



# AppleUser

A Database Publication

Vol. 7 No. 10 October 1987 £1.50

**Adding power to AppleWorks**

**Desktop publishing goes on show**

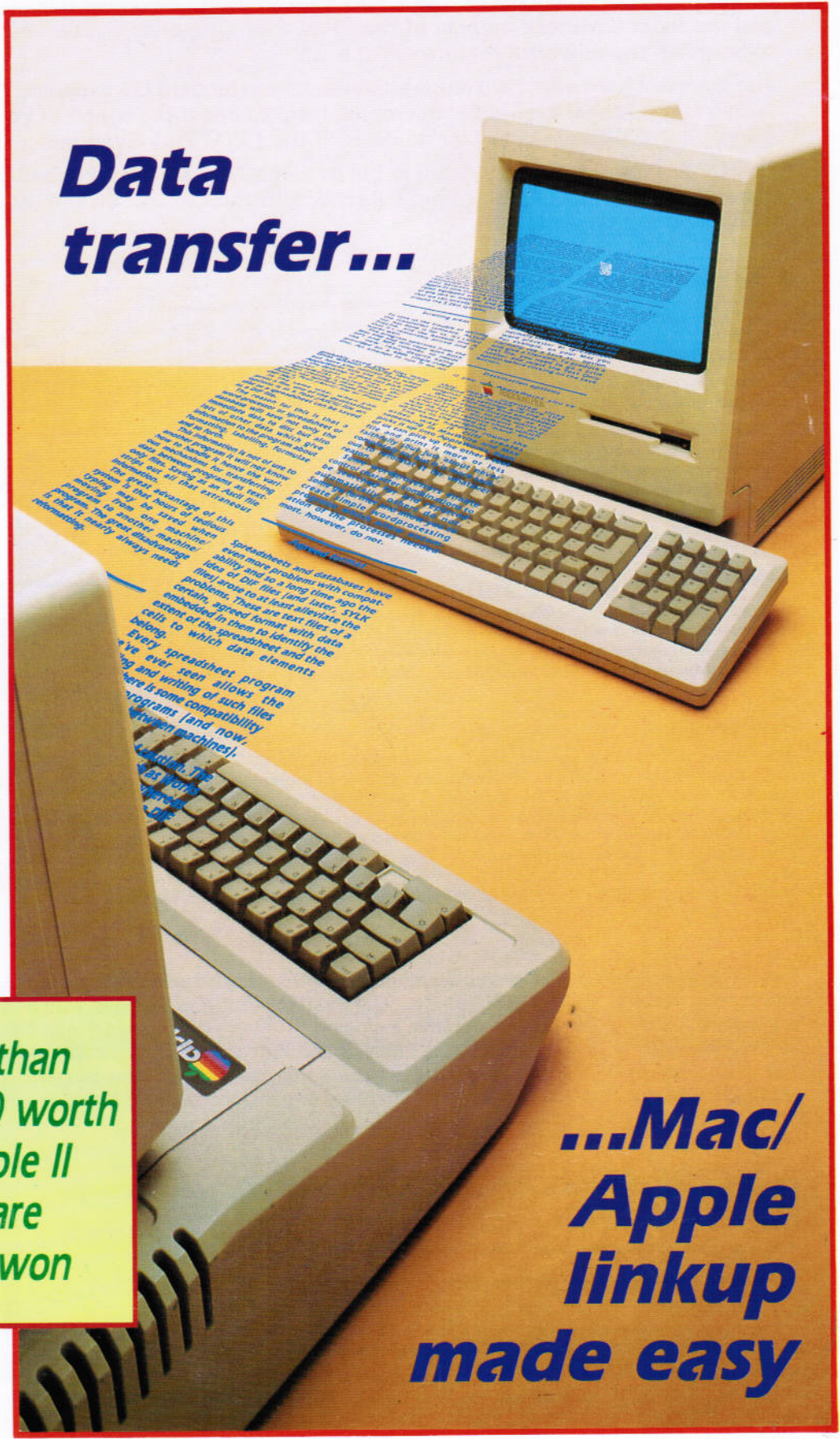
**How to enhance hi-res graphics**

**Choosing the right font editor**

**Breeding Biomorphs inside the Mac**

## REVIEWS

- WordPerfect
- InfoMerge
- Paintworks Plus
- Labels-234
- Cirtech CP/M 3
- ProLink
- Slalom
- + all the latest games for the Apple II and Mac



## Data transfer...

Spreadsheets and databases have even more problems with compatibility and to a long time ago the idea of file formats (and later, SYLK files) arose to at least alleviate the problems. These are text files of a certain, agreed format with data embedded in them to identify the extent of the spreadsheet and the cells to which data elements belong. Every spreadsheet program we've ever seen allows the saving and writing of such files and there is some compatibility between programs (and now, between machines).



**More than £1,000 worth of Apple II software to be won**

# ...Mac/Apple linkup made easy

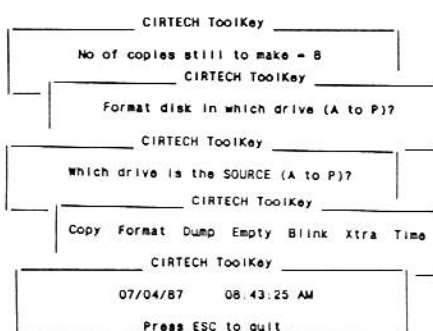
## A sophisticated, new operating system for the IIGS

The CIRTECH CP/M Plus System lets you use the huge range of CP/M programs, like Wordstar and dBASE, on your Apple IIGS. The CP/M Plus System comprises a lightning-fast, co-processor card and the most advanced version of the CP/M Plus Operating System software specially designed to fully utilise the powerful features of the GS.

The compact hardware card plugs into one of the standard GS expansion slots and has been designed with a fast 8 MegaHertz Z80H microprocessor to boost the speed of your programs – and for extra speed, the GS operates in fast mode with the CP/M Plus System!

The CP/M Plus Operating System is full of versatile, user-friendly features. Special *ToolKey* utilities instantly pop up in a unique window display and you can use them all at any time, even in the middle of running a program!

- **COPY** and **FORMAT** are inbuilt disk formatter and copier functions for all standard types of disks (3.5, Profile, SCSI, 5.25, etc.) – no more problems running out of disk space in the middle of a program!
- **DUMP** lets you print an instant 'snapshot' of the current text screen at any time.
- **EMPTY** clears the internal printer and auxiliary output buffers. Yes, the CIRTECH CP/M Plus System has an inbuilt printer buffer (spooler) 12K in size – that's enough for about 20 A4 pages!



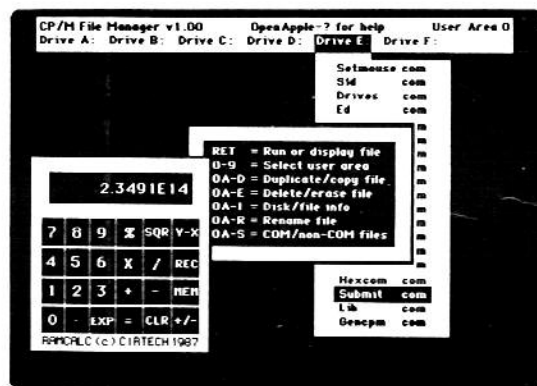
- **BLINK** controls the cursor – you have the choice of blinking or static!
- **XTRA** lets you print multiple copies of everything that's in the printer buffer at any time during a CP/M program; and printing is in 'background mode', so you save time too!
- **TIME** instantly displays a neat, on-screen window giving you the current time and date – no excuses for being late now!

### FILE MANAGER

The unique File Manager, with its clear, pull-down windows, lets you see exactly what programs and files are on each disk. Not only that, you can use the File Manager to run or display files, select user areas, and copy, delete or rename files – using CP/M has never been faster or easier!

### RAMCALC

The CIRTECH CP/M Plus System also features **RAMCALC**, an ON-SCREEN, FULL FUNCTION CALCULATOR which you can call up instantly any time you want from within any CP/M program. The calculator has all the normal arithmetic functions plus percentage, square root and memory! And there's no problem if you put RAMCALC away without noting the answer, just call it back and it appears again instantly, exactly as you left it, right down to remembering what's in memory!



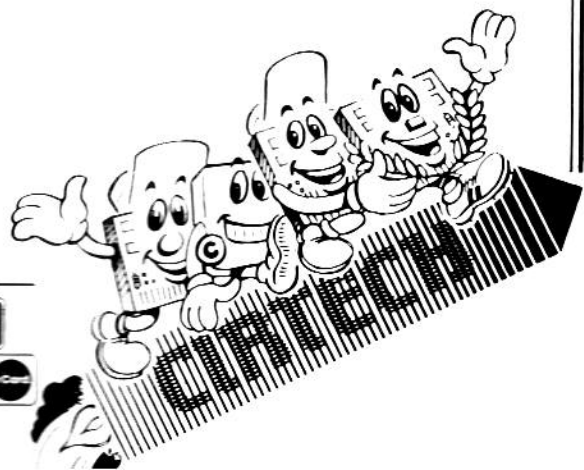
The CP/M Plus System also lets you use the AppleMouse with any CP/M program or change the Mouse control characters with the 'SETMOUSE' utility. The System is fully compatible with all standard CP/M programs and is supplied with over 40 utility programs, including extensive disk-based 'Help' files. All Apple-standard devices such as UniDisk, Disk II 5.25 drives, 3.5 drives and ProFile or SCSI hard disk drives are fully supported – you can even use ProDOS and CP/M Plus on the same hard disk! The System is also fully compatible with plusRAM-GS and other Apple standard memory expansion cards.

**FOR TOP PERFORMANCE AND SPEED –  
CIRTECH CP/M PLUS – ONLY £118.00**

Also available for the 128K //e and //c (3.5 or 5.25 disk format)

(Prices exclude VAT)

**CIRTECH (UK) LIMITED, Currie Road Industrial Estate, Galashiels  
Selkirkshire, Scotland, TD1 2BP Telephone (0896) 57790**  
Telex 265871 (Attn. 84:CPD001) – Telecom Gold Source Mailbox – AAH555





Vol. 8 No. 10 October 1987

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Published by:  
**Database Publications Ltd,**  
Europa House, 68 Chester Road,  
Hazel Grove, Stockport SK7 5NY.

Subscription rates for  
12 issues, post free:  
£18 UK  
£23 Europe & Eire  
£25 Overseas surface  
£38 Overseas Air mail

**ABC** 11,780  
January-June 1986  
ISSN 0267-4114

Writing for Apple User: Articles and programs relating to the Apple are welcome. Articles should preferably be typed or computer-printed, using double spacing. Unsolicited manuscripts, discs etc, should be accompanied by a self addressed stamped envelope, otherwise their return cannot be guaranteed. Unless agreed otherwise, material is accepted on an all rights basis.

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News trade distribution: Europress Sales and Distribution Limited, Unit 1, Burgess Road, Ivyhouse Lane, Hastings, East Sussex TN35 4NR. Tel: 0424 430422.

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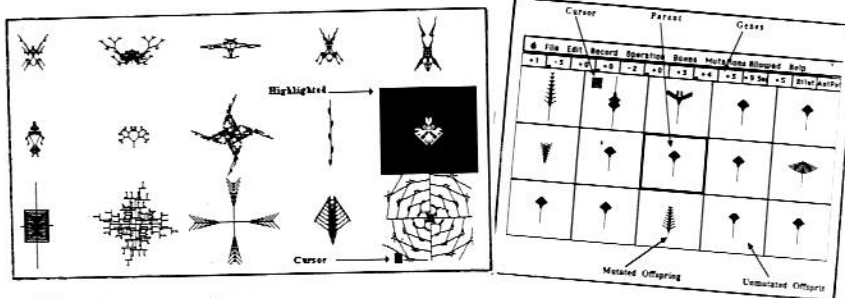
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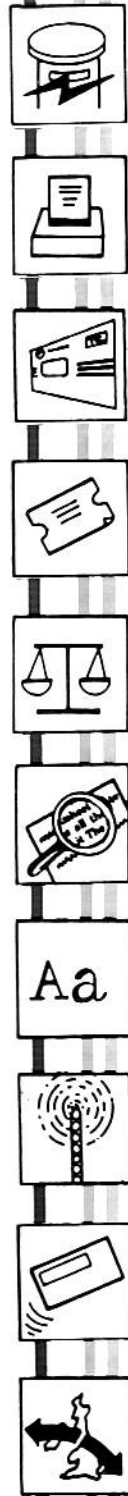
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Link your Apple II or Mac to the outside world with...

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**Gateways** – Get through to New York in just five seconds – or key into the EEC computer in Luxembourg, which links you to 600 databases throughout Europe.

POSSIBLE PACKAGES	
Apple II range	
A	<i>Pace: Nightingale + Serial/Parallel card + Data Highway software (£218.15)</i>
B	<i>Miracle: WS2000 + serial interface + Vicom software (£238.65)</i>
C	<i>Pace: Linnet + Serial/Parallel card + Data Highway software (£275)</i>
D	<i>Miracle: WS4000 + serial interface + Vicom software (£299.90)</i>
Apple Macintosh	
E	<i>Miracle: WS4000 + Vicom software (£339.95)</i>

All you need – apart from your Apple – is a modem, which plugs into your telephone wall socket, plus suitable communications software.

We have provided a list of possible combinations below, ranging from the very cheapest to ones which can automatically dial the MicroLink telephone number and connect you to the service – all you have to do is type in your personal security password.

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## Moving into hyper mode

THE new Hypercard allows Macintosh users to access, customise and create many types of information – text, graphics, video, music, voice and animation. It also offers an easy-to-use English-based scripting language called HyperTalk which enables users to write their own programs.

The toolkit is based on the simple notion of a stack of point-and-click created cards, each containing information. Users can browse, sort, make notes, type or draw on these cards, the total number of which is limited only by the disc storage capacity.

Apple describes HyperCard as "a fundamental building block of Macintosh technology". The company expects a new "stackware" category of applications to emerge from HyperCard technology.

"HyperCard is the foundation for what we believe could be a new applications industry built on the expertise of both commercial developers and specialists in certain fields," said John Sculley, Apple chairman and chief executive.

The product's ease of use and flexibility is expected to win it a broad exposure within business and government, education and training. It is projected as an ideal front end to large databases and as a presentation medium for interactive training courses.

## Big screen debuts

LARGER screens for the Macintosh II and SE have been announced by Thames Valley Systems (0734 581829).

The 19.5in screens show the original Macintosh screen area of 9 inches on the top left. By using a drag feature the working area can be stretched to provide almost an A3 page.

The system has an interface card with a PAL output and can be linked to a video recorder. Price £1,995 for the Macintosh II and £1,795 for the SE.

# Apple enhances Mac's appeal

**Apple has launched a new assault on the IBM-dominated corporate market with a range of enhancements for the Macintosh.**

**They include the first generation multi-tasking operating system MultiFinder and a "personal toolkit" called HyperCard that allows Macintosh users to customise files and write their own programs.**

**Also new are the Ether-**

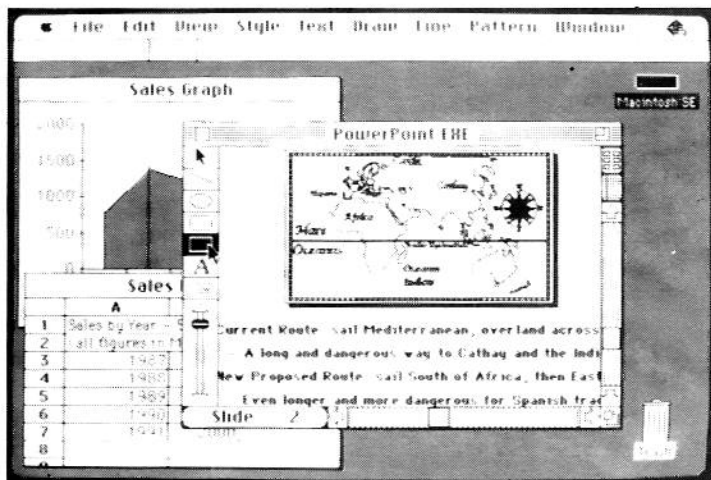
**Talk interface card which provides the Macintosh II with a direct connection to Ethernet-based networks, AppleShare PC which works with the AppleTalk PC card to let IBM PCs and compatibles share information stored on an AppleTalk network, and Apple File Exchange software which translates files of documents created by an application into the format required by another appli-**

**cation.**

**All are scheduled for release between now and the end of the year, with prices to be announced shortly.**

**HyperCard, MultiFinder and Apple File Exchange will be included with new Macintosh computers from this autumn.**

**Current Macintosh owners will be able to buy the upgrades from Apple dealers.**



MultiFinder in action

## New rival to OS/2

THE most important of the new Apple products is MultiFinder, the full multi-tasking operating system Apple hopes will provide a viable rival to IBM's OS/2.

MultiFinder allows users to view multiple applications concurrently and to move between them quickly. It provides for rapid cut, copy and paste between applications.

There are a variety of ways to switch between applications, of which up to 30 can be open simultaneously if enough memory is available.

The ability to concurrently view documents from different applications will be particularly useful in desktop publishing. For instance, a graphic pasted into MacWrite can be altered quickly

by copying it into an open MacDraw window without quitting the application.

With appropriate hardware MultiFinder makes it possible to concurrently work in and integrate information between different operating systems such as MSdos. With the Mac286 card from AST, for instance, Macintosh II users can run Lotus 1-2-3 under MSdos in a Macintosh window, and copy and paste information directly into a Macintosh application with a mouse.

Developers can create applications that take advantage of MultiFinder's ability to perform multiple tasks concurrently – such as file processing, electronic mail, terminal emulation, disc backup, data recalculation and analysis.

## Better comms links

MACINTOSH communications have been extended by the EtherTalk Interface Card, AppleShare PC and Apple File Exchange, offering integration into other computing environments and allowing other systems to take advantage of Macintosh capabilities.

EtherTalk provides the Macintosh II with a direct connection to existing Ethernet networks and extends the functionality of the AppleTalk architecture network by providing a higher-speed alternative cabling system.

Used with the AppleTalk PC Card, AppleShare PC software lets IBM PCs and compatibles share or gain information stored in the AppleShare file server.

Information from the Macintosh and MSdos can be transparently shared, allowing users to integrate MSdos documents into Macintosh applications such as desktop publishing, productivity and business management.

Apple File Exchange translates files or documents created by an application into the format required by another application, and it gives Macintosh users the ability to transfer and translate documents created in MSdos and Apple II Prodos environments.

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Packed in 25's, complete with envelopes, labels, WP tabs and hub-rings. Disks individually certified and tested (on both sides) to 96tpi means no problems and higher reliability. Lifetime Warranty.

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500 disks	£279.99
1000 disks	£499.99

Packed in 25's, complete with envelopes, labels, WP tabs and hub-rings. Disks individually certified and tested (on both sides) to 96tpi means no problems and higher reliability. Lifetime Warranty.

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This is the disk for turning!

Reversible disk tested both sides. 2 notches and 2 index holes. Ideal for BBC, APPLE, Commodore etc.

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50 disks	£ 35.99
100 disks	£ 69.99
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Packed in 25's, complete with envelopes, labels, WP tabs and hub-rings. Disks individually certified and tested (on both sides) to 96tpi means no problems and higher reliability. Lifetime Warranty.

## OFFER 4 HIgrade Doubles & PC Preformatted

	HIgrade Doubles	PC Formatted
25 disks	£ 12.99	£ 18.99
50 disks	£ 23.99	£ 35.99
100 disks	£ 45.99	£ 69.99
200 disks	£ 89.99	£129.99
250 disks	£105.99	£149.99
500 disks	£199.99	£279.99
1000 disks	£359.99	£499.99

Premium quality, individually certified to DS 48tpi. Made for the PC, giving premium quality at budget prices.

Why not spoil yourself, and buy them formatted - a little extra saves a lot! There's never a disk formatted when you need it.

## OFFER 5 Bargain Box

Price per order qty. Approx price per disk ex-VAT (inclor only)

20 disks	£ 10.99	.48
40 disks	£ 19.99	.44
60 disks	£ 28.99	.42
80 disks	£ 36.99	.40
100 disks	£ 42.99	.38
200 disks	£ 82.99	.36
500 disks	£199.99	.35
1000 disks	£389.99	.34

Branded SCOTCH (made by 3M) SSDD 48tpi at prices below other people's plain label. Certified error free and tested by 3M; disks have hub-rings, tyvek envelopes and labels.

Stocks are decreasing rapidly, these have been extremely popular.

## OFFER 6 - 3.5" Media Life Disks

Qty	SS	DD
10	£ 13.99	£ 15.99
20	£ 26.99	£ 29.99
50	£ 64.99	£ 73.99
100	£119.99	£ 139.99
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250	£279.99	£ 329.99
400	£429.99	£ 519.99
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Don't forget the price includes VAT, delivery and library boxes!

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SSDD 48tpi 744/525 20 disks	£25.99
DSDD 48tpi 745/550 20 disks	£29.99
DSDD 96tpi 747/557 20 disks	£37.99
DSHD 96tpi 799/HD 20 disks	£49.99

3.5" disks	
SSDD 135tpi	20 disks £39.99
DSDD 135tpi	20 disks £49.99
DSDD High Density	10 disks £49.99

Includes VAT and delivery.

**Brand Leaders at Cash 'n Carry prices**

If these are your favourite, then don't miss our CRAZY low prices for 20 disks. Remember there's no extras, just terrific value.

## OFFER 8 HI-flyers

PC-AT High Density Disks made by one of our major manufacturers. Suitable for PC-AT and other High Density drives. Lifetime warranty.

Total price (no extras)

20 disks	£ 32.99
40 disks	£ 62.99
60 disks	£ 89.99
80 disks	£119.99
100 disks	£139.99
200 disks	£259.99
500 disks	£599.99

## OFFER 9 3" CF2 disks

Maxell or Panasonic 3" CF2 disks

10 disks	£ 25.99
20 disks	£ 49.99
50 disks	£109.99
100 disks	£209.00

VAT & carriage included.



## OFFER 10 Box Clever

Safe! Clean! Tidy!

Sixers - 6 stylish plastic library cases for 10 disks. VAT & carriage included.	
3.5" Slimpak	£8.99
5.25" Vision-10	£8.99

Lockable Boxes

3.5" TDS040 40/50 disk box	£ 9.99
TDS080 80/90 disk box	£12.99
5.25" TDS050 50 disk box	£ 9.99
TDS100 100 disk box	£12.99
IBM parallel printer cable	£9.99

### How to order

1. DIAL-A-DISK ON 01-979 7811, and give your ACCESS or VISA number and expiry date.
2. Send your cheque etc. to Direct Disk Supplies Ltd.
3. Official Orders, Bona-fide orders from Universities, Colleges, Schools, Charities, etc are very welcome.
4. Cash orders, no minimum value. Account orders, minimum value £30.



# Direct Disk Supplies Ltd.

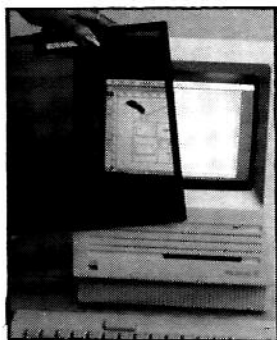
Dept AU 10, FREEPOST, 129 High Street, Hampton Hill, Middlesex TW12 1BR

## Radiation reduced

A SCREEN filter for the Macintosh has been released by Ultraguard. The Macfilter is claimed to be the first glass based anti-glare radiation and static filter for the machine.

Ultraguard (01-739 4451) says the screen comprises a laminate of scratch and shatter-proof glass with an anti-radiation membrane sandwiched in the middle.

Following tests by the National Radiological Protection Board the screen proved to cut out 99 per cent of ultra



violet radiation, and over 88 per cent of X-rays. Price £79.35

## Apple gets the word

APPLE computer users can now have access to what is claimed to be the biggest – and most up-to-date – multi-lingual dictionary in the world.

It is already being viewed as a major breakthrough for groups as diverse as businessmen faced with foreign correspondence through to schoolchildren struggling with homework.

It is all part of a new service being offered by MicroLink, the UK's fastest growing electronic mail service.

All subscribers have to do is type in a word or a complete phrase and the Great European Dictionary does the rest.

Housed in an EEC sponsored mainframe computer in Luxembourg, the electronic dictionary is the result of a massive collaboration between language experts throughout the community.

The Great European Dictionary consists of more than 380,000 words and phrases in English, German, Danish, Dutch, French, Italian, Portuguese and Spanish.

Such is the sophistication of the computerised language facility that it offers translations from any

one of these languages into any other – or into more than one at the same time.

Nor does the service confine itself to straightforward translations. It also provides detailed explanations of the word or phrase, together with relevant notes about how and where it should be used – both in English and foreign languages.

## GRAPHICS TABLET

A GRAPHICS tablet for the Macintosh SE has been announced by Techex following the development of a software driver for the machine.

The driver was developed by the Kurta Corporation in response to a demand from the increasing Apple market.

Chris Bailey, managing director of Techex said: "We have received numerous calls from Macintosh SE users and system developers looking for a graphics tablet which would work with the Macintosh".

