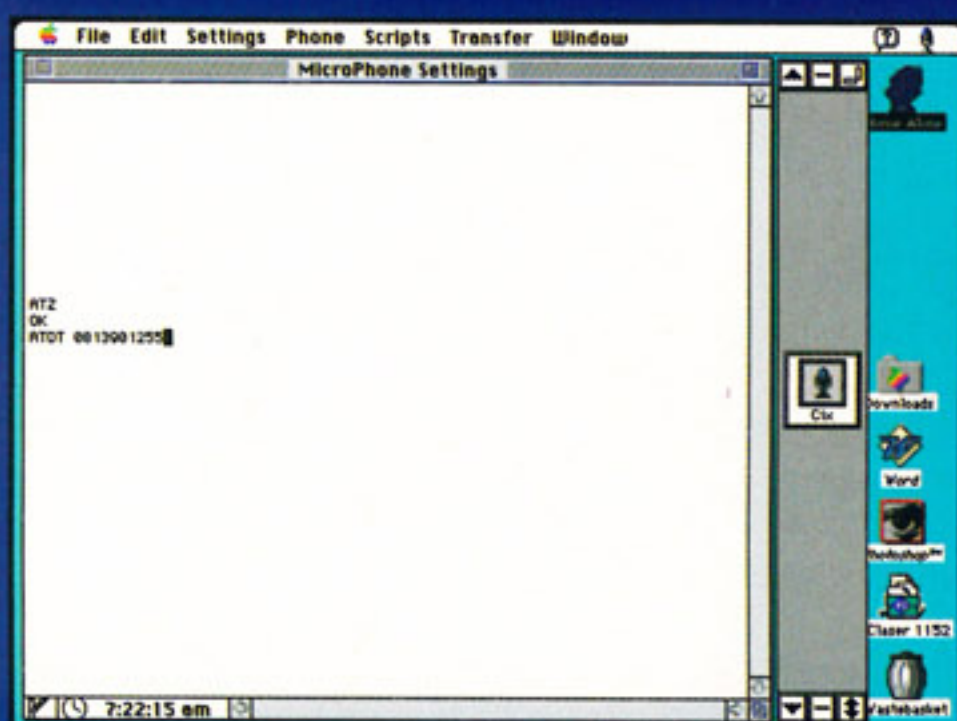
Flame war: if you leave an abusive or controversial message on a bulletin board, you're likely to become involved in a 'flame war' – other users disagreeing, arguing and possibly even insulting you. Some people seem to take great pleasure in starting flame wars, but most sensible users try to avoid contributing whenever possible.

Log on: to connect to a remote computer using a modem. You'll usually need to supply a user name and password to get access.

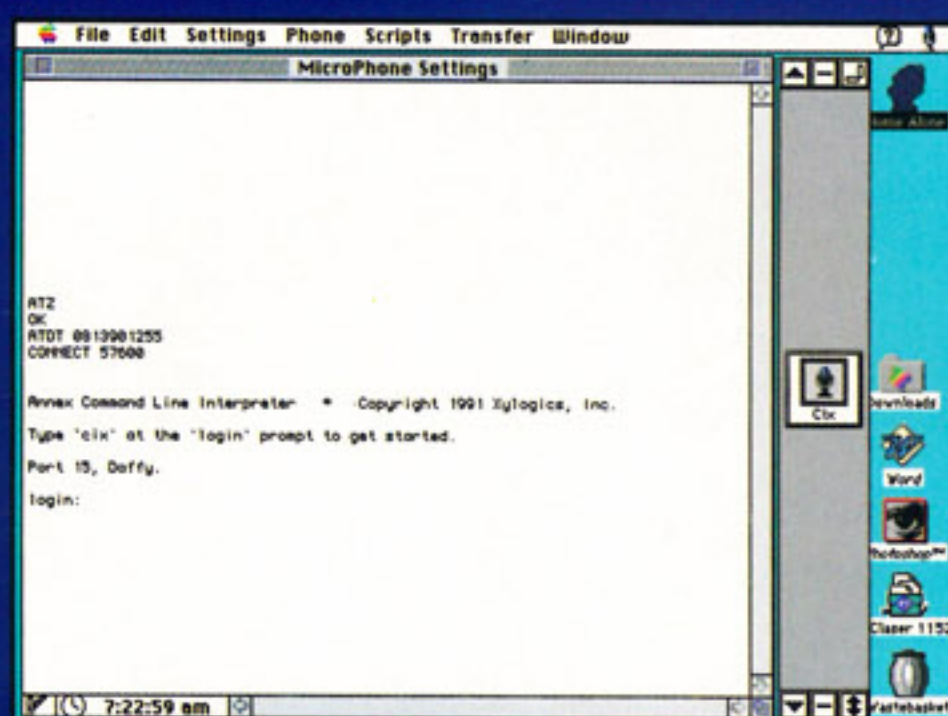
Sysop: short for SYStem OPERator. The person who runs a bulletin board.

Comms: how to connect

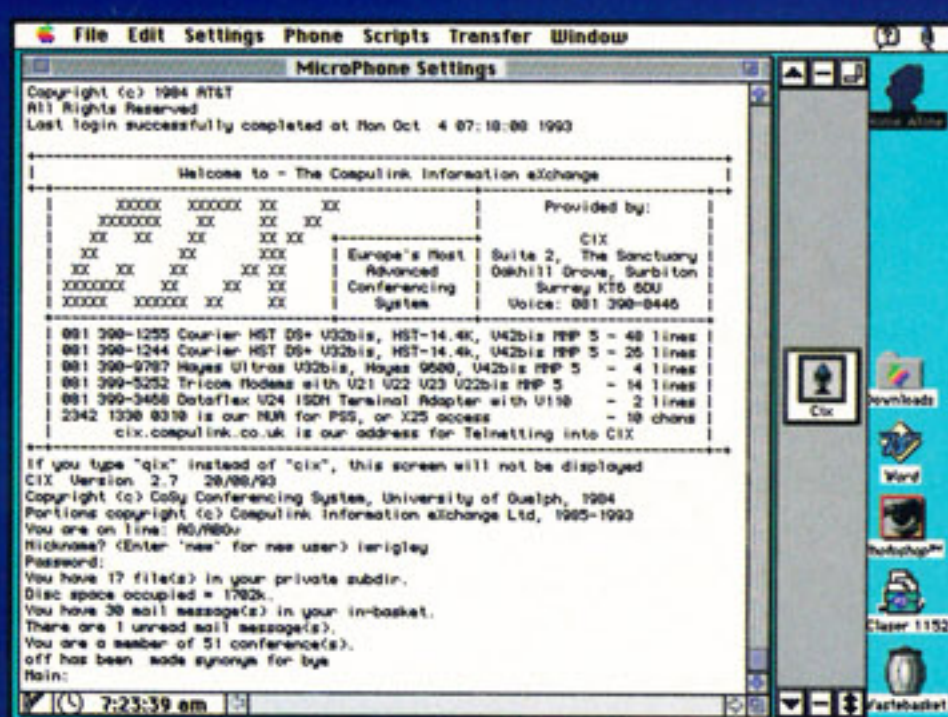
To try and prove that comms isn't as complex as some people imagine, on this page we've shown a typical session on one popular service, CIX. We log on, read some mail, download a file, send mail and log off. The total time for all of this is only a couple of minutes – so it's an inexpensive procedure – and as you'll see, you only need to master about four commands to do the whole thing. Different bulletin boards will require different commands, of course, but the actual procedure will be very similar.



First, switch on your modem and fire up your comms package. I use *MicroPhone II*, so that's what's shown in the screengrab above, but anything will do – *ZTerm*, a \$30 shareware package, is just as good for most things, and will certainly do everything you see here perfectly well. The first thing you need to do is tell the modem to dial a phone number. Almost every comms package has some sort of 'phone book' which will automatically dial numbers for you, but to make sure that you can follow this whichever program you're using, we're giving commands directly to the modem. All modems these days are Hayes compatible (see page XX for a description of exactly what that means), so we can use standard commands. Type in 'ATZ' and hit [return]. This is a general 'reset' command, and makes sure that the modem is ready to dial. After a second, the modem replies with 'OK', which means that it's reset and is ready to be told what to do. Then type 'ATDT 0813901255'. This tells the modem to dial the phone number, using tone dialling (the 'DT' bit). To use pulse dialling instead (if your exchange can't handle tones), substitute 'ATDP' for 'ATDT'. The modem dials the number (you'll probably hear it do so via its internal speaker), works out what speed the remote modem is capable of and adjusts itself accordingly, and after half a minute or so will have connected to CIX...



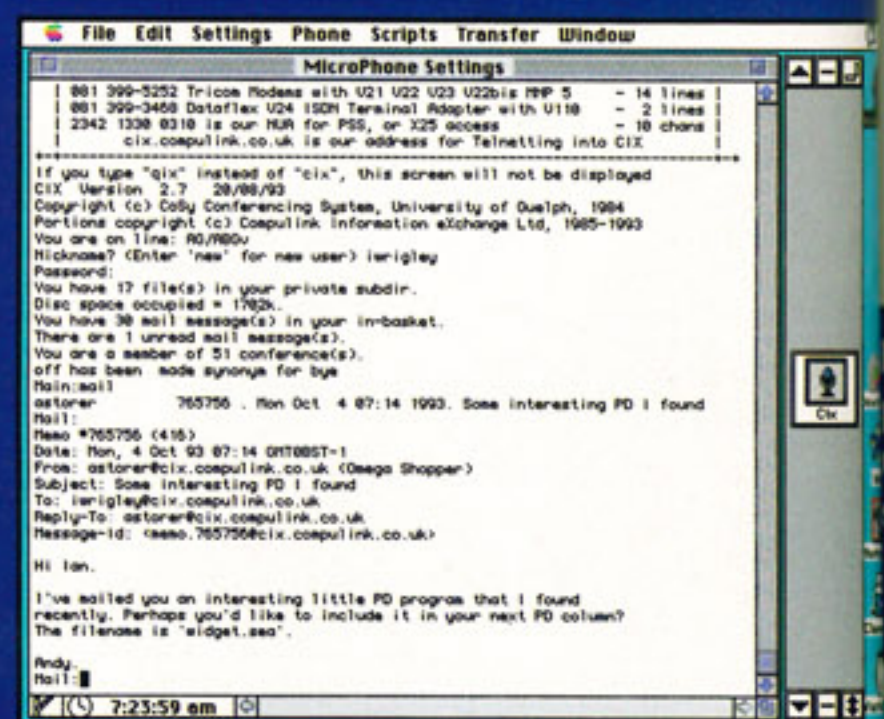
...at which time the introductory message shown above will appear on your screen. You are now connected to the remote CIX computer (which isn't a Mac, although that doesn't matter since this whole process is machine independent). Anything you now type will be automatically sent to that computer. As you can see, it's fairly explicit about what it expects – you're told that you should type 'cix' to get started, so do that.



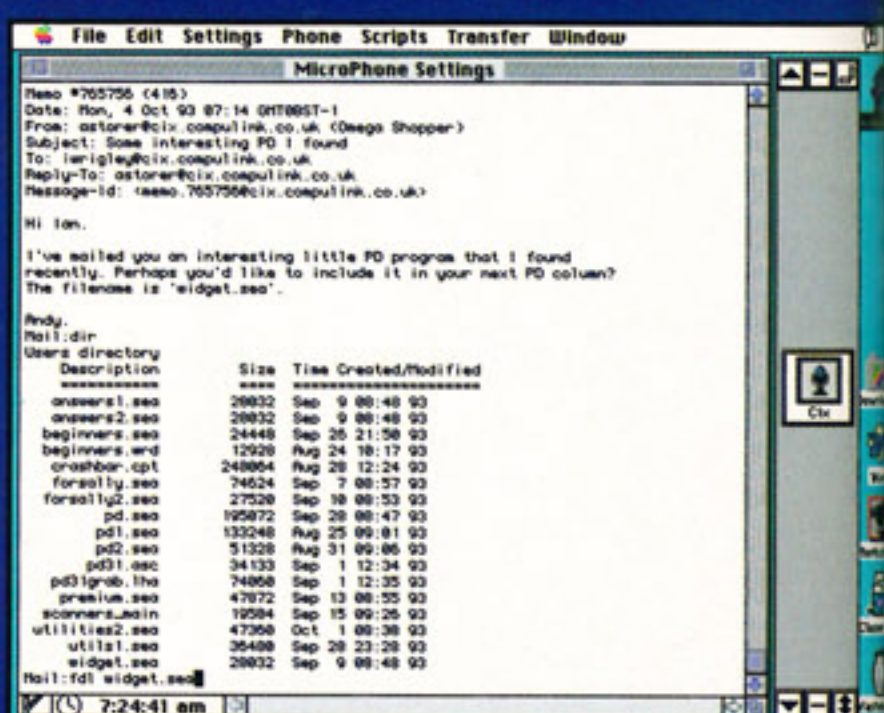
The system responds with some information about what CIX is, other access phone numbers and so on, then requests your username. If you're logging in for the first time, and want to subscribe to the system, you'd type 'new'. I'm already a subscriber, so I type 'iwrigley' (my username) then hit [return]. The next message from the system is that it wants my password, so I type that in, and again press [return]. Notice that the system doesn't show the password as it's entered; that's so that anyone looking over my shoulder (or looking at this screengrab!) can't see what I've typed. Never give your password to anyone else – if you do, they can get full access to your account. After accepting my password, CIX gives me some information,



including the fact that I've got an electronic mail message waiting.



Because I want to read the mail, I type in the word 'mail'. CIX responds with brief details about the unread message is from, what it's about and when it was sent. The sender is a person called 'astorer' (who he?), and it was sent this morning a little after 7am (what's he doing up that early?). The title looks promising, so to read the mail just hit the [return] key. CIX automatically prints the mail to the screen, then gives the 'Mail:' prompt again for me to decide what to do.



Since Andy says that he's mailed me a copy of the program, I need to look in my person

Here's a beginner's listing of bulletin boards and on-line services to get you started...

Apple Crackers

0268 781318, 0268 780724 Text-based

This board is free to use, although a £10 fee gets you unlimited downloads. It has facilities for conferences, e-mail and has plenty of files to download.

AppleLink

0800 585682 (voice) Graphical (proprietary software)

AppleLink is used by almost all of the professional Mac community – developers, dealers, journalists and the like, along with Apple staff. It contains information from Apple and third party developers, a limited selection of shareware and PD, and each subscriber has an AppleLink address – an e-mail address reachable from anywhere on the Internet. However, it's expensive – the 'starter pack', including software, costs over £100, and usage charges are high. Not really recommended unless you have a need for an AppleLink address because of this high cost.

BIX

0272 255392 (among others) Text based

Originally an off-shoot of the US magazine *Byte*, BIX is now an independent entity. It uses the same CoSy system that CIX does, so it's fairly easy to use, and it provides a simplified access to the Internet that's not as frightening as most others. Plenty of technical types in the conferences.

CIX

081 390 1255 Text-based

CIX is one of the most popular commercial services in the country. It has a gateway to the Internet, and gives subscribers an e-mail account and access to conferences and plenty of downloadable files. Registration costs £25, and usage varies depending on whether or not you're phoning in peak time.

CompuServe

0800 289378 (voice) Text-based or graphical

CompuServe is a huge American board with access phone numbers in many UK cities. It has conferences, support areas from hundreds of third-party developers, thousands of files to download and over a million members! Charges vary depending on the time called and modem speed used, although it can get fairly expensive. Phone the freephone number for an information pack.

Demon Internet Systems

081 343 3881 (voice) Text-based or graphical

Demon offers subscribers full access to the Internet, using dial-up links running SLIP or PPP. It turns your home Mac into an Internet node, allowing FTP, Telnet, access to all Usenet news groups and so on. Probably not for the faint-hearted, though – things can get a little technical. We've looked at Demon in previous issues of *MacFormat* – and we'll be returning to the service again in the future.

DTP User

081 656 5190 Text-based

A board dedicated to people who use their Macs or PCs for DTP-related tasks. publishing-related files are available for download.

Electronic Courier

0232 401737 Graphical (TeleFinder) or text-based

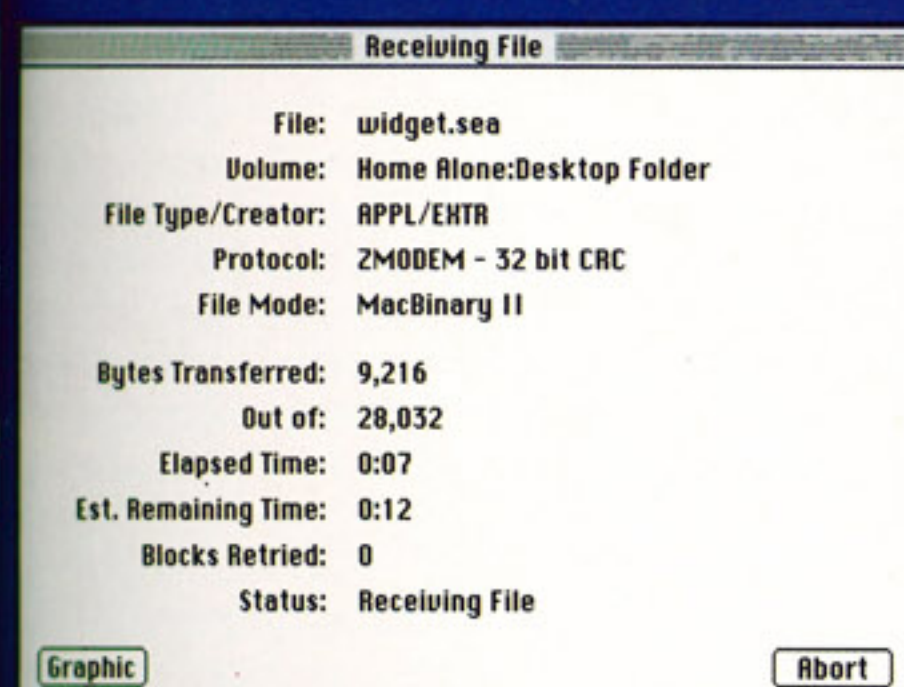
Growing bulletin board with thousands of files available for download, including a 'MacFormat area', where the sysop collects all the PD and shareware that we review each issue. Subscription charges vary depending on the access rate chosen; to explore the system, log in as 'guest' with password 'guest'.

MacTel

0602 455444 Text-based or graphical (FirstClass)

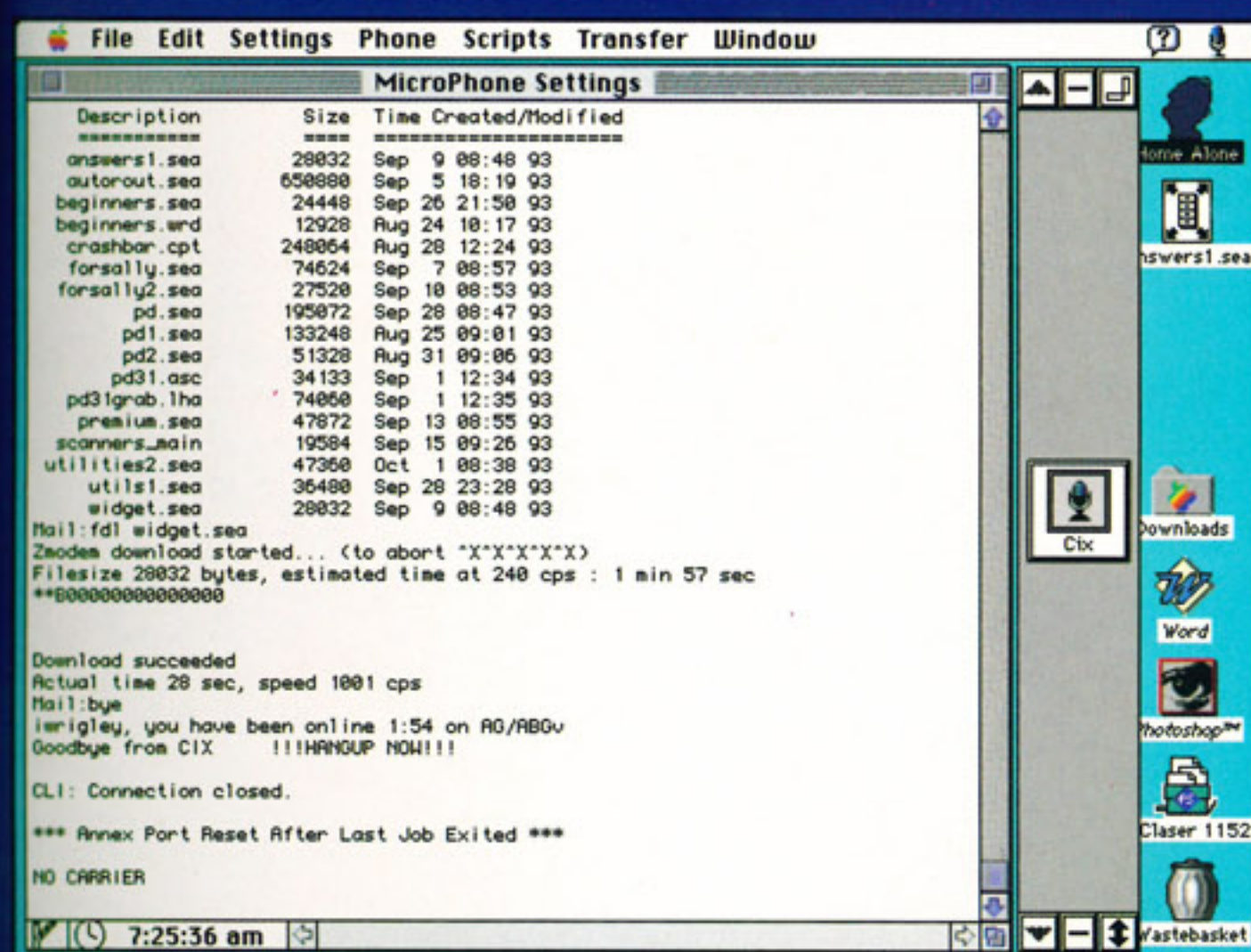
MacTel has a huge range of files available for download, as well as the usual conferencing and e-mail facilities. Limited access is free; full access costs £24 for six months or £40 for one year.

directory to see that it's there. The command to do this is 'dir', and it produces a listing of all the files that I have stored in my area on CIX. The program is there, along with details of its size and when it was sent to me, so I can download it by typing 'fdl' (short for File DownLoad) followed by its name, then hitting [return].



When I do that, CIX automatically begins sending the file, and my Mac starts to receive it. (Sometimes you have to tell the Mac to begin receiving – it depends on what 'protocol' you're using – see page 31 for more details on that.) A dialogue box tells me what's going on; how big the file is, how much of it the Mac

has received so far and how long there is still to go. This dialogue box is produced by the software, not the sending computer, so if you're not using *MicroPhone II* it will look different – but you'll still be given the same information.



Now that the file has been downloaded, I can log off to see what it is. To do this, just type in 'bye'; this tells CIX that you've finished and want to leave the system. A message gives you details of how long you've been connected – less than two minutes – and then automatically hangs the phone up for you. The modem tells you this by printing 'NO CARRIER' on the screen. And that's it! A complete comms session, I've got a new piece of software to play with, and it's only cost me pennies since I dialled during the cheap rate. (Although the Diet Pepsi required to infuse my system with caffeine at that time in the morning was another 40p or so...)

Comms: buying a modem

So, you're interested in comms and you want to buy a modem? Read on...

Buying a modem isn't as hard as it may seem; the problem is that traditionally the technology has been steeped in arcane terminology, with manuals and adverts seemingly written by the same people who had actually designed the hardware. This resulted in incomprehensible descriptions of a device which had V-this and MNP-that, without actually telling the less technically-inclined reader what the thing actually did.

To some extent, this has now changed – although there's still a fair amount of jargon floating around. What we aim to do here is de-mystify that by telling you exactly what it all means, and giving some 'real world' examples of the differences.

In the beginning...

When modems first appeared for home computers, they were primitive devices indeed. The first models could only cope with data transfer rates of 300baud, and required the user to manually dial the phone number. Any changes to settings such as parity had to be done from a switch on the

front of the modem – nothing was alterable from the computer itself, which acted as the dumbest of dumb terminals.

Then a company called Hayes asserted its influence. It started creating modems which could have their settings altered simply by sending them a command from the computer. This command consisted of the letters AT (short for ATtention), followed by a string of characters telling the modem to do something. For example, ATDT 12345 means that the modem should dial, using tones (the DT part), the number 12345. ATH means Hang up the phone. And so on.

Pretty soon, other manufacturers started copying this convention – and so the Hayes-compatible (sometimes known as AT-compatible) modem was born. These days, virtually all modems are Hayes compatible, although some (as the saying goes) are more compatible than others. All will accept a basic set of AT commands such as DT (Dial using Tone), DP (Dial using Pulse), H (Hang up), A (auto-answer) and Z (reset). But some of the more esoteric Hayes commands, such as



those which allow a modem to be configured from a remote computer which has dialled in to it, are missing on some modems. To be honest, this won't be a problem unless you're doing some pretty odd and sophisticated things – so as long as the modem is advertised as 'Hayes compatible' you'll be safe.

A turn of speed

As we've said, the earliest modems were only capable of 300baud data transmission. Things have come some way since then, though, and these days many modems are capable of 48 times that speed – 14,400baud – with built-in data compression taking the maximum speed to a stunning 56,000baud – that's a 100K file in less than 20 seconds!

The problem is that all modem adverts tend to quote their speeds in terms of things called 'V' standards – you'll see cryptic things like V32bis, V42 and so on being listed in adverts. For details of what they all mean, see the boxout on the left.

There's a major caveat here, though: don't be misled by the quoted maximum speeds! Although a modem might claim speeds of 'up to 56,000baud throughput', you're extremely unlikely to actually achieve anything like this rate of data transfer. There are a couple of reasons for this. First, the highest possible speed requires a 'perfect' phone connection – one with no extraneous noise at all. Any noise will corrupt some of the data, requiring the modem to retransmit it – so the actual data transmission rate will drop.

Secondly, anything over 14,400baud requires 'data

compression': the modem automatically compresses data before it's sent, and the receiving modem decompresses it before it's passed to the computer. This is fine, except that some files are more 'compressible' than others. In particular, most people use something like *StuffIt* or *Compress Pro* to compress their files before they're sent, and in this case the data is hardly compressible at all by the modem (since compressed files are at just about their smallest size anyway) so you won't see any increased throughput.

In practice, you will be very unlikely to get data transfer rates of more than about 3,000 characters per second – or around 175K per minute. That's for uncompressed text files; if you're transmitting or receiving compressed application, that rate will drop somewhat, probably to only 120K per minute or so. That's still not bad – as long as you're not expecting the incredible 320K per minute or so that the adverts would have you believe.

Is speed important?

The faster the modem, the less time you'll be on-line – and so, of course, the less your phone bill will be. On the other hand, you can pick up a 2,400baud modem for £100 or less if you shop around, while a high-speed device is more likely to set you back £300 or more (although you should check out page 32 for a special deal for MacFormat readers).

If you only use your modem a couple of times a week for a few minutes, then you'll struggle to justify a high speed modem; you would take you years to pay back the extra cost in terms of the money saved on your phone bill on-line service or whatever. On the other hand, if you intend to download files, then suddenly a 14.4Kbaud modem suddenly makes a lot more sense. Remember, it's not just the pho-

Those standards in full...

MNP 1-4: error correction standard, which helps to make sure that the data you send is the same as the data you receive. Any corrupt data is re-sent – the idea is to do this while reducing the speed of data throughput as little as possible.

MNP 5: data compression standard

V21: 300baud – very slow indeed!

V22: 1200baud

V22bis: 2400baud – the slowest practical speed these days.

V23: 1200baud send/75baud receive (or vice versa). An old standard, and is only now used for some viewdata services such as Prestel.

V32: 9600baud

V32bis: 14,400baud

V42: error correction standard (see MNP 1-4).

V42bis: Data compression standard. Can increase the effective speed of a 14.4Kbaud modem to 56Kbaud!



The Sportster Mac & Fax is just about the cheapest high-speed fax modem around – and it's even cheaper if you're a MacFormat reader. See page 32 for details



PSI's COMstation is an excellent modem, and is styled to fit in with the Mac's colour scheme for those that care about such niceities

Two of the best

Two of the best modems around are the PSI COMstation 5 – and the US Robotics Sportster Mac & Fax. Both are fax modems, and support V32bis with V42bis data compression – which means that they can transfer data at rates of up to 56,000baud. Both come with Mac-specific cables; the Sportster has a standard modem connection, which means that buying a PC modem cable and connecting it to a PC isn't a problem if you need to do that, while the COMstation

has a rather stranger connector which may mean having a lead made up specially if you want to link it to a PC.

Both modems can also send and receive faxes, and come with the Mac software to do that.

In use, both modems were fine, and achieved very good data throughput. Neither had problems connecting to any of a number of on-line services that I use; in general, I couldn't place one above the other during operation, and for many people

the choice between the two will be down to price – in which case, given the price of the Sportster (especially with the deal available to **MacFormat** subscribers, on page 32), it's difficult to see how this couldn't be the purchase of choice. COMstation 5 costs £587 and is distributed by Computers Unlimited, 081 200 8282. The Sportster Mac & Fax costs £469 (£249.95 to **MacFormat** subscribers) and is distributed by US Robotics, 0753 811180.

bill while you're on-line, it's also the fact that no-one else in your house can use the phone while you're connected, no-one can call in, and your Mac is tied up.

The fax of the matter

More and more modems are now joint fax/data devices. This means that you can send – and often receive – faxes directly from your computer. You create a document as normal, and then instead of printing it you simply select the fax modem in the Chooser. The person on the receiving end doesn't know that the document was generated by computer – it appears just like a normal fax. Likewise, you can receive faxes straight on to your Mac, which can be printed or browsed on screen.

There are, though, disadvantages. For example, if you're sent a form to fill in and fax, then the only way you can get it into your Mac is to scan it, then fax that scan. Also, using your Mac to receive faxes means that it must be switched on all the time (although Global Village modems will start some Macs up automatically when they detect an incoming call). Some people leave their Macs on all the time; but for the rest of us, it's a problem. If all you intend to do is send the odd fax, and you can be sure that people will only fax you after they've warned you so that you can turn on your fax software, then a fax modem is fine. But for most businesses, the fax modem is more of an addition to the normal desktop fax machine, rather than a replacement for it.

Buying tips

Make sure that you specify a Mac cable when you're ordering your modem. Many ship with PC cables as standard. If you're buying a high speed modem, make sure that your cable is 'hardware handshaking' – if the modem vendor doesn't know what you're talking about, look elsewhere!

Likewise, if you're buying a fax modem make sure that the fax software is for the Mac, not the PC.

Legally, a modem must be approved by the BABT before you can connect it to your phone system (if it's approved, it will carry the 'green circle' sticker). If British Telecom

find out that you're using a non-approved modem, you can find that you've had your phone cut off...

Make sure that the phone connector supplied fits a standard UK phone socket. Some modems shipped from the United States come with a modem-to-US-jack lead.

Jargon Busters

Baud

Strictly speaking, this is "the number of discrete signal events per second occurring on a communications channel". In reality, it can be thought of as being roughly the same as bits per second (qv), although don't say that in front of a real teccy – you'll get lectured for hours about how it's not the same at all.

Bits per second (bps)

Unsurprisingly, the number of bits transferred per second. Since there are eight bits in a byte, or character, you'd think that dividing the number of bits per second by 8 would give you the number of characters per second transferred. However, since modems do some pretty complex things to ensure that all the data is sent and received correctly, with no errors, a better estimate is to divide the bps figure by 10. So, for example, 2400bps is roughly 240 characters per second. To find the actual rate in kilobytes per second, a rather more useful figure, divide the number of characters per second by 1,024. An example: how many kilobytes can be transferred in one minute over a 2400baud link? Well, baud is roughly the same as bits per second, so we're transferring 2,400 bits per second, or roughly 240 characters per second. In one minute, that's $240 \times 60 = 14,400$ characters. So the number of K is $14400 \div 1024 =$ just over 14K.

Hayes

A huge communications company, which set the standard for modem communications. Almost all modems are now Hayes-compatible, which means that they will interface with Mac comms packages with no problem. Sometimes modems are referred to as 'AT-compatible', rather than Hayes-compatible. It's the same thing.

Acoustic coupler

Rather than plugging directly into the phone socket line a modem, an acoustic coupler has two rubber 'cups' which fit over a phone handset's earpiece and mouthpiece. The tones are then sent and received via the phone handset – useful if you want to transmit data from a public phone, say, where there's no phone socket available. Acoustic couplers aren't often used these days, though, because they don't work very well with high data rates – anything above about 2,400baud.

Modem

short for MOdulator/DEModulator. Converts electronic signals from the computer into sound for transmission over the phone line, and vice versa.

MNP

An error correction/data compression standard first developed by Microcom but now widely used by other modem manufacturers as well. MNP levels 1 to 4 are for error correction – making sure that what's received is exactly the same as what's been sent – and MNP 5 is for data compression – effectively speeding up the rate of data transfer. Many high-speed modems now use V42bis data compression rather than MNP 5, although they are very likely to support this standard as well.

Comms: the best software

Right: you've got your modem, now you need something to make it all work!

Once you have your modem, you need to buy, or find, some comms software to make it talk to all those on-line services, bulletin boards and so on that are beckoning so enticingly. Don't worry, though: software doesn't have to be expensive, and indeed the package probably used by more people than any other is shareware – a \$30 fee is all that's requested if you use it.

Here you'll find details of that package – *ZTerm* – and just why it's so good. We also talk about some other commercial packages, and some specialised software for accessing specific on-line services. We also discuss the 'protocols' used for uploading and downloading files – what are they, and what's the difference?

Terminally exciting

In the early days of computing (here we go again, grandad), people used 'dumb' terminals to log on to mainframe computers. And this is still the case in many companies which use mainframes; the terminal is simply a 'front end' to get into the system. When you're using comms software, you're doing a very similar thing – and the remote computer has to know some basic things about your software so that it can display text on your screen properly. For this reason, all comms software has some sort of 'terminal emulation' built in. At its most basic, the emulation is known as 'TTY' – short for 'teletype'. This simply means that the software will display every character that the remote computer sends it, creating a new line when told to. This is fine as long as you're

using a text-based system, but can cause problems if the remote computer wants to display any graphics on your screen – like, TTY emulation is pretty much incapable of doing so. What's needed is some more sophisticated emulation.

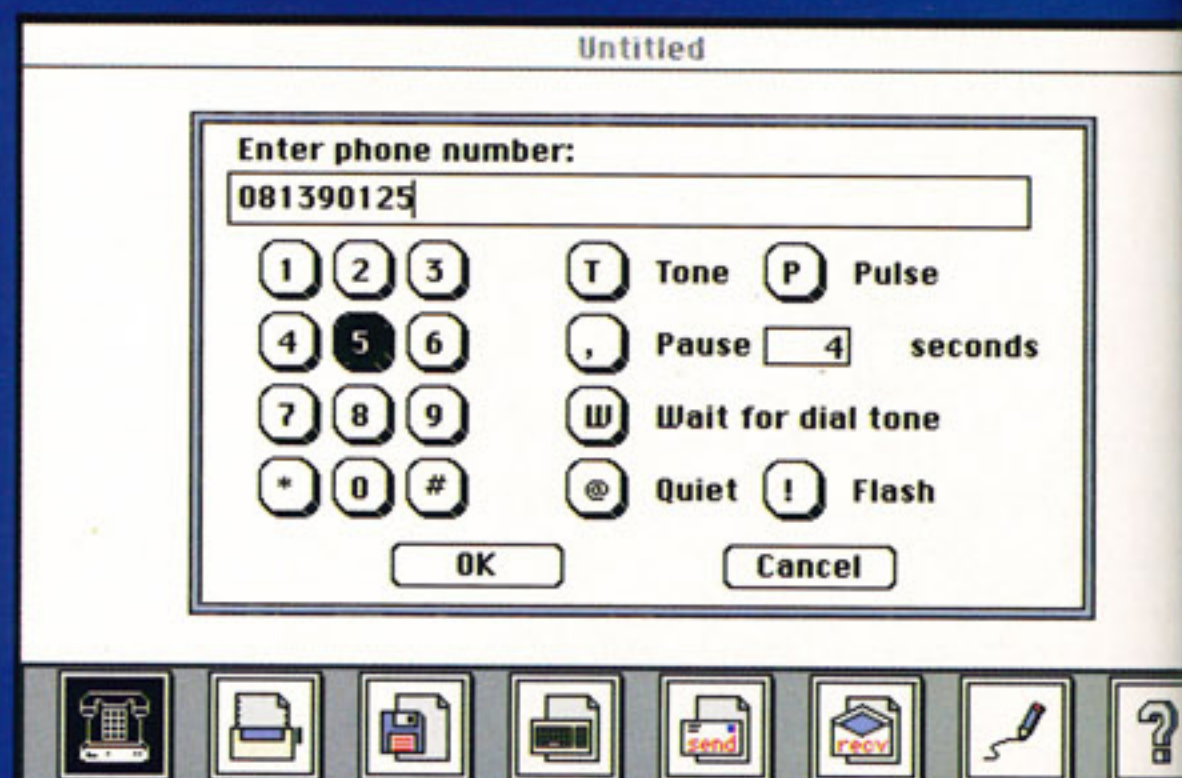
Fortunately, that's exactly what you get in many comms packages. Two common standards are VT52 and VT100 emulation. The VT52 and VT100 are (or were) 'real' terminals, which use special command codes sent by the remote machine to display characters anywhere on the screen. That is, if the remote computer wants to display an asterisk in the top right hand corner of your screen, it can do so simply by sending a special VT52 (or VT100) command code. Almost all on-line services support VT52 and VT100 terminal types, so it's a good idea to set your comms package to emulate one of these (the 100 if it's available) as a default.

The other major standard is for ANSI graphics. This is a system you'll find on many bulletin boards running on IBM-compatible PCs, and allows the remote computer to send colour graphics to your screen. However, beware: one tiny corruption when the data's being sent and suddenly you'll find that all the text is being displayed white on a white background, or something equally impossible to read. If you really need colour, ANSI is the mode to go for – but most people stick with black-and-white.

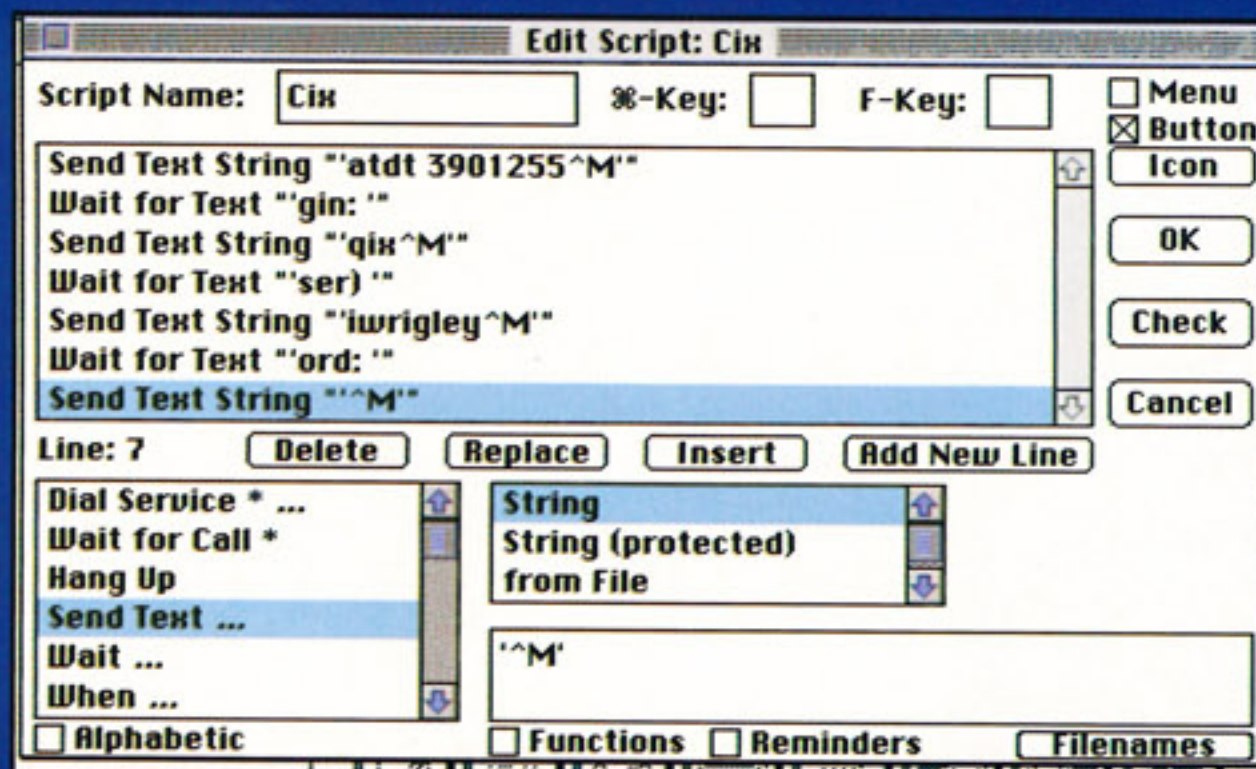
Superb shareware

The chances are that somewhere in your modem package there was a floppy disk with some comms software on it; normally something so basic as to be almost pointless, with no auto-dialling of the services you commonly use, no macros, limited download protocols and so on. The best thing that you can do if that's the case is to use that software just long enough to log on to a bulletin board and download a copy of *ZTerm* – an extremely popular shareware comms package.

There isn't enough space here to go through



Smartcom II, from Hayes, provides a totally graphical user interface – you never need to 'get your hands dirty' and give the modem direct AT commands for anything

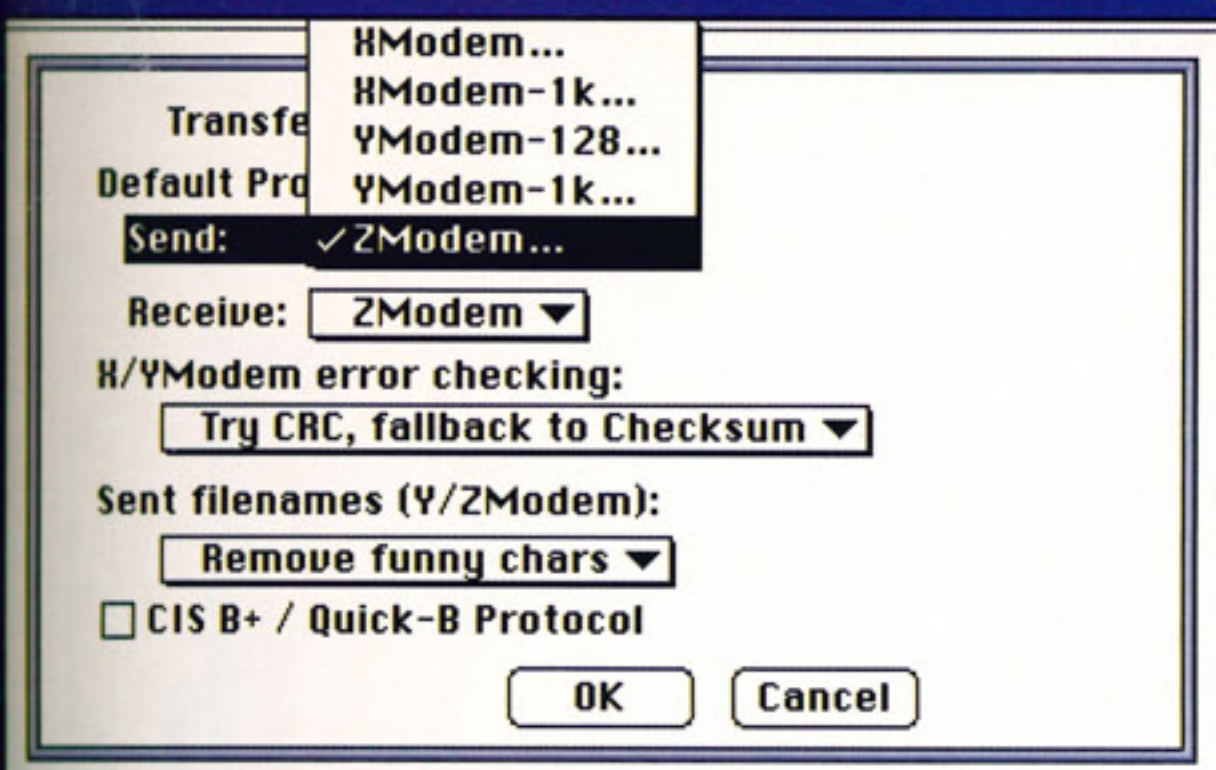


MicroPhone II has a powerful scripting facility, which makes automating things easy. It will watch you and create a script, which you can then view and edit if necessary.

ZTerm in detail, but here are some of key features:

- Features XModem, YModem, ZModem and CompuServe Quick-B protocols for file transfer
- Emulates ANSI and VT100 terminals
- Has a scroll-back buffer (so that you can read things that have scrolled off the screen)
- Will automatically dial your favourite services via a Phone List
- Supports macros and scripting

Although it may take you a little while to get fully familiar with *ZTerm*, it's well worth persevering: this is a very powerful package and one that's the favourite of many, many comms users. The macro (strings of commands executable via one key press) feature is fairly limited, but the scripting is powerful enough for most users – as long as you're confident enough to write a script yourself. Scripting the process of automating a connection – you tell *ZTerm* what to do, what responses to expect from the remote computer and so on – then leave the computer to get on with things. So you can, for example, write a script which will log on to a bulletin board, get you



ZTerm has all the file transfer protocols that you're likely to come across in everyday use – and plenty of options to tweak them for the best performance, if you know what you're doing

The other thing that some commercial packages offer is ease of use: Hayes' *Smartcom II*, for instance, is totally icon-driven, so you never need see that forbidding blank terminal window on your screen – it only appears after you've actually connected and the remote computer is sending you text. This particular program works best with Hayes' own modems, although it should cope with any compatible device.

Dedicated software

Some services have their own dedicated comms software available. For example, although you can log on to CompuServe using any terminal emulation package, it's much easier if you use the company's *CompuServe Information Manager* package. This puts a graphical front-end on things, and is preferred by many people for its ease of use. AppleLink doesn't even let you log on with anything other than Apple's own software, which again gives a graphical front end. This has its pros and cons: it's easy to use, but since the software is only available for Macs, you can't log on from someone else's PC if you want to check for mail or whatever.

Software doesn't have to be expensive, and indeed the package probably used by more people than any other is shareware

Jargon Busters

Download: retrieve a file from a remote computer and store it on your Mac

Kermit: A small green frog

Upload: send a file from your Mac to a remote computer, via modem

Many private (and commercial) bulletin boards are now using special graphical interfaces, such as *FirstClass*. This is software which the bulletin board sysop (SYSTEM OPERATOR) installs to run the board. The user can log on using a normal comms package, and can then download a special program which provides a graphical front-end to the system – whether they're running on PCs or Macs, since there are 'client' packages for both platforms. Packages such as these certainly make for easier comms usage: if you want to download a file, just select a menu option and everything is taken care of for you; if you want to send e-mail, again there's a menu option on your Mac, rather than having to remember some esoteric command to send to the remote computer – sometimes it seems as though every text-based bulletin board has a different method of doing such things. On the other hand, such systems can be frustratingly slow to navigate through if you want to reach a certain point within the bulletin board – often, text-based interfaces are preferred by 'power users', who know all the weird commands.

You pays your money and you takes your choice...

electronic mail and then log off – all without you doing anything after you've set the script in motion. The problem is that you have to do the scriptwriting manually – and it's easy to get things wrong. For more sophistication, you need to look at...

Commercial packages

There are plenty of commercial packages around, and vary from £90 or less up to several hundred. To be honest, the only things that most of these offer are more advanced scripting, and ease of use. Most have a 'watch me' scripting feature, which means that the program will observe you as you log on to a service, and then write a script which copies exactly what you did – far better than having to write the script yourself.

The protocol thang

If you want to upload or download software from bulletin boards, both your Mac and the remote computer need to agree just how they're going to do it – otherwise, you'd just get a jumble of incomprehensible characters on your screen, rather than the file appearing magically on your hard drive. To take care of this, the two computers use a 'protocol', which specifies exactly how the file will be sent, how error detection and correction will be handled and so on. There are a good few protocols around, but fortunately for us only a few are in really common use – and once you've selected the correct one, your Mac and the remote computer will do the work without you needing to worry about it.

The most basic protocol is called, believe it or not, Kermit. And yes, it was named after the frog. It was developed in the early days of computers, when people saw the need to transfer files from one machine to another, and is

supported by just about every communications program about. Whatever machine you're talking to, the chances are that it will be capable of running a program which includes the Kermit protocol. However, Kermit isn't very sophisticated (just ask Miss Piggy), and can seriously affect the time it takes to download files – it transfers a great deal of extra information to make sure that the file is received correctly.

X marks the spot

A major step up from this is XModem (pronounced 'ex-modem'), which is still one of the most widely used protocols, despite having been around for several years. It's not incredibly efficient, but it does the job and, like Kermit, is pretty much guaranteed to be available. One on from XModem is (unsurprisingly) YModem. This is far more efficient, and comes in a number of different 'flavours': YModem-G is a popular

one. If you have a choice of the two, choose YModem over XModem, and YModem-G over YModem.

Bigger, better, faster

Far better than any of these is ZModem. This was a breakthrough in file transfer protocols when it was developed, and is now extremely popular – although you may still find that some older systems don't support it. ZModem is very efficient in the way it works, which means that files are transferred as fast as possible. But there are two really neat tweaks that should make it the protocol of choice if at all possible. First, it automatically receives files for you. If you want to receive files via an XModem or YModem transfer, you must tell the remote computer to start and then tell your comms package that you're expecting an incoming file. Not so ZModem; as soon as the remote computer starts the transfer, your comms package will automatically begin receiving.

Even better than that, though, ZModem can continue with partially complete downloads. This is what occurs if you receive, say, half of a large file and then your Mac crashes (heaven forbid), the phone connection is broken or whatever. You're left with half of the file on your Mac – which, with XModem or YModem transfers you'd have to throw away; you would have to perform the whole transfer again. If you're using ZModem, though, you will be able to resume where you left off – so you'll only need to receive the remaining portion of the file, rather than the whole thing.

There are some other, proprietary file formats around, such as CompuServe's Quick-B, which is only really used on that system; and JModem, which is an extension of ZModem that hasn't really found much of a user base as yet. But as long as your comms software supports XModem, YModem and (ideally) ZModem you should be fine.

THIS
MONTH
ONLY

Get into comms and save £200 with MacFormat

ONLY
£299.95!

This superb super-fast
modem can be yours for an
incredible £299.95!

£50 OFF FOR SUBSCRIBERS

If you're a **MacFormat** subscriber you get a further **£50** off this already amazing price – the comms package can be yours for just **£249.95**. If you're not a subscriber, it's not too late – fill in the subs card on page 66 and enclose it with your modem order and you too can get the extra **£50 off**

We hope that this feature on the world's best comms will have whetted your appetite to try it out for yourself. That's why we have put together this incredible package to allow you to get started in comms with the minimum of fuss and expense.

We could have looked for the cheapest possible modem, but instead we decided to offer the best possible price on one of the very best. The US Robotics Mac & Fax has had rave reviews in all the computer press – see our assessment of it on page 29. Its features include:

- Amazingly fast 56,000bps speed which slashes transfer times and phone bills.
- Six times faster than most modems at this price!
- Full fax send and receive turns your Mac into a fax machine.
- BABT approved – safe and legal to connect to the phone system.
- The latest error correction and data compression protocols ensure the accurate transfer of data.
- Fully compatible with slower modems.

The Mac & Fax has a recommended retail price of £469. **MacFormat** can offer it to you for just £299.95 including everything you need. The price includes a Mac cable and the software to turn your Mac into a fax machine PLUS free registration to Britain's on-line conferencing system CIX!

This offer will run this month only, closing date December 31st, so to take advantage of this unrepeatable offer you'll need to send in the form now!

Yes!

I'd like to take advantage of the
MacFormat comms package.

Please send me my US Robotics modem, cable and software plus CIX registration voucher.

I enclose a cheque for/please debit my ☐ Visa ☐ Mastercard with:
(please tick) ☐ £299.95 – non-subscriber ☐ £249.95 – subscriber

Subscription number from label:

(If you are enclosing a completed subs form, write 'New Subscriber' here)

Cheques should be made payable to **Future Publishing Ltd**

Name Address

..... Postcode

Card no Expiry date

Signed CODE: MFCOMMS

Return this form to: **MacFormat Comms Offer, Future Publishing, Somerton, Somerset TA11 6TB.**

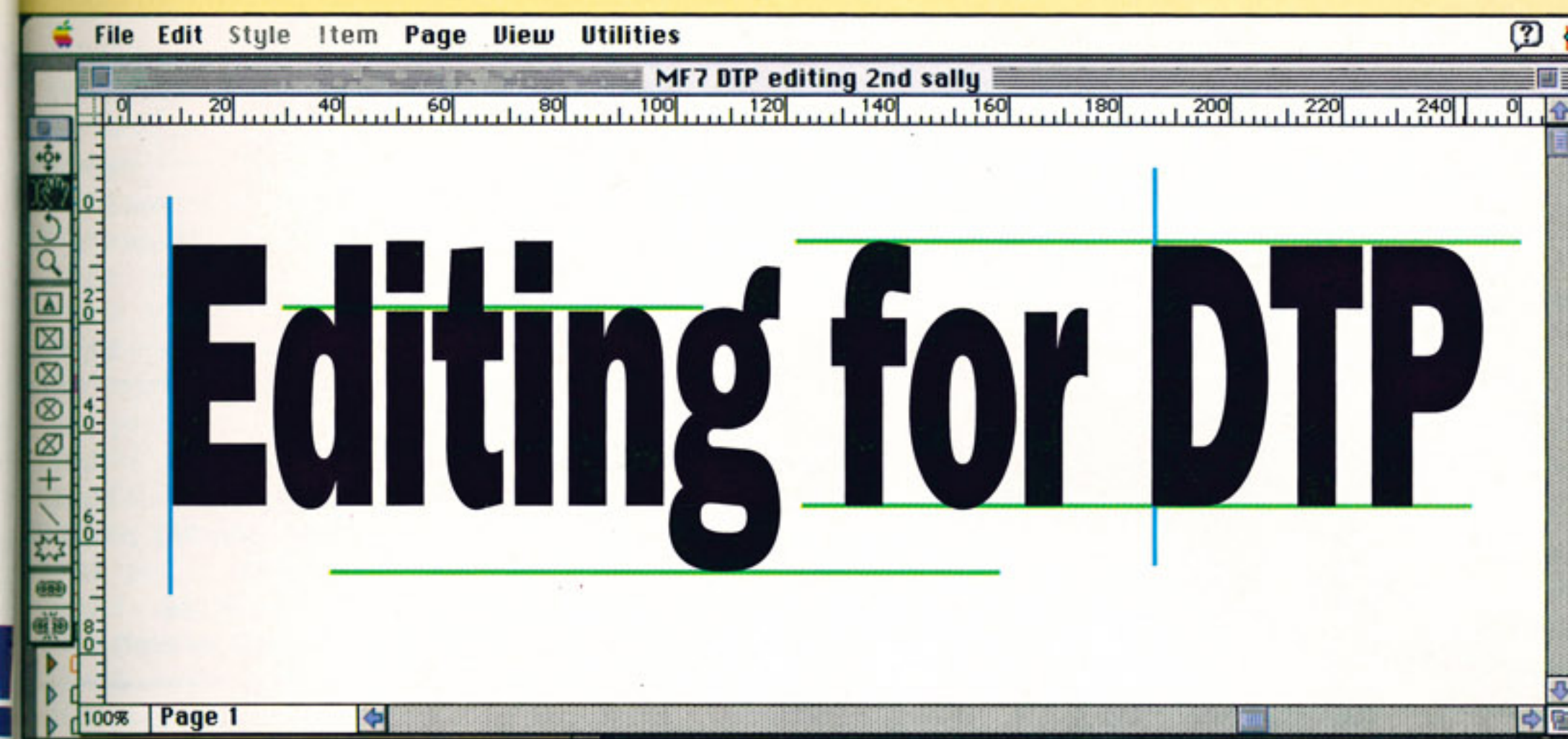
Alternatively we can take credit card orders by phone: call 0458 74011.

Get your CIX cheap

As well as providing the hardware and software, this **MacFormat** offer also gives you the chance to try out CIX, one of the best on-line services. CIX is a vast human resource, with thousands of people collectively able to answer virtually any question. Through CIX you also get your own Internet e-mail address for global electronic communication, and there are hundreds of programs which can be copied to your machine in moments.

When you buy the **MacFormat** comms package, you get free registration to CIX which would normally cost you £25.

If you're in charge of putting together a fanzine, comic or perhaps something smaller like a notice or factsheet, then this series is aimed at you. John Morrish begins by giving you some food for thought.



Desktop publishing is a neat label. It covers a lot of things you might want to do and all the stuff, hardware and software, that you'll need to do them. But it's misleading.

DTP isn't about publishing at all. Publishing is about money: selling, advertising, employing staff, wrangling with newsagents, abusing printers and the rest. *Lotus 1-2-3* is a publishing program. What you use the Macintosh and its software for is to edit on the computer.

As soon as you touch the keyboard you're editing: putting words in and mucking them about. If you print anything out, or make presentations – or let people look over your shoulder while you work – you're publishing. This column is about producing published material that looks, reads and works better.

Those who are already producing leaflets, flyers, newsletters, fanzines, teaching materials, will find plenty that is useful. Those who aren't should start now. You already have the equipment you need. Most of it is between your ears.

Starting anything is frightening, especially if it

involves putting your work before the public. Here things are worse because everything is up in the air, from what to say to what size or paper to way it on. This month we're going to talk about how you narrow those options down so that you can make a start.

What's the big idea?

Commercial magazine and newspaper publishers produce 'advertising-led' products aimed at 'a gap in the market'. They hope to draw readers away from magazines A, B and C to their new product, Magazine D. If they get it right, they make money. If not, they close Magazine D. And then they try again, somewhere else.

Forget all about that. Your publication, whatever it is, must be 'editorial-led'. It should start with an idea. That might be to produce a funny magazine for football fans (in which case you'd have produced *When Saturday Comes*), or it might just be to produce a notice that you can put in the newsagent to sell your car. Be ready to answer this question and you can't go wrong:

What's it for? Tell them: it's to inform, or entertain, or educate, or provoke, or persuade, or irritate. It's intended for a particular group of people. So who are these people? All publishing has to be for somebody. Otherwise, you're writing poetry in a garret, or you're engaging in vanity publishing. You will end up with a cardboard box on your living room floor, full of your thoughts, all neatly bound and unwanted.

Readers, who needs 'em?

You do, and you need to get to know them now, before you start. Most of your other decisions will follow on from what you discover now. Even if you're just selling a car, you must have an ideal victim (I'm sorry, customer) in mind.

As an amateur editor (meaning a person who is doing it for love, initially, rather than money) you have an advantage not always available to people who do it professionally. You don't have to imagine what other people want; you can do something that pleases you and reflects your own personality. You can write, edit, design and

NEWS OF THE PEOPLE

This is an A5 (folded A4) news-sheet I did as a favour for a friend who is a jazz musician. Previous versions were done by his manager and were dead plain. I thought the title 'News Of The People' offered an opportunity to do a little Tabloid parody. I did it on *ClarisWorks 1* on a Classic II, using only the original *StyleWriter* and the *TrueType* fonts that came with it. Pages 1 and 4 are one graphics document and pages 2 and 3 are another. I used the graphics program rather than the word processor because I wanted to place my columns irregularly on the page, which I set up as a landscape document: three on left, then a wide gap to accommodate the fold, then three more. I worked all this out

on paper with a pencil and ruler before using the Mac: you simply cannot do it any other way on a 9-inch screen.

The object was to make it look as un-DTP as possible (hence, no tints, dingbats, rounded corner boxes) but the type handling is enough to give the game away in seconds: *ClarisWorks* is not very sophisticated when it comes to justification, so I stuck to ranged left copy. On the other hand, the 360 dpi resolution of the type, when printed out on good paper, is rather more pleasing than the output of the average 300 dpi badly maintained laser.

The only illustration is the balloons, which I did because I thought that despite the suppos-

edly humorous nature of the writing it was all a bit po-faced.

But they provoked a dispute with the 'star' himself, at which point it became clear that he thought I was just there to process his material through my Mac and not to edit it.

MORAL: he who pays the piper calls the tune (so if you are going to have your tunes chosen for you, make sure you're getting paid). 'Artistes' live under the delusion that their 'genius' extends to everything they touch. It was when he started to advise me on typography that the faecal matter collided with the heating and ventilation control equipment. We're friends again now, but we won't be doing it again.

NEWS OF THE People

Issue no: 1
Autumn 1991
Fearless? May Frank? Someti FREE? Absolut.

News Of The People provides pleasure and information to those interest in the music of Billy Jenkins, of VOTP Records and of fellow travellers.

Billy cans Austria

'NOT FUNNY.' That was the only comment made by Billy's business co-ordinator, Oliver Weindling at Eccentric Management.

He had just been told by the aurally sensitive 'artiste' that he was on going to tour Austria.

Thousands (well, hundreds) of disappointed fans in Graz, Vienna, We and the spiritual home of the VOGC, Wiesen, failed to take to the streets in protest.

Billy's reluctance to travel seems to coincide suspiciously with his producer Tony Messenger putting the finishing touches to his new mix

By Dick Ward

studio – located within earshot of Brands Hatch motor racing circuit.

Wee Jobbie

'There is a huge backlog of works in progress,' reasoned the slightly physically shattered strummer. 'So for Glenn Gould's sake, let me get on with it, instead of

expecting me to while away the hours on unfamiliar street corners waiting for showtime.'

So whilst Jenkins awaits the Muse to infiltrate his frame, Eccentric Management are happy to process performance proposals, uphold Jenkins' right to silence and, to quote writer David Igo, 'expect the unexpected...'

FANTASTISCH!

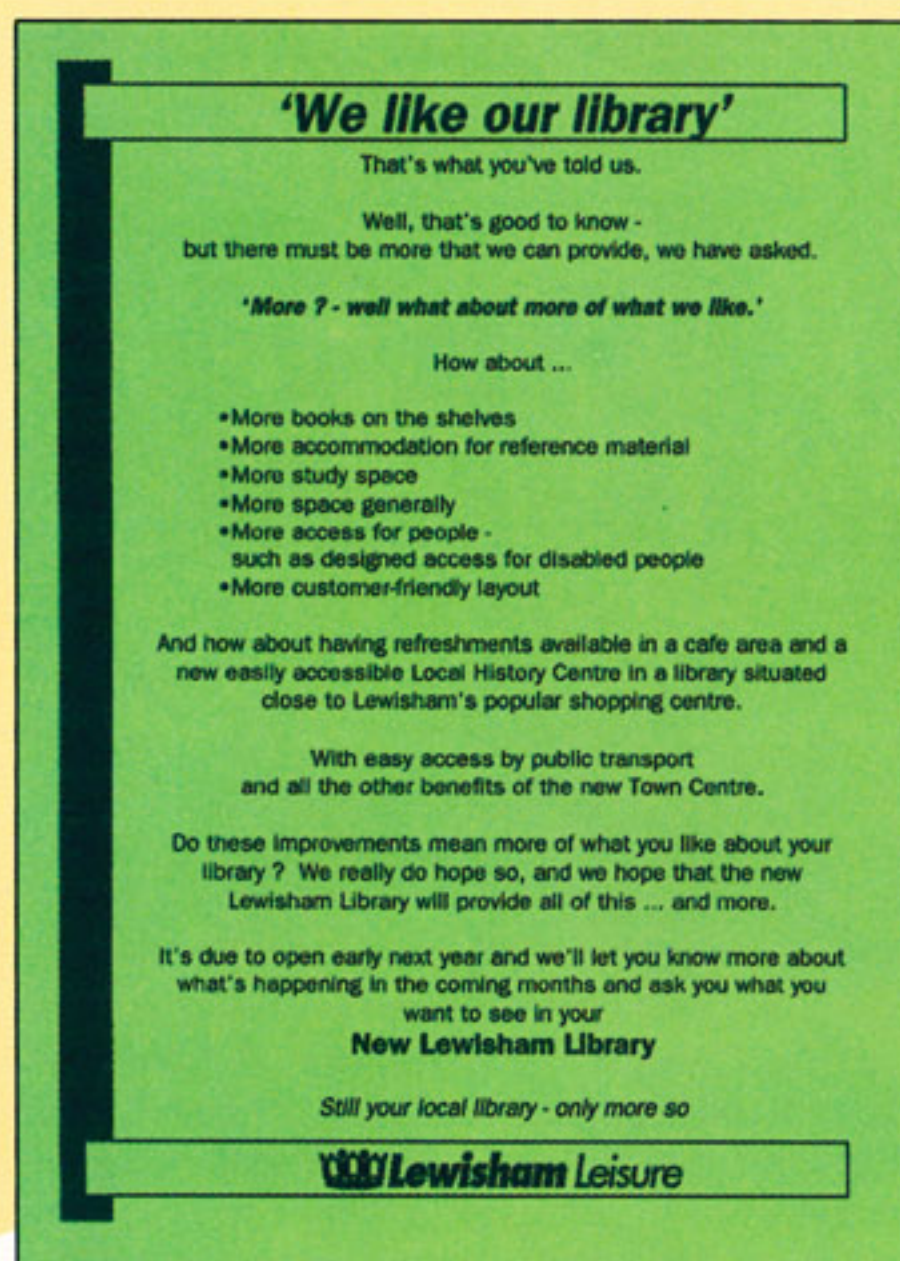
'Hugely enjoyable' said Ronald Atkins in the *Guardian* of the recent VOGC/Funhoms of Berlin encounter. The participants couldn't agree more. VOTP is hoping to have available copies of the Funhoms' CD live in South America. Write to VOTP for more information.

LEWISHAM LEISURE

GREEN HINTS FROM GREEN SERVICES

I like this. Being a list, in which everything is of more or less equal value, it doesn't need a design that directs you at all. The little clip art line drawings are quaint. The typeface is friendly (Souvenir, at a guess) and the whole thing must have been very quick and easy to knock out. (Unlike the *News of the People*). The line lengths are at the upper limit for continuous reading with laser type on photocopy paper: but then this isn't for continuous reading. It would have been cleaner on white paper: but the green paper makes its own point for almost no extra cost.

MORAL: less is more.



What do they want from what they read? Will they want it? Will they pay for it?

Write down the answers to as many of the questions as you can. They will determine what you go next. Meanwhile, here's the sum you're going to have to do. Say, for a student paper left in dump bins and given away free.

Total number of students in the union 10,000

Minus:

20 per cent who don't come to union 2,000
20 per cent who don't/can't read 2,000
10 per cent too cool to be seen reading 1,000
10 per cent who only read books 1,000
10 per cent who are loyal to a rival rag 1,000
Sundry other non readers (say 10 per cent) 1,000

Equals:

Actual likely readers 2,000

Actually, that's too gloomy. You've counted all of the non-readers twice or more, because they're in several categories. But it's better to sell one and be in demand, at least initially, than it is to litter the streets with unwanted publication. David Thomas, who produces the acclaimed Queen's Park Rangers fanzine *Kick Up The 'Rs'*, tells me he operates on the basis of selling 90-odd per cent of his print run. That makes sense.

It's lovely. What is it?

You have investigated your potential readership. Now you have to experiment for yourself. The answers are still fluid. Try producing various mock-ups, 'dummies', to test how various things work. It's part of your decision-making process, in the early stages, and then part of your market research. Slumming it with look and feel, which is about the physical aspects of your publication, including:

■ **Page size and shape - or 'format'** A postage-sized notice will disappear on a big wall; a tabloid is too big for a sports or the sheet programme: you can't see round it. Is it to be carried around, posted, read on the bus? Different formats have different characteristics. Isn't a tabloid too scruffy for your serious newsletter? Isn't A5 a little underwhelming for your business plan?

■ **Number of pages ('pagination').** If it's a poster or a leaflet, the answer is one. Otherwise, the

publish for people like yourself. It's the difference between cooking at home for your friends and putting on a silly hat and asking people whether they want regular or large fries, a thousand times a day.

Personal publishing takes off when the editor and the readers share similar passions and speak a common language. As editor, you can work by instinct and it will be right. You are going to give your readers that nice warm feeling that they get when somebody knows them, and understands them, and shares their feelings.

It is as well to know how many people like you there are before you start; find out where they are and go there. This is what we call research.

There are two questions you need to ask:

■ **How many people are going to read my publication?**

■ **What are they like?**

Answering the first question is about starting with a big number and ending with a small one. Your big number is the maximum number of people who are going to see your publication:

your potential readership. If you are producing it for members of your student union, you can discover your big number because it will be finite. If you are fly-posting notices on walls, or selling through newsagents, there is no definite big number, you'll have to make an educated guess.

Your small number is how many are actually going to want their own copy of your publication, or are definitely going to read it. If you are doing a newsletter for a club of 20 people, you might be right in thinking your big figure and your small figure could be around the same. But if your student paper is left in boxes around the union for people to pick up, only ten per cent of your potential readers may bother. To estimate your small figure you'll have to make another guess.

That won't be possible until you can answer the second question: what are these people like? For now, they're just potential readers. If you are already publishing, you can ask them what they're like, but for now, you just have to start asking around and using your brain. Who could be your readers? What do they usually read?

PRIVATE EYE 'Footnotes'

Private Eye was produced, until very recently, on IBM golfball composers: glorified typewriters. The typed galleys were stuck down with cowgum on printed boards, along with various photocopied bits and Letraset headlines, and then sent to the printers where the photographs were screened and stripped in. The whole was then printed on the nasty newsprint we know and love.

Today, the type is a pair of heavy duty PCs running Ventura Publisher (what?) and PageMaker. It is then

printed out on a 600dpi laser. The original Varitype VT600 is now supplemented and largely replaced by a Hewlett Packard Laserjet IV which cost not much more than one-tenth of the price. Such is progress. Pictures are still stripped in at the printers and the heady scent of cow-gum is still very much in evidence as the camera-ready artwork is assembled.

"Why are you telling us this?" you ask. "It doesn't even involve a Mac."

MORAL: there is more than one way to skin a cat. Scalpels and paste-up

are ideal where split-second timing is essential. *Private Eye* is usually still being written minutes before the man comes to take the pages to the printers. As for using laser printing as your camera ready artwork, why not? Can you tell the difference, once it's printed on that bog paper? But 600dpi is a lot better than 300 dpi. As for using those other machines, *Private Eye's* belated conversion to technology came just before those nice people at Apple realised they were going to go bust unless they gave people value for money. The clone-based system is inelegant but was economical.



again about all the questions you asked about page size and add some more. How long will it take people to read it? Too long and they won't be bothered. Too short and they'll feel cheated – even if it's free. Your publication will be thin, but how thin is too thin?

■ Paper quality (known as 'weight'). Think about image. Will readers of your company report expect glossy paper? Will readers of your comic mind newsprint? Is it better to provide a few pages on thick paper, or lots of pages on thin paper? Can you print nice pictures on recycled cardboard? Will your readers curse you if the ink comes off?

■ Printing. Would your readers mind if you gave them just a photocopy? Will your readers expect colour? When the ink comes off, what colour would they like it?

■ Design. How sophisticated should you make it? If it's a fanzine, should it look like an official product? If it's intended for people who go greyhound racing, is there any point in trying to make it look like *Vogue*?

■ Type handling. Should the writing be big or small? How far are people going to be away from it when they're reading it? Will it be in bright light, or darkness? Are they young, with perfect eyesight, or getting on? And what about the style of the type; do your readers want Daily Telegraph, or Ladybird book?

■ Pictures. Do the readers of your business plan (your bank manager and suppliers) really want pictures? Could you sell your car more effectively if you didn't use a picture of it? Will people read your poetry without drawings?

Back to the drawing board

You've thought it through. Now do some dummies and see what people think. Get some paper of the size and shape and quality you fancy using, and cut and fold and staple until you have the number of pages you fancy, bearing in mind you have to work in multiples of four. Take one sheet of A4, fold it down the middle horizontally and you have a four-page A5 newsletter.

You can do the same thing by folding A3 to make A4 newsletters: that's the glory of the 'A series'. Hand your dummy round. Put it in your pocket. Fold it in half and leave it in your briefcase. Stuff it in your pigeon-hole. How does it cope? What do people think?

Now make some sample pages. You can do this on your DTP equipment, if you've got it. But it's easier and better to get some magazines you like and cut them up and glue them: just like you used to in Mrs Whatsit's class when you were nine. You might like the body type of *Private Eye*, with the headline type from the *Independent*. Glue all the bits together and photocopy them. It'll look crap, but some arrangements will look more crap than others, and that's how you learn. And you can show it to other people.

Looks aren't everything

You have other things to think about. For instance:

■ Frequency: It pays to be regular. Do your readers – and your subject matter – need a monthly publication or would a quarterly, or once a term, do just as well? Or maybe you're producing a one-off, and why not?

■ Tone: Are you going to be funny or serious, solemn or irreverent? Are jokes really well suited to the company newsletter? Are your jokes funny? Do people want to hear your

CASABLANCA

You won't have seen this one, thanks to poor distribution. It's a sort of grumble-sheet for left-leaning journalists with scandalous stories to tell. Unfortunately, it doesn't have many readers or much money and what it does have it uses on having a stiff cover, nice thick white paper and the services of a bureau. Why?

Throughout, interesting material fights with design. This publication fails to answer my question "What's it for?" with any degree of conviction. Good points: good text type handling; worthwhile subject matter; a lot of magazine to come out of one LCI. But really, you can always improve your cover and your paper when you are earning enough to pay the milk bill.

MORAL: cut your coat according to your cloth.

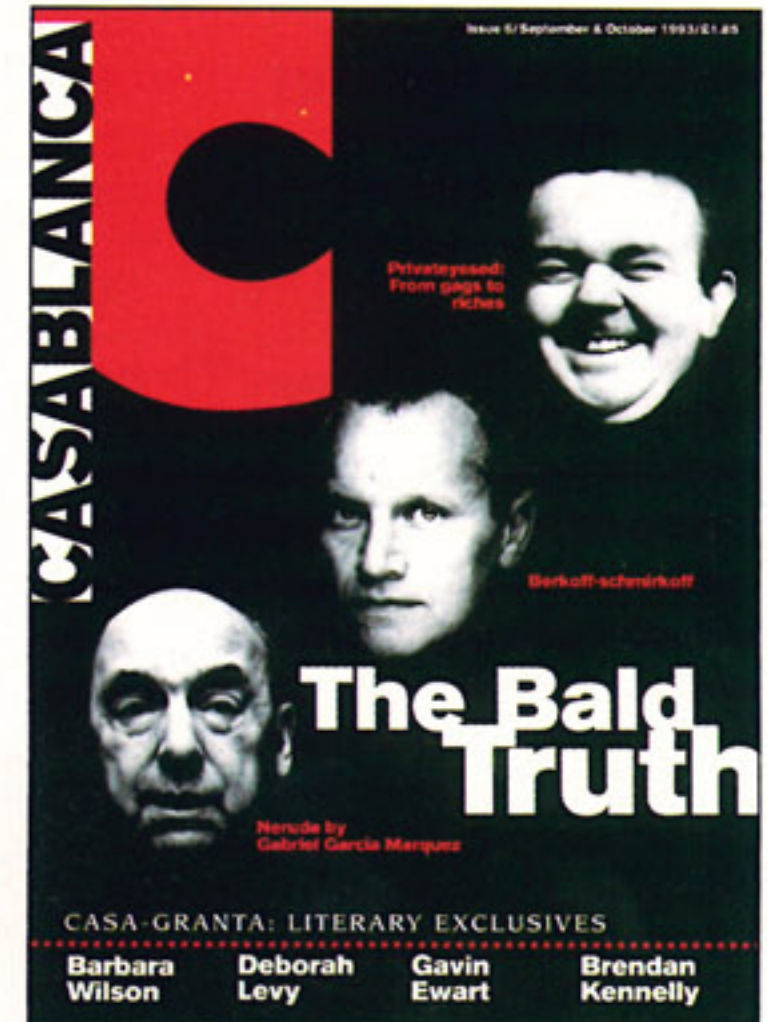
opinion, or do they just want the facts?

■ Editorial integrity. Do people want 'official', or 'alternative'? Do they want the management view, or the workers? Do they want the record company's account of things, or would they rather listen to yours?

This is the end, my friend

By now, you should have assembled a mass of stuff: numbers, answers to your research questions, other publications you want to emulate, several folded and stapled dummies of different sizes and bulk, some bits of copy, perhaps some pictures and illustrations.

What you won't necessarily have done is switch on the Mac. You must think of the Mac as a tool. It's a fantastic tool you can do just about anything with, but so is a pencil. Use the Mac to do things you can already do, but better, faster and more economically. Don't expect this magnificent machine and its software to tell you what to do and how to do it. Most of all, don't ask



it to do your understanding for you. For instance, I wouldn't buy *Illustrator* and expect to be able to draw like Leonardo Da Vinci. I've got a shareware *Ritz Accounts*, like most of you: but I don't expect it to make me into an accountant. You have to learn these things.

In the old days, the techie anorak people would often talk about GIGO: Garbage In, Garbage Out. Well, it works the other way too. What we are going to be doing here is what I call QIQO. It stands for Quality In, Quality Out. It's the way to do it. mf

NEXT MONTH

We'll be looking at:

- What you will need, in terms of equipment, skills, time and money.
 - What you've already got, though you perhaps don't know it.
 - How to bridge the gap.
- We'll also produce our first bit of work.

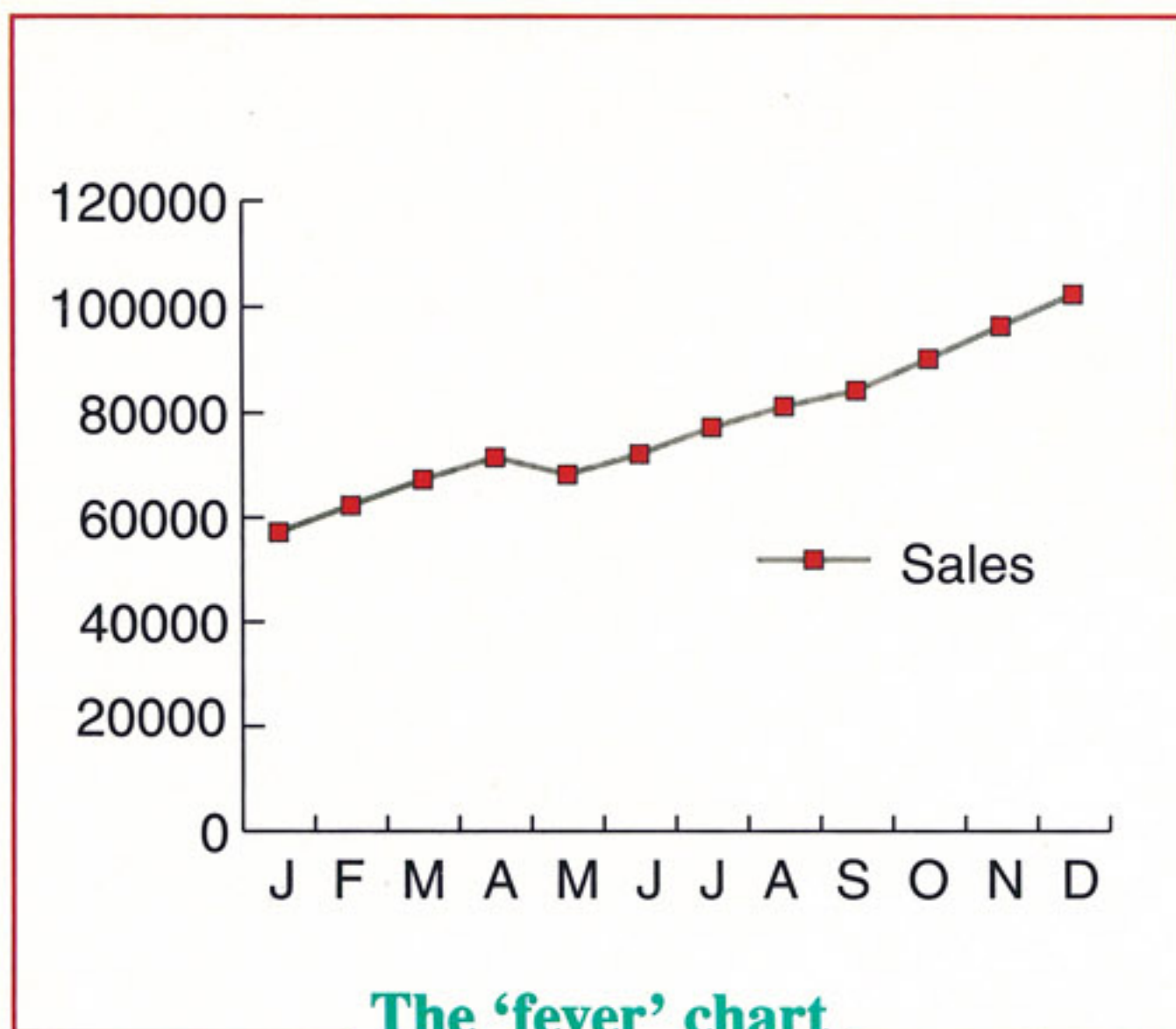
SKI SURVEY

This is the magazine of The Ski Club of Great Britain. Formerly a rather dull product put together by a firm of graphic designers for the benefit of this great organisation's rather passive membership, it is now being edited by a professional journalist and aimed firmly at the casual news-stand browser. Produced on three Macs, of which a Centris running Quark is the kingpin, by three people. The Macs are used for type and line work, which is run out via an imagesetter and combined with colour-house-scanned photographs.

Aside from the design, which is clean and attractive in a rather classical colour-supplement way (skiers – particularly members of this club – are a conservative bunch), the publication benefits from the fact that every heading, standfirst, crosshead and article has been thought about and polished by someone who is good with words. Attractive design gets people interested and steers them where you want them to go: but if you want to keep your readers, you have to get the words right. You don't have to be a professional journalist to do that.