Price £575

## Sales record smashed

**APPLE UK is on course to smash all previous sales records with sales to date far in excess of those for the whole of 1986. "The introduction of the new Macintosh products has attracted a tremendous amount of interest and has enabled us to broaden our markets", said John Flosiland, sales director.**

**In 1986 Apple UK achieved a 67 per cent revenue increase. The figures so far indicate that the company is set to surpass this percentage.**

## Yearbook for DTP

THE world's first yearbook dedicated to the rapidly-growing Desktop Publishing industry is to be launched in October.

Publication of The Desktop Publishing Yearbook is timed to coincide with the most important exhibition event in the DTP calendar – The Desktop Publishing Show 1987 – to be held at the Business Design Centre, London, from October 15 to 17.

Produced with the co-operation of PIRA, the UK technology centre for the printing and publishing industry, the yearbook will become the "bible" of Desktop Publishing.

As well as comprehensive details of price-performance of all the most important hardware and software in the field, it will also carry detailed practical articles aimed at both the newcomer to DTP and the experienced user.

Topics covered will include single-user and multi-user sys-

tems, publishing software, laser and other printers, dot matrix printers, digitisers and scanners, computer typesetting, magazine and newspaper composition, documents and forms creation, bureau services, word processors, and many other key topics.

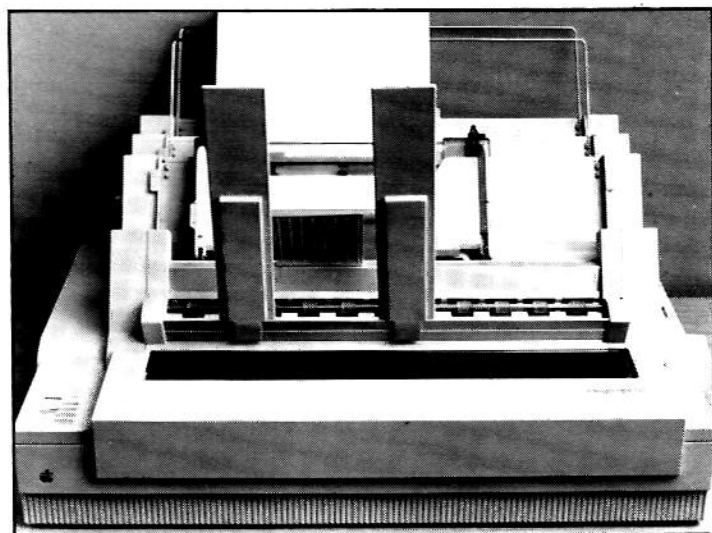
The yearbook will be on sale, price £5, but visitors to the Desktop Publishing Show on October 15 to 17 will receive a free copy.

Meanwhile a special series of awards planned to coincide with the show has been extended.

Already the search is on to find the best DTP newspaper or magazine, in-house company report, and leaflet or newsletter.

Now the contest enters the world of books. An extra award, for the best example of a book predominantly DTP produced has been introduced.

Details from The Desktop Publishing Awards, tel: 061-456 8383.



## New Imagewriter

A LETTER quality wide carriage dot matrix printer that is compatible with Macintosh and Apple II computers has been announced by Apple Computer (01-831 6262).

The ImageWriter LQ has been produced in response to demands from business and education customers for a high quality printer with diverse paper handling capabilities.

Its 15in carriage can handle full-sized spreadsheets and wide forms. The 27 pin print head produces letter quality text and

graphics at 216 x 216 dots an inch.

The impact print technology of the Image Writer LQ accepts multiple-layer forms of up to five pages.

Its paper handling capabilities include push and pull tractor mode and bottom feed, which allows pin feed paper and multiple part forms to be processed directly beneath the printer.

The printer offers a number of standard Macintosh fonts such as Times, Helvetica, Symbol and Courier.

## Duncan Langford looks at the use of ramdiscs with the Mac

ALTHOUGH my intention in this series has been to look at the Mac principally from the point of view of someone new to the machine, I do appreciate feedback from "real" new users; this has been particularly welcome in making me aware of some less obvious needs. For example, in previous articles I have several times mentioned ramdiscs. In response to several requests, this month I enlarge on the subject.

Those of us who, having previously owned Apple computers, bought the original Macintosh were particularly

impressed by two things: First, the enormous amount of memory. 128k might not seem much now, but it was nearly three times that of my Apple ][+, and secondly, the Mac disc drive. With a capacity of 400k, this was a very substantial improvement over the Apple's 140k.

However, very soon the big problems of the early Mac became obvious; interestingly enough, they were exactly the same two points! 128k of memory was indeed more than an ordinary Apple, but it wasn't nearly enough for a Mac; and those discs might hold 400k, but they were s-l-o-w.

A solution to the first problem eventually came with the advent of the 512k Macintosh, with four times the original ram (ram stands for Random Access Memory, and is the part of memory that can be changed by a program, or by you. The other acronym to remember is rom, or Read

Only Memory. Rom can't be changed). Programmers quickly found that applications written for the original Mac didn't always need all this extra memory, and alternative ways of using ram were rapidly developed. One was the Ramcache, which I described in August; Switcher, and later Servant, were others.

Probably the most widely used, though, was the rather ingenious idea of setting aside a large chunk of memory so that it couldn't be used by programs, or the operating system, and then to convince the Mac that this protected memory was really a disc drive.

If applications, or the System/Finder, were loaded onto this "ram" disc, then when the Mac needed information from them it accessed its own memory instead

therefore be saved on the ramdisc, and won't be permanent.

However, despite these limitations, ramdiscs are potentially very useful. There are several different ways in which they can be employed, and to simplify explanations I'll look at some of the available applications in connection with possible uses.

Rather than detail all available ramdisc applications, I have selected three, each covering a different aspect of their use.

The first, simply called Ramdisc, is probably the most confusing, and may be difficult to locate. The reason? There are at least five Mac applications called Ramdisc, and each offers variations on the theme. I'm afraid that as the five different programs I have seen are all called Ramdisc, all have only the generic "writing hand" icon, and none have accompanying documentation, I can only recommend the best on the basis of its "Get Info" box.

This announces creation on July 30th, 1984, with a program size of 16172 bytes (see Figure I). Looking inside the application with ResEdit, I found my copy to be version 1.0 of May 26, 1984 - but alas, no author's name was noted. Even though written so long ago, I use this version almost every day on my MacPlus; it works excellently, and I have never had problems with it.

When used, this application presents the dialogue box displayed in Figure II. Any size from 34k up to the maximum amount of free memory may be chosen for the new ramdisc. When created, it will appear on the desktop as a normal disc icon, with the - logical - title of ramdisc. Programs and files may then be copied to it from "real" discs in the normal way.

This "unknown" ramdisc is ideal for copying programs, should you have only a single disc drive on your Plus. To use it, create a large ramdisc, then make this as a staging post in moving programs and data from one disc to another. Although the process may sound complicated, it is actually much faster and more convenient than copying programs by allowing the Mac its usual disc swapping.

Another use for a ramdisc, and one that is generally the most popular, is to use it for the storage of the System/Finder combination, or an application, or both. There are considerable speed advantages here, as well as convenience, on any Mac system without a hard disc.

For example, on a single drive MacPlus

# The facts in a flash

of a floppy disc. This made access much faster; faster, in fact, than the fastest hard disc.

Despite exceptional speed and convenience, there are of course disadvantages to a ramdisc. Apart from using a substantial chunk of the Mac's memory, it needs setting up every time you turn your Mac on. More importantly, its contents vanish whenever the computer is turned off or the power supply interrupted. Sometimes a System crash may wipe out a ramdisc, too.

Because data stored in memory (rather than on a "real" disc) is not secure, it is /essential/ that you never use a ramdisc for storing data. It is best used for applications, or the System/Finder/ImageWriter combination - but remember, the System saves any internal files on the same disc as itself. Hence, any files created by the System, such as the Note Pad or Scrapbook, will

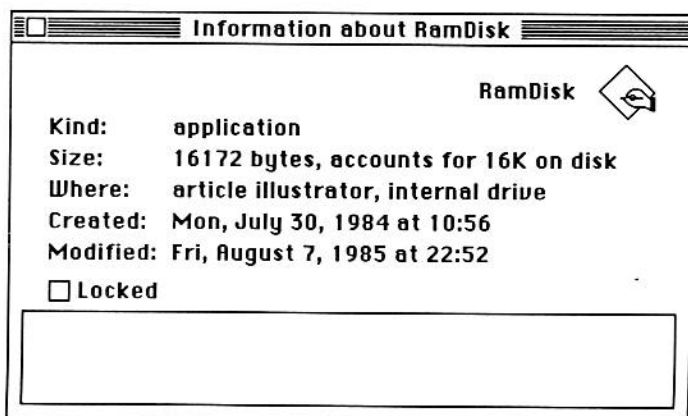


Figure I: The creation date defines RamDisk

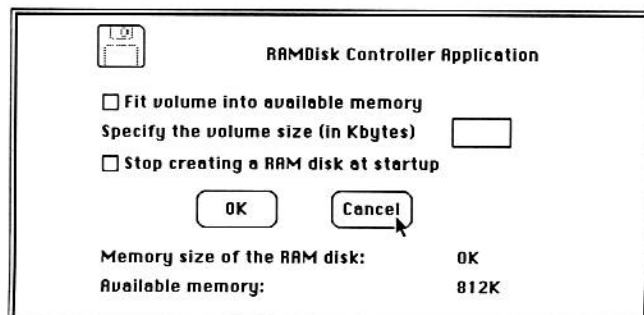


Figure II: The dialogue box



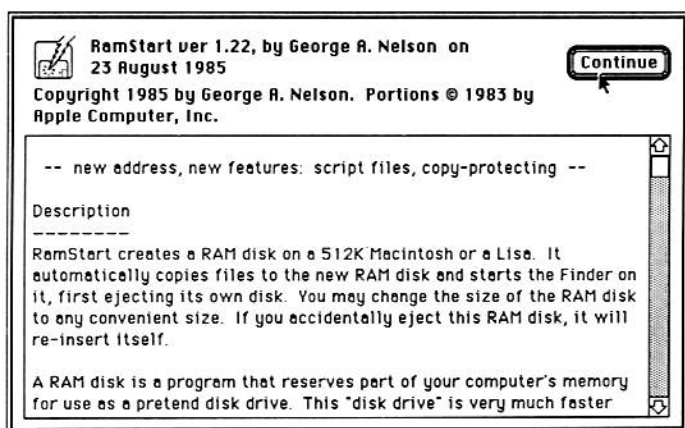


Figure III: The Ram Start information



the System/Finder, ImageWriter and MacWrite could all be loaded into a ramdisc, leaving the real internal drive free for an 800k data disc – remember, /never/ use a ramdisc for data storage; you can be sure the day you do will be the day someone trips over your power cord.

If we want to create a ramdisc and to load it with selected applications, it would be helpful if creation of the disc and loading of files could be carried out automatically; this is the function of the remaining two applications.

The first of these, RamStart(V1.22-HFS) by George Nelson, is a free application which creates a new ramdisc, automatically copies files to it before transferring control to the ramdisc Finder, and finally ejects its own disc (see Figure III).

To use RamStart most effectively, I suggest making up a special startup disc for each application you wish to run, together with its System and Finder, printer driver, and any other files you may need.

Add RamStart, making sure that it is in the same folder as everything you wish copied on to the ramdisc. The program is selective, and will only transfer files in the same folder as itself. Select RamStart, and (from the Special desktop menu) make it the Startup application. When your Mac is turned on and this disc inserted, RamStart will automatically build a ramdisc for your files.

The size of the disc may be adjusted, using a simple scroll bar. Remember to allow sufficient memory for your applica-

tion to run; even on a MacPlus there isn't room for everything to be stored in memory! When all files are loaded, RamStart ejects the startup disc, and transfers control to the ramdisc.

The RamStart disc is protected against accidentally being dragged to the Wastebasket/Trash; remove it by rebooting. Incidentally, don't try to transfer the System from a ramdisc created in this way to an ordinary disc; if you do, the disc won't boot. This is because some vital "boot blocks" are not transferred to the ramdisc System on startup; there is no need for them there, and leaving them behind saves space.

By the way, a later version of RamStart (V1.23) exists. It displays more advertising, and I prefer version 1.22, which works just as well.

The final ramdisc application is the Rolls-Royce (or should I say Cadillac?) of ramdiscs, and the only one needing to be pur-

chased, albeit at the very low shareware cost of \$15.00 (see Figure IV).

Operating in much the same way as RamStart, Ramdisc+ allows rather more individual customising. The new ramdisc may be automatically called anything you like, rather than plain Ramdisc; it may even have a "cutsie" icon – the ramshead on a disc of Ramdisc+ itself. More usefully, Help screens are easily available – after a little difficulty (see Figure V). The Help screens are clear and easy to understand (see Figures VI and VIII).

As a bonus, Ramdisc+ also offers the possibility of crash protection. If your program has "bombed" there is a good chance of recovering things without completely restarting your Mac – potentially a very useful extra (see Figure VIII). Protection of this kind is surprisingly helpful; it's also available through Init resources, which I'll be covering in a later article.

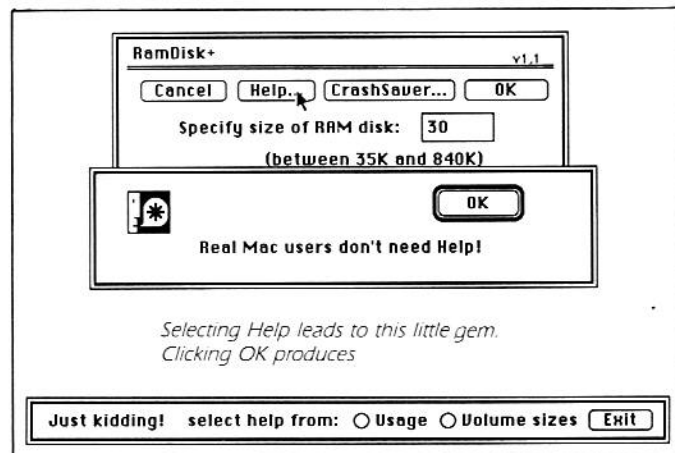


Figure V: Accessing the Help screens

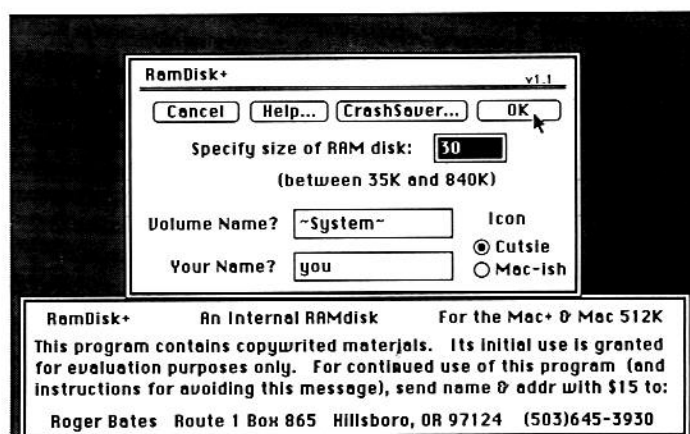


Figure IV: The Cadillac of RamDisk

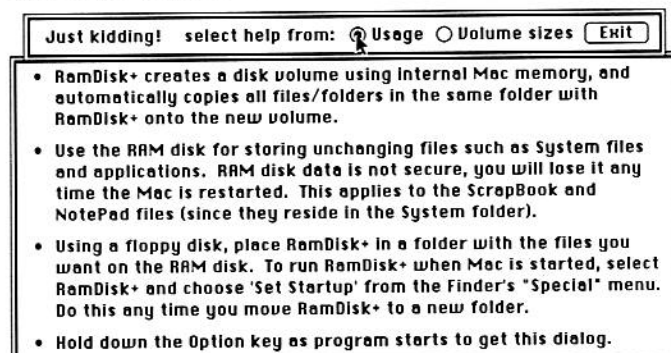


Figure VI: The first Help screen

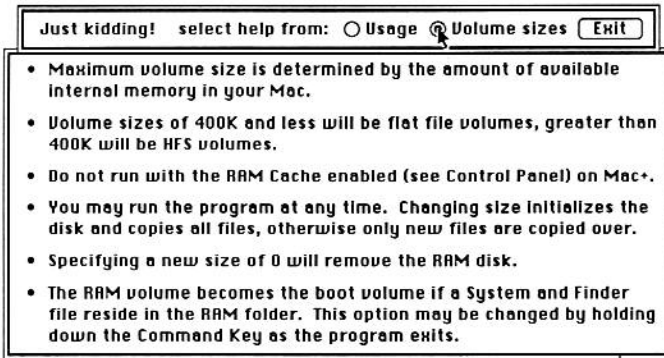


Figure VII: The second Help screen

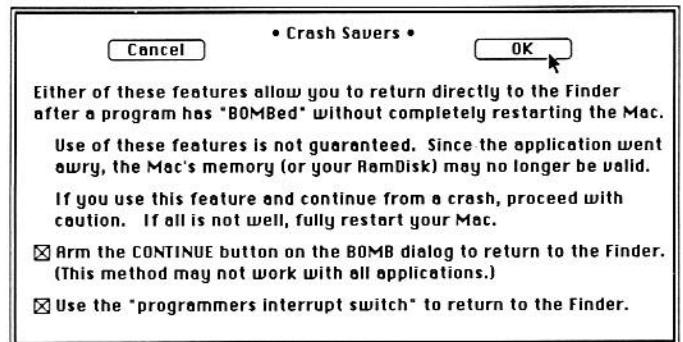


Figure VIII: Crash protection

◁ Unless you are fortunate enough to possess a hard disc, it is well worth while considering building up specialised floppy discs to automatically create and load a ramdisc for each of your major Mac uses. I hope you will try this, and enjoy the speed and performance of a properly set up ramdisc.

Programs mentioned:

- Ramdisc: Author unknown; free
- RamStart(V1.22-HFS), George Nelson, free
- Ramdisc+1.1, Roger Bates, \$15.00

IT may be helpful if I briefly describe some ramdisc combinations I have found useful. All contain System, Finder and the ImageWriter driver.

**Word processing:** A ramdisc containing MacWrite and MacSpellRight; the System is customised (I'll cover this in a later article) to provide Acta and other specialised desk accessories.

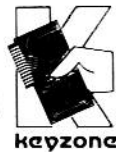
**Painting:** MacPaint, with lots of "painty" DAs. FullPaint and SuperPaint need 512k to run, so their use on a ramdisc is difficult, particularly if a full

System file is loaded.

**Communicating:** The ramdisc contains my terminal program and all the individual call files with logon details, together with Word 1.05 (very good with text files).

**Spreadsheet:** A MacZapped Multiplan (to avoid requests for the Masterdisc when RamStart is loading) /and/ a similar copy of Chart; using a MiniFinder as well allows rapid changes between the two without the risk of Switcher crashes.

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	Coloured	3.81	Star	Gemini 10/15	1.40
Cannon	PW1156/1080	2.89		Coloured	1.90
Epson	FX/MX/FT/RX80/85	2.75		NL10	4.63
	Coloured	3.81		Coloured	5.80
	LX80	2.52		Radix 15	2.65
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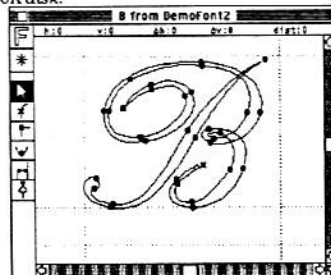
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# Word power plus

WORDPERFECT is a popular word processor on the IBM PC and compatible micros which has now been adapted for the Apple II. It offers many features – but how does it compare with AppleWorks and Apple Writer?

One definite advantage is that it is nearer to true WYSIWYG. The IIgs version uses the graphics screen and displays underlined and bold text without the need for the codes that occupy spaces on the screen in AppleWorks and Apple Writer. The IIe version uses the normal text screen, but displays underlined and bold text in inverse.

However, WordPerfect does not display subscript and superscript on the screen, nor does it normally display the codes that appear in AppleWorks. One way to check such items is to locate the cursor on the first or last character – a message is then displayed at the foot of the screen.

Alternatively, use Closed Apple+2 to display all the format codes in the text. The display is then no longer WYSIWYG, but you can return it to normal by pressing any key.

## Text display

WordPerfect displays text with the correct line spacings – a mixed blessing because with double or treble spacing there is less text on the screen for editing purposes.

Line spacing can be set in half-line steps. If set to 1.5 line spacing, it displays double line spacing on the screen (with the page breaks in the right places) but prints correctly.

It can be set to 0.5 lines to build up complex mathematical equations that print out correctly, provided that your printer supports half-line spacing. However, it does not offer all the facilities of Format-80 Scientific (Apple User, January 1987)

WordPerfect can also display text wider

*The IIgs version of WordPerfect is supplied on two 3.5in discs while the version for the IIe and IIc is on three double-sided floppy discs, not copy protected. Both have essentially the same 400 page loose-leaf manual.*

*The IIe version comes with Prodos 1.1.1, the IIgs version with Prodos 16 and Apple Program Launcher. It displays white text on a blue background with a black border, but you can change these colours.*

## Geoff Wood measures WordPerfect against two Apple standards

than the screen (by scrolling sideways). The maximum width is 250 characters whereas Apple Writer offers 240. In practice, however, few printers can cope with more than 230 in 13.5 inches.

Another advantage is that you can opt for hyphenation of long words occurring at the end of a line. WordPerfect displays the word at the foot of the screen with a suggested – but adjustable – position for the hyphen. If you change the text in paragraphs containing these “soft” hyphens, the hyphens are dropped, though “hard” hyphens typed from the keyboard are not affected.

You can use the tab key to indent the first word of a paragraph. And the gap shown on the screen does not contain space characters, unlike AppleWorks and Apple Writer. The tab key can also be used to align on decimal points or any other specified character, useful for tables of figures.

## Page numbering

WordPerfect always displays page numbers and page breaks whereas AppleWorks does so only when Open Apple+K is pressed. Apple Writer shows page and line numbers only when you press Control+Underline.

WordPerfect does not normally print the number on page 1, but it can be made to do so. As with AppleWorks and Apple Writer, you can have the number at the top or bottom of the page, in the centre or at the left or right, or as part of a header or footer.

It can automatically put the odd and even numbers in the right and left corners of alternate pages, whereas AppleWorks and Apple Writer can do so only with commands on each page.

You can also have different headers on alternate pages. Thus you can write a long document with the report title on the left hand page and the section title on the right. The only way to achieve this effect with AppleWorks or Apple Writer is to embed the headers on alternate pages.

WordPerfect allows you to enter footnotes which are automatically numbered (and renumbered if necessary). The numbers appear in the display and are printed as superscripts – if your printer permits. The footnotes themselves are not displayed in the normal text, but you can see them by using the relevant command.

The number of lines they occupy are deducted automatically from the text lines of the page. Apple Writer offers footnotes but they are not automatically numbered and are displayed in the normal text: AppleWorks does not offer footnotes.

Another feature of WordPerfect is that you can specify a binding margin before printing. This shifts the text to the right or left allowing room on two-sided copies for holes or other bindings. To achieve the same effect with AppleWorks and AppleWriter you must set different margins for each page, or hand-feed paper and change

Filename	Type	Block's	Date	Time	Created Date	Time
ADDRSFLRN	WP	1	24/JUN/85	8:50	31/MAR/85	15:44
CAMP	WP	3	11/JUL/85	15:23	31/MAR/85	15:45
CAMPS LRN	WP	5	22/JUL/85	12:00	31/MAR/85	15:45
GRAPH LRN	WP	3	12/JUN/85	15:00	31/MAR/85	15:45
LETTER LRN	WP	1	2/MAY/86	8:50	31/MAR/85	15:45
LETTER1 LRN	WP	3	12/JUN/85	15:00	31/MAR/85	15:44
LETTER2 LRN	WP	3	31/MAR/86	16:00	31/MAR/85	15:46
MORE PRINTERS	DIR	1	24/JUN/85	8:50	31/MAR/85	15:44
NOTICE LRN	WP	3	24/JUN/85	8:50	31/MAR/85	15:44
PERMITS LRN	WP	1	2/MAY/86	8:51	31/MAR/85	15:45
PERMITS2 LRN	WP	1	6/MAY/86	9:08	2/MAY/85	15:38
PERMITS3 LRN	WP	1	6/MAY/86	9:08	2/MAY/85	15:38
REPORT LRN	WP	20	22/JUL/85	12:00	31/MAR/85	15:45
SPACE.FIL	WP	3	8/MAY/86	14:00	8/MAY/85	14:00
TREES LRN	WP	4	22/JUL/85	12:00	31/MAR/85	15:44

1 Retrieve text; 2 Util; 3 Print; 4 Lock; 5 Back

Figure 1: The file directory provides a comprehensive amount of information

the position of alternate sheets in the printer.

WordPerfect can also pick up the date from the the system clock and automatically enter it into a letter or report. The date can be formatted in English style.

## Widows and orphans

AppleWorks automatically prevents the first line of a paragraph appearing at the bottom of a page or the last line at the top of a new page. WordPerfect is more versatile, allowing you to switch the "widows and orphans" protection on or off as many times in a document as you wish.