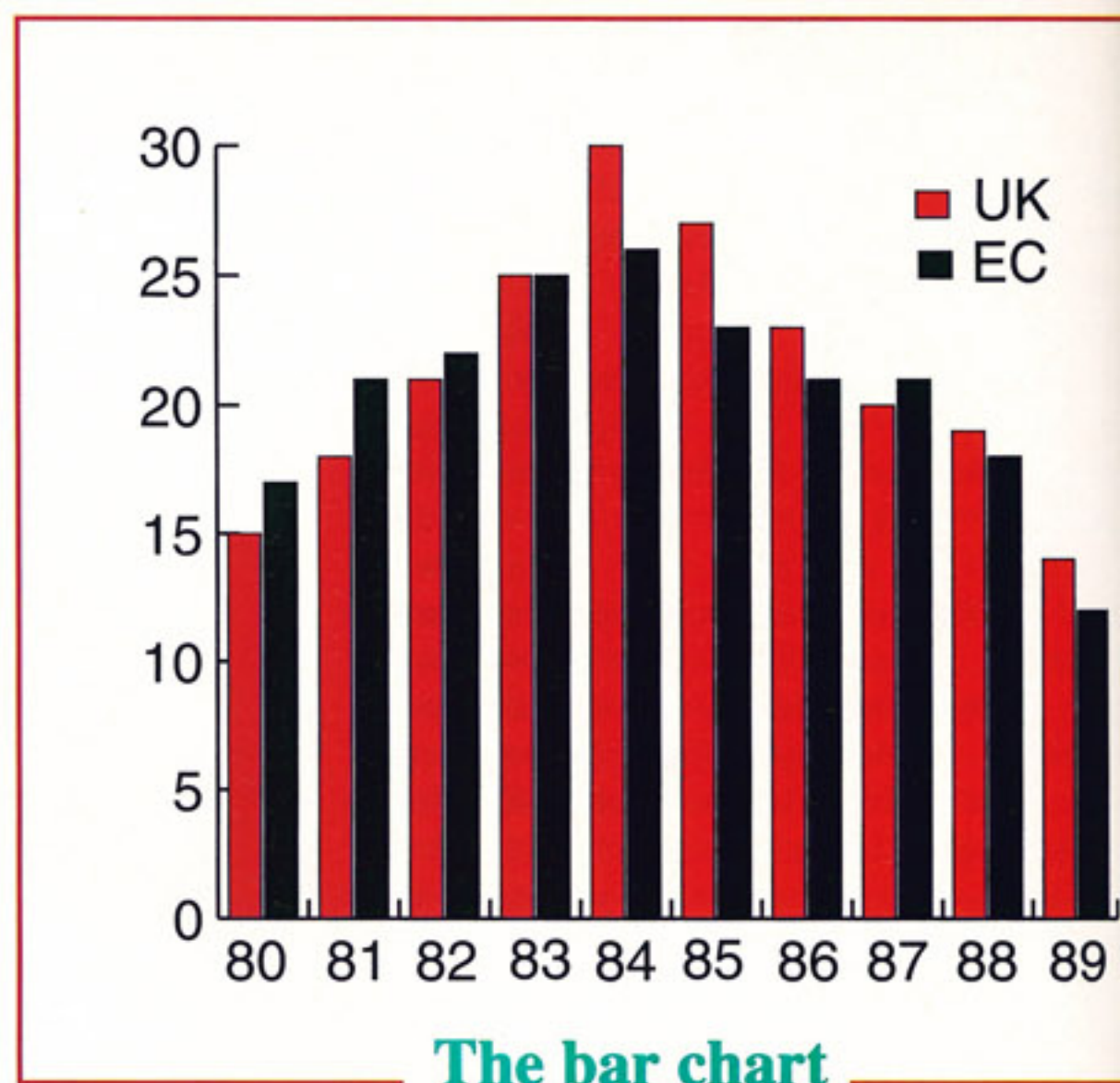
MORAL: looks aren't everything. But they help.





The 'fever' chart

Named after the piece of paper on the clipboard hanging on the end of a hospital patient's bed (plotting the rise and fall of his temperature), it is sometimes known as a line graph. This is where you have an X and Y axis, with a 'fever' line plotted across a number of points on the grid, commonly in a strong colour (feverish red). This type of graph is easy to produce and is great for any set of figures that shows a flow of data over a period of time, for example, unemployment figures or stock market trends. It is favoured by business people and politicians.



The bar chart

This is another style much loved by the business world and television news producers. A bar graph is a group of elements grouped into columns, with each one represented by an individual bar and given height or weight to correspond with its value. This type of graph is perfect for highlighting small groups of individual figures rather than the overall flow of data. It can also be very useful for demonstrating the difference between two product performances plotted over the same time period or similar data.

Vital statistics

Gordon Druce shows you how to design effective graphs to ensure those all-important figures get noticed

Are you a student, a small businessman promoting his product perhaps, or do you produce a newsletter for a company, club or society? Well at some point in time, you are going to want to convey some facts and figures to your readers and for this you will need to prepare a graph or chart of some kind. Here are some basic pointers and tips to make your facts and figures a little more stimulating for your readers.

One key factor in the

design process which I have mentioned before but is worth mentioning again, is that it is impossible for the designer to draw up a successful layout or in this case, graph or chart, without a clear understanding of what it is about and what emphasis is to be placed on the content. When this is understood the designer can get to work adding meaning to the graph, by using scale, colour, weight of line and so on. Take a look at the figures you have and make a note of the conclusion and the point you want to make. If you want product X to appear faster at performing a task than your competitor's product, then that is what

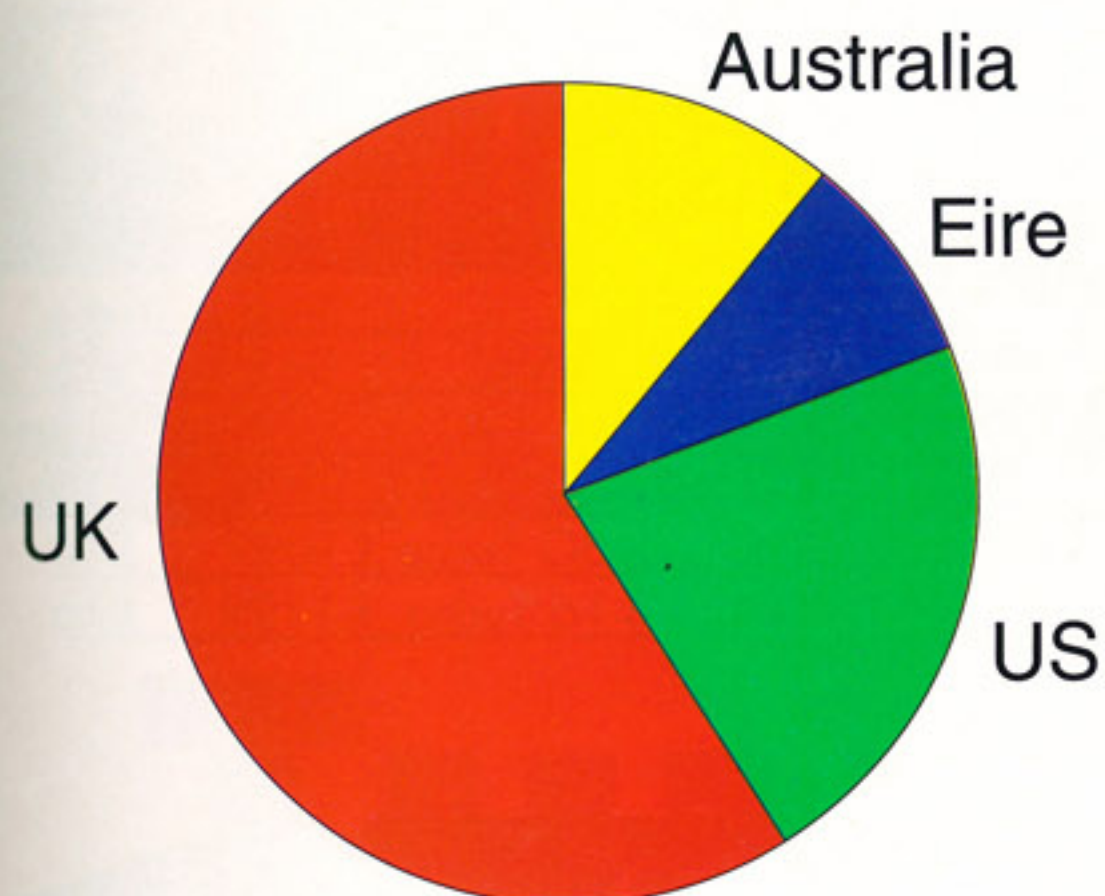
should be highlighted. It should be clear for the reader to understand at a glance the significance of the trends and relationships between the figures.

This 'at a glance' understanding can then be underpinned by a heading or

title for your graph; this should not just be a label but a sentence that aids understanding. Instead of saying, "Growth of CD sales 1993-4", try a more active statement like, "CD sales have doubled in just one year". Make your charts as simple and straightforward as possible; don't try to compare too many items. A good rule of thumb is not to compare more than three elements with each other. So just compare for example, CD sales from 1992 and 1993 – instead of the past five years. If you combine too much data, it will lead to a messy and incomprehensi-

ble graph. You may need to display more than two or three types of information so, try breaking the data down into two graphs – even three graphs – make the first one small, showing the long term trends of sales and the other much larger, highlighting this year's explosion of sales.

As a designer you are taking the figures and literally making them visible thus making it easier for a more digestible for the reader or viewer to follow



The pie chart

This is commonly used for displaying a company's market share or a school's budget. It can also be used to break down the price of a product to show where each penny actually goes. It's usually designed as a circle, cut up into segments like the spokes of a bicycle wheel, which are shown as a percentage of the whole – ideal for showing up to ten component parts of a whole figure. But care must be taken, as too many segments can lead to very small slices of the pie, which are hard to label and look unnecessarily complicated.

	SALES			
	UK	Eire	US	Australia
1980	23,167	9,445	12,989	7,143
1981	27,351	10,102	17,338	8,843
1982	31,187	11,572	15,226	9,132
1983	34,602	12,988	18,423	7,321
1984	30,119	13,274	18,355	8,332
1985	36,988	15,332	20,115	8,739
1986	40,382	16,599	22,382	9,045

The basic table

We look at this type of chart every day, whether it's a calendar or a bus or train timetable. The concept behind it is very simple: the chart consists of a collection of numbers and words, set into columns, usually with a basic grid. It's great for any kind of timetable or large amount of data that would be impossible to chart in any other form. Tables are also used when the exact value must be used and not just the general flow or trend as in the 'fever' chart. (For obvious reasons, this type of chart is not so popular with politicians!)

DEDICATED PROGRAMS

It is possible to draw up charts and graphs using DTP and drawing programs like *Freehand*, *Illustrator*, *Publish-It!* *Easy* and *Personal Press*. However, there are also three programs dedicated to generating graphs on the Macintosh. *Cricket Graph* at £120 is a basic entry level program that is easy to use. *DeltaGraph Pro* costs a little more at £175 and is a popular choice, as it offers both 2D

and 3D graph effects. The learning curve is steep but once you've cracked it, this is a very powerful piece of software and lots of fun. At the top of the price range is *GraphMaster* at £180, which is an excellent package and is now System 7 friendly with similar high levels of control as *DeltaGraph*.

All these programs are really only of value to a professional in the field of design, business or

education, who constantly needs to produce a large volume of graphs on tight deadlines. For the most part I find they lack the character of graphs generated in other Mac drawing programs, because of the 'preset' nature of the applications. But that said, if you are in a tight corner and need some smart graphs by yesterday, then these programs will help you get a few more hours sleep.

Instead of having a set of anonymous, dull and unfriendly line of numbers, you are translating them into a visible form, adding colour, context and capturing the reader's eye, while at the same time helping them develop an understanding of the statistics or sales pitch.

Remember that the reader should have to do as little work as possible, so don't have any complicated key systems. Try to make each of your graphs a clearly defined unit with simple and clear labelling.

Also try where possible to reduce the grid lines behind your graphs. Leave just a minimum of guide lines for the eye, as too many grid lines will overwhelm the reader and he or she will find the data confusing to understand.

The key to eliminating this type of confusion is to colour your graph in the simplest of styles. Add strong contrast to the main trend or pointers on the chart; use a clear, powerful black or strong coloured line or bar for the major trend line and add lighter or tinted lines to those of less importance. This is also the time to remember just what it is you are trying to say with your graph. What's the purpose of it in the context of your overall design idea? Can it be linked to a picture or illustration to give it even

more impact and what about using clip art to add more interest and understanding to the figures? Set a style for your graphs and stick to it. This is very important for business and education graphs where standardisation of the look and feel of all

your graphs and illustrations will add authority to your information, whether it's graphs for your end of term essay or as a visual aid at a local business seminar.

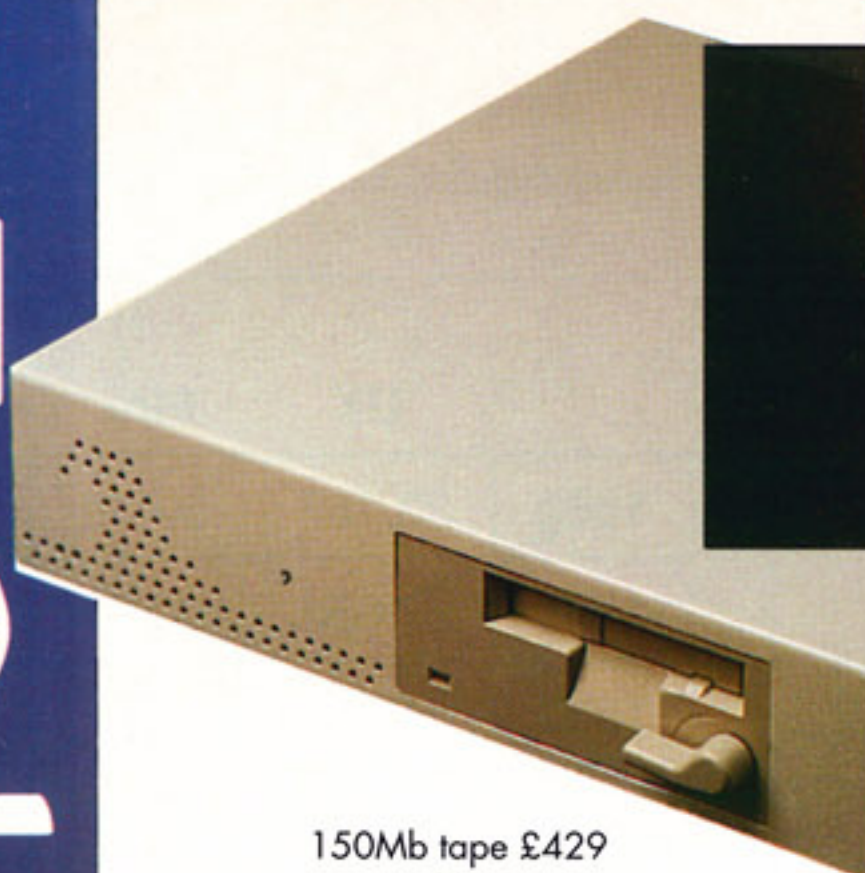
Choosing the right type of chart can be a tricky process – your statistics or data can be presented in many different styles, but you must have good reasons for choosing a particular type of graph.

There are four basic forms of chart: these are 'fever' or line charts, the bar chart, the pie chart and a basic table. You will find that most graphs you come across, whether at school or college, in the media or work place are based on one or more of these styles. For example you will often see

the 'fever' chart and bar chart drawn up together into a hybrid style, so as to exaggerate a trend on TV news programs.

Whichever graph you choose to illustrate your figures with, it is important to remember that it must appear to be the most natural way for the material used to be shown. Don't force the data into a style of graph, just because you happen to like the look of it.

0800 765432



150Mb tape £429

DAT's the way! 2-8Gb DAT £999 inc Retrospect Remote 2.0, installation kit

Since our DAT was a 5-mouser best buy in February, we've doubled the buffer size for even smoother backup, doubled the warranty to 2 years, cut the price by £100, and added a double speed version at the original price. Coming soon - double speed and double capacity.

tape	drive	media
150Mb	£429	£16
2Gb DAT	£899	£10
2-8G DAT	£999	£10
2-8G Turbo	£1099	£10
4-16 Turbo	£1199	£16

120 Mb disk £199

210Mb £269; 520Mb £529;
1000 Mb £799



hard disks	seek	int/ext
120	15	£139/199
210	12	£199/269
240	15	£229/319
425	9.5	£419/499
520	9.5	£449/529
1000	9.5	£719/799
1200	8.5	£879/959
1600	9.5	1219/1299
2000	9.5	1519/1599
2000	12	1099/1249
4000	11	2399/2549

seek times are average,
"effective" seek times are all faster.

Our 1000Mb drive outperformed FWB's £2599 Hammer 1000FMF in MacUser's April 1993 gigabyte drive test. Real world performance of all but one of the other drives tested was 28% to over 130% slower. Yet none had a lower cost per megabyte.



3 year warranty
hard disks over 300 Mbytes
optional on other drives

Syquest 44Mb £239

UK installation kit £18; cartridges £44
Tiny Syquest 105Mb drive £449

Helix Express £279

£129 competitive upgrade available

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

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



Syquest 105Mb 3.5"

	drive	media
21Mb floppy	£249	£16
44Mb Syquest	£239	£44
88/44Mb Syq	£339	£69
105Mb Syquest	£449	£59
128Mb Optical	£649	£29
600/650 MO	1399	£68
1.2/1.3 G MO	1999	£99

All external drives (except 21Mb floppy, 105 Syquest) have 90-270V power, twin 50 way SCSI, pushbutton ID switch, platinum grey "zero footprint" aluminium housing. Installation kit comprises UK mains cable, SCSI system cable, terminator, software.

Warranty: 1, 2 or 3 years. **Delivery:** £8 next day. **Prices exclude VAT.**
Payment with order by cheque, Access, Visa or Mastercard.

Call free for product literature, or to go on our mailing list.

WAVE Sales 0800 765432 Enquiries 0392 444840 fax 0392 364345

Over 200 other products including **MEMORY** for all Macs,
premium quality **CABLES** from £4, **MEDIA** including disk, tape and optical.

WAVE is a division of Computer Capability Ltd,
8 Newbery Centre, Exeter Airport, EX5 2UL Devon

WAVE



Turning pro

If you're thinking of sending your work to a DTP bureau, there are a number of precautions you can take to ensure good results and save yourself money. Martyn Lester shows you how...

For many desktop publishing tasks, the quality of output that can be achieved using a laser (or even ink jet) printer will prove perfectly adequate. But for professional quality work, where you need to make printing plates from a crisp, high-resolution page image, it is usually necessary to output via an imagesetter – and for most people, that means taking their files to a typesetting or DTP bureau.

If you haven't used a bureau before, but are thinking of doing so,

it is useful to recognise that there are numerous potential pitfalls involved. This is not to suggest that the majority of bureaux are anything

other than competent. Rather, there are always plenty of opportunities for things to go wrong when documents are output from systems

other than those they were created on, and more often than not it is the client who is at fault – or at least vague about what they want the bureau to do for them.

In a future issue we will look at some of the finer points of higher end output, particularly of spot-colour and four-colour work. But for this month, let's settle for a new users' guide to the points which ought to be considered when dealing with a bureau – having said that, these rules apply to all bureau users, whatever their skills and experience.

1 Match your machines

Contrary to what you might think, Apple Macintoshes are not the only computers used for desktop publishing. Although it is true that the majority of bureaux do cater for Macs, it pays to check. And to do it at the beginning of your inquiry – you don't want to spend 15 minutes sorting out a dozen other details before discovering that you have picked one of the rare bureaux which specialise in IBM-compatible PCs and don't handle Mac work at all.

The same rule applies to any other technology you need to have in common with the bureau. So if you want to supply your files on cartridges (removable hard disks) you should make sure that you both use, for example, drives with SyQuest engines rather than two different types.

2 Match your software

That doesn't just mean checking that the bureau has the same program that you use, but whether you are working with the same version. If the bureau doesn't have up-to-date versions of standard professionally-used packages such as *QuarkXPress* and *Aldus PageMaker*, I'd be a little worried about how seriously they take their work.

If it's you that doesn't have the latest version of your software (rather than your local bureau), think very seriously about upgrading – documents created in old versions can produce much more serious problems than you might imagine. And every time your work doesn't appear the way it should, you'll be charged if it was you that was at fault. Most bureaux would say that giving them a file created in

an old version without warning them was your fault!

If, for some reason, you can't upgrade to the latest version, then find out everything you can about the problems this may cause. Discuss it with your bureau, and decide how you can avoid or work round the difficulties. If you haven't ensured software compatibility and it all goes wrong, the bureau is fully entitled to regard this as your fault and to correct it at your expense.

If you are using word processing or budget DTP software rather than one of the high-end programs, don't be too surprised if you can't find a local bureau that covers that package – a commercial enterprise is not going to buy in software if there's insufficient client demand for it.

One way around the problem of bureaux not having your software is to save pages to PostScript rather than as documents in your package's 'native' file

format. There are two variations on this theme. The first is to save the page as plain PostScript, and the other possibility (if your software supports it) is to save each page as an 'encapsulated PostScript' (EPS) file. Each of these types of file can be printed without the bureau needing to have the software that created it.

Working with PostScript or EPSs can also be useful if, for example, you are suffering from version mismatches which would make your text reflow. But there are also distinct disadvantages (you'll find it's somewhere between very difficult and impossible for the bureau to make corrections for you, for example) and there are other inherent dangers (see the panel on page 41 for more details). If you are thinking of working in this way for any reason, discuss it thoroughly with the bureau first to make sure that both of you know exactly what you're doing.

3 Check font formats

It is unlikely that you will want to send your bureau documents composed of bitmapped fonts (it would be a waste of money to output low quality work on high quality equipment), but that still leaves three formats of outline font to consider.

Virtually all bureaux work with Type 1 PostScript fonts (which are currently regarded as the 'professional standard'), and if that's what you are using, there should be no problem. There also used to be something called Type 3 PostScript fonts, which were constructed in a subset of the full PostScript specification and were missing finer points such as hinting routines.

No one (as far as I know) has made Type 3 fonts for some time now, and you are unlikely to come across them. If, for any reason, you



Improve your image

An **imagesetter** is a digital typesetting machine that can process graphics as well as type. When it has a Mac as its front end, it can be thought of as simply another kind of printer, but a very high-end one.

For practical purposes, the difference between an imagesetter and, say, a laser or inkjet printer is one of resolution. Any document you print out is made up of a set of black dots (whether you can see them as such or not), and an imagesetter can use many more (smaller) dots to produce the image than a desktop printer can, thus producing sharper and more accurate results. For example, a LaserWriter works at 300 dots per inch, while even a bog standard imagesetter can manage at least 1,270 (and in dots per square inch,

that means over 1.6 million, compared to the LaserWriter's mere 90,000).

As well as a unit which prints pages to photosensitive paper of film, the imagesetter will have an associated raster image processor (RIP) – software or firmware which takes the PostScript code from your Mac file, looks at where the elements fall on the page, considers the resolution it is being asked to work at and calculates exactly which dots to turn on and off.

If you're into high-end kit, you should be drooling at the mouth by now. So if you fancy the idea of owning an imagesetter, start saving now, wait until your piggy bank is into six figures (in pounds) and then check how much they've gone up while you've been saving...

..... do have a collection of Type 3 fonts, it would make sense to switch to a better format. (By the way, it's unlikely that you'll find any Type 2 fonts, because it was an unimplemented format!).

The mismatch likeliest to arise is that you want to work in TrueType and the bureau works in PostScript.

It is entirely possible to output files using TrueType fonts on a PostScript device, but there's a potential problem. The printer will look first for a PostScript version of the font you have used. If it finds one, it will substitute the PostScript for your TrueType, and if the font metrics don't match perfectly, the text in your document is highly likely to reflow.

The only way round this is for the bureau to clean their system of the relevant PostScript fonts, and they may be unhappy about going through this rigmarole unless you are a very regular or high-paying client. If you do want to work in TrueType, talk to your bureau about it first and see what they can do to help – for example, in running tests to check that font metrics will match on substitution.

4 Match your materials

Check that the bureau can offer the type of output materials your printer requires. Many bureaux offer both film and 'bromide' (light-sensitive paper) output.

Paper is usually simple enough – a positive image of what the printed page should look like. But if you are going to use film, you need to specify what type – positive or negative image, and which way it 'reads'. For example, film which is black where the printed image will be black, and clear where the printed image will be white, and where the text reads correctly if the emulsion side of the film is pointing away from the reader, is called 'positive, right reading, emulsion down'.

Most printers can work around almost anything you send them, but sending material that has to be copied off into a different format can have three implications: delay – if they weren't expecting it, they won't have allowed for the

time needed for conversion; a drop in quality – every time an image is copied it deteriorates, even if only very slightly; extra cost – a surcharge for work not envisaged in the original quote. So it makes sense to get a match if you can.

5 Match output sizes

Check that the bureau offers the output dimensions that you need – and be careful here, because the right size isn't always what you think it should be.

For example, if you are working in A4 and you want to add crop marks for placing the page precisely (or registration marks for aligning colours or overlays you don't require A4 output, but rather a slightly larger page so that there's room for the marks to be printed on to the bromide or film.

Check other size considerations too – if your printer needs some of your material to be supplied in the form of two-page 'spreads', or if you're doing something like a gatefold, you need to know whether your bureau offers this option.

6 Don't lend fonts

When a bureau doesn't have the fonts you want to use, it may ask you to send copies of your fonts with the document. You should be aware that this is not a legitimate thing to do. Fonts are licensed to you for your use only; allowing someone else to use them is a breach of your licence; copying them, and using copies outside of a licence, is piracy in the same way as copying applications or games – it's an offense under the copyright laws.

The fact that you're very unlikely to be caught means that you'll probably ignore the illegality of font copying (after all 'everyone does it, so it must be OK'), so here are two practical reasons why you should think twice.

Firstly, if half of the country uses pirated fonts, then font prices have to be set high enough for the manufacturers to make all of their profits out of the other half. In other words, when you let someone else use pirated versions of your fonts, the money you are saving them is passed back

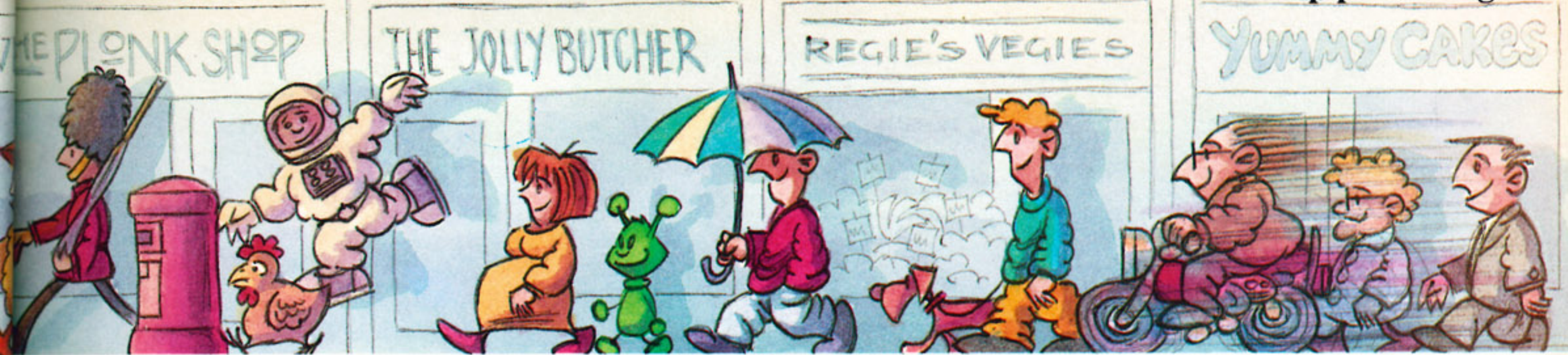
on to you when you use your legitimate fonts.

Secondly, unless you're using a very obscure font, you should ask yourself whether the bureau doesn't offer them – they're such cheapskins that they don't have, star Garamond or Futura, because can you really trust them to do a professional job on your documents?

7 Match line screens

Tones of any sort (even the simplest grey panel) are output 'screened' as lines of dots, and the number of lines per inch (lpi) determines how fine or coarse the lines will appear. An imagesetter can work to a much higher lpi than, say, a LaserWriter which produces relatively coarse tones – compare a tint panel on a laser or inkjet page to any of those in a magazine, and you will see the difference.

Unless you tell them otherwise, your bureau will output at their imagesetter's normal line screen. Obviously this is just what you want if you are printing on coarse 'newsprint' paper, but



PostScript notes

A PostScript file is a file of PostScript commands which your printer understands. Instead of being a document in your software's native file format, it is 'raw' PostScript code – effectively a program which, when run on a PostScript output device, tells the printer what your document should actually look like.

To make your document into a PostScript file, you need to select the PostScript button rather than Printer, next to Destination in the Print dialogue box. If you open such a file in a word processor, you will see that it is a set of instructions that you can read (if you can 'speak' PostScript) and even edit. At the bureau, the code can be sent to the imagesetter using a utility such as Font Downloader, for example.

The major pitfall with this type of file is that the

bureau has no control. If you saved out with anything specced wrong in the Page Setup or Print dialogue boxes (printer type, resolution or reduce/enlarge percentage, for example), there's pretty well nothing that can be done to rectify your mistakes.

An encapsulated PostScript file (EPS or EPSF) is another beast entirely. This is a graphics file – in a sense, a clever snapshot of your page – which the bureau would need to place as a graphic in a DTP or art program document, and then print it out as such. While the bureau at least has control when outputting such a document, there are still some drawbacks, not the least of which is that they can't make any late corrections for you, because it's a graphic and can't (in any useful sense) be edited.

example, the dots from a fine screen may be too close together, and will bleed into each other and become a dreadful mess. Make sure you find out from your printer whether the bureau's standard line screen is acceptable for your job – and if not, check whether the bureau can switch to a more suitable screen for you.

that they increase the time that the page takes to pass through the imagesetter. And since many bureaux charge extra if a job takes more than a set amount of time, you could be costing yourself money.

The motto here is: if you don't need it, get rid of it.

8 Clean up your files

Check that you haven't shuffled any unwanted items (like little Dingbat arrows) off into the page margins and forgotten about them – they will print out, whether you want them to or not.

If you are working in a package that has a 'paste-board' outside the print area, check that it's clean; while material placed here won't print out, it is still part of the file – it makes your files larger than they need to be, and every extra item in the file is just one more piece of code that might (if you're really unlucky) generate a PostScript error or other processing problem.

The other problem with extra, unnecessary items is

9 Send set of proofs

If you're not making proof copies of anything but the very simplest of documents, you're taking a big risk. In my experience, approximately three times as many errors are missed by proof-reading on screen as by using a paper proof, and some of them will be major rather than tiny, errors.

Having made a 'clean' proof, send it to the bureau with your disk. A good bureau will check output against paper proofs, and can take immediate action to rectify any mismatch, rather than you having to wait for the output to come back to you, be checked and then go back to the bureau again if it's wrong. But they can't do this for you if you don't send a proof.

10 Match fonts

As with your software, check not only that you have the same fonts but the same versions, or you may risk the same metrics mismatches (and the reflow problems) that apply to TrueType/PostScript substitutions.

What this means in practice is that you shouldn't just check that your bureau has any old Franklin Gothic, but that it's by the same manufacturer as the one you are working with – Adobe Franklin, Bitstream Franklin or whatever. And check for all variants too, so that you can avoid speaking at cross purposes about font families (not everyone defines 'family' the same way). For example, the fact that your bureau has confirmed that it has Franklin Gothic doesn't mean that you can take it for granted that they have Franklin Gothic Heavy.

Again, if you find that you will be faced with font substitution at the bureau, at least ask if they can run some tests to see if there are any reflow problems.

Finally, don't just check

for text fonts. It would be astonishing if any decent bureau didn't carry Zapf Dingbats in this day and age (although it has certainly happened to me in the past), but put it on your list just in case, and any other special fonts you're using.

11 Check all files

Make sure that the document you send is the latest version (not an old one with the same name), and that you include any additional files that may be needed, such as graphics in any of the formats that aren't fully incorporated into the page, for example EPS files and TIFF images.

If you send work to the bureau on floppy disks, don't try to save a few bob by cramming them full. Buy some spares so that you can afford to use the belt-and-brace approach of having only one document (with all its associated graphics) per floppy.

And whatever you do, don't send your only copy of any file – make sure you have kept a back-up of everything.

12 Send specs sheet

Don't expect your bureau to be mind readers or have reliable memories, even if you're a regular user.

Put your requirements in writing to the bureau – including the font info.

At minimum, the information you send should look something like this: 'PageMaker document, file name 'October News'. Output pages 2 through 7, positive film, oversize A4 with crop marks. Black plate only. Incorporates graphic 'News Logo.eps'. Fonts used: Adobe Times New Roman/italic/bold/bold italic, Bitstream Franklin Gothic Book/Heavy.' And don't forget to specify if you're using a non-standard line screen.

All this may seem over-cautious, but if you send full instructions and the bureau does anything wrong, then it will be at their expense. If you don't, they can charge you for re-outputting the document to its proper specs.

Watch your

Poor grammar can distract or confuse your reader, get in the way of clear communication, or just make you look plain stupid. Alex Soboslay checks two packages that can spot your mistakes

Grammar checkers sound like a great idea. A spelling-checker can tell you that there is such a word as 'there', but not whether the right word in a given context should be 'their' or 'they're' instead. However, taking account of a word's context is much more complex than simply checking it against a spelling database – if the latter needs a pushbike, so to speak, the former requires a car. *Correct Grammar* and *Grammatik 5* certainly have big names on the bonnet – *WordStar* and *WordPerfect* respectively – but can they successfully negotiate those metaphors and take the checkered flag?

Correct Grammar requires 1Mb RAM and a hard disk, and runs under System 4.2 or higher. *Grammatik* needs 2Mb RAM, a hard

disk, and System 6.0.3 or higher. Both can handle just about any text, preserving formatting and style attributes in documents produced by most of the leading Mac word processors or in Rich Text Format, though *Grammatik* is slightly less reliable in this respect. In any case, both can check text saved to the clipboard, so any text you can cut even from your DTP documents, you can check.

Correct Grammar makes the process especially easy with *LaunchCG*, which is a kind of Alias for System-7 Macs – just put copies of it, each taking up a mere 2K, wherever you like and double-click on one to start *Correct Grammar*. Or under System 7 you can simply drag the document you want to check over the *Correct Grammar* icon or its Alias; if it's in a format

File Edit Tools Format Font Size Style		
Test review (original)	Correct Grammar vers	Grammatik version
Ripoff couldn't of chose a worst time to release Hypercrap, its quite in the shops, due to the recession, nobody spending their money, however, they done it and the fact we'll see the consequences wont we Ripoff! Reviewed in issue 24, we loved Hypercrap. The main reason being its speed and playability. If you get bored of this you need your head examining! Between you and I, you got to admire how the early Ripoff games: Megapoo and Hypercrap, reseamble films. Thats why it's been termed as the new Hollywood. Films is very much a passive media, however. The principle improvement is the control method, there is two of these, they can be selected by the player who's tum is next. Upto four can play but theres a bug, not even the mouse does'nt seem to have much affect and nor does the keyboard ect. Ripoff has announced they are working on this, anyone who is fed up of this can return their disk back to them Hypercrap has got a great advantage though its brilliant! everything from its playability to its sprites is expertly crafted, even the add on weapons for your ship are spectacular, they look great as well and comprising of four separte computer views including birds eye its totally unique.	Ripoff couldn't of chose a worst time to release Hypercrap; it's quite in the shops, due to the recession; nobody spending their money. However, they did it and the fact we'll see the consequences wont we Ripoff! Reviewed in issue 24, we loved Hypercrap. The main reason was its speed and playability. If you get bored of this you need your head examining! Between you and me, you got to admire how the early Ripoff games: Megapoo and Hypercrap, resemble films. Thats why it's been termed as the new Hollywood. Film is very much a passive media, however. The principal improvement is the control method, there is two of these, they can be selected by the player whose tum is next. Upto four can play but theirs a bug, because not even the mouse does'nt seem to have much effect and nor does the keyboard ect. Ripoff has announced they are working on this, anyone who is fed up of this can return their disk back to them Hypercrap has got a great advantage though it's brilliant! Everything from its playability to its sprites is expertly crafted. Even the add on weapons for your ship are spectacular. They look great as well and comprising of four separate computer views including birds eye its totally unique.	Ripoff couldn't have chosen a worst time to release Hypercrap. It's quite in the shops, due to the recession, nobody spending their money, however, they done it and the fact we'll see the consequences won't we Ripoff! Reviewed in issue 24, we loved Hypercrap, the main reason being its speed and playability. If you get bored of this you need your head examining! Between you and me, you got to admire how the early Ripoff games: Megapoo and Hypercrap, resemble films. That's why it's been termed the new Hollywood. Film is very much a passive media, however. The principal improvement is the control method, there are two of these, they can be selected by the player whose tum is next. Up to four can play but there a bug, even the mouse doesn't seem to have much effect and nor does the keyboard etc. Ripoff has announced they are working on this, anyone who is fed up of this can return their disk back to them. Hypercrap has got a great advantage though it's brilliant! Everything from its playability to its sprites is expertly crafted, even the add-on weapons for your ship are spectacular. They look great as well and comprising of four separate computer views including birds eye it's unique.

This short passage, containing a barrage of common grammatical errors, was compiled as a test for prospective sub-editors, and to be fair it would stretch the abilities of many humans. It does demonstrate, however, what both *Correct Grammar* and *Grammatik* will miss, as well as showing up what one program will pick up and the other will fail to spot.

A human touch

An experienced sub-editor's version of the text would read: Ripoff couldn't have chosen a worse time to release Hypercrap: it's quiet in the shops because of the recession and nobody is spending any money. However, they've done it, and we'll see the consequences, won't we, Ripoff? When we reviewed Hypercrap in issue 24 we loved it, the main reasons being its speed and playability. If you get bored of this, you need your head examined! Between you and me, you've got to admire how the early Ripoff games – Megapoo and Hypercrap – resemble films. That's why Ripoff have been called the new Hollywood. Films however are very much a passive medium, and the principal improvement these games offer is the control method. There are two to choose from, and up to four players can play, but there is a bug in the system – neither the mouse nor the keyboard seems to have much effect. Ripoff have announced that they are working on this, but in the meantime anyone who is fed up with the problem can return his disk to Ripoff. Hypercrap has one advantage though: it's brilliant! Everything is expertly crafted, from its playability to its sprites, and even the add-on weapons for your ship are spectacular. Everything looks great as well, and four separate computer views are available, including bird's-eye, it's unique.

language

that *CG* understands, the program will launch and begin the check.

Correct Grammar comes with a 135,000-word dictionary based on the American Heritage Dictionary, and of course you can add new words in a user dictionary (and even modify them afterwards, though this is a fiddly process) or instruct the program to share your Microsoft Word user dictionary. *Grammatik* uses its own 100,000-word 'MorProof' dictionary. You can add words to a Learned Word dictionary (but not subsequently modify or delete them), and when this reaches its limit (about 32K) you then have to use the separate Spelling Merge utility to add it to the main dictionary. The utility can also add your user dictionaries from *WordPerfect* (v2.0 and above), *LetterPerfect* (v2.0 and above) or *Word*.

In either program you can choose one of ten or so predefined 'writing styles' (levels of formality and readability), configure any of these by turning selected grammar or usage rules off, or even set up your own custom requirements. *CG*

CG comes with MakeRules, a programming language for writing your rules

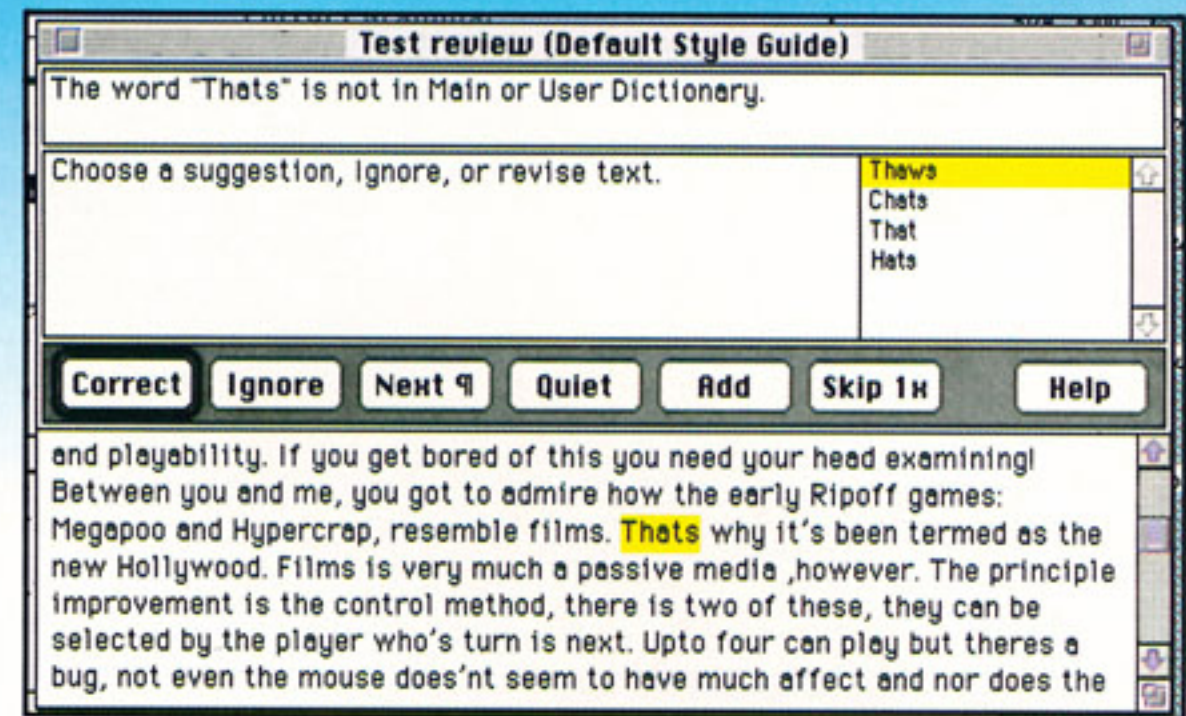
comes with *MakeRules*, a straightforward programming language for writing your own rules – handy for flagging the word 'product', say, if your editor has banned it from all reviews, but not so practical for grammar-checking: if you understand a point of grammar well enough to formulate a rule, then you don't need *Correct Grammar*.

Both programs indulge the American fascination with readability statistics and display average numbers of words per sentence, Flesch-Kincaid Grade Level, Gunning's Fog Index score, etc etc – or, more usefully, alert you if a particular sentence is too long for your selected audience.

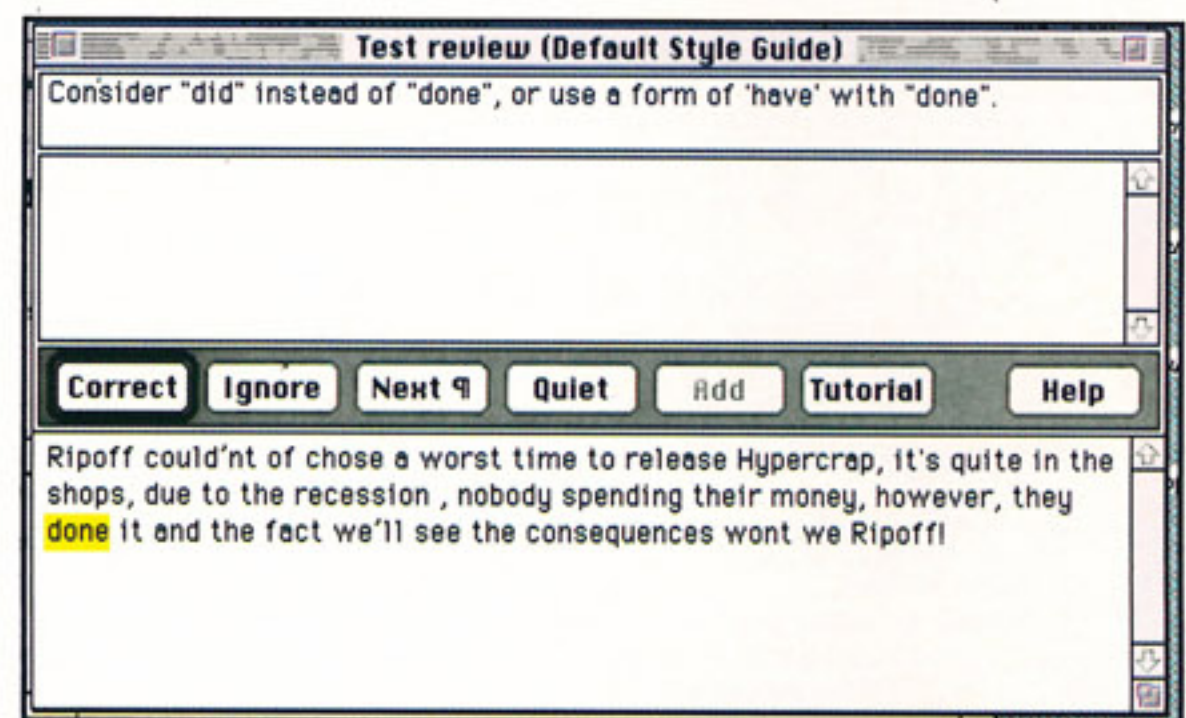
Like all grammar-checkers, both programs will occasionally query something that is not incorrect, but they do so far less frequently than other such programs. This is because they're not just searching for pre-programmed strings or commonly confused words and flagging every occurrence of 'to', for instance, to remind you that there's also 'too'. (Nevertheless, both are very good at spotting 'mechanical' errors – punctuation marks you've 'opened' but not 'closed', spaces missing after punctuation marks, and the like.) Both work by attempting to parse each sentence first – that is, identify the parts of speech; *Grammatik* even has a 'Show Parts of Speech' menu command (though there's nothing you can do to correct its parsing). This system means both programs are surprisingly good at spotting when you've used 'it's' for the possessive pronoun, or confused sound-alikes such as 'past' and 'passed', or used a plural verb for a singular subject, or joined two separate sentences with a comma – though both do come up with some truly bizarre howlers as well.

When either program spots an error you want to correct, especially one that demands more than a simple word replacement, you always have the option of going straight into your text document and making changes manually. When you resume checking, *Correct Grammar* rechecks from the start of the sentence; *Grammatik* is a little quirkier and treats wherever you left the cursor as the start of a sentence, so it keeps complaining that the next word is not capitalised.

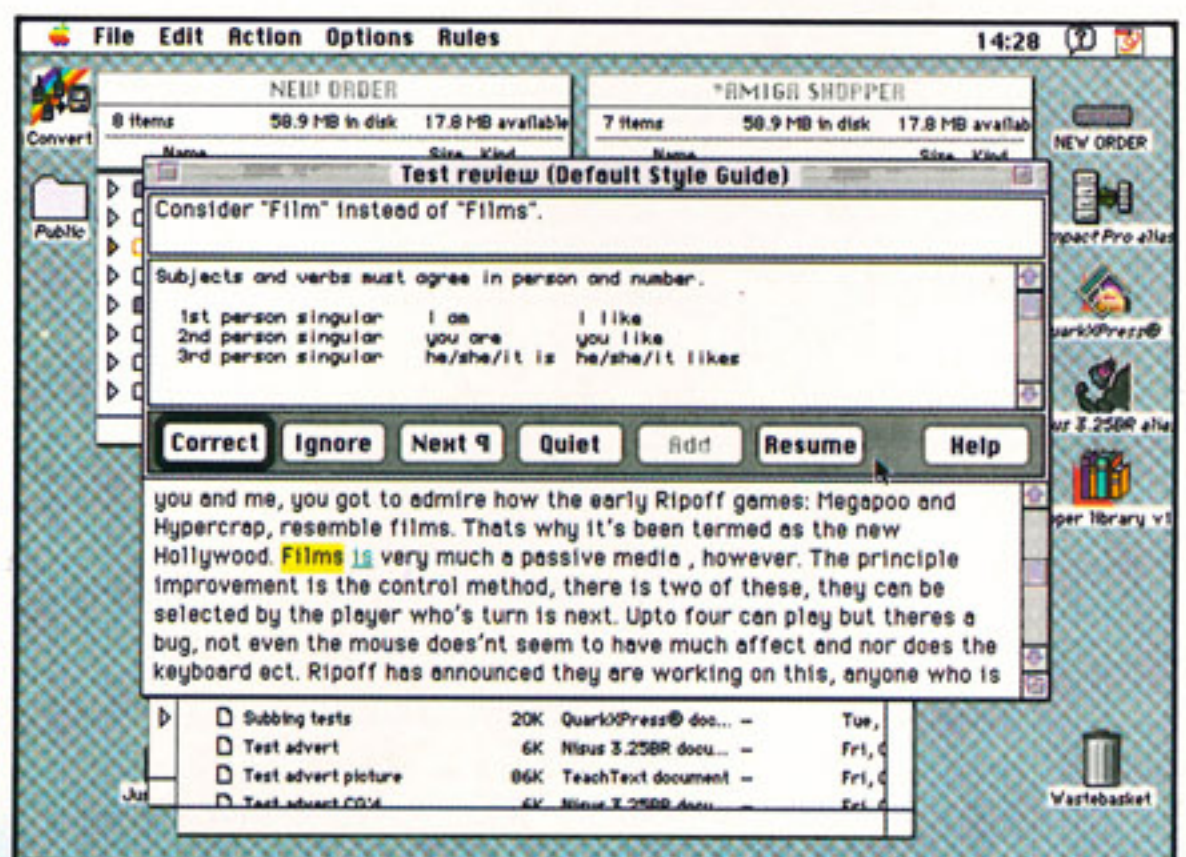
Grammatik also has the annoying habit of going backwards and repeatedly re-flagging the same alleged error more often than *CG*. This is the weakness of its strength, as it were: this repeated rechecking seems to enable it to spot a greater range of errors than *Correct Grammar*, and to come up with new alternatives if you choose not to accept its suggestions. Take for example 'There is two main control methods'. It first suggests (quite rightly) that you change the verb to 'are'. If instead you replace 'methods' with 'method', it queries



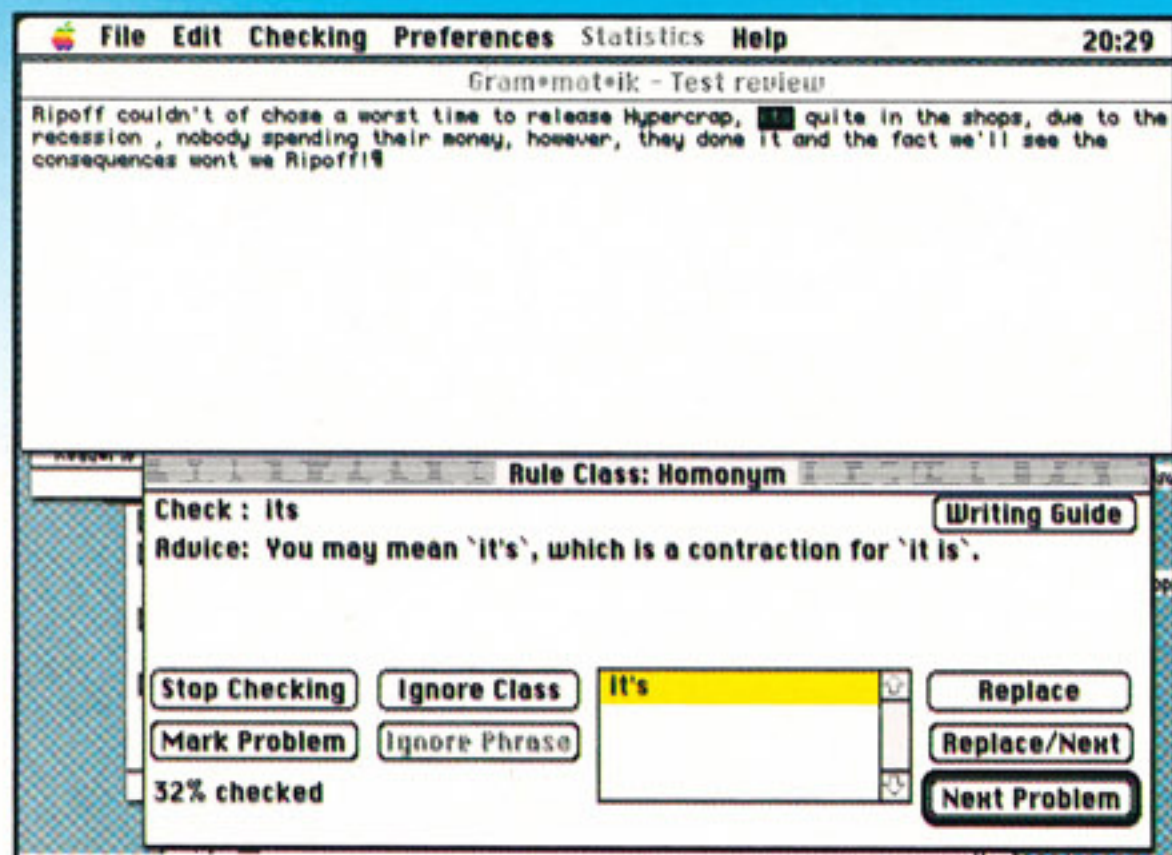
Correct Grammar's main screen is clear enough, but the arrangement of buttons is unhelpfully illogical. 'Ignore' (ignore this word for the rest of the current document) is about as far as it can be from 'Skip 1x' (skip this occurrence only), and there's a pretty pointless 'Next ¶' button, which means skip this current paragraph. 'Quiet' turns off the rule that identified the current problem (either for this session or permanently), and 'Help' doesn't give you help but toggles System 7's awful 'Balloon Help' feature on and off.



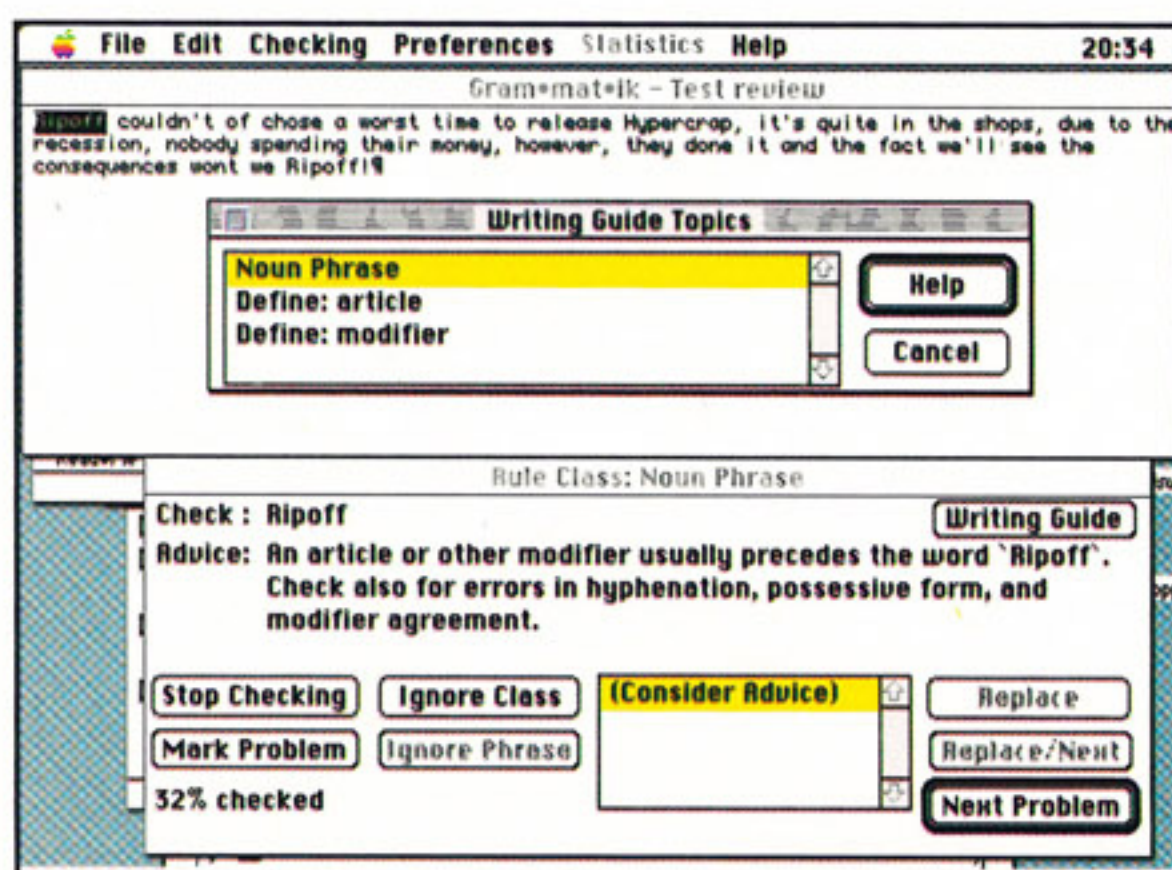
Confusingly, the options change when the error detected is grammatical. 'Ignore' now means what the 'Skip 1x' button meant before, skip this occurrence only. Correct (and continue) is the default option, but if there are two changes suggested there is no way of selecting the second automatically if that's the one you'd prefer – you have to click in the text window and type it in yourself, which introduces the possibility of further errors (though the text is rechecked when you resume). The 'Tutorial' button gives you a fuller explanation of the grammatical point involved.



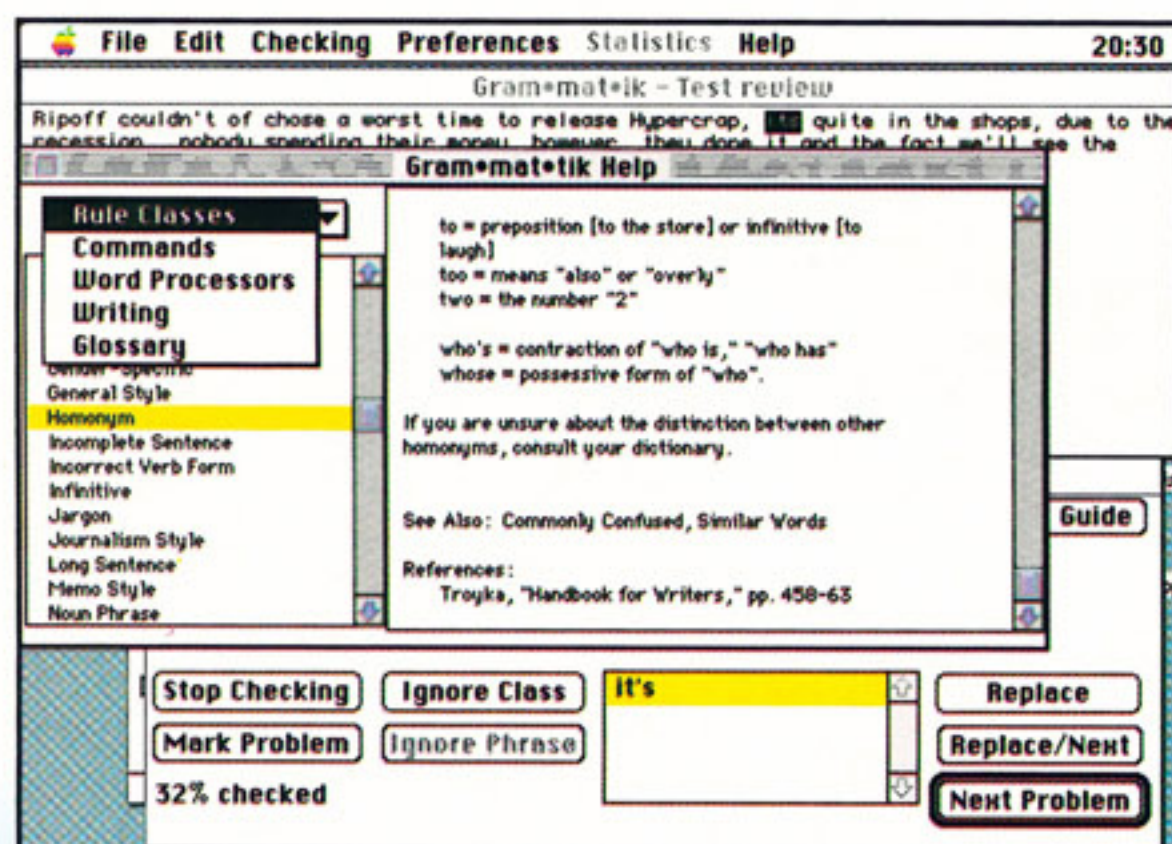
If there's a subject-verb agreement problem, *CG* does clearly highlight the relevant word pair. However, if you don't already know about 'person' and 'number' the advice will be too brief and the Tutorial far too abstract, with its tables and technical terms like 'third person singular'. If you just accept the suggestion, you are relying on its identification of the problem being correct – but when it encountered 'this does'nt seem to work' the misplaced apostrophe threw it completely, it decided 'does'nt' was a noun, and suggested 'this does'nt seems to work'!



Grammatik 5's exemplary main screen includes a display of how much of the document has been checked. If there are alternative corrections, they are shown in the 'replacement box'. In the case of spelling errors, 'Ignore Phrase' (ignore for the rest of this session) becomes 'Ignore Word' and an extra 'Learn Word' button appears below it for adding the word to your user dictionary. Unfortunately, the default option is 'Next Problem' (skip the current one), so you can't just hit [return] to accept the program's suggestion.



Grammatik's advice is usually pretty clear, but if you need more help the 'Writing Guide' button gives you access to a detailed explanation of the relevant 'Rule Class' and any terms used in the advice. You can click in the text window to make your own corrections, or use the 'Mark Problem' option to insert the text of the advice in your document itself – within a sequence of characters you're unlikely to use, making them easy to search for – so you can find and reconsider the problem back in your preferred word processor.



Grammatik's Writing Guide is actually a comprehensive Help system, giving you easy access beyond the short list of related matters to details of other Rule Classes and commands, as well as the general glossary. All this is very logically 'nested' so you don't get bombarded with more than you need at any time but can always dig out more – or even just browse. In the same spirit, the explanatory text often includes cross-references to related topics, and even a list of further reading (though admittedly American).

the sentence again because it still reads 'There is two...' – and keeps re-checking till you get it right. *Correct Grammar* didn't even spot that there was a problem.

Both programs miss a great many errors, but overall *Grammatik* spots more problems than *Correct Grammar*, even noting if you start too many sentences with the same word. *CG* queried 'could'nt', 'have'nt', 'awsome', 'noticable' and 'sadbwiches' (a simple case of a mis-hit key), but could offer no alternatives; *Grammatik* got them all correct. Some of *CG*'s explanations are very good indeed, but too many are far too technical, and there are only two levels of detail: often not enough and too much.

It does however have its nice touches, such as asking when you add a new word to its dictionary whether it should always be capitalised as in that instance, and it is more consistent than *Grammatik*, which can turn up different results in the same passage on different occasions and at times, can come up with some really deranged suggestions.

More importantly, perhaps, *Grammatik* v1.0 tends to crash on Mac Classics and may be a bit temperamental on some other Macs. *WordPerfect*'s helpful tech support people assure me that v1.1 has cured these problems, but I can't confirm that it has done so.

If they were cars, *Correct Grammar* would be a Ford Escort – solid, dependable, well-built, with some good touches, but perhaps a little stolid, and certainly not everything you could hope for. *Grammatik* would be an Italian sports saloon – stylish, with impressive overall performance and flashes of inspired engineering, but pricey and quirky, with just a hint of instability.

True, it is still only at v1.1 while *CG* is past v3, so it may prove to be the one to beat. And realistically, a human being with a smattering of grammatical understanding is by comparison a Formula

Grammatik can give a different result in the same text on different occasions

1 winner. However, both of these programs are several laps in from any other grammar-checker I have ever seen on any computer. Neither is perfect by any means, but for polishing memos and letters or reminding yourself of grammatical points you have vague recollection of, both may fit the bill. **mf**

Grammatik 5	
Ease of use	80%
The interface is a masterpiece, and the 'nesting' of advice levels is very helpful.	
Documentation	80%
All you'll need, easily accessible.	
Features	75%
Spots more errors, but does have its annoying quirks and some instability.	
Value for money	75%
You do get a lot for your money, but the package is still pricey.	
Overall	73%
Spots a surprisingly large proportion of errors, but misses just as many. Useful if you already half-know what you're doing.	

Correct Grammar	
Ease of use	80%
Its own 'Alias' system for pre-System-7 Macs means it couldn't be simpler.	
Documentation	80%
Comprehensive – even includes an appendix on its 'philosophy and methodology'.	
Features	65%
"The most intelligent grammar checker you can buy"? Not quite folks.	
Value for money	75%
Half the price of <i>Grammatik</i> , though not quite as good.	
Overall	68%
Doesn't spot quite as many problems as <i>Grammatik</i> and isn't quite as helpful in use, but it's consistent and can be useful.	

Where to get it

Correct Grammar v3.0.1b £58 from WordStar International Ltd, 081 643 8866.
Grammatik 5 v1.1 £116 from WordPerfect UK, 0932 850505.



THE DECLASER PLUS.

Digital and DirekTek introduce the DEClaser *plus*. For unbeatable value for money and quality, the DEClaser *plus* combines the benefits of the DEClaser 1152 with three important new features as standard - 4Mb RAM Memory, a 250 automatic sheet feeder paper tray and an AppleTalk cable.

The DEClaser *plus* is a true multi-platform networkable laser printer offering auto-sensing and auto-switching together

with Parallel, Serial and AppleTalk ports, which are all active. With built-in support for PostScript Level 2 and HP LaserJet (HP PCL4) industry standard protocols with Level 1 compatibility, both Mac and Windows users can enjoy high speed, high quality output.

For further information, test files and a list of your local dealers, please contact DirekTek on 081 845 5969 and ask for a Digital Pack.

THE DECLASER PLUS FROM DIREKTEK DISTRIBUTION:

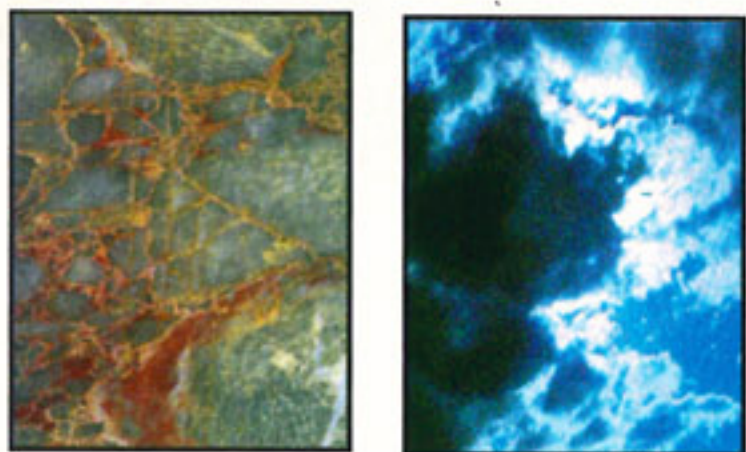
- ◆ 4 Mb RAM Memory ◆ 250 Sheet Paper Tray ◆ Canon Laser Printer Engine ◆ Adobe PostScript Level 2 ◆ 12 Month on-site Warranty and Support
- ◆ 300 dpi Resolution ◆ AppleTalk, Serial, Parallel and Serial B interfaces ◆ High Speed Processor ◆ 17 Adobe PostScript fonts

FOLLOW THAT!

digital

081 845 5969

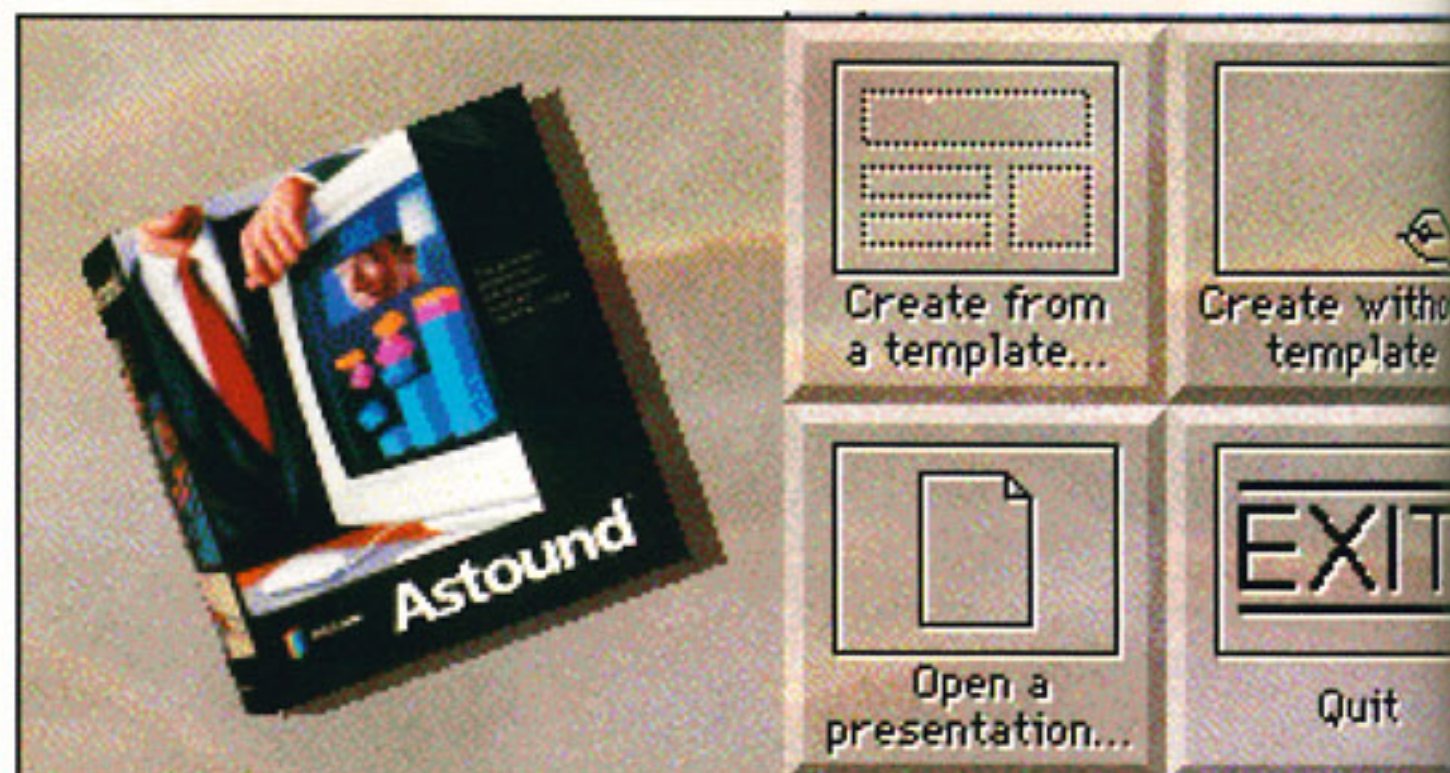
DIREK TEK
DISTRIBUTION



Astound yourself

Gordon Druce gets animated about a new multimedia package from Gold Disk

Macintosh presentation software falls into three distinct areas. First, there are the traditional style presentation programs of which *PowerPoint* and *Persuasion* are the most popular. These are for outputting to slide, overheads, speaker's notes and handouts (but can be used for desktop shows). Then come the full blown multimedia style presentation packages like *Action* and *Passport Producer* which give you



This opening screen offers you different ways to begin construction of your presentation or training tool. **Create from a template** is an easy start mode which gives you preset templates to work with.

basic control over features such as sounds, video and animation. Finally, there is the high-end stuff: authoring tools like *Director* and interactive programming software like *Supercard*, which is primarily used for new interactive media presentations.

Astound from Gold Disk is a presentation graphics package which bills itself as a program that straddles the first two areas of presentation software but also offers interactive buttoning which is more commonly a feature of authoring programs.

All the basic controls you would expect to see in traditional presentation software are here, so anybody who is currently using programs like *Powerpoint* and *Persuasion* will have no problem making the transition. In fact *Astound* will import your master-

pieces prepared in *Persuasion* and *PowerPoint* as live documents which can be edited. So you can upgrade your existing presentations using some of *Astound's* higher level features like QuickTime movies.

Astound comes with tons of sample files of clip art, sounds and QuickTime movies and if you are installing the whole package – all nine disks worth (that's including the application) – you will need a sizeable hard disk. To run it at any realistically usable level you'll need about 8Mb RAM.

With *Astound* installed and running you are greeted with an opening screen which lets you select your starting mode. You can **Create from a template**, an easy start mode which offers you preset templates, or **Create without template** which is a freestyle mode. Another mode is **Open a presentation** which enables you to open a presentation already under construction. You then have four views in which to control the construction of these are driven from icons at the top right of your working window.

The first is Slide view: in this you can access all the menus, tools and icons. Next up is the Outline view which displays the text outline of your presentation. This clearly shows you your script, enabling you to arrange and edit all the words for your show. You can also drop in bullet text and cut and paste text from the clipboard. The next Slide Sorter view works like a photographic light box, so you can have all your slides laid out in front of you, move them around and re-order them to your heart's content. You can even copy in slides from other presentations. Last but not least, you have Timeline view which controls the sequence and timing of your various on-screen events. It determines, for example, when your text will appear on-screen, the transition time from one slide disappearing to another appearing.

This makes setting up a basic presentation a relatively simple affair, even for somebody not familiar with other presentation programs. More

TOOLS

POWERFUL TEXT CONTROL

20 DRAWING TOOLS

BUTTON TOOL

PLACE PICTURE TOOL

QUICKTIME TOOL

ANIMATION

CHARTS

SOUND

A CLOSER LOOK AT ASTOUND

- Interactive button triggers play back of voice-over or next slide of sales forecast

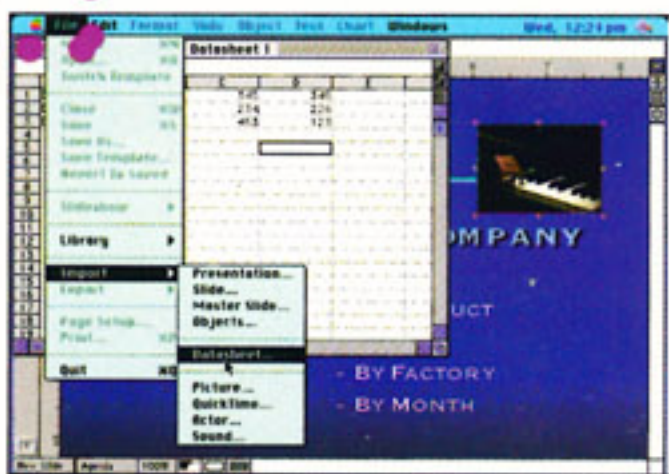
- QuickTime movies of your products and services or to highlight a new strategy



Text effects add impact and style to productions

On-screen bullet points

Powerful animated charts produced in a few moments with data imported direct from your spreadsheet.



VIEW ICONS

- SLIDE VIEW
- OUTLINE VIEW
- SLIDE SORTER
- TIMELINE VIEW

Making better presentations

You have to wear several different hats to put a good presentation together. You need to be part graphic designer, part film maker and part sound recordist, with a little computer know-how thrown in for good measure. So here are a few tips to help you look good in all the hats.

■ **Careful planning...** is a must. No multimedia software or presentation package is going to do this for you. Know what you want; tell your story in a logical way; work out a storyboard for each presentation; map out your scenes and effects and note the timing of all speech, sound and QuickTime sequences.

■ **Know your limits...** both yours and your computer's. Make your presentation match up to the machine you will be playing it back on. Don't have three or four QuickTime movies and large sound files all running together as your poor old Macintosh LC will start groaning with all that work to do. Steer clear of too many flashy effects, use just one or two, smooth and slick ones. Learn from professional presentations and from the tutorial files that come with the program. (Astound has great sample files and a good 'Getting started' hand book).

■ **Help yourself...** organise your source material. Keep all your images, sounds and movie files in a single folder if possible. Also prepare this media well. Collect all the material you need and remember to follow your storyboard. Clean up images and chart datasheets before you start. Check your sound files are clean of background noises and order them for speedy production later.

importantly, *Astound* serves as a stepping stone for those people who are keen as mustard on the idea of multimedia and hypermedia but don't have the bank balances to match.

It is frustrating to see the great potential for enhancement that can be gained from adding to static slide shows with sound, QuickTime movies and animations, only to find that, with programs like *MacroMind Director* costing up to £750, a journey to Hypermedialand is not cheap. Even if cost is not so much of a problem, a lot of time and effort has to be committed to learning a program like *Director* or *Supercard* (it's not something you can get your head around in a weekend!).

Astound offers sound and QuickTime support plus powerful animation controls. Obviously there is also support for Gold Disk's own award-winning dedicated animation program, *Animation Works* (great value at £125). *Astound* then goes a significant step further by offering basic interactive buttoning in much the same way as *HyperCard*.

You can place a button anywhere in your presentation, label it and hook it up to play back a sound file, go on to the next slide or get it to restart your presentation. All the buttoning is customizable (well, after a fashion). You can change their shape and modify their 3D appearance, so that they sit more comfortably with your own presentation style.

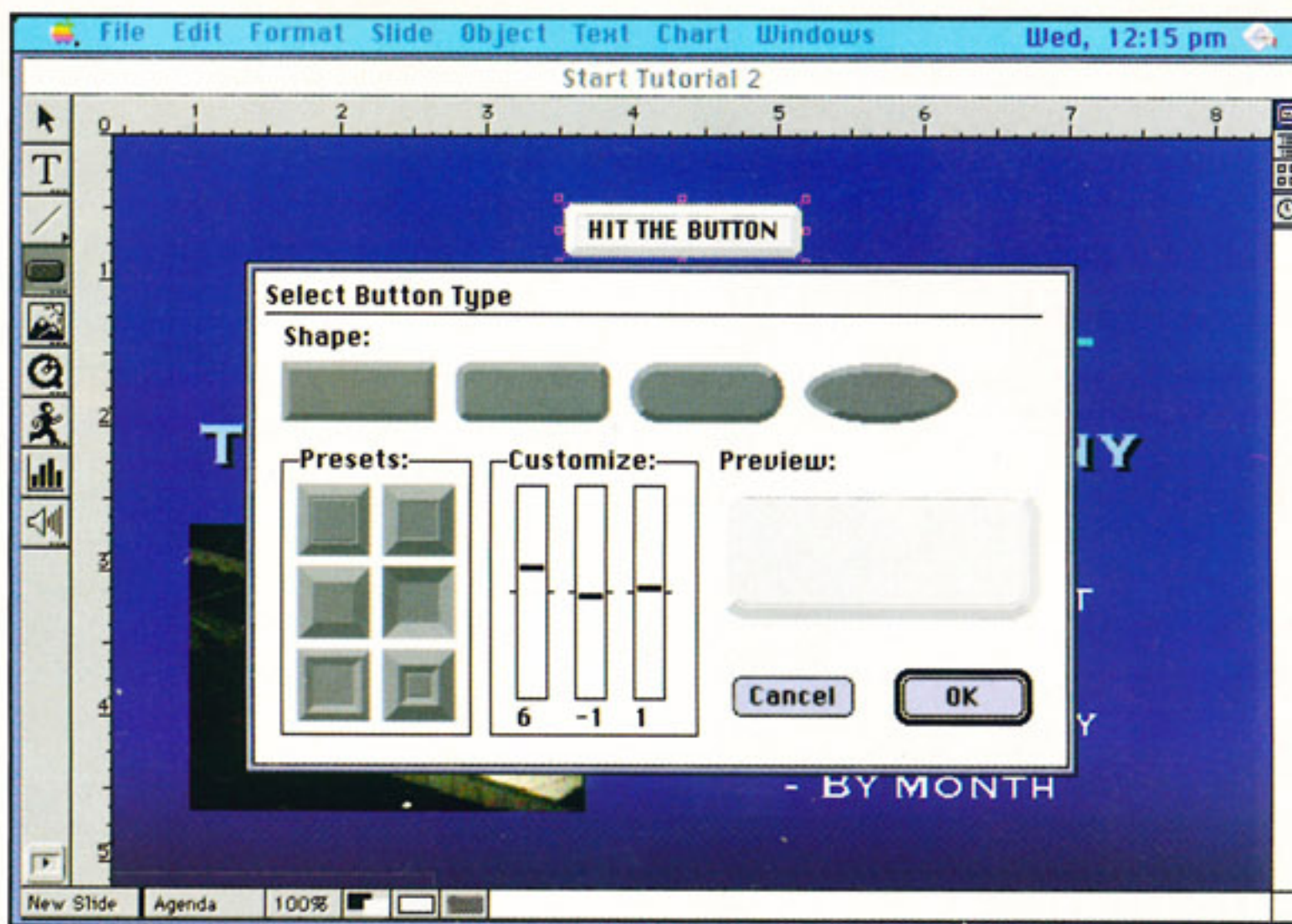
Moving swiftly into the audio dimension, *Astound* is well supported with its very own built-in sound editor and you can haul in all your sweet music or sound effects from Amiga IFF and AIF, SND and WAV files. It is also possible to record a synchronized voice-over whilst viewing your presentation – a feature which will be of immense help to sales representatives and teachers.

On the video side, the above mentioned people will also appreciate the QuickTime support tool. Using QuickTime, you can become a mini film (well, video really) director and turn your products (or whatever) into stars. Here's how.

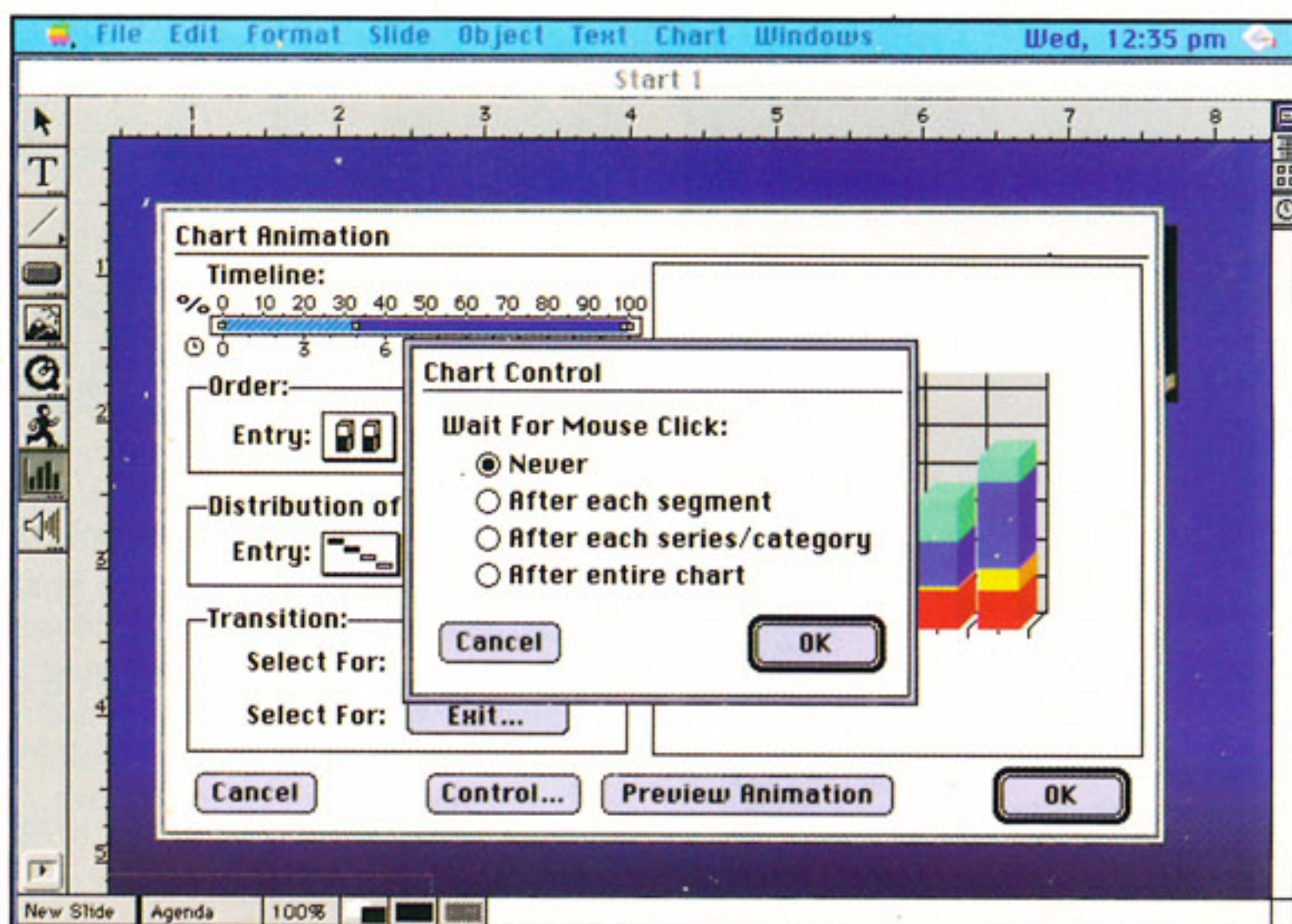
You can use a camcorder to make your own little QuickTime movie 'short' of your subject in action and incorporate it into your presentation. Making this type of presentation will become even more straightforward on the new breed of AV Macintoshes with built-in video support.

Now, all you have to do is sit back and show off your latest sales figures whilst simultaneously displaying QuickTime images of your product, service or sales force in action. Success is guaranteed as long as you can wipe that smug grin off your face.

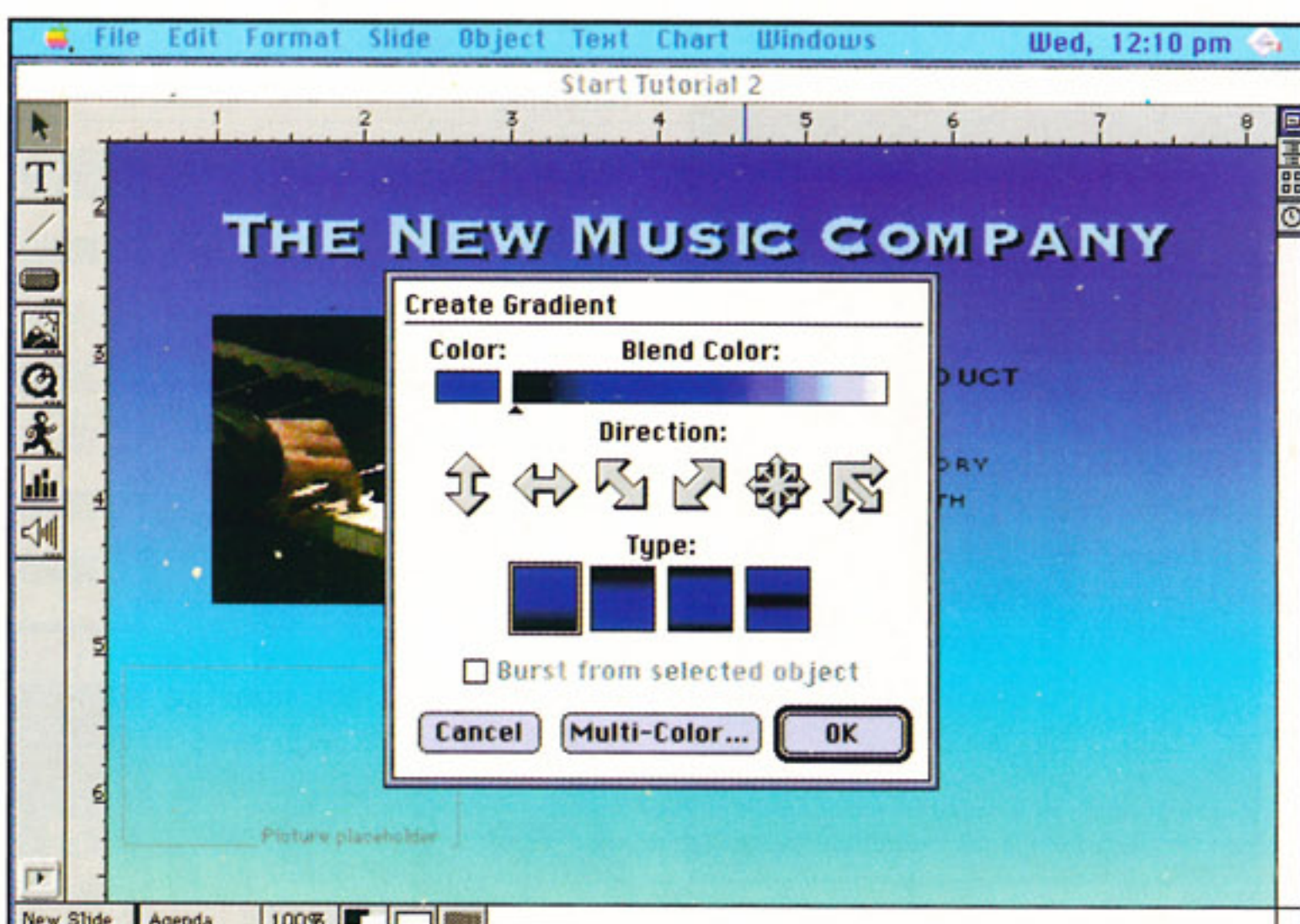
Text editing is quick and easy to do, with good control over fonts, styles, size, character spacing, line spacing, rulers, tabs, spell checking and the



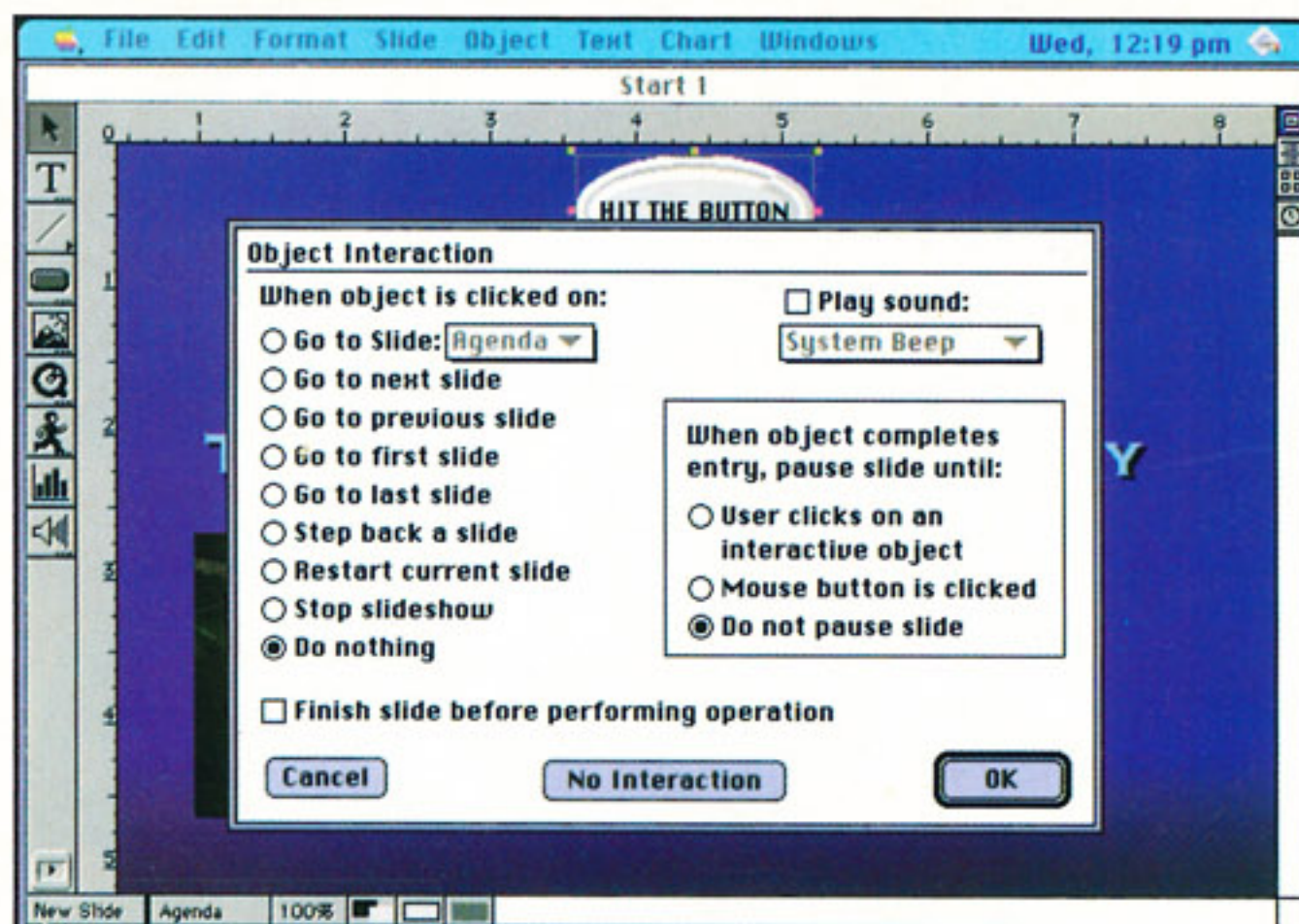
OK not the best looking set of buttons I have ever seen but what they lack in aesthetics they more than make up for in ease of use. Customise the buttons to suit your own presentations.



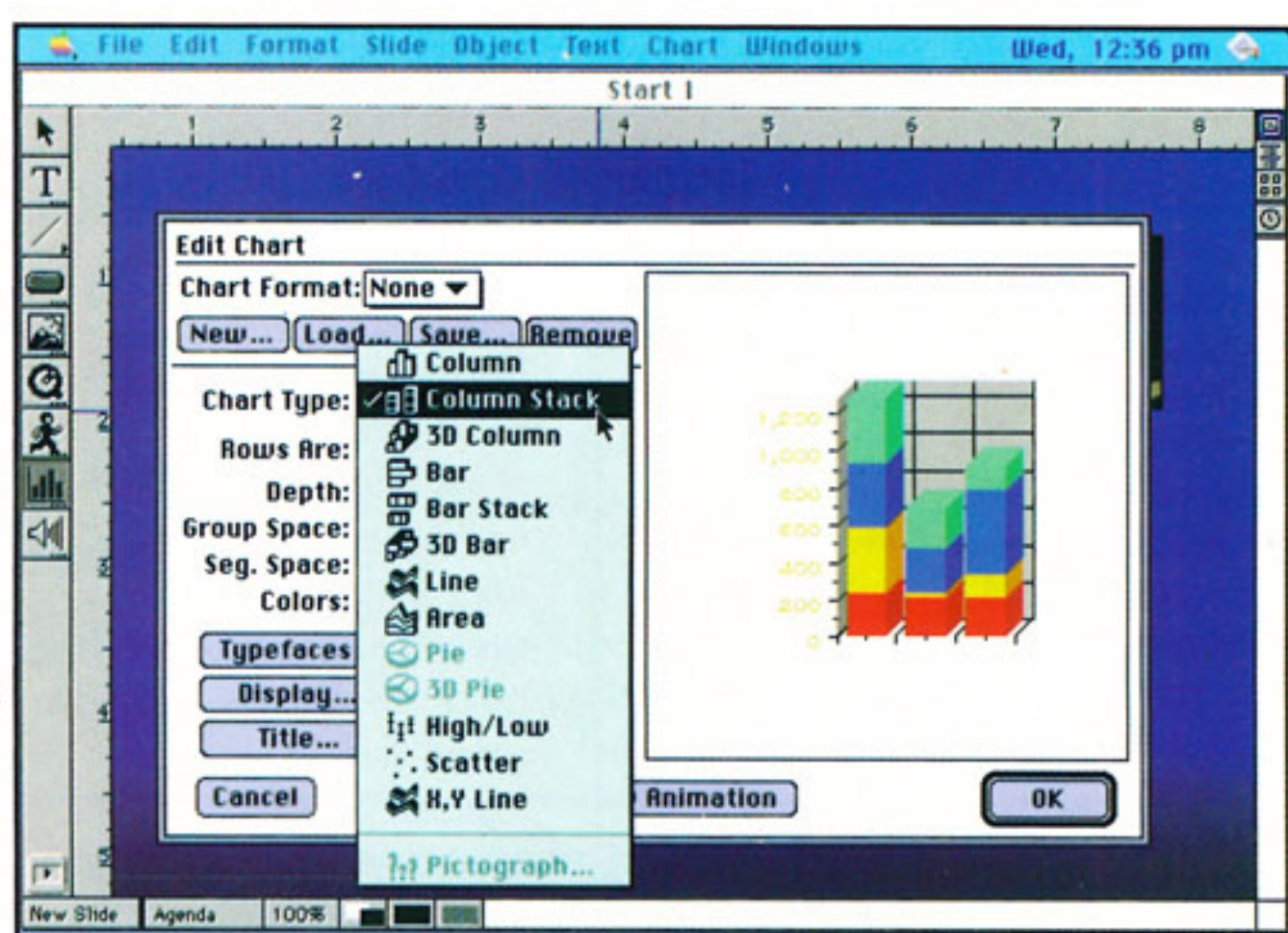
To give you an idea of the power of this presentation package, you can use the Chart Control feature to produce slick looking animated charts direct from your spreadsheet datasheet.



Creating a background is straightforward with fades (as used above), EPS files, PhotoCD images or with the great clip art backgrounds that come with the *Astound* package.



First steps to interactivity with the Button tool: just double click on your button then make it active by clicking on a feature from the selection shown.



Creating your charts is great fun – even a novice designer could do it. Editing, colouring and animating them is simple too.



By selecting the QuickTime tool it is simple to drop in stylish clips of your products and services which are sure to impress.

These are just two of the extremely high quality clip art backgrounds which come with the package, Astound also includes sample files of sounds and movies.



search and replace function, throughout your presentation. Pulling in graphics from other programs is straightforward – Astound can work with EPS, TIFF, GIFF, and Pict file formats. Additionally, Photo CD images can be included.

A particularly impressive aspect of Astound is its ability to animate graphs and work with charts. This is excellent news for designers, sales and marketing people as designing charts can be a real headache. Data has to be keyed in, slides must be prepared and animated and then the whole lot has to be made to move sweetly together. Gold Disk, with its obvious expertise in this area, has made things a lot simpler by automating much of the process. You can pull in your datasheets from spreadsheets like Excel and have full colour, animated graphs that really look impressive in a few seconds. Imagine bar charts pumping facts across your monitor and 3D figures tumbling across the screen before assembling themselves in neat stacks in front of you.

Astound is a well presented piece of software which is intuitive and good fun to use. Within a few hours, you can have a professional looking slide show with animated charts, a voice-over and sound effects. This is not beyond even a novice user. Experienced users, of course, will get a lot more out of it. Astound just requires a bit of time and imagination.

Whatever your needs or ability level, Astound is an excellent tool for making dynamic slide and desktop presentations. And, for once, the price isn't outrageous. mf

Jargon Busters

Bullet text: a key point or paragraph of information that has been indented and begins with a Zapf Dingbat or bullet mark.

Button: an object drawn with the button tool which has been designed to have interactivity linked to it. For example, clicking a button might play a sound or voice file.

Datasheets: this is a small scale spreadsheet which is built in to Astound's charting feature. It handles numbers and text strings but does not support equations.

Voice-over: this is the term used to describe a recording of speech designed to be played back in sync with a sequence of pictures.

Astound	
Ease of use	90%
Documentation	85%
Features	85%
Value for money	90%
Versatility	87%
Overall rating	90%

Where to get it ▼
Astound costs £249 but Gold Disk is doing a deal for £100 plus VAT.
Other software includes: Action! (£128), Persuasion (£411) and PowerPoint (£310).



THE DECLASER PLUS - FOLLOW THAT!

Digital and DirekTek introduce Ethernet* with the DEClaser 1252E. Heading up the range of high quality, value for money laser printers, the 1252E includes all the features of the DEClaser and DEClaser *plus* printers but also incorporates Ethernet for faster and more sophisticated networking capability.

The DEClaser 1252E is a true multi-platform networkable laser printer offering auto-sensing and auto-switching together

with AppleTalk. With built-in support for PostScript Level 2 and HP LaserJet (HP PCL4) industry standard protocols with Level 1 compatibility, both Mac and Windows users can enjoy high speed, high quality output.

For further information, test files and a list of your local dealers, please contact DirekTek on 081 845 5969 and ask for a Digital Pack.

THE DECLASER 1252E FROM DIREKTEK DISTRIBUTION:

- ◆ Ethernet ◆ 4 Mb RAM Memory ◆ 250 Sheet Paper Tray ◆ Canon Laser Printer Engine ◆ Adobe PostScript Level 2 ◆ 300 dpi Resolution
- ◆ 12 Month on-site Warranty and Support ◆ AppleTalk ◆ High Speed Processor ◆ 17 Adobe PostScript fonts

* 10 Base 2 & 10 Base T supporting: ◆ EtherTalk ◆ Novell ◆ LAN Manager

WE DID. THE DECLASER 1252E.

digital

081 845 5969

DIREK TEK
DISTRIBUTION

Introducing Illustrator 5

Adobe's superlative illustration package has been spruced up and sent out again to take on its powerful rivals. Stuart Anderton discovers that *Illustrator 5* is now a worthy contender for 'leading illustration and page design tool'.

There's nothing quite like a bit of competition to move things along faster in the software industry. The battle between Aldus *PageMaker* and *QuarkXPress* has reaped big benefits for anyone in desktop publishing; even if they don't use these programs, the competition has encouraged more and more sophisti-

cated features to become standard, making everybody's life easier.

The same kind of war has been fought for years between the leading illustration packages Aldus *FreeHand* and Adobe *Illustrator*. The next level of escalation in this conflict has been recently reached with the release of *Illustrator 5.0*.

The way these battles work is for new versions to neutralise the benefits of the rival program, and then to add a few new ones to up the stakes further. So *FreeHand* users will read about some of the new features of *Illustrator* and smugly think "I've been able to do that for years", but there are also plenty which they would kill for. So let's have a look at what's new in *Illustrator 5.0*.

What's new?

Probably the most obvious change in the new program (aside from the opening picture!) is

the ability to edit in preview mode, which *FreeHand* users have long held to be the key advantage of that program. Until now, you could only edit an illustration in a wire-framed artwork mode, which could become cluttered and confusing. Now you can manipulate the graphics directly, but the trade off is speed – it takes a lot longer to edit objects directly. Fortunately, therefore, you still have the choice to do things the conventional *Illustrator* way.

Another *FreeHand* advantage to go by the wire is the ability to do gradient fills – colours which blend from one into another. To do this previously in *Illustrator* you had to

so great if you are limited to standard 14-inch. They don't interfere on a small monitor, but they don't help either.

One of the new palettes is the Info palette, which gives constant feedback on the currently selected tool. Using the Info palette precise measurements and movements are considered simpler, but you still can't enter measurements into it directly, it tells you what you are doing.

One of the biggest innovations in *Illustrator* is the introduction of plug-in filters. An idea first seen in Adobe's *Photoshop*, and which subsequently migrated to *PageMaker* and *XPress*, plug-in filters allow you to add more functions to the program by dropping files into the folder containing the program.

Several filters are supplied with *Illustrator* out of the box and doubt we will soon see plenty of third-party filters adding still more functions to this already feature-filled program.

Working with layers

To simplify working on complex documents, *Illustrator 5.0* relies heavily on the use of 'layers'. You can visualise layers as the sheets of transparent acetate used as animators' gels. A particular object can be placed on a layer of its own

Why do you need Photoshop AND Illustrator?

You'll find two types of computer generated art in common use. One is known as a 'bitmap', the other as 'object oriented'. Bitmapped images are the closest equivalents to conventional paintings. A canvas is divided up into tiny 'pixels', each of which can be a different colour. A program to create this is known as a painting or image manipulation program. Images are often scanned in rather than drawn, and then edited. If you reproduce a bitmap image too large then the individual pixels will be visible as tiny squares.

Object oriented graphics, on the other hand, have no pixels; instead they are described by mathematical formulae, which define the image as a group of objects such as circles and lines. Because everything is stored as maths, it can be enlarged and reduced ad infinitum, and will never display any grainy pixel structure. However, object-oriented graphics, have to be created on-screen, they cannot be scanned in.

Adobe *Photoshop* is a bitmap editor, and Adobe *Illustrator* is an object-oriented program, so to be able to create any kind of graphic you need both.

Naturally as the programs get more sophisticated, the distinctions between them blur. You can place bitmapped images in an *Illustrator* graphic (though you can't edit it), and *Photoshop* can convert an object-oriented image to a bitmap (though only at a pre-specified size).

One of the biggest innovations is the introduction of plug-in filters

create a blend – a set of up to 256 objects of subtly different colours – which was tricky to do.

You control gradients not by using dialogue boxes but 'floating palettes', continuously visible control panels. *Illustrator 5.0* makes a great deal of use of floating palettes, which is wonderful if you have a large-screen monitor, but not



At last you can see what you are doing in *Illustrator*! You can edit objects directly while in preview mode

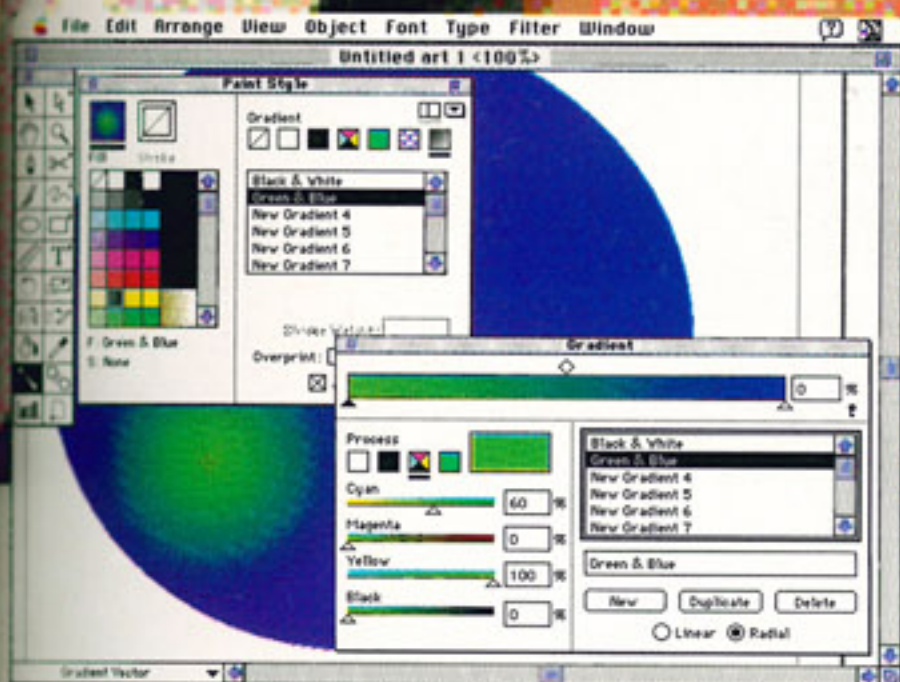
Filter tips

Illustrator 5.0 is bundled with dozens of plug-in filters to add functions. Here's the kind of thing they can do:

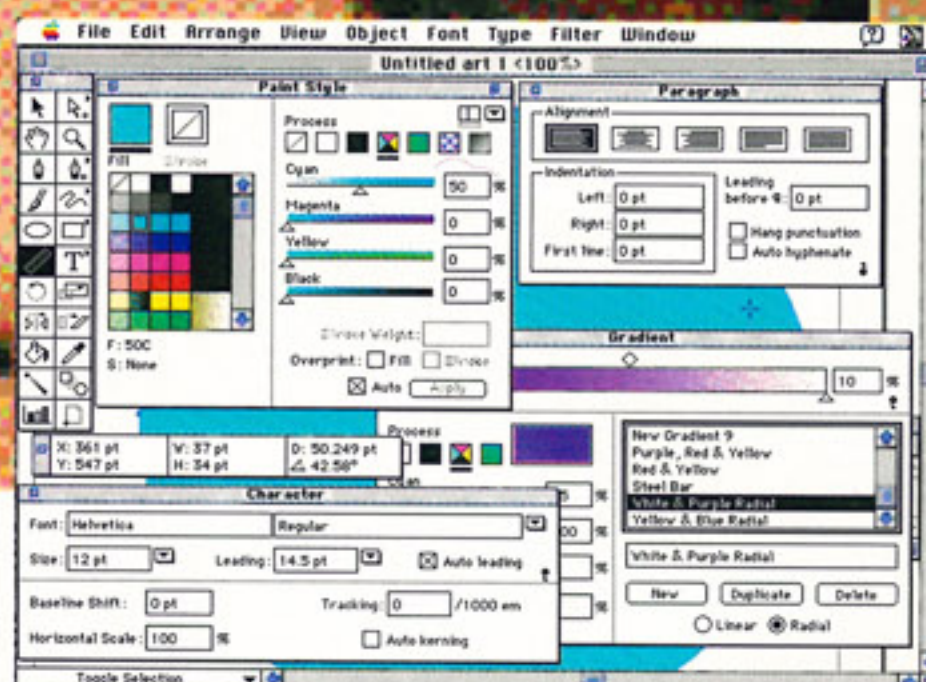
- **Adjust colours:** alters the CMYK colour of an object by adding or removing process colours
- **Align Objects:** aligns objects on an axis
- **Arrowhead:** adds an arrowhead to a line
- **Back Minus Front:** used to knock out areas of an illustration
- **Blend Vertically:** creates intermediate colours between two objects
- **Bloat:** curves paths as if inflated
- **Calligraphy:** applies a calligraphic stroke
- **Crop Fill:** divides object into 'faces' and removes those outside a specified area

The info palette gives you numerical information about what you are doing, aiding precision

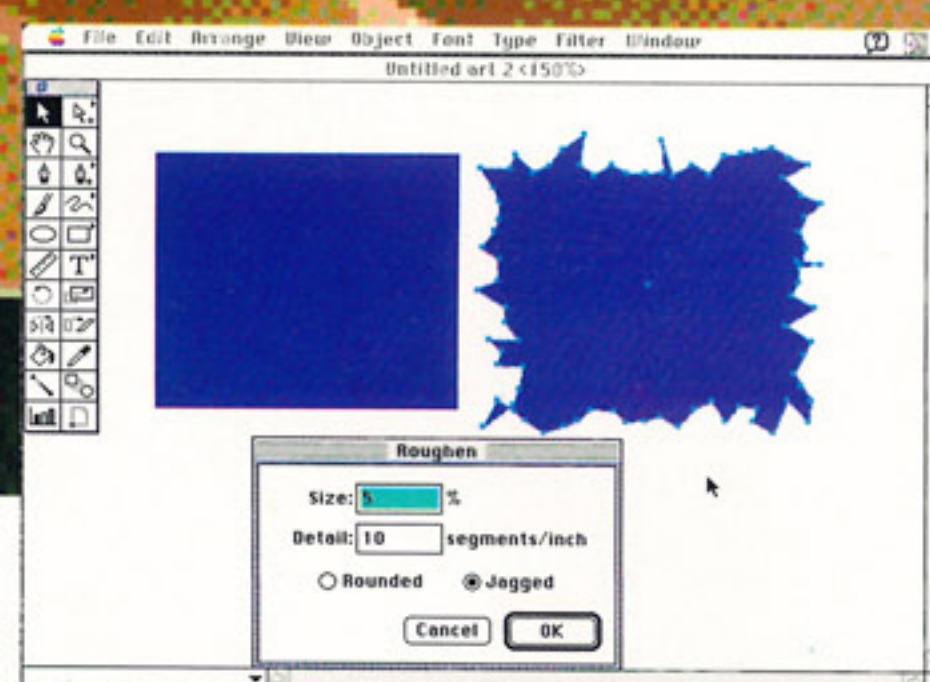
X: 361 pt	W: 37 pt	D: 50.249 pt
Y: 547 pt	H: 34 pt	△ 42.58°



Full and intuitive control over gradients is at last possible, to the relief of *Illustrator* users everywhere, with a combination of two floating palettes and a direction tool



Illustrator's use of floating palettes saves a lot of time on large screen monitors, but if you're trapped on a standard monitor they are of limited use



Illustrator's plug-ins add functionality. The Roughen feature distorts regular objects – the object on the right is a roughened copy of the square on the left

edited in isolation. Each layer can be viewed at its own magnification, and can be moved backwards and forwards or even hidden altogether.

Another simplification is the automation of masks – any object can act as a mask. Using the same analogy as for layers, you can see masks as a piece of white paper with a hole through which the artwork can be seen; only those parts specified by the mask are visible, so a picture can be placed inside a frame.

A lot of refinements have been made to the program to make the artist's life easier. For example, you can define custom magnifications and positions for viewing artwork instead of relying on the magnifying glass tool and the scroll bars, and 'swatches' of colour allow fill and stroke combinations to be applied to an object with just a couple of mouse clicks. The program now remembers up to 200 undos.

You can copy and paste fills simply using the eyedropper tool and the paint bucket, borrowed from

Adobe's other graphics tour de force, *Photoshop*. In fact Adobe has started to integrate the programs: if you place a bitmapped graphic in your *Illustrator* document you can double click on it to open *Photoshop* to make changes – when you close *Photoshop* the changes are copied to the *Illustrator* file.

For professional quality artwork *Illustrator 5* can't be beaten

The text features have been greatly improved, to the point where the box claims that the program is 'the leading illustration and page design tool' isn't totally ridiculous. Certainly for single pages it is a viable DTP system, with text importing (via the Claris XTND system), search and replace, text wrap around objects, hyphenation

and the greeking of small text. For lazy designers there's even a 'fit headline to space' feature!

As well as being available on conventional floppy disk, *Illustrator 5.0* is out on CD-ROM, boasting more plug-in filters and an expanded tutorial, which is almost certainly worth paying for. While the manuals are comprehensive enough, they are concise to the point of brevity, and learning *Illustrator* from scratch with the materials provided would be a slow process.

Adobe *Illustrator* is not a perfect program. Despite its improvements it's still pretty daunting to beginners. Colour separation is still handled by another program, *Separator*. It requires a powerful Mac to work – a minimum of 3.1Mb of free RAM, and 4.7Mb to be absolutely comfortable.

Nevertheless, for producing professional quality artwork *Illustrator 5* can't be beaten, with more features and power than either *FreeHand* or its other rival, *Deneba Canvas*.

Overall *Illustrator 5.0* is a fine upgrade to an already fine program, and undoubtedly gives Adobe the upper hand in the illustration package wars. At least until the new *FreeHand* is released... **mf**

Illustrator 5	
Ease of use	80%
Documentation	70%
Features	95%
Value for money	85%
Versatility	90%
Overall rating	92%

Where to get it ▼

Illustrator 5 costs £564 from Principal Distribution on 0706 832000

- **Crop Stroke:** divides object into line segments and removes those outside a specified area
- **Desaturate:** decreases a colour's intensity
- **Divide Fill:** divides object into 'faces'
- **Divide Stroke:** divides object into line segments
- **Drop Shadow:** creates a drop shadow effect
- **Exclude:** traces non-overlapping areas of two or more objects
- **Export:** saves text as file
- **Find:** search and replace for text
- **Free distort:** varies size and shape of objects
- **Front Minus Back:** used to knock out areas of an illustration
- **Intersect:** creates a new object consisting of the overlapped area of two objects
- **Invert colours:** creates a 'negative' image
- **Mix Hard:** mixes colours to show how colours will overprint

- **Mix Soft:** creates a transparent effect on overlapping colours
- **Mosaic:** creates a mosaic effect on placed PICT files
- **Offset Path:** duplicates a path a set distance away
- **Outline stroke:** traces strokes and makes them into filled objects
- **Polygon:** draws a regular polygon
- **Punk:** creates jagged edges on path
- **Roughen:** moves anchor points to produce a rough effect
- **Round Corners:** smooths the corners of a path
- **Same Fill Colour:** finds all objects with same fill as current object and selects them
- **Same Paint Style:** finds all objects with same paint style as current object and selects them
- **Same Stroke Colour:** finds all objects with same

- stroke colour as current object and selects them
- **Same Stroke Weight:** finds all objects with same stroke weight as current object and selects them
- **Saturate:** increases a colour's intensity
- **Scribble:** randomly moves anchor points away from original path
- **Select Inverse:** selects all objects not currently selected
- **Select Stray Points:** finds and selects isolated points
- **Spiral:** draws a spiral of specified size
- **Star:** draws a star of specified size
- **Trim marks:** creates crop marks around an object
- **Twirl:** rotates an object more in the middle than the edge
- **Unite:** merges objects

DOES YOUR COMPUTER SOUND LIKE ONE?



With the new Audio Gallery from Korg (makers of the world's leading music workstations) computer sound has finally caught up with the pictures.

Audio Gallery puts no less than

32 Megabits of studio quality samples, 128 General MIDI pro-programmes of instrumental voices and 4 large drumkits at your disposal.

Hooked up to any GM-com-

patible sequencer, multimedia or game software it'll let you create anything from a simple piano track to a full orchestral ensemble. With the opportunity to mix in samples from your own computer via audio inputs.

Bundled software includes 'Trax' which lets you edit, compose and print original music, 'Quick Tune' to get you started, 'MIDI Player' and 'Jukebox' which lets you assemble songs for continuous replay.

Audio Gallery comes in two formats: AG101 for Windows 3.1 and AG102 for Macintosh System 6.0 and System 7.

Either way, it'll make your computer sound terrific, not tinny.



For more details write to Korg (UK) Ltd., 8-9 The Crystal Centre, Elm Grove Road, Harrow, Middlesex HA1 2YR or phone 081-427 5377.

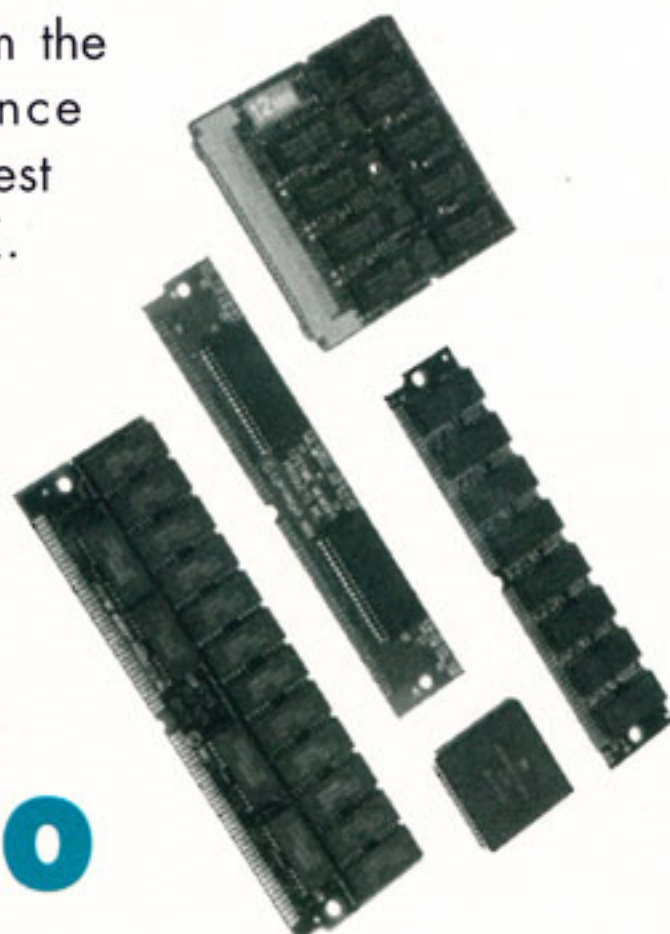
KORG
BREAKING SOUND BARRIERS

PERFORMANCE *direct*

BIG SAVINGS ON TOP QUALITY MEMORY

Because we buy direct from the manufacturer, Performance Direct can offer you the best memory prices in the UK. We back all our top quality upgrades with a 5 year warranty, 30 day money-back guarantee, next day delivery and free fitting guidelines.

4Mb SIMMS
£110.00



Show us a lower Memory quote from any other UK supplier and we will do our best to beat it!

1Mb 80ns.....	£36.00	6 Mb PB 100	£305.00
2Mb 80ns.....	£63.50	6Mb PB 140/170	£259.00
2Mb LCIII/Centris	£56.00	6Mb PB 160/180	£289.50
4Mb 80ns.....	£110.00	6Mb PB 165c/180c	£309.00
4Mb lllfx.....	£128.00	8Mb PB 160/180	£352.00
4Mb LCIII/Centris	£120.50	8Mb PB 165c/180c	£422.50
4Mb Quadra 800/840AV	£139.50	8Mb Duo	£251.50
8Mb 70ns.....	£265.50	10Mb PB 160/180	£438.00
8Mb LCIII/Centris	£266.50	10Mb PB 165c/180c	£489.00
8Mb Quadra 800/840AV	£273.00	12Mb Duo	£526.50
16Mb 80ns.....	£469.50	16Mb Duo	£687.00
16Mb lllfx.....	£490.00	Video RAM	
16Mb LCIII/Centris	£474.00	256K Video RAM	£23.00
16Mb Quadra 800	£549.50	512K Video RAM	£39.00
16Mb Quadra 840AV	£634.00	FPU Maths Co-processors	
32Mb LCIII/Centris	£1,398.00	FPU - LC, LCII, P/400	£49.00
32Mb Quadra 800/840AV	£1,398.00	FPU - Classic II	£49.00
Power Book / Duo		FPU - LCIII	£55.00
4Mb PB 140/170/145b.....	£172.00	FPU - Colour Classic / lllvi	£49.00
4Mb PB 160/180	£211.00	FPU - llvx, Performa 600, Duo	£65.00
4Mb PB 165c/180c	£233.00	FPU - lls with dual slot adaptor	£79.00
4Mb Duo	£139.50		

30 DAY MONEY BACK GUARANTEE - NEXT DAY DELIVERY - LONG WARRANTIES - FREE TECHNICAL SUPPORT



Tel: 0784 477 477

Performance Direct, 27 Station Rd Egham, Surrey TW20 9NN. Fax 0784 477 377.



Give it a whirl!

CD-ROM prices have plummeted and everyone is touting it as the medium of the future. Is it finally time to get your cheque book out? Stuart Anderton tests the water...

Every end-of-year round up since 1986 has predicted that 'next year will be the year of CD-ROM'. Well, now it's finally happened.

Almost all of the interesting stuff to come into the office over the last few months – stuff with a real 'wow!' factor – has been on CD-ROM. For the last three years my Toshiba CD-ROM player has mainly been used as an office hi-fi thanks to a set of external speakers, but now its SCSI cable is seeing some serious use. So why has it finally happened? Well, for

one thing we are now seeing the fruits of three or four years work by the start-up companies which decided to cash in on the multimedia buzz at the end of the 1980s. And for another, Apple has been pretty much giving away CD-ROM drives, either built in to Macs or as external units. The growing acceptance of CD as a data carrier (thanks to home units like the Philips CDi and Sega Mega CD) has also given CD-ROM critical mass.

So is it time to take the plunge at last and buy a CD-ROM drive? The answer to that is a

wholehearted yes. The new generation of drives has overcome most of the hardware problems and there is a wide range of software on the market. The quality is impressive – especially in education and entertainment where Apple's audio and video compression system, QuickTime, has had a big impact.

Over the next few pages we'll take a glimpse some of the CD-ROM titles in the current catalogue; you'll see the kind of variety and depth there is already, and it's getting better all the time!

So what is CD-ROM anyway?

When Philips invented the Compact Disc in the early 1980s it was thinking solely in terms of a digital sound carrier, but it soon realised that the digital sound data could just as easily be any kind of digital information. And there could be vast amounts of data on the disk.

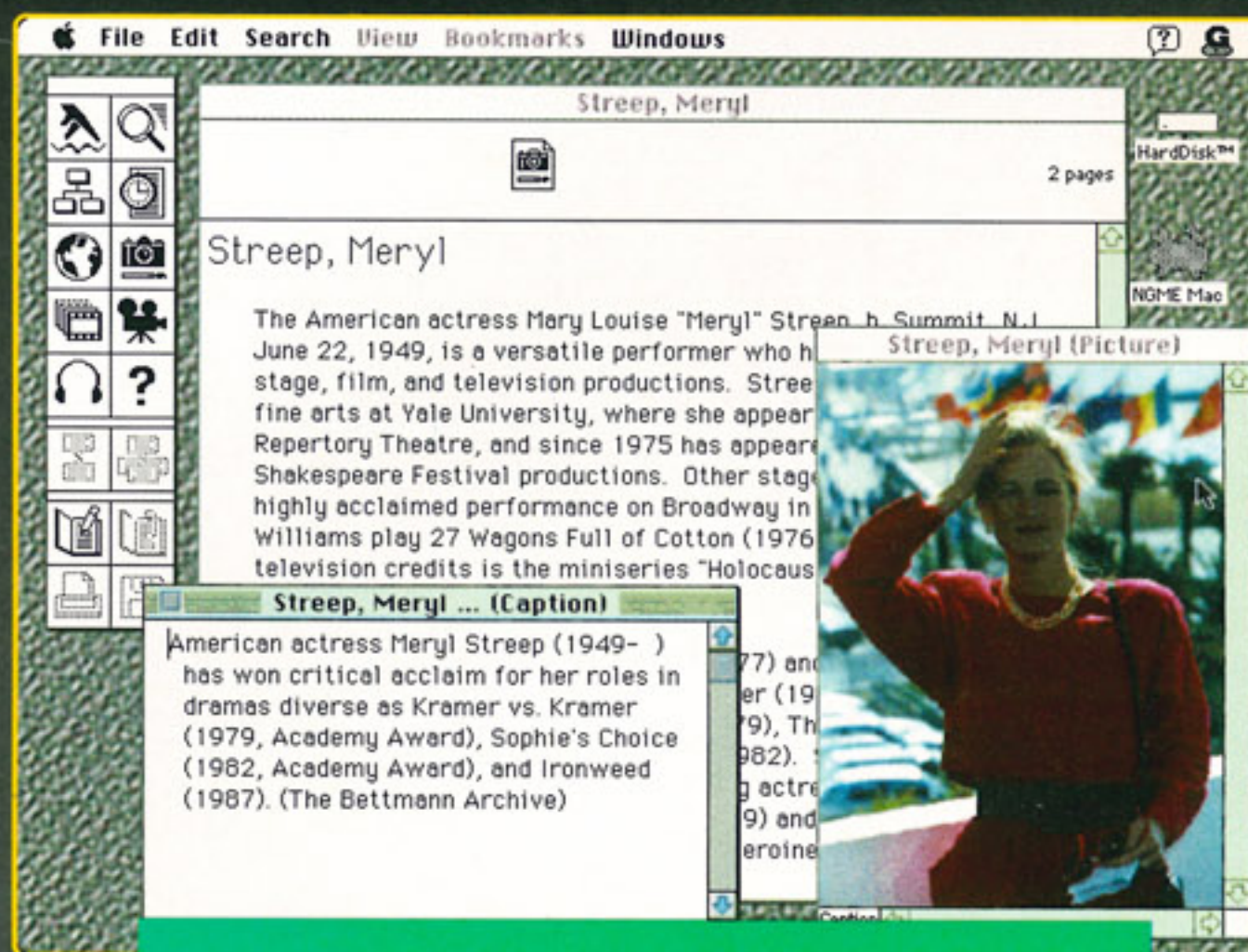
The exact amount of data you can fit on a CD-ROM depends on the error correction system used, but is in the order of 650 megabytes – more than 680,000,000 characters. At this point it is traditional to visualise that number in terms of buses laid end to end in China or something, so here goes: if you took the words in **MacFormat** and stored them on CD-ROM, you could fit almost 148 years worth of magazines on a disk.

CD-ROMs physically work in the same way as audio CDs – a laser beam is guided onto tracks containing pits in the metallic coated disk, the reflection of the laser light from the surface is measured and the presence or absence of a pit is converted to a digital signal. In an audio player the digital signal is converted into analogue information, but a CD-ROM player keeps the information digital and transmits it via a SCSI ('scuzzy' – Small Computer Systems Interface) cable to the Mac.

A CD-ROM is faster than a floppy disk but much, much slower than a hard disk. In fact, CD-ROMs struggle to be able to read video and audio data fast enough for some of the multimedia programs that use them.

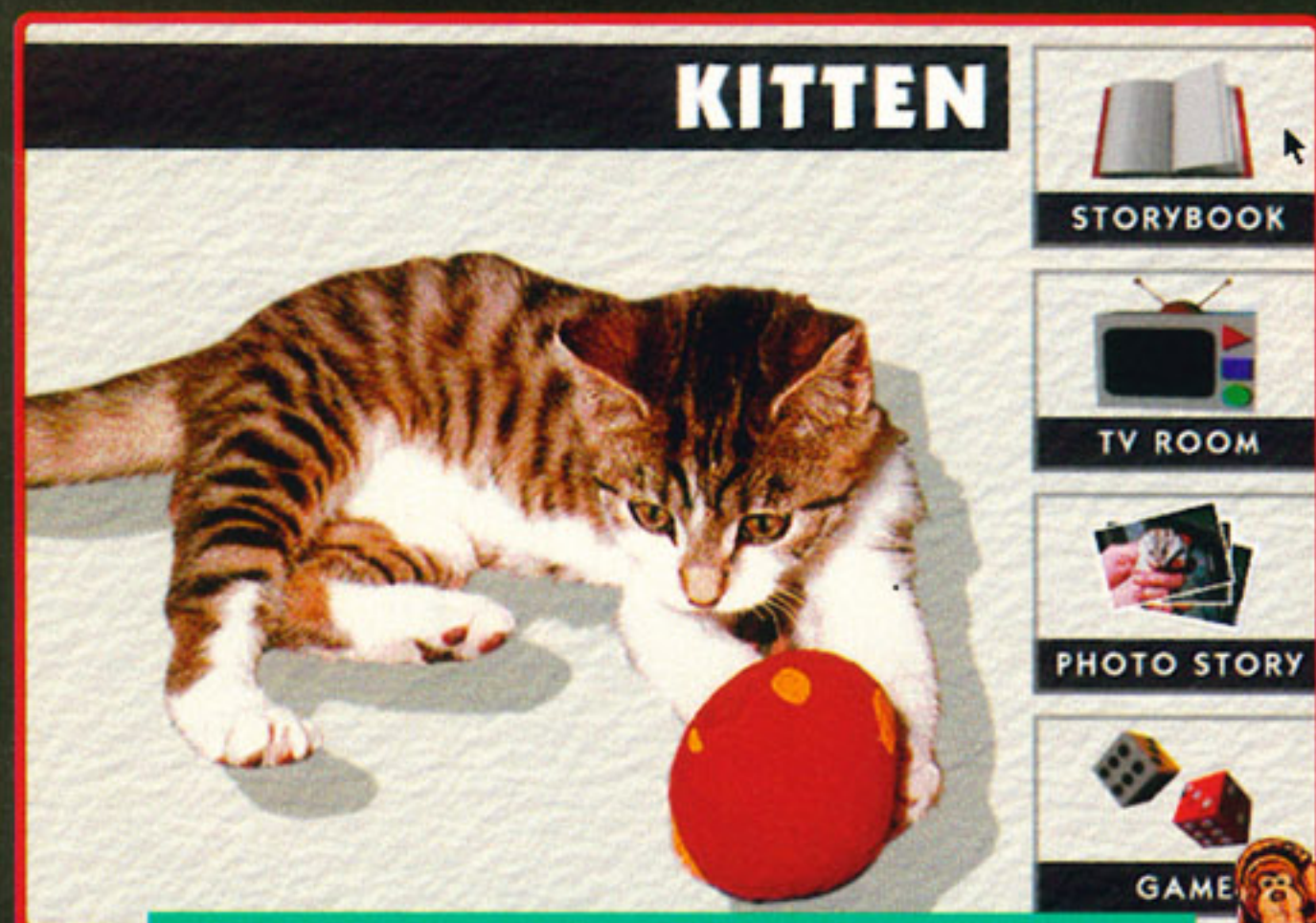
The coming of QuickTime

Many of the new generation of CD-ROMs have been made practical by Apple's video and audio compression technology, *QuickTime*. In simple terms it allows animated video images to be shown on screen. Most of the disks explored here use *QuickTime*, supplied as a System Extension. Without it only really powerful Macs could manage high quality video animation. As it is, for decent results you need an LCIII or better.



Grolier Multimedia Encyclopaedia

The Grolier Multimedia Encyclopaedia is one of the oldest pieces of CD-ROM software around and although this latest edition features *QuickTime* movies and 7,000 revised articles, the interface could do with an update. Browsing it is fine, but seeking out a particular piece of information is awkward which strikes me as something of a drawback in an encyclopaedia. Nevertheless this program which contains all 21 volumes of *Grolier's Academic American Encyclopaedia* is guaranteed to set curious children exploring – surely the most important thing that such a work can do.



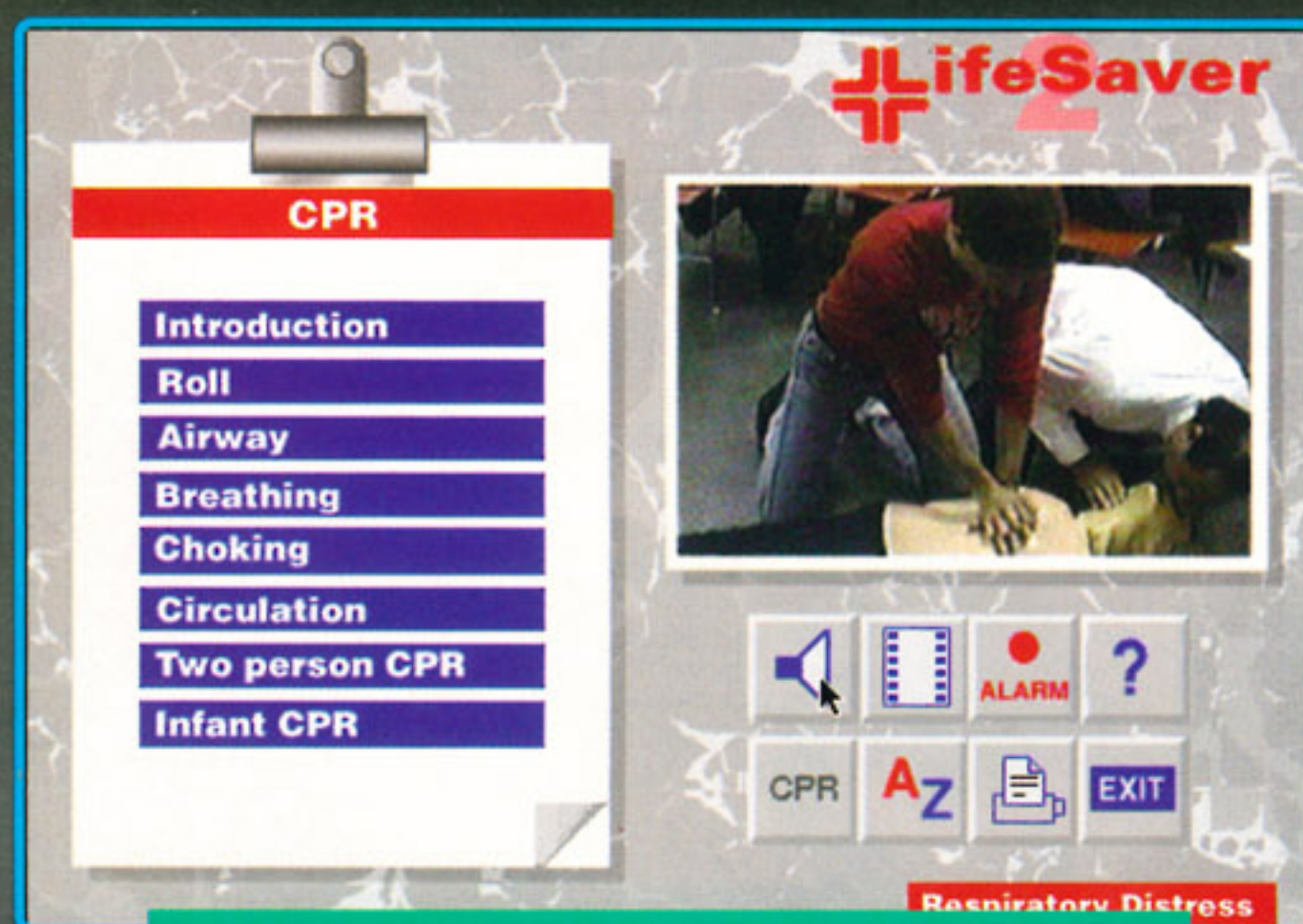
Cute n' Cuddlies

Designed for younger children, *Cute n' Cuddlies* contains dozens of photographs and movies of the more heart-warming members of the animal kingdom, as well as educational information about their habits and environment. There are also games to play, and most sections are narrated by a friendly female voice. Even the interface tries to be interesting for kids – to go back a screen you click on a little monkey which screeches. Everybody say ahhh... If the sweetness of it all gets too much, there's a companion volume of insects and lizards called *Creepy Crawlies*.



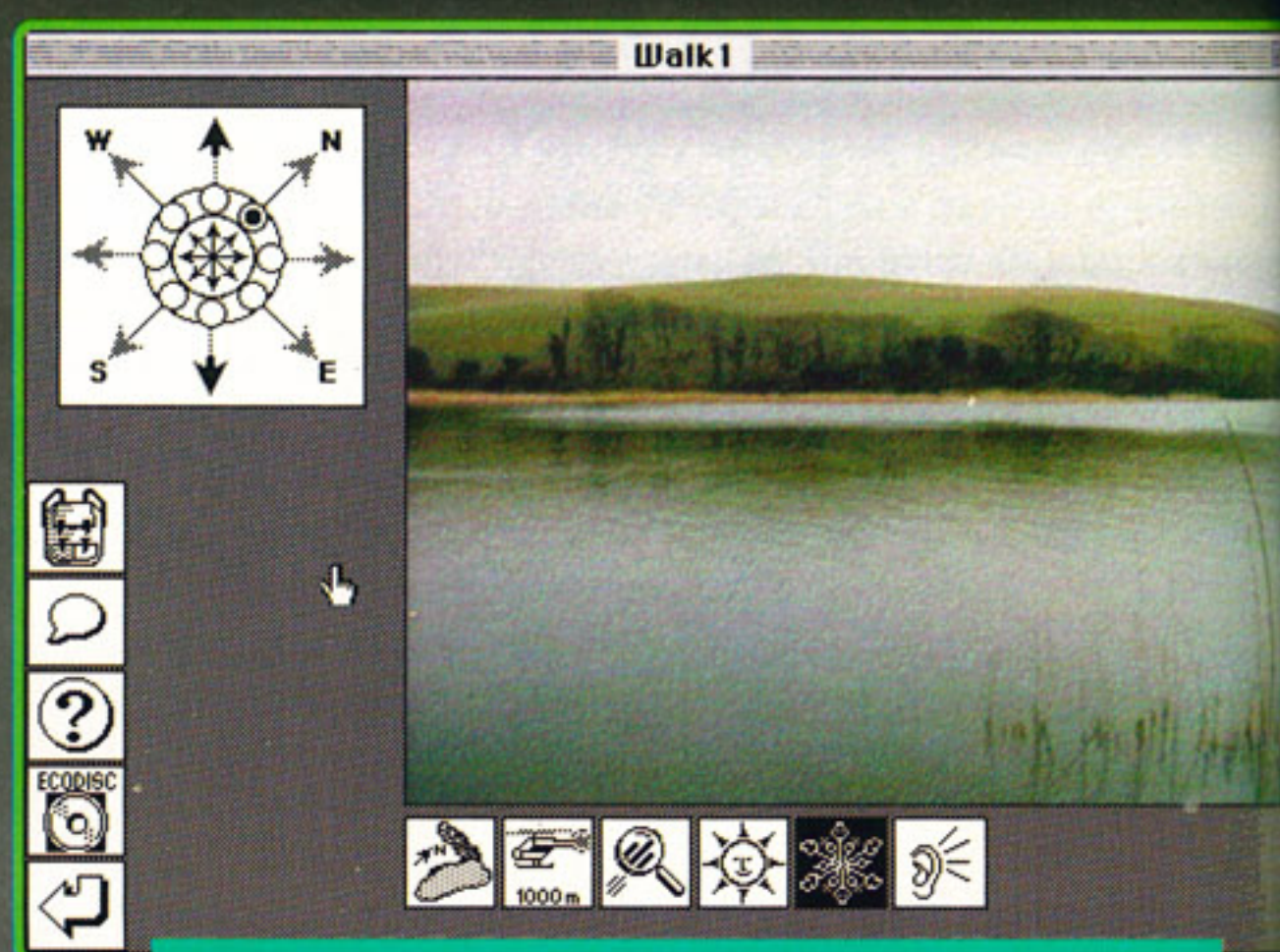
Wallobee Jack

Macs could have been designed for this! *Wallobee Jack – The Bingi Burra Stone* is an interactive cartoon. There are beautiful drawn and animated cartoons with recorded music and voices. The quality is so good it could be on your TV, and better, you can interact with it. You can't control the action as such, but occasionally your mouse pointer changes shape and prompts you to find a hot spot. Once found, it could trigger a falling anvil or dynamite explosion in a suitably cartoon-like way. This is the first in a series from Canadians Tune 100.



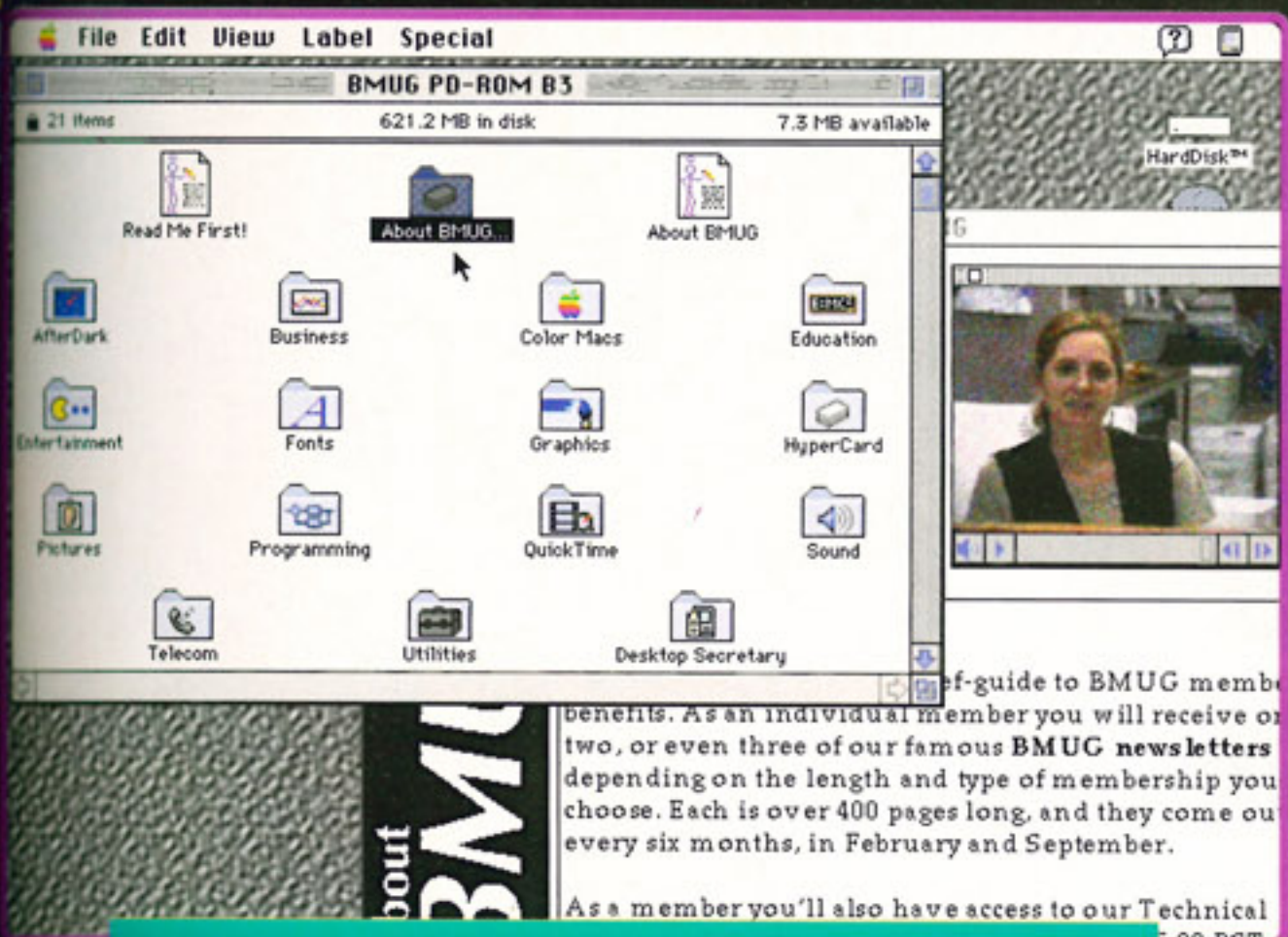
LifeSaver 2

LifeSaver is a first aid course on CD-ROM. It contains a lot of information and is designed to be used as a refresher course or as an adjunct to a first aid course. Certainly it wouldn't be much use as an instant reference: 'Just try to stem the bleeding a minute while my Mac boots up'. Although there is a lot to learn here, I found that the presentation was too dull to sustain interest and it was quite difficult to see what was going on in some of the QuickTime movies. This is a nice idea and will surely appeal to *Casualty* viewers but don't expect it to save your life.



Ecodisc

Ecodisc originally worked on the BBC Micro-based *Domesday Project* Laserdisc system in the mid-1980s but has been converted to *HyperCard* and CD-ROM. It's a nature reserve simulator. You walk around the reserve to learn about it before making management decisions to preserve its wildlife and prevent decay without going bankrupt. It's aimed at GCSE and A-level ecology students, so it's quite involved and you wouldn't play it just for the gaming angle, but biology teachers would kill for it. The same disk also works in nine European languages.

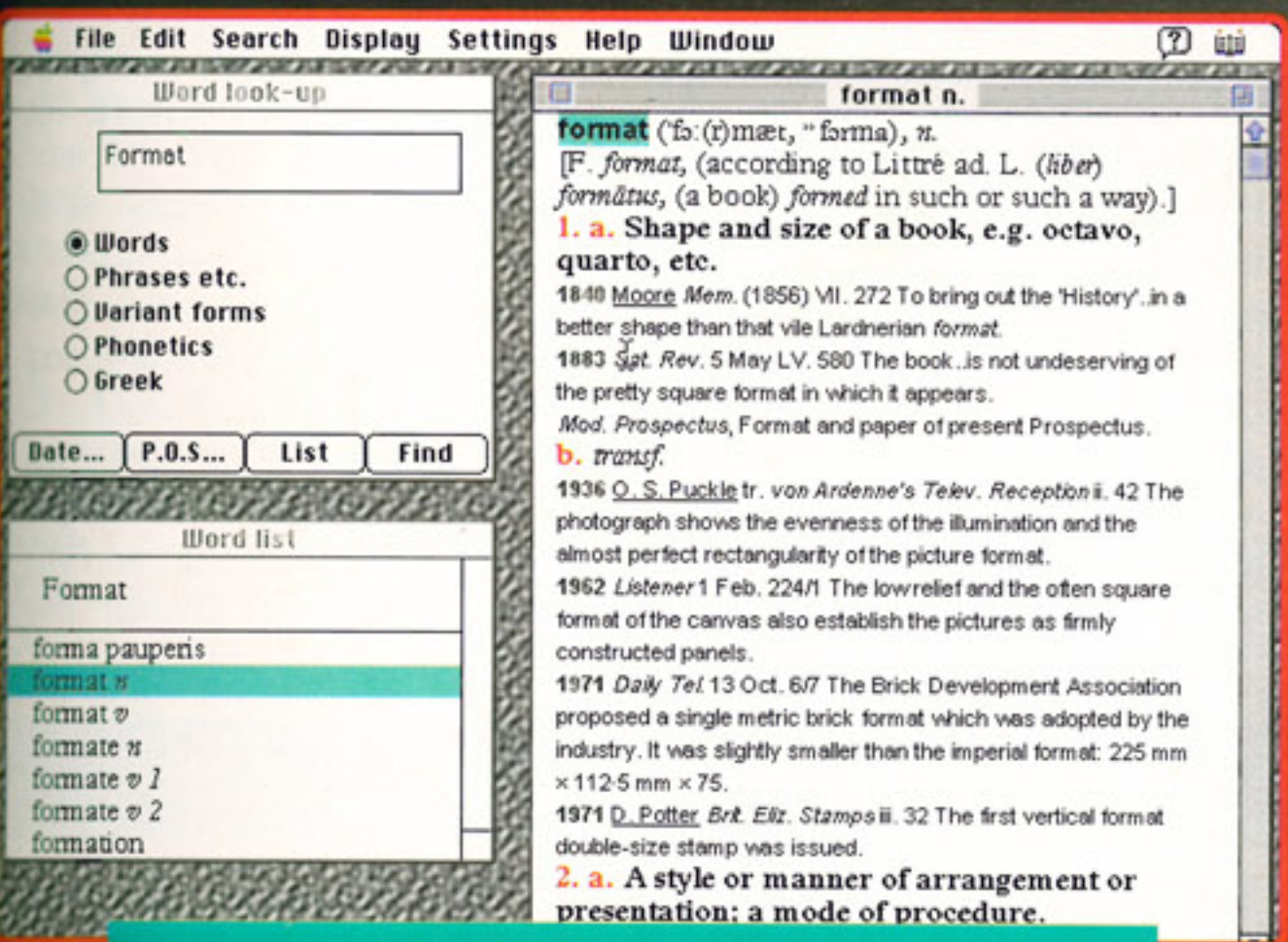
**BMUG**

BMUG (Berkeley Macintosh Users Group) is one of the US's biggest user groups. As well as running newsletters and a bulletin board, it also publishes a CD-ROM packed to the gills with shareware and public domain – over 620Mb of it! Collating that number of programs is no mean feat, and BMUG has organised things very logically. Regular updates are produced, and some of the software here has rarely been seen on this side of the Atlantic as it is too big to sensibly transmit by modem, the usual method of shareware distribution.



Space Shuttle

This is the best piece of multimedia education material I have ever seen. The disk takes you through the training program for astronauts and the history of the Space Shuttle, testing you as you go. When you have 'passed' training you can fly on any Shuttle mission. Actual videos of the launch and landing of every mission (with one obvious exception) are included with details of what was done in space and photographs and biographies of the crews. It is all linked together with a lovely front end and more than justifies the cost of a CD-ROM player.



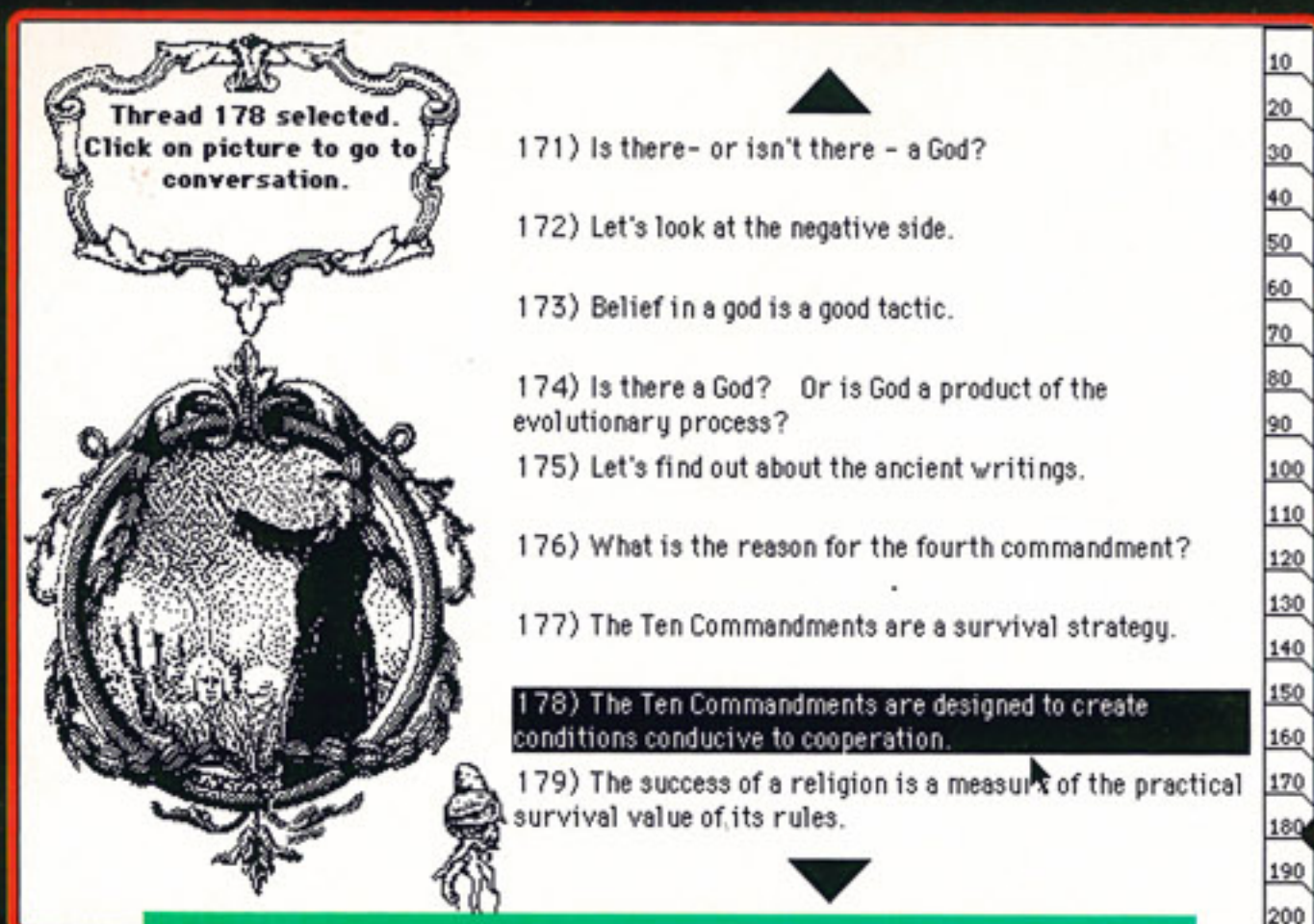
OED

The entire English language on a CD-ROM. This is an electronic version of the second edition of the huge reference work, which highlights one of the CD-ROM's main assets – you'd be hard pressed to slip the paper version in your pocket! The full text of the dictionary is here, while the front end means that you can search for phrases, cited authors and etymologies as well as the words themselves. A query language enables you to automate searches. Electronic versions of the *Concise Oxford* and the *Oxford Thesaurus* are also available.



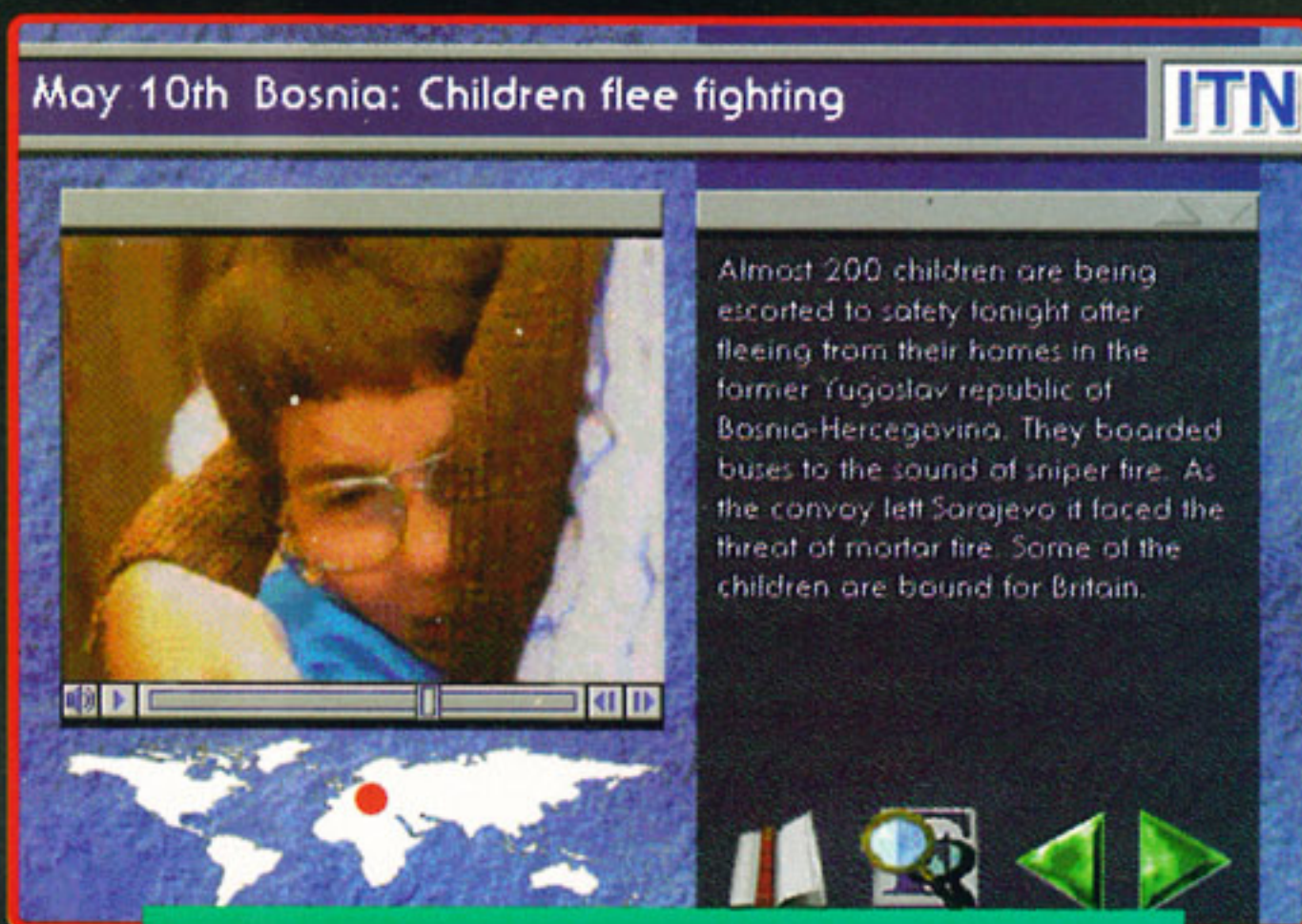
The Journeyman Project

CD-ROM opens up a new range of possibilities for games. *The Journeyman Project* is among the best of the first generation of 'photorealistic' adventures. The game is set in the future, and sets you, as a member of the Temporal Protectorate, the daunting task of going back in time to prevent an alien invasion. It has wonderful graphics and a challenging gameplay but in common with all CD-ROM games, if you haven't got one of the new 300rpm drives and tonnes of RAM it's impossibly slow. Still, you can always listen to the hi-fi soundtrack on any CD player.



How God makes God

How God Makes God is probably best described as an electronic book. There are no colour graphics and the animation involved is minimal. It consists of hundreds of conversations between characters taken from Victorian engravings on subjects centring on game theory. If that sounds strange, then that's because it is! If you enjoyed the conversations which punctuate *Godël, Escher and Bach* then you'll appreciate this.



ITN World News

The contents of several national newspapers have been available on CD for some time, but now *QuickTime* allows TV news to be treated the same way. This CD contains the highlights of ITN's coverage from last year. You don't get every night's *News at Ten* in its entirety but most major news events are here. Some are accompanied by medium-resolution photographs, and others by the entire items in movie format. What's the point of news that's not news anymore, you may wonder, but it's an interesting record, if only because the perspective of TV news changes so rapidly - check out some of the Bosnian items here.



The Cats

Everything you could wish to know about cats at the click of a mouse. *The Cats* is a multimedia reference to the domestic cat. It contains practical information about choosing and keeping a cat, a database of cat breeds, and lots of QuickTime movies of cats being cute.

Buying a CD-ROM drive

You have two basic questions to ask yourself when buying a CD-ROM drive. First: are you strapped for cash? Second: do you need a portable player?

If you want the cheapest player possible, you can pick up an older, slower drive like the obsolete Apple CD SC for as little as £150 if you're lucky. But if you have a bit more cash it's worth going for the much faster Apple CD-300 (street price around £330). If you need portability, Apple's PowerCD is good value, as are NEC's range of players.

Key words to look for are 'double speed' or '300rpm'. They

indicate that the machine is one of the newer, faster drives. Also look for Kodak PhotoCD compatibility (sometimes listed as 'multi-session compatible') which as well as allowing you to access your holiday snaps directly on the Mac, is a pretty good indicator that the drive in question is a modern design.

Finally, check that the drive comes with a Mac SCSI cable and Mac driver software.

Once you have a CD-ROM drive it's worth investing in a software CD-ROM accelerator such as FWD Software's *CD-ROM Toolkit*. The speed up is very noticeable.

Where to get it ▼

Name	Publisher	Distributor	Phone	Price
Grolier Multimedia				
Encyclopaedia	Grolier	Mindscape	0444 246333	£292
Cute 'n' Cuddlies	MDI	Psygnosis	051 709 5755	£49
Wallobee Jack	Tune 100	None	01014188778900	\$20
BMUG CD-ROM	BMUG	None	010510-549-2684	\$30
Space Shuttle	Software Toolworks	Mindscape	0444 246333	£40
Ecodisc	ESM	ESM	0223 65445	£176
LifeSaver 2	MDI	Psygnosis	051 709 5755	£70
The Cats CD-ROM	SRL Data	Softline	081 642 2255	£40
Oxford English Dictionary	OUP	OUP	0865 56767	£580
The Journeyman Project	Presto Studios	Softline	081 642 2255	£69
How God Makes God	Genome	Genome	0628 23090	£38
ITN World News 92	MDI	Psygnosis	051 709 5755	£70

UTC Direct

Service Guaranteed!!

SyQuest Drives

44Mb External.....	£259
inc 44Mb Cartridge*, cables & software	
88Mb 'C' External.....	£359
inc 88Mb Cartridge*, cables & software	
105Mb 3.5" External.....	£499
inc 105Mb Cartridge*, cables & software	
44Mb Cartridge.....	£45
88Mb Cartridge.....	£69
105Mb Cartridge.....	£59

3 Year Warranty

*5 Year Warranty on cartridge supplied with drive.

SyQuest 88c inc Cartridge



£359

Hard Drives

2 Year Warranty

	Internal	External
170Mb.....	£169	£239
200Mb.....	£185	£259
230Mb.....	£219	£299

5 Year Warranty

330Mb.....	£269	£345
450Mb.....	£435	£505
520Mb.....	£549	£625
1Gb.....	£649	£725
1.2Gb.....	£829	£919
1.6Gb.....	£979	£1059
2Gb.....	£1089	£1169
3.5Gb.....	£1919	£1999
4Gb.....	£2669	£2769

All drives come preformatted, complete with SCSI Cable, power cable, terminator and formatting software.

1Gb External Drive IBM SCSI-2 Mechanism



£725

Dealer Enquiries Welcome.

Optical Drives

128Mb 3.5" Optical.....	£669
includes 128Mb cartridge, cables & software.	
650Mb 5.25" Optical.....	£1539
includes 650Mb cartridge, cables & software.	
1300Mb 5.25" Optical.....	£1995
includes 1300Mb cartridge, cables & software.	
128Mb Cartridge.....	£34
650Mb Cartridge.....	£79
1300Mb Cartridge.....	£99

UTC 2-in-1

A range of drives which combine two storage devices in one box, saving desk space and cable clutter.



44Mb SyQuest & 200Mb HD

£475

88Mb SyQuest & 1Gb HD

£999

128Mb Optical & 1Gb HD

£1295

88Mb SyQuest & 2Gb HD

£1495

650Mb Optical & 2Gb HD

£2675

Other Options Available.

November Special GCC Selectpress 600 A3



Printers

Minolta SP1500.....	£749
GCC PLPII.....	£459
GCC BLP Elite 2Mb.....	£599
GCC BLP Elite 4Mb.....	£669
GCC BLP Elite 8ppm.....	£819
GCC Eclipse 4.....	£749
GCC Eclipse 8.....	£995
GCC WriteMove II.....	£349
GCC WideWriter.....	£1195
GCC ColorTone.....	£5779
GCC Selectpress 600.....	Censored
GCC Selectpress 600 Pro.....	£3749

Scanners

Epson GT-6500 inc Photoshop LE.....	£695
Epson GT-6500 inc Full Photoshop.....	£905
Epson GT-8000 inc Photoshop LE.....	£925
Epson GT-8000 inc Full Photoshop.....	£1195
Epson Tranny Unit.....	£425
Agfa Arcus Plus inc Tranny Unit.....	£2895

November Special Epson GT-6500 LE



£695

Software

Quark XPress.....	£595
PageMaker.....	£470
Claris Works.....	£150
Aldus Freehand.....	£275
Illustrator 5.....	£365
FileMaker Pro.....	£215
Microsoft Word.....	£199
Microsoft Excel.....	£225
Norton Utilities.....	£119

Many more titles available.

Consumables

LaserWriter IINT Toner.....	£39
Personal LaserWriter Toner.....	£69
Toner for GCC Printers.....	£21
EP Magazine for GCC Printers.....	£169
QMS 860 Toner.....	£109
StyleWriter Cartridge.....	£15
BJC820 Cartridge Black.....	£15
BJC820 Cartridge Colours.....	£19
CLC10 Ink Cartridges.....	£55
DeskWriter Single Life Blk.....	£14
DeskWriter Double Life Blk.....	£22
DeskWriter Single Life Col.....	£15
DeskWriter Double Life Col.....	£24
GCC Selectpress EP.....	£325
GCC Selectpress Toner.....	£55
GCC Selectpress toner 6 pack.....	£195

Video Cards

Radius 8xj.....	£389
Radius 24xp.....	£375
Radius 24xk.....	£679
Radius 24x.....	£1099

Monitors

Philip 20" Trinitron.....	£1595
Philips 21" Brilliance.....	£1795
Philips 17" Trinitron.....	£725
Philips 15".....	£465
Philips 14".....	£285

We also sell Complete Macintosh Systems.

THE UTC DIRECT ADVANTAGE

- If its on this page we guarantee to deliver within 3 working days or you get your money back.*
- If within 30 days of purchase you are not completely satisfied we will refund your money upon return of the goods.**
- Free Telephone support on all our products.
- Next day delivery service on most purchases regardless how large or small.*
- If you need to return a product under warranty we will collect it, repair or replace it and return it to you at our expense.

This does not effect your statutory rights. *Subject to couriers set conditions. **Subject to goods returned in original condition and packaging.

CALL DIRECT NOW ON

0642•461•726

Fax: 0642•461•738



The Storage Specialists

Part of Universal Trading Corporation Ltd.

Visa
Access

Mastercard



Tricks of the trade

Simon Cox and Greg Morrison give you some tips to help you design uncluttered worksheets

Various methods of constructing worksheets have been illustrated in the last few spreadsheets articles. This time we collect together a number of tips to facilitate the construction of

worksheets in *ClarissWorks*. There are literally hundreds of these little tricks. Everything shown here can be used equally in *Excel* or *Mariner*. Remember when developing any worksheet take it slowly and

only try to make small steps, saving regularly. As you become more familiar with spreadsheets you will find many of these tricks for yourself. If you find any good ones, drop us a line and let us know.

Taking up references

It is vital when constructing even the most elementary spreadsheet to be able to refer to other cells. There are two types of references – absolute and relative – and the skill lies in being able to decide which one to use when.

Both forms of reference provide a method of referring to the contents of one cell of a spreadsheet in another. The usual method of referring to a cell is just to write it down. So the top left hand cell of a worksheet is A1 and this is a relative reference. To turn it into an absolute reference, dollar signs are placed in the front of the column letter and row letter. Therefore the absolute reference to the top left hand cell is \$A\$1.