To avoid widows and orphans with Apple Writer you have to use embedded commands for the particular paragraph – all three programs allow you to embed commands to prevent a paragraph or table from being split on two pages.

WordPerfect also offers "hard" spaces (better described as "sticky" spaces in AppleWorks) to prevent two words from appearing on separate lines, such as:

Mr  
Robinson.

Apple Writer does not offer this feature.

WordPerfect offers a macro feature which lets you record any sequence of key-strokes, including both text and commands, and play them back exactly as they were recorded. This means that you can automate operations such as loading a file, searching for specified words or replacing them, and so on.

Macros can be chained either in simple sequence or, if the macro includes a search command, as repeating or conditional sequences. For example, a macro could be set up to underline every occurrence of a word or phrase and, on completion, to save the document.

Apple Writer offers similar facilities with its Word Processing Language (WPL) but it is easier to set up a complex macro with WordPerfect.

Like Apple Writer, WordPerfect offers

Feature	WordPerfect	AppleWorks	AppleWriter
Line spacing	Single, double or triple	Single only	Single only
Centred text	Yes	Yes	No
Fully justified text	No	No	No
Horizontal scrolling	Yes	No	Yes
Hanging paragraphs	Yes	Yes	No
Decimal tabs	Yes	No	No
Change case	Yes	No	Yes

Table I: What you see is what you get – comparison of features displayed on-screen

Feature	WordPerfect	AppleWorks	AppleWriter
Built-in spellchecker	Yes	No	No
Help screens	11	10	No
Transpose characters	Yes	No	No
Loading time	2 minutes+	30 seconds	10 seconds
Macro facility	Yes	No	Yes (with WPL)
Mail merge	Yes	Version 2.0 only	Yes (with WPL)

Table II: Comparison of general features

"wildcard" and "any length" characters with the search command. AppleWorks does not offer these features, and will search only forwards, whereas Apple Writer and WordPerfect can search in either direction.

WordPerfect for the IIgs includes a spell checker with a dictionary of 115,000 words and a word count facility. It checks for repetition as well as misspellings. The dictionary is American but you can create a supplementary version.

Sometimes, you may wish to append part or all of the file currently in ram to a file on disc. WordPerfect and Apple Writer allow you to do this but AppleWorks does not. With AppleWorks, you could load in the second file, cut and paste some text from the file already in ram, then save the enlarged file.

## Printing options

When it comes to printing, WordPerfect offers a wide range of options. You can specify up to three printers, as in AppleWorks. But whereas AppleWorks offers a

choice of 12 printers, WordPerfect offers a list of nearly 100, and 30 printer cards. It also offers an option to modify the codes for any printer, printer card or sheet feeder – and a choice of eight fonts on some dot matrix printers.

WordPerfect can print a file straight from a disc without loading it into ram. This means that you can create and edit another file while the printing proceeds. With AppleWorks or Apple Writer, you would need a print spooler.

Finally, WordPerfect offers sophisticated mail merge facilities. You can create a name and address file or other database which can be merged into a letter or other document.

You can also have more than one line in a field, enter information from the keyboard, and automate the process by using macros.

## Limitations

One of the main drawbacks is that WordPerfect keeps only about three pages of a document in ram whereas AppleWorks and Apple Writer keep the whole file there. WordPerfect creates a temporary file on a work disc (which cannot be taken out of the disc drive while the program is running) and updates this file when you scroll the cursor more than three pages.

Those used to the fast scrolling of AppleWorks and Apple Writer will find WordPerfect slower and sometimes disconcerting. When you scroll to the end of the text in ram, you have to wait a second or so while it loads in another page of text from the temporary file on the disc.

Of course, the delay would be much less with a hard disc. And on a IIgs, with the keyboard buffer switched on, you can carry on typing with WordPerfect and the program will catch up.

But if you want to flip from the beginning to the end of a large file, you have to wait for disc access – AppleWorks and

**Lone Pine Recreational Property**

Owner/Buyer ^F1^

^F1^ hereby deposits with Lone Pine Recreational Property as EARNEST MONEY, the amount of \$^F4^, which shall be deposited in accordance with applicable State Law.

Type of Cabin: ^F2^

**OFFER TO PURCHASE**

I. Property Description

A. ^U^ Enter the number of bedrooms (two-four): ^P^C^P^O

II. Purchase Price and Financing

The Total Price is \$^F3^

^F1^

Pg 1 Ln 25 Pos 44

Figure II: WordPerfect offers sophisticated merge facilities, including a pause feature for direct text entry

◁ Apple Writer can switch instantly.

The best way to speed up operations such as scrolling and searching is to use a ram disc. Indeed, the IIe version can recognise a RamWorks card in the slot which normally holds the extended 80 column card. I set up a ram disc on the IIgs and used it as the work disc, but it still took longer than AppleWorks or Apple Writer to scroll more than three pages or to flip from the beginning to the end of a large file.

If you change the margins with AppleWorks, the text is reformatted almost instantly, as with Apple Writer, though you must use a command. WordPerfect sometimes does not reformat the text until you move the cursor through it, which can be disconcerting initially.

The maximum size of the file on WordPerfect is claimed to be 16Mb, but you would need a hard disc to save it. AppleWorks 2.0 is normally limited to 7,250 lines (about 400k) but it can be expanded up to 22,000 lines with Applied Engineering's expansion program and expansion cards. Apple Writer is limited to 46,845 bytes. In practice, with most word processing programs, it is better to have several small files than one very large one.

### Less than perfect

The main drawback to WordPerfect is that many of the commands are difficult to remember. Most involve holding down either the Open or the Closed Apple key and pressing one of the number keys – the numbers correspond to the function keys on the IBM PC.

With AppleWorks and Apple Writer you have only 17 coded commands to learn whereas with WordPerfect there are 34. The quick reference guide lists 128 different commands for features and 16 for cursor control.

The manual does include an adhesive backed template that can be positioned above the top row of keys, but unfortunately the template for the IIgs version obscures the reset key.

AppleWorks commands are easy to

remember because most of them are mnemonic, for example Open Apple+C for Copy: Similarly, Apple Writer has Control+F for Find. Very few commands in WordPerfect are mnemonic, and some of them are dangerously easy to confuse.

For example, Closed Apple+Right arrow takes the cursor to the right hand margin, whereas Open Apple+Right arrow deletes all text to the end of the line, with no prior warning. As the two keys are next to one another on the IIgs, it is all too easy to press the wrong one and find that you have lost some text. It can be recovered by issuing the cancel command, but not if you press another key first.

Another irritation is that Escape is not used to cancel commands or back out of operations as with many other programs. Instead, you must use Open Apple+1.

### Block commands

WordPerfect allows you to select portions of text for deleting, copying and so on. However, unlike some other word processors – Multiscribe for example – it does not use the mouse for this purpose. Instead, it has a block command, using keystrokes

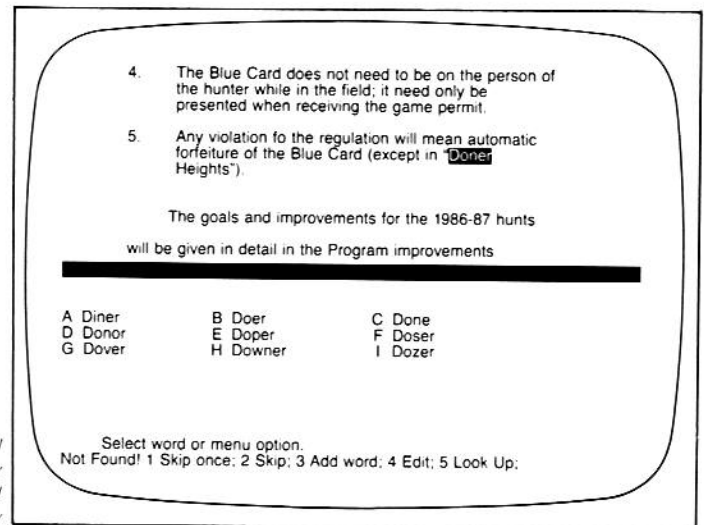


Figure III: The spell checker is backed by a 115,000-word directory

and cursor to highlight the text you wish to work with. Some operations like deleting, copying and moving blocks of text function in a similar way to AppleWorks.

To change the case of displayed text with WordPerfect, you must first use the block command to select the appropriate text, press Closed Apple+=, then 1 or 2 to change from upper case to lower or vice versa, then turn off the block command with Open Apple+0: The same operation seems easier with Apple Writer.

AppleWorks allows you to have up to 12 files in ram and switch quickly between them. You can't do that with WordPerfect or Apple Writer which allow only one file in ram at a time. However, they do allow you to "view" the text of another file on disc while retaining the existing file in ram.

The Utilities disc that comes with WordPerfect contains a useful program for converting AppleWorks or Apple Writer files to WordPerfect format. I converted an Apple Writer file that contained Escape codes but it caused WordPerfect to hang – it worked when I stripped out the codes before conversion.

### Conclusions

There is little doubt that WordPerfect is a sophisticated word processing program and if you have already learnt to use it on an IBM machine, transferring to an Apple IIe, IIc or IIgs, will cause no problems. But for the newcomer, there are other programs for the Apple II range that are much easier to learn and to use.

If you want a word processor mainly to do correspondence, straightforward reports and simple mail merge, you don't need all the features of WordPerfect. But if you regularly write lengthy, complex reports, it could well be the program you've been looking for.

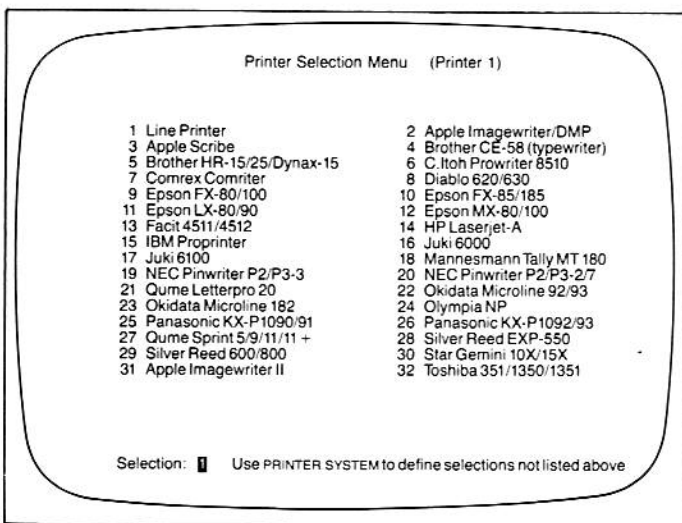


Figure IV: WordPerfect supports nearly 100 printers

Product: WordPerfect  
 Price: £173  
 Supplier: MGA Microsystems, 140 High Street, Tenterden, Kent TN30 6HT.  
 Tel: 05806 4278

# Micro mutants



**Richard Dawkins:** "This process is a way of breaking down the barriers".

**Richard Dawkins explains the Macintosh's part in his study of evolution. Report by Ian Byfield**

THE difficulties of understanding what has really happened in thousands of millions of years of evolution present the human mind with almost unsurmountable problems.

This is especially true for biologists such as Oxford University lecturer in zoology Richard Dawkins who strive to help people grasp the concept.

With the aid of his Macintosh he set out

to write a book aimed at helping people understand just how it was possible that the highly complicated life on Earth today had evolved in minute stages from primeval soup.

But it was not just as a word processor that his Macintosh became invaluable.

As someone who has used computers on various projects for about 20 years, it was natural for him to turn to technology for help in getting across his ideas.

As he began preparing *The Blind Watchmaker* it became clear he needed to be able to provide some sort of aid to help the reader understand how a series of tiny changes could build up into a major alteration.

So he created *Biomorphs* – computer-

drawn, simple "creatures" which can be made to "evolve" in a certain direction by the operator's choice of the next breeding stage.

Richard Dawkins explained: "To anyone who is interested in Darwinism, the idea of being able to exercise any kind of selection is an appealing one."

"Evolution in real life has taken thousands of millions of years to reach what we see; that is what biologists like me are interested in."

"In our short time on earth we are unable actually to see very much of the process of evolution going on, so that any opportunity to step up this process no matter how artificial, is a way of breaking down the barriers."

"Through the *Biomorphs* we are able to see something like what evolution is".

He wrote the *Biomorph* program – soon to be published in North America along with the release of the paperback edition of *The Blind Watchmaker* – in Turbo Pascal.

"It is phenomenally fast and very easy to operate. I am surprised more people don't use it".

As he began programming, he set himself some necessary restrictions.

"I wanted the drawing rules to be as simple as possible because I felt all the complexity should emerge by evolution."

"This would cut down the amount of cheating I had to do to evolve something. It would mean that each small element of change could be identified."

"So I chose a drawing rule which made branches like a tree – a little bit like a simple cell splitting."

"I set up nine genes to influence simple aspects of this rule and then allowed the changes to be made at random".

In this fashion you end up with a parent and a number of offspring on screen. You then choose which of the offspring will form the basis of the next generation: This becomes the new parent and the next set of progeny appears.

The program allows you to interfere ▷

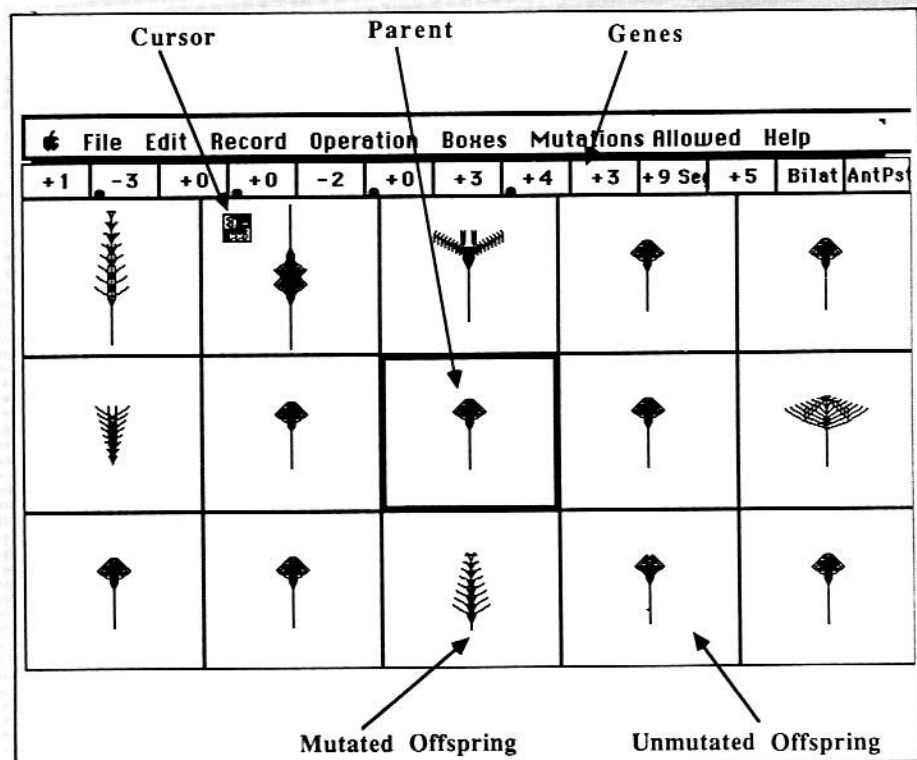


Figure 1: The breeding screen

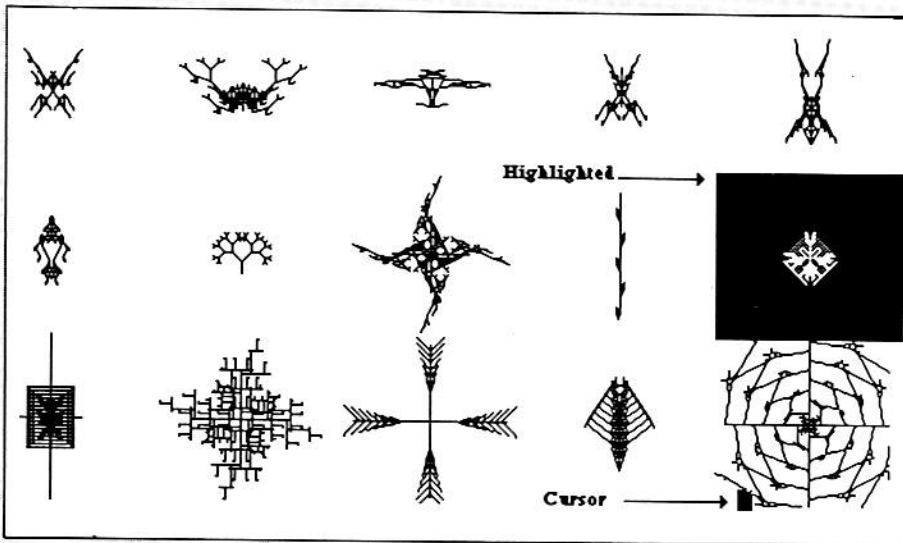


Figure 11: Up to 100 biomorphs can be stored in Albums, which can be viewed in a number of ways

◁ specifically with this process, by engineering or mutating for instance. In this way you can take a particular feature of one biomorph and accentuate it.

"Over the thousands of generations I was genuinely amazed at the variety of forms evolved.

"I had a sense of wandering through a landscape inhabited by creatures I had never seen before and which I would regretfully never see again".

He said he would often try to aim for a particular end product and found he nearly always failed.

"Once, I managed to evolve creatures that looked like insects (this was when the program was at a very primitive stage when I was unable to save the genetic codes).

"Though I had printed out the final result and a lot of the intermediate stages, I had a great sense of loss when I finally turned off the machine and considered that I would not be able to recreate it.

"Later, I set about trying to find it again. Only after an enormous amount of work and lots of failures, did I finally manage to do it".

What does happen sometimes is that you think you are aiming for a particular target and then find yourself sidetracked by some particular element of an offspring and move in a completely different direction.

An essential nature of his program now is the ability not only to save and load biomorphs as normal but also to make the computer record all the stages of development – in other words to build up a family tree.

When a particular biomorph has been achieved it can also be printed out, of course. Richard Dawkins has a laser printer, which as well as reproducing creations "very beautifully" is primarily for his literary work. He explained that he won a literary prize for *The Blind Watchmaker*, and the money that went with it was used to buy

the printer.

With the book completed and more work being put into improving the program for public use, the biomorphs began to grow on him as well as the screen.

"I am an academic biologist so that to me, it started out as an specific exercise for my work.

"I was mainly using Biomorphs as a tool to explain to people reading *The Blind Watchmaker* how a series of very tiny changes can build up to produce large ones.

"Although the biomorphs were essentially part of my work I must confess that I did rather get hooked on them – I think I'm over it now.

"I soon discovered how easy it is to understand why evolution cannot go in the same direction twice. The sheer number of possible variations means that you cannot retrace your steps".

But even so there are limitations.

"Of all the 500 trillion biomorphs possible with the program, there is none, as far as I know, that looks like a human.

"To approach anything like that, you would first of all have to change the fundamental drawing rules.

"My current Mac version has four more genes which has enormously expanded the range. But even when you consider the prospect of making, say, an elephant or a human you must remember that it will only be two dimensional".

Which begins to make it sound like something of a game as well as an educational tool. Indeed Richard Dawkins says that though it will probably be marketed as an educational program it is really somewhere between that and an adventure game.

"You can compare it with the dungeon and dragon type of thing where you wander through strange lands meeting strange creatures.

"The main difference is that in those games someone else has actually created the monsters: With Biomorphs, despite the fact that you choose the next generation, you quickly realise how relatively powerless you are to control what goes on".

So where does it go from here?

"The exciting next stage should be to remove the human eye as being the selection agent and to have the program make the biomorph evolve according to certain qualities such as roundness or size.

"Even more exciting would be to arrange for predators and prey to have an existence on the screen. They could inter-react so that some quality of a predator would make it possible for it to consume some prey but not others.

"You could go on from there (but I would hardly know where to start the programming) to build in more evolutionary controls which would move away from this artificial selection and closer to a natural selection".

That is, if a computer can be called "natural"! □

## AppleUpdate

### Chemical reactions

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# Your chance to help yourself to one of 10 super prizes

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This is the opportunity for all Apple users to make YOUR magazine even better. With the help of Bidmuthin Technologies we have devised a simple questionnaire to find out more about you, your likes and dislikes, and plans.

By filling in the address box you will enter a draw for one of these very worthwhile packages to enhance your Apple II:

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5. MultiScribe-GS
6. Document Checker
7. Point-to-Point Communications
8. Quark Catalyst
9. AutoWorks
10. FontWorks

## Reader Survey

Complete this questionnaire and ensure that your answers reach us by October 31 if you want to be included in the draw.

Completed surveys should be sent to:

Apple User survey  
Database Publications  
Europa House  
68 Chester Road  
Hazel Grove  
Stockport  
SK7 5NY.

### AGE GROUP

- Under 16  
 16-19  
 20-29  
 30-39  
 40-49  
 50+

### SEX

- Male  
 Female

### OCCUPATION

\_\_\_\_\_  
 \_\_\_\_\_

You only need to complete this section if you want to be included in the draw

Name \_\_\_\_\_

Address \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Postcode \_\_\_\_\_

I would like software for the Apple IIc, Apple IIe or Apple IIgs (delete as applicable).

### HOW LONG HAVE YOU BEEN READING APPLE USER?

- 0-6 months  
 6-12 months  
 1-2 years  
 2 years +

### COMPUTER

The computer I use is: \_\_\_\_\_

The configuration I use consists of:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Memory (type) \_\_\_\_\_

- 3.5in drives
- 5.25in drives
- Hard disc
- Printer
- Networks
- Modem

Other \_\_\_\_\_

My main use is for:

- Business     Science
- Education    Leisure

Other \_\_\_\_\_

Type of business:

- Own         Large
- Small       Government

**PLANS**

I plan to buy in:

- 3 months
- 6 months
- year
- 2 years
- Never

Computer (type) \_\_\_\_\_

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- 3.5in drives
- 5.25in drives
- Fax
- Modem
- Networks
- Dot matrix printer
- Hard disc
- Laser printer
- Scanner

Other \_\_\_\_\_

The software I will buy next is: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SOFTWARE/HARDWARE**

I would like to see more products for:

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- Other

**The best software I have used so far is:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**My favourite piece of hardware is:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**I would buy an MSdos card to run 1Mb software if it cost:**

- £300
- £350
- £400
- £450
- £500
- £550
- £600
- Would not buy

**APPLE USER**

How often do you buy Apple User?

- Every month
- 1 in 2
- Most months
- Occasionally

My favourite articles are:

- Features
- Reviews
- General news
- New product news
- Programming
- Adverts
- Utilities
- Other

**What would you like to see in Apple User?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Have you any general comments about the magazine?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# AC INTERACTIVE

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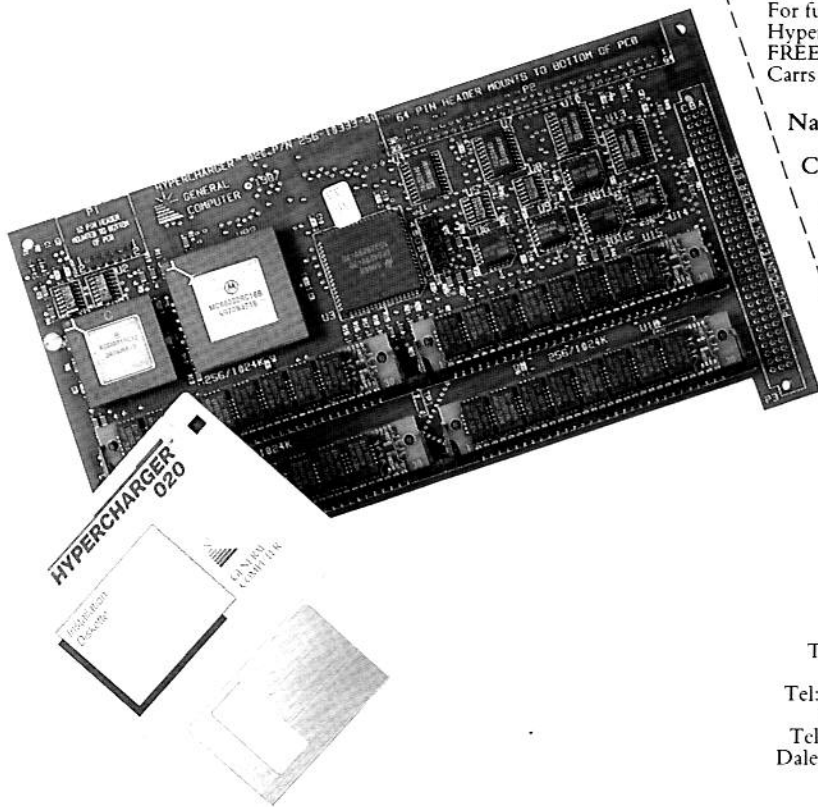
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Tel: 0902 43913

# A slow coat of paint

**Geoff Wood applies a lick or two of Paintworks Plus**

WHEN MacPaint first appeared (free with the 128k Mac) it caused quite a sensation. Later the much cruder MousePaint arrived for the IIe/c, with lower resolution and fewer facilities.

Now Paintworks Plus has arrived for the IIgs; it is almost identical to MacPaint but offers colour and animation. It comes on a non-protected 3.5in disc with the Apple Program Launcher and an easy to follow, 150 page, A5 manual.

Paintworks Plus has the same tools as MacPaint – pencil, brush, spray can, paint bucket, rubber, straight line tool, and tools for drawing empty or filled rectangles, round-cornered rectangles, circles, ovals, freehand shapes and polygons. It also has the lasso, a marker box (selection rectangle), the hand and a text icon.

Paintworks Plus offers 16 colours and 16 black and white patterns. MacPaint offers 36 black and white patterns and solid black and white. You can edit the patterns, and you can also edit any one of the 16 colours to any choice from 4096, you are limited to only 16 in any one picture. The background is normally white but can be changed to any other colour.

## Short cuts

Across the top of the screen is the familiar menu bar with Apple icon and the words File, Edit, Goodies, Color and Font. The Apple offers three options, About, Help and Clock while the Font menu offers Choose Font, Align Left, Align Middle and Align Right.

Drawing is carried out as in MacPaint but with some slight differences. For example, Invert (from Goodies) changes black to white but it also changes colours. The principle is that the first colour in the displayed palette is changed into the last, second into the penultimate and so on.

There is a range of short cuts using the Option key and one other, or by double-clicking with the mouse. For example, double-clicking with the mouse. For

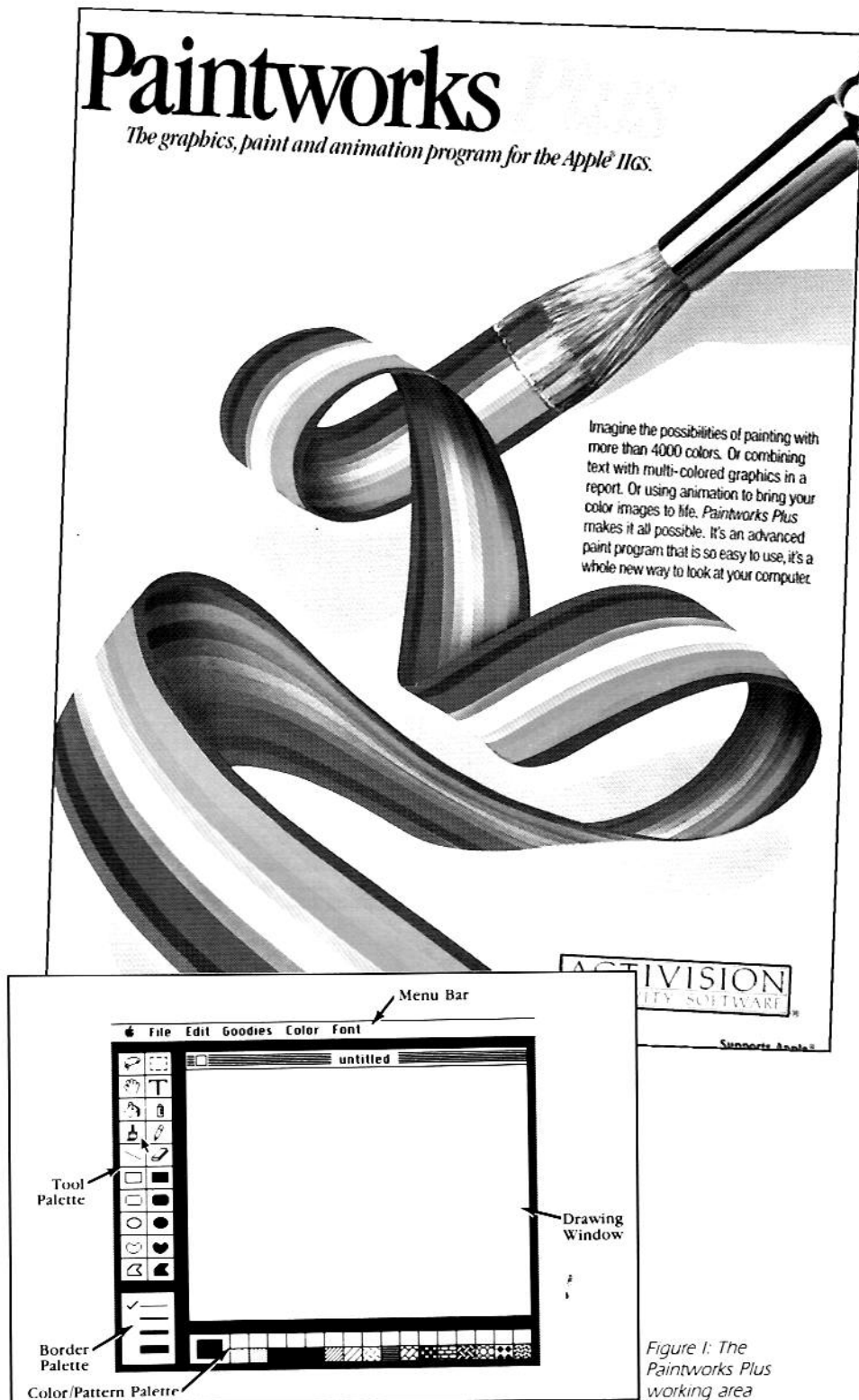


Figure 1: The Paintworks Plus working area

example, double-clicking on the pencil zooms in or out of Fat Bits. Or while using the pencil, hold down Option and click the mouse.

I should mention here that I did find one interesting but minor mistake in the manual: it says you can copy a selected object by holding down the Command Key – it should say Option Key, as on the help screen.

There are constraints to facilitate more accurate drawing. For example holding the Shift key while using the pencil, brush,

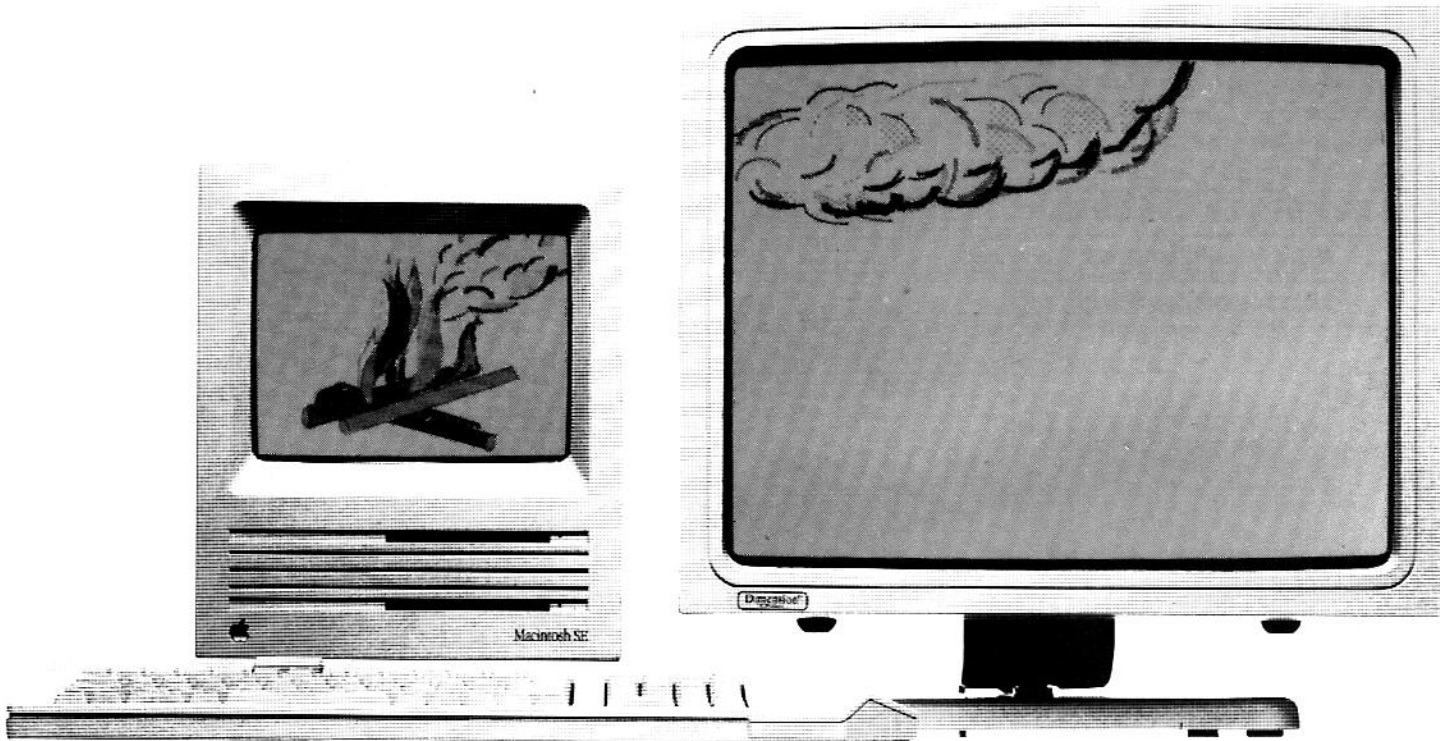
lasso, marker box or rubber allows only horizontal or vertical movement.

With the straight line and polygon tools you also get 45 degree movement. And with the rectangle and ellipse tools and the Shift it will only draw squares and circles. Marked objects may be stretched or compressed sideways, vertically or diagonally while Option is held down.

You can flip a selected object horizontally and vertically, or rotate it, but there is no Trace Edges command.

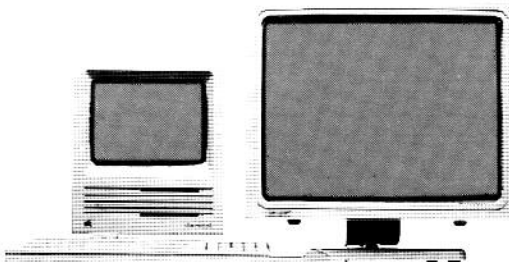
The colour menu offers four options; ▶

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Technology 

0642-225854

◁ Search Color, Dispose Color, Color Palette and Palette Table. Searching for a colour identifies, the current colour in the palette as a pointer is moved around the drawing with the mouse.

One colour in the drawing may be changed for another using Dispose Color, and the Color Palette displays five vertical scroll bars which control the primary colours (red, green and blue) and light and dark. The displayed working colour is changed by adjusting the sliders of the scroll bars.

As you change the working colour you can test it in a window at the top of the screen without affecting your current drawing. When it is satisfactory you can drag it to the current palette and replace any of the existing colours – be careful with white or the background colours as you can make the screen illegible. Saving a picture also saves the current palette with it.

You can create different palettes in a table of up to 128 palettes. Scroll through the table until you find an empty space or one you can change, then drag the one you want into position. Conversely to set the current palette from the table just drag one down.

One definite advantage of Paintworks Plus is the animation. First you need a set of

pictures representing different stages of the animation. The drawings must be saved to disc with the same name followed by a number to show the position in the sequence.

When they are ready the Compress command from the Goodies menu shows the possible names, and a double-click on the appropriate one launches the animated show after asking about timing (from 30 pictures a second to one picture every 4 seconds). They are then saved with the suffix.

### Conclusions

There is no doubt that colour works wonders for your pictures on screen. And the Paintworks Plus animation, which uses the full screen, has to be seen to be believed.

But against these advantages there are some limitations. One is that Paintworks Plus uses rectangular pixels rather than the square ones of MacPaint. So when drawing a square with a tool you get an object which has the same number of pixels along each side, but which is shown and printed as a rectangle.

Similarly, the so-called circle is taller than it is wide. Using the Rotate command

causes the selected object to be stretched vertically and squeezed horizontally.

Paintworks is also painfully slow at changing fonts. It has to refer to disc to call up a Dialog box with a choice of seven (System, Courier, Geneva, Helvetica, Hollywood and New York), with six styles (plain, bold, italic, underline, outline and shadow) in six sizes (8, 10, 12, 14, 18 and 24 point).

However, there is only one preferred size for each font. And after writing text in the six fonts in one picture I could not underline and it would not print.

Some operations are also slow. There are perceptible delays when stretching objects and using the brush mirrors and even tightening the lasso round an object takes a while.

But if you want animation and full screen pictures, Paintworks Plus must be the choice for the ligs.

*Product: Paintworks Plus*

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# Using the Unit

LAST month, we completed the *Apple User File Control Unit* by considering those functions which require access to volume directories and which, consequently, are potentially dangerous.

We now move on to look at a number of typical pieces of Pascal coding – they're not complete programs – which demonstrate how we might make use of the Unit in our applications programs.

For a start, how about a simple piece of code for a program which *has* to have a printer to check that there is one connected to the system? The code is given in Listing I.

While later versions of Apple Pascal provide `Unitclear(6)` to achieve a similar effect, that function requires not only that there be an interface card in slot 1, but also that the printer be turned on, and on-line. Being told that there is no printer just because it is not turned on can be rather confusing!

As for updating the system date, the most common operation is to increment it by one or perhaps a few days. The procedure shown in Listing II will achieve this with the minimum of input validation:

To prepare a disc for use by a user program, we might use something like the procedures given in Listing III.

At the end of a period of using your Apple intensively particularly for program development, it is good practice to tidy up everything krunching discs, making sure that the workfile is saved, and generally getting things ready for the next time that you use the system. The procedure given in Listing IV will accomplish this.

## File creation

The operations `Make`, `Transfer`, `Change` and `Remove` will be of particular use to complex applications programs which need to manipulate data files. While the standard operations such as `Reset`, `Rewrite` and `Close` are sufficient for the storage and retrieval of the actual data, they leave something to be desired when it comes to file creation and movement.

For example, a major problem occurs if your program has to open two new files on the same disc. As we have noted

```
if not isonline(6) then
begin
  writeln('This program requires a printer!');
  exit(program)
end;
```

Listing I

## Stuart Bell concludes his tutorial series on the unitary approach to program development

previously, the first file will normally be allocated the largest single available space. If there is only one large space on the disc, the system will be unable to open the second file, and an *i/o* error will be caused.

An alternative strategy is shown in Listing V rather than using `rewrite` to open a new file, we use the File Control Unit to first `Make` it, after which we use `reset`: (assuming the use of a *panic* procedure as previously)

This enables us to calculate the exact size of the data files which we require, and specify them exactly, thus maximising our use of space on the discs.

If an applications program uses *batch processing*, whereby a new data file is

generated from an old one (as opposed to *transaction processing* when a data file is being updated), it may well need to rename the files after processing has been completed.

For example, the new file, say 'NEW-.DATA' will need to become the old file ('OLD.DATA' for the next run of the program. Most systems keep the original old file as a backup in case of some problem with the new file. This "old-old" file (frequently called the grandfather - as opposed to the father or son file), will need to be renamed, and the previous grandfather file will need to be deleted. The code given in Listing VI achieves this in a few lines:

## Startup program

To complete this discussion of all the routines provided by the File Unit, we should mention `Getfile`.

This could be used as a startup program at the beginning of a work session: As well

```
procedure dateproc;
var   ch:char;
      daytemp,monthtemp:integer; (* use copies to permit 'overflow' *)
begin
  if not olddate(err,date) then
  begin
    writeln('Unable to read old date');
    exit(dateproc)
  end;
  daytemp:=date.day;
  monthtemp:=date.month;
  with date do
  repeat
    page(output);
    writeln('Date is: ',daytemp,'/',monthtemp,'/',year);
    writeln('Press <SP> to increment, <ESC> to accept');
    read(keyboard,ch);
    if ch=' ' then
    begin
      daytemp:=daytemp+1;
      if (daytemp > 31) or
        ((daytemp > 30) and (monthtemp in [9,4,6,11])) or
        ((daytemp > 28) and (monthtemp = 2) and ((year mod 4) <> 0)) or
        ((daytemp > 29) and (monthtemp = 2) and ((year mod 4) = 0)) then
      begin
        monthtemp:=monthtemp+1;
        daytemp:=1
      end;
      if monthtemp=13 then begin
        year:=year+1;
        monthtemp:=1
      end;
    end
  until ord(ch) = 27;
  date.day:=daytemp;  date.month:=monthtemp;
  if not newdate(date,true,err) then
    writeln('Unable to reset system date correctly')
  else writeln('Date reset OK');
end;
```

Listing II



```

procedure initdisc;
var volname:vid; space, err:integer; ch:char;

  procedure panic(reason:string);
  begin
    writeln('Error in procedure to prepare disc for use: ',reason);
    exit(initdisc)
  end;

begin
  writeln('Please put a formatted disc in drive 2, and type <SP>');
  read(keyboard,ch);
  if not volnameof(5,err,volname) then panic('Cannot read disc');
  if not spaceon(volname,err,space) then panic('Cannot find space');
  if space < 274 (* ie not empty disc *) then
  begin
    if not listdir(5,err) then panic('Cannot list directory');
    writeln;
    writeln('The disc contains the above files: please confirm
    deletion');
    writeln('Type Y to confirm, N to cancel');
    repeat read(keyboard,ch) until ch in ['y','Y','N','n'];
    if ch in ['n','N'] then panic('Aborted by user');
  end;
  if not zero(5,volname,'DATAVOL',err) then panic('Failed to clear
  disc');
  writeln('disc cleared OK');
  if not badblocks(5,0,279,err,space) then panic('Bad block on disc');
end;

```

Listing III

as setting the system date, it might also allow user to define the workfile to be used, without having to invoke the Filer. The actual mechanics of this are left to the interested reader!

Assuming that you now have a compiled version of the File Control Unit to hand, let us rehearse the mechanics of using it within your programs. As we noted earlier, it has been written as a Regular Unit; that is, as one which will *not* be incorporated into a Library and which will remain in its own code file. To compile a program which uses Units, we always need to include the UCSD Pascal statement:

```
uses filecontrol;
```

However, unless told otherwise, the compiler will look in the SYSTEM.LIBRARY for the Unit, where in our case it will not find it. Thus, we use the special compiler directive

```
(* $U #5:fileunit.code *)
```

to tell the compiler to look in the code file called *fileunit.code*. Remember that the codefile must exist before we attempt even to compile a user program which uses the Unit. In fact, all the compiler does at this stage is to examine the *Interface* part of the unit, the text of which is stored in the code file.

It does this to make sure that the syntax of calls to facilities provided by the Units is correct (for example that we have the correct number of parameters to a particular procedure.) When the user program is compiled, it simply produces a code file of

```

procedure closedown;

  procedure panic(reason:string;drive:integer);
  begin
    writeln('Error (',err,') in closedown procedure: ',
    reason,' on drive ',drive);
    writeln('Please check out the problem using the Filer');
    exit(closedown)
  end;

begin
  writeln('System shutdown initiated ');
  (* cancel prefix for next user (if any) set to root volume *)
  if not volnameof(4,err,volname) then panic('Cannot read disc',1);
  if not prefix(volname,err) then panic('Cannot reset prefix',1);
  if not whatfile(iswrkfile,volname,fname,err) then
    writeln('No workfile to save')
  else begin
    if iswrkfile then
      begin
        writeln('WARNING: your workfile has no name!');
        write('Please give filename - carefully! ');
        readln(fname); (* should validate at this point *)
        useoldname:=false
      end else useoldname:=true;
    if not savefile(useoldname,fname,err) then
      begin (* most likely reason is wrong volume to be used:
        this could be improved to do a transfer! *)
        writeln('Problem with save: cannot save if workfile
        should');
        writeln('be saved onto other than the root volume
        (#4)');
        panic('Failed to save',1)
      end;
    if not newfile(err) then panic('Failed to perform "New",1);
  end;
  if not badblocks(4,0,279,err,space) then panic('Bad block on
  disc',1);
  if not volnameof(4,err,volname) then panic('Cannot read disc',1);
  if not krunch(4,volname,err) then panic('Krunch error',1);
  if not badblocks(5,0,279,err,space) then panic('Bad block on
  disc',2);
  if not volnameof(5,err,volname) then panic('Cannot read disc',2);
  if not krunch(5,volname,err) then panic('Krunch error',2);
  writeln('System shutdown completed correctly')
end;

```

Listing IV

the text, without the code of the Unit.

We then use the Linker to combine the two code files. The host file is the code of the user program: The library file is the code of the Unit. As we noted in a previous series, this does have the effect that if there are several programs on a disc which all use the same unit, the actual code for the unit will appear in each one, thus wasting disc space.

### Regular or intrinsic?

Set against this disadvantage is the point that the use of Regular Units means we don't have to build our new unit into the

SYSTEM.LIBRARY (or other libraries on 128K systems.)

So, should we use the File Control Unit as a Regular or as an Intrinsic Unit?

There is no easy answer to this. If your root volume (#4:) is no larger than a standard 280 block floppy disc, then disc space will be a problem. If you add into your SYSTEM.LIBRARY all three of the Apple User Units which we have discussed in this series (Screen Control, Printer Control, and File Control), and not removed anything from the library, then you may find that disc space is becoming rather short.

With larger discs, a very large all-inclusive system library is by far the simplest approach, because you can be sure that a

```

if not volnameof(5,err,volname) then panic('Cannot read disc',2);
if not make(volname,'STOCK.DATA',100,err) then panic('Cannot make file',2);
reset(f,concat(volname,':STOCK.DATA'));

```

Listing V

◁ particular unit will always be available when required.

In practice, it may not be possible, and Regular Units should not be despised – at least you do not need to have any libraries on-line when the programs are executed. This has the great advantage that the linked code file is entirely self-contained, requiring no linking at root time.

**Segment numbers**

Should you decide to make the File Control Unit into an Intrinsic Unit, then the only syntactic changes required are the allocation of segment numbers for the code and data segments of the Unit. When libraries get fairly large, we tend to run out of numbers to give to the segments.

What the 1.1 Language Manual does not make too clear is that while it is not recommended that two or more segments in the library share the same number, this is not actually prohibited. What *is* forbidden is the use by a program of two segments with the same number.

Thus, if you can be sure that two segments will never be needed by the same program, they *can* be given the same number. With the 128k system, this should not be necessary, but the limit of 31 for 64k

systems causes more of a problem. Finally, remember that if your user program uses segments, then they will be assigned numbers starting with 7.

**Powerful aids**

This system is far from perfect. One advantage of the Version IV of the p-System (Apple Pascal is a minor development of II.1) is that the SYSTEM rather than the user gives numbers to segments. This makes things easier, at the expense of a rather laborious linking procedure when a program is run.

That completes the third *Apple User* Unit,

```
(* first save grandfather in temporary file 'just in case' *)
if not change('DATAVOL','GRAND.DATA','TEMP.DATA',err) then
    panic('Error in renaming old backup file',2);
(* now make old father into grandfather *)
if not change('DATAVOL','FATHER.DATA','GRAND.DATA',err) then
    panic('Error in renaming old data file',2);
(* now make new file (son) into father *)
if not change('DATAVOL','SON.DATA','FATHER.DATA',err) then
    panic('Error in renaming new datafile',2);
(* finally delete temporary file, as would not be here if not OK *)
if not remove('DATAVOL','TEMP.DATA',err) then
    panic('Error: unable to delete old file ',2);
```

Listing VI

and indeed brings to an end this series demonstrating the unitary approach to program development.

You'll have realised by now that I'm very enthusiastic about Apple Pascal. If you've got all three Units working on your Apple, then you will have a very powerful set of program development aids at your disposal.

If you've been content just to read and watch, then I hope that at least some of my enthusiasm for the Apple Pascal system will have rubbed off!

*Last month's listing was garbled in places. If anyone has a problem in correcting this, please write to Max Parrott at Apple User.*

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# No blues for Apple

APPLE, it would seem, has a problem. Having spent two years turning desktop publishing from a dream into solid reality it now looks as though the blue suited brigade at IBM, and their legion of imitators, are set to stomp all over the market.

That the PC market is fast catching up in the desktop publishing world is an indisputable fact. Aldus's sales figures for the first quarter of this year were the best the company had ever had – solely due to the introduction of PageMaker on the PC.

Xerox's Ventura is a product that has no functional equivalent in the Macintosh market and, to date, that has shipped something like 7,000 units in the UK. Products like Lotus Manuscript, PagePerfect and Harvard are all, it seems, queuing up to displace Apple from the position it has so carefully built up.

But is this analysis of the market a realistic one? Almost certainly not. The reasons are complex but worth examining in detail.

To begin with, the Macintosh is still the only desktop computer system to be supplied with an integrated operating environment. Yes, I know all about the various workstations running Unix, but they aren't in the same league. To achieve even a semblance of the Mac's functionality on a PC you have to start adding things to a basic chassis. Things that, until the eventual appearance of Microsoft's OS/2 and Presentation Manager, were designed as afterthoughts and not as part of the original.

Graphical environments such as Windows and Gem begin to come close to the Apple's Finder and desktop but they still lack the variety of software.

## Following the rules

On the Mac, everything that works according to the rules that Apple laid down, probably more than 90 per cent, is quite happy talking to the other 10 per cent. In the main the developers using Windows or Gem have followed the underlying concepts so, once you've learned one package the rest should be fairly simple but, even here, differences occur.