1 Example Spreadsheet 1 (SS)

Formula bar: `=A1+B$1`

	A	B	C	D	E
1	100	200			
2					
3					
4			300		
5					
6					
7					
8					
9					
10					

This spreadsheet shows the difference between these references. Cell C4 contains a formula that adds together the top left two cells A1 and B1. It does this with a relative reference to A1 and an absolute reference to B1. If we now copy this formula to another cell (E7) the worksheet is updated as shown below:

2 Example Spreadsheet 1 (SS)

Formula bar: `=C4+B$1`

	A	B	C	D	E
1	100	200			
2					
3					
4			300		
5					
6					
7					500
8					
9					
10					

As we can see the absolute reference maintains the same place and the relative reference moves. The contents of cell C4 were pasted in two columns to the right and three rows down. This adds three to both the column and row part of the relative reference meaning A1 becomes C4.

Care must be taken with relative references. Look what happens if the cell C4 is copied into A6:

3 Example Spreadsheet 1 (SS)

Formula bar: `=BADCELL+B$1`

	A	B	C	D	E
1	100	200			
2					
3					
4			300		
5					
6	#REF!				
7					500
8					
9					
10					

Relative references can go backwards as well as forward. In doing so the column letter would go before A, which cannot happen and so the worksheet contains a bad reference.

It is possible to make references that have both absolute and relative components. These can be useful for copying a column that contains references.

4 Example Spreadsheet 2 (SS)

Formula bar: `=SUM(A$1..A$6)`

	A	B	C	D
1	1			
2	2			
3	3			
4	4			
5	5			
6	6			
7				
8	21			
9				
10				
11				

When that column is copied across to another column in the worksheet, the row numbers stay the same but column letter changes – the dollar sign freezes the numeric part making it absolute.

5 Example Spreadsheet 2 (SS)

Formula bar: `=SUM(C$1..C$6)`

	A	B	C	D
1	1		10	
2	2		20	
3	3		30	
4	4		40	
5	5		50	
6	6		60	
7				
8	21			
9				
10			210	
11				

One last thing. The changes that happen to references only occur when they are copied and pasted. If cells are moved (rather than placed on the Clipboard) then the references will not change.

Working with dates

When dates are first encountered in spreadsheets, the representation seems very bizarre. Although they are displayed in the usual way (7/4/63 or 7th April 1963) they are stored as numbers. Each time you enter a date, the spreadsheet will re-calculate accordingly. To be precise, dates are stored as the number of days after 1st January 1904. For instance, this issue of *MacFormat* went on sale on Tuesday November 2, which is known in spreadsheet parlance simply as '32,812'. We will not describe how spreadsheets do it this way but we will describe how to use this fact.

The big advantage of this representation is it makes date arithmetic very simple. For example, calculating the number of days to Christmas in *ClarissWorks* is accomplished using the formula shown in the worksheet below:

1 Hmas Dates Spreadsheet (SS)

Formula bar: `=DATE(YEAR(NOW()),12,25)-NOW()`

	A	B	C
1	Today is	18 August, 1993	
2	Number of days to Christmas		128
3			
4			

The function DATE is used to calculate the serial number for 25th December this year where this year is calculated using the functions YEAR and NOW. Having worked out the serial number for that date, the serial number for today is subtracted from it, leaving the number of days to Christmas. Often in a table when given a date we will want to calculate the one

Hiding cells

A useful trick is to hide cells that do not need to be used or whose presence would confuse the user. This can be particularly useful in tables where the number of rows may vary but you do not show rows that do not contain useful information. A good example of this is a loan repayment table. We want the table to include the correct number of rows according to the number of years the loan is to be repaid over.

1 Loan Example Spreadsheet (SS)

Formula bar: `=FV(C8;12;D8;E7)`

	A	B	C	D	E
1	Mortgage amount	£ 50000.00			
2	No. of years	25			
3	APR	18.90%			
4	Starting Date	1 Oct, 1993			
5					
6	Date	APR	Monthly	Pay per month	Remaining
7					
8	1 Oct, 1993	18.90%	1.45%	-£ 736.25	£ 49873.63
9					
10					
11					

The table is set up in the usual way. At the top we have the amount of the loan, the number of years the

loan is for, the interest rate and the starting date. In the body of the table, there are calculations for the monthly interest rate, the monthly payment and the amount remaining. These are performed using financial functions provided by the spreadsheet. The cells E7, A8, B8 contain absolute references to the cells B\$1, B\$4 and B\$3 respectively. The rest of row 8 contains a simple formula to calculate the number shown.

2 Loan Example Spreadsheet (SS)

Formula bar: `=IF(B$2-(ROW()-B)<=0;"";-FV(C9;12;D9;E8))`

	A	B	C	D	E
1	Mortgage amount	£ 50000.00			
2	No. of years	25			
3	APR	18.90%			
4	Starting Date	1 Oct, 1993			
5					
6	Date	APR	Monthly	Pay per month	Remaining
7					
8	1 Oct, 1993	18.90%	1.45%	-£ 736.25	£ 49873.63
9	1 Oct, 1994	18.90%	1.45%	-£ 736.25	£ 49723.37
10					
11					

week or a month after that. Calculating a date a week in advance is simple – you just add to the serial number and the spreadsheet will do all the rest. Getting to a date a month in advance is a little more difficult. One method is to break up the date into its year, month and day components and then add one to the month. This works well as long as we take into account December – then we must add one to the year and set the month to one. However, there are a number of dates where this does not work so well – a good example is 29 January. Not every year has 29 February and therefore a date error occurs as below:

2 Date problem spreadsheet (SS)

	A	B	C	D	E
1	29/1/93	=DATE(YEAR(A1);MONTH(A1)+1;DAY(A1))			
2					
3					
4					
100					

To calculate a calendar month properly requires taking into account the starting date and the number of days in the months concerned. So, if a table starts on 31/12/93, we then want 31/1/94, 28/2/94, 31/3/94, 30/4/94 etc. If it had started on 30/12/93, we then want 30/1/94, 28/2/93, 30/3/94, 30/4/94 etc. To do this requires taking into account the number of days in a month. This is a trick we have used before and is useful in many situations:

3 Calendar month spreadsheet (SS)

	B	C	D	E	F	G	H	I	J
1	31/12/93							31	31
2								28	29
3								31	31
4								30	30
5								31	31
6								30	30
7								31	31
8								30	30
9								31	31
10								30	30
11								31	31
12								30	30
13								31	31
14								30	31
100								Most years	Leap Years

In row nine, we can place the appropriate formula. So B9 could simply refer to B8. Then having done that, the fill down operation could be used to provide a 25 year repayment table. However, we want the worksheet to change according to the length of the loan. Therefore in each cell the formula will be placed in an IF statement. The IF decides whether the formula should be displayed – if it should not, it puts up a blank cell.

3 Loan Example Spreadsheet (SS)

	A	B	C	D	E
1	Mortgage amount	£ 50000.00			
2	No. of years	15			
3	APR	18.90%			
4	Starting Date	1 Oct, 1993			
5					
6	Date	APR	Monthly	Pay per month	Remaining
7					£ 50000.00
8	1 Oct, 1993	18.90%	1.45%	-£ 785.03	£ 49239.08
9	1 Oct, 1994	18.90%	1.45%	-£ 785.03	£ 48334.35
10	1 Oct, 1995	18.90%	1.45%	-£ 785.03	£ 47258.63
11	1 Oct, 1996	18.90%	1.45%	-£ 785.03	£ 45979.60
12	1 Oct, 1997	18.90%	1.45%	-£ 785.03	£ 44458.82
13	1 Oct, 1998	18.90%	1.45%	-£ 785.03	£ 42650.62
14	1 Oct, 1999	18.90%	1.45%	-£ 785.03	£ 40500.68
15	1 Oct, 2000	18.90%	1.45%	-£ 785.03	£ 37944.39
16	1 Oct, 2001	18.90%	1.45%	-£ 785.03	£ 34904.96
17	1 Oct, 2002	18.90%	1.45%	-£ 785.03	£ 31291.08
18	1 Oct, 2003	18.90%	1.45%	-£ 785.03	£ 26994.18
19	1 Oct, 2004	18.90%	1.45%	-£ 785.03	£ 21885.16
20	1 Oct, 2005	18.90%	1.45%	-£ 785.03	£ 15810.54
21	1 Oct, 2006	18.90%	1.45%	-£ 785.03	£ 8587.82
22	1 Oct, 2007	18.90%	1.45%	-£ 785.03	£ 0.00
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
100					

The IF statement decides which row of the table it is in and then returns a blank for all calculations above the number of years in \$B\$2. Row nine can now be filled down as far as required – say 50 rows. Then whenever a different number is placed in cell B2, the table will adjust appropriately. So for a 15 year repayment the table looks like screen number 3, above.

The cells I1..J12 contain the number of days in each month according to whether it is a leap year or not. In the next couple of columns we then insert some extra values to calculate parts of the date.

4 Calendar month spreadsheet (SS)

	B	C	D	E	F	G	H	I	J
1	Start date	31/12/91	Month	Year	Column	Days			
2		31/1/92	1	1992	2	31		31	31
3								28	29
4								31	31
5								30	30
6								31	31
7								30	30
8								31	31
9								30	30
10								31	31
11								30	30
12								31	31
13								30	31
14								Most years	Leap Years
100									

In cell B1 the date is calculated on the basis of some working calculations in columns D to G. In columns D and E the month and year for this row are calculated. In column F is a number of the column to look in the date table – column one for an ordinary year, column two for a leap year. Then in column G are the number of days in that month. So back in B1 the date is calculated by taking the year and the month from the adjacent columns. The day is then either the one from the top row or the maximum number of days in the month.

If this calculation had been part of a real worksheet then all this calculation could be carried out in a 'quiet' area. Most of what is shown above could have been condensed down into one enormous IF formulae in the date row. There are a number of reasons for not doing this. Firstly, the problem of writing that formulae is extremely large – just seeing it becomes a problem as it will not fit in the formula box at the top of the worksheet. Secondly, expecting somebody else to read and understand what it does is optimistic. Lastly, the chance of you understanding it an hour, a day or a week later is small.

4 Loan Example Spreadsheet (SS)

	A	B	C	D	E
1	Mortgage amount	£ 50000.00			
2	No. of years	25			
3	APR	18.90%			
4	Starting Date	1 Oct, 1993			
5					
6	Date	APR	Monthly	Pay per month	Remaining
7					£ 50000.00
8	1 Oct, 1993	18.90%	1.45%	-£ 736.25	£ 49873.63
9	1 Oct, 1994	18.90%	1.45%	-£ 736.25	£ 49723.37
10	1 Oct, 1995	18.90%	1.45%	-£ 736.25	£ 49544.71
11	1 Oct, 1996	18.90%	1.45%	-£ 736.25	£ 49332.29
12	1 Oct, 1997	18.90%	1.45%	-£ 736.25	£ 49079.72
13	1 Oct, 1998	18.90%	1.45%	-£ 736.25	£ 48779.41
14	1 Oct, 1999	18.90%	1.45%	-£ 736.25	£ 48422.35
15	1 Oct, 2000	18.90%	1.45%	-£ 736.25	£ 47997.80
16	1 Oct, 2001	18.90%	1.45%	-£ 736.25	£ 47493.01
17	1 Oct, 2002	18.90%	1.45%	-£ 736.25	£ 46892.82
18	1 Oct, 2003	18.90%	1.45%	-£ 736.25	£ 46179.19
19	1 Oct, 2004	18.90%	1.45%	-£ 736.25	£ 45330.68
20	1 Oct, 2005	18.90%	1.45%	-£ 736.25	£ 44321.81
21	1 Oct, 2006	18.90%	1.45%	-£ 736.25	£ 43122.26
22	1 Oct, 2007	18.90%	1.45%	-£ 736.25	£ 41695.99
23	1 Oct, 2008	18.90%	1.45%	-£ 736.25	£ 40000.16
24	1 Oct, 2009	18.90%	1.45%	-£ 736.25	£ 37983.82
25	1 Oct, 2010	18.90%	1.45%	-£ 736.25	£ 35586.39
26	1 Oct, 2011	18.90%	1.45%	-£ 736.25	£ 32735.84
27	1 Oct, 2012	18.90%	1.45%	-£ 736.25	£ 29346.54
28	1 Oct, 2013	18.90%	1.45%	-£ 736.25	£ 25316.66
29	1 Oct, 2014	18.90%	1.45%	-£ 736.25	£ 20525.14
30	1 Oct, 2015	18.90%	1.45%	-£ 736.25	£ 14828.02
31	1 Oct, 2016	18.90%	1.45%	-£ 736.25	£ 8054.14
32	1 Oct, 2017	18.90%	1.45%	-£ 736.25	£ 0.00
33					
100					

And for 25 years, it looks like this.

Functions used

- DATE:** changes a date of the form YY/MM/DD into a serial number. DATE(1963;4;7) is 21646.
- DAY:** returns the day number of a date expressed as a serial number. DAY(21646) is 7.
- FV:** the Future Value function calculates compound interest.
- IF:** returns one of two values depending on if the condition tested is true or false

■ We managed to chop off the end of a formula in last month's spreadsheets column. So, here is the full formula for screen number three in the 'Loans' section: =IF(MONTH(A8<>12;DATE(YEAR(A8);MONTH(A8)+1;DAY(A8));DATE(YEAR(A8)+1;1;DAY(A8)))

Protecting cells

When producing worksheets that might be used by friends and colleagues it is useful to guard against them changing things that are not meant to be changed. This is where protection comes in. Simply by telling the spreadsheet application to protect some cells, the user of the worksheet is prevented from changing them. There is nothing to stop the user unprotecting the cell and changing something but they have to make a conscious effort to do it. The cells are of course not protected from the spreadsheet itself changing them as in the case of our flexible loan worksheet.

In the loan worksheet, all the cells should be protected except for the top four in column B where the initial information is entered. When this is carried out, a user cannot enter information into the other cells as an error message will occur as below:

Loan Example Spreadsheet (SS)

	A	B	C	D	E
1	Mortgage amount	£ 50000.00			
2	No. of years	25			
3	APR	18.90%			
4	Starting Date	1 Oct, 1993			
5					
6	Date	APR	Monthly	Pay per month	Remaining
7					£ 50000.00
8	1 Oct, 2001	18.90%	1.45%	-£ 736.25	£ 49873.63
9	1 Oct, 2002	18.90%	1.45%	-£ 736.25	£ 49723.37
10	1 Oct, 2003	18.90%	1.45%	-£ 736.25	£ 49544.71
11	1 Oct, 2004	18.90%	1.45%	-£ 736.25	£ 49332.29
12	1 Oct, 2005	18.90%	1.45%	-£ 736.25	£ 49079.72
13	1 Oct, 2006	18.90%	1.45%	-£ 736.25	£ 48779.41
14	1 Oct, 2007	18.90%	1.45%	-£ 736.25	£ 48422.35
15	1 Oct, 2008	18.90%	1.45%	-£ 736.25	£ 47997.80
16	1 Oct, 2009	18.90%	1.45%	-£ 736.25	£ 47493.01
17	1 Oct, 2010	18.90%	1.45%	-£ 736.25	£ 46892.82
18	1 Oct, 2011	18.90%	1.45%	-£ 736.25	£ 46179.19
19	1 Oct, 2012	18.90%	1.45%	-£ 736.25	£ 45330.68
20	1 Oct, 2013	18.90%	1.45%	-£ 736.25	£ 44321.81
21	1 Oct, 2014	18.90%	1.45%	-£ 736.25	£ 43122.26
22	1 Oct, 2015	18.90%	1.45%	-£ 736.25	£ 41695.99
23	1 Oct, 2016	18.90%	1.45%	-£ 736.25	£ 40000.16
24	1 Oct, 2017	18.90%	1.45%	-£ 736.25	£ 37983.82
25	1 Oct, 2018	18.90%	1.45%	-£ 736.25	£ 35586.39
26	1 Oct, 2019	18.90%	1.45%	-£ 736.25	£ 32735.84
27	1 Oct, 2020	18.90%	1.45%	-£ 736.25	£ 29346.54
28	1 Oct, 2021	18.90%	1.45%	-£ 736.25	£ 25316.66
29	1 Oct, 2022	18.90%	1.45%	-£ 736.25	£ 20525.14
30	1 Oct, 2023	18.90%	1.45%	-£ 736.25	£ 14828.02
31	1 Oct, 2024	18.90%	1.45%	-£ 736.25	£ 8054.14
32	1 Oct, 2025	18.90%	1.45%	-£ 736.25	£ 0.00
33					
100					

Jargon Busters

- Absolute reference:** a reference to a cell that does not change when copied and pasted. Usually written with '\$' signs i.e. \$A\$4.
- Range:** a two dimensional selection of cells. For example, in *ClarisWorks* the top left four cells are A1..B2.
- Relative reference:** a reference which will change when copied and pasted. So if the cell A5 contains the relative reference A4 and is copied to B6, the reference becomes B5.
- Serial number:** how dates are represented in worksheets. This is usually the number of days after 1 January 1904.

- INDEX:** returns a cell reference from a range of cells.
- MONTH:** returns the month number of a date expressed as a serial number. DAY(21646) is 4.
- PMT:** the PayMenT function calculates the required payment to pay a loan in a certain time.
- ROW():** a function that returns the row number.
- YEAR:** returns the month number of a date expressed as a serial number. YEAR(21646) is 1963.

Apple Autumn Gold

Harwoods have been trading since 1955 - providing Computer Systems since 1982 - Always emphasising quality of service, we're one of the largest and longest established Dealerships in the UK. Just look at our Special LIMITED Autumn Offers. There's never been a better time to buy an Apple™ Macintosh™ or add that peripheral you've been waiting for... But Hurry, stocks are limited!

Remember we're open on Saturdays too!!!

Don't forget to ask for details of our exclusive 5Year Warranty Options (see below for full details).

ALL PRODUCTS...
Harwoods can now supply ALL goods either through our Apple™ Authorised Reseller Showroom or by Mail Order!
Prices include FREE UK Mainland Delivery
FAST Courier Service can be provided at LOW COST!
INSTANT FINANCE
Available in-store and by order (subject to status). Please ask for written details and a personal or business application pack.

APPLE™ MACINTOSH™



All our Macs inc. Keyboard, Mouse & Sys. 7.1

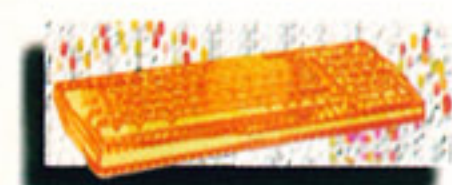
FREE STARTER PACK WITH ALL MACS

LARGER Monitors also available PHONE US NOW!

MONITOR OPTION		Apple 14" Performa Plus Colour Monitor .28mm Dot Pitch		Apple 14" Hi-Res Colour Monitor .26mm Dot Pitch	
MAC MODEL					
LCII, 4/80 16MHz, 68030 Up to 10Mb. RAM		Whilst Stocks Last £Call for Prices		Whilst Stocks Last £Call for Prices	
LCIII, 4/80 25MHz, 68030, 32Bit Data Bus, Up to 16" Display Support Up to 36Mb. RAM		£745 (£876) <i>Twice as Fast as an LCII!!!!</i>		£849 (£998) <i>Twice as Fast as an LCII !!!</i>	
NEW! LC475, 4/80 25MHz, 68LC040, 32Bit Bus, Up to 21" Display Support Up to 36Mb. RAM		£955 (£1123) <i>Twice as Fast as an LCIII!!!!</i>		£1059 (£1245) <i>Twice as Fast as an LCIII!!!!</i>	
NEW! QUADRA 610 + Ethernet 25MHz, 68040, FPU, Supports Up to 21" Apple Displays Up to 68Mb. RAM		4/160 £1290 (£1516) 4/160 £1495 CD (£1757) 8/230 £1779 CD (£2091)	£1290 (£1516) £1495 (£1757) £1779 (£2091)	4/160 £1329 (£1562) 4/160 £1545 CD (£1816) 8/230 £1829 CD (£2150)	£1329 (£1562) £1545 (£1816) £1829 (£2150)
NEW! QUADRA 650 + Ethernet 33MHz, 68040, FPU, Up to 21" Displays Up to 136Mb. RAM 3 NUBUS Exp. Slots		4/160 £1599 (£1879) 4/160 £1799 CD (£2114) 8/230 £2099 CD (£2467)	£1599 (£1879) £1799 (£2114) £2099 (£2467)	4/160 £1649 (£1938) 4/160 £1849 CD (£2173) 8/230 £2149 CD (£2526)	£1649 (£1938) £1849 (£2173) £2149 (£2526)

FREE at Harwoods - Starter Pack worth £30 with any Mac Hi-Res. Colour Monitor System... 10-Disk/HD Disks, Mouse Mechanic Maintenance Tool, Disk Head Cleaner & Mouse Mat. All Macs inc. Keyboard, Mouse & Sys. 7.1 and are fully tested/pre-configured/software installed. ASK about EXTENDED 5Yr WARRANTIES!

APPLE™ REPLACEMENT KEYBOARDS...



Standard	£80	(£94)
Extended	£140	(£165)
Adjustable/Ergonomic	£165	(£194)

APPLE™ POWERBOOKS™ ...

FREE STARTER PACK WITH POWERBOOKS

145B, 4/40 Mono	£990	(£1164)
145B, 4/80 Mono	£1145	(£1346)
145B, 4/80 PlusM Mono (inc. Modem)	£1275	(£1499)
165, 4/80 Mono	£1228	(£1443)
165C, 4/80 Colour	£1327	(£1560)
165C, 4/120 Colour	£1594	(£1873)
165C, 4/120EM Col. (inc. Express Modem)	£1817	(£2135)
180, 4/120 Mono	£2099	(£2467)
180, 4/120EM Mono (inc. Express Modem)	£2297	(£2699)
180C, 4/160 Colour	£2297	(£2699)
180C, 4/160EM Col. (inc. Express Modem)	£2498	(£2936)
NEW! DUO 230's... 33MHz, 68030, upto 24Mb RAM		
Duo 230, 4/80 Mono	£938	(£1103)
Duo 230, 4/80 Mono +1.4Mb. Floppy Drive	£1111	(£1306)
Duo 230, 4/80 Mono inc. Duo Dock	£1399	(£1644)
Duo 230, 4/120 Mono	£1055	(£1240)
Duo 230, 4/120 Mono inc. Duo Dock Plus	£1645	(£1933)
NEW! DUO 250's... 33MHz, 68030, upto 24Mb RAM, Hi-Cap. Batteries, 640x400 Active Matrix Screen(AMS)		
Duo 250, 4/200 Mono	£1679	(£1973)
Duo 250, 12/200EM Mono (inc. Exp. Modem)	£2149	(£2526)
NEW! DUO 270's... 33MHz, 68030, FPU, upto 32Mb RAM, AM -640 x 480 (256 Cols), 640 x 400 (1000's Cols)		
Duo 270, 4/240 Colour	£1999	(£2349)
Duo 270, 12/240EM Col. (inc. Exp. Modem)	£2475	(£2910)



FREE only at Harwoods - Genuine Apple™ CarryCase worth £30 with ALL Powerbooks™, AND... with Colour Powerbooks a FREE Apple Monitor Cable Adaptor. **ALL** our Powerbooks™ include Batteries & Charger Unit!

NEW! APPLE™ DUO™ ACCESSORIES... NEW!

Apple Duo Upgrade Option: If you own a Duo ask about our upgrade service to the latest Duo 250 or 270 Specifications	£Phone us for Full Details
Duo Dock - for all Duo's except 270's	£559 (£657)
NEW! Duo Dock Plus - a must for Duo 270's or an option for all Duo's	£885 (£1040)
Duo Docks can be upgraded to a Duo Dock Plus when moving up to 270's!!!	Ask for Details of Upgrades
NEW Longer Life Hi-Capacity Powerbook Batteries giving 2.5 to 6Hrs life	£43 (£51)

APPLE™ CD ROM DRIVES™



Open up your Mac to the vast exciting new World of CD ROM

Apple™ Power CD Portable... **WITH FREE CD DISK**
Link to Mac via SCSI Port, Link to TV via SCART/CVBS to Photo CD, Plays Audio CD's through your Hi-Fi! **£329** (£359)

Apple™ CD 300 ROM Drive...
Dual Speed, Photo CD, Audio & CD ROM **Only..£245** (£275)
Please state if you require a SCSI cable or terminator when ordering.

APPLE™ NEWTON™ ...

The FIRST Truly Intelligent Message Pad

Amazing 90's technology for "on the move organising". HAND WRITE information and Newton does the rest! PLUS... Newton 'learns' as you progress!
Inc: NotePad, To-Do List, Date Book and Name File.
Supplied with 4 AAA Batteries & an AC Adaptor.
£509 (£599)

APPLE™ NEWTON™ ACCESSORIES...

1Mb. Storage Card - Flash RAM	£123.31	(£149.99)
2Mb. Storage Card - Flash RAM	£176.09	(£214.99)
Battery Pack Re-Charger - Inc. Batt.	£36.13	(£43.99)
Carry Case - Communications Sys.	£29.40	(£35.99)
Communications Sys. - Inc. FAX	£623.10	(£769.99)
External FAX Modem	£130.13	(£159.99)
Leather Carry Case	£39.79	(£48.99)
Message Pad - Entry Sys. No FAX	£510.60	(£629.99)
Rechargeable Battery Pack	£11.02	(£13.49)
Synthetic Carry Case	£15.23	(£18.99)

RENEWABLE 5 YEAR "LIFETIME" WARRANTY

If you use your system at home, you could take advantage of our exclusive 5Year Warranty Option. Benefit from total peace of mind with no repair bills ever! Fully transferable realising a better resale value should you wish to sell your Mac or peripheral. Please ask for details.

COMPARE OUR SERVICE...

Before you choose from whom to purchase, please phone us. We are always happy to discuss your requirements and answer any queries.

Remember, Harwoods have provided **THE BEST SERVICE** in the industry since 1982... we're here to help you.

HOW TO PURCHASE FROM GORDON HARWOOD COMPUTERS:

BY PHONE: Call our Order Hotline with your Access, Visa, Mastercard, Delta, Switch or Lombard Creditcharge Card details (Debits, Credits, and some other 'store' cards are accepted by us too) for FAST MAIL ORDER SERVICE.
BY POST: Make cheques, bankers/building society drafts or PO's payable to GORDON HARWOOD COMPUTERS. (Cheques take 7days to clear prior to your order being despatched). Please include Name, Address, & most importantly, a Daytime Telephone Number if possible, along with your order requirements. Please check by phone that you are ordering from our latest advertisement.

ment. Prices may have changed (either up OR down in the next publication!).

EXPORT: Most items are available TAX FREE to non UK residents & service personnel. Please contact us for details.

FREE DELIVERY: by Parcel Force, UK Mainland only. OR SPEEDY NEXT WORKING DAY COURIER SERVICE. Add just £6.95 (or £10.00 for Saturday delivery), UK Mainland most regions. (Despatch normally on day of order or payment clearance).

FREE SERVICE: Equipment requiring warranty service in the first year is collected FREE (UK Mainland only). The fastest turnaround possible is GUARANTEED by our own

APPLE TRAINED & AUTHORISED Service Engineers. You may also subscribe to one of our optional On-Site Warranty or Service schemes.

TECHNICAL SUPPORT: You will be given our Exclusive Technical Support Phone Number should you require help or advice on any aspect of the system you have purchased.

MINIMUM 12 MONTH HARDWARE WARRANTY: Items proving faulty within 30 days of purchase are replaced with NEW UNITS unless otherwise stated. Warranty service will be completely FREE OF CHARGE [some items carry 2 year warranties, on-site maintenance etc. Please ask for details].

YOUR SYSTEM READY TO USE: All CPU's come with mains leads/plugs - just connect up & use straight away.

THE PRICE YOU PAY: For the benefit of personal customers, **BOLD** prices shown are exclusive of VAT, in brackets are inclusive of VAT @ 17.5% (to the nearest p).

WHY NOT PAY US A VISIT? We'd be delighted to come you to our showroom in Alfreton (just 5 miles from M1 Junction 28). Macintosh systems are always on display, but if you would like a demonstration of a particular system, please phone first to make the necessary arrangements.

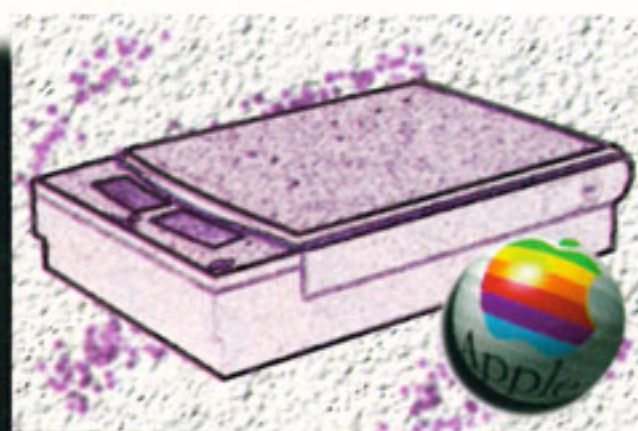
MACINTOSH™ SCANNERS...

Logitech Scanman 32 - Hand held 100 to 400 dpi scanner, 32 greyscales, SCSI interface, with software (inc. crop, rotate, stitch/merge etc.), OCR compatible

£195 (£230)

Logitech Scanman Color - Hand held COLOUR Scanner, TWAIN Compliant, Captures 16.8 Million Colours or 256 True Grey Scales, Merges Scans up to A4 Size, inc. FotoTouch Color Software

£362 (£425)

**Epson Scanners:**

GT6500 complete with Photoshop LE

£697 (£819)

GT6500 complete with FULL VERSION Photoshop

£897 (£1054)

GT6500 complete with Omnipage

£890 (£1046)

GT8000 complete with Photoshop LE

£944 (£1110)

GT8000 complete with FULL VERSION Photoshop

£1117 (£1313)

GT8000 complete with Omnipage

£1127 (£1325)

MACINTOSH™ PRINTERS...

INKJET PRINTING...

Apple StyleWriter II-Mono

£239 (£281)

FAST 2ppm, 360dpi, 138 Greyscales

Apple Portable StyleWriter-Mono

£299 (£352)

1ppm, Inc. Batteries & AC Charger, Only 4.5lbs inc. Batt.

HP DeskWriter M 510-Mono

£225 (£265)

HP DeskWriter C 500-Colour

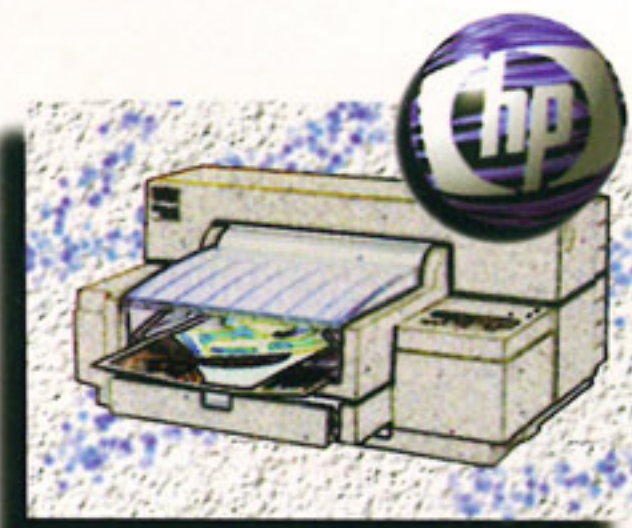
£273 (£321)

HP DeskWriter C 550-Colour with FREE Brushstrokes worth £99

£459 (£540)

Ink Cartridges Available, Please ask for Details

£Phone



Call us now for other Apple & Third Party Printers at really KEEN PRICES!!!



LASER PRINTING...

There's never been such a high specification Apple™ Laser Printer at such a low price... check out the features!

Apple™ Personal LaserWriter NTR, 4ppm**Limited Stocks at A VALUE FOR MONEY...**

£599 (£704)

Amazing Spec... A4, PostScript Level2, Simultaneous

LocalTalk™, Parallel & Serial, 64 PostScript & TrueType™ Fonts.

AFFORDABLE LEVEL2 POSTSCRIPT!**APPLE™ PERSONAL LASERWRITER 300**

A4 Size Printer with 300dpi resolution, operates at 4ppm, with 39 TrueType™ Fonts included, can be Networked through Apple Grey Share Software, 100 Sheet Paper Tray.

An ideal choice for the first time Laser Buyer

£499 (£587)

APPLE™ PERSONAL LASERWRITER SELECT 310

A4 Size Printer with 300dpi resolution, PostScript Level 1, 5ppm, RISC Processor, 1.5Mb RAM (expandable to 5.5Mb), 13 PostScript Fonts, 250 Sheet Paper Tray, Serial/Parallel and LocalTalk connections

Great PostScript Laser

£499 (£587)

APPLE™ PERSONAL LASERWRITER SELECT 360

A4 Size 600dpi, PostScript Level 2, 10ppm, 64 Fonts, Dual Paper Trays as Standard, AutoSwitch & Auto Emulation Sensor, Serial/Parallel/LocalTalk and HP PCL emulation, ideal for both Mac & IBM Compatibles,

Superb Quality

£1299 (£1527)

**GCC BLP Elite** - A4 Laser, one of the few with "Edge to Edge Printing"!!!

£775 (£911)

Ask about our 5Year Extended Home Warranty on ANY PRINTER for only £70!

APPLE™ FULL COLOUR CMYK A3/A4 PRINTER...

A3/A4, FULL COLOUR, 360dpi, ideal for colour proofing etc. Inkjet Technology at its BEST!!!

New LOW PRICE

£599 (£704)

Also available... Optional Postscript emulation software to enable printing of PostScript files - please ask for details.



MACINTOSH™ SOFTWARE...

Probably the LOWEST PRICES on UK Software... Definitely NO Grey Imports!

WORD PROCESSING

Microsoft Word 5.1

£179 (£211)

MacWrite Pro

£139 (£164)

ACCOUNTS/SPREADSHEETS

SAGE Bookkeeper

£145 (£171)

Microsoft Excel

£229 (£270)

DARKROOM

Photoshop 2.5

£545 (£641)

Morph

£99 (£117)

INTEGRATED

Clarix Works II

£149 (£176)

Microsoft Works

£99 (£117)

MISCELLANEOUS

AutoRoute

£119 (£140)

DTP/DRAWING

Quark Express 3.2

£649 (£763)

Aldus FreeHand

£275 (£324)

PageMaker 5.0

£449 (£528)

Adobe Illustrator

£365 (£429)

UTILITIES

After Dark

£37.50 (£45)

More After Dark

£27.50 (£33)

Norton Utilities

£119 (£140)

NOW Utilities

£122.50 (£144)

Apple PC Exchange

£45 (£53)

Apple QuickTime

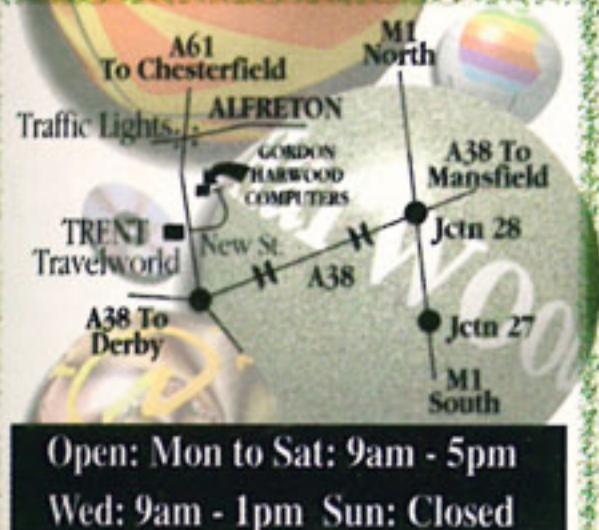
£95 (£112)

Apple System 7.1

£45 (£53)

Apple At Ease

£35 (£42)

GAMES: Please Phone

Open: Mon to Sat: 9am - 5pm
Wed: 9am - 1pm Sun: Closed

Write music for computer games



This month's *Future Music* shows you how...

**FUTURE
MUSIC**



- ◆ Alien Sex Fiend reveal soundtrack secrets of Ocean's *Inferno*
- ◆ Professional musicians tell you how they write their soundtracks
- ◆ Plus contacts to help you break into video-game music

And there's more

The making of Kate Bush's latest album; low-cost studio mixers on test; get more out of studio effects; Oui 3 offer pro music-making tips; plus all the latest news and reviews



FM 13 is at your newsagent's now- buy it!

Reserve a copy of *FM* with your newsagent NOW!

Name

Address

Postcode Telephone

MAG*SAVE

Dear Newsagent, please reserve me a copy of *Future Music* every month, starting with issue 14, on sale Tuesday 16 November.

FM is published on the third Tuesday of the month and is available fully SOR from your local wholesaler.

**Incredible!
70-minute CD
with this *FM***



QuicKeys

- A very powerful macro package

UTILITIES

You know how it is: you find yourself spending 90 per cent of the time you use your Mac doing boring, repetitive things: typing your name and address at the head of every letter; opening dozens of files into a graphics application so that you can save them out in a different format; opening the Chooser, selecting a file server and logging on to it and so on. Using the Mac is supposed to be fun - so why all the drudgery?

QuicKeys may be the solution you're looking for. In its most basic form, it is a macro creation package for System 7.0 and above. If you've ever used System 6, you'll be familiar with the *MacroMaker* utility that came with it; *QuicKeys* is similar - only a lot more powerful.

Making macros

For the uninitiated, a macro automates a set of actions for you. For instance, if you share your Mac with someone else and find that every time you use it the monitor has been set to black-and-white instead of 256 colours, you'll want to change it back. This requires a set of actions - select the Apple menu, go to Control Panels, open the Monitors Control Panel, click on 256 colours, close the Control Panel, close the Control Panels folder - which are the same every time. A macro package will automate this for you: press a key combination or select an option from a menu and the whole thing is done in the blink of an eye.

It's easier than you think

The latest version of *QuicKeys* is 3.0, and one of the reasons for the upgrade was to make things simpler for non-power users to cope with. In the past, the program has always been rather complex to use, and that complexity has put many users off. Well, version 3.0 may be less complex - but it's still pretty daunting when you first launch it. The basic problem is that it's just too powerful: the range of options that it has to display preclude it from being particularly easy to understand. Don't be put off, though: underneath that daunting opening screen are some features that make things a whole lot simpler. For example, the best way to get started is to have *QuicKeys* 'record' a macro for you. That means that the program watches what you're doing, and can then repeat the process for you. So, for instance, to do the monitor colour switching trick I mentioned earlier, you'd set the program in Record mode, change the monitor settings automatically and then stop recording. The program asks you to give your new macro a name, assign a keystroke, and that's it. Now every time you hit [control] [M] (if that's the key you've chosen), your monitor settings will change automatically.

For many users, this is all the complexity that they'll ever want: the ability to record keystrokes and mouse clicks, then play them back. But that's only the beginning, because once you've recorded a macro you can then edit it. Each step - each mouse click, menu selection, keystroke or whatever - can be changed, via easy-to-use dialogue boxes. And although the first time you see a macro in 'edit' mode it looks pretty horrific, you soon get the hang of things.

Bridging the gap

Conditional jumps and repeat statements are available, so that the macro doesn't have to be a straight list of tasks - instead, you can have it repeat certain actions a set number of times, or only do something if a condition (such as the correct window being open) is met. *QuicKeys* also supports AppleEvents, so any power users using AppleScript will be able to automate tasks in programs which don't, themselves, have

My word counts don't have that extra step of actually hitting the count button - it's done in one keystroke

AppleEvent support, by using *QuicKeys* as a 'bridge'. There are plenty of other high-end, power user features, too - far too many to discuss here, but keep your eyes peeled for a *QuicKeys* masterclass in the near future!

A practical example

To test out the package, I decided to try to

Jump Extension 3.0.8-1

Name: Jump

Jump on: Window Action

Which Window: Front Most

☐ Window Name: Is

☒ Window Type: Document (User)

Steps to jump: 15 ☐ Forward ☒ Backward

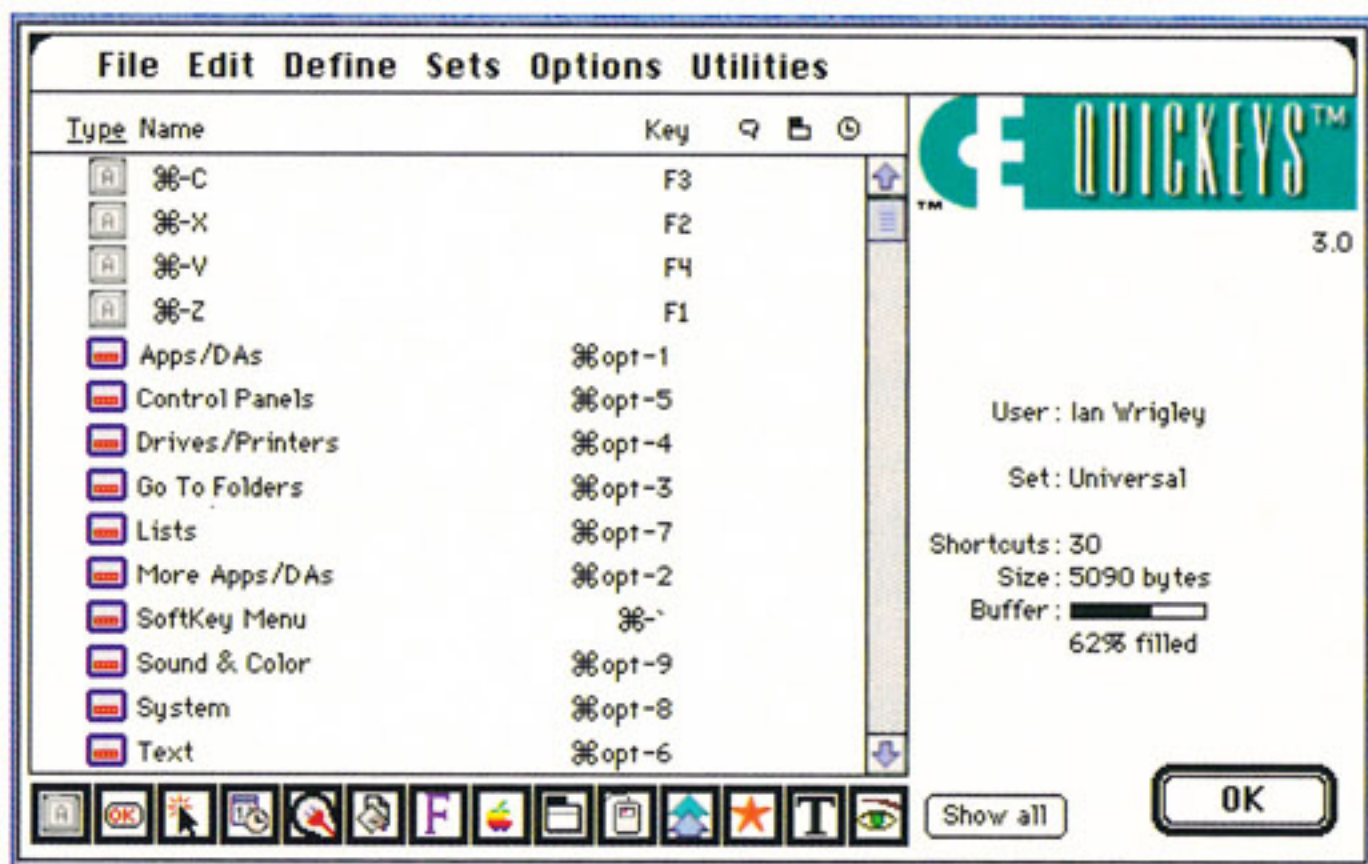
Cancel OK

Making your macro repeat is simple: it's all done via a user-friendly dialogue box, so you don't need to be a super-nerd to do some very impressive things indeed.

automate a repetitive task that drives Jules, *MacFormat's* art editor, mad. Each screengrab that she receives is in PICT format, but to output them properly for printing they need to be saved as CMYK TIFFs. Adobe's *Photoshop* will do this, but each grab has to be converted individually - and if you start to count the number of screengrabs in the magazine, you'll see what a hefty task that is. Valuable hours could be gained if the conversions were done automatically - so that's what I set out to do.

I decided to start by assuming that all the PICTs were open in *Photoshop* - which is fair enough, since opening all the files can be done in one step by dragging them to the *Photoshop* icon. Then I set *QuicKeys* in Record mode, and went through the conversion process for one file: change the image type, select **Save As**, choose TIFF, add '.tiff' to the end of the filename, choose the type of TIFF to save as and finally close the window when everything has saved. This all recorded perfectly, and I then had a macro which would convert a file with no user action required. The trick, though, is to do lots of them, so for this I went in to the Editor section and looked at my recorded macro. What I needed to do was to check, after I'd closed the converted file's window, whether there were any other windows open. If so, then more files remained for conversion, so the whole process needed repeating for the next window, and so on. Adding this 'conditional jump' to the sequence manually was a matter of two minutes or less, and in less time than it takes Jules to make a brew, I had the whole thing completed.

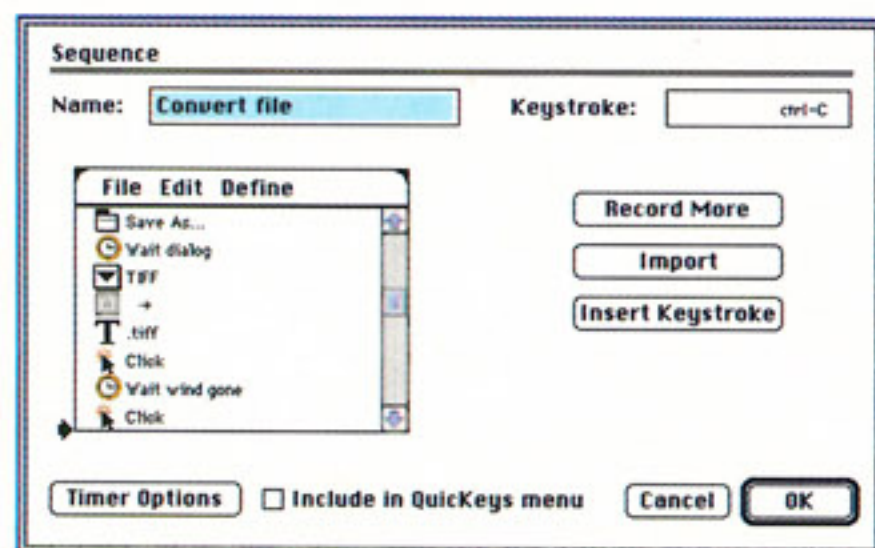
I never used to be a big fan of macros - I always reckoned that by the time I'd finished messing around recording the thing, it would be faster to do the job by hand. And surely I don't have that many repetitive tasks anyway? But I'm now a total convert. My word counts in Microsoft Word



This is the main *QuicKeys* window. Frightening, isn't it! But you'll soon find it's far simpler to use than it first appears - as long as you're prepared to spend some time with the manuals.

Connectix Desktop

— A suite of 'indispensable' utilities for desktop Macs



Here's the macro I wrote to save **MacFormat's** art editor hours and hours of slaving away in Edit mode. She'd better be grateful...

don't have that extra step of actually hitting the 'Count' button — it's all done in one keystroke. Opening the database of people who owe me money and printing out a debtors list is another single key activity. Plus I'm the most popular man in the world — or, at least, I will be when the art editor gets her own copy of the program to run my screengrab conversion macro with.

QuickKeys isn't the cheapest program in the world, and you can certainly do without it if you're happy spending half your computer-using life performing purely repetitive tasks. If it cost £50 or £60 less, I'd recommend it without hesitation; as it is, you have to think a little harder before forking out your hard-earned cash — but it's certainly the best program of its type around.

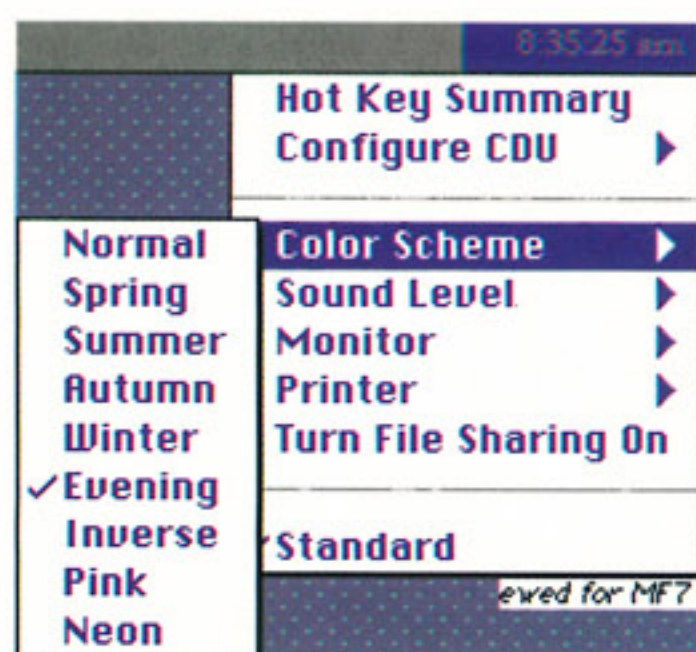
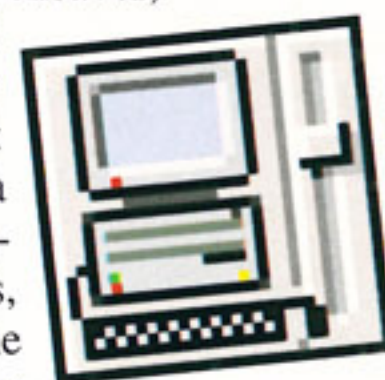
Where to get it ▼

QuickKeys is distributed in the UK by **Frontline Distribution**, 0256 463344. It costs **£159**.

QuickKeys	
Ease of use	88%
Don't be put off by first impressions — it's easier than it looks to use.	
Documentation	85%
The manuals are adequate, but that's all. More worked examples would be good.	
Features	97%
Wow! You can automate virtually anything.	
Value for money	85%
Expensive, but worth it if you have a lot of repetitive tasks to automate.	
Overall	89%
A great package, although the more techie you are, the more you'll get out of it. If only it were cheaper, it'd be perfect.	

Back in the October issue of **MacFormat**, I looked at **Connectix PowerBook Utilities (CPU)** — the best set of PowerBook utilities around. Well, now Connectix has released a similar package for desktop Macs — called, unsurprisingly, **Connectix Desktop Utilities (CDU)**. The basic concept of the two packages is as expected, fairly similar: a set of utilities to make life easier, add functionality and generally improve the quality of your Mac-using life.

There are sixteen 'modules' in the set, including things like a screensaver, password protection, file and folder 'synchronisation' (making sure that you have the latest versions of any duplicate files), a clock in the menu bar, customisation of menu and window colours, and so on. Anyone who's used the PowerBook version of the package before will be instantly at home: the user interface is identical, with a scrolling list of modules on the left of the window and options specific to each displayed in the right.



CDU provides a pop-down menu which allows you to configure things such as the colour of your Desktop, menu bars and so on. I like a nice, restful shade of Evening, myself

That's if you select the 'Expert' settings; you can also use the 'Easy' option, which gives you some basic choices and leaves the fine-tuning up to the program. It's in Expert mode that most people will work, though, since that's where you have full control over each module's settings.

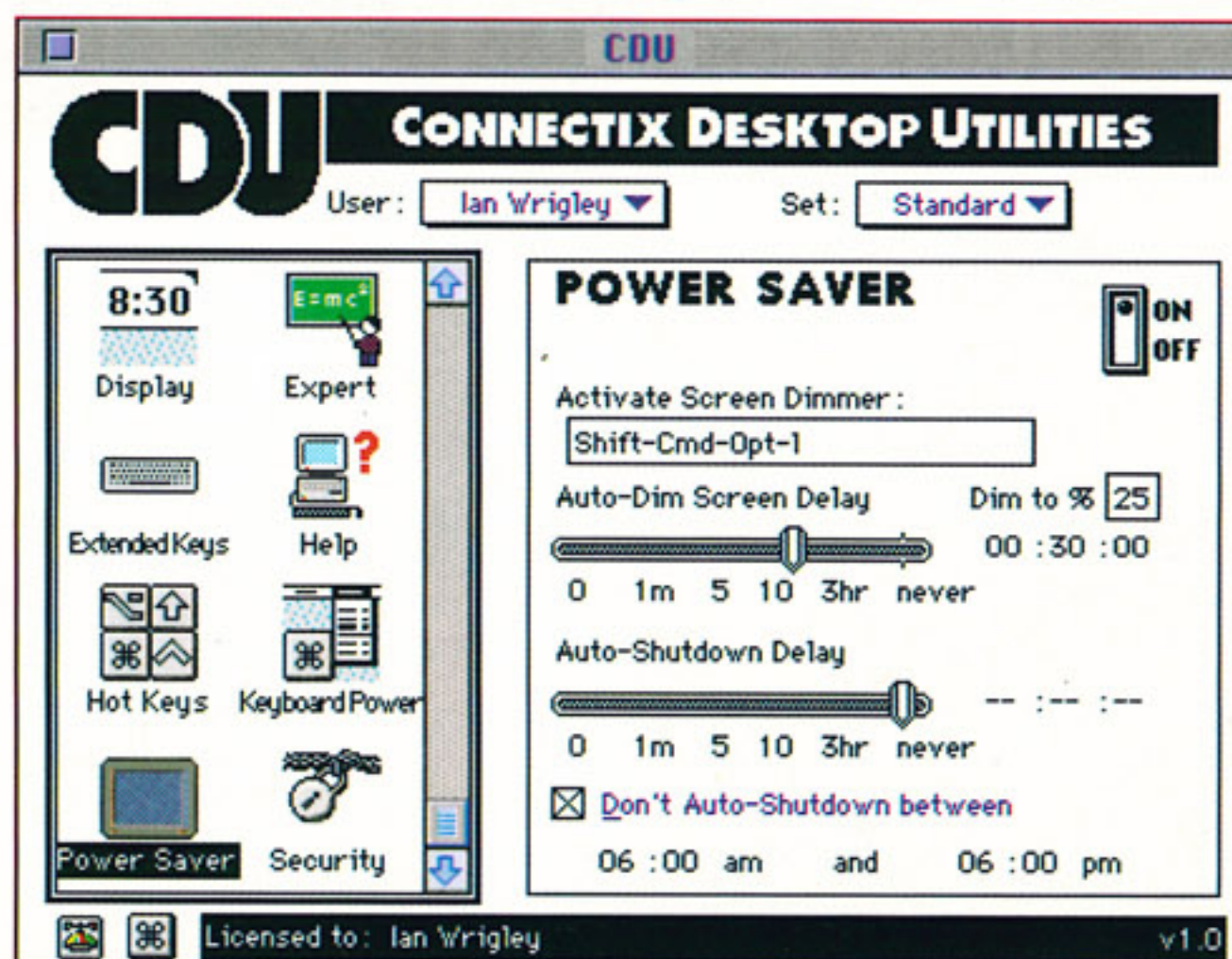
Prudence with power

In the States at the moment, the government is encouraging people to save energy — with the next few years, government departments and contractors will only be allowed to purchase equipment which meets guidelines on how much power is consumed during operation. Using the publicity to good effect, **CDU**'s screen saver module is called 'Power Saver'; the manual claims that using the screen dimmer can reduce monitor power consumption and electromagnetic emissions 'by as much as 25%'. And that's not all. In the module there's also an auto-shutdown feature, so you can now leave your Mac on the evening if your company has an automatic backup scheme that kicks in when everyone has gone home, but you don't have to worry about the fact that it's consuming power all night.

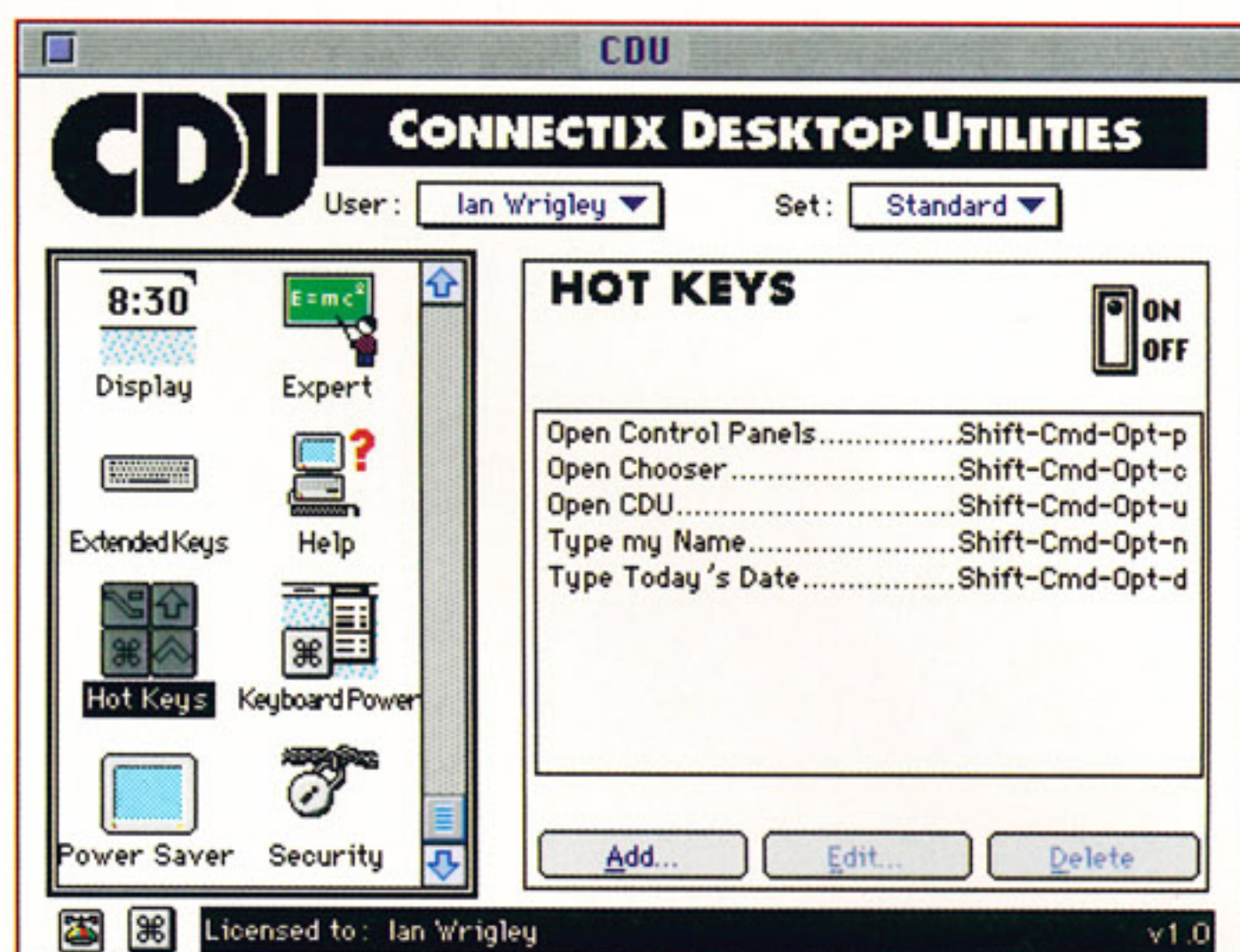
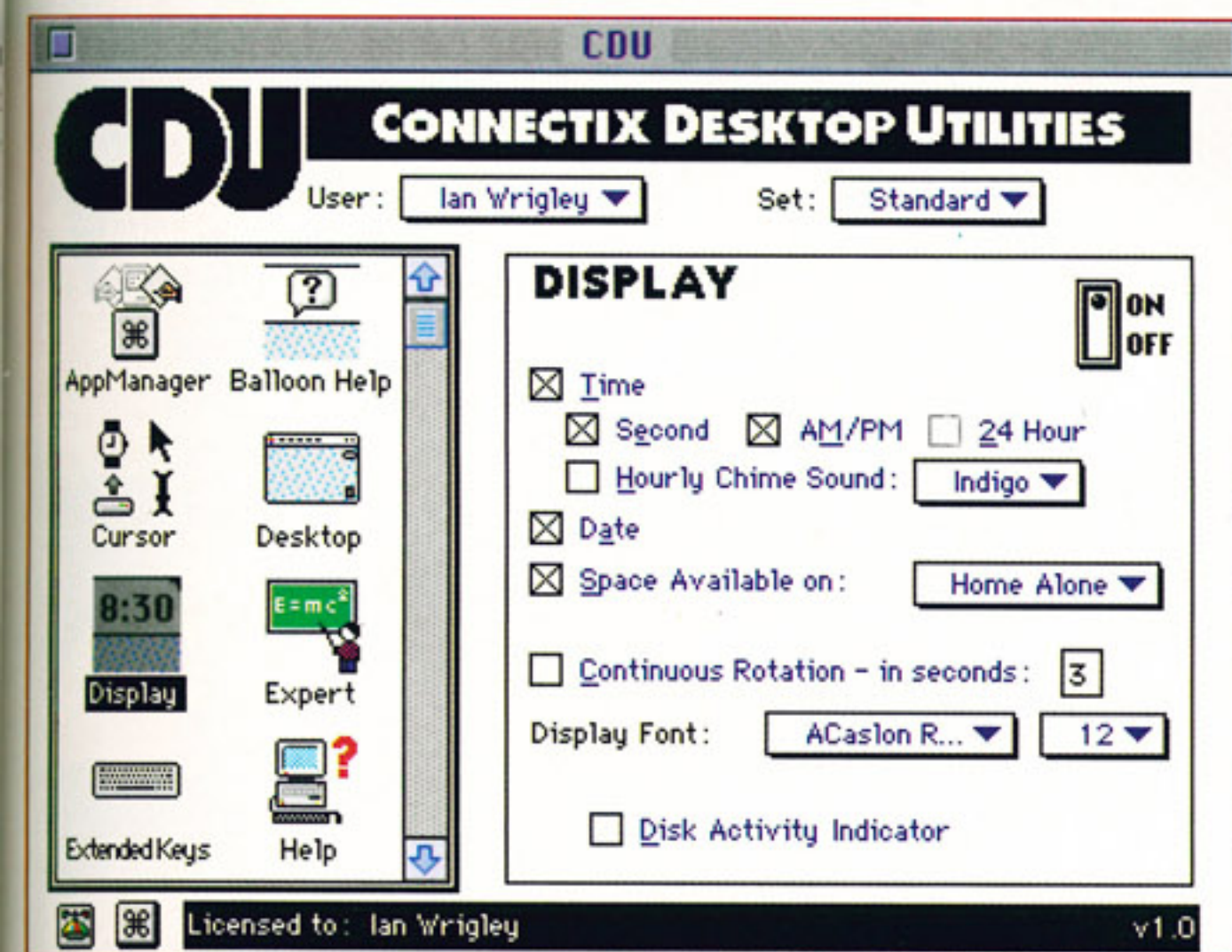
Safe and secure?

I'm always rather dubious about the benefits of password protection on Macs. If your machine is at home, you won't need it; and if you use it at work, then not allowing anyone access when you're not there means that the Mac is useless unless you're there yourself, which is not a particularly efficient use of office equipment. Surely, if you really need to keep data secure the best thing to do is put it on a floppy disk and lock that disk away?

Anyway, **CDU** provides you with password protection after a set amount of machine idle time — in case you wander off to get yourself a coffee or something without shutting down — and every time you restart or start up the Mac. It's pretty good in that force-quitting ([command] [option] [escape]) doesn't work, and neither does the Interrupt programmer's switch — you really do have to type in the password to start the Mac up from the hard drive. However, with many protection utilities of this type



The PowerSaver module claims to save you up to 25% of your power usage, by automatically dimming the screen and turning off the Mac when you're not using it



There's no need for SuperClock if you're running *Connectix Desktop Utilities* – you get a time display which also gives details of things like the amount of free space on your hard drive

The Hot Keys feature can save you time if you often access the Chooser or Control Panels; press the key combination and the relevant window opens automatically

all the potential data thief has to do is start the Mac up from a floppy disk; the actual hard drive isn't encrypted in any way, so all the data is there for the taking. What this means is that you either buy one of those cute little gizmos that locks the

Everything is guaranteed to work with everything else – something that can't always be said for PD

floppy drive port so that it can't be used, or accept that the password protection is 'first line' only – it will stop the casual browser gaining access to your data, but not anyone with an ounce of determination who knows what they're doing.

One neat feature in the security module, also present in the PowerBook version, is that rather than using a password you can select a 'hot spot' on a graphic. When you restart, the graphic is shown and you must click on a specific spot to continue – good if all you want to do is stop your kids getting on the Mac while you're not there and trashing your work.

Cosmetics

There are a number of modules in the package that 'tart up' the Mac's user interface. For instance, eight different 'colour schemes' are available for menu bars, windows and so on – from the rather restful 'Evening', which gives you blue menu titles on a grey background, to the startling 'Neon': yellow menu bar, red menu titles

and green window borders and scroll bars. These are all selectable via a pull-down menu available when you click on the clock that the program puts in the menu bar for you. Not that you only need to display the time; date and amount of space free on the main hard disk can also be shown.

Sound level and number of colours that the monitor is displaying can also be set directly from this menu, thus avoiding the need to burrow through your Control Panels folder if you happen to change such settings frequently, and you can switch printers and turn file sharing on or off from the same menu – all useful enough features, although not frantically so.

More useful for people who've graduated to the Mac from a Windows PC is the option to access menus via the keyboard, rather than clicking on them with the mouse. Hold down [control] [shift] [F], for example, and you pull the File menu down. Even menu items without a normal command-key equivalent can be selected from the keyboard using this feature.

People who get confused with two or three different applications open at the same time, and the resulting clutter of windows on the screen, will welcome the option to hide all background applications each time you switch from one program to another – and you can swap between applications via the keyboard, rather than using the mouse, thanks to the AppManager module.

Oh, and if you really want to personalise things, you can display your own image on the desktop in place of the standard desktop pattern.

Worth the cost?

There are plenty of useful modules in the package, and although many of the program's features can be emulated using PD or shareware programs, this particular one has been thoroughly

debugged and everything is guaranteed to work with everything else – something that can't always be said for PD. Some modules are less useful than others, but as a collection *CDU* really is pretty good. The only problem is the price: I suspect that at £94, many people will stick to the PD alternative. **mf**

Where to get it ▼

Connectix Desktop Utilities requires System 7.0 or above. It costs £94, and is distributed in the UK by Computers Unlimited, 081 200 8282.

CDU	
Ease of use	93%
All the options are clearly explained and easy to access.	
Documentation	90%
The manual is fine – plenty of screengrabs help things along.	
Features	88%
Good – even though it's been shamelessly ported for desktop machines	
Value for money	80%
Many of the features are available using PD or shareware programs.	
Overall	88%
A good collection, but rather pricey.	

A FREE

FOR A LIMITED PERIOD ONLY WE HAVE A SPECIAL OFFER FOR NEW SUBSCRIBERS. IF YOU TAKE OUT A YEAR'S SUBSCRIPTION, IN ADDITION TO

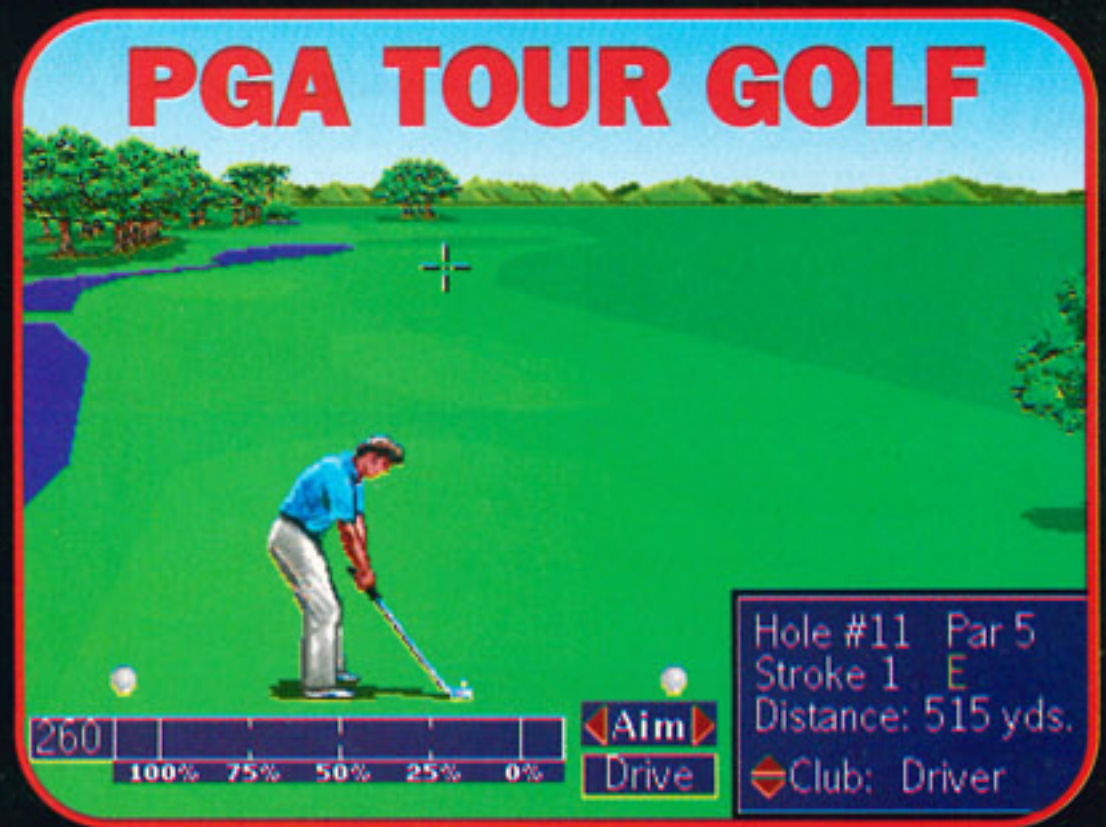
GAME

SUBSC

NON-STOP ACTION PLAY IN PRINCE OF PERSIA - FOR FREE!

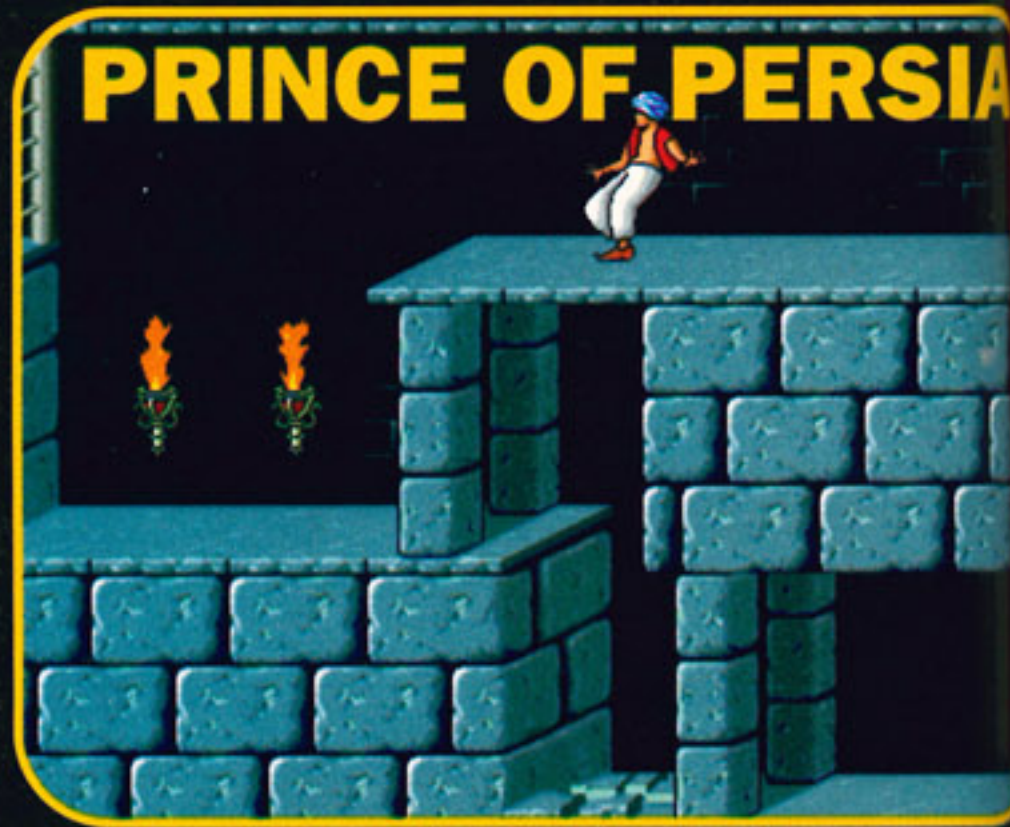
MAC F

LAST CHANCE
TO GET ONE OF
THESE GAMES



PGA Tour Golf is simply the best, most playable, most realistic golf game around. Choose from four real courses and play against the golfers of the US PGA Tour. Learning the game is easy, but winning prize money is certainly not. Features include action replay and a helicopter fly-by of each hole, along with tips from the experts.

**BOTH GAMES
HAVE AN
RRP OF £35
BUT ARE
FREE!
WHEN YOU
SUBSCRIBE**



Prince of Persia is an award winning arcan adventure. You must guide your superbly animated character through the palace dungeons, solving puzzles and tackling the guards with your sword. *Prince of Persia* has been a smash hit on every computer, including most recently the Nintendo Super NES.

SUBSCRIBE NOW - RING THE

SUBSCRIBE NOW

RING THE HOTLINE ON 0458 74011

Please tear off and send to MacFormat subscriptions,
Future Publishing, FREEPOST, Somerton, Somerset TA11 7BR.

**Yes! I would like to subscribe to MacFormat for 12 issues
and receive my free game.**

Please indicate your choice of free game (tick as appropriate)

☐ Prince of Persia ☐ PGA Tour Golf

Please send me

☐ UK direct debit £45

☐ UK subscription £47

☐ European Community subscription £59

☐ Rest of World subscription £79

Please debit my Visa/Mastercard with £ or

I enclose a cheque payable to Future Publishing for £

(cheque must be in Sterling drawn on a UK bank account)

Please indicate which disk you require with your magazine

☐ 2 standard disks ☐ 1 High Density

Signed Date.....

Card No.....

Expiry date

Name.....

Address.....

..... Postcode.....

Offer expires November 31st 1993

MAC/SC/11/93

**SUBSCRIBE USING
THE DIRECT DEBIT
FORM BELOW AND
SAVE £2**

DIRECT DEBIT INSTRUCTIONS Originator's ID: 930763

*This card instructs your bank or building society
to make payments direct from your account.
Please complete all five items and then send to us
as directed overleaf.*

(Banks and building societies may refuse to accept instructions to pay
direct debits from some types of accounts.)

1. Please write the full address of your branch

To: The Manager
.....Bank/Building Soc.
.....
.....
.....

2. Account no

3. Sort code

4. Account in name of:

Instructions to bank/building society

- I instruct you to pay direct debits from my account at the
request of Future Publishing Ltd.
- The amounts are variable and may be debited on various
dates. I understand that Future Publishing Ltd may change the
amounts and dates only after giving me prior notice.
- I will inform you in writing if I wish to cancel this instruction.
- I understand that if any direct debit is paid which breaks the
terms of this instruction, you will make a refund.

5. Signed.....Date.....

Please indicate your choice of free game (tick as appropriate)

☐ Prince of Persia ☐ PGA Tour Golf

Please send me

☐ UK subscription £47

☐ European Community subscription £59

☐ Rest of World subscription £79

Please indicate which disk you require with your magazine

☐ 2 standard disks ☐ 1 High Density

Card no.....Expiry date.....

Name.....

Address.....

.....

.....Postcode.....

Offer expires December 31st 1993

MAC/MAG/12/93

Mac Format!

CLASSIC ELECTRONIC ARTS GAME ABSOLUTELY FREE!!!

NOTHING...

47

If you have an older Mac

**You too can share all the excellent
programs from MacFormat's high density
disk on two ordinary disks for the same
price! Just tick the box on the coupon and
get all the best programs every month!**

Mastercard with £ or

cheque payable to Future Publishing for £

(cheque must be in Sterling drawn on a UK bank account)

..... Date.....

Card no.....Expiry date.....

Name.....

Address.....

.....

.....Postcode.....

VISA & MASTERCARD
WELCOME

67

MacFormat

HOTLINE ON 0458 73279!

MacEXPRESS

Lowest Prices for all your Macintosh Requirements

MONITORS

Apple 14" VGA	£170.00
Performa + 14" Display	£235.00
Apple 14" RGB Colour	£270.00
Apple 14" Audio Vision	£460.00
Apple 16" Trinitron	£695.00
SuperMac 17" Colour	£795.00
SuperMac 20" Colour	£1195.00
SuperMac 21" Colour	£1699.00
SuperMac Thunder 8	£899.00
SuperMac Thunder 24	£1745.00
SuperMac 24 bit Card	£675.00

**1.2 GB (Formatted)
Internal Drive
£675.00**

CPU's

LC II 4/80 14" VGA	£585.00
LC III 4/80 14" Performa	£749.00
LC 475 4/80	£799.00
LC 475 8/160	£925.00
Quadra 610 4/160	£945.00
Quadra 610 4/160 CD	£1175.00
Quadra 610 8/230 CD	£1399.00
Centris 660av 8/230cd	£1675.00
Centris 660av 8/500cd	£1925.00
Quadra 650 4/160	£1245.00
Quadra 650 4/160 CD	£1445.00
Quadra 650 8/230 CD	£1699.00
Quadra 800 8/230	£1875.00
Quadra 800 8/500 CD	£2345.00
Quadra 840av 8/500 CD	£2775.00
Quadra 840av 16/1000 CD	£3275.00
Quadra 950 16/FD	£2450.00
Quadra 950 16/1000	£3095.00

POWERBOOKS

PowerBook 145b 4/40	£899.00
PowerBook 165 4/80	£1095.00
PowerBook 165c 4/80	£1299.00
PowerBook 180 4/120	£1795.00
PowerBook 180c 4/160	£2045.00

MEMORY

CALL

PRINTERS

StyleWriter II	£245.00
ImageWriter II	£265.00
HP DeskWriter 510	£225.00
HP DeskWriter C	£260.00
Select 300	£490.00
Personal LaserWriter NTR	£585.00
DECI Laser 1152	£675.00
Apple Colour Printer	£599.00
LaserWriter Pro 600	£1345.00
LaserWriter Pro 630	£1599.00
QMS PS 860 600dpi A3	£3295.00

NEWTON

MessagePad £495.00

Comms Pack £615.00

NEWTON Accessories

1Mb Storage Card	£145.00
2Mb Storage Card	£195.00
Battery Pack Recharger	£45.00



Computers Incorporated Ltd, trading as Mac Express

**0469
588 895**

Fax: Extension 22

**Next day delivery
on most items!**

**CALL BEFORE YOU BUY,
WE WILL TRY AND BEAT
ANY GENUINE PRICE!**

SOFTWARE

Caere OmniPage Direct	£185.00
Adobe Photoshop	£530.00
Adobe StreamLine	£135.00
Aldus PageMaker	£465.00
Aldus Freehand	£275.00
Claris Filemaker Pro	£220.00
Claris Works	£150.00
MicroSoft Word 5.0	£195.00
MicroSoft Excel 3.0	£225.00
Quark Xpress	£585.00
Norton Utilities	£115.00

**Epson 6500
OmniPage Direct OCR
£1095.00**

SCANNERS

Caere Typist	£399.00
Apple One Scanner	£695.00
Apple Colour One Scanner	£975.00
MicroTek ScanMaker II	£699.00
MicroTek ScanMaker IIXE	£899.00
Epson GT-6500	£745.00
Epson GT-8000	£995.00

STORAGE

Apple External CD 300	£250.00
Apple Power CD	£325.00
Quantum 105 Mb Internal	£160.00
Quantum 245 Mb Internal	£275.00
Fujitsu 330 Mb Internal	£325.00
Micropolis 1.2 Gb External	£775.00
Syquest 45 Mb Removable	£299.00
Syquest 88 Mb Removable	£399.00

CONSUMABLES

Toner Cartridge LaserWriter II	£55.00
GCC Toner	£23.00
StyleWriter Cartridge	£11.50
DeskWriter Cartridge Black	£15.00
DeskWriter Cartridge Colour	£20.00
Syquest 44 Mb Cartridge	£55.00
Syquest 88 Mb Cartridge	£99.00
128 Mb Optical Cartridge	£39.00

**Apple A3
Colour Printer
£599.00**

**128Mb Optical Drive
(Fast 30ms Access Time)
£799.00**

**Apple
LaserWriter NTR
£585.00**

mac ANSWERS

Got a problem with your Mac? We're here to solve it

Whatever your Mac problem, we're confident that **MacFormat** can solve it. Whether it's a beginner's question about the Mac or some specific query over a particular piece of software, our team of experts will try to come up with a solution to your problem.

All you have to do is fill in the form on page 74 – or photocopy it if you don't want to cut up your precious copy of **MacFormat** – and then post or fax it to us.

Please note that we are unable to answer questions over the phone – so there's no point ringing us up with technical enquiries. We are also unable to enter into personal correspondence – even if you enclose an SAE. We can only deal with questions through the pages of **MacFormat**.

Please do try to fill in as much of the form as you can. After all, the more details we know about the setup of your Mac and the way you are using it, the more likely we are to be able to find a solution to your query or problem. There's no point asking something like "Why won't my document print from *ZingWord 9.2*?" if you don't tell us what kind of printer you're using!

If your question relates to software, make sure that you tell us what version of the program you are using. You can find this out by clicking once on the program's icon, selecting **Get Info** from the **File** menu and reading the information that appears. Version numbers tend to be things like '1.2' or '9.6b3'.

Q *I think I have a serious problem. I can't gain access to the Memory control panel; when I try, a dialogue box appears telling me that 'an error of type -192 occurred', or that 'there may not be enough memory available, or the control panel may be damaged.' How serious is this? If it isn't rectified, could it cause further implications to the system?*

Grant Braithwaite
Cheshunt, Herts

A It looks as though the dialogue box is right – your control panel may have become damaged. Before you panic, though, try my favourite trick: rebuild the desktop by holding down **[command]** and **[option]** as you **Restart**, keep holding them down until a dialogue box appears asking you if you're sure and then hit **OK**. There's no absolute reason why this should work – but it may do. If not, then you'll have to re-install the Control Panel. To be honest, the best thing is to re-install the whole System – that way you can be sure that all the vital parts

have been replaced with new versions. Don't worry about any fonts and extra Extensions or control panels that you have installed – they'll still be there when the Mac's finished.

At least, that's what you would do except that your letter says that you own a Performa 200. Now, Performas don't ship with a set of System disks; instead, they have a small backup utility which allows you to keep a backup of your System. You can either replace the contents of your hard drive with the backup – which will probably erase any work that you've done since your last backup – or buy a full set of System disks from an Apple dealer or mail order company. This is probably your best bet; then you'll have a full set of System disks in case anything else goes wrong in the future. Many people – me included – have questioned Apple's policy of not supplying proper System disks with Performas, and the answers have ranged from "it's for economic reasons" to "users don't want them – they're too technical". In situations like this it becomes evident that a set of System disks are exactly what users want – and need. Sorry, Grant, but it looks like you'll

Do-it-yourself problem solving

One of the main causes of a program not working properly is something called an INIT clash – your program isn't happy with one of the system-level extensions (called INITs) that are running.

Fortunately, it's easy to check if this is the case. First of all, restart your Mac without any System Extensions (INITs). If you're running System 7.0 or above, that means restarting the Mac and holding down the **[shift]** key – a message 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 it was is to move them all out of the System folder, then put them back one at a time – restarting your Mac after each one – and test the program again after each one has been replaced.

have to fork out for a set (they should cost you around £30).