So, the Macintosh provides a level of integration that simply isn't available on the PC, but is that enough to keep its position? Probably not: After all, the corporate market uses relatively few packages and most desktop publishing packages can be made to accept their formats. However, that isn't the only advantage that the system has over the PC.

Consider the basic hardware. A Macintosh is as powerful as the average AT; if you don't believe me go and watch Excel running next to Lotus 1-2-3 or compare the two versions of PageMaker. In terms of graphics quality its standard screen

## Henry Budgett analyses recent trends in the DTP marketplace

produces an image of 72 dots to the inch while the basic PC can only manage 60 on an EGA display.

That figure of 72 dots per inch is also typographically important because 1/72nd of an inch is, roughly, equivalent to one point – the typographic unit of measurement. (In reality a point is 0.0138")

This careful, and deliberate, choice meant that the Mac can display true typeface sizes on the screen where the PC can only show an approximation. It also simplified the mechanism through which the page was reproduced because the Mac's internal drawing routines, QuickDraw, effectively work in points.

Apple also had, as I have described in an earlier article, the great good fortune to realise that PostScript was a viable page description language. So convinced was Apple of its viability that it invested in 20 per cent of Adobe Systems, a move that has kept Apple well up in the field!

The introduction of the LaserWriter undoubtedly spurred the other page makeup package suppliers into action because, within months, we had Mac-Publisher and Ready,Set,Go! to add to the arsenal.

On the PC they were still struggling to get their word processors to talk to the basic Hewlett Packard LaserJet.

Up until March, even with the introduction of the new range of PCs from IBM (without the proper operating system and delivery schedules stretching back to the end of this year) Apple still had the upper hand, just. And then it launched the SE and Macintosh II.

The SE upped the performance of the Plus slightly, perhaps 10 to 15 per cent. But it also provided two new features; a single slot for the addition of larger, higher resolution screens and, hardly mentioned at all, a 5.25in IBM format disc drive.

While the small screen, despite its impressive resolution, has always been a stumbling point the PC-format drive removed the last shreds of incompatibility. Capability to run PC software is not, in my opinion, a real issue. If people want to run Lotus they will run Lotus on a PC. What they then want to do is to use the data it produces within their desktop publishing product and, until the disc drive arrived that meant messy serial communications.

Now it's just a matter of popping the disc in and reading the data straight into a

number of standard Macintosh applications.

If the SE moved the goalposts slightly then the II simply blew them away. With the power of a Sun 3 workstation, the capability to connect any sort of display you want, the possibility of running an AT-compatible co-processor and the option of Unix as a multi-tasking operating system this is a real man's machine.

I'm sure that part of Apple's philosophy in putting it into a large, three-box housing was a deliberate move to make it a more macho system than the cute little designer Macintosh. This, says the box, is a "proper" computer.

## No challenge yet

The IBM world has not got anything that can remotely challenge the II. Nor will it have until the PS/2 System 80 and OS/2 and Presentation Manager have all arrived, a situation which won't arise until mid-'88. By then, of course, Apple could have moved the goalposts yet again.

If all seems rosy in the world of Apple, think again. There are probably 8 to 10 million PC variants out there in corporate and business hands, compared with perhaps just over 1 million Macintoshes. Regardless of how well the Macintosh does the PC will win by sheer numbers.

But which manufacturer will present the greatest challenge? According to a recent survey by Business Computing & Communications the majority of respondents seemed to feel that IBM would be the supplier they would expect to buy a system from. Yet, today, IBM has no system to offer. Indeed, if you look around the PC market for a company that can supply a complete hardware system to use for desktop publishing the results may surprise you.

Apricot can, by selling Apple's LaserWriter. AST, Hewlett Packard and Canon can, by supplying a non-PostScript printer. Xerox can, by supplying a non-standard system called Docucenter. The rest supply a mix of rebadged or OEMed equipment that, just about, fits the description. And, because virtually all of it runs on "improved" hardware there is the risk of incompatibility or worse.

One set of figures published in the US indicated that the IBM world was set to stomp all over the desktop publishing market and take the largest slice by far, 60 per cent or more.

The report did point out, however, that of the manufacturers Apple was set to retain the largest single share with 27 per cent. And, considering the fact that the market is being increased by every PC system that's sold, that's a share that I guess Apple will feel pretty happy with. □

# One edition ahead

IF a week is a long time in politics, two years is an aeon in computing. To quote Apple UK managing director David Hancock: "It is hard to believe that desktop publishing is only two years old."

"In June 1985 we were just getting the first versions of PageMaker into the country, running the program on a 512k, floppy-based Macintosh and printing on our original four-typeface, PostScript-powered LaserWriter".

At that stage DTP was word processing plus graphics plus page make-up – a major step forward, but primitive by comparison with what visitors will see at The Desktop Publishing Show 1987.

When Apple sets out its stall at the prestigious Business Design Centre in London on October 15, not only will it demonstrate why it is the world leader in DTP – but also just how far both it and DTP have come in those two swift years.

And, more importantly, it will also reveal the exciting technological advances that will keep it in the forefront of the desktop publishing revolution during the remainder of the 1980s.

Some of the DTP equipment and software Apple is bringing along is so new that final decisions about its inclusion are still to be made.

## Latest technology

The Seybold Conference in San Francisco, the major US desktop publishing event of the year, will have been combed for the best and latest DTP technology before Apple and its third-party allies decide what they will feature in London.

At the time of writing most of these products were still classified top secret – their specifications unknown to more than a handful of "insiders".

All Richard Bradley, Apple UK coordinator for the The Desktop Publishing Show, would say was: "Expect some very important announcements to come out of Seybold regarding new areas of DTP and more sophisticated solutions."

"At the Business Design Centre we'll be featuring second generation DTP technology covering the areas of text and type generation, graphic design and illustration, paste-up, document processing, desktop presentations, together with Apple's latest communications solutions for moving documents around."

"Our exhibit will be one huge leadership statement, showing how Apple is keeping ahead of the competition".

This will be no easy task. At a major electronic publishing event in London only

---

**On the eve of The  
Desktop Publishing Show  
1987 we look at how  
Apple is dominating this  
fast-growing sector of the  
computer industry – and  
how it intends to  
maintain its market  
leadership...**

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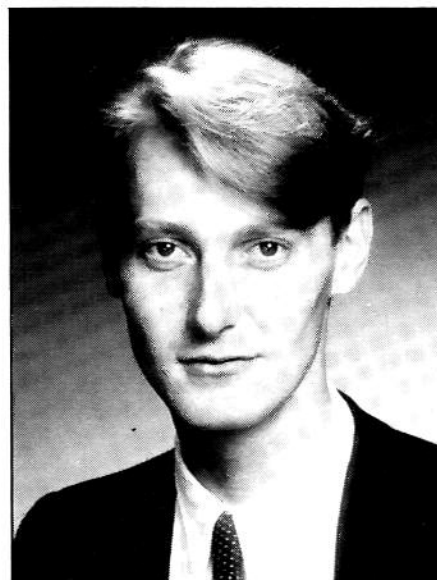
12 months ago, Apple with the Macintosh and Xerox with its Documenter system were the sole primary vendors of DTP solutions.

At the Business Design Centre they will be joined by IBM, Hewlett Packard, Canon, Linotype, Compugraphic, Alphagraphics, Letraset, Digital Research – and a host of other big names seeking a slice of a UK desktop publishing pie estimated to be worth £300 million next year.

David Hancock maintains: "We will both continue to lead *and* retain our market share."

"Useability – the intuitive nature of the Macintosh and its related products and applications – remains our key advantage over the competition."

"Another major advantage we have is in distributed or remote publishing. We lead



Richard Bradley

in this area and we predict this to be the next growth phase in the market.

"AppleTalk is the key to our success here. The technology of AppleTalk is as powerful and important to desktop publishing, and to Apple's future, as the technology we have in the Macintosh or the LaserWriter."

"Two-thirds of our DTP systems have been sold to groups of between two and 10 individuals, and worldwide we have installed in excess of 450,000 AppleTalk nodes."

"We maintain that AppleTalk is the first truly usable microcomputer network. The telephone has become a completely transparent form of long or short distance communications – in AppleTalk we feel we have a similar type of device, and a primary reason why we'll stay ahead in 1987 and 1988 in the DTP field".

Of a number of significant enhancements for AppleTalk this year several have already been announced – perhaps the most important being the AppleShare file server.

"AppleTalk will get bigger and this will drive DTP into new areas," says Hancock. "It also gives confirmation to our belief in the importance of work groups and how we expect to see multi-user applications developing, particularly in DTP where a number of people can contribute to one document".

Hancock says that last year Apple witnessed "phenomenal growth" in desktop publishing, and as the year progressed saw its market profile begin to change.

Much of this was due to arrival of the 1Mb Macintosh Plus, LaserWriter Plus, more fonts and typographic features and a higher degree of useability.

## Communications drive

As Apple gained greater penetration of the UK corporate market, and higher education and government took more notice of DTP, a need arose for products that would allow the Macintosh to work alongside alternative systems – enhancing them and allowing them to work together in the DTP environment.

This, says Hancock, is what prompted development of the AppleTalk-PC card, the Macintosh SE and Macintosh II with their MSdos compatibility.

"These new boards and the AppleTalk enhancements lead our current thrust into desktop communications", says Hancock. "Not only will documents be prepared by an AppleTalk work group, but they will also be distributed electronically – either locally

or to remote locations – via our growing range of communications products”.

Hancock promises that while users will see “ever more powerful solutions” coming from Apple and its third-party allies, the company “will never sacrifice useability and intuitiveness for the sake of power”. Apple products, he said, “are and will be both powerful *and* easy to use”.

This year has seen Apple embark on the task of changing the public perception of comms as “something most people have steered clear of for very understandable reasons”.

Said Hancock: “If we can make it easier for people to create documents of high quality with high impact, and subsequently allow them to move those documents around simply and with a minimum of additional cost, then those same people will have the time and the inclination to do a better job.

“Nobody enjoys mundane tasks – we believe that DTP and now DTC will contribute significantly to greater efficiency and overall performance in most organisations”.

### High standards

So where is DTP going? Apple’s viewpoint – an opinion shared by Hancock, co-founder Steve Jobs and Bill Gates of Microsoft – is that any and every application program must also be a publishing program.

In other words, if a spreadsheet or database does not have the ability to produce reports – featuring graphics if required – lay them out to be aesthetically pleasing, and print them in sufficiently high quality to enable direct publishing, it simply isn’t good enough.

As examples of DTP becoming “part of every program”, Hancock cites the Microsoft word processing package – which performs complex page layout functions while retaining the sophisticated text editing features of an advanced word



Output from a Laserwriter

processor – and Excel, the Macintosh spreadsheet which can produce printed pages of high enough quality to include in a company report.

As he points out, the Macintosh was designed from its inception with DTP capabilities – the original 1984 model coming with MacWrite and MacPaint mouse-controlled graphics, and cut and

paste, which he describes as “the true pioneers of desktop publishing”.

“If you put these facts together with the 32-bit graphical architecture of today’s Macintosh with its nearly 3,000 software applications you realise why it is that Apple leads in DTP”, says Hancock. “With a Macintosh it’s possible, without investment in any additional hardware, or in a mouse, or in a windowing environment, to produce desktop published work from any application.

“Either the application itself will generate sufficiently high design and graphical content, or we have made it easy to take elements from any program into a page layout package like PageMaker, XPress or Ready-Set-Go and really add some design value”.

In addition to raising the standard of business communications, Apple is now also a major player in the high-end professional market. As Hancock says: “We have solutions for newspapers, magazines, advertising agencies, professional graphic designers, engineers, architects – the list just goes on and on.

“Apple desktop publishing is much more than just page make-up. It encompasses a ▶

**“The computer industry has recognised that DTP is a real and very important part of the microcomputer market, both today and through to the end of the decade, and has invested accordingly. Just about every player in the microcomputer business has claimed a DTP solution on the market and more seem to be appearing daily. All of this poses a question for us at Apple...How will we continue to lead and how will we retain a significant market share in the face of this growing competition?”**

David Hancock, Apple UK managing director



*Business Design Centre venue of the DTP Show*

◁ whole range of graphically-orientated solutions and the range is getting broader all the time".

The introduction of two new machines has created the opportunity to use different types of Macintosh for different types of DTP. A Macintosh Plus is flexible enough to do it all, says Hancock, but in some instances an SE or a II would be a better choice.

"Having two compact Macs allows a higher degree of selectivity among our customers, as with the newspaper publishers who use a combination of Plus and SE models.

"The Macintosh II is an entirely different proposition. It is revolutionary and it will create a new and dynamic sector of the third-party software and hardware industry. We are already seeing programs like PageMaker 2.0 and Quark XPress running

on the II at greater speed, with better screen displays, with colour and so on.

"And we are currently working with other developers from the traditional workstation market who are rewriting their publishing, graphics and engineering programs for the Macintosh II.

"In desktop publishing the II is our top end system and is already used for page make-up, advanced graphics and for various tasks in newspaper publishing. We see organisations using the Plus and SE as the text and graphics entry and editing systems and the II being used for page composition.

"The three Macintosh machines offer a very comprehensive range for DTP and related activities and provide users with a practical and logical growth and upgrade path".

Hancock says he is confident Apple will

continue to lead the development of "this dynamic and extremely exciting DTP market" through real innovation.

He points out that it was Apple "with our friends at Adobe and Aldus" who actually created the concept of desktop publishing back in 1985.

"The key products in DTP have historically been, and continue to be, developed on Apple equipment first. Think about it – PostScript and PostScript Fonts, PageMaker, Cricket Draw, Illustrator and Quark XPress all arrived on Apple first.

"Apple created and leads the DTP market. Today we are delivering the second generation of DTP systems while many competitors will only have comparable technology next year or the year after.

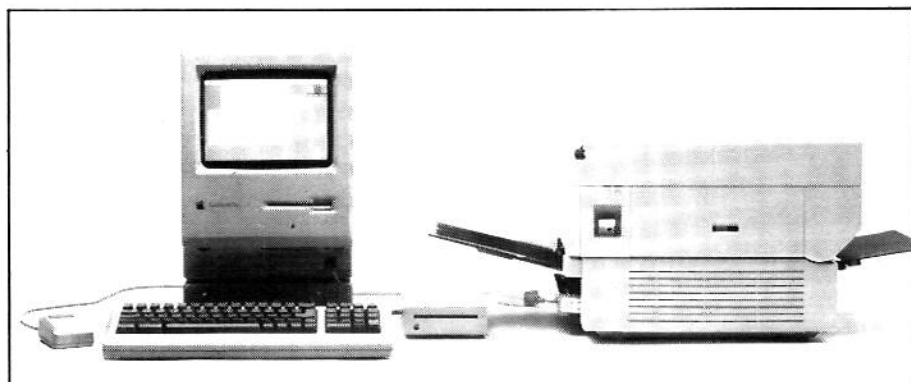
"We know we are a long way ahead of our competitors – and it's a position we intend to keep".

The tools with which Apple intends to maintain its market leadership will all be on display at The Desktop Publishing Show from October 15 to 17.

Apple UK is no stranger to the airy exhibition complex at the Business Design Centre, having held the superbly staged AppleWorld there 12 months ago.

This time out the company will be hosting a number of third party allies from the DTP sector including Aldus, Adobi Systems, Cricket Software, Interleaf and Powerpoint Software.

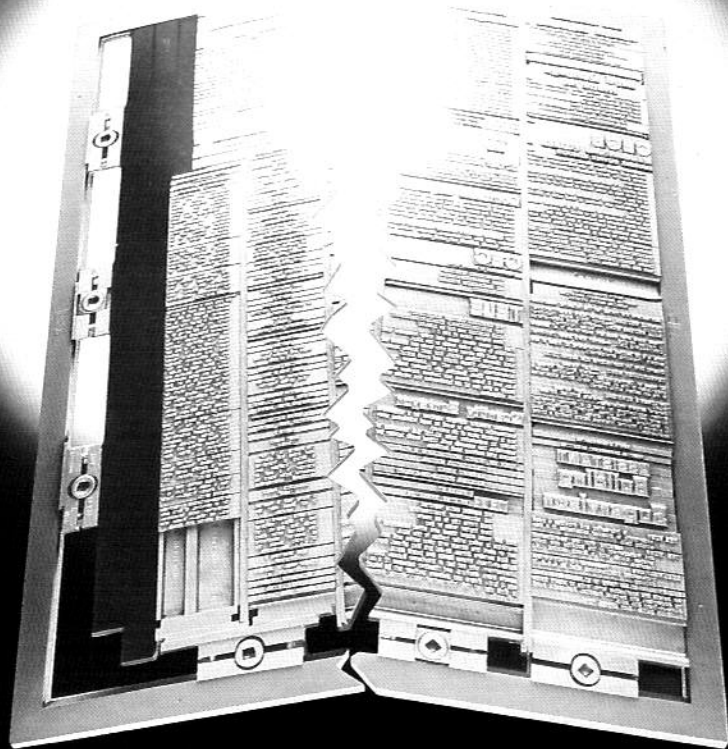
Apple will also have input to the daily seminars, and the user clinics where visitors will be able to discuss their problems with experts in the field of DTP. □



*Macintosh and Laserwriter spearhead desktop publishing*

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A135

# InfoMerge: Pick of the bunch?

INFOMERGE is a program that takes information from records in an AppleWorks database file, inserts it into an AppleWorks word processor file and prints out the resulting document for all selected records.

Its main use is for merging names, addresses and other information into personalised letters, but it can also be used to generate invoices and other documents.

Version 2.0 of AppleWorks offers a simple mail merge operation but InfoMerge offers more sophisticated facilities – for all versions.

Unlike other Pinpoint programs such as the Desk Accessories (reviewed in *Apple User*, September 1986) and the Spelling Checker (*Apple User*, April, 1987), InfoMerge does not work by patching your copy of AppleWorks: it is a standalone program that uses files created by AppleWorks.

In fact, InfoMerge is an updated version of a program previously sold under the name of Mail Merge for AppleWorks, written by Peter Meyer.

earlier version worked all right, but it was awkward to set up because it used text files rather than AppleWorks files. This

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**Geoff Wood puts an updated Mail merge through its paces**

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meant that most errors in setting up could only be corrected by booting AppleWorks, loading the AppleWorks files and resaving them as AppleWorks files and as text files.

InfoMerge uses normal AppleWorks files, but if they are not set up right first time, you have to revert to AppleWorks to edit them. However, at least you do not have to save them as text files.

To prepare a word processor document for merging, you simply type the names of the categories in appropriate places in the document, enclosing each category name between < and > characters, for example, <SURNAME>.

You can also use "global" names which are not category names. Entries for global names are typed at the keyboard and then

appear on all the letters or documents printed out.

You can also specify calculated fields in which the answers to arithmetical calculations can be shown, based on figures extracted from the database and appearing in the document.

For example, an invoice could have calculated fields for the total net amount, the VAT and the total including VAT.

Calculated fields take the form `"6.2<ITEM1>+<ITEM2>"` where the caret signs at the beginning and end are generated by the AppleWorks Superscript-Begin and End commands.

The 6 after the Superscript-Begin symbol indicates the number of characters in the printed field. The 2 after the decimal point determines the number of decimal places. The variables <ITEM1> and <ITEM2> are the names of categories that contain numerical information and which appear in the word processor document. Calculated fields can also use numbers from global fields.

AppleWorks 2.0 and AutoWorks do not offer global variables but this can be over-

## Four upmanship

IT'S a strange thing, but AppleWork's database cannot be persuaded to print more than one label across the page, and yet that is one of the most popular ways of buying labels. So you have to use all the left hand labels, then contrive the left margin setting of AppleWorks to use the second column of labels and so on across the page.

Or, more easily, use Labels-234 to print two, three or four horizontal labels.

Labels-234 is easy to use and works well to produce labels up to four abreast from the database – with the printer settings which you would normally use.

Most of the setting up is done from within AppleWorks and so any user can be expected to be familiar with the system. This is perhaps as well, because the accom-

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**Max Parrott examines a label printing program with a difference**

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panying manual is a little vague in places.

The way of working with Labels-234 is to boot up AppleWorks and create a custom printer, starting with your normal printer setup and finishing by telling AppleWorks that you want to write to disc.

You next create the database of addresses or whatever you want to write on the labels, set the printer options up

within the report format and print the database out to disc. Exit AppleWorks, start up Labels-234, tell it where the file is and it will print it.

Actually it's not quite that easy the first time round because you have to customise Labels-234, but it saves the parameters you enter so that subsequently it is very easy to use – unless you change printer styles, in which case you have to re-customise.

However, Labels-234 does have its weak points. First, it has to be in drive 1 of slot 6 otherwise it cannot find the customised parameters file, and second it can then only find data discs in drives on the same slot. It lists the files on the data disc and invites you to type in the name of the file to use.

Note that there is no chance of using



come by putting the entries in the word processor document.

## Getting started

When you boot up InfoMerge, you are greeted by a menu offering options to select files and merge them, to select a printer, to carry out file activities (such as cataloging a disc), to customise the program or to quit. At almost any stage, help screens are available at a keypress.

InfoMerge offers ready-made set-ups for six printers – ImageWriter, Apple Daisy Wheel, Epson MX, Brother HR, NEC 3515/3525 and C.Itoh F-10.

Alternatively, you can choose a custom printer and specify control codes for initialisation, boldface, underlining and special effects. For any printer you can specify control codes, the printer slot, whether to pause at each page and whether you want automatic form feed.

When you choose the option to select and merge files, a sub-menu appears, in a panel overlaying the main menu, offering options to select or view a database or document file, to display, remove or restore record selection criteria, to count the number of active records and, finally, to merge and print.

When you select a database or document file, you are asked to specify the drive or a pathname. InfoMerge scans the disc and lists the database or document files.

If you have several files on the same disc, you may be unsure which database files to use with each word processor file. InfoMerge solves this problem by allowing you to specify a link.

If a word processor document is designed to be used with a particular data-

*Product: Pinpoint InfoMerge*  
*Price: £33.35*  
*Supplier: Bidmuthin Technologies, PO Box 264, Harrow, Middlesex HA3 9AY.*  
*Tel: 01-907 8516*

base file, you can type USE X at the top of the document, where X is the name of the database file.

When InfoMerge loads this word processor file, it asks if you want to use database file X. If so, just press Return to load it. With AutoWorks and AppleWorks 2.0 you must remember which files go together – it helps if you use similar names for the files.

Having loaded a file, you can view its contents before deciding to carry out the merge operation. This enables you to check that the information is correct before proceeding.

Normally, the merge process uses all the records in a database. However, when you set up a file with AppleWorks you can specify record selection rules before you save it. When the database file is loaded into InfoMerge you can inspect, remove and restore the rules.

However, you cannot change the rules from within InfoMerge: To do so, you must load the database file into AppleWorks, change the rules and restart InfoMerge.

After the database and document files have been selected, the InfoMerge screen shows their names and the number of records in the database. If record selection rules have been specified, the merge process uses only the records that match the rules.

So, before merging, you can ask it to count the number of "active" records. This helps you to assess how much paper will

be needed and approximately how long printing will take.

When you choose the merge and print option, you are asked to enter data for any global variables, such as today's date. InfoMerge then offers options to either display or print the current record, to print all subsequent records or to print the next n records only.

Other options are to go to the first record, find a specific record, advance n records or display the current record values.

The facility to display the merged document on the screen enables you to check it before you print out. You can then print the document for the first record and, if all is correct, print the remainder or specify the number of records to be printed. During printing, you can press Escape to quit, or the spacebar to pause or resume printing.

## Printing to disc

Another option is to print the documents to disc. This means that they are saved as a text file, so if the file is not too large, it can be loaded back into AppleWorks or Apple Writer for display or printing.

Before printing out, you can search for particular records containing a string of characters such as the name of a person or town. InfoMerge displays details of the first record containing the specified string, then asks if you want to search for another record containing the same string.

It repeats the search until it reaches the last relevant record. If you tell it to stop searching, the last record selected becomes the current one.

If you need to stop the printing operation before all the selected records have been printed, you can save the current status as a file on a disc. When you resume, simply load in the status file which then loads in the word processor document and the records to be printed.

The status file also keeps a note of any record selection rules, but not of the entries for global variables.

Selecting File Activities from the main menu displays another menu which offers options to list files, save the current status, load a status file, or deselect the database or document file.

If you choose to list files, a sub-menu offers options to list them all, or status, database, word processor, spreadsheet, Ascii text or system files only.

If you select Customisation from the main menu, a sub-menu offers options to change the number of copies (up to 99), suppress blank lines, turn off the warning beep or change the date format.

Dates can be displayed in one of six different ways: 30 June 1987, June 30 1987, 30 JUN 87, 6/30/87, 30/6/87 or 87/6/30. With both AppleWorks 2.0 and AutoWorks, an entry from a date category always prints in the form Jun 30, or Jun 30 87 if the year is included.

InfoMerge offers most of the options that ▷

sub-directories on the same disc let alone drives connected to other slots. If you enter a valid name for a file the program works well: However, if the name is valid but the type of file is not (it has to be a text file) the program attempts to read it but then tells you there was a "mismatch" and finishes.

To restart you have to re-run the program and to make matters worse it will not let you use the Prodos BYE command to run a program launcher.

You need also to be aware that Labels-234 assumes that your labels are on continuous paper. There is no way that you can use single sheets of labels unless you print just the right number out from AppleWorks.

And the program may not print the last few records. It will only print a round number of records so that it finishes in the rightmost column of labels.

For example, if you can print three labels across the page and have 29 records, only 27 are printed and you lose the last two.

However, on the plus side what it prints is correct. For example, if a line of a record is

too long for the label it is truncated on the right, which is what you would expect, and the following labels are correct.

Labels-234 is also very easy to set up for printing except for two entries called Printer Parameters 1 and 2. These are at first sight apparently random numbers but the manual does tell you what values to use for Epson printers, the ImageWriter, the Apple DMP and Daisywheel and for a Qume printer.

It also explains how to obtain the values for other printers but the method is a little complicated – even if it only needs doing once.

*Product: Labels-234*  
*Price: £33.35*  
*Supplier: MGA Microsystems, 140 High Street, Tenterden, Kent TN30 6HT.*  
*Tel: 05806-4278*  
*Requirements: Apple II in the minimum configuration compatible with AppleWorks together with 5.25in disc drive.*

# Accountant

◁ you are likely to want. However, it has to be said that the program is not fast, partly because it is written in Basic with some routines in Assembly language. It seems to access the disc for almost any option you choose.

Moreover, when you press Escape to back out of some choices, it goes back two steps rather than one. It works faster from a hard disc or ram disc, but still leaves room for improvement.

InfoMerge comes on a double sided disc, one side holding the program, the other some sample files. As with other Pinpoint products, the InfoMerge discs can be copied. The manual is the usual Pinpoint style, verbose and not entirely clear on first reading.

## Conclusions

AutoWorks and AppleWorks 2.0 are easier and faster to set up than InfoMerge because they operate from within AppleWorks. But they do not offer calculated fields, and if you want to do invoices or other documents with calculations, you must use InfoMerge.

AppleWorks 2.0 and Infomerge have an advantage over AutoWorks in that the names of the categories are shown in the word processor document; in AutoWorks the category labels are simply numbers, so you must remember what they mean.

AppleWorks 2.0 limits the number of records in a mail merge operation to 250, (the maximum that will fit on the clipboard).

With a large database, you could carry out two or more mail merge operations and select different records each time. InfoMerge shows the number of active records to be printed whereas AppleWorks 2.0 and AutoWorks do not.

In short, even if you already have AppleWorks 2.0, you might find the extra facilities of InfoMerge very useful.

EVER since Visicalc appeared, spreadsheet capabilities have superseded the ability of printers. Having set up a decent, middle-sized spreadsheet you cannot print it in one pass.

If you have access to a reasonable photocopier which can photoreduce and deal with A3 paper sizes then careful use of block printing together with cutting and pasting can solve the problem. It is however, more convenient to print the sheet in one pass if possible.

The problem is that printers only come with 8 and 15 inch platens and many can only print 13, 12, or 10 characters to the inch.

Dot matrix printers can usually manage a more condensed mode — up to 17 characters to the inch, which gives 255 on a 15 inch platen but most people have an 8 inch platen which will only allow 136 characters across the width of the paper.

Some time ago someone thought about the problem, realised that landscaping was the answer, and produced a sideways printing program for Visicalc called SideVise.

Ever since then all the popular spreadsheets have had add-ons which allow landscape printing. One such for AppleWorks is Slalom, which comes from the rather quaintly named Big Red Apple Club.

All these sideways printing programs use a printer's graphics mode and hence — at the moment — only work with dot matrix printers. Slalom supports four kinds of printer — the first is represented by the ImageWriter, the Apple DMP and the Scribe.

The second group is represented by the C.Itoh 8510 and NEC 8023; the third by the Epson range of dot matrix printers (MX, FX,

## Max Parrott puts Slalom through a ninety degree turn

RX and LX) and the Epson compatibles such as the Gemini Star and the Panasonic 1091; and the fourth by the Okidata 92 and 93 and the Integral Data Systems 460 and compatibles.

However, on the Apple II range of computers it's not enough to specify the printer — the printer interface also enters into the equation.

The reason for this is that most interfaces have "intelligence" built into them which means that they monitor the bytes sent through them and respond to certain values, attempting to interpret them as commands.

If a graphics byte happens to correspond to the command then it does not get sent on to the printer and everything goes wrong.

To overcome this, most programs (like Slalom) by-pass the rom on the card and

Apple Parallel Grappler	PrinterFace
Grappler + Fingerprint	Print Pro
CCS 7720 Parallel	Textprint
CCS 7728 Parallel	Print-it
Graphicard	Dumpling 64
Pkaso and Pkaso/U	Dumpling GX
Printermate	Grafstar
Printmax	Microbuffer II
	Videx Uniprint

Table 1: Parallel Interface cards supported.

File: electricity

### Electricity Usage

Year	Month	Day	Day / Wtr	Re Meter	Units used	Rate pence	Cost #
1100000000	1	1	1	4444444444	217	44	71
1100000000	1	2	1	4444444444	197	44	87
1100000000	1	3	1	4444444444	197	44	87
1100000000	1	4	1	4444444444	144	44	64
1100000000	1	5	1	4444444444	144	44	64
1100000000	1	6	1	4444444444	144	44	64
1100000000	1	7	1	4444444444	144	44	64
1100000000	1	8	1	4444444444	144	44	64
1100000000	1	9	1	4444444444	144	44	64
1100000000	1	10	1	4444444444	144	44	64
1100000000	1	11	1	4444444444	144	44	64
1100000000	1	12	1	4444444444	144	44	64
1100000000	2	1	1	4444444444	144	44	64
1100000000	2	2	1	4444444444	144	44	64
1100000000	2	3	1	4444444444	144	44	64
1100000000	2	4	1	4444444444	144	44	64
1100000000	2	5	1	4444444444	144	44	64
1100000000	2	6	1	4444444444	144	44	64
1100000000	2	7	1	4444444444	144	44	64
1100000000	2	8	1	4444444444	144	44	64
1100000000	2	9	1	4444444444	144	44	64
1100000000	2	10	1	4444444444	144	44	64
1100000000	2	11	1	4444444444	144	44	64
1100000000	2	12	1	4444444444	144	44	64
1100000000	3	1	1	4444444444	144	44	64
1100000000	3	2	1	4444444444	144	44	64
1100000000	3	3	1	4444444444	144	44	64
1100000000	3	4	1	4444444444	144	44	64
1100000000	3	5	1	4444444444	144	44	64
1100000000	3	6	1	4444444444	144	44	64
1100000000	3	7	1	4444444444	144	44	64
1100000000	3	8	1	4444444444	144	44	64
1100000000	3	9	1	4444444444	144	44	64
1100000000	3	10	1	4444444444	144	44	64
1100000000	3	11	1	4444444444	144	44	64
1100000000	3	12	1	4444444444	144	44	64

Figure II: Sample output at 10cpi

# do it sideways

talk to the interface directly. The difficulty with this is that every card is different and therefore only so many can be supported.

Most of the printers supported by Slalom have parallel interfaces and the interface cards directly supported are listed in Table I. If you have a card which you know behaves like one of these then it will probably work with Slalom but check before buying.

Judging from letters to Feedback, many users have an Epson printer with Epson interface so I checked this for compatibility and, although AppleWorks does not support it, it worked perfectly.

I also checked a Simon Aristocard and a Blackboard parallel interface - neither worked. Nor will Slalom drive an ImageWriter on the IIgs via the built-in serial port although a serial card in a slot is okay - the serial interfaces are listed in Table II.

I tested Slalom using the spreadsheet created by Geoff Wood in *Apple User*, June 1986; this is 171 characters across according to AppleWorks. (See Figure I and II.)

To prepare for printing sideways you create a custom printer from within Appleworks to print to disc and simply select it when the spreadsheet is ready; you then exit Appleworks and start Slalom (a Prodos program launcher is useful here to

switch between programs).

Slalom lets you specify printer and interface type, slot number, and font size, or go straight into printing. The printer and interface details may be saved to disc, so

printing is normally straightforward.

Slalom allows three font sizes - corresponding to 60 lines at 10 characters per inch, and 72 lines at either 15 or 17 characters per inch. (The last three are not possible ▶

Apple Serial	
Apple Super Serial	
Grappler Serial	
CCS 7710A Serial	
- and the Apple IIc Serial port.	
The IIgs serial port is <i>not</i> supported.	

Table II: Serial Interface cards supported

File: electricity

Electricity Usage

Year	Month	Day	Days Gone	Days /Otr	Meter Reading	Units used	Rate pernce	Cost #
1979	12	3	337	0	48992			
1980	2	25	56	84	43168	2176	3.30	71.81
1980	6	3	155	99	45129	1961	3.30	64.71
1980	9	8	252	97	47898	1969	3.82	75.22
1980	11	27	332	88	49242	2144	4.20	90.05
1981	2	25	56	90	51612	2370	4.20	99.54
1981	5	29	149	93	53192	1580	4.20	66.36
1981	8	22	234	85	54481	1289	4.68	60.33
1981	11	24	328	94	55900	1419	4.68	66.41
1982	3	5	64	101	57968	2060	4.34	89.48
1982	6	8	159	95	59474	1514	4.68	70.86
1982	9	1	244	85	60814	1340	5.10	68.34
1982	11	26	338	86	62406	1592	5.10	81.19
1983	3	3	62	97	64534	2128	5.10	108.53
1983	6	6	157	95	66159	1625	5.10	82.88
1983	9	8	251	94	67666	1507	5.10	76.86
1983	12	1	335	84	69058	1392	5.10	70.99
1984	3	6	66	96	70818	1760	5.10	89.76
1984	6	11	163	97	72448	1630	5.10	83.13
1984	9	6	250	87	73718	1270	5.20	66.04
1984	11	28	333	83	75071	1553	5.20	70.36
1985	2	26	57	90	76831	1760	5.20	91.52
1985	6	10	161	104	78424	1593	5.20	82.84
1985	9	4	247	86	79804	1380	5.44	75.07
1985	12	3	337	90	81286	1482	5.44	80.62
1986	3	10	69	97	83201	1915	5.44	104.18
1986			NA			0		0.00
1986			NA			0		0.00
1986			NA			0		0.00
Month	1	2	3	4	5	6	7	8
Leap Year	0	31	60	91	11	152	182	23
Month	1	2	3	4	5	6	7	8
Ord Year	0	31	59	90	120	151	181	212

Figure I: Sample output at 17cpi

Total #	Units Winter	per qtr Spring	% per Summer	day Autumn	Moving Units	Annual Days	Totals Units /day	Cost #
75.05	2176							
67.99	25.90	1961						
79.08		19.81	1969					
94.05			20.30	2144	825.00	360.00	22.92	316.27
103.74	2370			26.80	844.44	366.00	23.07	344.97
70.56	26.33	1580			806.34	360.00	22.40	347.57
65.43		16.99	1289		730.03	364.00	21.32	333.97
71.51			15.16	1419	665.00	362.00	18.39	311.23
94.50	2060			15.10	633.40	360.00	17.58	302.00
75.96	20.40	1514			633.00	360.00	16.75	307.99
74.34		15.94	1340		633.00	360.00	16.89	316.31
87.19			15.76	1592	650.00	360.00	17.77	331.99
114.53	2128			18.51	650.00	360.00	18.11	352.00
88.00	21.94	1625			650.00	360.00	18.42	364.93
76.00		17.11	1507		630.00	360.00	18.42	364.93
80.00			16.03	1392	630.00	360.00	17.42	352.00
80.00				16.57	630.00	360.00	17.42	352.00

◁ on the Apple Scribe, the Epson MX80 and MX100, 92/93).

Figures I and II show the two extreme settings printed on an Epson FX80. You'll see that the 10 cpi font is very similar to "normal" printer output but the 17 cpi is special - note the uppercase Y of Year.

If you need sideways printing for AppleWorks spreadsheets then Slalom does the job well. There is, however, one more

thing to consider: It is slow. The test spreadsheet of 42 lines by 171 characters took 15 minutes at 17 cpi and nearly 18 minutes at 10 cpi on the Epson FX80.

The time can be reduced a little when in AppleWorks. Instead of printing "All" to the disc, block the whole spreadsheet and print just the block. This stops spaces from appearing at the right hand end of the sheet and does speed up printing.

*Product: Slalom*  
*Price: £28.69*  
*Supplier: Big Red Apple Club (USA)/MGA Microsystems, 140 High Street, Tenterden, Kent TN30 6HT.*  
*Tel: 05806-4278*  
*Requirements: Apple II, in the minimum configuration compatible with AppleWorks together with 5.25in disc drive and a printer and interface compatible with Slalom.*

# Good companions?

AN avid AppleWorks fan, I opened with more than passing interest the package labelled AppleWorks Companions Vol. I and Vol. II. This must be some ultra-smooth improvement on Pinpoint or Macroworks, I imagined.

My interest faltered when I realised that the accompanying "documentation" merely listed a somewhat haphazard and motley collection of AppleWorks files on both sides of six 5.25in discs. Each side is named TAWUG followed by its appropriate number, except for number seven which is inexplicably named AppleWorks.

Vol. I consists of well over 200 data files ranging in size from 1k to more than 50k and created by members of The AppleWorks Users Group, an American organisation of AppleWorks fans "formed to help everyone learn more about AppleWorks".

The group invites regular contributions from members.

It lists categories as:

- |                        |                      |
|------------------------|----------------------|
| 1. Database help       | 2. Spreadsheet info. |
| 3. Wordprocessor file  | 4. Desktop ideas     |
| 5. Printer points      | 6. Other things      |
| 7. Commercial Programs | 8. IIE Help          |
| 9. //C Help            | 10. Troubles         |

All three AppleWorks applications have been used in the creation of these files, whose quality and usefulness vary as widely as their size. Most of the material is dated 1985 with some from 1984. Vol. 2 material dates from 1986.

As the members tend to be simply enthusiastic rather than professional writers, their spelling, style and presentation often betray this, even allowing for our American cousins' slightly different perspective on the English language.

## Pen pals

The files of both volumes amount to correspondence between members of the group covering a wide range of micro-related topics, mostly tips on AppleWorks in particular, hardware and other software.

Some of the tips are laborious ways of getting around the program's deficiencies. Printing AppleWorks files out in two-

**Lew Norris delves  
 into an Appleworks  
 lucky dip**

column format may work, but it seems a cumbersome process. Computers should make life easier, not harder.

A cure is offered for the dreaded BON which can appear at the top of your paper if you have printer code or interface problems: "Apple has an Applewords (sic) interface card configuration utility disk. Check with them."

All three AppleWorks applications are used for files, many of them templates, dealing with customised printing, configuring AppleWorks for use with various printers, allowing for print style changes in Applewriter, help with The Source (an information bank in the States) or anything that helps expand the usefulness of AppleWorks.

Ready-made spreadsheets demonstrate, among other things, amortization, investment, loans, inflation, tax and even the spreadsheet as a word processor document, interestingly. Databases also find a broad variety of uses.

Vol. II of AppleWorks Companions comprises essentially more of the same on eight discs.

## File hunting

File names used throughout both volumes vary in coherence. Names like Cassette-tapes, Family.Tree1, Yearly Sales or even Iimgewtr.Boldface seem self-explanatory, but Note.To.Jim isn't very helpful even when you know that Jim is President of TAWUG.

It's a good thing that a database of the material is included. It gives a pretty good idea of the location and content of every file in Vol. I. There is also a less detailed database of topics pertaining to 16 discs, two more than are supplied.

Without these two files you would have little chance of finding at will anything of interest. If you only buy Vol. I of AppleWorks

Companions you won't get either of these files because they are a part of Vol. II (TAWUG 19 & 22).

On TAWUG 22 there is a file called Juki codings. I used the Find command on both databases to summon any reference to Juki, but without success.

Many of the spreadsheet files are obviously the creations of competent users and could possibly form the basis for other files. Instructions for use, not always included, vary in detail and intelligibility.

## Personal touch

Robert J Netro, a frequent contributor and keen member laments, "As is the case with public domain software, some of TAWUG's files are not the greatest". To be fair, he does consider that members' contributions improve with time.

After spending hours on these files, I feel as though I know some of the members personally and almost felt sad when Jim, the President, announced his intention to resign.

Nevertheless, buying AppleWorks Companions means buying a lucky dip of other people's AppleWorks files, warts and all, geared exclusively to American needs and conditions. Some of the earlier tips must be getting dated by now and, for the price, you could buy a good applications program.

I'm sure everybody could find a lot of material to adapt and use, but I doubt whether the combined price of over £50 justifies an attempt. I've been wondering why the price is so high and assume it is partly due to the curse of the Apple II, namely its paltry disc capacity. A lot of files take up a lot of discs.

Surely it would be more profitable and entertaining to buy a few blank discs and get your instruction and entertainment from an Apple Users' Group a little nearer home?

*Product: AppleWorks Companions*  
*Price: £22.99 (Vol. 1), £28.74 (Vol. 2)*  
*Supplier: MGA Microsystems, 140 High Street, Tenterden, Kent TN30 6HT.*  
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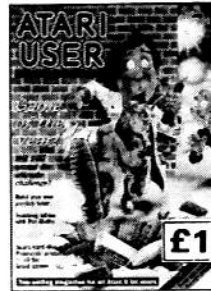
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# Creative tools for creative people

RUMOUR has it that Broderbund Software was extremely surprised at the great success of the Print Shop when it was released in 1984.

In fact, that success merely confirmed the old proverb that a picture is worth a thousand words. But it also signalled the opening of a completely new area for Apple II users: Simple desktop publishing.

Nowadays DTP is just about the hottest category of computer uses, and it seems that everybody has discovered the benefits of combining text and graphics.

And while Print Shop's resources might be regarded as limited, its impact has been considerable – for several reasons: The time was ripe for such a product, it was (and is) simple and enjoyable to use, and Apple users suddenly had a designing tool with which to demonstrate their artistic flair.

For these reasons, and despite its drawbacks, Print Shop has generated interest and excitement from the first. Some

**In the first of a new series on DTP, Jaromir Smejck looks at low-cost font editors for the Apple II**

people invent reasons to send greetings cards to friends, others write short stories and illustrate them: Still others design their own letterheads or produce giant banners for special occasions.

**First steps**

But very quickly the whole area expanded beyond the domain of the Print Shop. Nowadays we have printed designs on T-shirts, greetings cards – and real desktop publishing. This series of articles will

explore the factors which need to be considered when you set out to create effective, practical designs with an Apple II and an impact, dot matrix printer.

It will also cover some basic strategies to help you effectively communicate visual information.

Topics to be covered include explanations of particular terms, principles and practical techniques – all with examples which you can easily create with low cost programs and a printer.

The series will not, however, deal with desktop publishing in the sense of special page description languages or page layout programs and related techniques for use with laser printers.

Nor will it provide detailed explanations of special typographical terminologies – such things are described in detail in the manuals which accompany the programs and equipment.

This is the age of artwork, designed by

	FOINTRIX Data Transforms	GUTENBURG Gutenberg Software	MULTISCRIBE StyleWare	FONTWORKS Software Touch	APPLE TOUCH Apple - DOS TOOL KIT	BEAGLE GRAPHICS Beagle Bios	HIGHER TEXT Synthetic Software	PRINT SHOP & COMPANION Broderbund	SHAPE MECHANIC Beagle Bios	THE COMPLETE GRAPHICS SYSTEM Penguin	DMP UTILITIES Vilberg Brothers Computing	POWER PRINT Beagle Bios	PRINT QUICK Third Wave Technology	Remarks:
<b>FONT EDITOR</b>														
Dos 3.3	Y	(i)		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	(i): Special Dos.
Pro dos			Y	Y	Y	Y		Y			Y	Y	Y	ii): Double Hi-Res.
Bit-mapped font	Y		Y	Y	Y(ii)	Y		Y	Y	Y	Y	Y	Y	
Shape font			Y	Y			Y	Y	Y	Y	Y	Y	Y	
Printer (download) font		Y(iii)	Y				Y	Y		Y	Y	Y	Y	(iii): Some printers only—not Epson.
Proportional	Y	Y(iii)	Y				Y	Y		Y	Y	Y	Y	
Matrix size (pixels)	32x32	7x12	28x28	16x16	7x8	7x8	47x37	7x8	7x8	11x9	11x9	11x9	11x9	(iv): Continuously changeable from 1x1.
	(iv)		(iv)			14x16		14x16	14x16					
Maximum characters in font	94	94	96	96	96	96	57	96	96	96	94	94	94	
Modifiable matrix (font) height	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Scroll (shift) character	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Vertical flip			Y				Y	Y	Y		Y	Y	Y	
Horizontal flip (mirror)			Y				Y	Y	Y		Y	Y	Y	
Insert delete rows and columns				Y			Y	Y	Y					
Overlay character	Y													One character can be overlaid by another (overlay char. is part of the new one). Aid for creating new character only (shadow char. is not part of the new one). B: Boldface; D: 3D; I: Italics; O: Outline; U: Underline; W: Shadow.
Shadow (imprint) character								Y						
Automatically created type styles			BIOW				B							
Negative character							Y(v)							(v): Boxes, lines, ovals, patterns and rays.
Special design utilities							JKMPT	K	JKMPT	K	K	K	K	J: Joystick; K: Keyboard; M: Mouse; P: Paddles; T: Graphic Tablet.
Input devices	JKMPT	K	KM	K	JKP	K	K	JKMPT	K	JKMPT	K	K	K	
Undo	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Reference picture of edited char. 1:1	Y		Y(vi)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	(vi): The ratio 1:1 is valid for display only, not for print.
Print edited character from editor							Y	Y	Y	Y	Y	Y	Y	
Print complete font from editor							Y	Y	Y	Y	Y	Y	Y	
Fonts included	11(vii)	2	10(vii)	20	21	21(vii)	13(vii)	20	30(vii)	2(vii)	20	21	4(vii)	(vii): More in optional font disks. (viii): From Apple Dos Tool Kit.

Figure 1: Font editor characteristics

yourself with help from the computer, the software and the printer. Once an image has been created it can end up almost anywhere – newsletters, certificates, posters, logos, overhead transparencies, badges – the list is almost endless. You will discover many new uses – it's a fascinating way to express your ideas.

As Jerry Pournell of Byte has commented "Anyone involved in newsletters, whether for business or organisation purposes now has no excuse for dull and boring mailers". This is valid not only for newsletters but also for all visual creations.

niques and hints in this series to help produce tasteful and stimulating documents.

Always remember though, that beauty is in the eye of the beholder – and beholders don't take kindly to amateurish desktop design.

Take the time to learn a few tricks of the trade: You will not only produce better looking documents, but you will also communicate information more effectively.

**Font editors**

The number of programs on the market which could be suitable for our purpose is really overwhelming, so for this series a dividing line is drawn between those programs which have a built in font editor and those which do not; the former were chosen.

Almost all European languages use some kind of accent or special characters, and even in English a font editor is required for creating special symbols which are often necessary. Without one you will not have a really creative tool at your disposal.

Before the Print Shop Companion arrived the biggest shortcoming of the Print Shop was not having a font editor, a feature still surprisingly lacking in Newsroom, Certifycate Maker and many other products.

Another criterion is that the final product from the program must have the ability to

print text. All the programs use the Apple hi-res or double hi-res environments.

Some kinds of software and hardware I have deliberately omitted, for example, computer aided design (CAD) systems, business graphing and presentation systems (with or without desktop and slide presentation programs) and so on, for the reason that they have limited horizons and leave no room for your own creative work as nearly all such designs are fixed by the program itself.

Nor have I included the creation of printed colour presentations, because this poses a special problem. For very good results you will have to use expensive, high resolution colour monitors and colour printers.

To quote one review I read recently, "Colour graphics produced by most impact dot matrix printers under \$1500 look like Walt Disney's Fantasia viewed through mud-spattered glasses".

We will try to do our best with one colour printing, not necessarily always black on white. But creating, for example, slides with colour titles, is an entirely different matter because you do not need a colour printer. Creating slides is also the only activity described here for which you don't need a printer.

It's worth keeping in mind that various studies have revealed that the human brain retains only about 10 per cent of aural information it receives but more than 50 per

**Apples only**

This article deals with software and hardware for the Apple II family only – you don't need a Macintosh, LaserWriter and PageMaker because, for many uses, you will find the Apple II with a dot matrix printer and some relatively cheap software will be sufficient to produce some good quality creations for limited distribution.

With prices starting at less than £20 and some good public domain software you can afford to use more than one package and add more variety to your work.