Q *By error, I trashed a number of programs, including (I believe) QuickTime, which was in the Extensions folder. Can I retrieve them, and if not would this affect the working of a StyleWriter II printer which I hope to obtain?*

M Eamer
Tunbridge Wells, Kent

A Unless you have a program such as *Norton Utilities' FileSaver* or *Complete Undelete* running, there's virtually no chance that you will be able to retrieve the files that you trashed, I'm afraid. However, if your Mac still seems to be running without problems, then you may well have junked files which weren't essential – QuickTime is one such file, and there are a few others which are automatically placed in the Extensions and Control Panels folders when the System is installed but which most people don't need. QuickTime is useful if you want to play back

Label Q&As

Subjects

	Beginners
	General/System
	Hardware
	Buying advice
	Programming
	Applications
	Graphics
	DTP
	Comms

To help you spot answers to questions that you might be interested in, we've colour-coded them according to the table above. Remember, these are just general categories; but they should help you to find your way around the section.

QuickTime movies, and some graphics programs use it to compress images, but other than that you won't miss its loss. And you must have got it from somewhere – the chances are that it's on one of your master disks from some application or other, so you could re-install it if you wanted. Not having it installed, though, will not affect the operation of a printer.

Q *I have a PowerBook 100 with a US-made modem called the PSI PowerModem 2. I believe that it's illegal to use this in the UK – but I've heard that it's technically possible. Is this true? If it's legal, what kind of cable do I need to buy to make it work on my BT phone line?*

Alex Watanabe
Chalfont St Giles, Bucks

A To connect a modem to the UK phone service legally, it must have been approved by BABT – a company separate from British Telecom which checks to make sure that such devices won't damage you, the phone lines themselves or

any Telecom operators who happen to be working on those lines when you plug the modem in. So yes, it's illegal to use it.

However, although **MacFormat** of course doesn't condone it, there are many, many people who use non-BABT approved modems. All that you'll need is an adaptor which converts the US phone socket on the end of your modem cable to a UK one – any electronics shop such as Tandy should be able to help you. The modem should work perfectly well using its default factory settings – you shouldn't need to change any parameters.

■ For the full low-down on comms, check out our mammoth feature which starts on page 23.

Q *I can double-click most, but not all, of the files in the Word Commands folder of my Microsoft Word 5 application. However, if I double-click Dictionary or Thesaurus I get an 'Application cannot be found' message – although double-clicking the Equation Editor works fine. Why is this?*
Jasper Woodcock
London N14

A I don't really see why you'd want to do this in the first place, to be honest. The files in the Word Commands folder are add-ons to Microsoft Word, and can only be used from within the program. If you double-click them, all that happens is that Word itself is launched – and it's much more sensible just to double-click the Word application file in the first place. Since it would make no sense to try and open the dictionary – it's not stored in a form that you'd be able to view or edit, since all its entries are compressed to save space – the Mac won't let you do that. Double-clicking the Equation Editor works, on the other hand, because that's actually an application in its own right – when you choose Insert Equation from Word's Insert menu, that application is automatically launched.

Q *In your October issue you reviewed a chess game called GNU Chess, which is available through the Free Software Foundation. However, I can't find their address or phone number anywhere – can you help?*
Ian Heffer
Hillingdon, Middlesex

A Ah. The Free Software Foundation is a company, but it's based in the United States, not over here. And it doesn't actually distribute software itself; rather, it's an organisation devoted to making sure that as much software as possible is available at very little or no charge. You'll be able to get hold of GNU Chess from bulletin boards, user groups or PD houses – some advertise in **MacFormat**.

Q *Foolishly, I've decided that taking some of my work home with me would be a Good Idea (most especially, that part of my work which involves the checking and proofing of pages created in QuarkXPress).*

I have an LCIII but, as yet, no printer. I was thinking that a StyleWriter II would be just the job, since it's both cheap to buy and cheap to run, but there seems to be something of a problem with this otherwise flawless scheme: the StyleWriter is a QuickDraw printer, while the documents I'll be asking it to print will contain huge amounts of PostScript information.

I gather that ATM will help by giving bit-mapped versions of the PostScript fonts, but I also gather that the results may not be perfect. And what about EPS graphics? Is there a cost-effective solution?

Tim Norris
Bradley Stoke, Avon

A Well, Tim, you certainly seem to have done some research into your problem, and you're right on the major point – the StyleWriter, being a QuickDraw device, can't directly deal with PostScript information. Things aren't as bad as they seem at first, though: if you try to print to a QuickDraw printer, the Mac sends your pages as QuickDraw rather than PostScript, so you'll still get some sort of output.

First of all, fonts. Yes, ATM (Adobe Type Manager) will give you good quality output from your PostScript fonts on the StyleWriter. However, QuarkXPress was written with PostScript output devices in mind, so as you say, the results may not be perfect. For example, you may find that the bottom of any rotated text may be 'clipped' – and sometimes, for no particular reason, the page will not be printed quite as it should be. Although Quark is aware of the problems that exist,

Subjects

-  Beginners
-  General/System
-  Hardware
-  Buying advice
-  Programming
-  Applications
-  Graphics
-  DTP
-  Comms

we're unlikely to see any bug-fixes appearing – as the company says, the program was never really intended to be used with QuickDraw output devices.

Secondly, EPS (Encapsulated PostScript) graphics. These are files created by programs such as Photoshop, Illustrator and FreeHand for import into programs like QuarkXPress – and consist of a PICT preview of the image, along with a PostScript version for high resolution printing. If you try to print an EPS to a QuickDraw printer, you'll end up with just the PICT preview – which, since it's only a 72dpi (dots per inch) image, will look rough on the page. For positional information only, though, it's fine – you'll be outputting final pages to a PostScript device of some sort, so if all you need to do is check that the graphic is in roughly the correct place the 72dpi preview won't be a problem.

If you really do need good quality output from a non-PostScript printer, you could use something like Freedom of Press (available from many of the advertisers in **MacFormat**). This is a PostScript interpreter which works on the Mac, rather than at the printer end of things, as is the case in a 'real' PostScript printer. However, you'll need a fair bit of memory for the program to work efficiently, and you may find that it's very slow.

To be honest, if you really do want good quality output from QuarkXPress, you'd do well to reconsider buying a laser printer. True, they are rather more expensive than the StyleWriter, and do cost more per page – but not that much more, when you consider that a StyleWriter is unlikely to last the five years that most laser printers are expected to. The cheapest PostScript laser printer that I've seen recently is the Apple LaserWriter NTR – dealers seem to be off-loading stocks, so it's running in at about £700 including VAT. The low-end GCC PostScript laser printer also comes in at about the same price, if

you shop around, and you're bound to be able to find other such bargains. Rather more expensive than a StyleWriter II, yes – but for your kind of work, probably the only really practical solution.

Q *I'm having trouble with my StyleWriter II. Every time I start it up, most of my control panels – Mouse, Sound, the time and so on – have reverted to their default settings. I can set the printer and mouse settings each time I start my Mac, but if I try to set the time or the date they revert to the default as soon as I close the General Controls Control Panel. I first thought that this was the internal battery and changed it, but with no result.*
Karl Danielsson
Reykjavik, Iceland

A If you hadn't already replaced the internal battery, that's what I would have suggested. Since that's not the problem, it sounds like it may be a hardware fault with the battery-backed RAM that keeps settings like the time, date and so on. I'm afraid that I have to suggest taking your Mac to a dealer, and getting them to check it out. (Unless you know someone with a program called Snooper, in which case get them to run that program over your Mac first. Snooper is a diagnostic program which can pick up many hardware faults, and at least that way you can tell the dealer exactly what's wrong without them going through a costly diagnostic routine.)

Q *When I purchased my Mac Classic II it was advertised as having a 40Mb hard disk. However, I've noticed that the Finder only reports 38.1Mb of space in total. Where has the other 1.9Mb of space gone? (I regularly rebuild my Desktop, too!)*
Andrew McLauchlan
Dundee, Tayside

A When Apple formats hard disks, it doesn't take advantage of every bit of space. There are a couple of reasons for this; the main one is that if there are any tiny faults with a particular sector, a 'spare' can be used in place of the faulty one with no problems – the spare being taken from an unused area of the hard drive. However, Apple's own initialisation program isn't

Subjects

	Beginners
	General/System
	Hardware
	Buying advice
	Programming
	Applications
	Graphics
	DTP
	Comms

quality of the printer's output, I now want to use the printer with a 386DX PC-compatible, which I also use in connection with my studies. Can the LaserWriter be connected to the PC via the parallel or serial ports?

R Curtis
Newport, Gwent

A

I'm afraid not – or, at least, not cheaply. The printer's internal hardware is set up to expect AppleTalk information from the serial port, not the sort of data that a PC will be sending it. The only solution is for you to buy an AppleTalk board for your PC, which would let it connect to a Macintosh network – and since the PC-to-Mac-printer connection can be considered a network, this should do the job. It's a fairly expensive way of doing things, though – especially as you can now pick up a new laser printer for a PC for less than £500, if you shop around.

Q

I want to speed up my Mac LCII 4/80. What do you think would be best: to buy 6Mb of RAM and a Daystar 50MHz PowerCache accelerator or, as the price of the Quadra 800 has dropped so dramatically, to buy one of these instead? What advantages would the Quadra give me over an accelerated LCII? I intend to use it for DTP running QuarkXPress and FreeHand. In the near future I will also be adding a SyQuest drive, a flatbed scanner and possibly a 21-inch monitor. If I opt for the accelerator card, will the LCII be able to drive all this new equipment?

T Wainwright
Sanderstead, South Croydon

A

This is always a tricky question: do I upgrade my machine or buy a new one? You've given plenty of details about what you're going to be using your system for, though, so it's slightly easier to answer.

First of all, the upgrade option. The PowerCache is certainly an excellent accelerator, and you'll be stunned by the increase in speed that you get from your LCII when it's fitted. However, there are some reasons why you might not to take this route. First, memory. Adding 6Mb RAM will take your system to the maximum that it can cope with: 10Mb. That's fine for most work,

you're running System 7.1, so that's no problem). To do this, double-click the System file and drag the font files somewhere else (on to the Desktop is fine).

2. Reboot your Mac using the Disk Tools disk that is part of your System disks set. This contains a minimum System and Finder, so your Desktop will appear, along with your hard disk icon. Open the System folder on your hard drive, and throw the System file into the Wastebasket – you can do this because you've booted from the System file on the floppy.

3. Copy the System file (only) from the Disk Tools floppy into your hard disk's System folder.

4. Empty the Wastebasket, to get rid of the old System file.

5. Restart your Mac and immediately insert the first Installer disk. The Mac will re-boot from this disk, and you'll be able to re-install your System as normal.

With regard to your second question, the Installer disk doesn't contain a Finder – only a basic System and the Installer itself. It does some clever disk-level stuff to fool the Mac into starting up using the Installer rather than the Finder (which doesn't exist). To make a backup, you need a program which does an exact copy of the disk – Apple's free *DiskCopy*, for example, will do the job for you – ask your friendly neighbourhood dealer for a copy, or get it from an on-line System such as CompuServe or AppleLink.

Q I have a Performa 400 and print on a StyleWriter II. All my TrueType fonts work perfectly; however, any PostScript faces that I use bitmap both on the screen and the printer. I have installed Adobe Type Manager 2.0 as described in its documentation.

Mauro Pratesi
Leyton, London E10

A

The problem is that you're running System 7.1P on your Mac – which requires a later version of ATM than 2.0. Version 2.0.3 will work on any System up to 7.0.1, but System 7.1 (and 7.1P) require a later version. Contact Adobe (081 547 1900) for details of how to upgrade.

Q I'm outputting to a StyleWriter II from my LCII. Can I run out a list of the fonts I have in my Fonts folder? If so, how?

Kevin Hyatt
Welwyn, Hertfordshire

A

There are plenty of PD and shareware programs which will allow you to print a list of all installed fonts, in the respective typefaces. *TypeSpec*, for example, is freeware and will display on screen or print a page showing any given font's basic alphabetic character set – or print the whole lot, if you prefer. *TheTypeBook* is shareware which gives you far more options – you can print many font samples per page, display all possible characters available in the font, and generate a professional-looking 'type book' for all the fonts available on your Mac. And people with LaserWriters can use the LaserWriter Font Utility that comes with System 7.0 and above to print font samples.

Q

I often see, in screengrabs in *MacFormat*, that you have icons actually on the Desktop. Does doing this reduce RAM, or free some up, as this would be useful to me – my SE has 1Mb installed.

George Hussey
Doddington, Cambridgeshire

A

I think that you may be confusing RAM with disk space here, George. There's no difference in the memory that your Mac uses wherever you store applications on the hard drive – they take up disk space, not RAM. Some people – me included – keep aliases to their most-used applications on the Desktop so that they're immediately available. However, to create aliases you need System 7 or above – and your letter says that you're running System 6.0.5.

Q

I have been using my Mac Classic for some years now, coupled with an Apple Personal LaserWriter NT. Although I'm very pleased with it, and the

particularly generous either, and often leaves areas of the disk unused for no real reason. To get the most space from your hard drive, you need to reformat it with a third-party formatting utility – one of the best is *HD Toolkit*. You may find that you recover up to a megabyte of extra space this way – but remember that reformatting your hard drive will erase any data that's currently on it.

You're right to rebuild your Desktop, too – this re-creates the Desktop file, which is an invisible record of exactly what's on your hard disk. As you add and remove applications and data, this invisible file grows in size; rebuilding it will shrink it to the smallest possible, with the result that some more space will be available on the disk for your own data (although probably not more than a couple of hundred kilobytes).

Q Why is it impossible to re-install the System after the StyleWriter II driver has been installed? Every time I attempt to do this, the Mac says that it's 'unable to overwrite protected resources' – this happens even if I hide the old Chooser and Driver in the Wastebasket. Also, why is it not possible to make backup disks that work when they have installers? A prime example is the 'Install' disk of the System 7.1 set. Each time I attempt to boot up off the copy, I get an error 41 or 42 and the Mac won't boot.

Graham Allford
Southampton

A

First of all, your problem with re-installing the System. Something (I doubt the StyleWriter II driver, although it's possible) has installed extra resources into the System file itself – not the driver. It's marked in the file that these resources shouldn't be deleted by anything – so the Installer, being nice and user-friendly (!) won't do so. The only thing that you can do is replace the System file itself, then re-install the System properly afterwards. The problem is that you can't do this while you've booted from the hard drive – quite correctly, the Mac won't allow you to throw away or replace the System file that's currently being used. So, assuming that you're running System 7 or above, this is how to proceed:

1. Move any extra fonts that you've installed out of your System file if you're running System 7.0 or 7.0.1 (they'll be in a separate folder if

but if you intend to do any serious image manipulation in the future, you'd want to look at even more RAM to speed things up – something that you couldn't do if you keep the LCII.

Next, there are the hardware additions that you are talking about. The SyQuest drive and scanner will be no problem: they are SCSI devices, and all Macs can be expanded via SCSI. However, there are fewer 21-inch monitors with LCII-compatible interface cards – most manufacturers assume that you won't want to add such a large monitor to the basic machine, since the decrease in speed would be a real problem.

Now let's look at buying a Quadra and selling the LCII. The disadvantage is that your current computer will certainly have decreased in value since you bought it, and so you'll have to accept that you'll lose a fair bit of money on the deal. If you do so, though, you'll be buying a very powerful computer in its place: the 800 family are the fastest machines that Apple makes. Other advantages as far as you're concerned are that you can increase the RAM to more or less whatever you want (over 100Mb, which should be plenty for anyone!), and add more than one NuBus card, if you wanted to use, say, ISDN as well as a large monitor. Actually, the monitor is something else that the Quadra will be happier with: it can already drive a monochrome 21-inch monitor from its built-in video, and will power the Apple 16-inch monitor running at 256 colours, again with no extra card required.

All in all, you'd probably be better off buying a Quadra – if you can sell your LCII for a reasonable sum to offset a bit of the cost. To get the best price, try to sell it privately – the part-exchange schemes offered by some dealers don't tend to give you particularly good value for money. For example, I was recently talking to someone who'd bought a Centris 610 and had traded in his LC – with extra memory and a colour monitor – as part of the deal. The dealer gave him just £350 off the price of the Centris! Selling it privately, he'd probably have got at least twice the price – especially selling it in a local newspaper, where people aren't as clued up on current equipment prices. Or, of course, you could use MacFormat's free classified ads page, to reach the more discerning purchaser who won't have to be shown what a mouse is or how to switch the thing on. Of course, selling the Mac privately is far more hassle than getting rid of it in part exchange – it's up to you to decide whether the hassle is worth it or not. Good luck!

Q Why can't I run your cover disks? You say that Performas have a 'SuperDrive' that can read high density disks. However, mine doesn't seem to work properly. When I insert the disk, an icon appears and I copy it to my hard drive. Then I open the resulting folder, but all that's inside are two icons: 'read me' and 'MacFormat issue whatever'. When I double-click the MacFormat icon, all I get is a dialogue box. What am I doing wrong?

Jim Morrison
Walthamstow, London

A Because we fit so much on to our cover disks, we have to compress the files to make them all fit. What you're looking at when you see the 'MacFormat issue x' icon is what's known as a 'self extracting archive'. When you double-click this, you do indeed get a dialogue box. It's the standard **Open** dialogue, and is asking you where it should put the expanded files. All you have to do is select a place on the hard drive and click the Extract button – you'll see a progress indicator showing that the files are being extracted and placed on your hard drive, and when it's finished there will be a new folder containing all the programs.

Q When I first bought my LC, I changed the hard disk's icon by cutting and pasting from Color MacCheese into the drive's **Get Info** dialogue box. When attempting to change it again, though, the icon reverted to a plain 'document' icon. Following this, I have not been able to reinstate the hard disk icon. When I attempt this, I get the message 'that operation cannot be completed, because it cannot be found'. Reinstalling the System and Finder had no effect, and upgrades to System 7.0.1 and 7.1 have not helped. Being a Mac veteran of six

Subjects

- Beginners
- General/System
- Hardware
- Buying advice
- Programming
- Applications
- Graphics
- DTP
- Comms

years, it's not easy to admit this, but... I'm stumped!

M Lowndes
Colliers Wood, London

A Presumably you've already tried opening the **Get Info** dialogue box, selecting the icon and hitting the [delete] key, which should remove the custom icon and replace it with the disk's standard icon. So, the first thing to do is (surprise, surprise) rebuild the Desktop – the answer, it seems, to every problem. Try this, then try deleting the icon as above. If it still doesn't work, then you need to get down to some slightly more serious hacking.

To create a custom icon, the Mac stores an invisible file on the top level of your hard drive called 'Icon'. When the Finder is displaying the Desktop, it looks for such a file and uses the image in it rather than the standard icon. So what you need to do is delete that file. Unfortunately, because it's invisible, you can't do this directly; instead, you must first make it visible and then drag it to the Wastebasket. You can use any of a number of tools to make it visible; if you have *ResEdit*, use **Get Information** from the **File** menu to view the file's attributes, make sure that the 'Invisible' checkbox isn't

Use *ResEdit* to make a file visible

Info for Icon

File: Icon ☐ Locked

Type: **Creator:**

☐ File Locked ☐ Resources Locked **File In Use:** No
☐ Printer Driver MultiFinder Compatible **File Protected:** No

Created: Fri, Jun 12, 1992 **Time:** 12:30:59 pm
Modified: Fri, Apr 23, 1993 **Time:** 10:52:50 am

Size: 2670 bytes in resource fork
0 bytes in data fork

Finder Flags: ☒ 7.x ☐ 6.0.x

☐ Has BNDL ☐ No INITs **Label:** None
☐ Shared ☐ Init'd ☒ Invisible
☐ Stationery ☐ Alias ☐ Use Custom Icon

selected and then save changes. Or use a PD or shareware program such as *File Buddy*, which will let you make the same change. Once you've done that, you should find that you can see the file – and therefore delete it. A final rebuild of the Desktop and all should be well.

Q Can I export a graphic constructed in Adobe Illustrator into Aldus FreeHand and still be able to edit it? Also, is there any way to import an EPS graphic from CorelDraw (or any other PC application) into the Mac and still be able to edit or even just print it?

Martin Carr
Bitterne, Southampton

A The only way to transfer EPS files between the two programs and retain full editability is to use a program called *EPS Exchange*, which is distributed by Softline (0401 1234) and which costs £118. This is an excellent utility which lets you transfer files between the two programs with ease. As for your second question, *CorelDraw* will save files in 'Illustrator 88' format. This is a file format which was used by an early version of Adobe *Illustrator*, and contains an EPS of the file – so you can import that straight into a program and print it as you would a normal EPS. In fact, you should be able to use any EPS created by a PC program – the only problem is that you won't have the PICT preview, so after you've imported it into, say, *QuarkXPress*, all you'll get on the screen is a grey box with a message telling you that no preview was available. This makes it difficult to place the file accurately in a layout, but at least you'll be able to print it.

Q I recently added a PowerCD to my LC with no problems. I attempted to add the Apple Colour Printer, making the PowerCD the final SCSI device in the chain for terminating. The Mac now only boots with numerous bombs and System errors occurring. Also, the PowerCD does not transfer data with the Colour Printer connected – although it's fine without the printer.

Dennis Reeves
Totnes, Devon

A Ah, the dreaded SCSI termination problem rears its ugly head. I'm

Subjects

- Beginners
- General/System
- Hardware
- Buying advice
- Programming
- Applications
- Graphics
- DTP
- Comms

you insert PC and Mac disks?

People sometimes buy PC-formatted disks and treat them as Mac disks because they don't see any difference – fatal if they then give the disk to someone with a Mac that doesn't have PC Exchange installed.

André-John Mas
Hatfield, Hertfordshire

A

1. You need to get a 'null modem' cable, which connects your Mac's modem port to the Beeb's serial port. This shouldn't be too much of a problem – try companies like MacLine, and tell them that you're after an Apple-to-RS423 cable. Then use comms software such as ZTerm on the Mac and an equivalent on the BBC micro to send the files between the two machines.

2. You can't directly read Amiga disks (although it would theoretically be possible to write a Mac driver to let you do that). However, AmigaDOS 2.1 and above ship with CrossDOS, which allows you to write PC-format disks on the Amiga – which can then be read with Apple File Exchange or PC Exchange. Alternatively, use the shareware MessyDOS on the Amiga, which does the same thing.

3. Who knows! It can be very annoying to receive a disk from someone only to find that it's in PC format, because they've got PC Exchange installed. However, since Apple didn't bother including nice

bar should be around 30mm below the menu bar; grab the title bar and move it to view all the cards (usually cutting off half of the right hand column). And remember to send the original programmer his shareware fee!"

Q I have a few questions for you. [Actually, so many that we could only fit a few of them in this month – Ed.]

1. Could you tell me whether there is a cable available to link a BBC micro to a Mac in order to transfer data?
2. Is it true that even with a SuperDrive it's near impossible to have a program to read Amiga disks?
3. Why doesn't Apple arrange things so that PC Exchange displays different icons when

the following solution to the Internet a while ago, and it does seem to work. Do remember, though, that if you get things wrong you could corrupt the application – so only work on a backup copy. Also, since it requires ResEdit – a technical tool from Apple which is freely available – you may not be too keen to try it. Here goes, anyway...

"The problem under System 7 is that the game board is off to the right hand side of the screen and you lose the last column of cards completely (it was nearly OK under system 6 – you partially lost the left-hand column, but you could still play). The thinking behind the fix was that if you could grab the title bar then you could move the board around to suit the screen. It must be said that this is an unofficial fix, and I do not have access to the source code. Please do not mess up the shareware system by giving away copies of the 'fixed' version.

"As there are no window resources available it was rather tedious working through the code, but this game is worth it – completely addictive..."

1. Make a copy of Seahaven Towers – do not work on the original!
2. Using ResEdit, open the CODE resource
3. Open STARTER
4. Go to 000FB8
5. The first byte should read 0190 (400 decimal) – change it to 012C (300 decimal)
6. Save everything

"When the game opens, the title

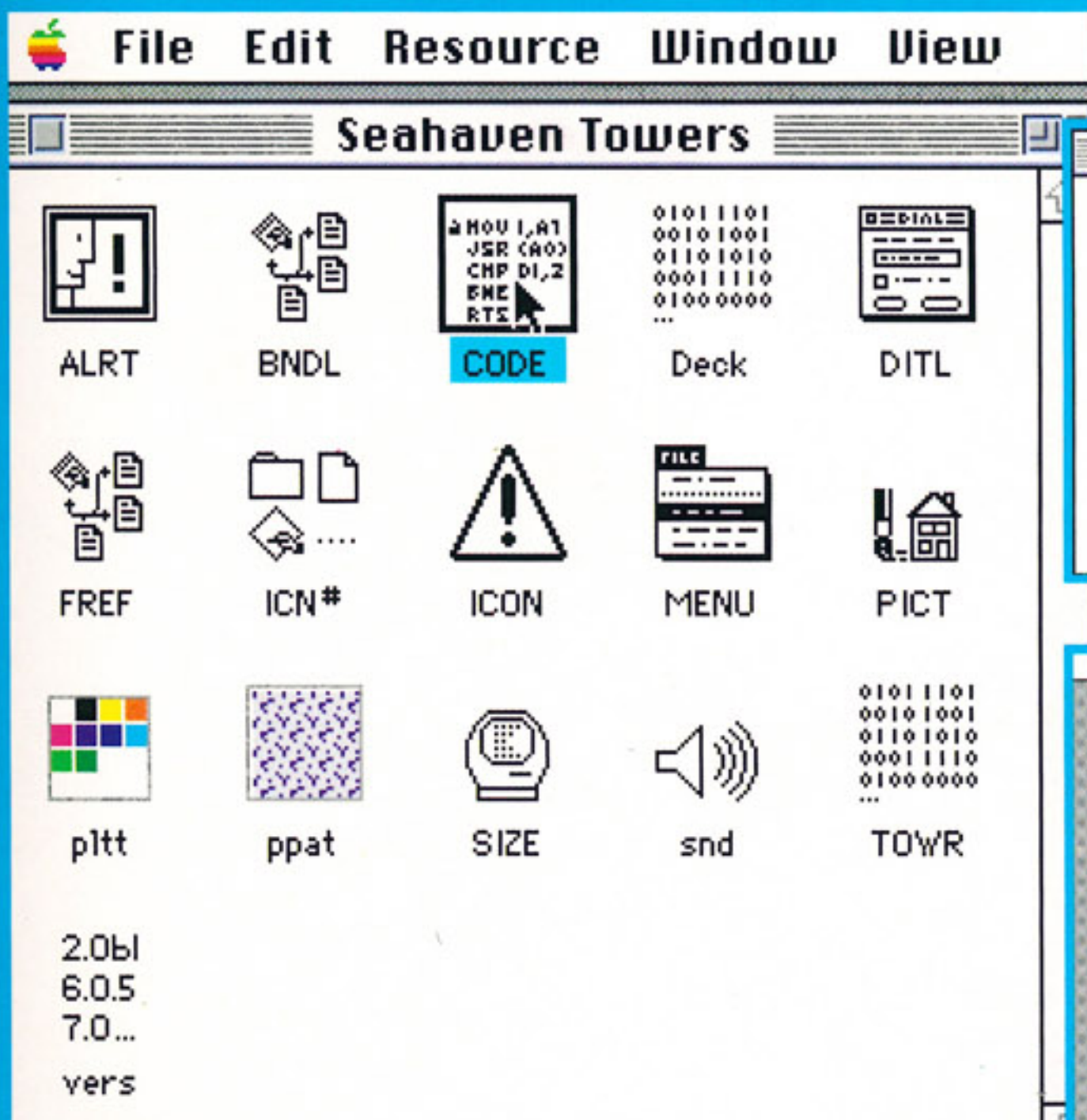
afraid that the only real solution to this is to experiment with the arrangement of your SCSI chain. Try putting the PowerCD between the Mac and the printer, rather than having the printer in the middle. Also, try fitting an external terminator to the spare connector at the end of the SCSI chain. Unfortunately, it's all a matter of juggling things until everything is happy with everything else...

Q I have a slight problem with the Seahaven Towers game which you gave away on an earlier MacFormat cover disk. On my Colour Classic, the right-hand row of cards is completely hidden from view. There is a small slice of the Desktop visible at the left-hand edge of the screen, but I can't work out any way to move the whole image over to the left. Is there a fix for this? In its present form, the game is unplayable.

Rick Hendy
Victoria, Australia

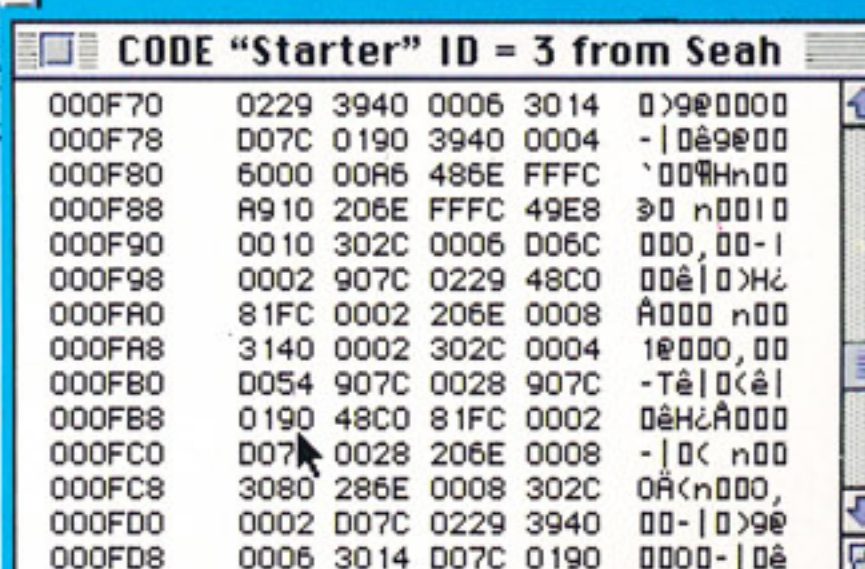
A

You're not the only person to write to us with this problem; the same thing occurs on Macs with 12-inch colour monitors. There is no 'official' fix from the author, as far as we're aware. However, Neil Gillies from Fife in Scotland posted

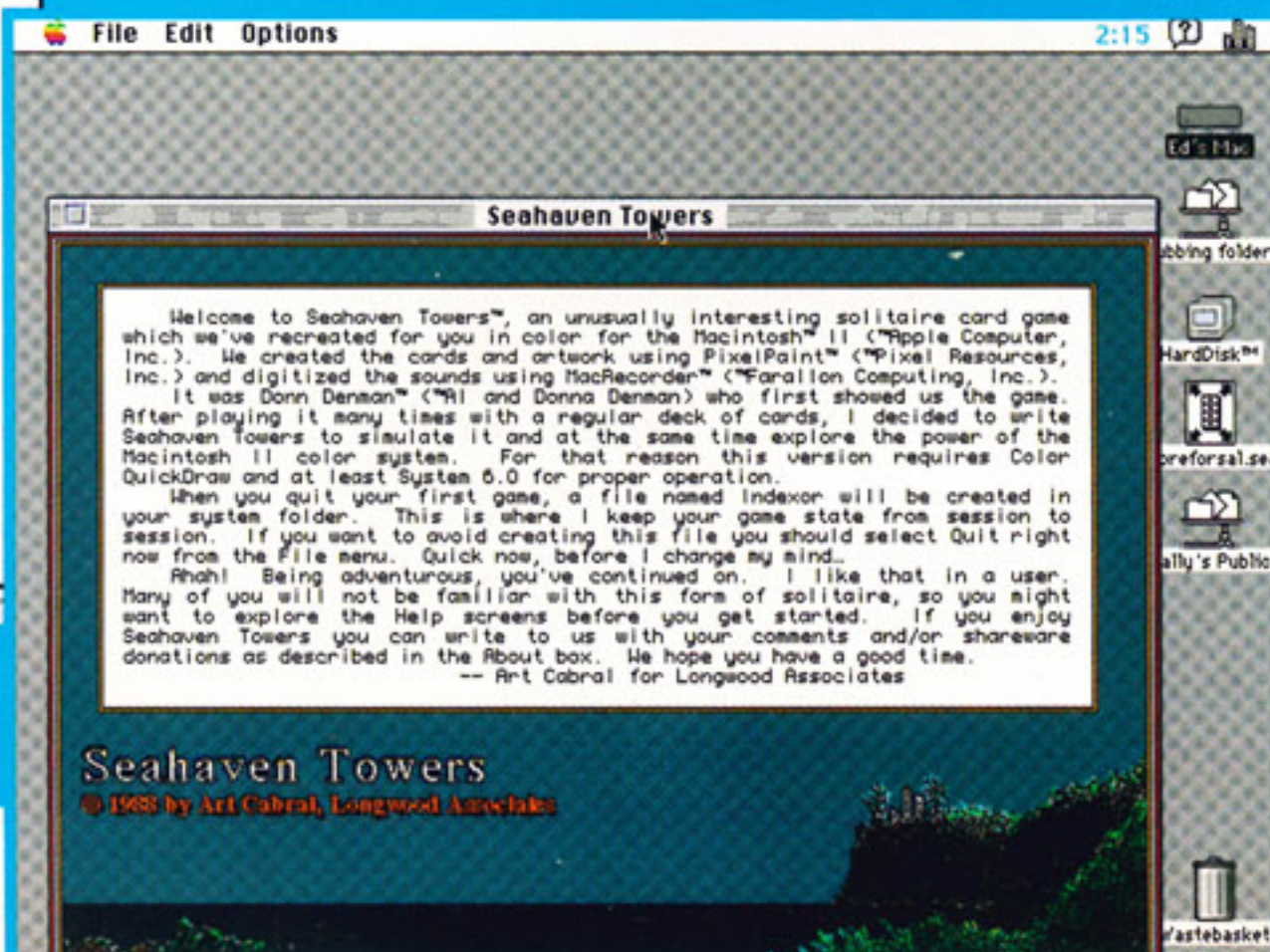


Make a copy of Seahaven Towers and open the CODE resource, using ResEdit

Open STARTER and got to 000FB8. Change the first byte from 0190 to 012C.



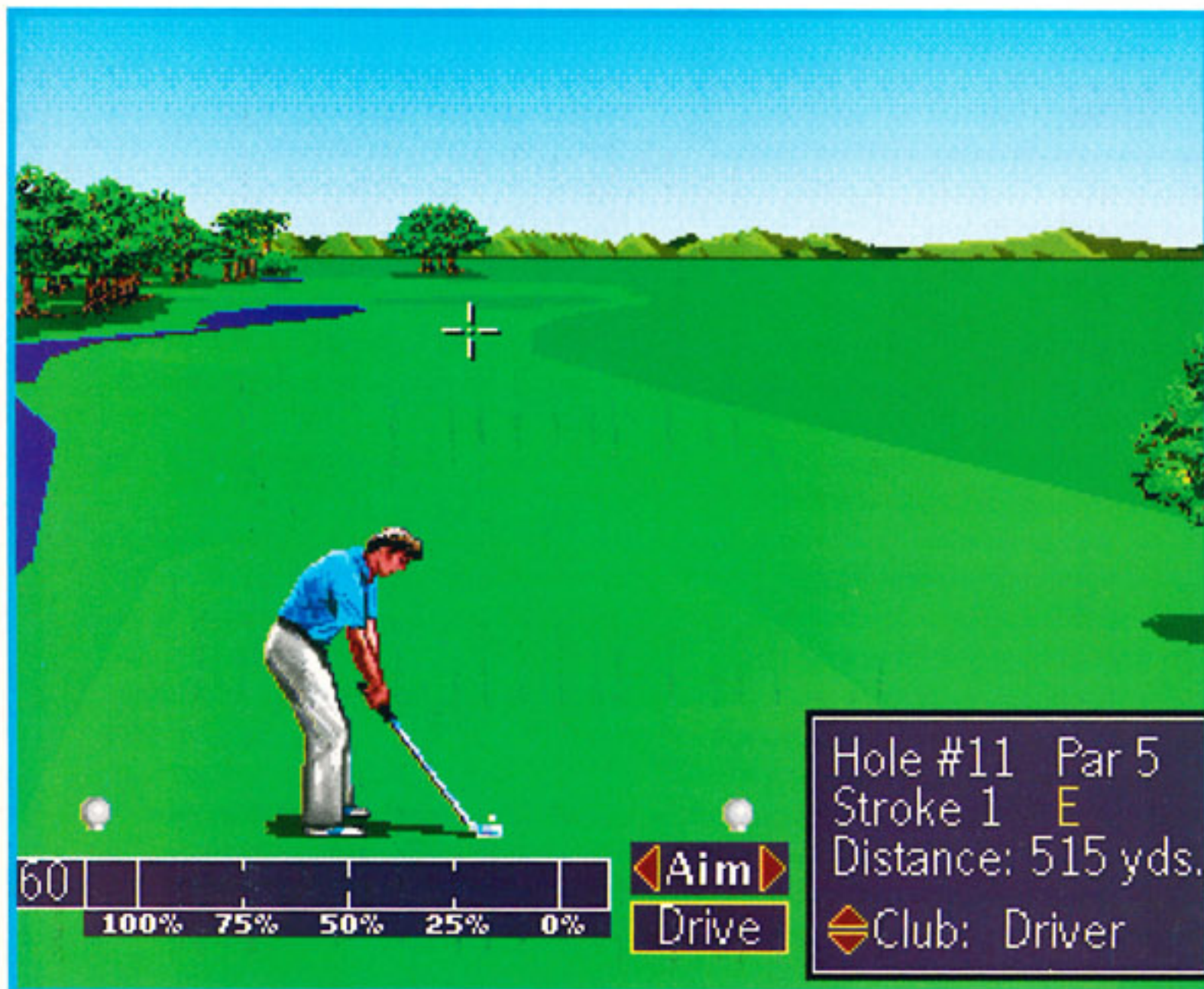
After having saved everything, the title bar should be around 30mm below the menu bar



Q *I am unable to get PGA Tour Golf to run in colour on my Performa 400. My monitor is set to 256 colours, so I cannot see what the problem is.*

T Mladenovic
Roath, Cardiff

A Nor can we! The only possibility is that not all the files have been installed in your *PGA Tour Golf* folder. The game comes on two disks, and the contents of both must be in the same folder on your hard drive. There's a 'Colour Data' file on the second disk, and this must be on the same level on your hard drive as the main *PGA* program.



For your last chance to subscribe to MacFormat and obtain a free copy of *PGA Tour Golf*, turn to page 66

Subjects

-  Beginners
-  General/System
-  Hardware
-  Buying advice
-  Programming
-  Applications
-  Graphics
-  DTP
-  Comms

Ask your questions here

Whether it's worries with *Word* or ravings about RAM, we're here to answer your questions. To get your query answered as promptly as possible please use the form below; it's been designed so that you can tell us everything we need to know about your system. If you're using System 7.0 or above, open the Memory control panel and you'll be able to see whether you're running virtual memory or 32-bit addressing. If you're running System

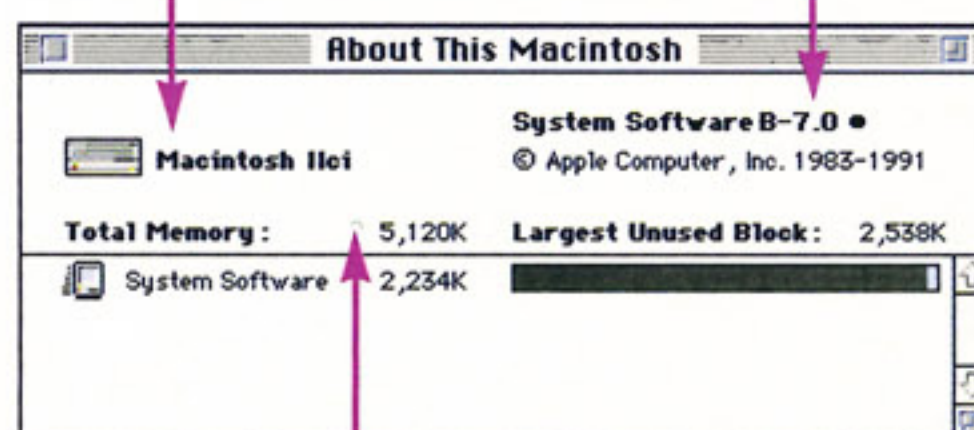
the chances are that you aren't using virtual memory (unless you have a third-party utility which allows you to do that); you're probably not using 32-bit addressing, either. Do detail all external peripherals that you're using even if you're not sure whether the information is relevant or not.

Please note that we can't enter into personal correspondence and we can't answer technical queries by phone either.

How much RAM have you got?

Macintosh model

System software version



To find this dialogue box, make sure you are in the Finder, point to the  menu and scroll down to the first item, About This Macintosh, then release the mouse button.

Amount of RAM installed

mac ANSWERS

If you send in a question for the **MacFormat** experts to solve, please fill in and include this form (or a copy of it). And please make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you. Send your form and question to: **Mac Answers, MacFormat, 30 Monmouth Street, Bath BA1 2BW**, or fax it to us on **0225 446019**.

Name

Address

Your Mac (For example, Performa 200, IIfx, PowerBook 145):

Approximate age of machine:

System version (see About this Macintosh screenshot above):

Amount of RAM (the **Total Memory** figure from the **About This Macintosh** dialogue box):

Are you using virtual memory?

(This is accessed from the **Memory** control panel under System 7) YES/NO

Do you have 32-bit addressing turned on?

(This is accessed from the **Memory** control panel under System 7) YES/NO

If your Mac has an external monitor, list the make and model; if you are using a video card, give details:

Details of any SCSI devices connected (eg CD-ROM drive, hard drive, scanner):

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

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

CAN DO LTD

Got mice? get C.A.T



The
Complete
Administration

Tool: for a special MacFormat VAT inc
price for only £399.50.

You've seen the review (Nov. issue) now
send or fax or phone for the Free demo
and info pack.

NamePosition.....

Company.....

Address

Post codeTelephone

Post to Can Do Ltd, Friars Court, College Street, Gloucester GL1 2NE
or Fax on 0452 300354 or call Patricia Thomas on 0452 527603

MF1293

There are much cheaper magazines.

Some have posters. Or stickers.

Some review every game good,
bad or average.

Some are easy to get hold of,
any time: they never sell out.

Edge isn't like that.

To be honest, **Edge** isn't for everyone.

Edge: decide for yourself.

EDGE

Take the Roland sound challenge ... *and let your ears be the judge*

Before you decide to buy a desktop
music module, sound card or
speakers, check out the most
comprehensive range of computer
audio peripherals and
starter kits of any
manufacturer in
the world...



Music modules

DTM-7-AT GM* Sound Module (DOS)
DTM-7-WAT GM* Sound Module (Windows)
DTM-7-APL GM* Sound Module (Mac)
(All packs include SC-7 Sound Module,
sequencing, compositional software and
connecting cables)

Sound cards

ATW-10
16 Bit Sampling and GM* Synthesis Card
DTM-100-AT
GM* (includes SCC1 sound card, sequencing,
compositional software and connecting cables)

**GM stands for General MIDI, the standard
approved by Microsoft for the replay of MIDI
files under Windows 3.1*

Speakers

MA-20 Micro Monitor
MA-7 Stereo Micro Monitor
CS-30 Stereo Micro Monitor
(All speakers are self powered and
magnetically shielded)

MIDI keyboards

PC-150 MIDI Keyboard Controller
PC-200 MkII MIDI keyboard Controller

*For further information on the Roland CM range or
the name of your nearest Roland dealer contact:*

Roland

Roland (UK) Ltd
Atlantic Close
Swansea Enterprise Park
Swansea
West Glamorgan
SA7 9FJ

Tel: (0792) 310247

Carrying right along with our examination of the Mac's internal workings, this month Ian Wrigley turns the focus on SCSI

All hooked up

The earliest Macs had no real way of connecting to the outside world: at the very most, you could attach a second floppy disk drive to the machine, but hard disks were impossible – let alone things like scanners, CD-ROM drives and the like. Fortunately, Apple soon saw the error in that particular idea, and now fits all Macs with a SCSI port, which makes adding such 'peripherals' a straightforward process. Well, more or less: although in theory SCSI devices can be added with no hassles, in practice they aren't

always quite as accommodating as they might be...

Basic concepts

SCSI, pronounced 'scuzzy', stands for Small Computer Systems Interface. It's the largest of the connectors on the back of your Mac (unless you have a PowerBook, in which case you should see the boxout on this page). It provides attachment for devices which need to send and receive large amounts of data to the Mac at high speed.

The main types of SCSI peripheral you'll come across are hard

drives, scanners, CD-ROM drives and so on – although some scientific instruments and other esoterica also use SCSI to connect to the Mac.

More than one SCSI device can be connected to the Mac at a time; for that reason, most have two SCSI sockets – you can thus 'chain' more than one together. It doesn't matter which of the two sockets you use if you're only connecting one device to your Mac. In fact, up to seven SCSI devices can be chained together, although in practice you will only use a maximum of six external devices, since your internal

hard drive is itself a SCSI unit, and consequently takes up one of the seven available 'slots'.

Each SCSI device has a different 'ID' number, so that the Mac knows what's sending it data at any given time. The ID numbers range from 0 to 6, although the internal hard drive is always ID 0 – so no external devices should be given the number 0. The SCSI ID can normally be set by an external switch on the back of the hard drive or whatever, although some peripherals, such as 'personal' laser printers that use SCSI to connect to the Mac,

SCSI essentials

- ALWAYS remember to switch on and turn off peripherals in the correct order. SCSI devices should be turned on before you

SCSIProbe 3.4				
SCSIProbe 3.4				
ID	Type	Vendor	Product	Version
0	DISK	QUANTUM	LP80S 980809404	2.9
1				
2				
3	ROM	SONY	CD-ROM CDU-8002	1.8d
4	DISK	SyQuest	SQ555	65A
5				
6				
7	CPU	APPLE	MACINTOSH Ilci	\$067C

Update Mount Options...

SyQuest Technology, Inc.

This screen grab of *SCSI Probe* shows how a Macintosh Ilci ascribes 'ID' numbers to SCSI devices so that it can identify which ones are sending it data at any given time.

boot up your Mac, and turned off after the Mac has been shut down.

- NEVER turn on or switch off a SCSI device while the Mac is running – it could result in very expensive damage to either the Mac or the peripheral or both.
- NEVER connect or disconnect a SCSI device while it, or the Mac, is powered up. Always shut down and turn everything off first.
- ENSURE that each SCSI device has a unique ID number between 1 and 6 – remember that your internal hard drive is already set up with ID 0.
- REMEMBER to make sure that the final device in the chain is terminated if you're having problems.
- MAKE SURE that the maximum length of all your SCSI cables combined doesn't exceed six metres.

PowerBook SCSI



Although PowerBooks, like all other Macs, have a SCSI interface built in, Apple redesigned the shape of the connector for these machines to take up less space. The new connector is known as an HDI-30 socket. Because of this, you need a special cable to connect the first SCSI device in the chain to your PowerBook. When you're ordering your first SCSI device, be it a hard drive, scanner or whatever, make sure you tell the vendor that you need a PowerBook to SCSI cable, and not just a normal 25-pin to 50-pin cable.

The other difference with PowerBooks is that some models, such as the PowerBook 100, have a 'SCSI disk' mode. This allows you to connect the PowerBook to a desktop Mac via the SCSI cable, and use it as a remote hard drive. If you have one of these models, you'll find that you can set the SCSI ID of your internal hard drive via the Portable control panel. In this case, the internal drive does not have SCSI ID 0 – bear that in mind when you're allocating ID numbers to other external peripherals. Ilfx owners note: your Mac requires a special terminator – make sure that the vendor of your SCSI device knows it's for a Ilfx.

sometimes do the job in software. Note that the SCSI ID has nothing to do with the physical location in a SCSI chain – the closest device to the Mac can have ID 5, the next ID 3 and the one after ID 6, for example, with no ill effects. However, it's imperative that each device has a different ID number – if two have the same ID, your Mac won't start up.

One point to note is that although the Mac's SCSI socket is a 25-pin connector, almost all SCSI devices use 50-pin connectors. For that reason, you need a different cable to connect your Mac to the first device on the SCSI chain than you do to daisy-chain the rest together. They are known, respectively, as 'Mac-to-SCSI' and 'SCSI-to-SCSI' – make sure that you order the correct one when you buy any peripherals (most come with a Mac-to-SCSI lead as standard).

The terminator

Now things start to get a little more complex. A SCSI chain requires a 'terminator' at either end. (If you're

interested, the terminator is actually a set of resistors which stop the electronic signal bouncing back along the chain when it gets to the end and corrupting the data.)

Most external terminators take the form of a connector which attaches to the spare SCSI port on the last device in the chain. However, some peripherals are 'internally terminated'. This means that they have a terminator built in – so if you're going to use them in the middle of the SCSI chain, you have to remove the terminator, which often means opening the casing. The best policy, if you have such a device, is to always try to use it at the end of the SCSI chain.

All internal hard drives are already terminated, so you don't have to worry about one end of the chain. But at the other, do make sure that you either use an internally terminated peripheral, or place a terminator on the unused SCSI socket. If you don't know whether or not the hard drive or whatever has internal termination, put a terminator on anyway – it doesn't do any

The shareware utility *SCSI Probe* can send a 'reset' command to all SCSI devices

harm, and at least then you're sure that termination exists.

All this is fine in theory, but in practice things are a little more complex. For a start, you may find that some arrangements of SCSI devices just don't work – when you start up your Mac you get the 'sad Mac' icon, or a flashing question-mark. If so, turn off the Mac, then turn off all SCSI devices, and try them in a different order on the SCSI chain.

If you were using an external terminator, try leaving it off – despite the 'official' requirement, sometimes some devices just seem to work better without. And do make sure that all the devices have

different ID numbers, none greater than 6. Remember, too, that the internal hard drive has ID 0 – so don't assign that number to anything else. It's all a matter of trial and error – I've spent hours adding one new SCSI device before finding an arrangement in which they worked in harmony with each other. An invaluable tool here is the shareware utility *SCSI Probe*. This checks your SCSI chain, tells you which peripheral has which ID and can even send a 'reset' command to all SCSI devices, which can sometimes be handy if things appear to start behaving oddly.

If you're having trouble getting SCSI devices to work, make sure that you've followed the advice in our 'SCSI essentials' boxout – and after that, just persevere.

Suddenly, for no apparent reason, after just a minor change in configuration things will begin to work perfectly. At which point, don't alter anything! **mf**

This issue, we decided to give a potted history of the pioneering early days at Apple – something everyone with pretensions to being a 'power user' should know...

In the mid-1970s, home computers were still science fiction. Atari was building the first video games (remember 'Tennis'?), and to most people, computers were huge machines that took up whole rooms. Apple was started in those early days – 1976, to be precise – by two remarkable individuals in Los Altos, California.

Steve Jobs was a video game designer for Atari, and Steve Wozniak, known to everyone as 'Woz', worked for Hewlett-Packard. They met each other during the regular gatherings of the Homebrew Computer Club, a group of electronics enthusiasts who spent their spare time tinkering with electronics. The two first got into business together when Wozniak designed a 'blue box' – a gadget which allowed people, known as 'phone phreakers', to get free phone calls by sending certain sets of tones down the phone line. Woz designed the device, and Jobs sold it – they split the money, and put much of it into designing other gadgets.

According to Wozniak, "If I'd had enough money, I would have bought a computer. I could not afford to buy one, so I built my own." When Steve Jobs saw it, he was so excited that he immediately phoned the local electronics store and got an order worth \$50,000 – on the basis only of the prototype.

Since Wozniak had only intended to sell kits to other members of the Homebrew club, he was just a little startled – but after some encouragement, the two formed Apple computer to market the new machine, known as the Apple I. It sold for around \$670, and was mainly bought by

mac TRIVIA

The Apple story

electronics hobbyists and the like – it was still extremely primitive, and required the purchaser to be happy dealing with machine code in order to write programs. However, the profits were such that the company was able to develop the Apple II – and this, as the first really 'accessible' home computer, took off in a massive way when it was launched in 1977. Aided by Mike Markkula, a marketing expert, the company underwent phenomenal growth – it went public in 1980, and by 1982 had sales of just under \$600 million. In 1983 the company hired John Sculley, Vice President of Pepsi, as its Chief Executive Officer. His starting salary was \$1 million a year plus bonuses and share options, and he held the CEO appointment until earlier this year, when he was replaced by Mike Spindler – Sculley now holds the position of Chairman.

By this time, Jobs had put together a 'Macintosh group' – a small team who were set to design a revolutionary computer. One of the team was Bill Atkinson – a name familiar to Macintosh aficionados. Atkinson joined Apple in 1978, and was responsible for much of the

Mac's interface – pull-down menus, a one-button mouse and so on. He also wrote *MacPaint* – the original version, which was bundled free with every Mac in the early days – and *HyperCard*. Also working within the company was another set of people, who came out with the Lisa – a \$10,000 computer similar in some ways to the Mac, but rather less powerful. The Lisa was not a success, but some of its design features were incorporated into the Mac.

On January 24 1984, Apple took a 60-second advertising slot in the middle of the US Superbowl, and screened its famous '1984' commercial. Long lines of 'drone' workers file into a huge hall, where they sit on wooden benches surrounded by armed guards. A black-and-white video display at one end of the hall shows a narrator exhorting the values of authority and the state – pure Orwellian stuff. Suddenly, a woman in bright red shorts, running shoes and a white Macintosh T-shirt bursts into the hall and runs towards the screen. As she reaches the screen, she throws the sledgehammer that she's been carrying, and the screen bursts apart in a flash of white light. A voice-over says: "on 24th January, Apple Computer will introduce Macintosh. 1984 won't be like 1984."

Apple only paid for the \$1.6-million advert to be shown once – but it's gone on to become a legend, winning virtually every advertising award possible since that time. It still appears occasionally on things like Apple Developer CD-ROM as a QuickTime movie.

So the Mac was born. The first version was extremely primitive: 128K of RAM, one floppy disk drive, no way of attaching any other peripheral such as a hard drive. But within three months more than 100,000 Macs had been sold. The rest, as they say, is history.



MacLine

MILL HOUSE • MILL LANE • CARSHALTON • SURREY • SM5 2W

FAX 081 401 1111
081 401 1111



SUPERMAC

Superb 20" monitor and video card at a super low price.

Quadra 800 8/230	£2495.00
20" Hitachi Monitor	£1295.00
20" Trinitron Monitor	£1995.00
8 bit card	from £355.00
24 bit card	from £695.00
Thunder card	£1895.00

WORD PROCESSING

WP APPLICATIONS

MacWrite Pro (powerful yet straightforward WP)	£145.00
Microsoft Word 5 (market leading WP heavyweight)	£189.00
Nisus 3.4 (graphics, GREPS, macro language, 3200 undos)	£199.00
WordPerfect 2.1 (hot new version of famous PC WP)	£199.00
Write Now 3.0 (fast, straightforward WP, a doddle to use)	£44.00
Thunder 7 (single spellcheck & thesaurus for all apps)	£59.00

DATABASES

4th Dimension 3.0 (heavyweight of the databases)	£595.00
Helix Express (no procedural language, for non programmers)	£245.00
FileMaker Pro 2.0 (best flat file DB ever - everyone needs it)	£225.00

SPECIAL OFFER



Mac LC III 4/80, Apple 14" Colour Monitor, Keyboard for only... £959.00

Foxbase+Mac 2 (fast DB with great interface, reads dBase)	£325.00
Omni 7 (powerful, flexible, Windows compatible)	£699.00
INFORMATION MANAGEMENT	
ACT! (excellent contact management)	£195.00
DynoDex (best tool for managing/printing contacts)	£39.00
SuperQuickDex (includes powerful print capability)	£55.00
TouchBase Pro (networkable contact database)	£65.00

BUSINESS

TIME/OFFICE MANAGEMENT	
AutoRoute Express (UK route and distance planner)	£135.00
DateBook Pro (UK version, appointment calendar)	£65.00
In Control (best to-do list manager has outliner, columns)	£85.00
Smart Alarms multi user (fuss free net diary/reminders)	from £125.00
Now Up-To-Date (simple, quick calendar and reminder system)	£59.00
SPREADSHEETS	
Lotus 1-2-3 (works with all PC & Unix versions)	£275.00
Microsoft Excel 4.0 (leading spreadsheet, many great features)	£225.00
BUSINESS GRAPHS & CHARTS	
DeltaGraph Pro (popular, varied 2D & 3D graphing tool)	£95.00

MacLine is proud to be

Macworld Mail Order Dealer of the Year

MacUser Hero of the Year

GraphMaster (very good and system 7.0 savvy as well) £180.00

INTEGRATED SOFTWARE

Microsoft Office (Word, Excel, PowerPoint etc at bargain price)	£375.00
ClarisWorks 2.0 (market leader of the integrated world)	£159.00
Microsoft Works 3.0 (WP, DB, Comms, Draw, Spreadsheet)	£115.00

PROJECT MANAGEMENT

MacProject Pro (powerful, straightforward and flexible)	£375.00
MacSchedule 2.5 (budget project scheduling)	£125.00
Microsoft Project (full featured for most requirements)	£335.00

ACCOUNTING

Classic Accounts (small business cash book /cash based VAT)	£49.00
MacMoney 4 UK (best home accounts & budgeting package)	£59.00
MYOB (fully integrated single user business accounts)	£220.00
Ritz (powerful and comprehensive accts for smaller business)	£340.00
Ritz Median (the baby brother)	£169.00
Pegasus Entry Level (best package, grows with your needs)	£350.00
Sage Bookkeeper (accounting's biggest name now on the Mac)	£125.00

PRESENTATION

Astound (new entrant, reads PowerPoint & Persuasion)	£99.00
Persuasion 2.0 (high end presentations with outliner)	£255.00
PowerPoint 3.0 (powerful, intuitive, easy interface)	£225.00

GRAPHICS

POSTSCRIPT GRAPHICS	
Freehand 3.1 (Professional PostScript drawing & text)	£295.00
Illustrator 5.0 (Professional PostScript drawing, text & layout)	£365.00
Streamline (superb PostScript auto-tracing tool)	£115.00
PAINT & DRAW	
Canvas 3.0 (high end draw/paint package using layers)	£245.00
IntelliDraw (Aldus' brilliant new package)	£125.00
MacDraw Pro (hugely powerful, doubles as presentation tool)	£275.00
Painter 2.0 (pressure sensitive 24 bit colour, mimics oils etc)	£225.00
Sketcher (grey scale version of Painter)	£79.00
SuperPaint 3.0 (24 bit colour, paint & draw)	£89.00

DARKROOM & RETOUCHING

ColorIt! 2.0 (PhotoShop capabilities without CMYK)	£89.00
Gallery Effects (professional special FX collection)	£99.00
Kai's Power Tools (amazing filters for Photoshop)	£125.00
Paint Alchemy (marvellous brush SFX for Photoshop)	£59.00
PhotoShop 2.5 (pros choice, king of the image enhancers)	£495.00

CAD & MODELLING

addDepth (3D extension for Illustrator/FreeHand)	£125.00
Claris CAD 2.0 (flexible powerful 2D links to FileMaker)	£525.00
Dimensions (Adobe's 3D extension for Illustrator)	£115.00
Infini-D (leading 3D modelling & rendering tool)	£645.00
Sketch (ground breaking new 3D drawing)	£525.00

DESKTOP PUBLISHING

DTP APPLICATIONS	
Fetch (superb image database system)	£139.00
PageMaker 5.0 (fabulous new version)	£475.00
Publish It Easy 3.0 (MacUser US best DTP winner)	£99.00
Quark Xpress 3.2 (the professional's choice)	£610.00
DTP AIDS & FONT MANIPULATION	
Acrobat (view documents without parent application)	£105.00
LetraStudio (powerful headline font manipulation software)	£225.00
Typestry (create 3D fonts with textures)	£195.00
TypeStyler (manipulates PostScript fonts)	£119.00

ADobe Type on Call (CD Rom of all the typefaces)

ATM (smooths screen and print fonts)	£105.00
Fluent Laser Fonts (120 excellent PS & TrueType fonts)	£105.00
Monotype Fonts (much of the famous library is now on the Mac)	£105.00
Super ATM (view documents without the fonts installed)	£105.00
Fontographer 4.0 (most professional PostScript font creator)	£105.00
FontMonger (converts Type 1 & 3 to TrueType)	£105.00
Type Reunion (gives heirarchical font menus)	£105.00

PRINTERS

GCC PLP11 (great laser printer at a great price)	£105.00
GCC BLP Elite (low cost PostScript laserprinter, 4Mb)	£105.00
GCC BLP Eclipse 4 (fast PostScript level 2, 2Mb)	£105.00
GCC SelectPress (A3 600dpi, edge to edge)	£105.00
HP DeskWriter 510 (superb new inkjet, AppleTalk)	£105.00
HP Laserjet 4M (600dpi new technology)	£105.00
HP Laserjet 4ML (quality, low cost laser)	£105.00
LabelWriter II (mini thermal printer produces sticky labels)	£105.00
LaserMaster Unity1200 (1200dpi A3 mono)	£105.00
Lexmark 4039 (fast 600dpi family)	£105.00

COLOUR

Canon CLC10 (colour copier, scanner and printer in one!!!)	£105.00
HP DeskWriter C (great budget colour inkjet)	£105.00
HP DeskWriter 550C (colour and mono in one)	£105.00
HP DeskJet 1200C (A3 inkjet)	£105.00
Lexmark PS 4079 (A3 PostScript inkjet)	£105.00

SPECIAL OFFER

NO GREY IMPORTS

081 401 1111

Mac Centris 610 4/80 with Ethernet, Apple 14" Hi Res Colour Monitor, Keyboard and a free copy of Snooper only... £1395.00

DATA STORAGE

DAT Tape Backup 8 Gb	£105.00
Optical Cartridge Drive 600 Mb (Panasonic)	£105.00
Optical Floppy Disk Drive 128 Mb (Panasonic)	£105.00
CD ROM Drive (Photo CD compatible)	£105.00
44 Mb Syquest Removable Drive (including cartridge)	£105.00
80 Mb Syquest Removable Drive (reads/writes 44Mb)	£105.00
Syquest Removable 45 Mb Cartridge	£105.00

MONITORS

NEC MultiSync FGc colour 14" to 21"	from £105.00
Colour 14" monitors	from £105.00
Radius Pivot (unique tilt system)	from £105.00
Radius 19" Colour Monitor	£105.00
Supermac 17" monitor	from £105.00
Supermac 20" monitor	from £105.00
Supermac/Thunder Video Cards	from £105.00

SCANNING

Agfa Arcus Plus (1200dpi, fast, the best)	£105.00
---	---------

WELCOME TO NEWTON

The future is here at last — 5 years in the making, Newton MessagePad will recognise your handwriting and turn it into text, keep your contact names and appointment diary, connect to your Macintosh to transfer data, send and receive faxes, and talk via infra-red to other MessagePads.

from £495.00

NEW PRODUCT

081 401 1111

MacLine Policy

- *Credit cards will not be charged until the order is shipped.
- *If a partial order is despatched, the balance is sent free of additional shipping charges.
- *All goods are sent by a courier service. A signature will be required on delivery.
- *Same day delivery in London area is available.
- *Defective goods are replaced immediately.
- *Refunds will only be given on unopened packages that are returned within 7 days of receipt.
- *Prices are correct at the time of going to press. E&OE.

ALL PRICES ARE EXCLUSIVE OF VAT & POSTAGE
CALL FOR OUR FREE CATALOGUE



Authorised Reseller

Ordering & Payment

- *To order call Monday - Friday, 9.00 am to 6.00 pm.
- *DELIVERY. Add £3.00 for three working days delivery. Add £6.00 for next working day delivery. Add £12.00 for AM next working day delivery.
- *Add VAT to the total price, including shipping (except on books). *Payment is by credit card, cheque or money order.
- *Government depts, Ed.establishments and Plc companies are welcome to purchase with an official order subject to status.
- *International orders accepted with credit card only. Shipping added at cost.

MEMORY

£39.00

SIMM	1Mb SIMMs - 80ns (1 * 2)	£39.00
SMM2	1Mb SIMMs - 80ns (1 * 8)	£45.00
SM2MB	2Mb SIMMs - 80ns	£75.00
SM4MB	4Mb SIMMs - 70ns	£145.00
SM8	8Mb SIMMs - 70ns	£345.00
SM16	16Mb SIMMs - 70ns	call
SMN4	4Mb SIMMs (new Macs) 60ns	£135.00
SMN8	8Mb SIMMs (new Macs) 60ns	£295.00
SMN16	16Mb SIMMs (new Macs) 60ns	£565.00
SP06	PowerBook Memory (all sizes)	call

Prices change regularly so please check before ordering

Epson GT6500 (up to 1200 dpi colour with PhotoShop)	from £775.00
Microtek ScanMaker II (great quality colour 1200dpi)	from £745.00
Ofoto 2.0 (colour scanner control software)	£289.00
OmniPage (best OCR)	from £199.00
ScanMan (best selling handheld, 32 greys, 400dpi)	£195.00
Typist (handheld with best built in OCR, needs 4Mb)	£365.00

PC COMPATIBILITY

Access PC 3.0 (read/write PC floppies from your Mac)	£65.00
DOS Mounter Plus (same as above)	£69.00
MacLink Plus (best Mac/PC link with 100's translators)	£135.00
PC Exchange (Apple's own brand software)	£49.00
Soft PC (DOS emulation on a Mac)	from £89.00

COMMUNICATIONS

Classiccom (cut down version of Vicom, accesses Prestel)	£75.00
SmartCom II (Hayes comms software)	£75.00
Vicom Connect (UK package, easy to use and powerful)	£140.00
PowerModem (PSI internal PowerBook faxmodems)	from £179.00
Sportster FaxModem (14,400 baud, BABT approved)	£245.00

NETWORKING

AppleTalk Remote Access (AppleTalk over the phone)	£95.00
GraceLAN 2.0 (corny name, excellent network analysis)	£245.00
Microsoft Mail (powerful E-Mail)	from £185.00
QuickMail 2.6 10 User (powerful flexible E-Mail)	£395.00
ScreenLink (control another Mac across a network)	from £65.00
Timbuktu 5.0 (control networked Mac & Windows screens)	£125.00
Timbuktu Remote (control remote Mac screens in colour)	£130.00
Anet (LocalTalk (AppleTalk) connector boxes)	£17.00
AsantePrint (Ethernet to AppleTalk printer router)	£275.00
MacNet (PhoneNet connector boxes)	£17.00
Ethernet Cards (thick, thin or twisted pair versions)	from £110.00

HARDWARE

Cordless Mouse (rechargeable battery, made by Sicos)	£75.00
Gravis MouseStick ADB (perfect for Flight Simulators)	£59.00
Gravis GamePad (perfect for other games)	£39.00
Extended Keyboard (15 function keys, numeric pad)	£89.00
Wacom Graphics Tablets (best pressure sensitive)	from £325.00
Logitech MouseMan (small alternative mouse)	£45.00
MacRecorder Pro (high quality mike with sound editing)	£225.00
UniScan (bar code wand & software)	£295.00
SIMMs Memory Upgrades	see memory box
Daystar PowerCache (the best accelerators, all Macs)	from £275.00
Daystar Turbo 040 (68040, faster than a Quadra)	from £545.00
Radius Rocket (faster than an FX, 25MHz 040)	from £995.00
ThunderStorm (radically speeds up PhotoShop)	call
Math Co-Processor (speed up your Classic II or LC)	£55.00
VRAM Mac LC & Quadra (adds more colours)	from £55.00

PROGRAMMING

AppMaker (automatically generates interface code in C)	£210.00
Frontier (first Finder level scripting system for the Mac)	£195.00
HyperCard Developers Kit (yes, it's back)	£125.00

MacLine is Britain's largest and oldest established Macintosh only mail order supplier. We pride ourselves on our knowledge and experience of Mac software and hardware (and have the awards to prove it). To order, call us on 081 401 1111 for next day delivery on most items. If you would like more information about any of the programs listed here ring us, or fill in the coupon, and we'll send you our comprehensive catalogue completely free of charge.

HyperCard Player (it's no longer free)	£29.00
Microsoft QuickBasic (excellent budget Basic)	£55.00
Symantec C++ (best object oriented programming tool)	£279.00
Think C 6.0 (the leading Mac app development tool by far)	£120.00
Think Pascal 4.0 (excellent developer level compiler/debug)	£120.00
FutureBasic (new from the ZBasic company)	£160.00

UTILITIES & DA's

FILE & DISK MANAGEMENT	
At Ease (secure Finder replacement)	£35.00
AutoDoubler (automatic transparent file compression)	£55.00
CD ROM Toolkit (speeds up CD access)	£59.00
CopyDoubler (radically speeds up copying)	£34.00
DIRectory 5.0 (best floppy and/or hard drive file logger)	£59.00
Disk Express II (best hard drive defragmenter)	£55.00
DiskDoubler (file compaction to save space)	£55.00
Hard Disk Toolkit (the best formatter and checker)	from £59.00
MacTools 2.0 (backs up, recovers, optimizes, repairs drives)	£89.00
Norton Utilities 2.0 (best selling utilities now includes SUM)	£115.00
Now Utilities 4.0 (8 essential utilities)	£79.00
Power Utilities (Disk Express and other great utilities)	£79.00
Public Utilities (new disk saver program)	£69.00
Retrievell! (finds text on your hard drive)	£59.00
Safe & Sound (disk recovery for novices)	£27.00
Square One (terrific icon based application launcher)	£32.00
Stacker (doubles your disk capacity)	£69.00
BACKUP & VIRUS PROTECTION	
Backmatic (for those who hate backing up)	£57.00

DAYSTAR ACCELERATORS

The quickest, most stable, most reliable and cost efficient way to speed up your Mac. Guaranteed 100% compatible with all your software because it uses the same processor your Mac does. Works with most Macs and is considerably cheaper than an Apple upgrade. Take your Mac beyond a Quadra!



Powercache 33Mhz ex co pro	£275.00
Powercache 33Mhz with co pro	£345.00
Powercache 40Mhz ex co pro	£410.00
Powercache 40Mhz with co pro	£465.00
Powercache 50Mhz ex co pro	£510.00
Powercache 50Mhz with co pro	£595.00
(Adaptor needed for all Macs except Ci, Vx, Vi ... £79.00)	
Turbo 20mhz 68040 no co pro	£545.00
Turbo 25mhz 68040 no co pro	£610.00
Turbo 33mhz 68040 no co pro	£675.00
Turbo 25mhz 68040 with co pro	£745.00
Turbo 33mhz 68040 with co pro	£875.00
Turbo 40mhz 68040 with co pro/cache	£1250.00
The 68040 accelerators work with the following Macs only :Mac II/IIx/CX/SE30,Ci,Vi,Vx and Si.	

Redux (best value backup program on the market)	£59.00
Retrospect 2.0 (most sophisticated archival backup)	£159.00
Retrospect Remote 2.0 (THE solution for network backup)	£289.00
SAM 3.0 (Symantec's anti virus utility)	£69.00
Virex 3.9 (best virus tracer & eradicator of all)	£59.00

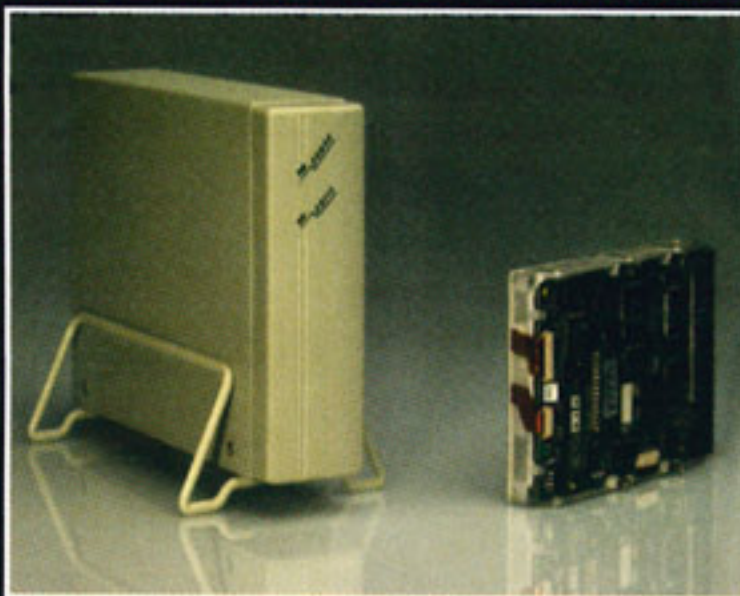
PRODUCTIVITY ENHANCERS

After Dark 2.0 (famous screen saver with many modules)	£29.00
More After Dark (25 new modules inc cult Lunatic Fringe game)	£23.00
Alert (analyses software to find problems)	£95.00
CDU (excellent collection of Desktop utilities)	£49.00
CPU (excellent collection of PowerBook utilities)	£49.00
DynoPage (allows printing of anything to filofax paper)	£39.00
Exposure Pro (screen dump utility with paint tools)	£82.00
First Things First (alarms, reminders, to do's)	£45.00
I Like Icon (animate your desktop icons)	£35.00
Master Juggler (best font menus, sounds and F Keys manager)	£35.00
Norton Utilities for PowerBook (need I say more)	£45.00
Now Up-To-Date (calendar and reminder system)	£59.00
QuickKeys 2.1 (macro maker, time saver utility)	£95.00
QuickDex II (lightning fast DA database, essential)	£32.00
Screenshot (low cost full featured screen dump utility)	£39.00
Snooper (fault diagnosis for all Macs)	from £125.00
Star Trek (screen saver based on the cult series)	£29.00
Suitcase 2.0 (manage your font menus sounds and F Keys)	£45.00

ENTERTAINMENT

ARCADE	
> Another World (great animation and sound)	£27.00
✓Axis (cheats for dozens of popular games)	£34.00
✓Chuck Yeager (with movie playback!)	call
✓Crystal Quest 2 (Britain's favourite game)	£22.00
✓Crystal Crazy (sequel to Britain's favourite game)	£34.00
✓Diamonds (the most addictive game yet)	£29.00
✓Freddy Pharkas (the frontier pharmacist)	£29.00

EXTERNAL HARD DRIVES



Need some extra storage space? Try our Jet series Hard Drives using the best drive mechanisms around - Quantum, Fujitsu and Micropolis - these drives are fast, affordable and ultra reliable.

Capacity	Internal	External
120Mb	£179.00	£265.00
240Mb	£245.00	£325.00
330Mb	£295.00	£395.00
525Mb	£595.00	£675.00
1000Mb	£845.00	£925.00

✓Glider (fly a glider through eerie house, great fun)	£29.00
✓Indiana Jones (wonder what this one's about?)	£29.00
✓Lemmings (the best selling game on the Mac)	£29.00
✓Mission Starlight (addictive space shoot-em-up)	£22.00
✓Mutant Beach (adventure type, great graphics)	£32.00
✓OIDS (addictive space shoot-em-up with editor)	£25.00
✓Oh No! More Lemmings (more suicidal mayhem)	£22.00
✓Pararena (battle opponents in rollerball rink)	£22.00
✓Prince of Persia (brilliant animation graphic adventure)	£25.00
✓Sky Shadow (shoot 'em up from the Crystal Quest author)	£22.00
✓SpaceWay 2000 (arcade shoot-em-up)	£34.00
✓Spectre (brilliant tank battle game)	£33.00
✓Spectre LAN Pack (3 user pack for network battling)	£59.00
✓Spectre Supreme (now even better)	£49.00
✓Tetris (award winning colour Soviet game)	£24.00
✓The Tinies (stop the creatures taking over)	£19.00
✓SuperTetris (if you liked Tetris, well...)	£29.00
✓ZOA—Zone of Avoidance (new from Casady)	£34.00

SIMULATIONS	
✓A-Train (create a railroad empire)	£29.00
> Eight Ball DeLuxe (new Tristan Pinball table)	£32.00
> Falcon MC (exciting & networkable flight simulator)	£39.00
> F/A 18 Hornet (from the Helicats people)	£49.00
✓Ferrari Grand Prix V2 (formula one racing simulation)	£35.00
> Helicats (WWII F6F flight simulator, best graphics)	£39.00
> Helicats Mission Disk (8 more missions)	£25.00
✓Microsoft Flight Simulator (serious, realistic, accurate)	£35.00
✓Pax Imperia (control a star spanning empire)	£32.00
✓PGA Golf (far and away the best Golf game)	£25.00
✓PGA Golf Extra Courses (3 more course for PGA Golf)	£12.00
✓Railroad Tycoon (run a Wild West railway company)	£27.00
> Red Baron (WWI Flight Simulator)	£27.00
✓Sim Ant (control an ant colony)	£29.00
> Sim City Colour (design and run a colour city!)	£32.00
✓Sim Earth (design and run your own planet)	£34.00
✓Sim Life (play Mother nature)	£29.00
✓Vette (race a Corvette through San Francisco)	£34.00

ADVENTURES	
✓Mission Thunderbolt (huge graphic/text adventure)	£29.00
> Rise of the Dragon ("Blade Runner" Scenario, X rated)	£35.00
> Secret of Monkey Island (a classic)	£28.00
> Secret of Monkey Island II (LeChuck's Revenge)	£35.00
✓3 in Three (puzzles and riddles from Cliff Johnson)	£32.00
BOARD GAMES	
✓Battle Chess (animated and powerful game)	£25.00
✓Bridge (from novice to advanced playing levels)	£24.00
✓Chess Champion (best Chess game)	£25.00
✓Go Master (stronger play and training modules)	£45.00
✓Shanghai II (great graphics, addictive brain teaser)	£25.00

KEY ✓ works on most Macs, > Colour Macs only
Please check whether your chosen game is compatible with your Mac when ordering

MacLine publishes a regular newsletter and catalogue. If you would like to receive them please telephone us or fill in and return the card below.

Please place me on your mailing list: TMNOV

Name

Company

Address

Post Code..... Phone.....

THE CHEAPEST, QUICKEST AND MOST EFFICIENT WAY TO BUY
MacLine Britain's first Macintosh mail order company



Exploring HyperCard

Rod Lawton continues to unravel the mysteries of *HyperCard* – this month he explains the ins and outs of buttons



HyperCard buttons are short-cuts to other cards or other stacks. Without them, HyperCard is just another card index-style database. With them, it becomes a powerful relational database, allowing you to link items of information at will.

This is enough in itself to make HyperCard a powerful information handling tool. But buttons can do more than this. They can launch scripts – programs based on HyperCard's HyperTalk programming language – which can do anything from carrying out calculations to timing telephone calls to checking text files for keywords.

You can take a peek at a button's script by first calling up the **Button Info...** dialogue (**Objects** menu) and then clicking on the **Script** option. This gives you a window containing a few lines of code (or a few hundred).

We'll be coming to HyperTalk a bit later in the series. For now, we'll take a closer look at buttons, which are surprisingly versatile little objects. We've already seen how to create buttons from the second instalment of our DIY database project. Simply select the **New Button** option on the **Objects** menu. This will generate a round-rectangle button called New Button. If you're working on the card layer, it will be a card button. If you're working on the background layer, it will be a background button.

Cards and Backgrounds

We've said it before, but it's worth repeating. With HyperCard you must always be aware of the difference between cards and backgrounds. Backgrounds are like 'templates' for any number of separate cards, and if you create a button on a background, it will appear on every card which shares that background. Card buttons only appear on individual cards.

Why do things this way? Well, imagine you have a database of business contacts. On individual cards you might want to create buttons linking them to other individual cards. If you have a card with the name and address of a Mac repair company, you might want to add a button which takes you to a card with your bank manager's details, for example...

In this case, you only want that button on one card. But it might also be useful to have a button which took you straight to an index card. This sort of button would be useful on all your cards. In which case, you create it on the background layer. In which case it will appear on all your cards.

If you can't select a button, or a button's missing when it should be there, the chances are that you've created the button on the wrong layer. It's easy enough to cut and paste the button between layers by first selecting it and then cutting it [command] [X], changing layers

[command] [B] and pasting it down again [command] [V].

Button Info... dialogue

A round rectangle button isn't necessarily what we want, but it's the one created by HyperCard by default. To modify it, select **Button Info...** from the **Objects** menu. (Or double-click on the button with the button tool selected). There's quite a lot to buttons, in fact, as a glance at the **Button Info...** dialogue shows.

Here's a run-down of the various options, and what they do:

Button Name: You don't have to give your buttons names if you don't want to – especially if you plan on simply using an icon and no label. However, it's still useful to name buttons, if only to remind you what they do later on.

Bkgnd button number: This refers to the 'order' of the buttons on the card and each button has its own unique number on the card. This is useful when programming with HyperTalk, but not very relevant at this stage. NB If you've selected a card button, this item becomes Card button number.

Bkgnd button ID: This number is unique within the whole stack, not just within this

card/background. Otherwise, it's no more useful at the moment than the background button number. Again, if you've selected a card button, this becomes Card button ID.

Show name: If you're good enough at choosing/designing icons you don't have to show a button's name on-screen. This isn't the same as not giving it a name at all, by the way – you can still name it in the **Button Info...** dialogue.

Auto Hilite: If you check this box, the button will 'flash' momentarily when you click on it. It tells the user that something has actually happened when they click.

Shared Hilite: You only see this with background buttons – if you check this box, the button is highlighted on all the cards that share the button. Since you only ever see one, this might seem a bit academic! The only time it's not academic is when you're using Radio Buttons, as we shall see shortly.

Icon... This brings up a scrolling window full of icons that you can use for your buttons. These come from your Home stack and are a kind of shared resource. You'll see that you can also **Edit...** these icons. First you're asked whether you want a copy of this icon (you do), then you get to edit it, pixel by pixel (there are other tools, but we'll deal with those when we come to the Icon Editor).

Effect... This is fun. When a button takes you to another card, it doesn't necessarily have to instantly substitute the new one for the old one. There's a whole battery of 'special effects' to choose from, and four different speeds to run them at. The only problem with this option is that once you've applied an effect to a button, you can't remove it. You can replace it, but you can't go back to a simple swap. At least, you can't accomplish it without editing the button's script, and that's a bit of a pain.

Link To... We've already looked at this option in

Tip of the month

HyperCard buttons don't have to be visible at all. Imagine you're creating an adventure game, where the user has to click on objects in a picture to make things happen, or find things out. Simply place a transparent button over the relevant area of the picture, don't show its name, and link it to the appropriate card – either an information screen, another location in the adventure or whatever.

DIY HyperCard database stack: part 4

an earlier instalment. It lets you navigate through *HyperCard* to find the card you want to link the button to.

Script... This calls up the button's script window. This is where you'll see the code that tells the button what to do. You could try setting up your button to link to another card using a special effect, then click on this option to see what the code looks like.

Style: You can create buttons in an impressive range of visual styles, but these all actually work in the same way – except for the last two: Check Box and Radio Button. These are different from the rest in the way the Hilite system works. With these, the Hilite stays on when you click on them. Here it does make a difference whether they're card or background buttons. If you were analysing the results of a questionnaire, for example, and using check boxes to mark replies, these buttons would have to be on the card layer, or the answers would appear the same on all the cards. Alternatively, if you wanted to note information common to all of the cards – their source, perhaps – you might use radio buttons on the background.

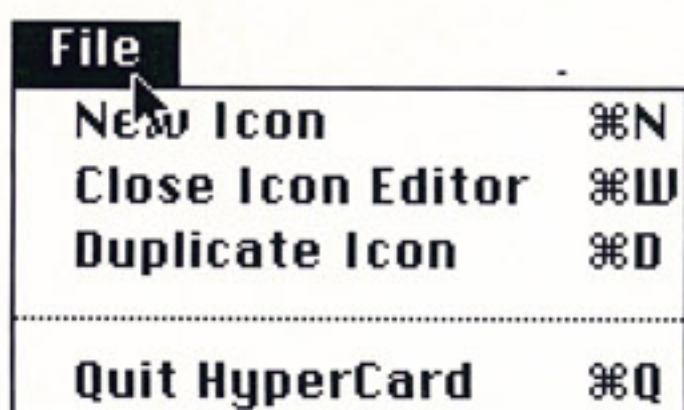


The Icon Editor

You call this up from the **Edit** menu, and it consists of a rather familiar scrolling window – the same one you get, in fact, when you **Edit...** an icon from the **Button Info...** dialogue.

Note that you can name each icon, it has its own unique ID, and the window also tells you which icon you're editing out of how many there are in the stack. This second number might not tie in with the number of icons you know you're using. That's because, unless you edit the standard 'shared' icons in some way, your stack doesn't bother getting copies of them. Now since we're looking at the Icon Editor in more detail, what else can we do besides switch pixels on and off? Let's take a look at the menus in detail:

File: You can create a new icon, duplicate an existing one (if you want to edit it and keep the origi-



nal), close the Icon Editor window or quit *HyperCard* altogether.



Edit: Cut, Copy and so on are self explanatory. **Clear Icon** wipes out your chosen icon completely.

This is a bit final, so be careful. **New Button** creates a button with the icon currently displayed.



Icon: Erase deletes the icon's graphic, but not the icon itself. You're left with a blank space to either draw on or copy a graphic into. **Pickup's** quite clever, it turns your mouse pointer into a square which you can move about the whole screen, not just your card window.

When you click, it 'picks up' the image underneath and pastes it into the icon window. **Keep** lets you save an icon graphic before you make a change you might regret... and **Revert** restores the original graphic if you do! **First**, **Prev**, **Next** and **Last** take you the first, last etc. icons in the stack, while **Find...** lets you search for icon names and IDs.

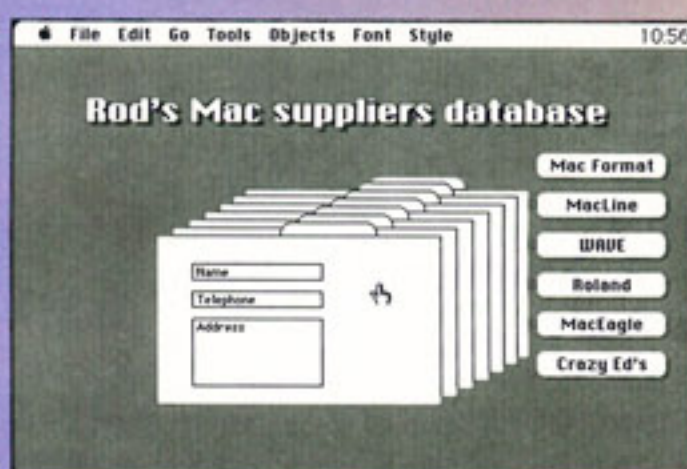


Special: These are some of the paint tools we've already met in *HyperCard's* paint menus. They have the same effects here, and let you create and polish up icons rapidly.

And finally, holding down the **[command]** key lets you select an area of the graphic and the **[option]** key gives you a grabbing hand for moving the graphic wholesale.

Next month

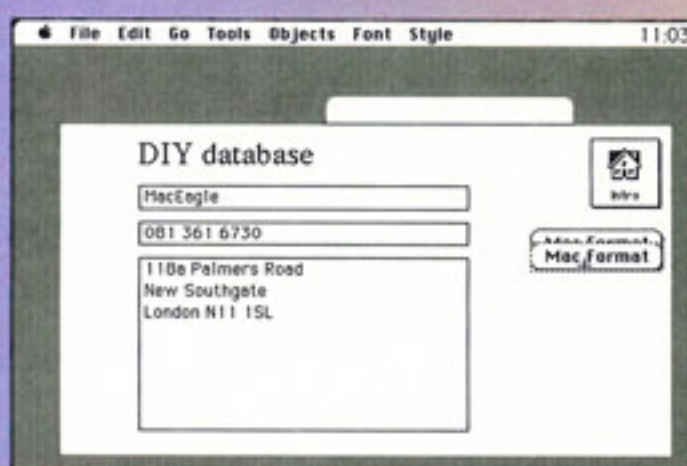
Buttons do things, fields store text. Next month we look at *HyperCard* fields – their different styles and properties, and why there's a bit more to them than the standard database field...



1 This is the intro card from our DIY database. Remember how we set up some buttons to take us directly to specific cards? These buttons can be copied and pasted as easily as text or graphics. Choose the button tool, select the button, copy it and...



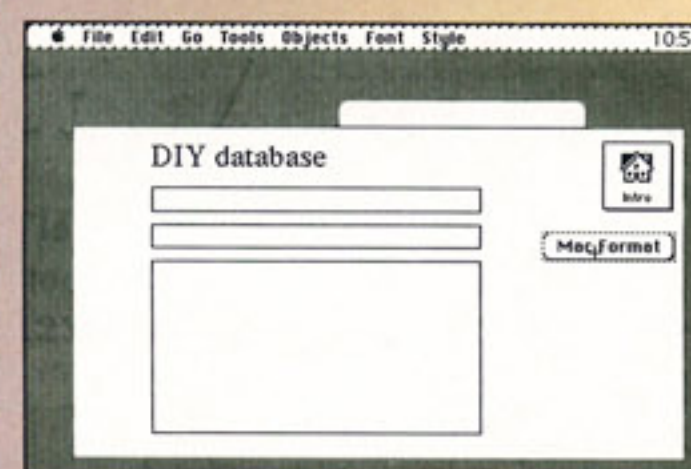
3 If you'd pasted this button without going into the background mode, it would only have appeared on a single card. At the moment, the button takes you abruptly to the **MacFormat** card. For a slicker effect, click on the **Effect** button in the **Button Info** dialogue...



5 Here's a quick way of duplicating buttons. Simply **option-drag** on the button to create a duplicate. This can then be resized, renamed, redesigned and so on. If you want to replicate a button of your own design, this is much quicker than modifying the default style.



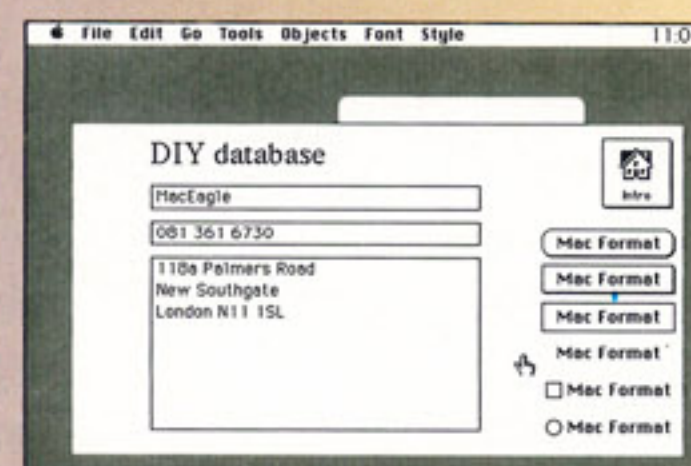
7 To follow up on that visual effects dialogue in Step 4, if you now go to the **Button Info** dialogue and click on the **Script** button, you'll be able to take a peek at the script of our **MacFormat** button. This will give you an insight into the way buttons work.



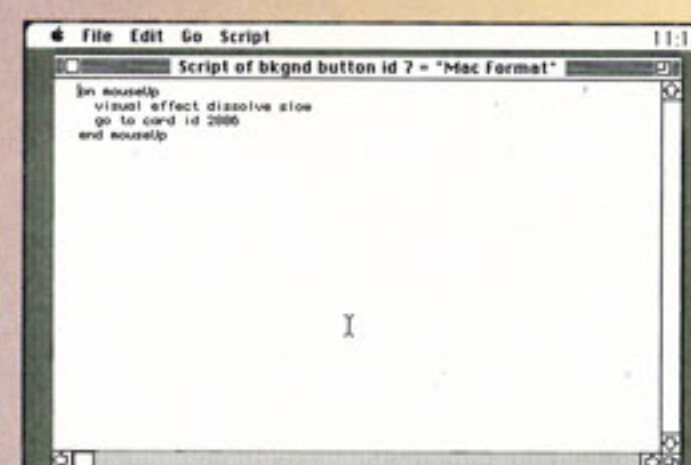
2 You can paste it where you like. In this case, we've copied the button that takes us to the card with **MacFormat's** details. And the way to arrange that is to go to any one of the cards, go into background editing mode and paste the button down.



4 To see a whole range of visual effects in a scrolling window, each available in different speeds. Note that as you select the effect, then the speed, these are mirrored in the field at the top of the dialogue. This is especially significant, as we shall see shortly.



6 And while we're at it, here's what the different button styles look like. From the top, Round rectangle, Shadow, Rectangle, Opaque, Check box and Radio button. All of these styles can incorporate the button's name (like these), an icon or both.

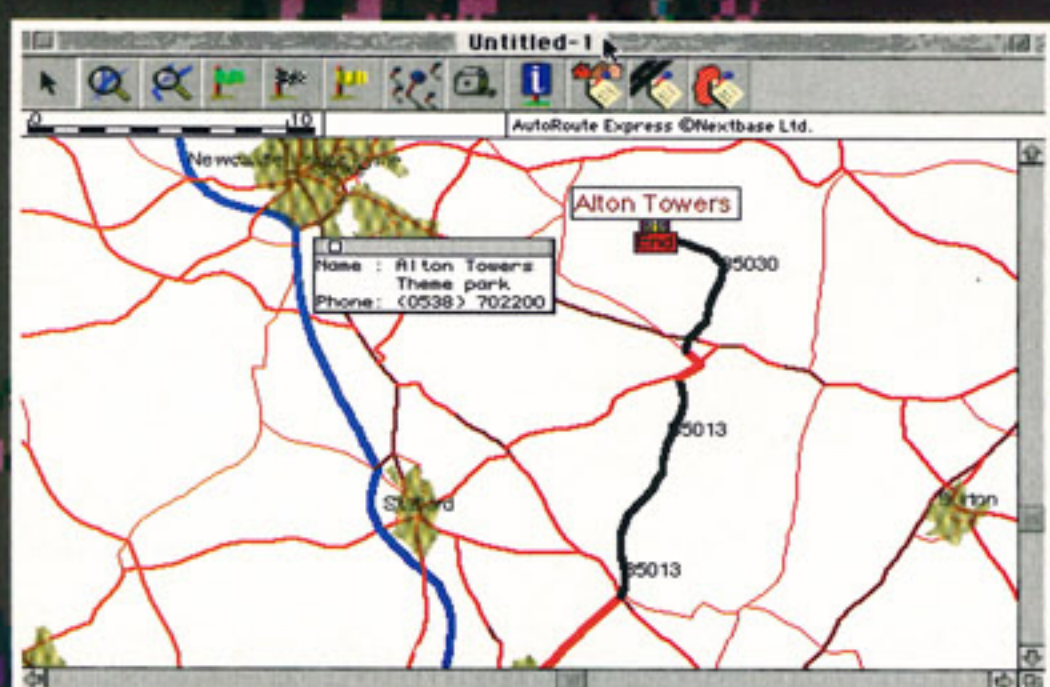


8 The 'on mouseup' and 'end mouseup' lines merely mark the start and end of the program. The two lines in between are the most interesting. They were added to the button automatically as we edited it. You can make buttons do more than this, as we shall see later.

Where to get it

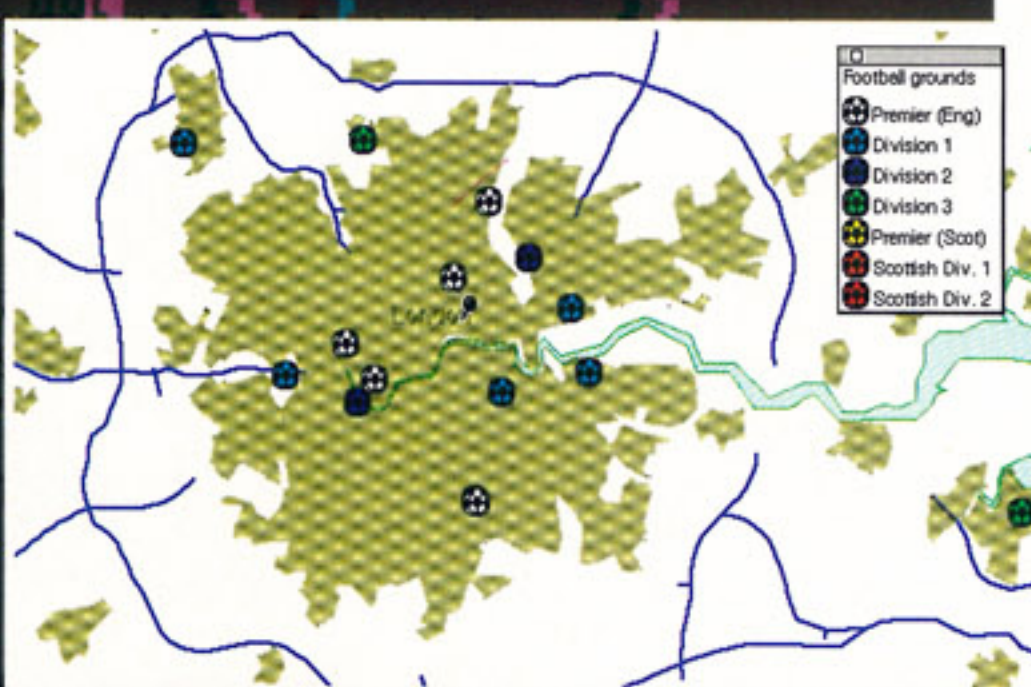
Although *HyperCard* version 2.0 is no longer available commercially, *HyperCard 2.1* costs £170 from your local Apple dealer. To find your nearest, phone Softline on 081 401 1234. A 'play only' version is available for £34.

First tell the program where you want to go



Are you really sure you want to end up at Alton Towers?

Conveniently, all league football grounds are listed



WIN!

10 copies of AutoRoute

Never get lost again with one of our 10 copies of *AutoRoute* worth over £1,400!

MacFormat has teamed up with those lovely and terribly generous people at NextBase to give you the chance to win one of 10 copies of *AutoRoute Express*, their leading route planning software. It received the Queen's Award for technical excellence earlier this year so congratulations to them.

Before you hit the road on business or head off for a well earned break, plan your route with *AutoRoute Express*, the colourful computerised road atlas we reviewed in November. Forget fumbling around with gigantic fold out maps or mileage charts; this takes the trouble out of travel.

Just tell *AutoRoute Express* when and where you're starting and where you're headed, then set your driving style, from lead-filled boot to laid back. *AutoRoute Express* takes it from there, showing you the quickest routes. Or the shortest. Or the best alternatives... Whichever is right for you.

Zoom in on glorious full colour maps for details or zoom out for the whole picture. Route directions show how far to go, how long it takes, where to turn, what signs to

look for and where to stop for lunch – it's a personal driving guide to print out and take with you. Don't leave home without it, as they say.

AutoRoute Express is accurate and fun to use. And best of all, at £149.95 including VAT, it pays for itself, saving up to 20% of driving time and costs. *AutoRoute Express* is the intelligent way to get from here to there!

AutoRoute Express features include:

- Plan routes between 10,000 places on 100,000 miles of road using an up to date 1993/94 UK and Ireland map
- View route details, directions and the whole journey at once
- Access commands quickly with comprehensive tools
- Choose map displays for comprehensive printouts
- Add detailed maps to your word processor DTP documents with fast easy cut and paste

If you want to find out more, check out our review in November's **MacFormat**, or call NextBase on 0784 421422.

So, how can you win a copy? It's simple, just answer these four questions:

Q1. How many places does *AutoRoute Express* provide on its map?

- a) 10,000
- b) 20,000
- c) 30,000

Q2. In which county is the town of Ashington?

- a) Suffolk
- b) Northumberland
- c) Lancashire

Q3. What percentage of driving time and cost can *AutoRoute Express* save you?

- a) 50%
- b) 10%
- c) 20%

Q4. What is the retail price of *AutoRoute Express* including VAT?

- a) £149.95
- b) £176.19
- c) £139.95

Bung your answers on a postcard together with your name and address, and send them to: 'We gotta get out of this place', MacFormat, 30 Monmouth Street, Bath BA1 2BW.

Entries must get here by December 10, and as always the more unusual the postcard the more likely you are to win!

IF YOU'VE JUST JOINED US...

Back issues of **MacFormat** are still available, each as information-packed as this one and featuring a superb cover disk full of essential programs. What's more, they're only a fiver each, less if you buy the set!

BACK ISSUES ORDER FORM

Please send me the following back issues of **MacFormat** for **£5** each including packing and postage: (please tick as appropriate)

- ☐ ~~March 1993~~ **SOLD OUT**
- ☐ May 1993
- ☐ August 1993
- ☐ September 1993
- ☐ October 1993
- ☐ November 1993 or
- ☐ All five available issues for £20 **SAVE £5!**

Total £

I enclose a cheque / please debit my

☐ Visa ☐ Mastercard

Please make cheques payable to **Future Publishing Ltd**

Card no

Expiry date

Name

Address

Postcode

Signature

Please return this form to **MacFormat Back Issues, Future Publishing, Somerton, Somerset TA11 6BR**

ONLY £5!



March 1993 -ISSUE ONE

In the mag: ■ *Morph* and *Publish-It!* Easy reviewed ■ Software round up ■ Mailmerging in *Word* ■ CD-ROM titles round up ■ A guide to QuickTime ■ Game guides
On the disk: ■ *Lemmings* ■ *Disinfectant 2.9*



September 1993 -ISSUE FOUR

In the mag: ■ *Fetch*, *Image Browser* and *Stacker* reviewed ■ The Newton on test ■ Fonts made clear ■ Music on the Mac
On the disk: ■ *Address Book* ■ *Ritz Starter Accounts* ■ *Columns II*



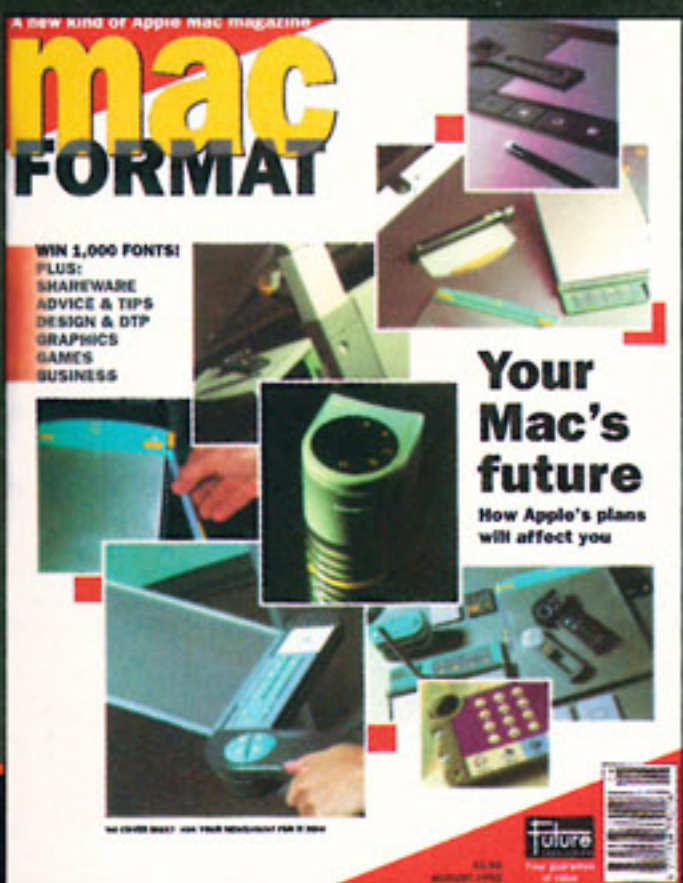
May 1993 -ISSUE TWO

In the mag: ■ *MacWrite Pro*, *Painter 2*, *ClarisWorks 2* reviewed ■ Hardware round up ■ Getting to grips with grids
On the disk: ■ *Spectre Supreme* ■ *SuperClock!* ■ *Colour Floppy*



October 1993 -ISSUE FIVE

In the mag: ■ Computing on the move ■ PowerCD on test ■ 50 *QuarkXPress* tips
On the disk: ■ *Do-It-All!* ■ *Greg's Buttons* ■ *Pathways into Darkness 3D* adventure



August 1993 -ISSUE THREE

In the mag: ■ *Paint-It!*, *Colour-It!*, *StuffIt Deluxe* reviewed ■ The future of the Mac ■ Using charts and graphs
On the disk: ■ *Arashi* ■ *BiPlane* ■ *BeHierarchic*



November 1993 -ISSUE SIX

In the mag: ■ *Morph 2*, *AutoRoute* and *C.A.T.* reviewed ■ Scanners explained, reviewed and tested ■ 50 *PageMaker* tips
On the disk: ■ *Civilization* ■ *Eclipse* ■ *Tetris 2000*

Step on it!

Searching, sorting and exporting data can be sluggish, even when using top notch programs. Jack Weber shows you how to improve the performance of your Mac's database by making the most of indexing techniques

You've spent a bundle on Apple's mega-Mac of the moment, bought a database application that everyone said was the cat's pyjamas, and what happens? You spend your time looking at the stupid beach ball cursor, that's what.

The fact is – and let's be brutally honest about this – that most Macintosh databases are sadly slow compared with PC programs. Much nicer in every other respect – but slow. Even so, some are slower than others, and all can be made faster with a few simple techniques.

Whatever the software, the three principal time-wasters are searching, sorting and exporting data, so they're the ones to look at most carefully. But before that, do think about what kind of performance you're after. A program that will blow your socks off when it's sorting data may take till tomorrow to search the same file.

One of the crucial factors in improving performance is understanding how to get the most out of indexing. Basically, an index is a list showing where specific information is to be found in the data file. If you want to locate all the people called 'Smith', for example, an

index could tell you they're in records 297 and 895, which is a whole lot quicker than checking the whole file (bear in mind that all databases store records in the order they were entered, not the order you'd like to see them in). Similarly, you don't need to

straight alphanumeric order you simply select which field to index.

In all these cases, indexing a field will make a dramatic difference to sorting speed. *Helix Express*, creating an index is the only way you can sort). What about searching, though? This is more complicated. These programs index the complete contents of a field all in one – if you're looking for plain Smiths Joneses, the index knows where they are. But it's no help finding the Jones in 'Smith Jones' because that's been indexed under 'S'.

The solution – as you may have guessed – is to index every single word individually.

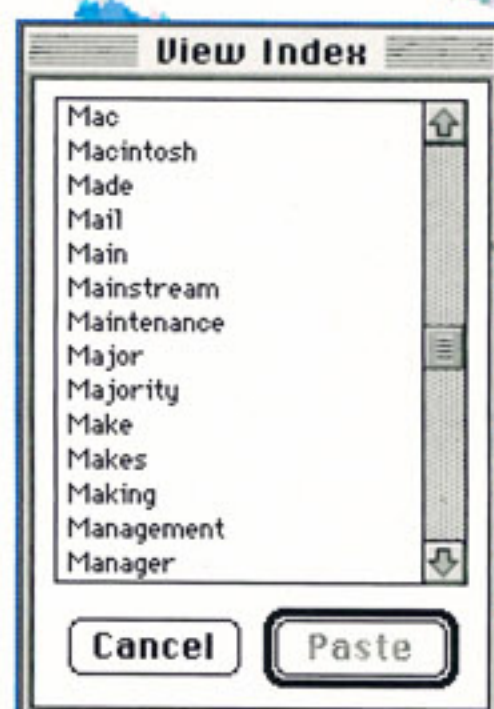
That's exactly what *FileMaker Pro* does and you can see the effect in its search speed. Unfortunately there's a snag – the index may know the whereabouts of Jones, but now hasn't the foggiest idea how to sort because it doesn't know the order of words within a field. Hence *FileMaker* plodding performance in the sort department.

The lesson is clear – think carefully about what kind of performance you need and choose the software accordingly.

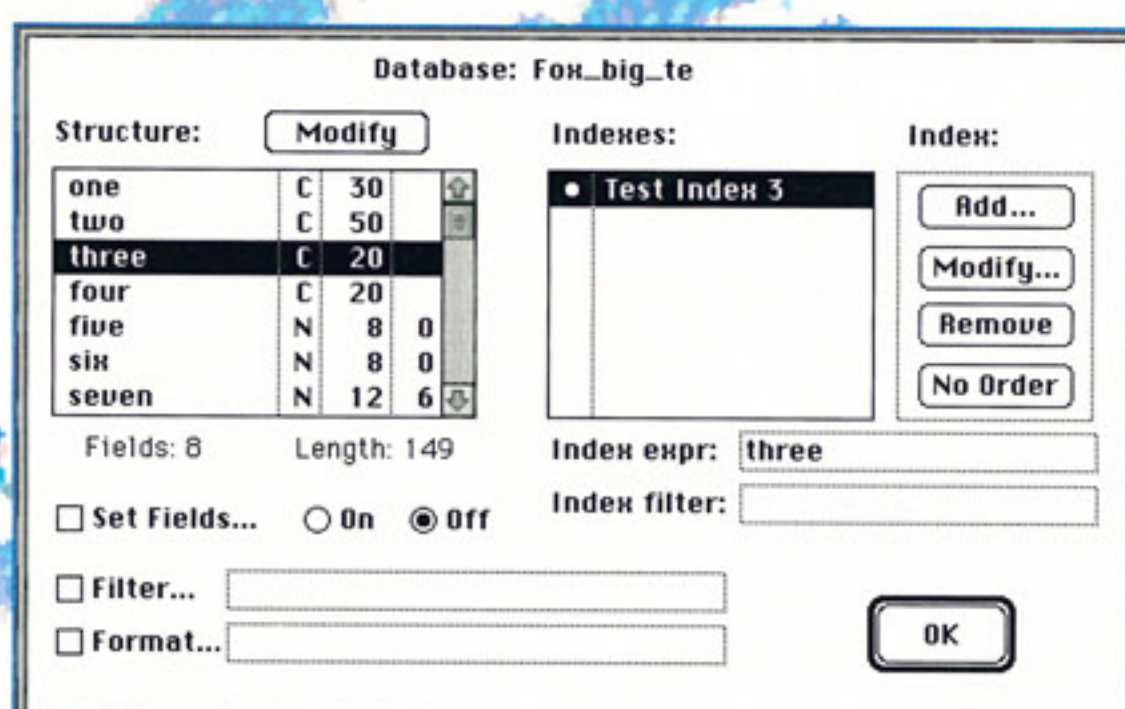
If all Mac databases were as fast as they ought to be, there wouldn't be so much of a problem

laboriously sort a file if you already have an alphabetically arranged index.

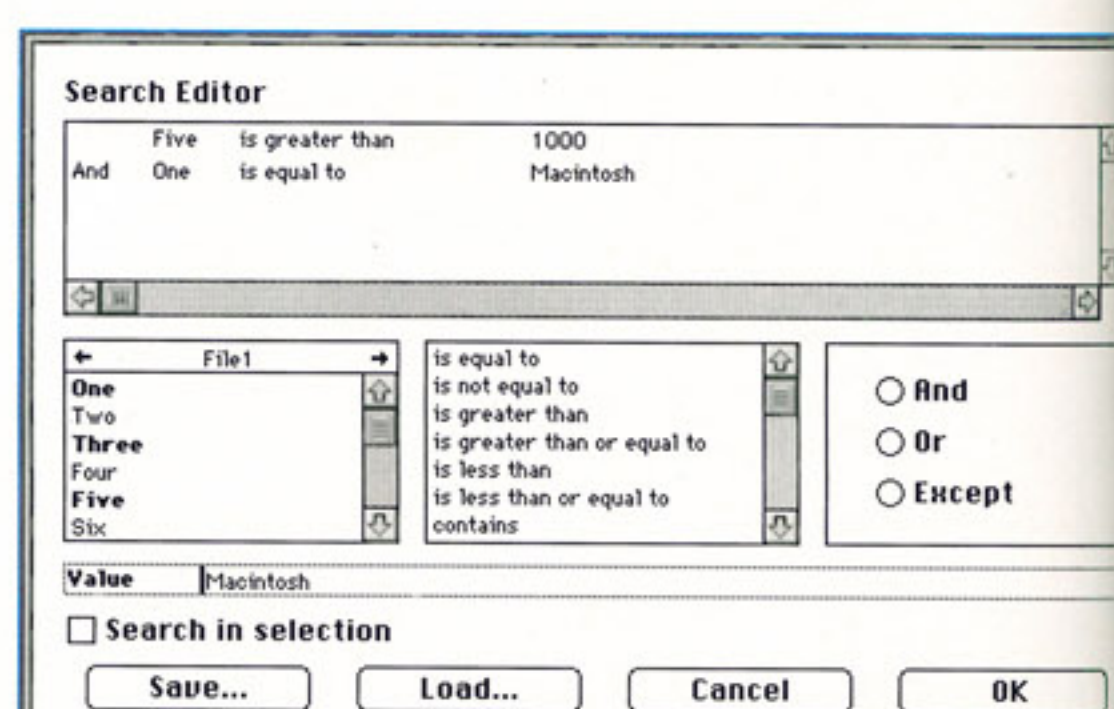
However, the true picture is slightly different in that different programs approach indexing in very different ways. In some applications, such as *Helix Express* or *FoxBASE+*, an index keeps track of a sort order that you've defined. For example, you might want to arrange records by ID number or by surname and first name. Others, such as *4th Dimension*, always use a



Click in a field, press [command I] and *FileMaker Pro* will enable you to view the index for that field.



Indexes in *FoxBASE+* exist as separate files which you can open or close as required. It may be a clumsy interface, but this database can out-run anything currently available. Watch out for its successor, *Fox ProMac*, next year.



Smarter and faster than your average database, *4th Dimension* will automatically optimise compound searches by looking through indexed fields first so as to reduce the amount of work needed in non-indexed ones.

What's fast and what's last

To find out the strengths and weaknesses of different Mac databases on a number of basic tasks, each one was put through its paces on a master file of 5,000 records. First of all, each program was set up with the required

fields, then the data was imported into them. Layouts were set up to be as simple as possible with no buttons or graphics. The computer used was a Macintosh IIx – other machines may be faster or slower.

	LAUNCH FILE & PROGRAM	IMPORT 5,000 RECORDS	EXPORT 5,000 RECORDS	FIND IN INDEXED FIELD	FIND	SORT & DISPLAY INDEXED	SORT & DISPLAY
4D	10	295	100	2	39	6	71
FileMaker Pro	12	492	170	2	n/a	46	n/a
FoxBASE+	3	13	10	2	2	1	10
Helix Express	12	790	315	5	55	15	n/a
HyperCard	7	1,800	64	n/a	57	n/a	58
Omnis 7	10	205	85	19	15	230	236

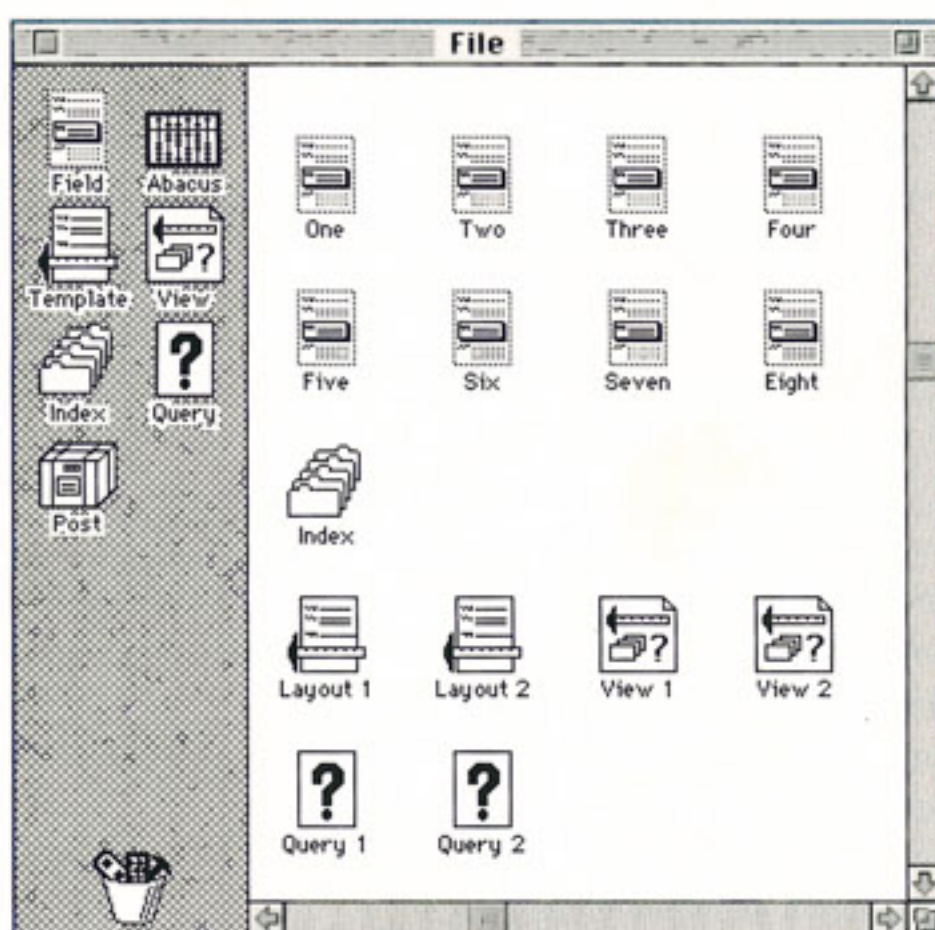
Test data: ■ 5,000 records, each with eight fields, four text, three numerical and one boolean. ■ All programs were tested using exactly the same data.

■ The figures above show the number of seconds taken by the databases to complete each task. Smaller numbers are therefore better.

ingly. The results of the **MacFormat** database derby should provide basic guidance, but don't treat them as absolutely scientific. Different programs work in very different ways, so it's hard to get a completely fair comparison – especially when you start dealing with relational programs that have to link together information from multiple files. Even so, the figures give a pretty realistic idea of how fast these programs feel in real life.

Of course, if all Mac databases were as fast as they ought to be, there wouldn't be much of a problem. *FoxBASE+* can out-run anything, so that shows it's possible, but even so, you do have to put up with a dire interface and deeply unhelpful manuals.

What will happen when its successor, *FoxPro* Mac eventually appears sometime in the early part of next year? Will it get faster? Slower? Easier to use? Who knows. But I bet it will still be faster than the rest. **mf**



Not the fastest, but *Helix Express* is easier to learn and to set up than other relational programs. And that's a time saving too.

Jargon Busters

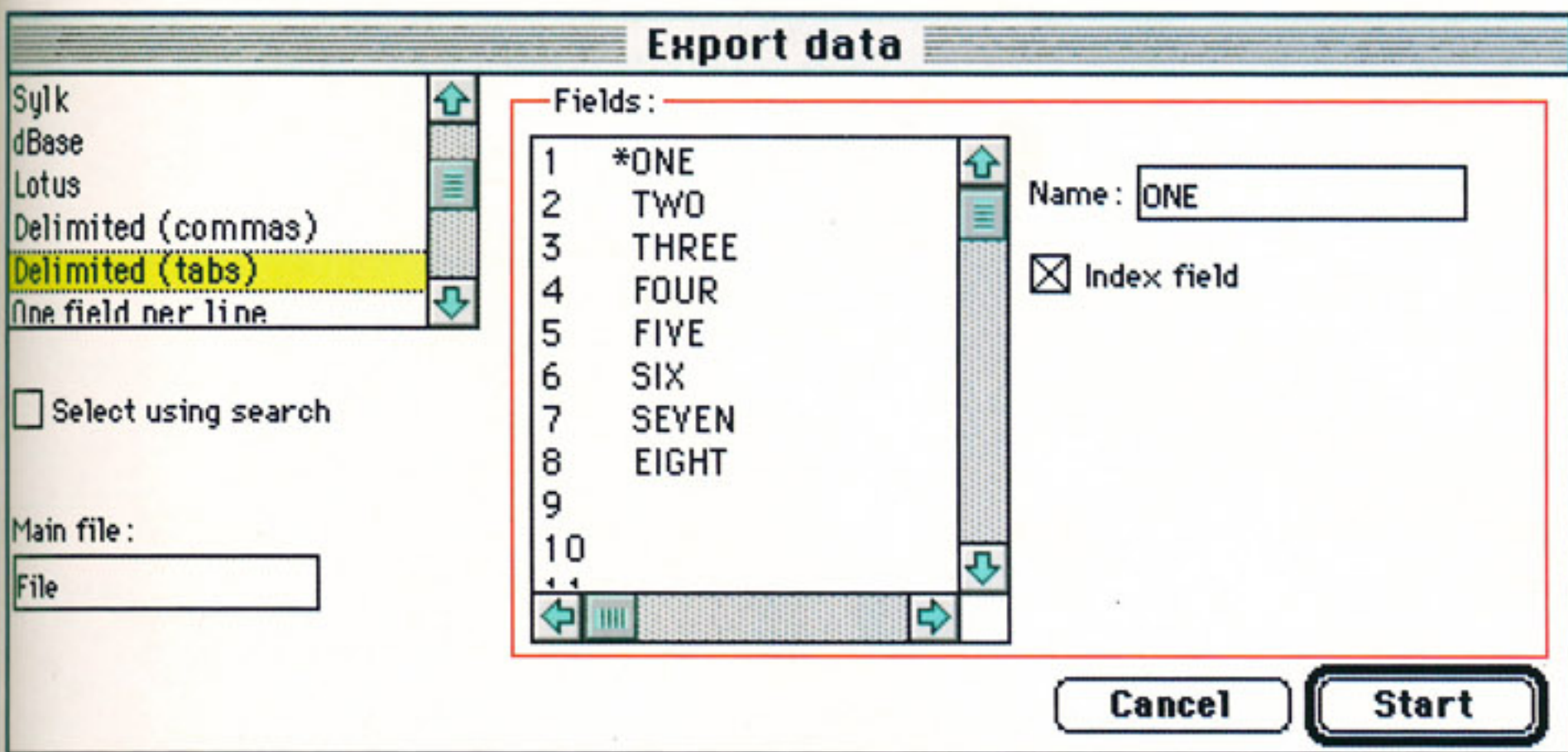
Compound search: a search based on two or more criteria. For example, finding patients who are male and over 70. The order in which you narrow down a search can make a big difference to speed.

Index: a list of items and where to find them – just like a book index. Some applications, eg *FileMaker Pro*, index every word and number in every field. Others simply index whole fields so that records can quickly be sorted according to the values in those values.

Optimise: computer double-talk for 'make a little bit better'. I'll eat my mouse mat the day that somebody produces an optimal program.

Ten top tips

- Index every field that you are likely to use for sorting or searching.
- Don't index any fields that you'll never sort or search – indexing takes time.
- Many database programs provide a command or a utility to compact data files. Use it periodically – tight files run faster.
- Keep layouts simple – screens that are bulging with graphics, buttons and fields take longer to update.
- Use the program's scripting or programming commands to automate frequently used sequences of action.
- In any compound search, try to make the first condition the one that is likely to find the fewest records.
- If you mail merge regularly, consider creating the form letter as a layout within the database to avoid time-consuming exports.
- See whether you can split large data files. For example, it may make sense to put very old records into a separate archive file. Small files are always faster.
- If possible, use the Finder's **Get Info** command to allocate more memory to your database application.
- Relax, go and make a cup of coffee and learn to love the beach ball.



Data export can be a big drag with large files, especially if you're having to do it regularly for mail merge. *Omnis 7* is one of the better programs in this respect, with a decent turn of speed and flexible options.

They just keep getting better

Er, well... not exactly. As more and more features get added, software often becomes slower. For example, *FileMaker* slowed down when it was upgraded to *FileMaker Pro*, and long-time *Omnis* developers report a steady decline in speed since the days of *Omnis 3*. One welcome exception is *4th Dimension* – after a slow start, it's now one of the faster database programs for the Mac.

Mygate COMPUTING

We specialise in improving your Macintosh with memory upgrades and the latest enhancement products. If you need the most performance that your Mac has to offer, we can help you accomplish exactly that. Our customers know we offer the best value and highest quality products. They also know they can count on service after the sale.

Telephone 081-318 1424 • Fax 081-318 1802

Macintosh Memory

"Out of Memory" messages can be solved by installing additional SIMMS. They are the quickest and cheapest way to get more productivity out of your Mac.

1mb	£24	PowerBook 100 2mb.....	£89	4mb LCIII/Centris.....	£97
2mb	£52	PowerBook 100 6mb.....	£209	8mb LCIII/Centris.....	£199
4mb	£95	PowerBook 140-170 4mb.....	£139	16mb LCIII/Centris.....	£449
16mb	£399	PowerBook 140-170 6mb.....	£189	32mb LCIII/Centris.....	CALL
16mb Q.700 low profile	CALL	PowerBook 160-180 4mb.....	£149	4mb Quadra 800.....	£110
Duo 4mb.....	£169	PowerBook 160-180 8mb.....	£269	8mb Quadra 800.....	£215
Duo 8mb.....	£259	PowerBook 160-180 10mb.....	£319	16mb Quadra 800.....	£525
Duo 12mb..... New!	£499	PowerBook 165C-180C New!	CALL	32mb Quadra 800.....	CALL

Math Co-Processors

Spreadsheets? CAD / CAM?
A co-processor (or Floating Point Unit FPU) takes over maths computations from your Mac's CPU speeding them up by up to 100 times.

LC/LCII Maths Co-Processor	£45	LC/LCII/IIvi/IIvx 512 VRAM	£38
LCIII Maths Co-Processor	£68	LCIII 256k VRAM	£22
Classic II Maths Co-Processor ...	£45	Colour Classic VRAM	£22
IIsi Maths Co-Pro. w/2 PDS slots..	£79	Centris 610/650 VRAM	£22
Duo Dock Maths Co-Processor ..	£72	Quadra 800 VRAM	£22
IIvi Maths Co-Processor	£46	Quadra 1mb VRAM (8 to 24bit) ...	£75
Performa 600 Maths Co-Pro.	£72	Duo Dock 512k VRAM (8 to 16bit) ..	£38

Video Ram Simms

Need to see more colours? Some Macs have slots for VRAM simms to enable more colours to be displayed on screen at any one time.

Cache Cards Accelerators

These high speed products often possess on board processors faster than that of the Mac its going in to. Using an accelerator speed improvements of 600% are not uncommon. Call us for accelerated video solutions.

Daystar 030 PowerCache:	Radius Rocket 25i	£949
33MHz	Radius Rocket 33	£1599
40MHz	DiiMoCache 50MHz	£569
50MHz	DiiMoCache 50 w/FPU ..	£645
Turbo 040 25MHz ...	Mobius	CALL

Int.240mb HD £250

Int.1GIG HD £849

Hard Drives

127mb Quantum internal	£175
170mb Quantum internal	£199
240mb Quantum internal	£250
520mb Fujitsu internal 12ms	£595
1GIG Dec internal 10ms	£849
Powerbook 200mb HD	£349
PowerBook internal HD cases	£99
DAT Tape back-up drives	CALL
Hard Drive casing & cables	£95

Software

PowerPrint - print to IBM printers	£115
QuarkXPress	£535
Apple System 7.1	£50
Apple PC Exchange	£50

Call for many other software titles

DoveFax

The award winning range of DoveFax fax modems allow fax and data communications directly from your Macintosh. The DoveFax Plus can additionally record voice messages onto the Mac. The DoveFax LAN system allows a network user to send faxes from any client Mac. Please call us for more information.

DEALER ENQUIRIES WELCOME

SPECIAL OFFERS

Hard Drive	£125
PowerPrint - print to IBM printers	£115
External Floppy DOS 5.25" Drive	£199
PowerBook ADB Numeric Keypad	£59
SE/30 4/40 - ex.demo	£495

All products are new unless otherwise stated

Monitors

14" Panasonic	CALL
17" Sony Trinitron	£749
Radius PrecisionColour Pivot	£789
Radius A4 Greyscale Pivot	£620
Radius A4 Colour Pivot	£825
SE/30 14" Colour System	£489
SE/30 17" Colour System	£995
SE/30 19" Mono Systems	£699

HP DeskWriter 550C £495

HP DeskWriter £239

Printers

DEC Laser 4ppm PS L.2 (1 year OSW)	£749
HP LaserJet 4M 8ppm 600dpi PS L.2	£1539
HP DeskWriter 550C Colour (w/cable)	£495
HP DeskWriter (w/cable)	£239
Star LS-5TT 5ppm	£845

Miscellaneous

AppleTalk Connector Kit	£15.00
PhoneNet Connector Kit	£15.00
LC/LCII & PB 160/180 to VGA Cable ..	£13.50
SCSI Cables	£14.50
SCSI PowerBook Cable HDI-30	£35.00
SCSI Terminator	£13.50
HP DeskWriter Double Black Cartridge ..	£19.00
HP DeskWriter C/550C Colour Cartridge ...	£20.00

MYGATE LTD.

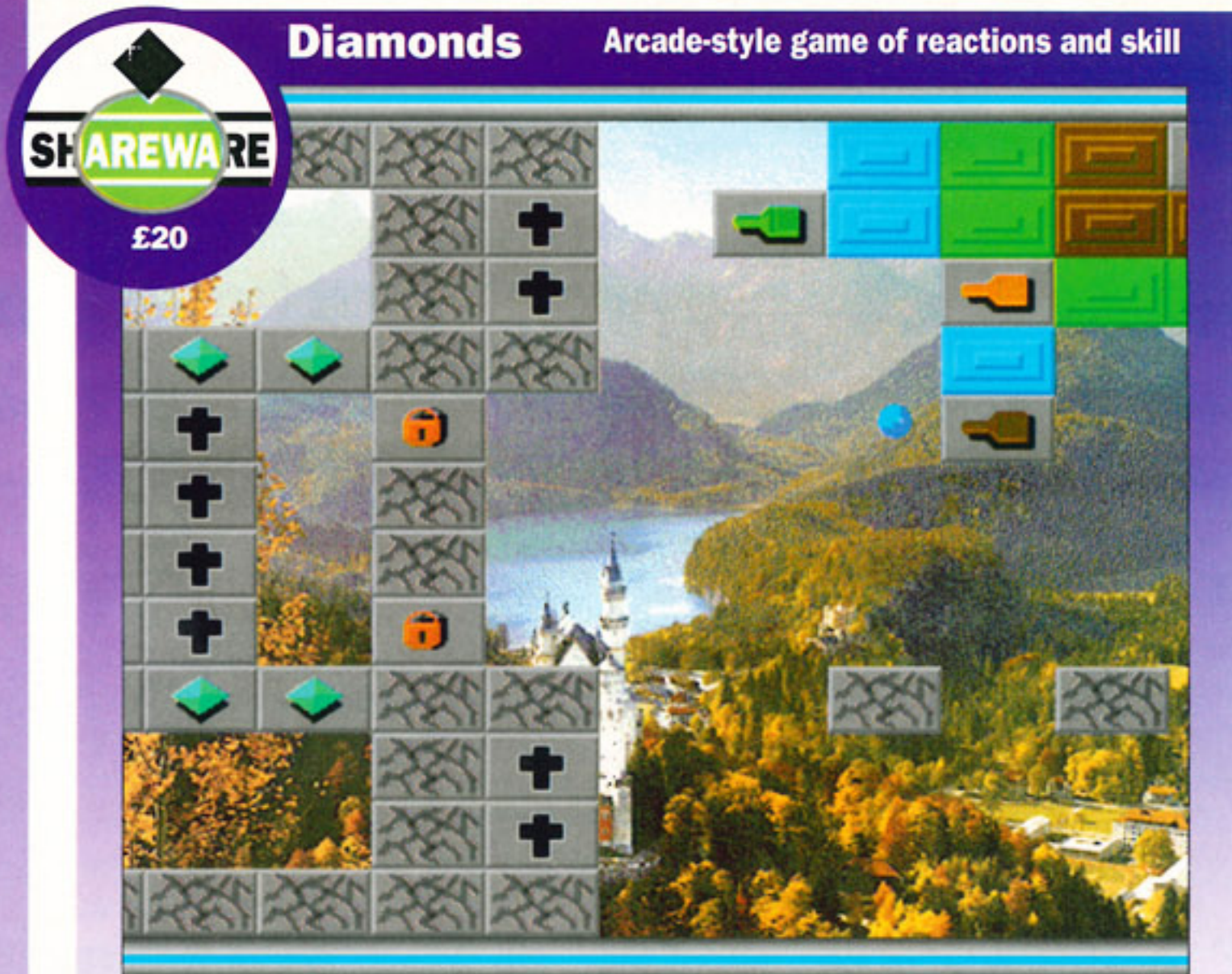
Unit 11 Southbrook Industrial Estate
Southbrook Road, Lee, London SE12 8LG



All prices exclude VAT and delivery. Payment by Visa, Access, MasterCard or by Bankers draft/Cleared cheques. Prices are subject to change without notice. Offers are subject to availability. All trademarks are recognised. E. & OE.

SHAREWARE ZONE PD

Ian Wrigley returns from his travels in bulletin board land laden with goodies – and a few donkeys. He samples a version of a programming language for HyperCard, a utility for browsing the contents of your hard disk and a bizarre program for very keen cyclists...



Diamonds: like the classic early arcade game *Arkanoid*, but with bell, whistles and 256-colour graphics

Diamonds is another 'classic' Macintosh arcade game. Its author, Oliver Dreer, has come up with a concept that's highly addictive, not too hard on the lower levels to keep your interest up, and murderously difficult later on.

The idea is that you steer the small bouncing ball around the playing field using the arrow keys, destroying all the coloured bricks that you can see. The ball can only remove bricks the same colour as itself, and you change the ball's

colour by clicking on bricks with 'bottle' icons on them. However, there are a couple of twists: first of all, the ball bounces from top to bottom of the screen and back; you can move it sideways as it's bouncing, but you can't stop it, slow it down or speed it up. Second, you must remove all the light blue bricks before you can get rid of any others – and as you'll notice from the screengrab, there's no pale blue 'bottle' icon, so if you hit another bottle by mistake before all the blue bricks are removed, you've no option but to sacrifice the ball. Oh, and as you get further into the game extra little problems such as bricks that reverse the way the keys work, locks that require a key to open them and so on make an appearance, just as you thought you had the hang of everything.

Diamonds has been around for some time, but it rightly deserves a place as a classic Macintosh game. If you have a 256-colour monitor, rush out and get hold of a copy!

■ Although *Diamonds* is fairly old, until now it has been impossible to screengrab because it takes hold of the Mac's operating system by the scruff of its neck while the game's in play, totally disabling all screen grabbing software. However, a guy by the name of Alex Metcalf wrote in to the magazine recently with the solution: a very nifty bit of software that re-enables the Mac's built-in screen grabber in a number of games including *Diamonds*. It's brilliant, and our thanks (along with a little something extra, because we're nice people) go to Alex, who wrote the program himself. Wow!

PD and shareware: what are they?

PD and shareware are proof positive that not all the best programmers work for huge monolithic corporations – that many program for the sheer pleasure of doing so, with money only a secondary consideration.

PD stands for Public Domain, and is a concept which started in the early days of computers. Back then, programming was still a relatively new science, and people were anxious to share their work with others, so that everyone could benefit and learn. For that reason, many people put their work in the 'public domain' – which means that they distributed the actual program code, so that other people could work on it, improve it and create their own programs using it.

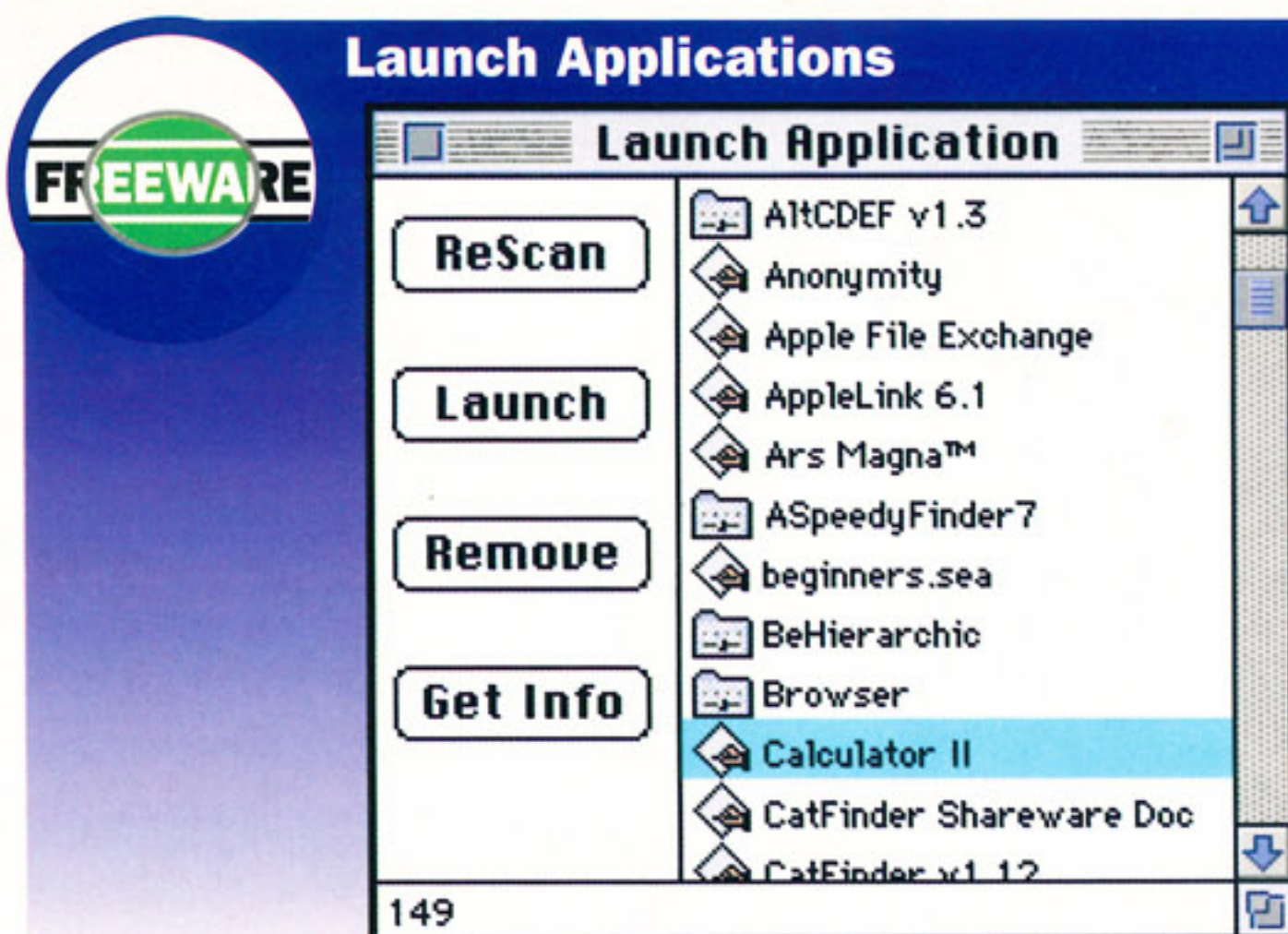
The problem with public domain software is that the original author has no control over his or her work – other people can create commercial programs or even just sell the original, and the author isn't even legally entitled to a credit. For this reason, many programmers are understandably unhappy about releasing their work fully into the public domain, and instead allow their programs out as 'freeware'. This means that they can be freely distributed and used by anyone, but that the author retains rights over the work – commonly that it may not be altered in any way, and that documentation must be distributed with the program.

Following on from freeware is shareware – an increasingly popular 'try before you buy' scheme for software. The idea is that the program is freely distributable, and that anyone can try it out – but that if you continue to use it, you must pay the author a fee, known as the 'registration fee'. This is to everyone's advantage: the author doesn't have to pay for conventional marketing of their program, and the user gets to check that the software really does what they want before they make a payment to the author.

To encourage people to register, often authors make some limitations to the freely distributable version of their software – for example, it may cease working after 30 days, or not have all the features implemented. Once you've paid your shareware fee, you receive a fully working version of the program.

There are several versions of shareware, all with their own names. Postcardware, for instance, means that the author would appreciate a postcard from your home town if you use their software. Charityware requires the user to make a donation to a charity – sometimes specified, sometimes not. And my favourite, which I've only seen a couple of times, is Beerware: the author requests that you send a bottle of beer from your home country if you use the program. Now that's what I call a fitting reward!

Launch Applications



A warning to begin this review: don't touch this program until it gets to at least version 1.0. The current released version at the time of writing was 0.8, and it was buggy as hell. It crashed my Mac, the **Stop** button didn't work on one dialogue, and the whole thing just gave me the sense that it was definitely a beta version – which, since it wasn't flagged as such anywhere (no documentation was supplied) is bad news indeed.

The program is another utility

which scans your hard drive for applications, and lets you launch any one of these simply by selecting it from a scrolling window of apps. The first time you use it, you must get it to scan your hard drive for anything which it believes is an application (it picked some pretty strange files on my hard drive, that I'd never dream of double-clicking). Then you can use the Verify function to later check that all the applications it thinks are there still exist – you haven't deleted them or

Launch Applications is supposed to make running programs easier – but it's more likely to crash your Mac

ColourSwitch



Games that print up the trite little message 'Sorry, this game only works in 16 colour mode' when you launch them on a monitor displaying 256 colours (or more) are some of the most irritating things in the world. Why the bloody hell can't they just change the monitor for you, then change back when you quit the game? Noooo, that would be too easy. Instead, you have to go all the way to the Control Panels folder, ferret out the Monitors Control Panel (which is bound to be the last one you spot), open it, change the colour setting, then find your way back to wherever the game was on your hard disk. By which time, you've lost the inclination to play anyway, and you just want to go and beat your head (or, even better, the programmer's head) against a brick wall.

But no longer! For the easily irritable like myself, a company called Ambrosia Software has come up with *ColorSwitch*, which puts monitor

changes just a mouse click away. Simply choose the modifier keys that you want to use, and then whenever you hold down those keys and click the mouse button, a menu pops up that gives you the choice of whatever colour mode you want. 256 greys to 16 colours or whatever it is that your particular game requires is accomplished in an instant. And if you're running System 7 or above, their program even puts a new menu just to the left of the Balloon Help icon on your menu bar, so you can choose your monitor settings from that as well.

Hurrah for Ambrosia Software – get a copy of *ColorSwitch* now!

Instantly changes the number of colours displayed



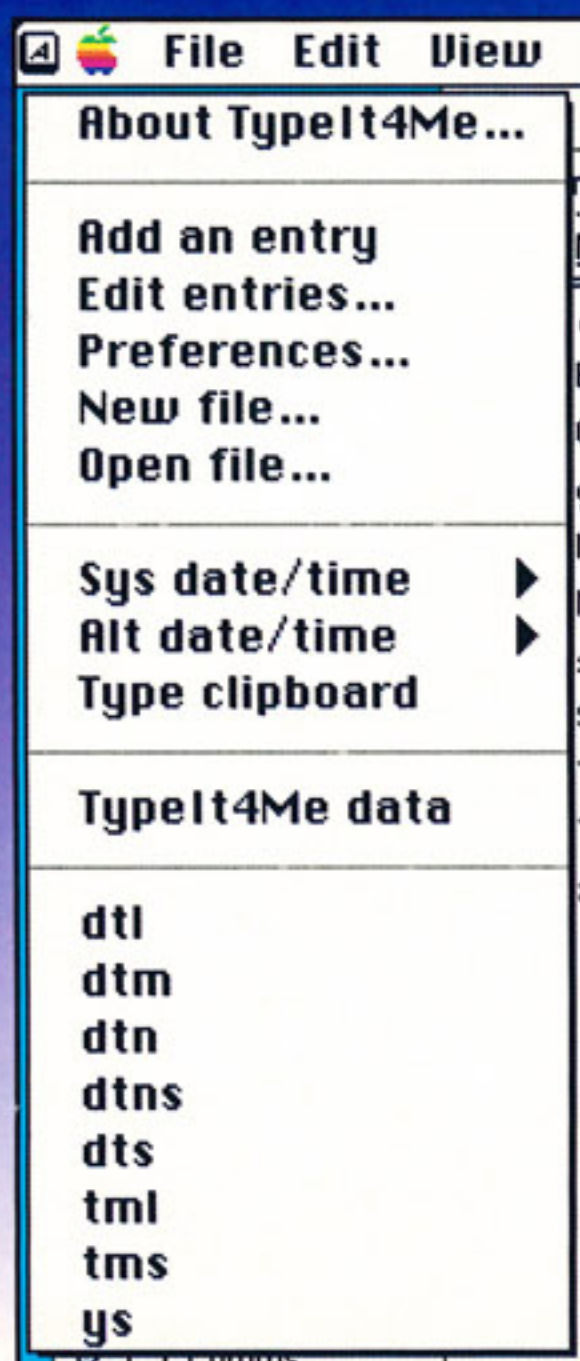
If you need to switch rapidly from 256-colour to 16-colour displays and back again, then this is your program

Typelt4Me



Are you fed up of having to type 'Yours Sincerely, Fred Bloggs' at the end of every single letter you write? Do you wish that you could quickly enter the date into a document? Are you constantly using five or six phrases that could be stored as abbreviations and called up automatically each time you want to use them? *Typelt4Me* is the program for you.

This utility, which comes in the form of a System Extension, has been around for some time – but version 4.0 adds some new features, fixes a few bugs and makes it totally System 7-compatible. *Typelt4Me* works like this: quite simply, you



Automates entering frequently-used text

decide what phrases you commonly use, and enter them into the program, along with an abbreviation – for example, you could enter 'Yours Sincerely', a couple of returns and then your name, and give that the abbreviation 'ys'. Now, every time you enter 'ys' in your document, the whole text will be inserted in its place. You could do the same for your address. Brilliant!

Typelt4Me is compatible with just about all programs, although since it only

works with text (it can't automatically place a graphic, for example) you're likely to only want to use it in word processors and the like. It appears as a tiny icon in the top left-hand side of the menu bar, from where its pop-down configuration menu appears.

I've known other people who have used this utility before, and loved it. I'd never really tried it out until recently, but now I have to confess that I'm hooked. I won't use it all that often – if I repeat phrases, I don't want to know about it! – but for things like entering my address, the abovementioned 'yours sincerely', entering the date in a document and so on, it's invaluable. *Typelt4Me* is well worth checking out, at any rate.

Speed up your typing with *Typelt4Me*'s instant abbreviations which can be used in any word processor

Another application launcher

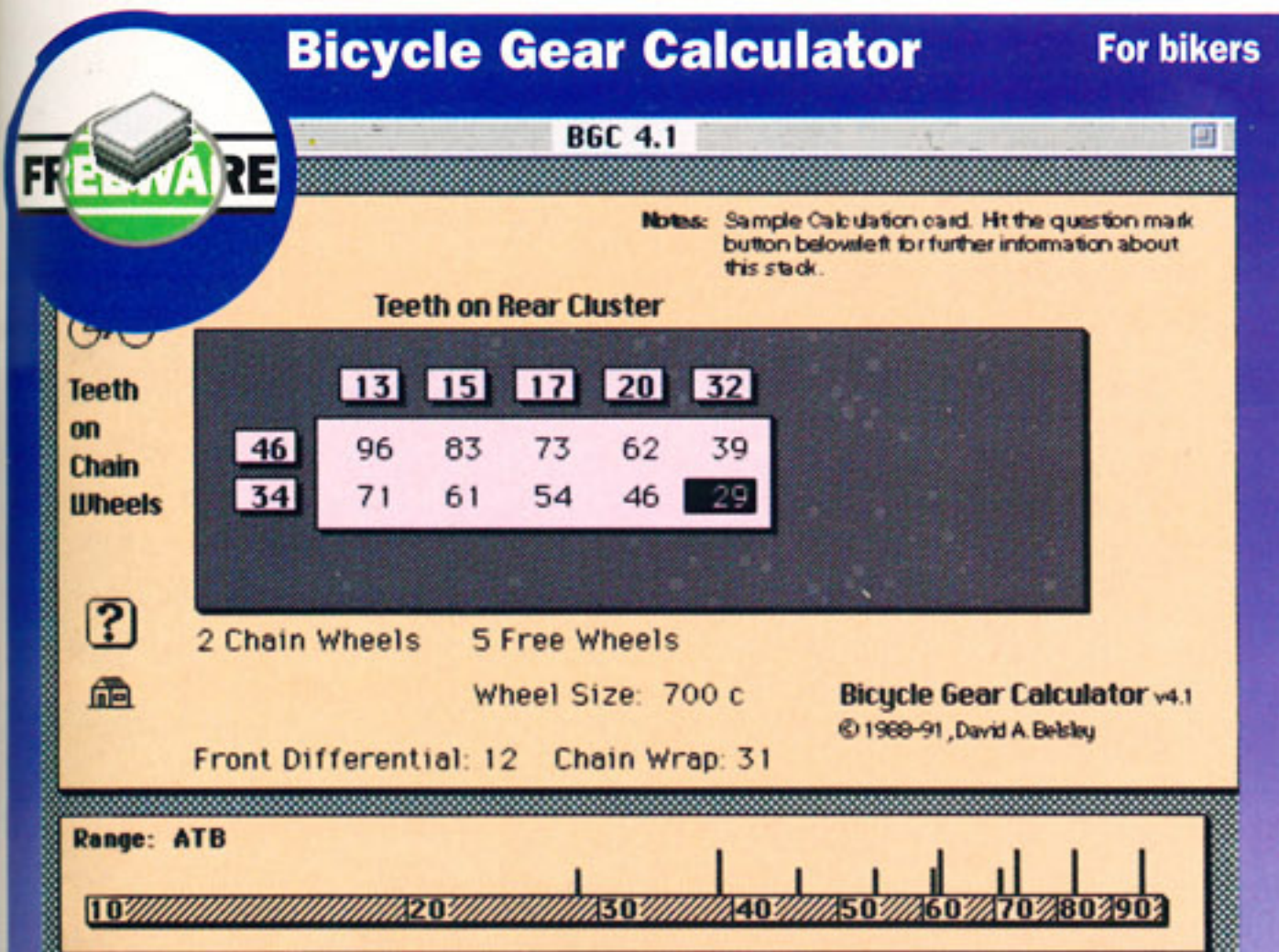
whatever. If you want to prune the list of applications available from the scrolling list, you can do this too – but again, this was something that I didn't feel was exactly rock solid.

All in all, if you want a program to navigate your hard drive, get *Greg's Browser* (also reviewed this issue). If you want something to launch your applications, get some-

thing other than *Launch Applications* – at least until the program is bug fixed and properly released, with a bit of documentation. Authors do themselves no favours by releasing beta versions of software with no information or warnings – certainly, I've been permanently put off this particular program for life.

Bicycle Gear Calculator

For bikers



Got a bicycle, then get this! Our colleagues on *MacFormat's* sister title *Cycling Plus* would kill for this one!

Well, this one has me beat. I'm sure that it does something incredibly useful if you're a cycling nut into customising your bike; me, I'm a slob who thinks that spending Saturday in the pub is better than spending it getting hot and sweaty while riding around in the wind and rain (who the hell wants to ride a bike up a mountain anyway, that's what I want to know).

Anyway, according to the on-line help, this program 'is for designing gearing schemes – it

allows you to see the effective ratios of front and back clusters.' It does this by calculating the figures for you, and displaying them not only on a little grid but also in some kind of cryptic graphical format for you as well. If the accompanying screengrab makes sense to you, then maybe this program will be useful. I think I'll stick to the tube, the train and the car. And if I really do have to go on a bike, give me Sturmey-Archer gears any time.

Pentominoes

Pentominoes is easy to start, but fiendishly difficult to complete. The aim is simple: fit all the pieces

on to the board by selecting where each one will go and then clicking on it. However, actually managing to squash them all on, leaving only a specified number of gaps (or none at all) is far harder than it looks at first, and is likely to have you still sitting at your Mac in the early hours of the morning, incensed that you've failed yet again.

One trick that you're not told is

that you can place the pieces in any orientation – I spent the first few games trying to fit the pieces the same way up that they're displayed on the screen, before realising that this way the game really is virtually impossible.

There are plenty of different variants in the shape of the playing area to keep you interested when you've solved one puzzle, and all in all this is a game that fans of more cerebral entertainment than, say, *Slime Invaders* will no doubt enjoy.

The program's on-line help says that although it's freeware, you can send in a donation if you want – but



BEdit Lite

Powerful text editor

For some time, one version or another of *BEdit* has been considered just about the best shareware/freeware text editor available. It doesn't claim to be a word processor; rather, it's intended for people who need a plain text processor – programmers, people entering data in list format and so on. For that reason, text doesn't automatically wrap around when you come to the 'end' of a line – instead, the line just carries right along. There are also loads of programmer-type features such as 'auto indent': once you've hit tab at the start of one line, all the rest are automatically started with a tab until you move the cursor back to the start of a line. However, the program is worth getting even if you already have a word processor, because of the extra functionality that it offers. For instance, it has a powerful find and replace facility, modelled on the Unix 'grep' command (although this version of the program comes with no documentation, so if you don't already know how to use grep it won't be a lot of use to you...). There's automatic case changing – for instance, changing the first letter of every word to a capital letter, only capitalising the first letter at the beginning of every sentence, or taking a file written in upper case and converting it to upper and lower case. You can 'zap gremlins' – in other words, remove any strange characters such as sometimes appear when you read a file from a Unix or MS-DOS machine; indeed, the program will automatically cope with text files from those sources and turn them into proper Mac files.

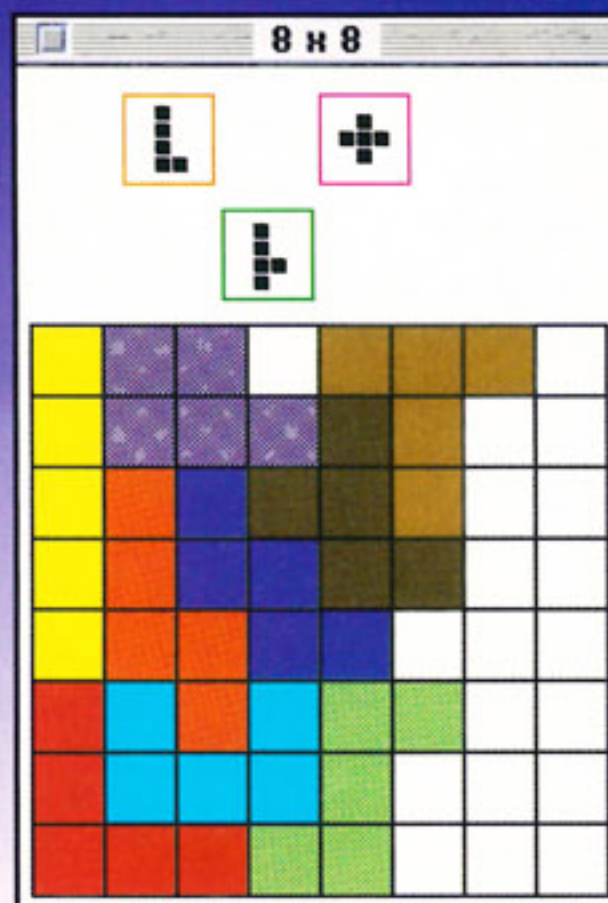
The program's real power, though, comes through its use of Extensions – extra features that other programmers can write, and which add in to the program simply by placing them in the correct folder. For instance, the distribution version comes with an Extension to automatically 'smarten' quotes (turn straight quotes into curly ones), and another to add a prefix or suffix to every line – invaluable if you're using the program as a text editor to reply to electronic mail, where you normally quote the other person's message by beginning the line with a '>' character.

To get full documentation – and many more features – you can upgrade *BEdit Lite* to the full version of *BEdit*. This will cost you \$49 plus shipping, and is certainly worth while if you're a programmer or find some other frequent use for a text editor. But everyone should at least have a copy of the *Lite* version, if only for changing case and 'smarten' quotes.

If you're a programmer, you won't find a finer line editor in all the public domain



'Fit the blocks' puzzle



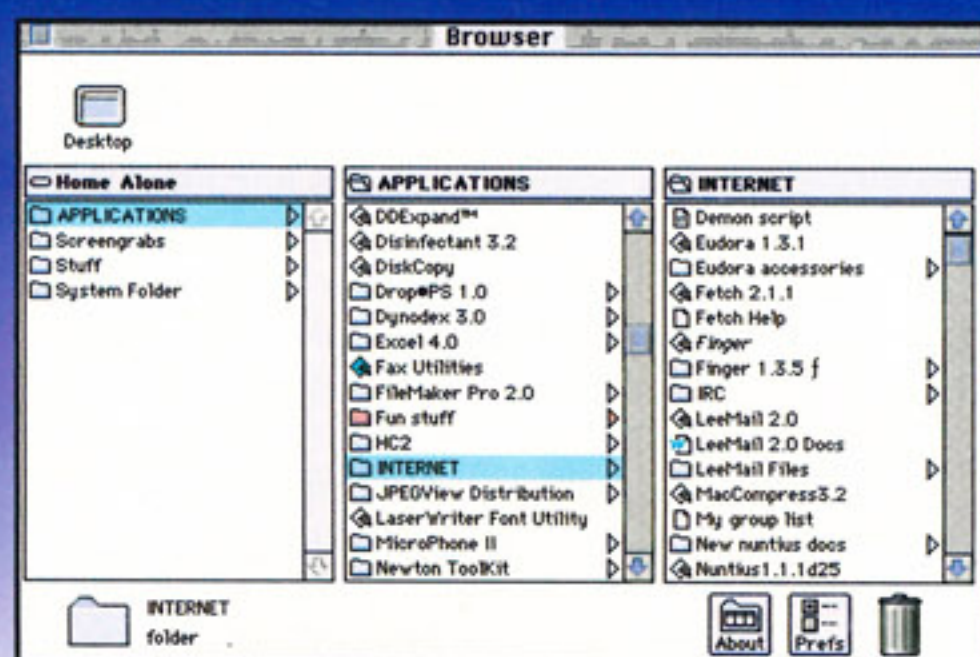
that if you were infected with the MBDF-A virus then you shouldn't send anything. Elsewhere, the author says that he's trying to 'put back into the Macintosh community what I took out' – which strongly suggests that he's one of the berks who wrote, or helped to spread, the virus in the first place. If this is the case, it's good to see that he's put his programming talents to rather better use than in the past.

A puzzle game, from someone with a shady past. Allegedly.



Greg's Browser

Easy way to get at files



Good old Greg's at it again – this time with a utility for getting around your hard disk with ease

Remember Greg? He's the guy behind the rather spiffy *Greg's Buttons* Control Panel that we talked about a couple of issues ago – and consequently gave away on the

MacFormat cover disk. Well, this time Greg's addressed the problem of how best to browse the contents of your hard drive, and easily launch files buried several layers deep – and he's come up with *Greg's Browser*, a rather smart little Control Panel that anyone who's used a NeXT machine will recognise as being rather similar to that computer's Finder substitute.

Actually, the *Browser* isn't a 'real' Control Panel – it can be kept anywhere on the hard drive, and Greg suggests that the Desktop or the Apple Menu Items folder might be good places. Once you launch the utility, it displays three windows, with your Desktop contents in the left-most. Click on a folder and its contents will be displayed in the next window to the right; as you keep on doing this, the windows 'slide' to the left so that there are only three folders-worth of contents on display at any time, although it's easy to move backwards up the folder tree by using the pop-up menus above each of the three windows. Double-click on a file or application and it will automatically be launched – although *Greg's Browser* will still be sitting there in the background for if you need it again.

To some extent, programs like *BeHierarchic*, which automatically display the contents of any folder (or alias of a folder) that's in the Apple Menu Items folder reduce the need for this utility. At least, that's what you think – until you start using it. After a few hours, though, you begin to wonder how you managed without it. It provides an easy way to get around your hard disk without having to have a zillion windows open at once, and will even display invisible files for you if you ask – so you can find all those annoying hidden temporary files that some applications have a habit of leaving lying around the disk. If you find a file that you want to delete, just hit the [delete] key and it's automatically moved to the Wastebasket for you.

Greg is making something of a name for himself by writing cool little utilities in between studying for a PhD in maths. *Greg's Browser* can only help to further that reputation Greg!). Well worth checking out.



Logo 2.1

Logo is a popular programming language for children, because it teaches them the basics of writing a procedure step-by-step while actually giving

them something to look at – the 'turtle', which draws shapes on the screen dependent on the commands issued by the programmer. At its most basic, the commands are very simple: 'forward 40' will move the turtle 40 units in whatever direction it's pointing, drawing a line behind it (unless you issue the 'penup' command first, in which case no line will be drawn). 'right 90' turns the turtle clockwise 90 degrees, 'home' returns it to its base point, and so on. After that, commands get more complex so advanced students can actually write 'programs' that create patterns and pictures on the screen. For instance, the 'repeat' command (not surprisingly) repeats a list of commands a given number of times, there's an 'if' construct for conditional execution of commands and so on. The 'to' command lets you actually define functions,

including variables which can be supplied when the function is called, so quite complex programs can be built up.

So *Logo*, then, is a simple language which can teach complex programming ideas such as functions, recursion and so on. What about this particular version of the language?

Well, unfortunately the version I tried out, 2.1, is still a trifle buggy. But when it's completed it will be an excellent implementation, and one well worth getting hold of. It runs using *HyperCard 2.0* or above (it probably won't work using *HyperCard Player*, according to the author), and provides the 'programmer' with two lines in which to enter commands, and a large blank area above for the actual turtle to move in. The only difference between 'normal' implementations of the language and this one, according to the author, is that in this version you must separate each command with a semi-colon. In other versions, a space is sufficient.



MacCurveFit

The description above – 'fits a curve to data points' – may sound boring, but

to anyone who's a scientist or student, it's a Godsend. The program takes data points (as many as you want, more or less – there is a stated maximum number of points in the documentation, but you'd have to be insane to use that many anyway) and plots them on a graph. Then – this is the clever bit – it will plot a straight line or curve that gives you the 'best fit' for those points, and also gives you details of the actual function that the curve

describes. For scientists, this is invaluable. It's often the case that, given a set of results created by an experiment, you want to work out theoretical results for initial conditions that you didn't actually test. Doing that with *MacCurveFit* is simple: enter the data points (you can plot more than one curve at a time, incidentally), then choose the type of curve that you want to fit the data to and hey presto, the result appears. You can read off results from the display, or use the values of the curve formula's coefficients to find values mathematically.

Several types of curve are supported, including linear – both with



Zipple

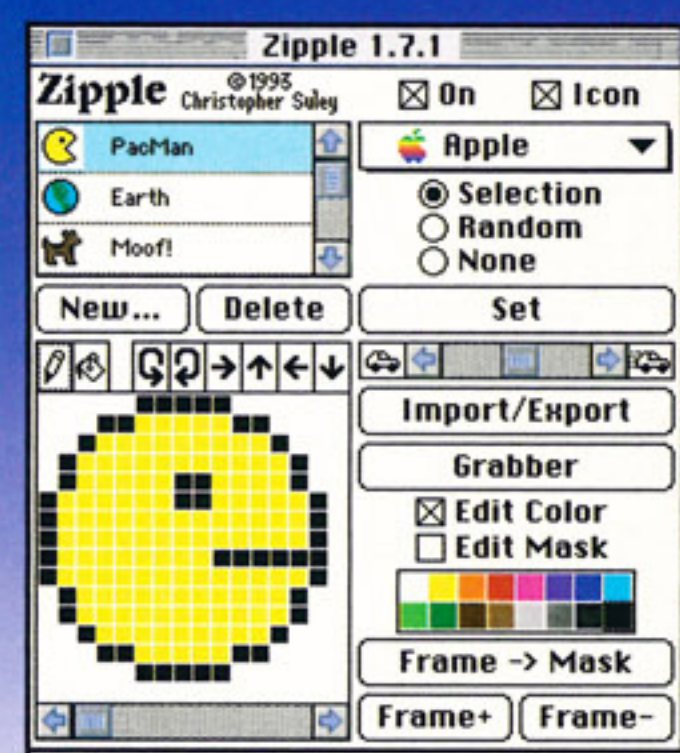
Animate your Apple menu!

Zipple is an interface enhancer that no power user can do without. It animates the Apple menu

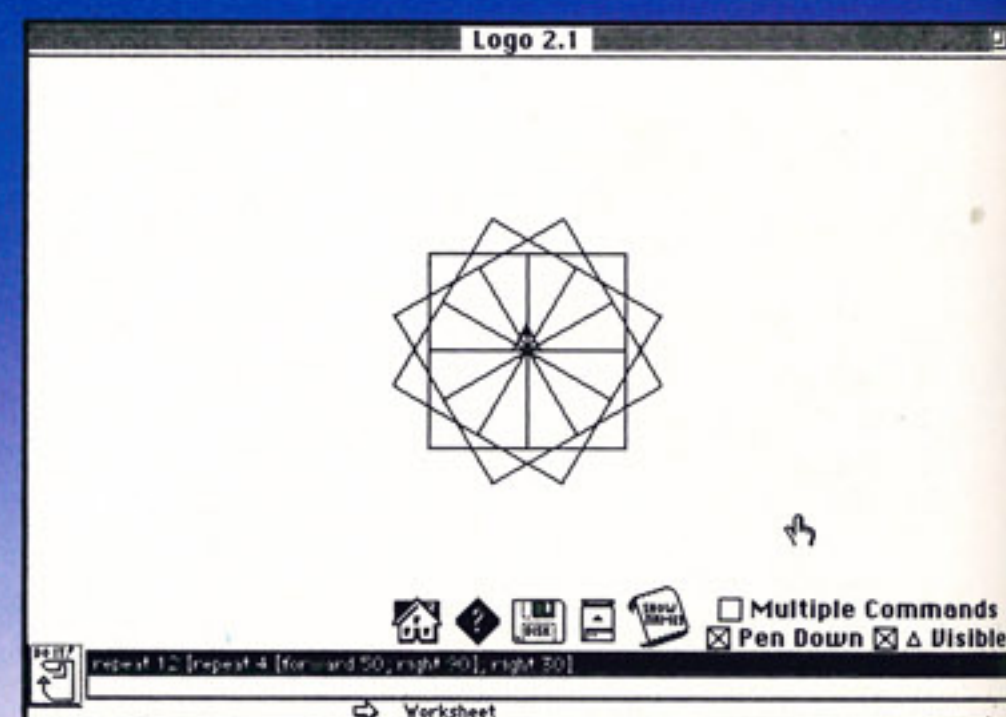
icon, balloon help icon and application icon in your menu bar (it requires System 7 to run). A range of animated icons are provided – including a spinning globe, gobbling pacman, rotating Apple, rotating yin/yang and so on – or you can create your own, using the simple editor included in the Control Panel.

There are so many of these 'interface enhancement' programs around that it's possible to make your Mac's display look almost unrecognisable – but do remember that such things can slow the Mac down at the same time, if you're running too many of them. However, the effects produced

by *Zipple* are so cute that it's very difficult to resist; and for livening up an otherwise static Desktop alone, the program is worth the \$10 shareware fee.



Animate your Apple with this utterly useless but quite entertaining utility, which you'll find on this month's disk



Logo; the simple language for teaching children that involves a lot of turtles for no good reason

However, unfortunately things don't go quite as planned when you try to actually write much in the way of programs. For a start, I found that the 'home' command, which should bring the turtle

an arbitrary starting point and forcing the line to go through the graph's origin – and polynomial, up to the seventh degree. For the less mathematically minded, this means that you'll almost always get a decent fit for your data points, no matter how erratic they seem on the graph. If you decide that some points are just too far out, and must be the result of experimental error, it's easy to get the program to ignore them when it's plotting the curve – although they're left on the graph, since you'll still want to display them even if they shouldn't be taken into account.