Your mind, coupled with the Apple and the right software, can produce designs of captivating visual power and beauty. I hope you will find some new and useful tech-

	FONTRIX Data Transforms	GUTENBURG Gutenberg Software	MULTISCRIBE StyleWare	FONTWORKS Software Touch	APPLE DOS TOOL KIT Apple	BEAGLE GRAPHICS Beagle Bros	HIGHER TEXT Synergistic Software	PRINT SHOP & COMPANION Broderbund	SHAPE MECHANIC Beagle Bros	THE COMPLETE GRAPHICS SYSTEM Penguin	Remarks
<b>PROGRAM</b>	1	2	3	4	5	6	7	8	9	10	
Dos 3.3	Y			Y	Y	Y	Y	Y		Y	
Prodos			Y	Y	Y	Y	Y		Y		(i) With GLOBAL translation program
Use Ascii type file		Y(i)	Y	Y		Y					(ii) With optional add-on program
Load Graphics from other source	Y		Y(ii)			Y	Y	Y		Y	
Creating new graphics possible						Y		Y		Y	
Windows			Y								
Fonts open at once	1	2	16	10 (IV)	9	1	3	1	3	1	(iii) Only the one just printed is in memory, others on desktop only. B: Bold; I: Italic; X: Inverse; D: 3D; U: Underline; S: Sub Supsc.; W: Shadow
Mixed typesyles supported (+ normal)	BIX		Biosuw			X	BX	DO		X	For characters/foreground or background (besides black and white) In one font, one document or screen
Number of usable colours/patterns	30					14	8		4	14	
More than 2 fonts sizes supported			Y				Y			Y	
Change case			Y							Y	
Spec. typing modes (transparent etc.)	Y				Y		Y		Y	Y	
Character rotation supported								Y			
Always delete complete character			Y		Y			Y		Y	(iv) On text screen selective
Line distance 0 (screen and print)	Y		Y		Y					Y	(v) Updated version only
Hi-res screen display		Y(iv)			Y		Y	Y(v)	Y	Y	(vi) Independent X and Y scaling from 1:1 to 99:99
WYSIWYG	Y		Y		Y		Y	Y	Y	Y	
Largest 1:1 printable character in mm	745X(vi) 745	2.5X 4.2	26X 26	5.6X 5.6	2.5X 2.8		5X 6	168X 192	5X 6	6X 6	
Send special codes to printer		Y									
Print document larger than screen	Y	Y	Y	Y							(vii) Its own only
Print hi-res pictures in document		Y(vii)				Y		Y			
Print sideways document	Y			Y							
Print multi-column document		Y									
Converts other software fonts											Bit mapped only

Figure II: Program features

< cent of visual information. The brain also accepts visual information some 27 times faster.

It therefore follows that using visual aids to convey a message will have greater impact on the audience. Certainly, effective communication is more than simply stating information.

**Spoiled for choice?**

Many software reviews skip over some very important practical points. For example, the size of the matrix in the font editor, the number of editable and usable characters (often less than 96 but also possibly more than 120), the maximum size of directly printable characters and so on.

Therefore in Figure I you will find listed the most important features of font editors, and in Figure II those of the programs themselves.

This summary should help you to choose the right low-cost programs for your purposes. It covers not only the new ones but also the old, but nevertheless usable, programs such as Apple DOS Toolkit, Animatrix and Higher Text from Synergistic Software.

In Figure I you will also find details of font editors capable of creating downloadable character sets for printers (DMP

Utilities, Power Print, Print Quick and Font Disk 1).

Figure II shows those programs capable of using hi-res graphics with text to create multipage documents (Fountrix, Gutenberg, Multiscribe), and an application program which allows you to print text from Appleworks files (Fountworks).

Also listed here are programs for creating and printing hi-res text with or without accompanying hi-res pictures but which are limited to one screen or page only.

The majority of these programs can also import a hi-res graphic page from disc and use it as background or part of the final

product with text and print all in a variety of fonts, styles and sizes. The trend towards more and better illustrations has increased the users' graphic expectations and the software companies are taking note.

All the packages mentioned in the figures have been thoroughly tested in use for three months or more. The only exceptions are Springboard Publisher and some add-ons to Multiscribe, which were not available at the time of writing.

● Next month, to make sure we're all speaking the same language, I'll concentrate on the special terms and buzzwords used in the printing field. □

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# Snail trail

BY the banks of the Rio Morte in Brazil live two species of super snail. They move very fast and leave a trail of highly toxic slime behind them – slime so lethal that not even they can survive touching it.

However, there is no longer enough room for both species in the area, so a duel of champions has been arranged.

One snail of each type is imprisoned in a ring of slime, and each must try to force the other to touch it. The winners can stay by the Rio Morte – the losers must leave the region.

## Design notes

Speed was the most important factor influencing program design. Consequently, the REM statements that have line numbers ending in fives have been included only for explanation and can be omitted when you type in the program.

I have used constant variables rather than literals. It takes the interpreter 10 times longer to convert a constant to a floating point number than it does to fetch the value from a table. For further hints on speeding up a program, consult the Applesoft reference manual, page 120.

## David Taylor presents a fast-moving game of logic for two players

At line 100 the program jumps to 460 for the set up. During the instructions the level, number of games and sound routines are set up. If you want sound, a speaker click routine is poked into locations 768-772. If not, RTS – Return from Subroutine – is poked into 768.

This is CALLED during the main loop. This method is more efficient, and neater than a Basic PEEK(-16636) and associated IF statements. Then the Ascii codes of the control

*This short game for two players, where each has to avoid the other, belongs to a popular genre. Don't make the mistake of compiling the program, or running it on the IIGs with fast processor speed – it is quite fast enough as it stands. – Ed.*

keys and other variables are initialised.

The movement is based on the statement 'X=PEEK(-16384)'. This reads the keyboard and sets X= ASCII(key) + 128. The variables X1, Y1, X2 and Y2 hold the movement vectors for the two snails, X1 holding the value to be added to player one's X coordinate and so on.

The function SCRN(X,Y) returns the colour of the point (X,Y). This is used to tell whether an attempt has been made to plot on an already lighted coordinate. This would mean someone had crashed into the border or a slime trail. If so, the program branches to a score routine at lines 300-370.

## Customising the game

- If you have a compiler, try compiling. The speed increase is phenomenal, so you could improve the sound and crash routines without worrying about performance.
- Various obstacles could be placed on the screen quite easily during the set up.
- The longer the players stay alive, the more difficult the game becomes – a score system could be designed to reflect this.

```

10 REM SNAIL TRAIL                = P
20 REM A GAME OF LOGIC AND REACTIONS :X2 = N
30 REM BY DAVID TAYLOR           170 IF KEY = A1 THEN X1
40 REM COPYRIGHT 1985            = M
55 REM OMIT REMS FOR EXECUTION SPEED (LINES ENDING IN 5) :Y1 = N
100 GOTO 460                     180 IF KEY = K THEN X2
105 REM READ KEYBOARD            = M
110 KEY = PEEK ( - 16384)         :Y2 = N
    - 128                        190 IF KEY = S THEN X1
125 REM SET VECTORS ON KEY        = P
130 IF KEY = Q THEN Y1           :Y1 = -N
    = M                          200 IF KEY = B THEN X2
    :X1 = N                       = P
140 IF KEY = O THEN Y2           :Y2 = N
    = M                          205 REM UPDATE POSITIONS
    :X2 = N                       210 AX = AX + X1
150 IF KEY = Z THEN Y1           :AY = AY + Y1
    = P                          220 BX = BX + X2
    :X1 = N                       :BY = BY + Y2
160 IF KEY = D THEN Y2          225 REM CRASH OR MOVE
                                230 C = SCRN( AX,AY)
                                : IF C > 0 THEN W = 2
                                :L = 1
                                :S2 = S2 + 1
                                : GOTO 300
240 COLOR= C1                    310 VTAB 21
    : PLOT AX,AY                 320 PRINT "*SNAILUS ";L;" M
250 C = SCRN( BX,BY)             ADE A MISTAKE*"
    : IF C > 0 THEN W = 1        330 PRINT "*SNAILUS ";W;" I
    :L = 2                        S THE WINNER*"
    :S1 = S1 + 1                 340 GET AS
    : GOTO 300                    : IF AS < > CHR$( 32)
260 COLOR= C2                    THEN 340
    : PLOT BX,BY                 350 PRINT "SCORES ARE SNAIL
265 REM LEVEL CONTROL            US UNO
270 FOR V = 1 TO (200           : ";S1
    - LVL * 20)                  360 PRINT "          SNAIL
    : NEXT                       US DUO
275 REM CALL SOUND               : ";S2
280 CALL 768                      365 REM NEXT ROUND
    : CALL 768                    370 NEXT
290 GOTO 110                       375 REM FINAL RESULT
295 REM BEEP ACCORDING TO        380 TEXT
    WHO WON ONCE OR TWICE        : HOME
300 FOR R = 1 TO W                390 IF S1 > S2 THEN
    : PRINT CHR$( 7)              : HTAB 8
                                : PRINT "SNAILUS UNO HAS SU

```

```

RVIVED"
: GOTO 410
400 HTAB 8
: PRINT "SNAILUS DUO HAS SU
RVIVED"
410 PRINT
: PRINT
420 HTAB (6)
: PRINT "SNAILUS UNO";
: HTAB 23
: PRINT "SNAILUS DUO"
430 HTAB 10
: PRINT S1;
: HTAB 27
: PRINT S2
440 HTAB 7
: VTAB 7
: INPUT "DO YOU WANT ANOTHE
R GAME? ";ANS$
: IF LEFT$(ANS$,1)
= "Y" THEN S1 = 0
:S2 = 0
: GOTO 10
450 END
455 REM INSTRUCTIONS
460 HOME
470 PRINT "*****"
***** S N A I L T R A I
L *****;
480 PRINT "*****"
*****"
490 PRINT
: PRINT "A FAST MOVING LOGI
C GAME FOR TWO PLAYERS"

500 PRINT
: PRINT "EACH SNAIL MUST FO
RCE THE OTHER TO TOUCH";
510 PRINT "ANY TRAIL OF HIGHL
Y TOXIC SLIME"
520 PRINT
: PRINT "SNAILUS UNO IS ON
THE LEFT"
530 PRINT "SNAILUS DUO IS ON
THE RIGHT"
540 PRINT
: PRINT
: HTAB 8
: PRINT "W"
: HTAB 6
: PRINT "A";
: HTAB 10
: PRINT "S"
: HTAB 8
: PRINT "Z"
550 VTAB 15
560 PRINT
: PRINT
: HTAB 32
: PRINT "O"
: HTAB 30
: PRINT "K";
: HTAB 34
: PRINT "L"
: HTAB 32
: PRINT ","
570 PRINT
: PRINT
580 PRINT "ENTER LEVEL (1-10)

590 INPUT LVL
600 PRINT
: PRINT
: PRINT "DO YOU WANT SOUND
(Y/N)"
610 SN = 173
620 INPUT AS
: IF AS = "N" THEN SN
= 96
630 POKE 768,SN
: POKE 769,48
: POKE 770,192
: POKE 771,96
640 PRINT
: PRINT
: INPUT "HOW MANY GAMES ? "
;G
645 REM ENSURE ODD NO OF GAM
ES
650 IF G = INT (G / 2)
* 2 THEN G = G + 1
: PRINT "WE HAVE TO PLAY ";
G
: FOR X = 1 TO 500
: NEXT X
655 REM SET UP ASCII CODES
660 M = - 1
:P = 1
:N = 0
:Q = 87
:O = 79
:Z = 90
:D = 44
:A1 = 65
:K = 75
:S = 83
:B = 76
:C1 = 1
:C2 = 12
670 PRINT
: PRINT
675 REM NO OF GAMES LOOP
680 FOR NG = 1 TO G
690 PRINT "PRESS SPACE BAR
TO BEGIN"
695 REM SET UP SCREEN
700 GR
: COLOR= 3
710 HLIN 0,39 AT 0
: HLIN 0,39 AT 39
: VLIN 0,39 AT 0
: VLIN 0,39 AT 39
715 REM SET INITIAL POSITI
ONS AND DIRECTIONS
720 AX = 10
:AY = 20
:BX = 30
:BY = 20
730 X1 = 1
:Y1 = 0
:Y2 = - 1
740 GET AS
: IF AS < > CHR$(32)
THEN 740
750 GOTO 110

```

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# Fast and friendly

CP/M 3 (or CP/M plus) is a great improvement over CP/M 2; the only thing that mars its use on the IIe and IIc is the small disc space on 140k 5.25in Apple drives, but this problem can be circumvented by using 800k 3.5in floppy drives or a hard disc.

CP/M 3.0 has been distributed for Apple IIs by Cirtech since 1985 when the company produced its microprocessor adaptor board for the IIc. This was followed in 1986 by an adaptor board for the extended IIe, and now there is a card, not a board, for the IIgs.

The IIgs card comes with a manual which caters for all three machines, since each receives the same set of disc files on the system master which comes with the hardware. There are now more programs distributed with the system than there were in 1986 – the full list is presented in Figure I.

The first part of the manual covers installation of the boards in the IIe/c and the card in the IIgs, which could not be simpler on any of the machines. This review covers the use of the card in the IIgs: The boards were reviewed in September 1986 (IIe) and November 1985 (IIc). If you refer to those articles, remember that you will now get more software for your money.

On the IIgs, Cirtech recommends that the card goes into slot 7 since Appletalk (on port-7) is unlikely to be used while running CP/M, but it can go into any free slot. The only proviso is that the appropriate slot is activated via the Control Panel.

I installed the card in slot 7 of a IIgs with a 1Mb memory card, set to act as a 512k maximum ram drive. I used an ImageWriter as printer, connected to the printer port and I used another computer connected to the modem port to test the functions which use aux:.

The IIgs was fitted with one 3.5in and two 5.25in drives. I also briefly tried, suc-

## **Max Parrott puts Cirtech's CP/M 3.0 card to the test**

cessfully, a Flipper card in one slot as another ram drive. The control panel may be accessed as normal while running the CP/M, and changing the system speed between fast and normal did not have any effect.

The ram drives behaved impeccably and I soon found myself favouring their use during a working session with a one-off backup to floppy disc at the end of the day.

Booting the 3.5in system master disc briefly shows a message that the Cirtech Loader version 2.01 is loading CP/M which is replaced by the CP/M log-on message showing that CP/M 3.0, version 2.02, from Cirtech, is loaded.

The system automatically recognises any memory on a IIgs memory card which has been set aside by the Control Panel as a ram disc and uses it as drive B: It puts on it a hidden file called RAMCARD.ENT which is write protected and therefore not easily erased accidentally.

The manual exhorts you to immediately make back-up copies of the system master disc when first booting the system. This is very easy, since there is a Toolkey disc copy function.

The Toolkey set of utilities, unique to Cirtech's CP/M, lets you copy and format discs, change the cursor, dump a snapshot of the screen to printer (interestingly, not the ISt: device), display the time and date, empty the internal output buffers and to print multiple copies of documents.

Toolkey functions are called at any time, even when a program is running, by holding down the IIgs option key (Closed

Apple on the IIe/c) and pressing one other key. Pressing the ? and the Option key opens a mid-screen window and displays a menu of these toolkey functions. Each function uses its own mid-screen window so that the screen display is not upset.

On the IIgs the time and date are picked up from the internal clock and displayed in the format chosen in the control panel (on the IIe/c the current date and time have to be set using a utility provided). Printing to the ISt: or aux: devices takes place via internal buffers and these may be emptied at any time. The printer buffer may also be sent to the printer any number of times up to 255 by using a toolkey function.

A memory resident, pop-up-anytime calculator may be installed by running a COM file. It is accessed by Open Apple+ C and allows normal arithmetic (with scientific notation if required) together with percentage and square root calculation and a memory for one number. Its two registers may be exchanged. Conveniently, it may be moved around and positioned anywhere on the screen.

There are five logical devices (if you are not sure about logical and physical devices under CP/M refer back to the *Apple User CP/M tutorials*).

## **Interconnection**

When booting up, Cirtech CP/M scans the slots and ports from 1 up to 7 and connects the logical devices to the first suitable physical devices it finds. Thus with the IIgs set-up as described above the default interconnection is as shown in Figure II.

Using the DEVICE utility the interconnection between logical and physical devices may be changed. For example, a likely change on the IIgs is to connect the mouse, as well as the keyboard, to CONIN:.

The five possible attributes of the mouse (button, up, down, left, right) are returned as control characters which default, interestingly, to ^M, ^E, ^X, ^S and ^D respectively but these may be changed as desired by using the SETMOUSE utility.

The LST: device is internally connected to a 12k buffer when it is first assigned a physical device and similarly AUXIN: and AUXOUT: are connected to a 4k buffer. However, although these devices may be connected to more than one or reassigned to another physical device using DEVICE, the internal buffers remain as initially assigned. The physical devices which Cirtech's CP/M 3 recognises are listed in Figure III.

I ran a range of programs to test the

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HD-MATE is designed to allow you to have both Prodos and Pascal 1.3 programs on the same hard disc: If you use Cirtech CP/M Plus, it will give you three

operating systems.

Simply select the sizes of Prodos and Pascal areas, install the Pascal area and you are ready to use your new-look hard disc.

HD-Mate will work with any Prodos-compatible hard disc on the Apple IIe or IIgs. Normal operation of the hard disc is not affected, with all standard Pascal 1.3 and Prodos commands working as usual.

system and all the I/O ports (ba AppleTalk) thoroughly and found everything to work faultlessly and fast. The large print and modem buffers were especially useful. Data can be sent in a background mode, for example by PIP to AUX: or by Wordstar to the printer, while work continues in the foreground. And the Toolkey Empty Buffer command can be used to flush the buffers.

The mouse can be especially useful when using a text editor such as Wordstar; it allows quick, effortless scrolling through the text although you have to be careful not to inadvertently knock the mouse when typing.

### Using hard disc

Cirtech's CP/M system will also recognise any Prodos or Smartport hard disc drive and allow you to use it in one of two ways. You can format the entire disc surface as a CP/M drive using the Toolkey Format function, or by using the HARDISK utility you can partition your hard drive between Prodos and CP/M.

Once partitioned, the Toolkey Copy and Format functions will not operate on a hard disc in order to protect the Prodos partition and within the Prodos directory there appears a one block system program called CPM3. A startup disc is created by formatting it, then running the COPYSYS utility. If COPYSYS is used with the hard disc partition as the destination you can start CP/M from the hard disc by executing CPM3 from within Prodos.

I find Cirtech's implementation of CP/M 3 extremely pleasant to use because it's fast and it's friendly, offering those utilities you need often within the mid-screen windows and presenting meaningful error messages when needed.

However, for those who dislike CP/M's front end or find it difficult to remember how to use some of the transient commands, there are two more user-friendly ideas.

The first is the HELP program. As long as it's on-line you can access a help file to present you with the syntax of the command. The second is the File Manager, a program which provides a menu-driven front end to CP/M which enables you to run, copy, erase, rename, print, view and obtain information on files on any on-line disc.

Once run the Manager does not stay resident in memory but will always be re-run after leaving any application. For this reason it is best moved to a hard disc, or better a ram disc, directly after boot-up.

Name	Bytes	Recs	Attributes	Created	
COPYSYS	COM	4k	15	Dir RW	05/09/87 14:20
CPM3	SYS	20k	134	Dir RW	05/09/87 14:17
DATE	COM	4k	23	Sys RW	05/11/87 14:02
DEVICE	COM	8k	58	Dir RW	03/24/87 00:00
DIR	COM	16k	114	Dir RW	03/24/87 00:00
DRIVES	COM	4k	3	Dir RW	03/24/87 00:00
DUMP	ASM	4k	32	Dir RW	03/24/87 00:00
DUMP	COM	4k	3	Dir RW	03/25/87 00:00
ED	COM	12k	73	Dir RW	03/26/87 17:54
ERASE	COM	4k	29	Dir RW	03/24/87 00:00
GENCOM	COM	16k	116	Dir RW	03/24/87 00:00
GET	COM	8k	51	Dir RW	03/24/87 00:00
GPATCH	COM	4k	2	Dir RW	03/24/87 00:00
HARDISK	COM	8k	36	Dir RW	03/24/87 00:00
HELP	COM	8k	56	Dir RW	01/04/87 00:00
HELP	HLP	76k	591	Dir RW	03/24/87 00:00
HEXCOM	COM	4k	9	Dir RW	05/09/87 15:57
HIST	UTL	4k	10	Dir RW	03/24/87 00:00
INITDIR	COM	32k	250	Dir RW	03/24/87 00:00
LIB	COM	8k	56	Dir RW	03/24/87 00:00
LINK	COM	16k	123	Dir RW	03/24/87 00:00
MAC	COM	12k	92	Dir RW	03/24/87 00:00
MANAGER	COM	8k	33	Dir RW	03/24/87 00:00
MPATCH	COM	4k	2	Dir RW	05/09/87 14:37
PATCH	COM	4k	19	Dir RW	03/24/87 00:00
PIP	COM	12k	68	Dir RW	03/24/87 00:00
PUT	COM	8k	55	Dir RW	03/24/87 00:00
RAMCALC	COM	4k	26	Dir RW	03/24/87 00:00
RENAME	COM	4k	23	Dir RW	05/09/87 14:20
RMAC	COM	16k	106	Dir RW	03/24/87 00:00
SAVE	COM	4k	14	Dir RW	03/24/87 00:00
SDT	COM	4k	12	Dir RW	03/24/87 00:00
SET	COM	12k	81	Dir RW	03/24/87 00:00
SETDEF	COM	4k	32	Dir RW	03/24/87 00:00
SETMOUSE	COM	4k	7	Dir RW	03/24/87 00:00
SHOW	COM	12k	66	Dir RW	03/24/87 00:00
SID	COM	8k	62	Dir RW	03/24/87 00:00
SUBMIT	COM	8k	42	Dir RW	03/24/87 00:00
TRACE	UTL	4k	10	Dir RW	03/24/87 00:00
TYPE	COM	4k	24	Dir RW	03/24/87 00:00
XREF	COM	16k	121	Dir RW	03/24/87 00:00
Z80	LIB	8k	56	Dir RW	03/24/87 00:00
ZSID	COM	12k	80	Dir RW	03/24/87 00:00

Total Bytes = 436k Total Records = 2815 Files Found = 43

Figure I. Files distributed on the System Master Disc.

CONIN	Keyboard
CONOUT	80-column screen
LST	Printer port (known as PORT-1)
AUXIN	Modem port (known as PORT-2)
AUXOUT	Modem port

Figure II. Default physical devices connected to the logical devices.

The Manager displays all on-line disc drives in a menu bar across the top of the screen and the files on the currently logged drive in an analogue of a pull-down menu. Using the horizontal cursor keys the logged drive is changed and the vertical keys move the COM and SUB files which are found on the disc.

A program is executed by pressing Return once its name is highlighted. Command tails may be typed in because the Manager always offers you the opportunity of doing so before running the program.

The other functions of the Manager are obtained by using Open Apple and another key, and summons help. If there are more

files than fit in a window, the window contents move up as required. The files other than executable ones may be displayed in the menus by Open Apple+S, then dumped to screen or printer. Dumping non-text files shows the hexadecimal values and corresponding Ascii values, a page at a time, in exactly the same format as does DDT or SID. Dumping text files via the Manager should be better than using the TYPE command as control characters embedded in the files are intelligently treated.

But there is a slight bug in that when the screen scrolls to the next screenful of text, a couple of lines disappear off the top of the screen. The other functions of the Manager all appear to work well.

I have noticed that my 3.5in drive comes on and is read so rapidly that the CP/M system sometimes does not register a change in disc correctly (note that ^C is not needed under CP/M 3). The effect generally is that an error message is issued but this is cleared by again accessing the disc and is never a problem.

When the Manager is active and a disc directory is not read properly because I've changed the disc in the drive, an error message is printed and the program appears to hang. However, actually it has not and it may be cleared by pressing a cursor key to move to another drive. On returning to the drive in question the system always works correctly.

I assume that the CP/M does not repeatedly attempt to access a particular track and sector of a disc, presumably to gain speed of disc access, and so if it's not right first time an error message occurs. The act of spinning the disc must reset everything correctly. The same effect has never occurred with the 5.25in drives.

An autoexec function is provided in CP/M 3 by the SUBMIT command, which

<b>PRINTn</b>	A printer interface card in slot n.
<b>PORT-n</b>	An input and/or input/output device in slot n or the built in port n.
<b>80COLn</b>	A plug-in or built-in 80 column display.
<b>MOUSEn</b>	A mouse card or built-in mouse or similar X-Y device.
<b>MODEMn</b>	Modem interface if found in slot n.
<b>ATALKn</b>	AppleTalk or other network interface.
<b>CONSOL</b>	The built-in keyboard and the usual display.
In addition there are three other devices, not directly supported.	
<b>SOUNDn</b>	A sound or speech card.
<b>CLOCKn</b>	A clock card.
<b>STOREn</b>	A storage device.

Figure III. Physical devices which CP/M recognises.

will take any file of type .SUB and attempt to make CP/M carry out the commands in it. If the file is named PROFILE.SUB and SUBMIT is on the boot disc then there is an autoexec function. This is particularly useful, and is a nice way of moving the MANAGER file to the ram disc and executing it automatically.

However, SUBMIT doesn't stop there. It can also type in control characters as commands. The manual claims that such commands can be transferred to the executing program so that a completely self-starting disc can be set up. However, this is not true. As an example, if Wordstar is executed and made to load the file CIRTECH with the SUB file line:

**WS CIRTECH**

and this is followed by:

**^OR79^M**

Wordstar will execute quite correctly. Then, on leaving Wordstar the SUBMIT will attempt to execute the last file line which will put the screen output in inverse (Control+O) and attempt to run a file named 79.