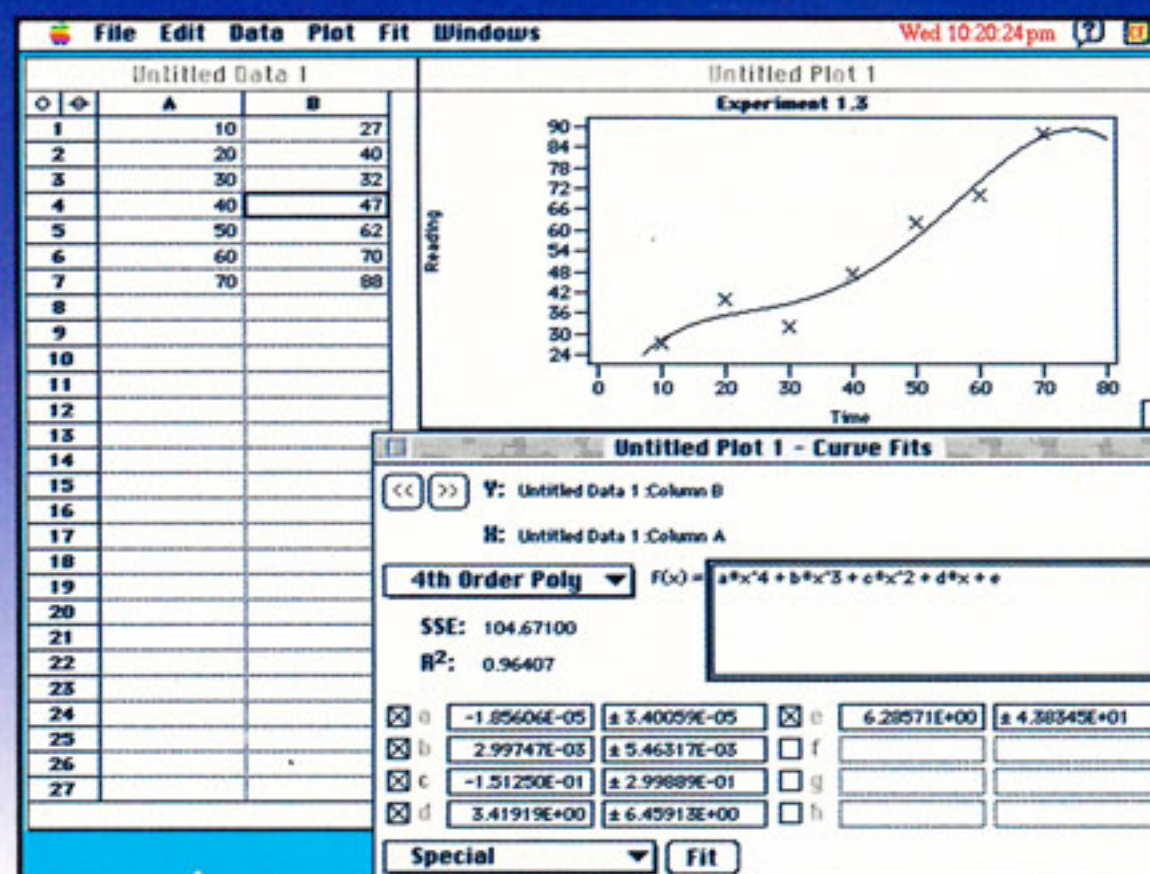
Once the curve's been plotted, you can either print it out or copy it to the Clipboard, for pasting into other applica-

tions. The image is a 72dpi PICT, but also contains some hidden PostScript code so that it will be printed at a higher resolution on a PostScript printer.

MacCurveFit is a superb program – I just wish it had been around when I was doing my Physics A-Level. In fact, it's a surprise that this program isn't commercial – so if you use it, pay your shareware fee and make sure that it remains freely distributable!

MacCurveFit is great for fixing results on experiments which went hopelessly wrong. You could probably think of legitimate uses for it too.

Fits a curve to data points



Slime Invaders

Slime Invaders is a version of the old classic *Space Invaders*, according to its author, although I'd say that it's more of a cross between that game and *Galaxians*. The aliens don't come down the screen in orderly rows;

instead, they bob around the screen dropping globs of slime as they do. You've got to shoot them with your moving cannon before they get you – or before a death's head skull appears and sinks to the floor, which happens towards the end of every level.

To help you, it's possible to store up 'cod shots' – shoot the toaster that slides across the top of the screen, then catch the codfish that drops from it. These cod shots are very powerful, and can be used to deflect the death's head for a while if it gets too close for comfort, or to destroy with absolute finality any alien in its way.

Slime Invaders is pretty addictive and amusing, in its own way. It should play on any colour monitor, since the play area isn't too big, and the sound effects – some great samples of people making silly noises – add to its appeal. It'll certainly keep the kids quiet for a while – and you may find that you're becoming more addicted than you'd want to admit, too.

'Silly space invaders'



If you're bored of ordinary *Space Invaders* (and you should be), try this!

Programming language

back to its starting point, doesn't work. Instead, the standard *HyperCard* 'there's an error in this script' message appears, which would be rather disconcerting to a newcomer. Then, I had to work very hard to actually create any functions: the only way I could do it was to create an empty function of the right name and then edit my commands into it.

This is a shame, since the basic framework for the language is excellent. The on-line help is well laid out and is actually helpful, and at only \$5 it would be well worth the money – if only it worked correctly. That said, I've no doubt that a 'fixed' version of the program is being worked on now; the author seems very keen to get his program out and in use, and all that's needed is a little extra debugging.

TextPress



"Klaatu..."
Text PRESS
The TeachText Utility for Macintosh



Version 1.1a
By E. Kenji Takeuchi

Copyright © 1992-93 E. Kenji Takeuchi. All rights reserved.

Make *TeachText* files into those read-only newspaper icons instantly

Have you noticed that many 'read me' files shipped with applications have that cute icon that looks like a newspaper? When double-clicked, they launch *TeachText* to display their contents, but they can't be edited in any way. Well, that's because they're saved in a special

format that *TeachText* recognises as being 'read only'. In fact, it's easy to change *TeachText* documents to this format yourself, using *ResEdit* or a type/creator editor such as *File Buddy* (you need to set the file type to 'ttr', rather than 'TEXT'). However, if you're not happy doing

Makes Teach Text documents 'read only'

this, *TextPress* will do the job for you – just drag a normal *TeachText* file on to its icon and it will turn into a read-only version, or vice versa.

And... er... that's all it does. *TextPress* is a small, neat program, but somewhat limited in functionality, to say the least. The shareware fee is not required if you use the program for 'home use' – and since all commercial programmers will have the knowledge to change the file type for themselves, I suspect that this particular program isn't going to generate the author much in the way of profit. Still, some people may find a use for it. Oh, and it has a great quote from the film *Army Of Darkness: Evil Dead 3*, although you probably won't get it if you haven't seen the movie. Just thought I'd let you know...



Card shell Vol 1

'Patience' card games

This is the first in a series of sets of 'patience' - style card games, written using a standard 'shell' which takes care of things like drawing the cards and the background, moving them around and so on. The idea is that by using this system, the games themselves can take up much less space on the disk - since much of the work that the program has to do is contained in the 'shell' - and, of course, that it's easier for other programmers to write similar games, by using the shell (programmers who want to do so are required to pay a shareware fee, in return for which they receive the source-code).

The games themselves in this first volume are good: there's the standard patience plus three others,



There's no shortage of patience games on the Mac for when *Photoshop* is applying a filter

all of which are well described in the documentation. The tasks that the shell does, such as drawing the cards and background, are performed well. You have a choice of background, you can set the spacing of cards which are laid on top of each other, and even the backs of cards show that thought has gone into the design.



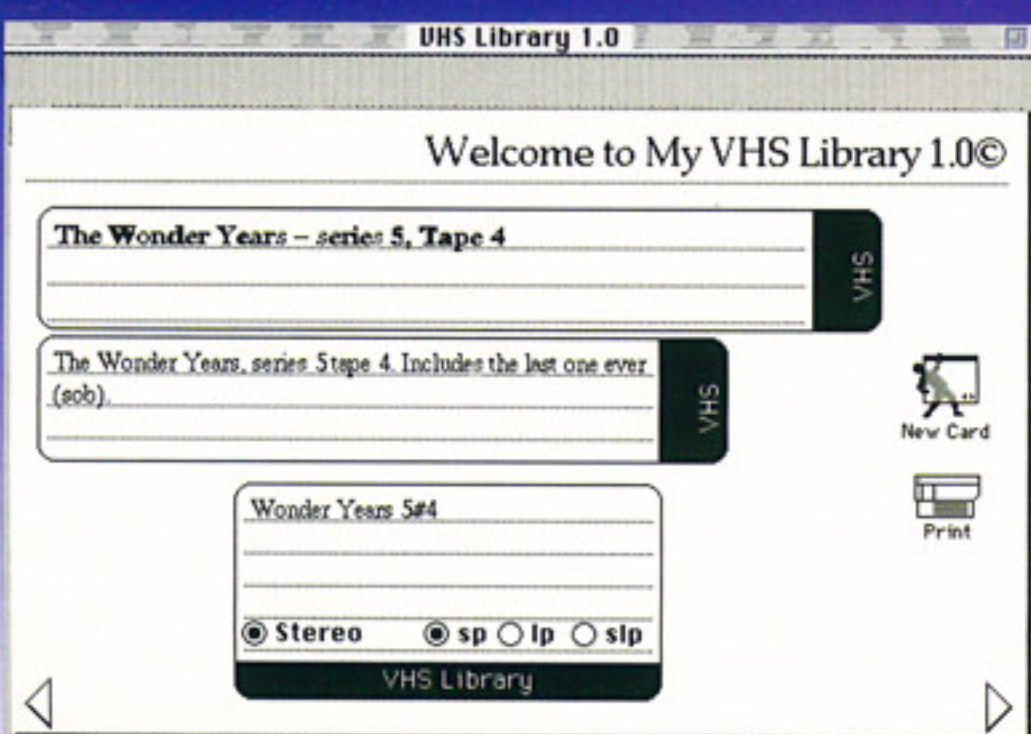
VHS Library 1.0

Catalogue your videos

Ah, *HyperCard*. There's no end to what you can do with the program - and vast amounts of what you can do seem to end up like this particular stack: a niceish idea,

but leaving you wondering whether it was all worth the effort.

There's really not a lot to this program: enter your tape's details



Neat video labels can be yours in seconds - oh joy! Have you really nothing better to do?

on to the *HyperCard* cards, which are laid out like labels on the screen, and you can then print those labels out. The author recommends using

Where to get it

There are several different sources for freely distributable software. The easiest for many people is to use a commercial public domain house - see the adverts in **MacFormat**. These are companies or people who collect together freeware and shareware, package it on to disks and then sell it to the public. You get the benefit of simply writing a cheque and receiving disks full of software - but, of course, you do have to pay for the service (although it's not normally more than a few pounds). Some companies produce CD-ROMs packed full of software - these are often great value, since for £40 or £50 you get over 600Mb of programs to play with (although you do need a CD-ROM drive, of course...).

If you're a member of a Macintosh user group, you may well find that it has a shareware library available for members. Just choose the programs that you want and you'll normally get them for the price of a disk (plus, sometimes, a nominal copying fee).

The other way to get PD and shareware is to use a modem and download it from a bulletin board or retrieve it from the Internet. Many bulletin boards have Macintosh areas which contain files for downloading, and often these are the sources of the latest software - many programmers distribute their work electronically, since it's the fastest way for it to spread around the world. One of the largest collections of Mac software on a bulletin board is available on CompuServe (voice phone 0800 289378) - just about all newly written programs are made available there. If you have access to the Internet, either using a commercial service provider or via something like Janet, the academic network of computers which links most universities and other higher education centres, you can retrieve software via 'anonymous FTP' (check our comms feature on page 23 of this issue for more details on this). One of the best sources is the file server 'mac.archive.umich.edu', and there's a UK 'mirror' which contains the same files at 'src.doc.ic.ac.uk'. Also keep an eye on the Usenet newsgroup 'comp.binaries.mac', which carries new Mac applications in BinHex format (again, see the comms feature if you don't know what this is).

full-sheet labels (that is, the entire A4 sheet is one label), so that you can then cut out the shapes and stick them on to your precious video collection. And... er... that's about all *VHS Library* does. There are no real database facilities for the terminal nerds who demand that each video has a unique code-number and, preferably, a category as well (CJ for recordings made on Clapham Junction, KC for King's Cross and so on, presumably). You even have to type the details three times - once for each label (case, spine and top of the tape). There's

no automatic copying from one label to the other, which means that entering a large collection of tapes would take forever.

I guess that if you really want to make sure that your video tapes have neat labels so that you can show off when the neighbours come round, then this program will do the job. Those of us who are slightly less anally retentive can stick to scribbled-out ballpoint pen on the label, and that ever-nagging question of where on earth all the video cases disappear to the minute your back is turned.



Shatterball

Shatterball is a rather neat and surprisingly addictive little game. It works in black-and-white or 16-colours, on any Mac running System 6.0.2 upwards, and is essentially a 3D version of the old arcade classic *Breakout*. The ball bounces between your bat, which is right against the computer

screen, and the far wall, which is some distance away. In between the two are 'bricks'; it's your job to steer the ball so that it hits and destroys the bricks, while not letting it past your bat (if you do, you lose it).

There are plenty of stages with different patterns of bricks, and if you get bored with those you can create your own using the built-in editor. Just to make game-play a touch more

interesting, 'zelvins' fly at you from time to time. If you catch these little projectiles, you receive extra balls.

The game is released as 'pleasureware': send \$5 if you like it, and another \$5 if you really get a kick out of playing it. I warn you, though: a lot of people are going to feel that they have to send in the full \$10, 'cos *Shatterball* is another of those "oh, just one more game" programs.

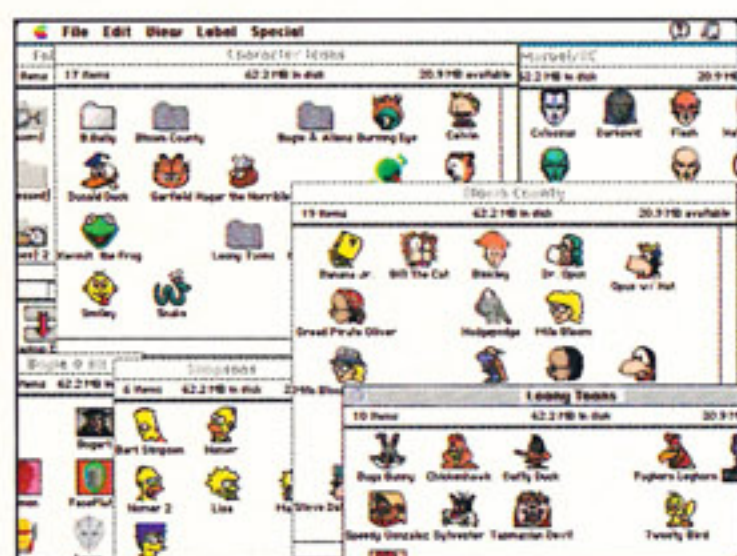
3D version of Breakout



Another *Arkanoid* spin-off, this one's in three dimensions, which makes it much harder

PremiumPD

Supplying the best in Macintosh™ PD and shareware



I101

If you're running System 7, you really must get hold of I101: loads of icons to replace the standard, boring old disk, folder and file icons. No 'hacking' is required: just copy and paste these great, colourful icons in place. Full instructions are provided on the disk.

Premium PD is committed to supplying only the best PD and shareware available. If you don't see what you want here, write to us – we're bound to be able to find it. Write for our full catalogue, or simply use our Shareware Search Service.

Only £5
per disk!

BUSINESS

B101

This disk contains the superb **BiPlane 2.0** – best shareware spreadsheet on the market – plus **Cal 3.02**, a shareware calendar creator which can be shared with other people over a network (when you register your copy), **MiniWriter**, a neat little word processor in the form of a desk accessory, and **ToDo**, a 'to do' list organiser.

B102

On disk B102 is the whole **Address Book** suite of programs. Address Book is a very powerful utility similar in operation to the commercial DynoDex address book database, and the disk contains not only that program but also utilities for converting files from a range of other database packages to Address Book format.

GAMES

G101

Maelstrom – quite simply the best shareware shoot-'em-up around. Requires a 13-inch, 256-colour monitor.

G102

This disk requires a 256-colour monitor, and features **Diamonds** – control a bouncing ball as it darts around the screen, knocking out bricks as you go; and **Storm** – based on Tempest, the classic arcade game.

G103

Similar to Marble Madness, this great game requires a combination of logic and hand-to-eye co-ordination to complete. You can even play across a network!

G104

A range of strategy games, including **Backgammon** and **Chess** – play against the computer in these two age-old games; and **Mombasa** – remove the matching blocks to clear the board.

G106

The truly brilliant **Solarian** – a 256-colour masterpiece based on the classic arcade game Galaxians. Seriously addictive!

G111

Nine different card games, including **Forty Thieves**, **Blackjack** and **Precision Cribbage**. No Mac fan should be without this excellent collection.

SOFTWARE SEARCH SERVICE

If you know of a PD or shareware program, we can find it for you. Just let us know the name, and give a brief description of what it does (so that we can try to find any similar programs, which we'll put on the disk for free). This service costs £5 per program, and takes up to seven days.

HYPERCARD

Please note that all HyperCard disks require HyperCard 2.0 or higher, or the HyperCard player – which is commercial software.

H101

Mozart Catalogue – the complete works of Mozart, along with their Köchel numbers and the approximate date and place that they were composed.

H102

H G Wells – two classics from the master of science fiction: *The Time Machine* and *War Of The Worlds*, both in HyperCard format.

H103

Shakespeare – four of the Bard's plays, beautifully presented in HyperCard.

H104

Twin Peaks Trivia – everything you wanted to know about the quirky TV programme...

SOUNDS

We have a wide range of Sounds disks, each containing the great **SoundMaster** program, which allows you to assign sounds to Mac actions such as Restart, Eject Disk, Shutdown and so on. For example, **S101** contains samples from *The Simpsons*, *Alien*, *Terminator* and *Twin Peaks*; **S102** has samples from the cult kids' TV cartoon *Trapdoor*; **S105** gives you sounds from *Good Morning Vietnam* and *Star Wars*; **S106** features *Star Trek* and **S107** is full of *Wizard Of Oz* goodies.

'EXTRAS'

X101

Three high density disks telling you everything you wanted to know about the **JFK Assassination**, in HyperCard format. Sending in your shareware fee entitles you to another, free disk. Because there are three high density disks in this package, the price for X101 is £10.

This is only a small selection of what we have available – write for our full catalogue!

Please rush me the following disks within two working days. I enclose £5 per disk:

F11/93

Please find me the following program(s). I enclose £5 for each program:

Name _____
Address _____

Send orders to: Premium PD, Dept F, PO Box 14, Ravenshead, Notts NG15 9DR

Change your tune

Ian Waugh shows you how to load PC or ST MIDI files onto your Mac and has a go at busking

It's so nice when people write to you, isn't it, especially when they don't ask for money? Peter Gage from Grimsby (ah, there is life north of Watford) has written to me and he didn't ask for money. I like him. He did ask for some help with MIDI files, however, but that's OK.

The growth in the number of third-party Standard MIDI Files over the past couple of years has been phenomenal. Musical instrument manufacturers have also produced many budget-priced GM-compatible instruments. Now anyone can take a MIDI file, load it into a sequencer and play it straight away on a GM module.

You can buy MIDI files for most good rock and pop songs and some naff ones, too. There's a growing range of classical music files, some electronic music (Jean-Michel Jarre et al) and even karaoke hits. There are also lots of 'building block' files such as drum patterns, techno

grooves, bass lines and guitar riffs (one of which we pluck elsewhere in this column).

OK, back to the plot. Peter has converted to the Mac from the ST – sensible fellow – and has been trying to load Standard MIDI Files which he bought for his ST into the *Cubase Lite* sequencer on the Mac. He has managed to physically transfer the files using a mutually-compatible MS-DOS disk but *Lite* refuses to even show the files in the dialogue box.

The vast majority of SMFs are for the PC or Atari ST. They have a .MID extension which tells the sequencer that they are MIDI files and this allows the sequencer to load them correctly.

Finding out file types

However, the Mac likes to know what sort of files the files are and which application produced them. To do this it uses two file attributes – the file type and creator.

The file type indicates the type of file it is (obvious, innit!) such as a MIDI file, a graphics, word processor or database file and so on. The creator tells the Mac which application produced the file and is responsible for giving the file an icon. The creator also allows the Mac to find the application, launch it and load the file, simply by clicking on the file.

Ever had a 'The document "xxxx" could not be opened, because the application program that created it could not be found' error? You will get this if the file you click on does not have a creator. You'll also get it if you don't have that particular application on your disk, of course.

These attributes are hidden from the user who, under most circumstances, doesn't need to know them. But in this case we do and we can view them and change them using a number of utilities. By changing these attributes you should be able

to load any ST or PC MIDI file into your Mac sequencer.

Utilities to do the job include *FileTyper* and *ResEdit* plus a couple of dedicated MIDI file converters – *MIDIFile Converter* and *MIDI TypeCaster*. These are all shareware or PD. I got them from my favourite Mac BBS – Electronic Courier which is on 0232 401737.

ResEdit is undoubtedly the most powerful but you can easily garbage files with it if you're not careful. Anyway, you don't need its power for the simple task of converting MIDI files.

FileTyper, which is on this month's disk, is the most flexible file type changer, plus it's a useful utility. Don't be confused by all the info it gives you about the file.

The two MIDI converters are the most straightforward to use so we'll run through an example with *MIDI TypeCaster* opposite. →

Busking with 'MIDI Busker Electric Guitar'

Now that you know how to load any MIDI file into your Mac you should be able to buy ST and PC MIDI files with equanimity. MIDI files on Mac disks, for some reason, seem somewhat thin on the ground.

But I've managed to find one. It's a collection of electric guitar patterns which were recorded in real time with an electric guitar. This preserves the strum effect and captures the correct span of notes across the guitar strings – jolly difficult to do

on a keyboard. There are 37 patterns here, configured to GM and divided into styles such as blues, funk, jazz, and reggae. Each pattern contains 18 chord types so you'll need a sequencer which can handle more than 16 tracks (sorry, Peter!). The chord types range from standard major and minor chords to 7/5#9b and Power chords.

The idea is to use these riffs in your own songs. Select the chord type you require, transpose it to

the correct key and paste it into your song. The disk contains demo tracks so you can hear what the patterns sound like linked together.

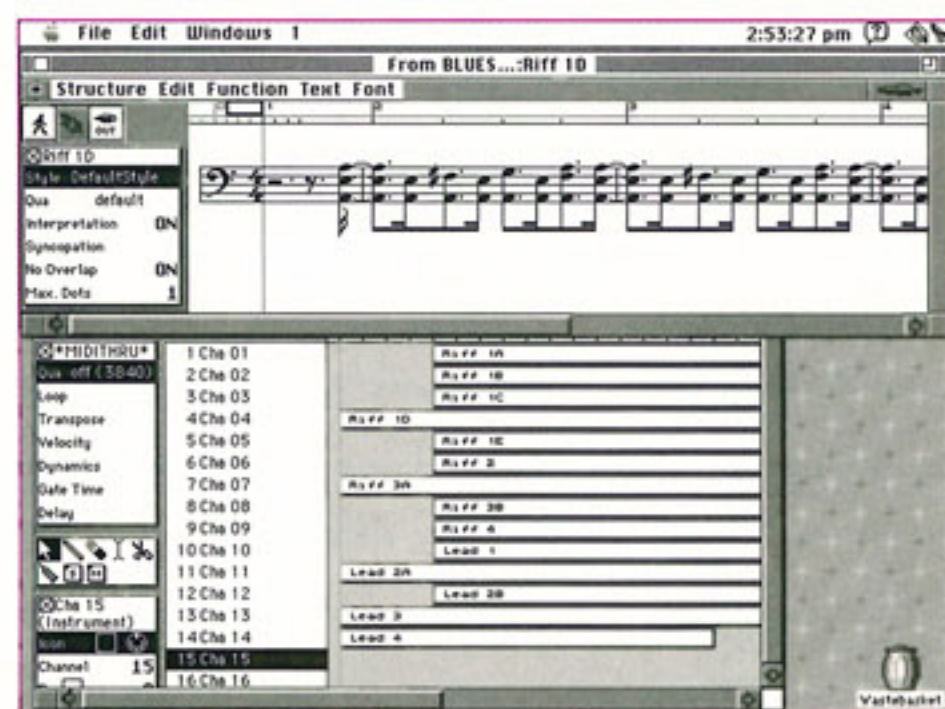
But I have teeny moans; I would have preferred a greater selection of styles and some of the notes have a velocity value of 127 – I'd prefer a little room to breathe.

The on-disk doc lists the instrument set ups and drum maps. It briefly mentions the file type problem, referring you to *ResEdit* and *FileTyper* and the review disk contained a copy of *ResEdit*. The package also included a printed leaflet explaining how to change file types – just in case buyers haven't read this month's column!

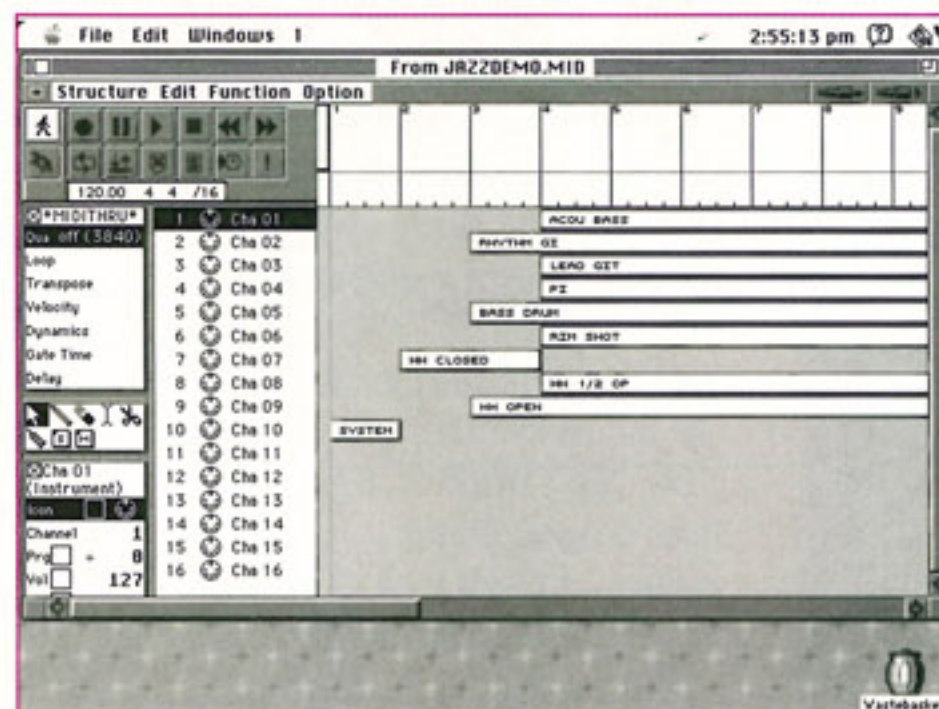
The riffs are very good indeed and sound very authentic – far more authentic than the average person could produce with a keyboard. That's why they are so useful. It's not easy adding guitar parts to a song if you're a keyboard-based musician. *Busker* takes the hard work out of the task.

Station Records already has a disk of acoustic guitar patterns and is currently developing a collection of Latin riffs. Well worth checking out, too.

Midi Busker Electric Guitar and the other *Midi Busker* disks are £14.95 each. To get hold of a copy of obtain more information, get in touch with Station Records, Station Road, Sudbury, Suffolk, CO10 6SS. Tel: 0787 311500.



One of *MIDI Busker Electric Guitar*'s blues riffs as it appears in Notator Logic's score edit page



MIDI Busker Electric Guitar's jazz demo file in the main Arrange page of Notator Logic. Very useful.



Not my type

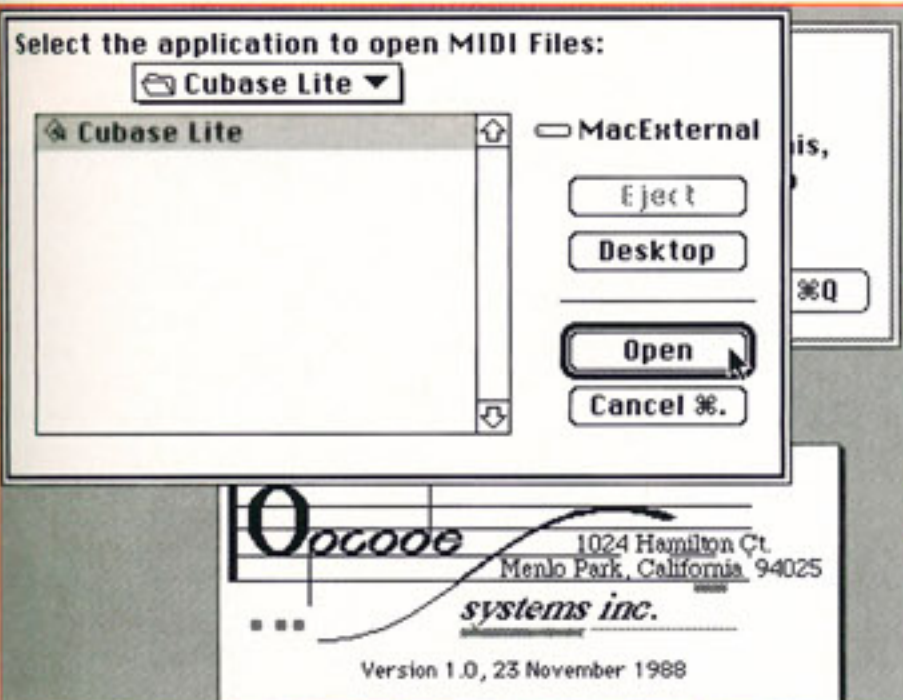
This program will make MIDI Files created on systems other than Macintoshes readable by Macintosh MIDI programs. It does this by simply changing the file's type to 'Midi'.

You can optionally choose an application to be opened when you double-click on the MIDI File.

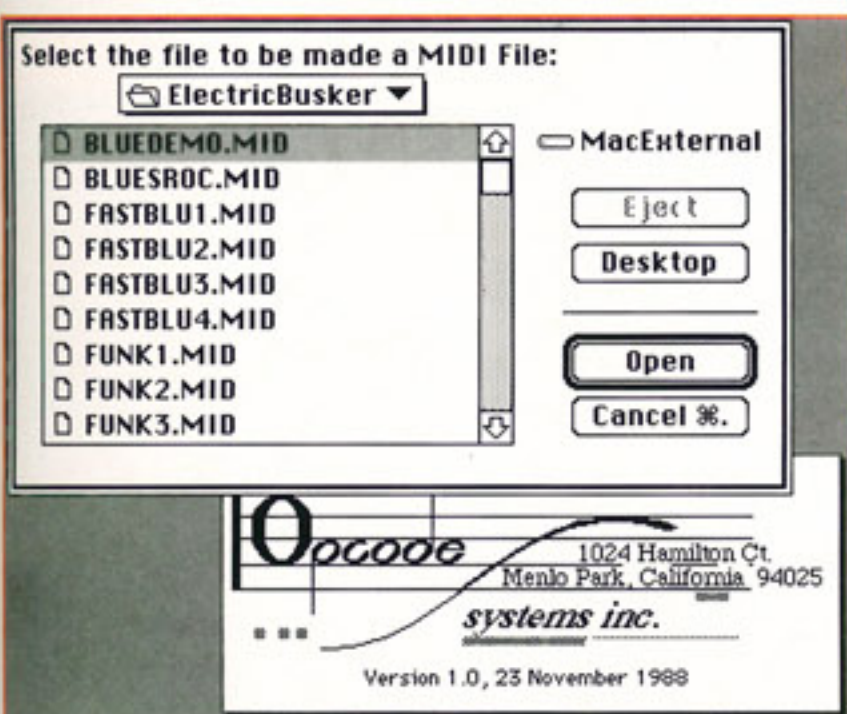
If you are using Multifinder, you should close the Finder window containing a file before using this program. If you fail to do this, with Multifinder 1.0 this program's efforts can be lost. With Multifinder 6.0 and higher, you may simply have to close and re-open the Finder window for the change to take effect.

OK

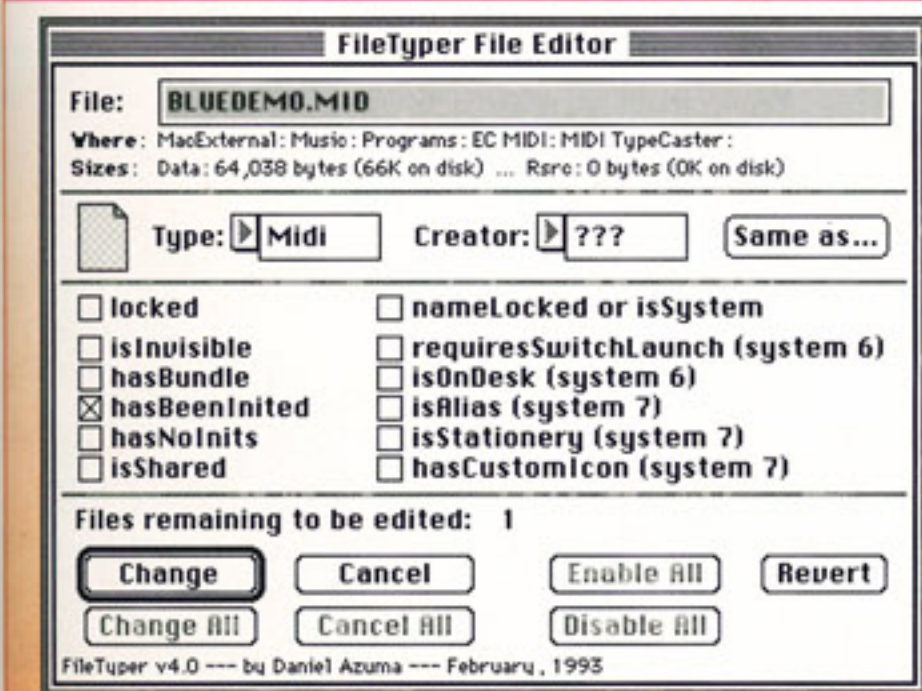
On launching *MIDI TypeCaster*, you're presented with the instructions. Helpful little util, isn't it?



Next, find the sequencer whose creator type you wish to use and click on it



Then you simply find the MIDI files you want to change and click on them



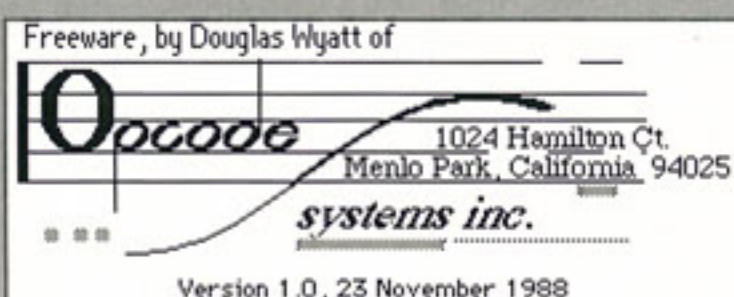
FileTyer: you can enter new types directly into the boxes or use the **Same as...** button to select a file you want to use

The application to be opened when you double-click converted MIDI files is undefined. Choose "Select" to change this, "OK" to type-cast MIDI files, or "Quit" to quit.

OK

Select... %S

Quit %Q



You can select an application to be opened when you click on the file. This is selecting the file creator.

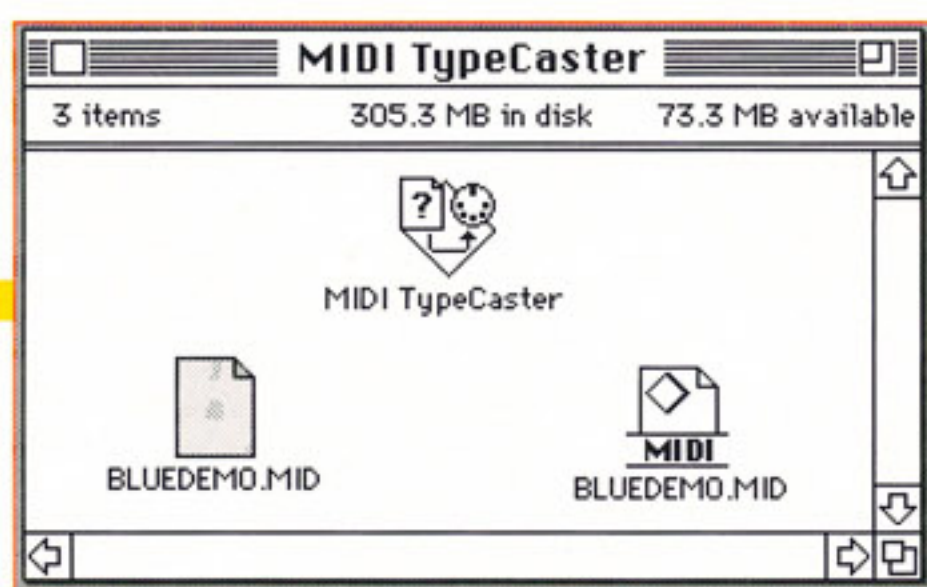
The application to be opened when you double-click converted MIDI files is Cubase Lite. Choose "Select" to change this, "OK" to type-cast MIDI files, or "Quit" to quit.

OK

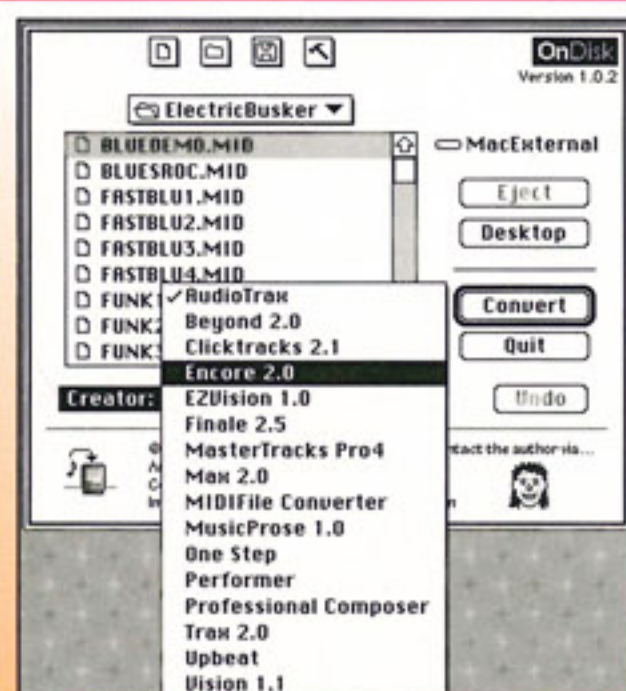
Select... %S

Quit %Q

The box will now show the selected application. You can change this by clicking on **Select** again.



The file on the left will now look like the file on the right. You can't see the creator and file types but you will see a new icon.



MIDI File Converter lets you select the application from a pop up list but if your sequencer isn't here - tough!

Book of the month

You don't have to be a 'proper' musician to have fun with sound on your Mac. Hands up if you have never altered the Beep or recorded your own sounds (those who have Macs with built-in mics). You can put your hand down now 'cause I don't believe you!

Anyway, the *Cool Mac Sounds* book is about doing cool sound things using the Mac's built-in speaker. There's a disk tucked into the back of the book containing dozens of sounds effects, music clips, and some INITs and CDEVs such as *SuperClock* and *FKey Manager* (an FKey installer utility). There are some sound manipulation programs such as *Sound Mover*, *Sound Control* (assigns sounds to System and Finder events), *Sound Extractor* (extracts sounds from a file) and *Sound Museum* (a Finder archive for all your System 7 sounds).

Drop MacPuke into your System folder and thrill to the sound as you eject a disk. Drop Arrgh!!! in, and jump out of your little cotton socks as it screams at you periodically. Pretty cool, eh? Hey, c'mon, Macs are about fun. You're not a PC user, are you?

The book tells you how to use the files and includes lots of info about sound type things such as sampling, data files and resource documents. It includes a collection of tips and some typical problems and their solutions. The book is well laid out with lots of diagrams and sub headers and it's a very, very easy read.

The only question remaining is whether you want to buy a book about sounds. If you don't I guess I'm not going to persuade you to change your mind. But if you want to know what makes your Mac tick - or beep or scream or barf - this'll do it!

A TYPE OF MAGIC

Do you have any idea how much time you waste by deleting small typing errors? Or the foggiest notion of how much you could improve your efficiency by learning to type properly? Tim Smith explores two typing tutors...



Slow and Steady

Here's an interesting fact which is sure to liven up many a dull dinner party: did you know that your Mac doesn't actually need its standard keyboard layout? In fact, the reason it has been lumbered with a QWERTY keyboard (so called because of the top row of letter keys) is due to the inadequacies of the original manual typewriters.

Interesting fact number two: the QWERTY keyboard was designed to *slow* people down, believe it or not. The original typewriters had alphabetical keyboards and, once people had got used to them, their typing speeds quickly accelerated. Sadly, the old Olivettis and Remingtons just couldn't keep up with the speed of the secretaries (the majority users) and their keys kept jamming.

William Sholes came to the rescue with a design that ensured that keys that often occurred in combinations were kept away from each other. That's why on the QWERTY keyboard, the vowels are spread around the keyboard, 'C' and 'H' are at diagonals on different rows and 'Q' and 'U' are six keys apart! All well and good back in the year dot but, as typewriter technology improved, QWERTY became a dirty word.

Millions of person-hours were lost as people learnt how to use the QWERTY system and consequently typed more slowly than they actually could. Enter August Dvorak with a new keyboard which promised to put typing back onto a natural footing – or fingering.

Sadly for us in the computer age, Dvorak's device failed to gain mass support so we are stuck with QWERTY. You can still lay hands on a Dvorak keyboard for your machine but be warned – it takes a bit of getting used to.

Y

ou may not regard the typing tutor as the most interesting piece of Macintosh software you can buy but I'll tell you this – a few days with a good typing tutor will ensure that the other bits of software you have kicking around the place will be more useful to you.

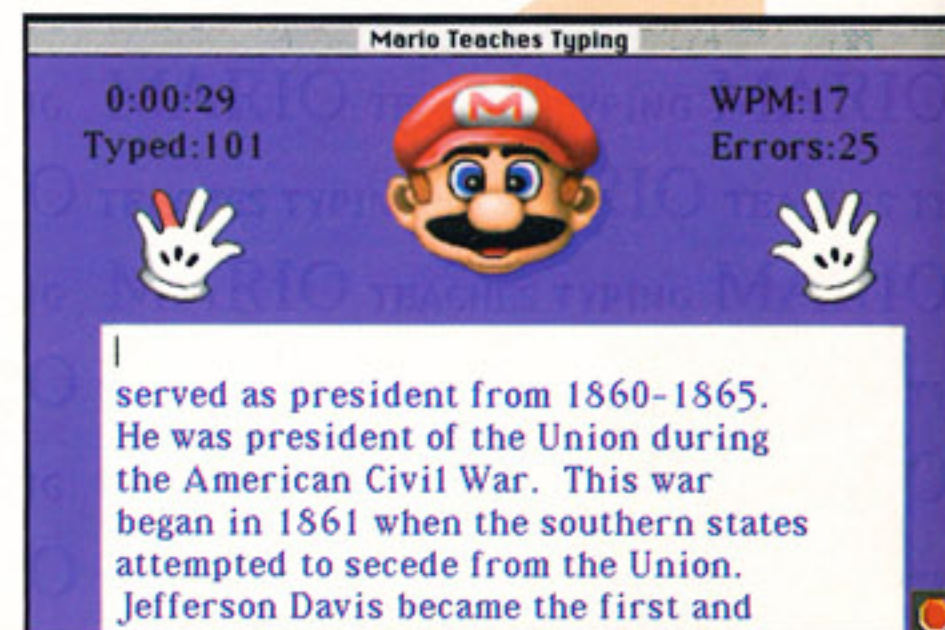
I mean let's face it, the vast majority of us are two-finger merchants, kidding ourselves that we are rushing along at a fair old clip when in fact, compared to the average secretary, we are but crawling sloths in the world of keyboard responses. We could all benefit from a bit of patience and a little application – or, in this case, two little applications: *Mavis Beacon Teaches Typing* and *Mario Teaches Typing*.

Back in the days before low-cost Macs made their huge impact on the world, Mavis Beacon was the main woman. She came from the Software Toolworks stable and started life on the PC. True, she was a little basic, but she enabled people to learn keyboard skills much more quickly than they could have done by trial and error (and the odd piece of advice).

Since the Mac onslaught, the world's best-known typing tutor has had a facelift and now appears in a stunning 256 colours, with sound (still no speech though) and a huge array of pupil-friendly options for the QWERTY (and Dvorak) owning Mac-owner. Even the picture on the front of the box shows a more confident looking Mavis.

Additionally, we have an upstart newcomer in the form of Nintendo's Mario (of *Super Mario Brothers* fame). This typing tutor is aimed firmly at youngsters – or at grown-ups with a penchant for cutesy, colourful and musically irritating software. It shows that, in the States at least, you can put the Italian piping engineer on just about anything and it will sell. But for all that, *Mario Teaches Typing* is still an impressive application: it teaches by a kind of sugary attrition, attempting to wear down your weaknesses and bad habits with the same vigour that *Mavis* nurtures and encourages you to give them up.

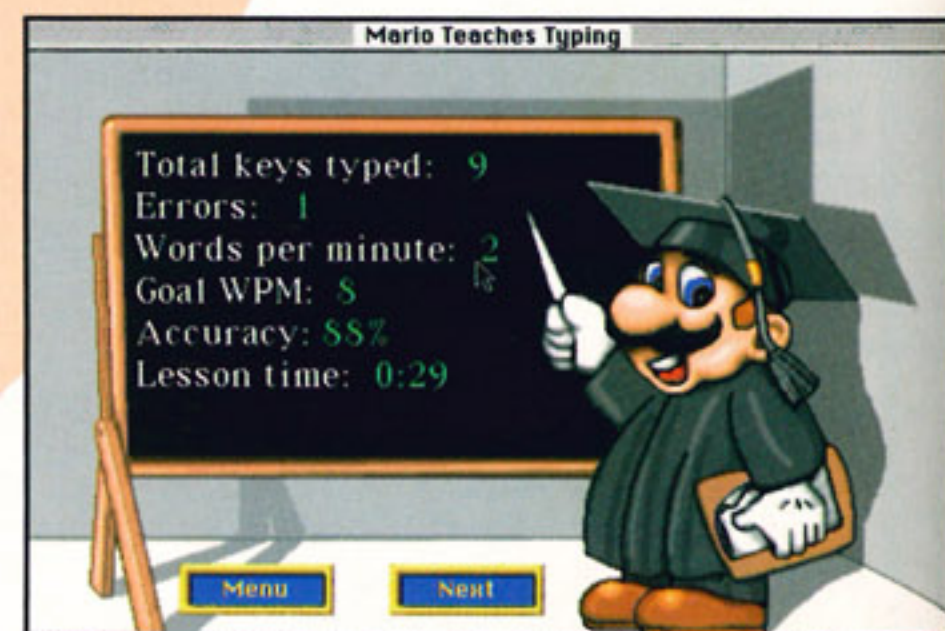
However, both of these tutors have a distinctly American flavour to them. For example, the defaults to both of them are for two spaces following a full stop (period in US-speak),



That's right, tailored to the UK market I'll be bound. Mario keeps track of your knowledge of US history and your typing.



Hello Mario, what do you have in store for us. Loads of different options to choose from, as well as some bright colours.



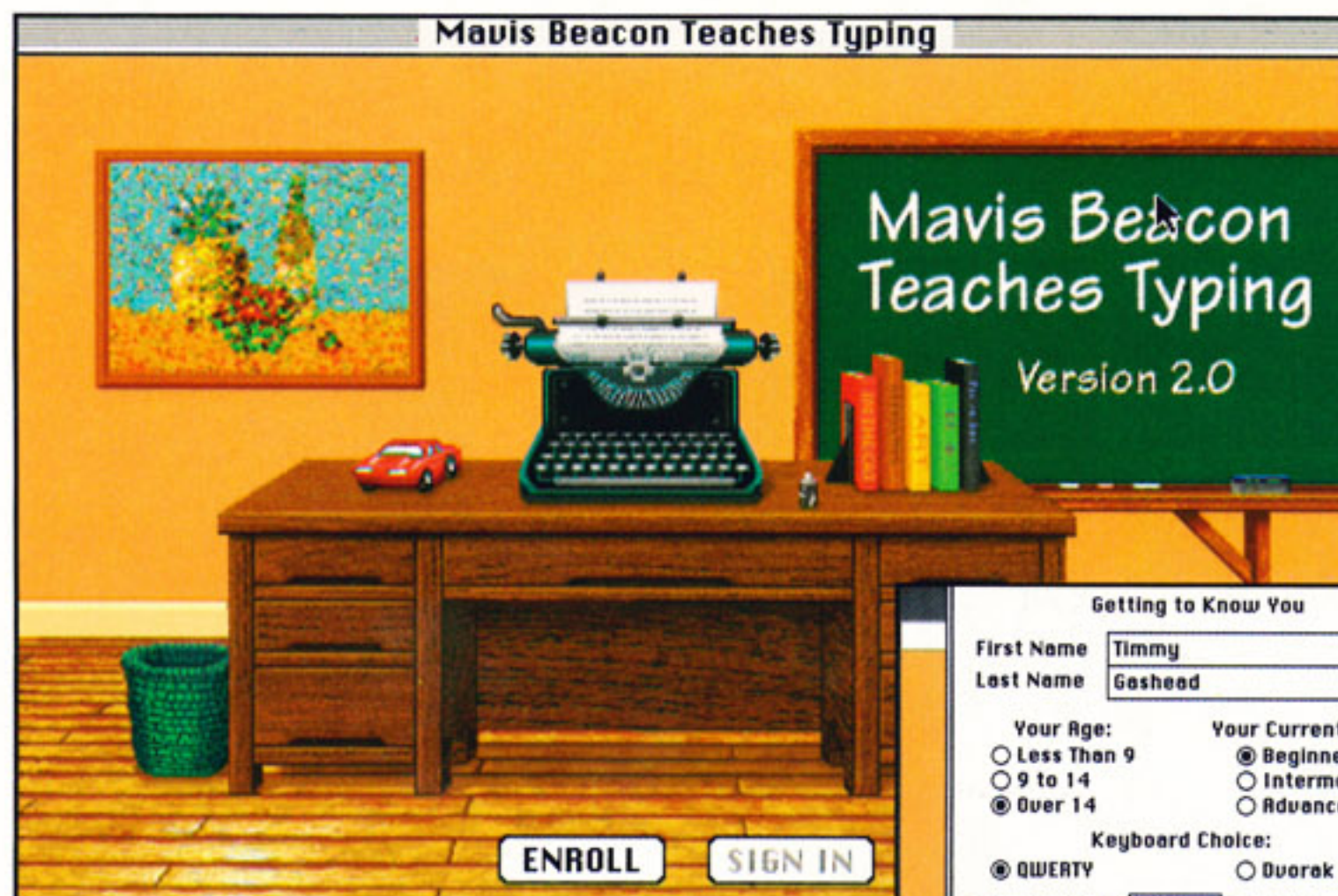
And this is how you've done over the last few exercises. Not very well at all actually, better go back and try again.

comma or any other punctuation mark worth its salt. OK, this can be changed from the options on *Mavis* but it still shows a lack of willingness to pander to us Brits. Another, more irritating glitch, considering that you're aiming for speed here, is the fact that the '£' shows up on the screens of both these programs as '#'.

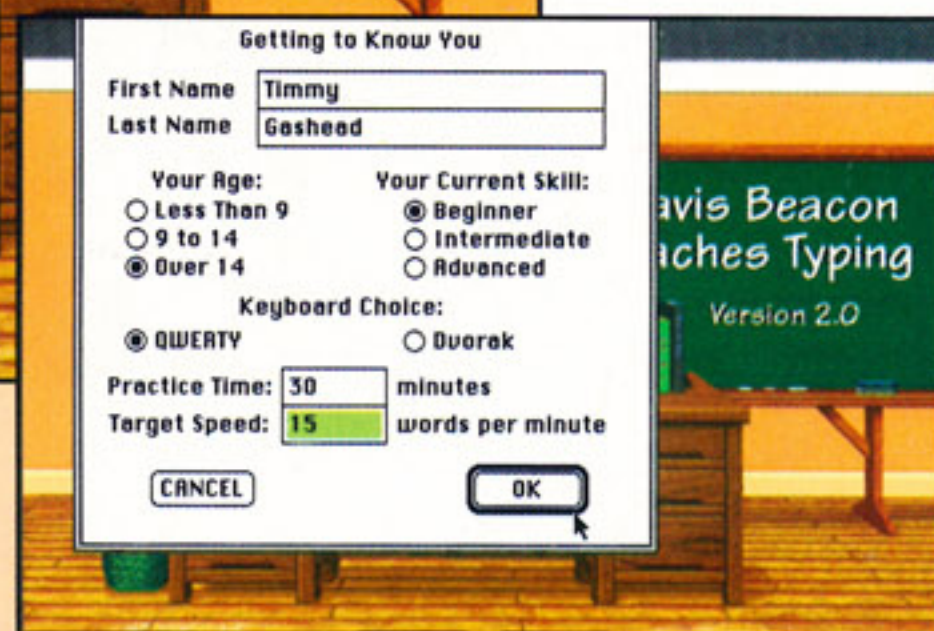
A closer look

Mario Teaches Typing is colourful and no mistake. The 256 colours of my IISI's basic monitor were certainly put through their paces. Happily the 8Mb of RAM coped admirably, even if multitasking under System 7.0 to use my word processor was slow. Running on its own, *Mario* managed to keep up a decent pace and, with Faster Graphics chosen from the options, it was even difficult to keep up with at times.

Essentially, what we have here is a bunch of games that rely on the speed and accuracy of keyboard input to keep your score at a decent level. While this might appeal to the kids who can slog their way through a million levels of *Super Mario Bros*, I found the opening few 'games' a tad frustrating. I mean sitting there and hitting HJK JJJ KKL L;;l (and # for a bonus) to make Mario, the Princess or Luigi hit a turtle or jump a



The grand old lady of typing tutors in her all the glory of her 256-colour grab. A great many journalist owe a great many debts to Mavis Beacon.



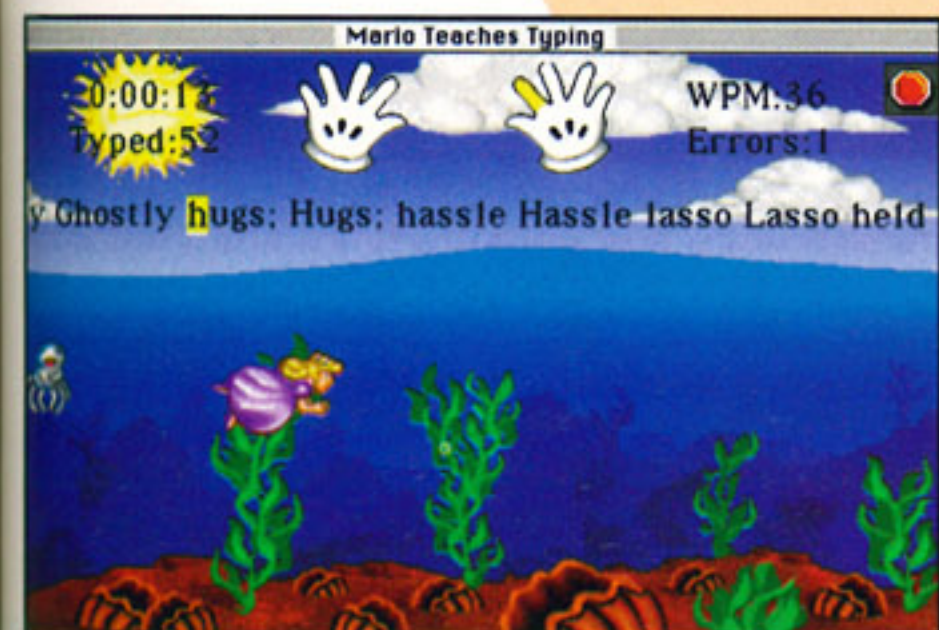
Set your own standards with various easy-to-use option panels. Mavis Beacon really does teach typing you know.



Right, you've got to get Luigi from one end of this platformy, horizontally scrolling thingie by typing letters very fast.



And guess what you've got to do now? That's right, you've got to get Luigi from... you get the picture and the music.



This time you've got to get the Princess all the way out of the water by typing. These are the early levels - they do irritate.

platform is no way to maintain concentration.

I know that I'm not 14 (far from it) but this is where the apparent logic of the program falls down: just how many 7-16 year olds do you know who would spend a few hours learning to type? For a start, the ones who love Mario own consoles (no keyboard) while the ones with keyboard computers probably couldn't give two jots for the character. So who does MacPlay think that it's aiming this program at?

Game after multi-coloured game, was a chore rather than a 'fun' experience - even with the sound and Mario's heavily Polish-sounding Italian accent turned off. But, to give it its due, *Mario Teaches Typing* has plenty of options which enable you to concentrate on the various sections of keyboard in order to polish specific skills. Still, I would label this, 'lovely and useful as a present' rather than 'rush out and buy it'.

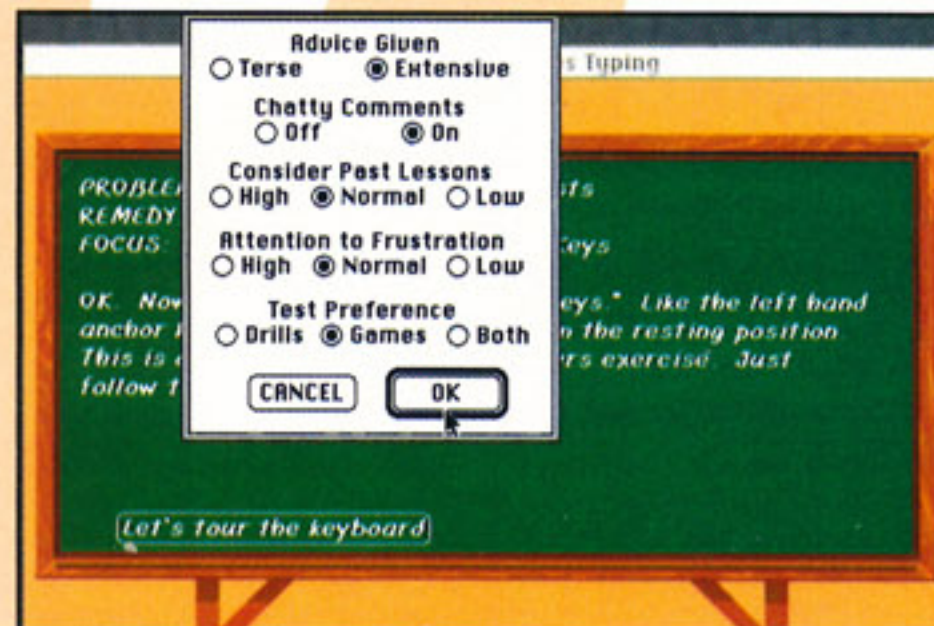
Interviewing Mavis

Mavis Beacon Teaches Typing has a pedigree which, combined with a sensible style and a host of options makes it more attractive to older users. She, or rather it, also gave my IISI very little trouble, either in single or multitasking modes. The manual comes with an almost worryingly detailed chapter called 'The History of Typing' which, I have to admit, is actually quite interesting. In fact, compared to *Mario's* manual, which is pretty flimsy to say the least, *Mavis* offers a wealth of information on the theory and the options available in the program.

Once you're into the tutorial itself, you find that, while there are games - such as one in which you race at words-per-minute rather than miles per hour - there are also numerous more general exercises which are aimed at actually getting some slick typing out of you.

A neat feature is that you can alter the level and kind of responses you get from *Mavis* from the Terse to the Chatty. In fact, using the information you get from the program about your strengths and weaknesses, you can even tailor your lessons to your own needs. Generally speaking, if you are serious about improving your typing skills - perhaps even to the level where you could be considered for secretarial work (and that's a hell of a standard) - *Mavis* has got just about everything you need.

You can set the balance between games and lessons; you can use QWERTY or Dvorak; you can even set graphs to plot your progress. Frankly, *Mavis* wins hands down.



This is where Mavis' secrets are hidden. You can change her character from nurturing to the outright authoritarian, easy!



One of Mavis' games. This little racing game follows roughly the lines of the Mario attempts but is less infantile.

Where to get it

Mavis Beacon Teaches Typing costs £41 from Softline on 081 401 1234.

Mario Teaches Typing is £41 from MacPlay on 0865 390029

MacFormat ratings

Mavis Beacon Teaches Typing	65%
Mario Teaches Typing	78%

Apple TALK

This month on the letters page: dozing PowerBooks, under-age Expo, clashing utilities, cosy chains of authorised dealers, and fulfilment of CD-ROM dreams...

Macs in the mountains

Referring to your Macs and Tibetans discussion, the Dalai Lama recently passed through

Seattle, and he and his troupe used PowerBooks! You can't get more Tibetan than that.

Charles Wheeler, Seattle USA

Ever wish you'd never started something? Anyhow, if anyone knows the address of the Dalai Lama, do let us know and we'll give him a free subscription!

More games please

MacFormat is still the best Mac mag out. However, being a subscriber to Macworld and MacUser at work, I saw it as an escape into my home LC with my few games, expecting pages of reviews just like PC Format! Would it be possible to increase the leisure quotation in your mag? Or even better, bring out a new mag dedicated to Mac games, I'll buy it. Either way keep up the good work.

G Bolton, Redditch

It would be nice to be able to talk more about Mac games – but there aren't any more to talk about! We review every Mac game as soon as it comes out, but there simply aren't very many. There's an electronic Mac games magazine called Inside Mac Games that you might want to check out, if you want to get even more games facts. You'll find it on

100% Mac games – electronic

bulletin boards or if you haven't got a modem, contact them at 3862 Grace Lane, Glenview, Illinois 60025. (And if you haven't got a modem, turn to page 23 at once and discover the error of your ways!)

Your wish...

Congrats on a truly brilliant mag. However, while you cover just about every aspect of the Macintosh, I notice there is very little on CD-ROM discs as opposed to drives. I thought perhaps a couple of pages every month could be dedicated to reviewing the range of software which is exclusively available on CD-ROM – for example clip art collections, encyclopaedias, movies and games. Also I heartily approve of the new high density disk – keep it up please!

Paul Mackay, Lytham St Annes

Great CD-ROM idea, Paul, and starting this month that's exactly what we'll do. Turn to page 53 for a first installment! Glad you like the disk, it was a tricky decision using a high density disk as some readers with older machines

won't be able to use them. But we figured that we could do so much more with the bigger disk that it was worth it, and of course you can always get the disk swapped for two ordinary ones if you need to.

Dozing PowerBook

I read with interest your article on the PowerBook 145B in the October issue and understand your frustration at the disk going to sleep while running on mains. I had the same feeling about my PowerBook 100 until I discovered there's a button in the Portable control panel which keeps the unit awake when plugged in. You lose the screen saver, but that disk keeps on spinning.

Maybe not a hidden secret in the *Cruising the Keys* class, but still an example of those things which are blindingly obvious if you know where to look, and hard to find with a no-manuals approach.

Alistair Cairns, Brighton

Thanks, I hadn't spotted that! As you say, I prefer not to open a manual if I don't have to, and looking at the set that came with the machine almost feels like it defeats the point of buying a Mac; if I wanted a computer I needed a book to start up I'd have got a PC.

Disk clash

What's the point of supplying applications on your cover disk which are mutually incompatible? I refer to *BeHierarchic* and *PopChar*, the notes for the latter state that "these two utilities

Cruising the keys

Another bunch of keyboard secrets discovered by Mac users with too much time on their hands. Each wins £5.

In *ResEdit*, holding down [command], [shift] and [option] when choosing About *ResEdit* lets you turn on pig mode (oink!)

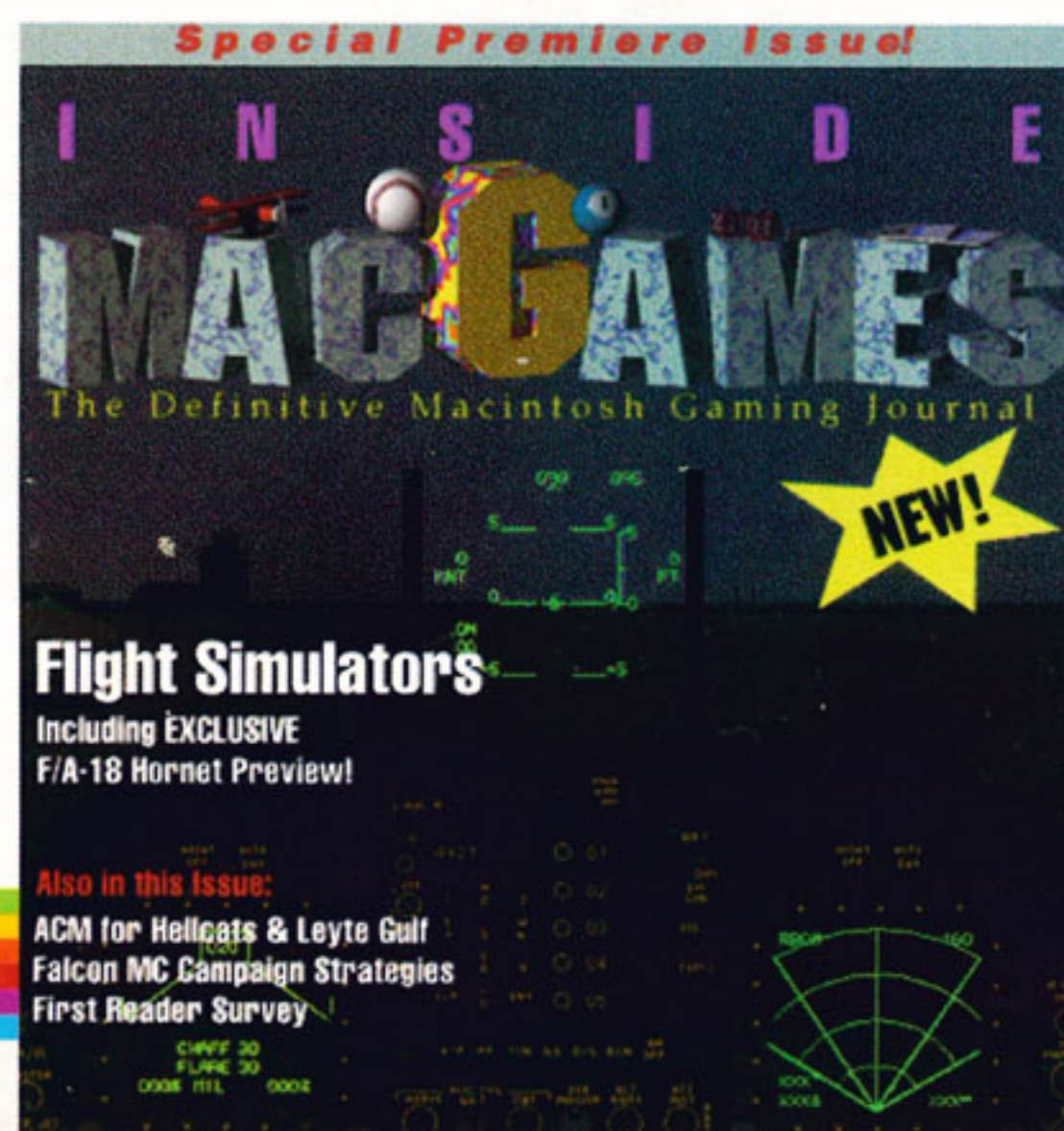
Gordon Barr, Bridge of Weir, Scotland

If you want to know what *Disk First Aid* is doing in detail, try pressing [command] [S] before checking anything.

Richard Bannister, Stillorgan, Eire

If you select the 'About Aldus FreeHand' option in version 3.1 you get a pleasant picture of what looks like a stained glass protractor and a scrolling display of the developers' names. Nothing to fax MacFormat for there. Mind you there is a red jewel in the middle of the protractor. option-click that...

Alan Bates, Wakefield, Yorkshire

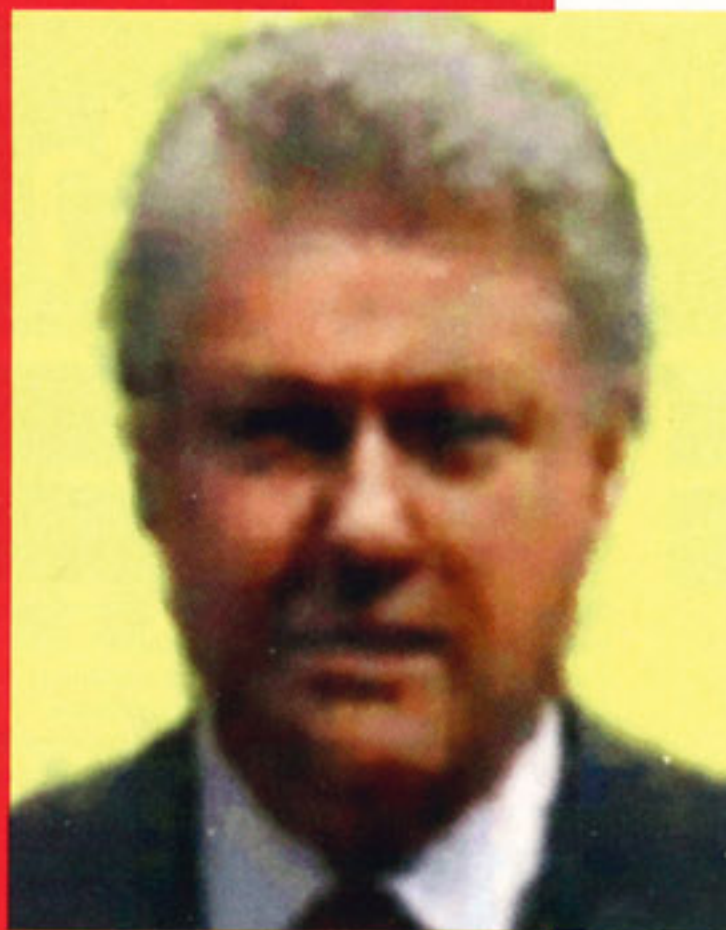


Win a year's subscription



Last month was a nice, violent, Hollywood morph, with Mel Gibson and Danny Glover being the digital mergees. Not Chris Eubank and Nigel Benn as one hopeful entrant ventured. So the winner is... step forward **Aidan McCarroll** of Dundrum in Eire.

This month's puzzler is perhaps a bit trickier. Take a look at the morphed pic and see if you can work out which two well known faces it's merger of. If you think you know, bung the answer with your name and address on the best postcard you can find and send it to "The best postcard stands more chance of winning then?", MacFormat, 30 Monmouth Street, Bath BA1 2BW.



as a result of consulting exhibitors that the age policy is set."

I think it's time for a false beard and forged birth certificate...

Overpriced, over here

I regularly travel to the USA on business, and have purchased a considerable amount of software there. Why bother you ask? Well as you may be aware, it's cheap. Here's the well kept secret – it appears to be common practice for certain US-based outfits to publish their US catalogue in the UK with one minor change; remove the dollar sign and replace with a pound sign. Taking exchange rate, VAT and duty payable on the import into account this practice immediately adds 43% to the price we pay compared with the US customer. This practice is rife and extends to resellers operat-

ing solely in the UK. It gets worse than this, I am afraid, as many dealers go beyond swapping signs and bump up the number to boot.

Free enterprise yes, what the market will bear maybe, but please **MacFormat** stop telling us what a wonderful buy the Mac is, it's not. Functionality great, software great, I love mine and the four more powerful ones at work, but be fair – it's relatively expensive hardware using overpriced software distributed by a cosy chain of authorised resellers, who may soon be a thing of the past if the rumours are true.

John Fennell, Shepperton

You think it's bad now, (lapses into bad Yorkshire accent) back in my day lad it were pound for dollar and t'exchange rate were over two to one! Thee had summat t'moan about then.

I'm not sure how you got that 43% figure: as far as I can work out something that costs \$100 would cost about £82 to import with duty and VAT but no carriage. Add £15 carriage and pound-for-dollar doesn't seem that bad.

As for the authorised dealer network, they are not above reproach (did I ever tell you the one about the AppleCentre, the PowerBook, the monitor and the non-existent cable? Some other time...). However these days I don't think I'd call them cosy; not with Apple merrily selling its quickest shifting lines through Dixons and the rest.

under 16s to be admitted!

What the hell's going on? As prices of Macs become ludicrously cheap, and the Mac is targeted more at home users, – 'All the family is involved' and all that, I can't go to the bloody Mac Expo because I'm a 14-year-old. If Apple are going to run such an event, surely it should cater for all Macintosh owners, and that definitely includes people under 16. Yes, Apple, there are a significant number of Mac owners under 16. They've all spent their hard earned cash on Apple computers. Aren't these people Macintosh users, just like the executive with fat wads of cash and a flashy car is?

Therefore, I hope I speak for all Mac owners under 16 when I say: wake up and stop ignoring money of the people who have bought your machines, Apple. Why are you treating under 16s like second-class Mac users?

Giles Hill, London

I agree with you completely Giles, although it's not fair to blame Apple as they don't run the show, EMAP Exhibitions do. I put your point to EMAP who replied:

"It is the phenomenal increase in the range of products and services from the exhibiting leading market suppliers and their unflagging efforts that have helped make AppleExpo the show that it is. It is these exhibitors we need to listen to, to ensure that the show continues to be such an excellent business forum, and it is

Roll on System 8!

What do you want to see improved about your Mac? This is your chance to try and influence Apple! This month's favoured feature is from Rob Amos of Roxton in Bedfordshire:

"If each individual Macintosh program has its own unique four-letter 'creator' code assigned to it, and Apple keeps a database of these codes, why does the message 'Could not open the document because the application that created it could not be found' appear? Why doesn't the computer tell me what application and version created it? Also this information should be displayed in the Get Info box instead of just plain 'Document'. It's this sort of attention to detail that's going to keep Apple in front of Windoze."

Well, I'm not sure I want a huge database of every Mac program cluttering up my hard disk, and keeping it up to date would be a nightmare. But on the other hand, I don't see why a file's MacBinary header (the bit with the creator codes) couldn't have a bit more information in it. Meantime, just use *FileTyper* on this month's cover disk!

MacFormat 7 was produced using... well, to be honest it was a miracle it was produced at all, what with Andy's arm, Yolanda's back, Louise's fever, Kim's wedding, Kellie's leaving and Mike's holiday. Thank God Sally and Julie were there the whole time to hold the fort (*you creep – Sal and Jules*). But anyway, MacFormat was produced using (if you're interested) two IIs, an LC II, a Classic II and two Quadra 700s, all networked to a Spectraset 2200 outputting film at 2,400dpi. In-house copy was written with *Nisus* – yes, really – and laid to rest on *QuarkXPress 3.11* while the scenes of crime team took screenshots with *Capture*, helped along by a little number called *Screen Capture Enabler* – thanks Alex – while *Photoshop* dusted some fingerprint powder about the place.

Favourite pastimes this issue were people peering into the office and asking where everybody was, and having hen lunches instead of hen nights.

Under age

While looking through a Mac magazine I noticed an advert for AppleExpo '93. I'll go to that, I thought, where's that ticket hotline? Ah, found it, but what's this? No

Apple Talk Mac Format 30, Monmouth Street Bath BA1 2BW

FREE SOFTWARE - FIVE DISKS FOR THE PRICE OF FOUR

Just order any four Metropol Pro shareware disks and we will send you a fifth disk FREE, Remember to tick your choice on the coupon

METROPOL PRO

PRO VALUE, QUALITY AND SERVICE GUARANTEED

shareware

NEW

To MacFormat - the biggest and best selection of Macintosh PD and shareware in the UK - from Metropol Pro

Only **£9.95** PER 1.44Mb DISK!

Power-boosting utilities

Power 1 (Sys 7)

AutoMenus: Make menus drop down automatically
Iconapp: Turns any open application into an icon
Spfind7: Speed up your Finder
Orwell: Record & Send sounds over a network
QMRRecorder: Put voice messages on QuickMail.
SaintEdit: Great text editor for instant access
Talk2Me: Make your Mac an intercom
Shutdown Later: Make your Mac turn itself off later
AltWdef: Turns any open window into an icon
Alias director: Get your aliases under control

Power 2 (Sys 6) Over 1250K

KeyTools: Speed up your keyboard use with shortcuts
FlashWrite: Special pad for taking and editing notes
Mouse2: Make your mouse move twice as fast
ProSwitch: Instantly switch between programs
Unstuff Lite: The ultimate file compressor
Boom202: Speed up the way you save files
MacPassword: Protect your Mac from prying eyes
Apollo: Have all your favourite programs on a menu
NOTES: Post-It type notes
Speedo: See how your Mac compares to others
Stylus: Powerful Text Editor with built-in fonts!

Latest top-line leisure

Hot games 1

Beamwars: Tron-style fast action bike game (colour)
Blade: Arcade action shoot-em-up (colour)
BattleShips: Play this classic against your Mac
Classic Daleks: One of the all-time great Mac games
Canfield: Play Solitaire on your Mac
Eliza: Talk to your very own Mac psychiatrist
Mac Defender: Brilliant conversion of the classic
MacTrek: Help the Federation defeat the Klingons
MacTurnover: A great version of Othello/Reversi
StuntCopter: Pilot a crazy attack chopper

Hot games 2

Risk: Great Mac version
BlackJack: Popular version of Pontoon
8 BALL: Brilliant pool simulator
Brickles Plus: Just like Breakout (colour)
Biorythm: The top Mac biorythm program
Glider: Guide a glider through your home
Core Wars: Great conversion of this old time favourite
Orion: Fantastic spaceflight simulator

....bags more games in our catalogue

Time-saving business tools

Timesavers 1

MiniWriter: Apple menu pull down word processor
theDirectory: A Rolodex for your Mac
Phones: Easy to use phone number database
Ck21: Easy to use home accounting software
DOITALL: Reminders and diary and appointments
Easy Envelopes: The easy way to print envelopes
Macsee: Load Mac disks on a IBM PC
Doswasher: Mac to IBM and back for text files
FileType: Essential for changing file creators
HideFiles: Make sensitive files invisible

Timesavers 2

Personal finance: Simple but sophisticated accounting
Meeting Cost Monitor: Cut the time you spend in meetings
MacSink: Very powerful Apple menu word processor
Smart Calendar: Great calendar with built in reminders
Niff: Converts your DOS & Unix text files to Mac and back
Dateprog: Calculates the number of days between two dates
Little Black Book: Handy quick reference database
MailMenu: Use voice paging over your network!

Easy to use graphics programs

View-it!

BMP2PCT: Convert PC BMP pictures to run on your Mac
FolderView: See all your PICT files in any folder at once
Imagery: Great graphics converter for PC, Amiga and ST
Imagjpeg: Uncompress JPEG graphics files
Imagutil: Mega collection of various graphics utilities
Picdecomp2: View all your JPEG files
Superconvert: Convert any TIFF file to EPS
Gifconverter: Load, view and convert GIF graphics files

...many other graphics utilities can also be supplied

Create-it! Over 1250K

UltraGrabber: Capture any part of your Mac's screen
Theatre Maker: Add backgrounds to your QuickTime movie
Popcorn: Easy to use QuickTime movie viewer and editor
Rays: Brilliant ray-tracing program
Desktopict: Put a full screen picture on your desktop
Rename: Photoshop plug-in for renaming PICTs
Wildmagic: The great QuickTime enhancer
Pico: Image-processing for colour Mac II range
Banner Maker: Print your fonts as BIG as you want
ScreenSnap: Guaranteed to take a snapshot of ANY screen

Pro Presentation tools

Extra fonts

Windsor: TrueType font
Architect: TrueType font
Goudy: Postscript 1 font
Rhyolite: Postscript 1 font
St-frans: Postscript 1 font
Thomas: Postscript 3 & TT Font
Mira: TrueType font
Andesite: TrueType font
Ashley: Postscript 1 font
Ballet: Postscript 1 font
Caraway: Postscript 1 font
Art Deco: 30's style font

A great selection of fonts from Art Deco to Hi-Tech

Perfect print

Keys: Make sure you've got curly quotes on print outs
Batchprint: Select any files to print without loading
Tt2win: Truetype converter
Serial DA: Run any printer connected to your serial port
Daisy: Run any Daisy Wheel printer
Typebook: Get a print out of all your fonts
Multispool: Printing in the background for non-laser printers
Sdw22: Connect your Mac to a HP Deskwriter
Proprint: Output to any printer but only text
Hpdj: Use the HP DeskJet printer with your Mac
Fontmaster: Excellent font display and lister

...Do you have a program you want us to find?

Desktop fun

Audio studio Over 1350K

Star Trek: Top sounds from the cult TV series
SoundTracker: Play Amiga, Atari and PC sounds
HAL alert: 2001's computer on your Mac
Deadhead: Make your Mac talk like Terminator Arnie
Sound Manager: Instant control over sounds
Big Ben: The most famous chime in the world
SoundMaster: Add any sound to any action!
RapMaster: Play rap music on your Mac!
SoundExtractor: Get sounds from other programs
Twin Peaks: Great collection of sounds from TV series

ask for a catalogue for more

Please help us to help you

HOW TO ORDER

All Metropol disk prices include postage for UK purchasers. Please allow normal bank clearing times for processing of orders made by cheque. Disks paid for by Postal Orders will be processed immediately. If you're ordering from outside the UK, please send an international

money order made out Metropol and add £2.50 to the order total to cover additional postages.

COMPATIBILITY

Unless specifically stated all Metropol Pro titles will run under both Systems 6 and 7. Also, unless stated, all programs will run on both mono and colour Macs. However,

should you encounter genuine difficulties with any file, we'll be only too happy to help you out with an alternative choice.

REGISTRATION

Many of our individual titles are shareware, which means that their authors expect a small payment for the program should you choose to

use it on a permanent basis after a reasonable trial period. This is a unique feature of shareware and one which should be honoured since in many instances the programs are of commercially viable quality. Besides, if you register you'll receive free updates and documentation, and make someone feel it's all been worthwhile.

METROPOL PRO SHAREWARE ORDER FORM

YES! Please rush me the following Metropol Pro Shareware

- | | | |
|---|---------------------------------------|---|
| ☐ Power 1 (Sys7) | ☐ Timesavers 1 | ☐ Audio studio |
| ☐ Power 2 (Sys6) | ☐ Timesavers 2 | ☐ Screen Madness |
| ☐ Hot games 1 | ☐ View-it! | ☐ Extra fonts |
| ☐ Hot games 2 | ☐ Create-it! | ☐ Perfect print |

Please complete this form and mail it with the correct payment to:
**Metropol Pro Shareware, Metro House,
Second Way, Wembley, MIDDXX, HA9 0YU, UK.**

Please send me my disk(s) and a catalogue

☐ I enclose a cheque/post order for £.....made out to **Metropol Pro**
(Please use BLOCK CAPITALS)

Name

Address.....

Postcode

- ☐ Tick here if you run system 7
☐ Tick here if you run a colour Mac
☐ Tick here if you own or plan to own a CD ROM Drive

Amusement mac FORMAT Arcade

PREVIEW

Even though Christmas is rapidly approaching it's all quiet on the games front at the moment. Maybe it'll all come with a rush next month?

Still no sign of Populous, we'll keep you posted and as soon as we get it you'll read the review here! If it's anything like the versions on other machines it's worth the wait.

By the time you read this, Chessmaster 3 should be out, just in time to miss the non-hysteria surrounding Short's 'challenge' to Kasparov. Chessmaster is powered by the chess engine which won the 1992 World Computer Chess Championship; the game is from Mindscape.

Super Maze Wars is a new one from Softline, and is described as a highly addictive networkable 3D maze battle game, so it's not short of adjectives at least. Up to eight can play across a network, and the computer will provide opponents too. The object is to hunt down and destroy everyone else, using a variety of weapons. It will cost £47, and we'll review it next month.

SimCity 2000, a major upgrade to the Maxis classic, is pencilled in for December release by Mindscape. Our first impression was "I want it now"; look out for a review Real Soon Now.

Chuck Yeagers Air Combat – page 102

Having trained you in *Flight Trainer*, Chuck now throws you in to combat with this warlike flight sim. So take to the skies with mayhem in mind!



Bandits on your tail – let Chuck show you how it's done



Pathways Into Darkness – page 104

Textured 3D graphics, a dungeon, some zombies and a World War Two pistol. What more do you need?



Plenty of enemies, and not many weapons – a complex underground world to explore

ZOA – the Zone of Avoidance – page 106

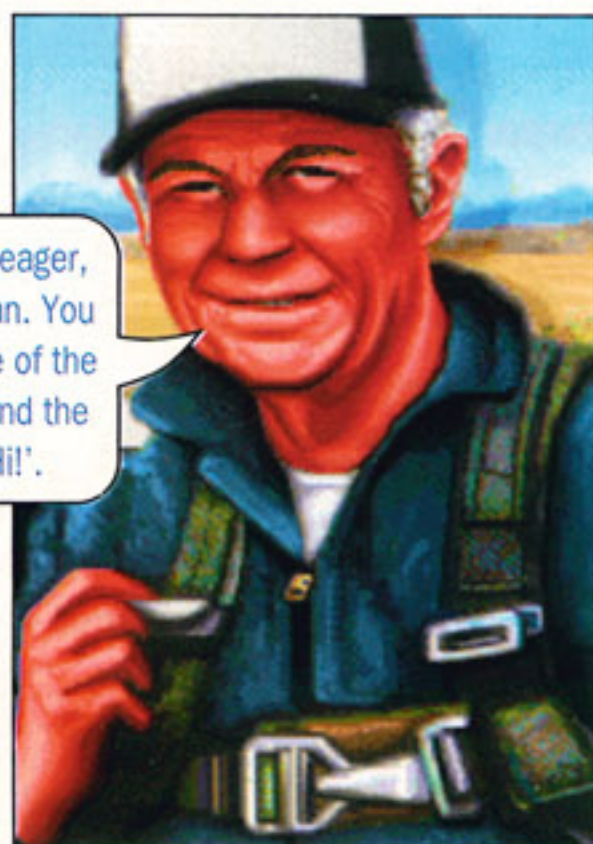
If 3D space destruction and violence is your cup of tea, then check out Zoa, the Zone of Avoidance. It's like *Elite* but without the boring bits!



Defend your space station against the enemy onslaught. Shoot anything that moves!

CHUCK YEAGER'S AIR COMBAT™

'So long, babe,' drawled Jonathan Davies, fastening his helmet. 'Take care up there! I love you!' wept Kelly. (McGillis, that is.)



Hi! I'm Chuck Yeager, and I'm American. You can tell because of the baseball cap. And the way I said 'Hi!'.

Welcome to Chuck Yeager's Air Combat,' said Chuck when I loaded up his game. Which was nice of him, I thought. And he kept on popping up as I played, offering advice on the finer points of aerial combat from his little window in the corner of the screen, just as he took us through the basics of flying in his *Advanced Flight Trainer*. 'Cut the throttle and pull up!' he suggested when I was heading for the ground a bit too fast. 'Bandit on your six - break!' as I sat stationary on the runway being strafed by enemy fighters. And 'Nice try, but remember: your main job is to stop the B-52s,' when I'd ejected two seconds after starting a mission.

While *Chuck's Advanced Flight Trainer* had you test-flying a range of planes just for the fun of it, *Air Combat* gives you guns, missiles and other planes to shoot at. And its aim is to turn you into a hot-shot

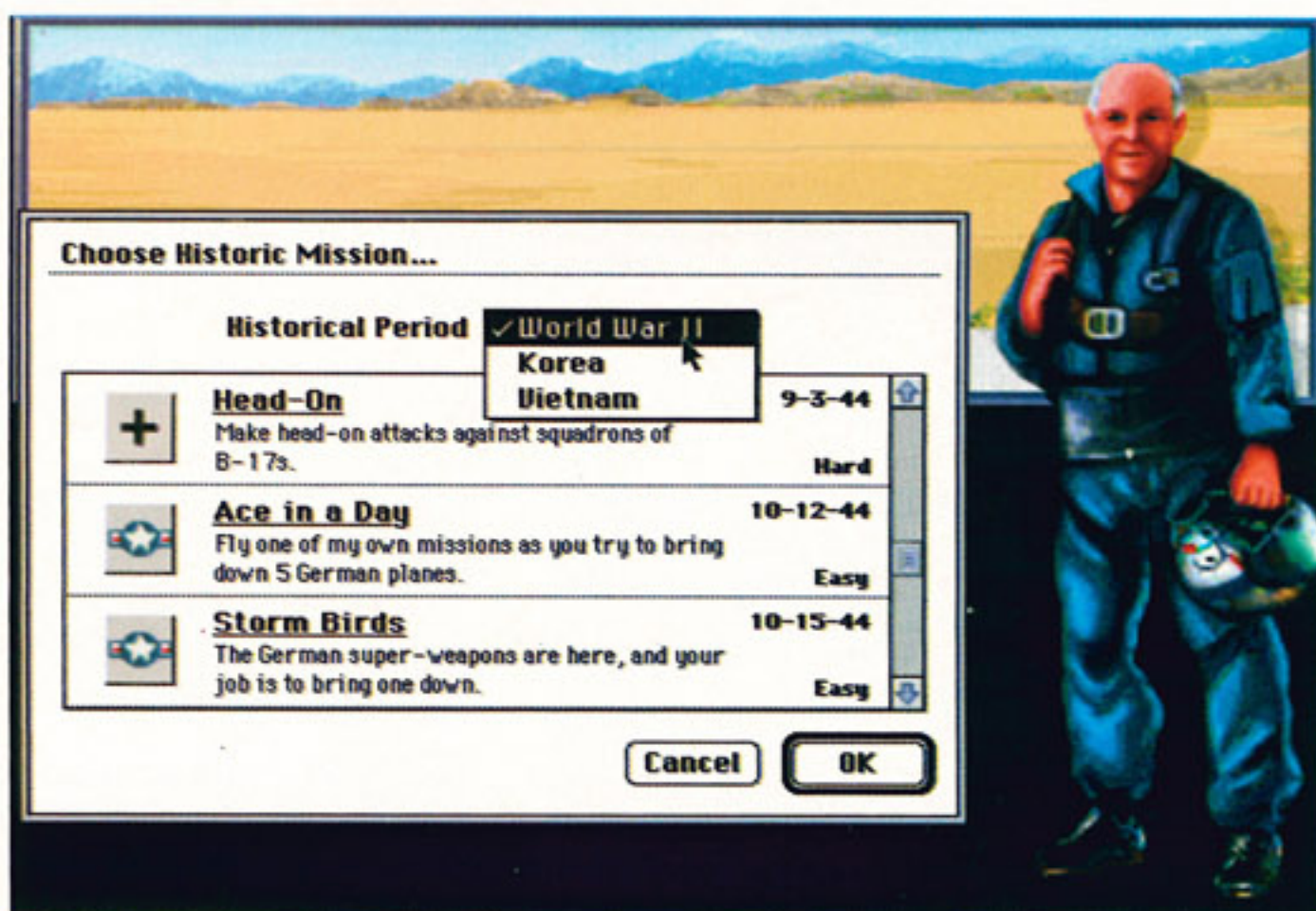


Tum-tiddy-tum... did anyone see *Memphis Belle* on TV recently? Oh no! I've just shot through my propeller by mistake! (No you haven't, you've shot down another plane you fool - editor.)

fighter pilot, just like Chuck himself used to be before he turned test pilot. (He chalked up 13 kills in World War II, fact fans.) To do that you'll have to master things like Low Yo-Yos, High G Barrel Rolls and Vertical Scissors, and well as learning to survive without the Help options the game provides (invincibility, for example).

And you'll be doing it in six different planes. There's the P-51 Mustang that Chuck himself used to terrorise the skies over Germany in, and the Focke-Wulf 190 that was his deadliest enemy; the F-86 Sabre and the MiG-15 (erm) Fagot that were took each other on during the Korean War; and the F-4E Phantom and the MiG-21 Fishbed that duelled for supremacy over Vietnam. That's six different planes, in case you weren't counting - not as many as *Flight Trainer's* 14, and seeing how only a real pro could tell the difference between the two planes of each historical era, you're basically left with three different 'flying experiences'.

There are loads of other planes rattling around, though: bombers to escort or rip apart, depending on whose side you're on; a weedy Sentinel communications plane; a couple of experimental German ones, including the lethal (for its pilot) Me-163 Komet; and lots more besides. But you can't actually fly any of them, which seems a bit of a shame. As does the fact that there aren't any biplanes in there - Chuck mightn't have flown them, but they make for a great battle.



Don't believe there are three historical eras with a range of missions to choose from in each, all of which you've got to complete if you're playing the game properly? Here's the proof.



How would a 1940s Fockewulf 190 have fared against a 1960s F-4 Phantom? Here's your chance to find out. (Clue: it's not 'excellently', it's not 'averagely' and it's not 'mediocrely'.)

Mission-wise the choice is rather wider. There's a range sorties from each of the game's three historical eras, and you can design your own missions as well (as I'll explain in a minute, if you could just hang on). This being an air combat game, however, it's strictly head-to-head dogfights only. There are no bridges to bring down, runways to crater, ships to sink or tanks to bust. This, too, seems a bit of a shame, but I suppose the game's just sticking to what it's best at.

Right: the custom missions, then. This is your chance to experiment a bit. What would happen, for example, if an F-4 Phantom was spookily warped back in time to World War II, and for some reason felt the urge to prevent a wave of B-17s from dropping their load on Germany? Here's your chance to find out. Or, if you reckon you're a pretty crack pilot, see how you fare in a P-51 Mustang against a pair of MiG-21s. Would your Mustang's higher manoeuvrability be enough overcome the MiGs' superior speed? Or not? Or why not make it 15 MiG 21s, and see how long you last? The possibilities are endless.

Actually, that's a bit of a lie. Pretty soon you'll have exhausted all the possibilities, and, unless you've really got your heart set on becoming the ace of aces, and out-Chucking Chuck, you're likely to be left twiddling your thumbs.

With no ground targets (bar the odd lorry), no SAMs to watch out for, only six different planes, and functional graphics that don't inspire sight-seeing, there's not much room in *Air Combat* for the mucking about that can make other flight sims so entertaining.

Viewed purely as a serious air combat simulator, though (which is what it probably should be), *Chuck's Air Combat* is jolly good. I've got no complaints about the way the planes handle, for instance, and dog fights are extremely convincing, especially when there are loads of planes weaving about, just as if they've got real pilots inside, quite literally fighting for their lives.

Also noteworthy is the flight recorder, which can be called up at any time to replay the last couple of minutes or so of your mission from various angles. And, speaking of angles, there's a comprehensive selection of views which can be called up as you fight – at the press of a button you can glance over shoulder to check your six, or call up a number of external viewpoints (although it's a pity about the lag on the from-behind-the-plane view, which makes it pretty impractical during high-G manoeuvres).

It's an enthusiast's flight sim, then: just the job for trainee fighter pilots wanting to hone their skills, but with little to tempt the outsider. **mf**



Here we're flying a MiG-21, taking on a Yankee F-105 Thunderchief. Either it hasn't noticed us, or it's playing it cool. Or it's distracting attention from another one creeping up behind us. They do that sort of thing.

✓ Top gun

Authentic combat, and potential for timeframe interpolation antics

✗ Tail end charlies

Not many options to explore, so it could rapidly get boring

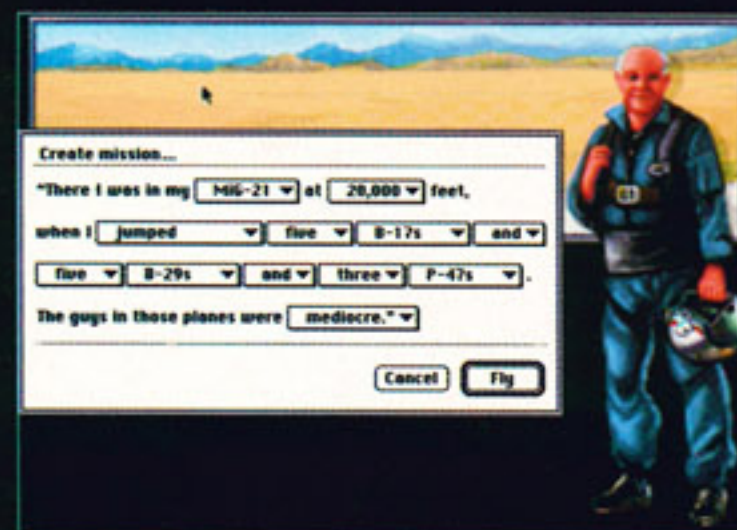
Price: £45

From: Electronic Arts, 0753 549442

Requires: SE/30 upwards. Black and white: 1Mb RAM with System 6.07, 2Mb with System 7. Colour: 2Mb with System 6.07, 4Mb with System 7.

Controls: mouse, joystick or keyboard

Chuck's Ripping Yarns No. 118



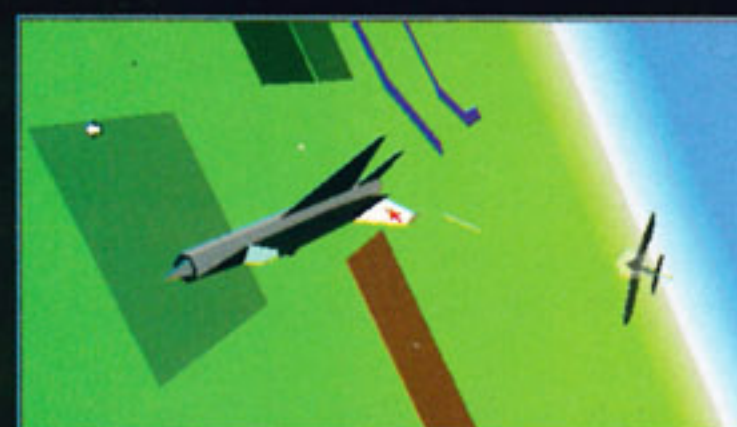
'I'd been living on corned beef for a month, and my prosthetics were giving me hell.'



'Then I spotted the bombers. I singled out a straggler – a young B-17.'



'With his number three engine on fire, he didn't last long. This was easy.'



'But suddenly, yikes! I mean, er, shucks! The P-47s noticed me.'



'Maybe the guys in those planes weren't so mediocre after all.'

Graphics 74%
Sound 58%
Gameplay 83%
MacFormat rating

72%

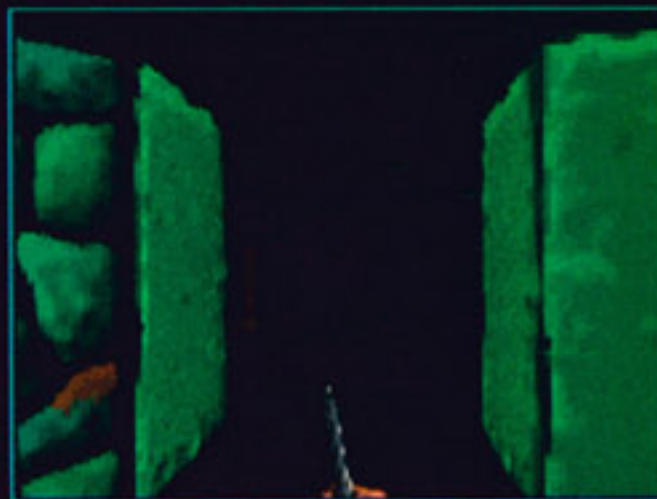
What happens as you dash through the catacombs...



While hacking and slashing your way bravely through the corridors, dealing deadly blows to 'Headlesses'...



...you come across a chain dangling from the ceiling. Do you pull it or not? Give it a tug and you hear a rumbling noise in another part of the dungeon.



Later on you find that a door has swung open, and in the depths of the room glimmers a peculiar yellow object.



Hmm, looks like it could come in handy. There are lots of dead Nazi soldiers lying around in the corridors – perhaps they've got something to say.

Pathways into

You just can't get away from dinosaurs these days. Thanks to Spielberg's multi-million dollar film, *Jurassic Park*, the reptilian monsters have been appearing everywhere, and at first you might think the only way you can get away from them is by delving into an engrossing role-playing game on your Mac. Unfortunately, it doesn't quite work, because *Pathways into Darkness*' bizarre plot starts 65 million years ago when a large extra-terrestrial object smashed into the earth in Mexico and killed all the dinosaurs.

Modern-day scientists would have you believe that the object

Head into the depths of an ancient temple to save the world from disaster. Richard Longhurst always wanted to be Indiana Jones.

was a lifeless but incredibly large lump of space rock, but the game designers at Bungie know different. The object was an immortal deity,

and it's now entombed beneath the earth's surface, creating all manner of grotesque monsters while it prepares to rise from its resting place. Needless to say, if the god ever gets out, the human race has had it, so it's up to you, as a member of the Special Forces, to dash into the catacombs with a small nuclear device and cause a big enough explosion to trap the horrific thing underground forever. Got all that? Right, now we know why we're here, we'd better do something about it.

Armed with nothing but a survival knife, you enter the catacombs, hoping to catch up with your Special Forces mates who

thought it would be a laugh to leave you on your own. But as you tread nervously down the first corridor, things suddenly seem not quite so amusing. The first thing you find is a peculiar blue runic symbol on the floor, and nearby lies the rotting corpse of a Nazi soldier. Frisk the body and you find a pistol and some ammunition. It's quiet down here, almost too quiet. You start to investigate further, never knowing what's around the next corner...

And before you know it, a couple of headless monsters are on top of you. One's firing green gunk at you and the other looks like it's trying to lick you to death. For a couple of seconds, there's nothing you can do but stare at these hideous creatures. At last you fire off a couple of random shots in desperation, but both miss. The Headlesses keep attacking, your energy starts to fall. You fire the gun and manage to hit one, but their attack is relentless, blood fills your eyes and you crumple to the floor in a lifeless heap. You've only been playing the game for five minutes and already your palms are sweating and your pulse is racing.

Thankfully, not every encounter is as disastrous as your first. You're almost bound to come off worse when you're still struggling to familiarise yourself with the control system and the monsters have the advantage of surprise. Pretty soon you're in complete control of your character, using a

ESSENTIAL EQUIPMENT



Survival knife

Can do a surprising amount of damage for such a small weapon, but you have to get in close, which inevitably means you have take a lot of hits when you're using it



Pistol

A world War II pistol is not the ideal weapon with which to tackle the monstrous miscreants you're up against, but it sure beats the knife



Magazine

Obviously, if you've got a pistol, you're going to need bullets to put in it: luckily, the dead Germans are flush with full magazines



Torch

It's dark down in them there dungeons, so make sure you've got a large supply of copper-coloured batteries with you

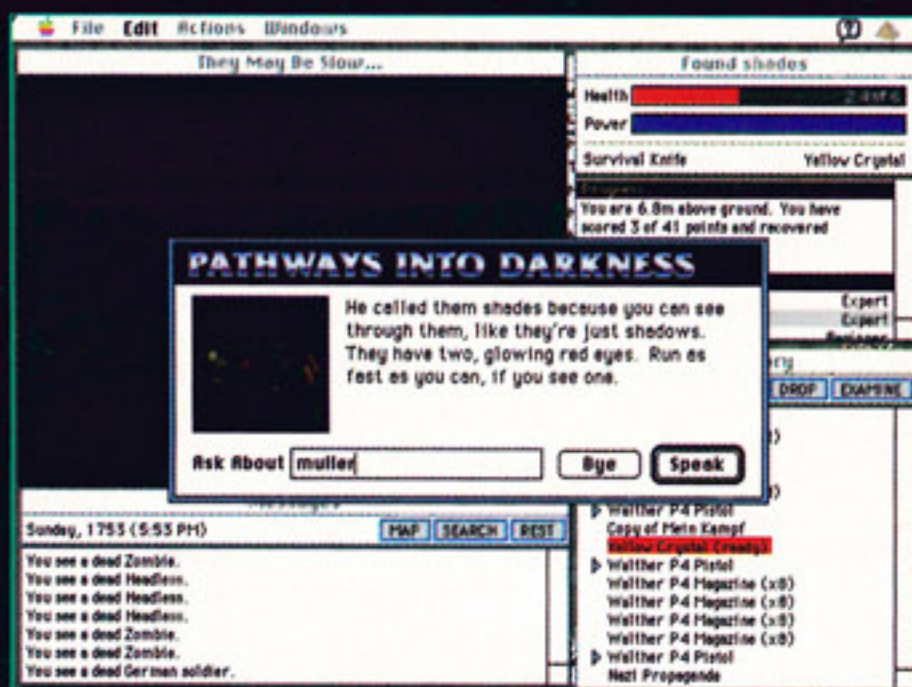


Propaganda

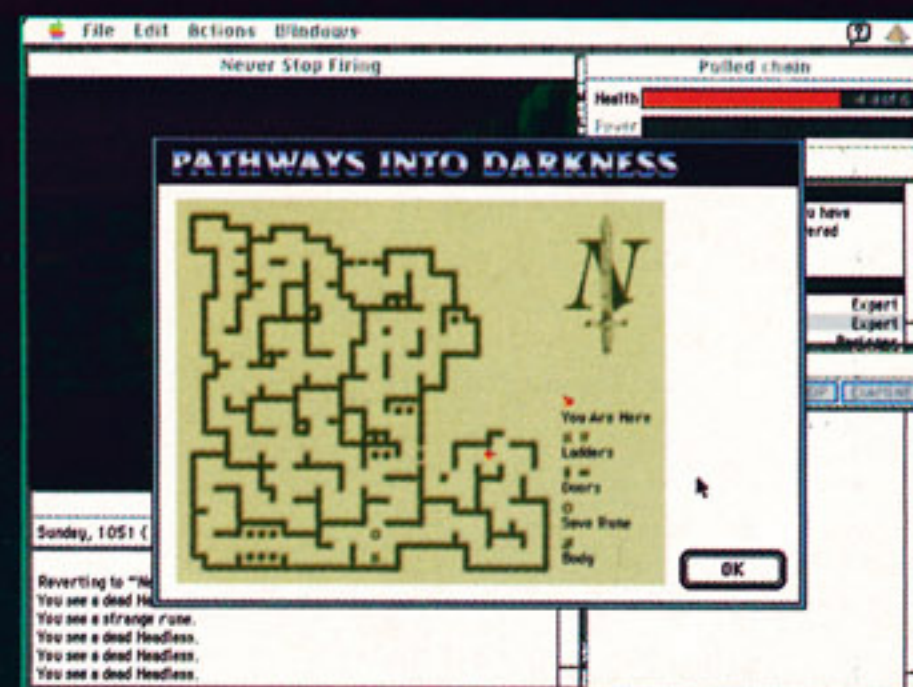
Not quite sure why you need the Nazi propaganda – perhaps you can bore some of the monsters to death with some of Goebbels' favourite writings



The zombies look frightening when you get up close, but they're equally deadly from a distance – they hurl bones at you with alarming accuracy

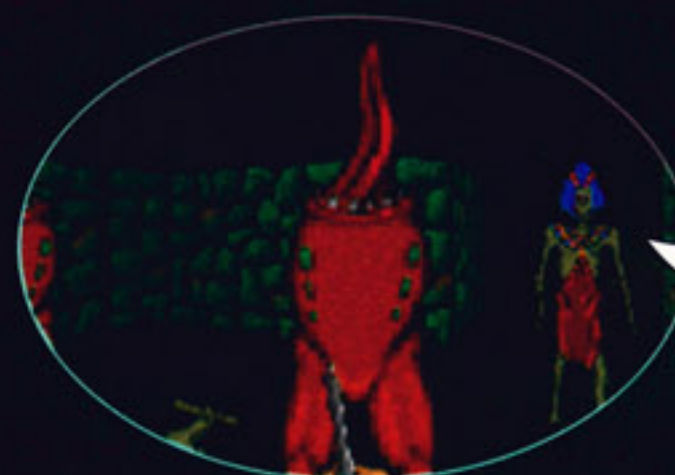


The yellow crystal enables you to talk to dead people, but the conversation system isn't up to much – it's surprising how many of the dead Nazis haven't heard of Hitler



Thank heavens for the automatic mapping feature, you'd be lost without it. You'll be glad to know that you won't be attacked while you're looking at it.

darkness



Bet you can think of at least a dozen rather unpleasant uses for that tongue

combination of keyboard and mouse commands, but while it's easy to get to grips with how to play the game, you're never entirely sure what's coming next. There's a deliciously masochistic nervous expectancy about what's lurking behind the next door. The game always keeps you guessing, sometimes lulling you into a false sense of security, and then hurling half a dozen monsters at you when you least expect it.

Pathways into Darkness is a well-produced game, combining engrossing gameplay with atmospheric graphics. The dungeons evoke just

the right feeling of fear and fascination, you're frightened to continue but at the same time a fatalistic attraction is drawing you into their depths. The textures on the walls look suitably slimy and the animation of the creatures is superb. It looks great in high resolution, though the scrolling can be a little on the jerky side, so it's best to switch to the low resolution if you're playing on a slow machine.

The game's packed with features to make it easy to play. It only takes a couple of minutes to get the hang of the control system, and to learn

the best tactics for each weapon. Unlike many role-playing and adventure games, you can't save your position whenever you want, in *Pathways* you have to get to one of the special designated save points. There are usually a couple of these on each level, and while it sometimes seems like a drag to have to repeat parts of the dungeon when you get killed, it makes you think twice about rushing into uncharted territory.

There's much more to the adventure than running around killing monsters. It's great to be able to play a game that challenges your mind as well as your reflexes, and *Pathways into Darkness* scores highly on both counts. [mf](#)

- ✓ **Intrepid explorers**
Instantly accessible and thoroughly enjoyable RPG with a great plot
- ✗ **Cowardly custards**
Conversations are limited and the dungeon graphics get a bit samey

Price: £50
From: Softline
Out: now
Requires: 256 colour-equipped Mac with 2Mb free RAM running System 6.05 or higher
Controls: mouse and keyboard

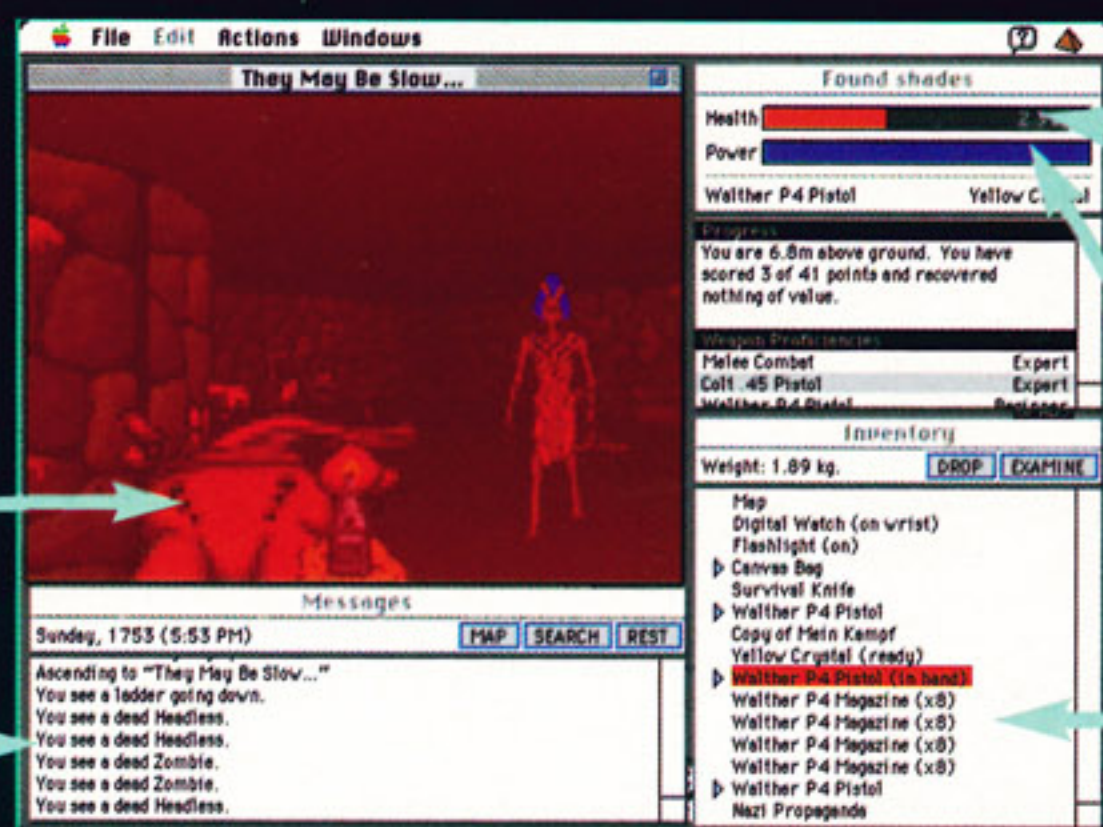
Graphics 90%
Sound 79%
Gameplay 88%
MacFormat rating

86%

A view to a kill – or how to meet lots of interesting creatures, and kill them

The viewing window can be re-sized to suit the speed of your machine. The game can be run in low resolution to speed things up on slower Macs.

The box below contains text messages that describe what's going on above above. When you come across corpses it's always a good idea to ransack the bodies for useful items.



Keep a sharp eye on the red bar – the lower it gets, the nearer death you are. If you think you're in a safe area, you can have a rest, but make sure there are no monsters around or you'll suffer a rude and extremely painful awakening.

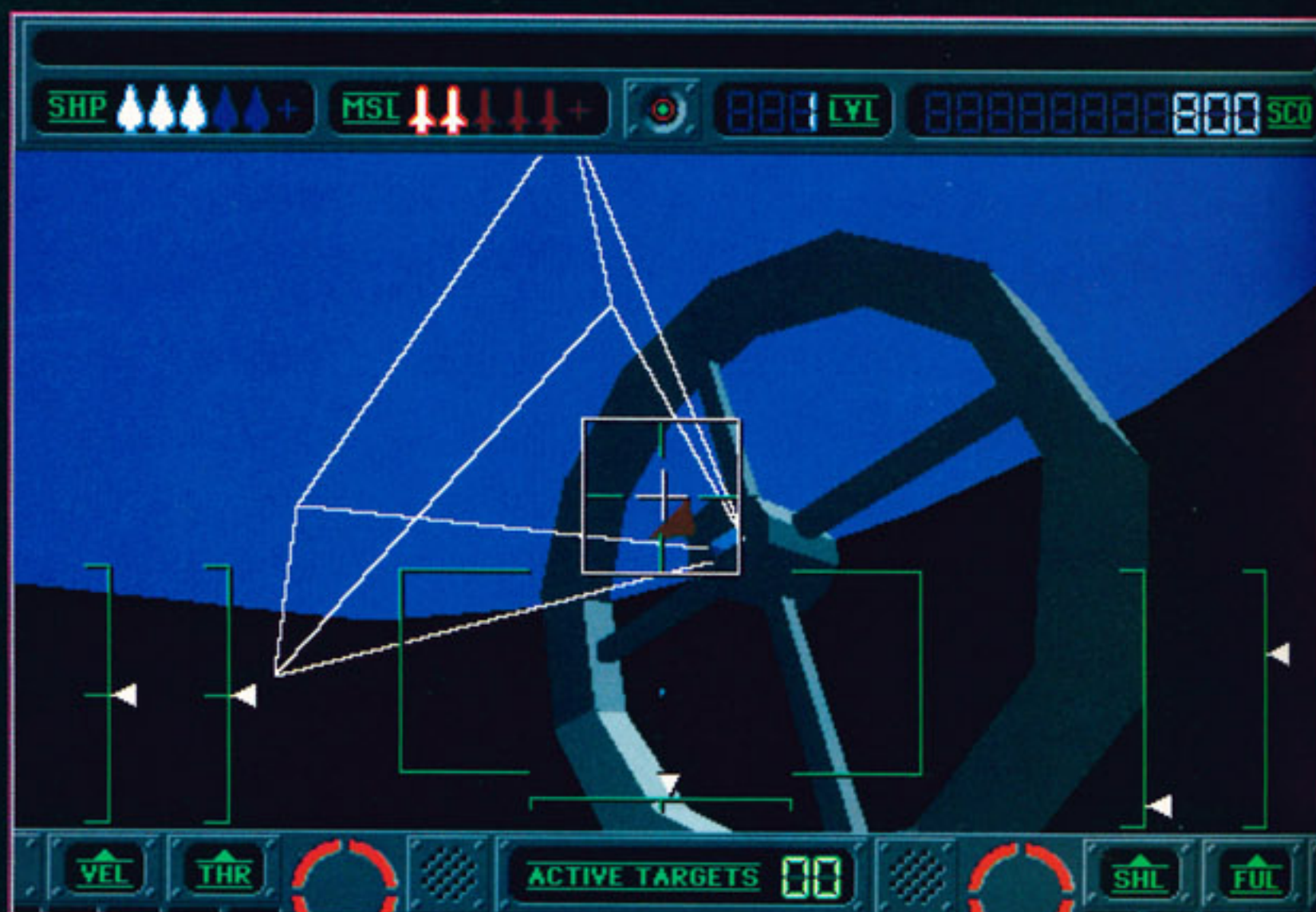
The bar below shows the power level of the magic crystal you're currently holding.

The inventory lists all the objects you're carrying – luckily you've got unfeasibly large pockets. You start the game with only a survival knife, but it's not long before you've progressed to bigger and noisier weapons.



ZOA

There's lots to look out for in this 3D space shoot 'em up. Dave Green decides if it's the place to be.



If the station makes it through a level intact (yeah, okay, so this is the first level – big deal), it extends a helpful 'tractor' beam to guide you back into the docking bay

Well it could just be me, but isn't 'Zone Of Avoidance' a really stupid title? I mean, it doesn't really tell you very much about the game, does it? (Apart, of course, from the fact that it takes place in a specific location and that the concept of avoiding things is somehow involved. Wahey!) I've got nothing against abstract nouns myself – used sparingly, words like 'death' or 'fear' can liven up a run-of-the-mill title no end. But I'm left wondering what they're going to call the sequel to this one: 'Area Of Aversion', probably. I can hardly wait.

So, given that the name fails to give the barest hint of what the game's about, I guess I'll have to explain it. For anyone who remembers the BBC Micro, this is basically a Mac version of *Elite* – only without the involved space trading

scenario. This is either a good or a bad thing depending on whether you found working through a galactic shopping list thoroughly absorbing or just plain dull. Either way, ZOA is a much simpler affair. It's a 3D shoot 'em up in which you defend your base against all manner of alien bad guys. Oh, and it's set in space, obviously.

What this translates to, in real terms, is plenty of flying around in a nifty little fighter craft, blowing up the aliens before they can attack the space station where you live. Intriguingly, the aliens' main tactic involves throwing what seem to be large baked potatoes at the station. The manual claims that they're asteroids, but I reckon they look like potatoes (or unwrapped Oxo cubes). Clearly not content to trust the operation to a bunch of over-accelerated vegetables, the aliens put in a personal



If you've got a slow Mac, you can adjust the level of detail on the polygons to speed the game up. From certain angles, this makes the asteroids look like giant Oxo cubes. Fascinating.



This screen shows two active targets left, so it's time to check the scanner (the big green square under the gunsight), and go search and destroy



The big green blobs are cruisers (I believe), and one of them's just fired a missile, which we can probably avoid (or shoot down) if we're quick. PANIC!

original synth-rock soundtrack playing in the background, and you've recreated one of the great sci-fi movie moments of all time.

With a title like this (uh-oh, clever-wrapping-up-by-referring-back-to-the-opening paragraph warning) it's very tempting to finish off by saying "*Zone Of Avoidance – steer well clear*" or some other hilarious cliché. In fact, I really liked it – with certain reservations. The 3D graphics are great, especially on an '040 machine, but they don't seem quite as precise as those in *Spectre Supreme*, say. And while there are a few nice touches (like the sampled 'Phew!' every time you clear a level), some of the gimmicks are frankly a bit useless – the fixed 'external view' option, for instance, is the most limited I've ever seen.

The biggest problem is the gameplay or, more specifically, its lack of variation – after a while the levels just seem to be more of the same old stuff, with very little element of discovery. You could play *ZOA* for several hours at a time, but you'd probably either go mad as a result or have been mad to start off with. *Zoa the Zone of Avoidance* is a game to dip into rather than keep you enthralled for ages (especially as you can start on any level without a password) and more in

- | | |
|------------------|------------|
| Graphics | 78% |
| Sound | 70% |
| Gameplay | 76% |
| MacFormat rating | 75% |

This image displays seven distinct low-poly 3D models of Star Wars ships, each presented within a circular frame. The models are arranged in a grid-like fashion. Each model is accompanied by its name in a bold, yellow, sans-serif font and its corresponding point value in a white, sans-serif font. The ships are: Marauder (brown, 2,000 points), Asteroid (orange, 300 points), Command ship (light blue with red accents, 5,000 points), Alien fuel ship (light blue with a brown rectangular feature, 3,000 points), Cruiser (green, 1,000 points), Raider (red, 500 points), and a ship that is not explicitly named but is a light blue wedge shape with a brown rectangular feature (3,000 points).

Ship Name	Points
Marauder	2,000
Asteroid	300 points
Command ship	5,000 points
Alien fuel ship	3,000 points
Cruiser	1,000 points
Raider	500 points
(Unlabeled light blue ship)	3,000 points

Price: £47
From: Softline, 081 401 1234
Out: now
Requires: hard drive, MacPlus or greater including Powerbook 100 (LC or greater recommended for speed), 4Mb RAM, System 6.05 or later. It's OK in 16-colour mode but pretty annoying in black-and-white.
Controls: mouse or keyboard

GAMEBUSTERS

Hellcats over the Pacific

Dear GameBusters,

Here are three features that are not included in *Hellcats/Missions at Leyte Gulf*:

- Zoom in or out of Tower View: once in Tower View [T] key, the [+] key will zoom in up to eight magnifications; the [-] key will zoom back out. Engine thrust functions usually controlled by [+] and [-] keys are over-ridden when in Tower View mode.
- Finding ditched enemy planes: match cloudscapes, land formations, or other features in Enemy View and his heading in the off-line instruments, to align yourself with the ditched plane. Fly up and down along that compass bearing until you see him. A quick blast of machine guns blows him up.
- Instantaneous engine fire up: press [A] key once and release immediately to get full thrust. More effective than depressing [+] key repeatedly until 100% thrust is reached. Remember, once aloft, that hitting the [-] key will kill the engine; resume thrust using [-] key.

Michael Dembinski
Middlesex

If you found those tips valuable there's more where that came from. Michael has produced a booklet entitled "How to become a Hellcat Captain." To get your copy send £5.00 to Michael at 27 Ribchester Avenue, Perivale, Middlesex, UB6 8TG.



Here I am poised in the cockpit of a fighter plane. All the years of training about to pay off... Next door's poodle won't know what's hit him.

Lemmings

Dear MacFormat, I have a stunning new cheat for *Lemmings* on the Mac. If you are

just about to complete the level and really need to speed it up a bit, simply hold down shift and the lemmings go running

instead of walking and everything else is done at supersonic speed. The cheat applies to all levels and can be used at any

time, even for the whole level.
Stephen Woowat Herts



Thanks Stephen. It seems even with the complete passwords we were optimistic to think we'd seen the back of cheats about

little green-haired blighters. Surely there can't be any more – or maybe you know different...



It's that time of the month again – no, not pay day, but arguably the next best thing: yes, Kim Ellaby is back with another absolutely fabulous (darling) round up of hints and tips to help you get off the tranquillizers and on to the next game level...

Monkey Island 2

Here is a round up of useful tips sent in by some clued up readers for the brilliant *Monkey Island 2*:

- To get into the Governor's fancy dress party go to the mansion wearing your costume. Go to the side of the mansion. Open the door and enter the kitchen. Try to get the fish, you'll be chased outside. This time try to pick up the trash-can. This will irritate the chef and he'll chase after you. Run round the mansion, into the kitchen again and enter the mansion.
- Trapped against your will at Le Chuck's fortress? To get out, use the crazy straw in the green drink. Spit on the pan just below Wally and the shield to your right, adjusting their angle. The correct angle will let you spit on the shield then bounce off the pan, which in turn will send it to the candle. The light will go out and you will make good your escape.
- To beat the guy at the grog drinking contest, get the telescope up the treehouse on Booty Island; go

inside the guy's house. When he goes away to prepare the grog, use the mirror on the frame. You will lose the contest. Come back round by the path and use the telescope on the Grotesque statue. Go back in and ask for a rematch. When he goes to get his drink, pour your drink into the Bonsai Tree and use Kate Capsize's near-grog on your own mug. You should now win the contest. Go over the wall and push the brick which the telescope singled. The rest is easy.



Follow our *Monkey Island* tips to help you get out of tight situations... like this one

Get scribbling!

If you have any hints, tips, cheats, or simply want games info get scribbling to GameBusters, MacFormat, Future Publishing, 30 Monmouth Street, Bath BA1 2BW. Well, go on then...

Civilization

Dear GameBusters,

Here is a cheat for *Civilization*:

It's not the end of the world when a city goes into civil disorder. When you are in the city window go to the menu bar and click on city. Then go to



aerial view. This will display a pretty picture of your city and you will also get a completely uncovered map of the world without enemy cities, (unless you have found them) on the small map next to the edit window in the background.

Robert Harkness
East Sussex

Micro Core Ltd

5 BROOMFIELD ROAD, CHELMSFORD, ESSEX CM1 1SY



Authorised Reseller

SPECIAL OFFERS

Starter System

Apple Macintosh LCIII 4/80,
with 14" Colour Display,
StyleWriter II and Works software

£989

Audio Visual System

Apple Macintosh Centris 660AV
8/230 CD, 14" AV Monitor,
with Apple extended keyboard

£2319

EDUCATION PRICE ON AUDIO VISUAL SYSTEM **£2179**

*For these or more personalised systems please
contact Roy MacGregor, David Bullock or Peter Beech*

TEL (0245) 264230

FAX (0245) 261848

The Apple logo, Apple and Macintosh are trademarks of Apple Computer Inc

ALL PRICES ARE
EXCLUSIVE
OF VAT (E&OE)



Dinach Shareware



Send for a copy of our massive 30 page Catalogue!
It's packed with loads of the latest Shareware &
PD software, including Games, Utilities, Fonts,
Control Panels and System Extensions.

Discs are **£3.95** each (inc. P&P).

Special Offer : Any 3 discs **£10.**

Dinach Shareware,
PO Box 1076,
Glasgow, G3 6LD.

Send a SSAE
for the full
Catalogue.



MacGOLD ☎ 0723 582100

7 days a week
9am - 9pm

NOTHING TO ADD TO PRICES SHOWN - ALSO INCLUDES DELIVERY

Game Pad Controller	£39.99
Gravis Mousestick	£69.99

UNBEATABLE OFFERS

After Dark/More After Dark Bundle	£39.99
Bane of the Cosmic Forge	£24.99
Battlechess	£23.99
Freddy Pharkus	£28.99
Kings Quest 6	£29.99
Hellcats	£39.99
Journeyman Project CD-ROM	£64.99
Loom	£27.99
M4 Tank Simulator	£39.99
NFL Playmaker	£19.99
Patton Strikes Back	£19.99
Railroad Tycoon	£28.99
Spectre Supreme	£39.99
Civilisation	£36.99

Dinosaur Adventure	£34.99
Falcon MC	£43.99
Indiana Jones & Fate of Atlantis	£34.99
Iron Helix CD-ROM	£69.99
Monkey Island 2	£34.99
Scrabble Deluxe	£38.99
Spaceship Warlock CD-ROM	£69.99

NEW PRODUCTS

7th Guest - Double CD-ROM	£67.99
Crosswords Deluxe	£27.99
Chuck Yeager Air Combat	£37.99
FA18 Hornet	£53.99
Indiana & Fate of Atlantis CD-ROM	£49.99
Pathways into Darkness	£43.99
Star Trek 25th Anniversary Game	£39.99
Sim City 2000	£Call

CALL FOR FULL PRICE LIST - of Games, CD-ROM's,
Education & Utilities in stock! All credit cards & Switch accepted
Make cheques payable to "Sovereign Software" and send to P.O. Box 63,
Scarborough, YO11 3YW. Overseas orders welcome. E&OE.

ADVERTISERS' INDEX

Apple Xpo	18	Korg	52
Can Do Ltd	75	Mac Gold	109
Claris	13	Mac Warehouse	22
Computer Capability	38	Macline	78 & 79
Computer Warehouse...10 & 11		Microcore Ltd	109
Computers Inc.	68	Mygate	86
Dinach Shareware.....	109	PC Gamer	100
Direktek.....	45 & 49	Performance Direct.....	52
Edge	75	Premium PD	93
Frontline..... IBC & OBC		Roland UK	75
Future Music	62	Softline Distribution	IFC & 3
Harwoods.....	60 & 61	Universal Trading Co.....	57

Reader Services

FOR SALE

Macs

■ Mac Plus 4/20, Rodime Hard Disk, very good condition, home use by a teacher, £390 ono. Tel: Paul 0202 471484 (Christchurch).

■ Mac Plus, 20Mb Hard Disk, excellent condition, £200. Tel: Ian 0296 613652 (Aylesbury).

■ Mac Plus, 4Mb RAM, with carrying case and Apple StyleWriter printer. Complete package ready to run, very good condition, £450 ono. Tel: 0670 820217.

■ Mac Classic 4/40, excellent condition, 6 months old, manuals, boxed, home use only £450, some software available. Tel: 0703 786327.

■ Classic II 4/40, no keyboard or mouse, mint condition, £400. System 7.0 Personal Upgrade Kit (new and unopened), £20. Tel: Rob 0865 331540.

■ Classic II 4/40, keyboard and mouse, System 7, *ClarisWorks*, all boxed with manuals, and dot matrix printer, all excellent condition, £600 ono. Tel: Paul 051 339 1181.

■ Mac Classic II 4/40 with System 7, keyboard and mouse, a year old, boxed as new with all manuals and Kensington Universal copy stand, private use, only £700 ono. Tel: Paul 031 666 1229.

■ Classic II 4/40, approximately 5 months old, System 7, very good condition, Targus travel bag, Microsoft *Word 1.5* and Think CV's *Originals*, DeskWriter printer. Selling due to upgrade, £850 ono. Tel: 0234 822630.

■ SE 4/40, accelerator card 32K cache (faster than an SE30) System 7, £475. Also two SE Ethernet cards – unused, complete, £30 each. also simms £30 per MB. Tel: 0793 486869.

■ Mac SE HD FC 4/20 extended keyboard, mouse and manuals System 7 and *Word 5*. Home use only, £450 ono. Tel: Dave 0293 562643 (after 6pm).

Bargains, bargains, bargains!!! That's what we've got for you. Cast an eye over this month's choice selection of goodies and bag yourself an item of previously-loved Mac kit.

■ SE 2.5/20 and printer, all in good working order; Image Writer II with colour ribbons and manuals; keyboard, mouse, cables and some software included. Prepared to sell separately or £465 the lot. Tel: David 071 722 1505 (N London).

■ Performa 400 14-inch monitor, Stylewriter II, Claris, other packages, boxed with all manuals, genuine reason for sale. Cost £1100, sell £850, first to see will buy. Tel: Nick 0242 525255 (after 6pm).

■ LC 4/40 System 7.1, 12-in RGB monitor, keyboard, mouse, manuals, cables, boxes, etc. Light home use only, excellent condition, £500. Also Lapis 19-in mono monitor/LC V-card, still guaranteed, boxed, £400. Tel: 081 868 8074.

■ Mac LC 6/40 and 12-in colour monitor, £500. Stylewriter, Radius Pivot Interface and Card for LC, £50. Home use only. Tel: 0245 421 448.

■ LCII 4/40 14-inch monitor, System 7 plus Stylewriter Printer, excellent condition, hardly used, £900 ono. Tel: 0782 718545.

■ Mac IIsi 5/80, excellent condition, System 7 plus keyboard and Apple 13-in monitor, £1,100. Tel: Jason 051 495 2350 or Fax 051 420 5322 (Cheshire).

■ Mac IIsi 17/80 14-inch colour monitor, maths co-processor external hard disk 180Mb HP DeskWriter, 550c Plus software, £24 or offers. Also other software *InFini-D 2.51* £650, *Typestry 3D* £175, all boxed as new. Tel: R Basra 0902 321965 for quick sale.

■ Mac IICI 8/170 14-in high resolution monitor Mocronet 44Mb removable hard disk with 4 SyQuest cartridges, GCC BLP II Laser printer, extended keyboard, mouse and mat, £3250 ono. Tel: 0532 823942.

■ Mac IICx 8/80 14-inch new colour monitor, new keyboard and

mouse, System 7, excellent condition, many extra's £1700. Tel: 051 4952350.

■ PowerBook 100, 8Mb RAM 20Mb HD, System 7.1, Microsoft *Works*, games and carrycase, excellent value, £850. Tel: 0279 453348 (after 5pm).

■ PowerBook 160 4/80, complete with s/w, £1050 ono. Tel: 0992 582498.

■ PowerBook 160 4/40, greyscale LCD, home use only, excellent condition, all manuals and cables, £1,200 ono. Tel: Juliet 0784 473892 (Surrey) or 0865 58162 (Oxon).

■ PowerBook 170 6/40, two batteries, AC Adaptor, Battery Charger system 7.01, disk carry case, £2,100 ovno. Tel: David 0734 593155 (answer phone).

Software

■ Aldus *Personal Press* version 2.0 £55, *WriteNow* version 1.07 (great for older, floppy-only Macs), *Voyager* version 1.2 (*Desktop Planetarium*) £50. Tel: Marcus 0202 748981.

■ *FileMaker Pro 2.0*, new and unwrapped, £175. Tel: 073781 4069 (Surrey).

■ *FrameMaker* version 3 – won in competition. Still boxed complete with a full set of manuals. Tel: 0734 875373 (work), 0753 592614 (home).

■ Microsoft *Flight Simulator* £20, *Excel 1.5* £15, *Mactree* £15, *Space Quest IV* £20, *Jam Session* £20, *Classic Accounts* £20, *PGA Tour Golf* £15, *QuickTime Starter Kit* as new £40. Tel: Richard 0480 300409.

■ *Miracle Piano Teaching* system, 49 full size keys keyboard, 128 digitised instruments and sound effects, velocity sensitive, built in speakers, earphones, footpedal, connectivity to hi-fis with software to teach you how to play piano. As new and boxed, £250. Tel: 0702 469518.

■ *PageMaker 4.2* (upgrade to 5 £75) and *Preprint*. Both new, unopened, unregistered, legitimate products, 3400 or will split £200 each. Tel: 0494 446636.

■ Unopened *Clarisworks 2.0*, £130. Tel: Martin 081 654 8619.

■ Great games for sale. *Prince of Persia*, *Secret of Monkey Island*, £15 each or swap for similar. Tel: Alex 071 791 0050.

■ Monitor 12-in colour, well cared for, £100. Software MS *Word 5.1*, US edition, hence £75. Tel: Jim 0343 842283.

■ *PGA Golf*, only 2 months old, £15 ono. Tel: 0206 843243/0850 574665.

■ *LetterPerfect*, streamlined version of *WordPerfect*, brand new, unopened with manuals, £20 only. Tel: Richard 071 603 3840.

■ Unopened *FrameMaker v 3.0* (powerful DTP), £695 new, bargain £295! Unopened *Letrastudio*, £295 new, bargain £165! Unopened System 7.0 upgrade, £12.50. Tel: Daniel 081 943 0266 (evenings).

■ *Prince of Persia*, brand new, unopened, costs £35, make me an offer (cross my palm with silver...). If you're nearby or I'm travelling I could deliver. Tel: 0582 24303 (Luton/London).

■ Aldus *FreeHand 3.0*, excellent drawing program, complete with all manuals, £120 ono. Also 14 games including *Prince of Persia*, *Lemmings*, *Colony*, *Hardball*, *Robosport*, *Vette*, *3 in 3*, *Tristan* and more, £20 each or £250 the lot ono. Tel: 081 6929077.

■ Adobe *Type Manager 2.0.3* £25, Keyfonts – 100 fonts TT & PS format £30, Mac Reference books. write for details to Richard, 1/110 Queens Road, Leicester, LE2 3FL.

Tel: 0533 622212 (office hours).

Printers

■ DeskWriter 550c, 6 months old, 3400 brand new, boxed, manuals, etc.
Tel: Ravinder 0902 321985.

■ StyleWriter 2, hardly used, with driver, manual cables, etc. Best offer gets!
Tel: Peter 081 748 9819.

■ LaserWriter LS £425, Pace Modem: £120, Graphics Plotter: £850 as new, Graphics Tablet: £325. 8-bit, 256 colour, RasterOps video card for an LC: £585.
Tel: Eric 0295 271011.

Miscellaneous

■ Mac II Logic Board PWO £70, Apple Scanner Logic Board £30, Logitech hand scanner for Mac II FX, also colour printer and CD ROMS for Macintosh.
Tel: Richard 0480 300409.

■ Wacom ADB A5 Graphics Tablet, brand new, unused, boxed, complete with instructions etc, £230.
Tel: 081 848 8859.

■ Radius Rocket 25i with 8 megs on board, boosts any Mac II to Quadra performance. Can deliver in London or Bucks. Offers,
Tel: 0908 222680.

■ Brand new Quantum 80Mb hard drive, £150.
Tel: Richard 0775 760356.

■ 80Mb internal hard disk drive, mint condition, £120; 800K external floppy disk drive, excellent condition, £60.
Tel: 041 332 1360.

■ LCII Maths Co-processor £30.
Tel: 0222 450352 (Cardiff).

■ Video RAM 256K for LC or LCII/III, £20.
Tel: 0294 279229.

■ Global Village Fullfax; 2400 modem, 9600 fax, 8 months old, boxed as new £100: *Monkey Island One*, only £15.
Tel: Stuart 071 702 4859.

■ LaserWriter IINT 3000 copies £600. HSD A4 scanner 1500 dpi, 256 grayscale £300. Asuka colour hand scanner £250. Quantum 105Mb drive £175 (internal) £225 (external).
Tel: Rob 0865 331540.

■ 24/96 Fax/Modem. Fully Hayes compatible, comes with all

appropriate software, boxed and as new (one month old), only £100, with all necessary leads too.
Tel: 081 767 5352 (evenings).

FANZINES

■ *Hellcats* aficionado? 'How to become a Hellcats Captain' includes tips for high scores and more excitement; mission strategies, 52pp illustrated, £5 including p&p.
Tel: 071 379 7400 (daytime).

SWAP SHOP

■ Performa 400 4/40 with 14-in Performa Display, *ClarisWorks* etc, only 2 months old, exchange for your Classic II plus £200 (small study).
Tel: Darren 091 4874295 (after 7pm).

■ *Pirates* the game and *Colony* wanted, I will swap either *Dark Castle* or *Orbiter* for any of the two games.
Tel Robert 0273 820571 (evenings).

USER GROUPS

■ Mac programmers, techno-junkies and hip-hop listeners, the creation of a new cybergroup is nigh! Non-profit.
For information contact:
Tom Barbalet, c/o The Nation of izlan, PO Box 1203, Woden ACT2606, Australia.

■ Riverside Users Group in the Hampton Court area seeks new members interested in exchanging ideas and discussing new developments.
Tel: 081 979 0262.

CONTACTS

■ Mac PD freaks wanted to swap shareware/PD via post. The more the merrier! Fast reply guaranteed.
Write to: Ben Willis, 15 Homer Park, Saltash, Cornwall, PL12 6HJ.

■ Mac newsletter, written by Mac lovers for Mac lovers, all levels catered for, strictly non-commercial. Send 24p stamp for sample to Mac, 9 Burrill Drive, Wigginton, York, YO3 3ST.

■ Mac maniacs wanted to swap Shareware/Freeware by post. Write to Eddie Callan, Maplewood Court, Springfield, Tallaght, Dublin 24, Ireland.

■ Mac contacts wanted to swap shareware/PD by post. Please include list.
Write to STE Bowers, 62 Lynwood Crescent, Pontefract, West Yorkshire, WF8 3QX.

■ Multimedia/hypermedia for learning and education. Join me in an exciting project – if you have skills in programming, graphics, *HyperCard*, authorware, *Macromind Director*, etc.
Tel: 0582 24303.

WANTED

■ Mac PowerBook accessories, Sony 3.5-in Optical Drive.
Tel: 081 692 8129.

■ Battery (SLA) and Charger, also RAM card to upgrade from 4Mb to 8Mb, for PowerBook 100. details of stockist would be welcome.
Tel: Andrew 0661 843315 (Northumberland) (anytime).

■ SIMMs for Mac LC, also 13-inch or 14-inch colour monitor. Tel: Jim on 0343 842283 (evenings).

■ Apple 2E 5.25 disk software, manuals, anything to do with it wanted. Send iist to Ian, 15 The Bentree, Stoke, Aldermoor, Coventry, CU3 1DT.

■ Dead, faulty Mac for enthusiasts project, any model considered, 100% reply, cash waiting, apply to Mr M Wheldon, 3 Grovener Crescent, Scarborough, N Yorks, YO11 2LJ.

■ Assortment: colour or b&w monitor, ADB keyboard, ADB mouse, *HyperCard* 2.1 or 2.5, and interesting stacks, Music/MIDI gear – keyboard sequencer. Luton/London area.
Tel: 0582 24303.

■ *PageMaker 4.X* and Norton *Utilities 2.0*. Phone Roy 081 464 8816 daytime.

READER ADS FORM

(Not for publication) Name Address

Telephone Date

Category For Sale ☐ Wanted ☐ Swap Shop ☐ User Groups ☐
Contacts ☐ Help Wanted ☐ Help Offered ☐ Fanzines ☐

Remember to include a contact phone number in your advert. **MacFormat** cannot guarantee inclusion in a particular issue, and reserves the right to refuse or edit any ad. If you are selling software, you must include a signed statement that it is original, and that you have not retained any copies. I have read and understood the conditions for the inclusion of my free reader advert.

Signature

Send your form to: **MacFormat** reader ads, 30 Monmouth Street, Bath BA1 2BW.

mac
FORMAT
0225 442244
WARREN BURGESS

ADVERTISING RATES
£20 + VAT per
single column
centimetre
(4 column page).
Discounts offered on
series bookings.
Spot Colour 10%

Classified MAC FORMAT,
Beauford Court,
30 Monmouth Street,
Bath, Avon BA1 2BN

We accept cheques
for payment.

Access VISA

MEMORY EXPANSION

Low Profile Simms

1Mb - 80ns	Quadra 700/900/950, IICI, Performa	£36
4Mb - 80ns	Standard SIMM	£112
4Mb - 70ns	Centris 610/650, LCIII	£115
4Mb - 60ns	Quadra 800	£139
8Mb - 60ns	Quadra 800	£289
8Mb - 70ns	Centris 610/650, LCIII	£269
16Mb - 70ns	Centris 610/650, LCIII	£599
16Mb - 60ns	Quadra 800	£639
1Mb - FX/NTX SIMM		£39
4Mb - FX SIMM		£165

Power Book and DUO

Duo 210/230	- 4Mb module	£199
Duo 210/230	- 8Mb module	£365
140,145,170	- 6Mb module	£239
160,180	- 6Mb module	£255
160,180	- 8Mb module	£335
160,180	- 10Mb module	£399

Video RAM

512Kb LC, Duo, Vi, Vx	£50
Quadra/Centris 512Kb	£45

Co-Processors

Classic II - 16Mhz	£65
LC & LCII - 16Mhz	£55
LC III & IIvi	£89
Isi with 2 slot extension - 20Mhz	£99

**CENTRIS/QUADRA
800 RAM AVAILABLE**

Prices exclude VAT and delivery

KINGSWAY UK LTD
18 Foxfield Close, Northwood, Middlesex HA6 3NU
Phone: 0923 836473 Fax: 0923 836474

Access VISA

MacPow!
Shareware for the Macintosh

Hundreds of individual programs
all at 50p each. Set Disks available
from £2.75. Inc P&P

Current Special Offers on
Fonts & Games

Free Catalogue on Request

96. John Street Brierley Hill
W. Midlands DY5 1HF
Tel. (0384) 481728 - before 9.00pm

TEST VALLEY SCANNING
HIGH-QUALITY COLOUR SCANNING SPECIALISTS

High-resolution scans from transparencies or colour prints.
Images stored on 44/88Mb Syquest in the following formats:
• PHOTOSHOP 2.0/2.5 • EPS • JPEG • RAW • SCITEX CT OR TIFF •

Prices: 5" x 4" - £10, 8" x 6" - £15, 12" x 10" - £25, 18" x 14" - £35
+ VAT and delivery

Customers to supply their own Syquest cartridges if possible.
Test Valley Scanning, Unit 10, Home Farm Ind, East Tytherley Rd.

TomA Direct Shareware & PD Software

**Latest & Greatest
Fonts, Games, Graphics,
Education, Utilities.
Cheap Tool
From £2.99/disk**

For a FREE CATALOGUE leave
your NAME & ADDRESS on
(0941) 107761. (24hrs/7 days)
(not an answerphone)

TRAINING
Introduction
to the
Macintosh™

In addition, we offer an extensive
range of courses covering all
major software applications.
*Beginner and Advanced
Courses.
*Weekday/Weekend/Evenings.
For details and brochure
contact

MacSkills
83 Mill Lane, London
NW6 1NB

Tel 071 794 1453 Fax 071 794 1153

PD SOFTWARE & SHAREWARE

We've been distributing shareware for the Mac since 1988
and we have 1,000s of satisfied customers.

**SYSTEM 7
ENHANCE-
MENTS
£17.50**

4 disks of
utilities & add
ons to
enhance your
use of the Mac
with System 7

SPECIAL OFFER PACKS

**BEST CLIP ART
£22.50**

5 Disks of clip art
PACK #1 - EPS FORMAT includes
office & household, tools,
computers etc.
PACK #2 - MAC PAINT FORMAT
includes household items, sports,
people, cartoons etc.

**50 FONTS
£22.50**

50 fonts from
our PD &
Shareware col-
lection in Adobe
Type 1 format for
ATM
or in TrueType
format for
System 7.

Pay by
cheque/PO or Credit Card
Make cheques to
KINGSWAY

FREE CATALOGUE
Please write or phone
for a copy stating **MACINTOSH**.

**KINGSWAY
COMPUTERS**
MAC DEPT, 72 GLENCOE RD,
SHEFFIELD S2 2SR
TEL (0742) 750623
Fax: (0742) 780222

WE CAN SUPPLY MOST OF THE PROGRAMS FEATURED IN MAC FORMAT MAGAZINE

SEGA MEGA DRIVE

The ultimate computer
game console.
Includes-
2 control pads and
**SONIC
THE HEDGEHOG**

Free

- only from MEGATYPE when you buy our -
Latest MEGA Bundle

For only £699 RRP £1,099, the bundle includes-
Toshiba Multisession (Photo) CD Drive.
Agfa, Monotype, Linotype, and Image Club CD's.
MEGA Font Bundle.
MEGATYPE Mouse Mat.

This and many more offers from-
MEGATYPE
THE TYPE PEOPLE

TEL/FAX
0759 388988

**WORRIED ABOUT
COMPUTER THEFT?**

Hi-tech equipment is now a major target for
thieves. Protect your hardware and data with a
sophisticated portable motion detector/alarm
system, with a 103dB siren.

ONLY £38 INC VAT.

For more information and brochure contact
CRESCENT SOFTWARE
4 MERIDIAN VALE, CLIFTON, BRISTOL BS8 1BY
0272 265892

macTrain

Get on the right 'Track'
Climb 'Aboard' the
macTrain

For your 'Journey' into the

ONE TO ONE TRAINING BY THE HOUR

071-720 9911 071-720 4998

T R A I N I N G
A whole new approach

For the first time, professional training on
the Mac is available at a price you can realis-
tically afford. £12 an hour. A rolling
programme of courses designed for the indi-
vidual user. Beginner to advanced. If you
need the skills, call us. This is different.

0 8 1 9 6 4 2 0 1 0

**the
TRAINING
HOUSE**

STOP Don't throw that toner cartridge away... Recharge it and halve your toner costs!



Get the facts on our well-proven service - 'phone or write (FREEPOST) for an information pack. Your own cartridge is recharged, with carriage paid both ways. We also sell new toners, DeskJets, disks, laser labels and specialist laser stationery.

SUPERCHARGE

FREEPOST Unit 3B 25 Gwydir Street CAMBRIDGE CB1 1BR
Telephone: (0223) 350136 Fax: (0223) 301341

CD-ROM Authoring

Archive data directly to CD for as little as £125 for the first copy. Additional copies from £45 each, ordered at the same time. Store up to twelve 44Mb Syquest's worth of data on one disc.

Dye Sublimation

Kodak XLT7720 A4, A, 11x11"

Thermal Wax

CalComp ColorMaster+ A3, A4

Slide Imaging

Lasergraphics LFR 4000 line (Mac or PC, inc. PostScript)

Scanning

Kodak 35mm RFS, UMAX UC1200SE (up to 2400dpi)

Prints & OHTs

Prints & OHTs

35mm

Reflective & Tranny

IMC Colour Output Bureau

281 St. Leonard's Rd, Windsor, Berkshire SL4 3DR
Tel: 0753 830999 Fax: 0753 831094
Modem: 0753 855610 (v32bis, X/Z)
AppleLink: IMC . WINDSOR

Music Control

Macintosh Music Today!

MC

E-mu Systems - SoundEngine™

The Complete Macintosh Music System!

32 voice, 16-bit sampled sound module featuring the best of the Emu Proteus™ sounds with a digital effects generator and a built in Macintosh MIDI interface. The module uses the General MIDI format which is compatible with thousands of MIDI song files! Includes EZ Vision MIDI sequencer and a Sound Editor. This is the ideal starter pack for music for Multimedia Applications!

Music Control

Tel 0270-883779 Fax 0270-883847
Chapel Mews, 68 Crewe Road, Staffordshire, ST7 2HA.

South West Mac Users Association

For the Mac Mad !!

The Firs
Rackstle
Wadford, Chard
Somerset, TA20 3AP

The Premier Association for the South West User.

Offers YOU...

- Bi-Monthly Newsletters
- Helpful and friendly Service
- Special Offers
- Seminars

Membership only £17.00

Just tell us your name, address and Macintosh owned. and we will send you our membership form.

PAY NO MONEY NOW!!

Shale Systems

Macintosh Repairs

MAC REPAIRS & SECOND USER MACS

- APPLE™ CERTIFIED TECHNICIANS
- ONE-DAY SERVICE TURNAROUND*
- HARD DISK RECOVERY AND REPAIR
- NETWORKS-MEMORY-UPGRADES
- EXPERT ADVICE AND PRICES BY PHONE

Tel: 0926 817710

BUYING OR SELLING?

Talk to us first.

The full range of Mac Quadra, Ili, Ili, LCII...etc. Printers, Memory, Parts, Monitors

FAST REPAIR SERVICE.

PART EXCHANGE WELCOME

HARDWARE SOLUTIONS

344 Kilburn High Road
London NW6
0207 624 2446

FAX: 071 624 8272

Mac CD-ROM software at Low Low prices!

CD-ROM

Call for our FREE Catalogue!

Education

CountDown (maths fun) £25
Learn to Speak French £65
How Computers Work £55

Entertainment

A Hard Day's Night £25
Adv of Seymore Butts (Adult) £59
Arthurs Teacher Troubles £29
Cab rides to hell £75
Digital Dancing (Adult) £59
Iron Helix £85

It's a Bird's Life (kids) £39
Journeyman Project £69
Putt Putt joins the Parade £35
Virtual Valerie (Adult) £59
Sherlock Holmes £39
Spaceship Warlock £69
Take Five (stress buster) £39
Victor Vector: Vampire £45

Reference

Amazing Universe £65
Dinosaurs £49
Groliers 91 Encyclopedia £69

Groliers 92 Encyclopedia £199
LIFemap - Animals £25
LIFemap - Animals/Backbones £25
LIFemap - Organic Diversity £25
World Factbook 1993 £25

Shareware

BMUG £49
CD FUN House £39
Class Room £39
Game Room £39
GEM CD £75
Kids Room £39

FREE delivery on orders over £25, please add VAT to all prices. We Accept VISA/ACCESS/SWITCH.

CD-Xpress

2 Beal Road, Ilford, Essex, IG1 4QF 081-518 4151

Stormont Software

Macintosh & Newton Shareware & PD

No set disks - you select from the catalogue what **you** want on each disk. Disks cost £4 for HD and £2.50 for DD. For free catalogue call:

0232 487923

or write to :

Stormont Software

61 Lochinver Drive, Dundonald

Belfast, BT5 7AJ

Apple Mac TRAINING

Intensive P/T day & evening courses available in

Quark illustrator

and **freehand**

One to one or small groups.

Bedford Milton Keynes London



CONCEPT
computer training
0234 327422

MAC REPAIRS

- 2, 4 & 8 Hour on-site repair service
- While-u-wait in-house repairs
- Collection and delivery service
- Data recovery **free estimates**
- Component level repairs
- Memory & hard disk upgrades
- Secondhand hardware **with warranty**
- Established over 7 years

1 Parkgate House

Broomhill Rd

London

SW18 4JQ

Tel: 081-871 5009/4187

Fax: 081-871 4188

Honeylight

COMPUTERS LTD

MAPS

Accurate outline maps in PostScript format including:

- UK • EEC •
- Europe • World •

from £65 + VAT

- Tourism Symbol Font •

£59 + VAT

also available **CD-ROM** containing all maps, fonts & much more

Magnum Software

Moorend House

Sampford Peverell

EX16 7EQ

tel: 0884-820240

fax: 0884-821497

Fonts

IN NEXT MONTH'S **mac** **FORMAT**

Hundreds of essential tips

MacFormat brings you over 20 pages of vital tips guaranteed to make your Mac computing quicker, more efficient and more fun. You can't afford to miss it...

PLUS

A special free gift!

We can't tell you any more at the moment, but rest assured next month's MacFormat will be even better value for money.

QuarkXPress 3.2

We'll give the latest upgrade of the number one DTP program a thorough going over.

Editing for beginners Part 2

Our series on getting up and running with a publication enters its second phase.

All your favourite sections

Our regular columns on databases, spreadsheets, DTP, graphics, games, design, HyperCard, education, CD-ROM, comms, Mac Answers and more!

ON SALE TUESDAY DECEMBER 7

ARE YOU A WINNER?

Plenty of lucky readers this month. Firstly, the soon-to-be-proud owner of a Kodak Photo-CD player (thanks Kodak) is Pamela Wardell, from Shaw near Oldham, well done Pamela. Then we have the fortunate recipient of an Apple PowerCD player; step forward Scott Ryan from Nazeing in Essex. Lastly we have the 10 winners of the QuickTime starter kit. Soon to be indulging in multimedia are: Ian MacPhail from West Lothian, Arno Hueber from Köln, Germany, Paulo Sérgio from Amadora in Portugal, A Williamson from Newcastle Upon Tyne, D Mallon of Reading, Mike Crump from Bramshott in Hampshire, Howard Dean of Littleover near Derby, P Richardson from Troon, Jeffrey Graham of Wotton-under-Edge, and Jon Gresham from Redhill. So no London winners at all; what's up with you metropolitan types; surely you don't all have CD-ROM players already?

We've had a bit of a switch around here in the last few weeks, which has meant that the despatch of some competition prizes has been delayed. Please bear with us, and if you do have any queries, please make them by post. Thanks.

Wanted: red hot Dutch

Red hot Dutch writers, that is. MacFormat is looking for ways to improve its service to our thousands of readers in the Netherlands, and we'd like to hear from someone with an excellent knowledge of the Dutch Mac marketplace to be a source for news and to ensure that readers in the Low Countries can easily discover local sources for the products we review. The work will be Dutch language, but some element of translation will be needed.

If you think you fit the bill, please write to: Stuart Anderton, Publisher, MacFormat, 30 Monmouth Street, Bath BA1 2BW, England. And don't mention football.



Welcome to the Tiny Zone, the part of the magazine where we completely ignore our own advice about legibility to produce the sort of small print previously only seen on a Hoover flight claim form. Speaking of flights, our thoughts have turned to the big wide world this issue when we had some figures through on our overseas sales, and it's a big Tiny Zone hello to all our 10 readers in Mauritius. Please send us a postcard! And hello to you Finns, Icelanders, Japanese and Mexicans too. The Tiny Zone is launching a search for our remotest reader: if you live off the beaten track write in and say hello, it'd be good to know you're out there. MacFormat gets all over the world, as do Macs. This month we learnt that the Dalai Lama uses PowerBooks on his journeys spreading the word of Buddhism, and of course Macs were used in space on the Shuttle missions. What's the strangest use you've come across for a Mac? Odd places, odd people, odd applications, whatever, send them in and we'll give a prize to the least likely one we receive. We've got a moral dilemma next month in MacFormat; the Interactive Lover's Guide on CD-ROM has pitched up in the office and we've got to decide whether or not to review it, and if we do, how. Perhaps we should stick it in here in the small print so our younger readers can't read it. Or maybe we should do like the women's magazines and have a sealed section devoted to sex. Or maybe we'll make it the cover feature and see sales quadruple overnight. Decision, decisions...

Consultant Editor Ian Wrigley
Art Editor Julie Stuckes
Production Editor Sally Taylor
Sub Editor Yolanda Hughes
Designer Kim Ellaby

Contributors Simon Cox, Jonathon Davies, Gordon Druce, Steve Fardy, Dave Green, Rod Lawton, Martyn Lester, Richard Longhurst, John Morrish, Greg Morrison, Ian Waugh, Jack Weber, Tim Smith, Alex Soboslay, Jacqui Spanton, Ian White

Cover Illustration Jeremy Pyke

Illustration Rhys Reed
Production technicians Simon Chittenden, Mark Gover, Nick Harvey, Heath Parsons, Chris Stocker, Simon Windsor
Production Coordinator Claire Fullick

Advertising Manager Mike Hawkins
Senior Sales Executive Louise Woods
Classified Ads Supremo Warren Burgess

Publisher Stuart Anderton
Group Publishing Director Greg Ingham
Circulation Director Sue Hartley
Managing Director Chris Anderson

Editorial enquiries:

MacFormat
Future Publishing Ltd
30, Monmouth Street
Bath BA1 2BW
Tel: 0225 442244
Fax: 0225 446019
AppleLink: MacFormat
E-mail: sanderton@cix.compulink.co.uk

Advertising enquiries:

Mike Hawkins
0225 442244

Subscription enquiries:

Future Publishing Ltd
Freepost, Somerton
Somerset TA11 7BR
Tel 0458 73279
Fax 0458 74378

A word on prices....

We try to ensure all prices quoted in MacFormat are accurate at the time of going to press and they are all inclusive of UK Value Added Tax of 17.5%. This may not necessarily be the case with prices appearing in advertisements so readers should double-check to see if VAT is included or not.

© Copyright: Future Publishing 1993

Printed in the UK by TPL (UK) Ltd

3 FOR THE PRICE OF ONE WORKS!

For a limited period only, when you buy Microsoft® Works for the Macintosh, you'll get a copy of Microsoft® TrueType™ Master Set and a copy of Microsoft® Flight Simulator® – all for only £145.

PARTICIPATING DEALERS INCLUDE:

ABC Microcore

Newcastle-Upon-Tyne
091 213 0924

Albion Computers

London W1 071 631 5305

Apple Centre Aberdeen

Aberdeen 0224 770717

CEM

Belfast 0232 556677

Chromasonic

Computer Centre
Hendon 081 203 8989

KRCS

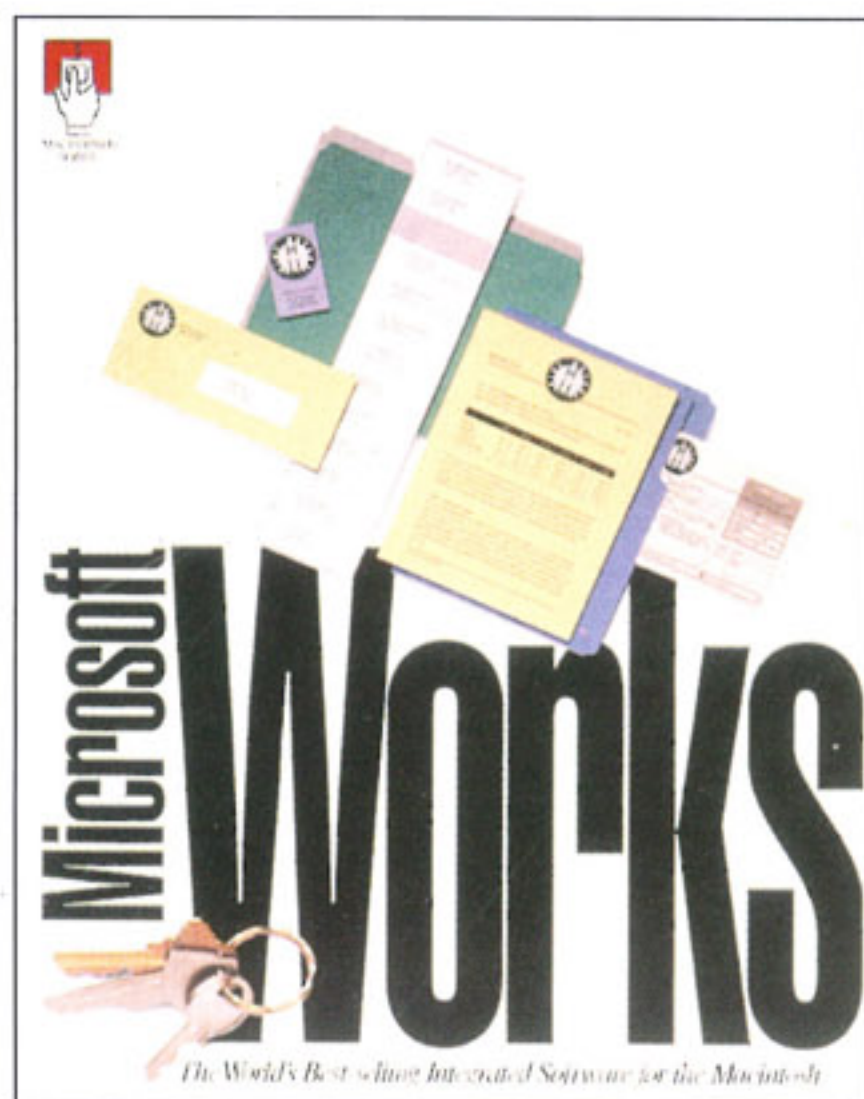
Nottingham 0602 505352

ME Electronics

Reading 0734 500551

Microcore Ltd

Romford 0402 384242



Microsoft Works is the world's best-selling integrated software for the Macintosh. It's powerful, versatile and simple to use, combining word processor, database, spreadsheet, graphics and communications modules that work together simply and naturally.

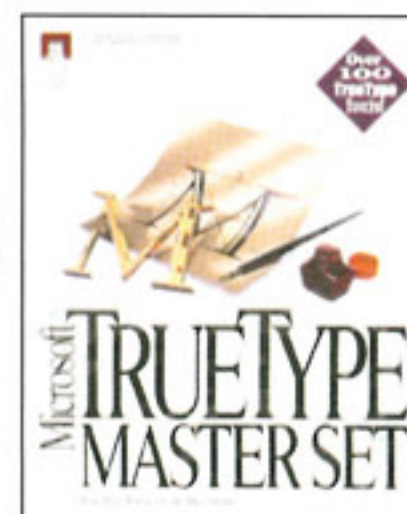
Use Microsoft Works to create memos, track budgets, produce financial reports with charts and footnotes, compile newsletters, produce direct mailing projects with automated labels and envelopes – in fact, it will help you to manage all your daily tasks.

At the special limited offer price of only £145*, Microsoft Works for the Macintosh now comes with a free copy of new Microsoft TrueType Master Set (worth £69) and a free copy of Microsoft Flight Simulator (worth £45) – saving you over £100!

This offer is available only while stocks last, so call your local dealer or one of the listed dealers now to make sure you don't miss out.

TrueType Master Set

- A new collection of 102 high-quality text, symbol, decorative and headline fonts, including five 'newly-digitised' fonts from the world's leading foundries
- Provides superior type for all applications, displays and printers supported by Macintosh System 7™ and higher
- Cross-platform compatibility eliminates the need for font substitution when transferring documents from Macintosh to Windows™
- Worth £69



Microsoft Flight Simulator

- The world's most popular flight adventure for the Macintosh
- On-screen flight instruction teaches everything from basics to aerobatics
- Wide range of planes – you can even design your own aircraft!
- Fly to your choice of 125 North American airport destinations
- Multiple views of flying route, cockpit controls, etc.
- Random weather simulation for unpredictable flights
- Runs on colour and black-and-white Macintosh computers
- Worth £45



FRONTLINE

COMPUTER 2000 GROUP

Microsoft®

* All prices quoted are RRP's ex VAT.
All trademarks and registered trademarks acknowledged.

**FREE COPY
OF BRUSH
STROKES!**

Available from all good dealers,
including:

Abtex Business Solutions Ltd,
Glasgow.
041 226 3250

AppleCentre West London,
Hayes.
081 573 7797

Callhaven plc,
London EC2.
071 410 9191

Fairhurst Ltd,
Wilmslow.
0625 525694

KRCS Group plc,
Nottingham.
0602 505352

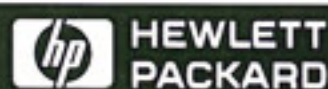
MBC - MacPoint,
Birmingham.
021 333 3235

Newcastle Computer Services plc,
Newcastle.
0661 825515

Rothwell Group plc,
Farnborough.
0252 377424

Waterloo Group plc,
London SE1.
071 407 2882

Western Computer Group,
Cheltenham.
0242 250120



**HEWLETT
PACKARD**

Authorised Wholesaler
Personal Computer
Products

FRONTLINE

COMPUTER 2000 GROUP

WE'VE PUT SOMETHING IN TO HELP YOU GET THE MOST OUT



FREE BrushStrokes with every HP DeskWriter 550C – while stocks last.



Buy the HP DeskWriter 550C for just £539 RRP, and we'll give you a free copy of BrushStrokes, worth £125.

The HP DeskWriter 550C offers high quality 300 x 300dpi in full colour on plain, glossy and special paper or even on transparencies. It's got 13 built in fonts and plugs straight into your Mac via its AppleTalk interface.

BrushStrokes, a new 24-bit painting program from the Claris Clear Choice label, offers all the functionality of high end paint programs several times its price. It even comes with a free collection of clip art images, objects, borders and backgrounds by a renowned artist.

Contact your local Apple Dealer to see either the DeskWriter 550C or BrushStrokes in action, or phone any of the dealers listed on this advertisement.