In the same way, PIP does not accept such commands and to use it to transfer files to another drive it is necessary to use a

series of commands such as

**pip b:=pip.com  
b: pip b:=a:ws\*.\*  
pip b:=a:manager.com  
manager**

rather than the series:

**pip  
b:=ws\*.\*  
b:=pip.com  
b:=manager.com  
^M  
manager**

The one other problem which I discovered is that the pop-up calculator program, RAMCALC, will not function correctly if it is called via PROFILE.SUB. It executes but does not return to the caller - the llgs hangs.

This is strange because if another file, for example TEST.SUB, has the command RAMCALC and it is executed with SUBMIT TEST it functions and returns correctly. This is doubly unfortunate because the manual uses RAMCALC to illustrate the use of SUBMIT in autoexecing.

Aside from these minor problems, this Cirtech implementation of CP/M 3 is so good that I have no hesitation in recommending it as the CP/M of choice to buy for a llgs system or for a lle or llc if fitted with 3.5in drives.

But, you will also need to buy a good reference book on CP/M 3 because the Cirtech manual, although describing well enough the parts which are Cirtech unique, does not attempt to describe the use of the greater part of the files on the system disc nor the full use of CP/M commands.

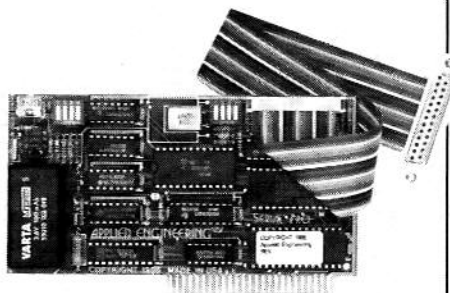
Also Cirtech provides no languages with the system other than the assemblers shown in Figure I.

However, if you already own the Microsoft Basic, MBASIC and its graphics version, GBASIC, and wish to upgrade your system to CP/M 3 you will not "lose" them since Cirtech provides a patch for each to make them work under the new system. □

## AppleUpdate

### MULTIFUNCTION CARD

Product: Serial Pro  
Price: £118  
Supplier: Bidmuthin Technologies, PO Box 264, Harrow, Middlesex HA3 9AY.  
Tel: 01-907 8516



A POWERFUL multifunction card for the Apple II+, lle and llgs. Serial Pro includes the following:

**Serial port:** Interfaces to printer or modem. It is fully Super Serial Card compatible with no need to set DIP switches and uses a control panel for all settings.

**Clock/calendar:** Prodos compatible, this feature displays the time and date on an AppleWorks screen. Comes

complete with 10-year rechargeable NiCad Battery and switch selectable real-time interrupts.

**Graphics Dump:** Prints graphics to your printer without using additional software.

Product: CP/M 3 for the llgs (also available for lle/c)  
Price: £118  
Requirements: One 3.5in drive (or 5.25in drive on lle/c)  
Supplier: Any dealer or Cirtech (UK), Currie Road Industrial Estate, Galashiels, Selkirkshire, Scotland, TD1 2BP. Tel: 0896-57790.

## Spreading the word

IN the centenary year of the international language Esperanto, a new branch – or Grupo to be exact – has been formed in London, and MicroLink is its chosen electronic route to the rest of the world.

About 52 million people worldwide – 8 million in Europe – speak the amalgam of Anglo-Saxon and Latinate tongues invented in 1887 by Polish doctor Ludovic Zamenhov.

The Sud-Londona Esperanto-Grupo has been going for five months.

Secretary Gregory Porilo said: "We believe the time is ripe for a revival of interest in Esperanto. Not just because of its centenary, but also because it has been accepted as a subject for the new GCSE exams and is now the EEC's official language for basic translation.

"The South London branch of Esperanto is using MicroLink to further spread the word about the benefits of learning the language".

## Typesetting over the line

LOW-COST, professional quality typesetting for everything from business cards to magazines is now available electronically on MicroLink.

Wordstream provides a 24-hours-a-day, seven-days-a-week service for companies and individuals who want to control their own printing and save on costs.

All subscribers need do is key in the text on their micro and send it via MicroLink's electronic mail system. It is switched elec-

tronically to Wordstream in Bournemouth who typeset the material and return the finished product by first class post or special delivery.

Text for typesetting can be prepared on an ordinary word processor by inserting special codes to specify typefaces, sizes and measures. Then it is transmitted to the Wordstream mailbox on MicroLink.

Special software automatically checks the text file to ensure that codes

are correct, and initiates processing immediately. Within 30 minutes a bromide repro for plate-making or camera is produced for despatch to the customer.

The service offers 155 typefaces from 4.5 to 72 point. The range includes expanded, condensed and italic type, variable letterfit, accents and fractions, and paper-saving multi column text.

Payment is by the foot length of repro and Wordstream registration is free on MicroLink.

## SPEEDING THE FACTS

NEARLY 30 of Scotland's largest local authorities and six local government trades unions are communicating electronically via MicroLink.

The Scottish Local Government Information Unit was set up two years ago as an information research and publicity service for the organisations.

"We feed facts and fig-

ures in easily digestible format to well over 1,000 key elected officials and administrators", said the Unit's director Archie Fairley.

"In addition we are a source of local government information.

"MicroLink telex and electronic mail facilities will help us move all this information a lot faster than before".

## Aid to trade

MICROLINK technology is helping improve trade links between Britain and the Third World.

Latest overseas businessman to take advantage of fast, efficient telex and electronic mail facilities is S.S. Wijayasingha.

He is managing director of Bureau-Matic, based in Abidjan, capital of the Ivory Coast, a former French colony in West Africa.

"My company imports computer accessories from various suppliers in the UK, but existing communications are not satisfactory", he said.

"Letters can take up to three weeks to arrive and the telephone service is very erratic.

"I plan to use MicroLink for all my international communications from now on because I know I can depend on its speed and reliability".

## New Open University Club

LIKE many of the Open University's 70,000 plus students, electronics engineer Jim Hatton often feels a sense of isolation.

"I can't get to evening classes every week, I have little or no contact with other OU students, and though the instructors are very helpful they are also very busy and I dislike bombarding them with letters and phone calls", he said. Jim's solution – for

himself and other part-time students in the same situation – has been to form an Open University Club on MicroLink where people can communicate electronically about their courses.

"At a recent summer school I discovered that a lot of people like me can't get to the tutorials", he said. "But lots of us have micros and modems, so the technology for exchan-

ging ideas and opinions is there to be tapped.

"The Open University has a policy of encouraging self help groups where students can discuss problems and gain a greater understanding of their courses.

"I'm hoping that OU instructors will also log on to the Open University Club on MicroLink so that students can benefit from their input too".



ALTHOUGH I must own up to not being a great admirer of the Sierra On-Line 3D animated adventures, this latest one in the King's Quest series is certainly the best of the bunch. And you don't need to have played King's Quest I or II to obtain full enjoyment from it, either.

These type of adventures are heavily graphically oriented, with virtually the whole screen being used to display a picture of the current scene. All the characters that appear are animated, with the movements of the game's hero being controlled by yourself with joystick or mouse.

The characters can move behind, in front of, on top of and under many of the objects on the screen, hence the 3D descriptor. When your character reaches one of the exit points of the scene, the new appropriate location is loaded in from disc while the present one disappears using an impressive screen dissolve.

Text is input at the bottom of the screen by keyboard in the normal way, though several function and other keys can be used for system commands (save, restore, and so on).

A window pops up in the centre of the screen in response to a typed input (or any program generated event) and contains the appropriate response in text. The window remains and no further commands can be given until Return (or the right mouse button) is pressed.

King's Quest III concerns your adventures as Gwydion, a young slave to a rather nasty wizard, Manannan. Said wizard simply doesn't like doing the dirty chores around the house and so every 17 years he kidnaps a baby boy, brings him up as his servant and then bumps the poor lad off as an 18th birthday present (told you he was nasty). Gwydion is the current slave.

Gwydion's task is to escape from the evil thrall of the wizard before he ends up being turned into a pile of smoking ashes

# Royal treatment

Program: King's Quest III  
Price: £29.99  
Supplier: Sierra On-Line c/o Activision, 23 Pond Street, Hampstead, London NW3 2PN.  
Tel: 01-431 1101

the way his predecessors were. To do this, he will need to learn the wizard's secret spells and use them to free himself. The documentation that comes with the package provides helpful instructions on ingredients and directions for such spells.

Gwydion will eventually find himself embarking on a perilous journey to a distant land, there to free a kingdom from the ravages of a terrible monster. Tough life being a hero in an adventure, isn't it?

The game commences inside the wizard's house, set high up on a rocky hill. Before you know where you are, the wizard appears in a puff of smoke and says "Gwydion, my chamber pot needs servicing. Go empty it immediately" and puffs off again. Charming man.

If Gwydion dawdles around for too long, the wizard reappears, shouts some more and ominously points his finger at Gwydion. And this time it's the boy who turns into a puffball – fortunately he was only being beamed up, Star Trek like, to his bedroom.

There he reassembles but only to find he

has been locked in. Good start, that, I think you'll agree.

While the animation may be somewhat basic, the graphics are extremely eye-catching, certainly the best of the series. Each scene is imaginatively presented and there are some delightful little surprises in store.

Try climbing into your bed, cantering along the narrow path that leads down the hillside or aiming your boot at the pesky, chortling cat that keeps getting under your feet and you'll see what I mean.

The vocabulary, while sufficient enough for a game of this type, does show signs of narrowness in some areas. When facing row upon row of books, I typed "Read a book" and received the reply "How can you do that?". I tried searching the books but was only told "Is it lost?".

Sound effects are reasonably good but not the music that opens the game or plays at certain points thereafter – that is absolutely awful.

I was pleasantly surprised by King's Quest III. The success and popularity of the series is beyond doubt – this latest release is a clear advance on the earlier ones and so should be doubly welcomed by addicts. And if you've never played an animated adventure, you could do no better than to try King's Quest III.

**Bob Chappell**

## Child's play

Product: Mr Pixel Series  
Price: £14.99 (each)  
Supplier: MGA Microsystems, 140 High Street, Tenterden, Kent TN30 6HT.  
Tel: 05806 4278

**THIS series develops computer and problem-solving skills as it teaches basic programming concepts through creative activities.**

**Aimed at children from eight years upwards, the programs are all integrated. This means that the background created with the Programming Paint Set can be used in the Cartoon Kit and the Game Maker. Also, characters evolved using the Cartoon Kit can be used in the Game Maker. It is recommended that you use a joystick.**

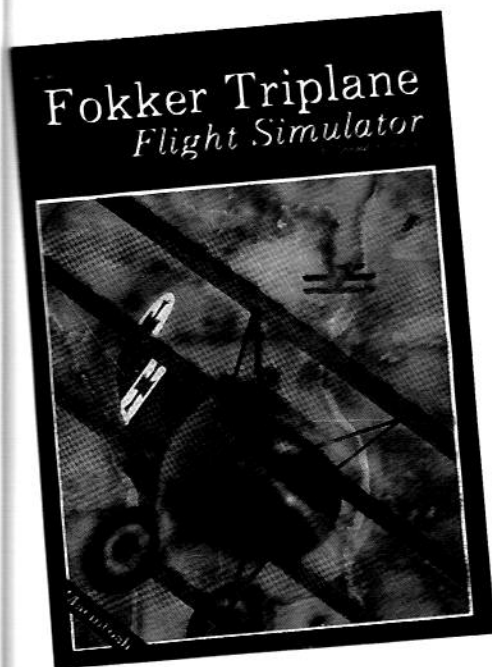
**Mr Pixel's Programming Paint Set allows you to draw on the screen in colour, then change and experiment with your creations. Editing can be done via a picture-based programming language.**

**Mr Pixel's Game Maker using if-then statements for rules and adding pre-drawn or original characters and backgrounds, as well as stressing logical thought development, encourages you to create your own arcade games.**

**Meanwhile Mr Pixel's Cartoon Kit enables the selection and design of cartoon characters, allowing you to combine them into unique cartoon features – developing strong planning and sequencing skills.**



# Return of the Red Baron



Program: Fokker Triplane Flight Simulator  
 Price: £59.95  
 Suppliers: Bullseye Software/Macserious, 17  
 Park Circus Place, Glasgow G3 6AH  
 Requirements: Macintosh 128, 512, Plus & SE

I HAVE never been much of a one for flight simulators: Usually they take far too long to learn to control and then after all that effort there is nothing much that happens.

Well, Fokker Triplane from Bullseye Software is something quite different – a flight simulator that you can fly first time and still have plenty to do when you are an expert.

The Fokker Triplane was used in the first world war, and its manoeuvrability and

great rate of climb allowed Baron von Richtofen (The Red Baron) to make his reputation.

The main view is of the static instrument panel with a wire frame picture of the ground swirling about you. To add to the realism you can select front, back left or right views, complete with sections of wing or fuselage.

The instrument panel contains some instruments that were not fitted to the original Fokker, but these compensate for the lack of feel that is inevitable in any static simulator.

Flying the plane is simple: Press the throttle key a few times, watch the speed indicator and when it passes 60mph ease back on the joystick and climb to a safe height. If you try to climb too fast you end up looping the loop – with disastrous results should you run out of sky.

Once airborne you have a comprehensive "world" of over 20,000 square miles to explore. It contains four friendly airstrips where you can refuel, three enemy airstrips, trench lines and an odd assortment of balloons and other aircraft dotted around the sky.

There is even a bridge that you can fly under when you are sufficiently skilled.

To help you navigate there are various direction finding beacons at most points of

interest. You can select one of them from a menu and the instrument panel will indicate its heading and distance.

To find the beacon simply point the plane in the same direction and fly straight to it. When you get there you will see it as a small pyramid.

There is lots to do in this world: Recovering spy papers, shooting up enemy bases and balloons and engaging in dog fights with other aircraft. These last are nicely graded so that you can build up your skill against unarmed opponents first.

Down enough planes and you'll eventually meet an opponent whose aircraft has the same flying characteristics as your own.

For the less warlike player, a wide variety of acrobatics can be performed. The manual details about 15 of these and provides ample instructions.

The realism of any flight simulator is governed by how often the ground view changes, and this is where this program scores as it refreshes the view about seven times a second. This can drop to four a second when there is a lot going on, but is still quite good.

In short it is an absorbing simulator and, in the best tradition of good games, it will have you playing it "just one more time" to see if you can...

**Mike Cook**

## Boldly going...

THERE are some places in the universe you don't go alone...

So reads the blurb for Aliens, and anyone who's seen the film can't help but agree. For those who haven't, the planet Acheron is home to colonists. Or it was. Now the colonists are home to the parasitic Aliens.

As Ripley, the only survivor from a previous encounter with the delightful species, you head up a crew of battle-happy marines on a mission to make the universe a safer place to live in.

A comprehensive on-screen briefing fills in all the details and sets the scene. Graphics here are well drawn and colourful, though the sound could be improved.

There's also a weapons and equipment familiarisation screen to plough through which seems to do little more than fill disc space, though perhaps I'm missing something.

After the introduction, the game devel-

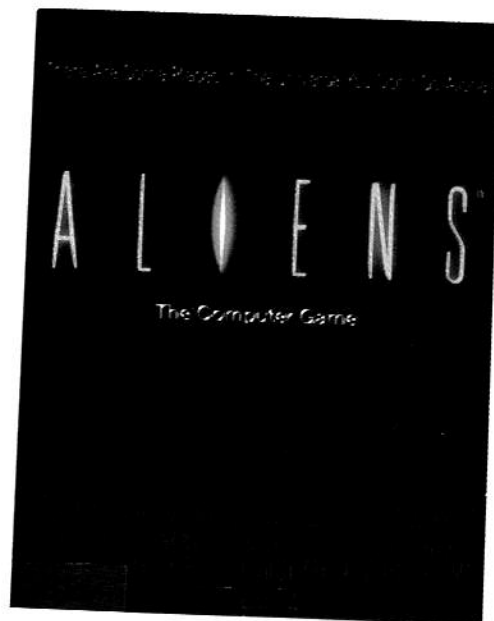
ops through six levels. Using Control+O and Return allows you to skip "impossible" levels, but only successful completion of all will allow you to see the final game screen – I haven't made it yet.

The first level is hard enough – guiding your plummeting ship to the surface of the rogue planet. It should be a simple matter of joystick manoeuvring, but the multi-coloured swirling spiral that you have to negotiate takes some getting used to.

Level two has you racing against time to bring four marines back to the comparative safety of the APC before the Aliens find them.

Disregarding the fact that the marines must have the intelligence of a Star Trek landing party to venture out in the first place, it's quite a stimulating exercise.

Separate screens, displayed below the main action display, monitor the progress of the four and you can control any one at a time, either running for cover, fending off



Product: Aliens  
 Price: £24.99  
 Supplier: Activision, 23 Pond Street,  
 Hampstead, London NW3 2PA  
 Tel: 01-431 1101  
 Requirements: Apple IIc, IIe

◁ Aliens or attempting to rescue captured marines.

If you survive, you'll find yourself up against it – literally. Armed with a flamethrower you have to fend off the onrushing Alien horde long enough for an escape route to the next level to be created.

It's a straightforward enough process, though it could have been improved by looking a little less like Totopoly: Rows of lizard clones sliding from left to right lack something in visual appeal, though they "die" well enough.

Level four is a maze, viewed from above, with the Aliens in Pacman mode trying to prevent your escape. Again, straightforward, but a nice touch is being able to sacrifice crewmen to fend off pursuers.

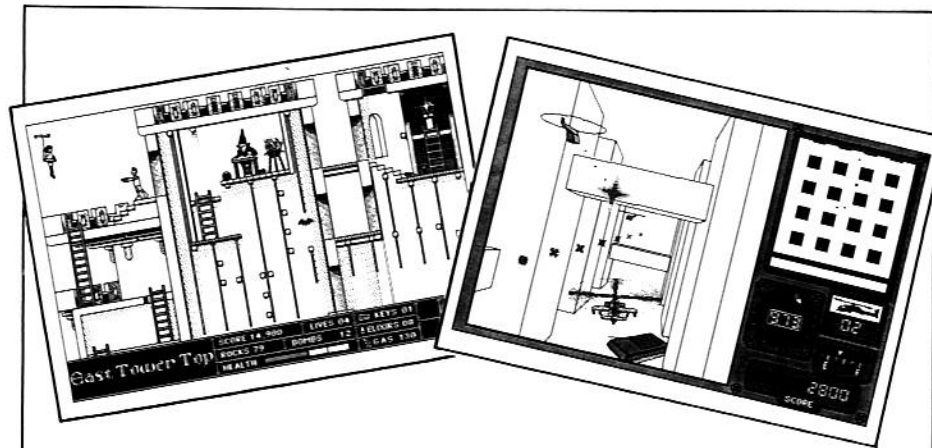
If you survive this variation on the Russian sleighride theme you've another race against time and joystick to rescue a crewmate from the Alien nest – manage that and it's time for one-on-one against the Alien queen.

Aliens is playable, well packaged and presented – and gets the flavour of the movie if not the detail.

It's chief shortcoming is a lack of unity: The storyline is there, but the different levels lack a consistent style that would have given the game a more satisfying feel.

That said, I'll keep playing until I manage to drop the Alien queen through the airlock. And if I manage that, humanity is safe. At least, until the sequel comes out...

Steve Granger



## Double bill

Products: Apache Strike, Beyond Dark Castle  
 Prices: tba  
 Supplier: Silicon Beach Software/MacSerious, 17 Park Circus Place, Glasgow G3 6AH.  
 Tel: 041-332 5622

**BOSTON'S Macworld Expo saw the announcement of two new games – Apache Strike and Beyond Dark Castle.**

**Controlling a McDonnell Douglas AH-64 Apache attack helicopter through the skyscrapers, enemy helicopters, jets and tanks, you seek out the enemy's strategic defence computer.**

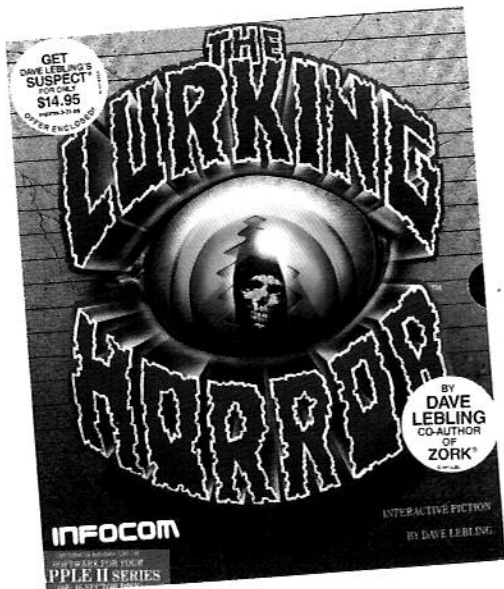
**Apache Strike has 3D animation that includes hidden surface removal – on standard**

**wire-frame 3D graphics lines to the rear of a building are visible, here they are removed. This game features special techniques to do this and will be seen for the first time in a Macintosh game.**

**Beyond Dark Castle sees the return of Prince Duncan, discovering new areas of the castle to explore and new enemies, in search of the Black Knight.**

**Straightforward this game isn't – two full-screen scrolling labyrinths and jet packs add to Duncan's problems.**

**Digitized sound and professional voice-overs by the first Fred Flintstone voice – Dick Noel – add greatly to the atmosphere. You should be able to see both these games in October.**



"SOMETHING just grabbed you from behind and dragged you off to its lair". If you read this, you're dead – but only if you're playing Infocom's The Lurking Horror and not doing very well.

In addition to the game, the package contains helpful things: A useful password, a map, your student ID card, an explanation of college customs and even a plastic bug, which is a sickening tactile experience in itself.

Infocom aficionados know, of course, that it's simpler and less time-consuming to

Product: The Lurking Horror  
 Price: £29.99  
 Supplier: Infocom/Activision, 23 Pond Street, Hampstead, London NW3 2PN.  
 Tel: 01-431 1101  
 Requirements: Apple II with 48k and Macintosh

type in briefer commands than the "full English sentences" suggested, just as they know that it is essential to draw a map as the situation develops.

The map will probably have to be corrected and drawn more than once, but at least you'll be able to return more easily to various locations whenever necessary.

The Lurking Horror, recalling the ghastly visions of H.P. Lovecraft and Stephen King, communicates entirely in "vivid descriptive prose" as they say in the trade.

Certainly, some of the descriptions I

came across left me feeling quite unwell. But then, I did play the game around 3 o'clock one morning – it's not a practice I would recommend.

The object of the game isn't actually stated. Ostensibly, you, as a student at the George Underwood Edwards Institute of Technology, have to complete your term paper. And, in the course of your efforts, you stumble upon some pretty horrific discoveries.

The actions you take as a result determine your score which appears in the status line at the top of the screen: Your aim is to reach 100 points.

You can save yourself hours of chasing your own tail by reading not only the official instruction manual but also the other, more playful documentation before starting. I wish I had.

The nightmare starts when you boot

your computer in the college computer centre to start your term paper. After that you follow up leads as far as your skills – and nerves – permit.

The hacker, the only other person in the computer room, might be helpful and is partial to Chinese food: You'll find that in the kitchen. While you're there, take the bottle of Coke: You're going to need it.

The college is a collection of buildings which house not only college rooms but also disused basements and storerooms dating from the war. It is your pleasant task to find and search these disgusting areas from the roof to the cellars.

To get to the roof, you climb a a pulpy "rope" inside the dome. It's not a lot of fun on the roof because there is a deadly blizzard bowing outdoors.

However, you'll find some information up there, just as you will way down in the tomb beyond the sub-basement.

Elsewhere ... getting past the maintenance man on his electric floor waxer in the corridor is fairly simple: You'll find he doesn't take kindly to having his machine stopped, or to being assaulted with a fire axe.

Wax, rather than axe, is the answer to this particular problem, though with oddly gruesome results.

When you do get past the maintenance man, you'll find the professor in the Alchemy Department less than cooperative. Axing him doesn't help a lot either.

You'll invariably come off second best in an exchange of cold steel with the urchin, a very taciturn character who ambles on and off the scene without warning.

The command "Take urchin" provokes the reply "You won't get a passing grade for that idea": I like a program with a sense of humour.

I feel sure that The Lurking Horror will keep all but the most rabid expert happily squeaking and gibbering for weeks – if hearts and wallets can stand the strain.

**Lew Norris**

## Open space

**LEARN to fly a shuttle, build a space station, deploy satellites – all for fun and profit. And you will also learn about project management.**

**Intended for use in schools Project Space Station is an education package that is equally suitable for home use.**

Product: Project Space Station  
Price: £34.50  
Supplier: HesWare/MGA Microsystems,  
140 High Street, Tenterden, Kent TN30  
6HT.  
Tel: 05806 4278

# Award winners



I WAS Wally of the Week last week. What's more, I've got the certificate to prove it. It's there on the computer room wall, right next to Denise's award for fighting through to the end of Shard of Spring.

All of which goes to prove that Certificate Maker for the Mac and Award Maker Plus for the Apple II are both easy enough for our kids to use.

If programs like this were restricted to family use, the novelty would no doubt wear off just after the wall space ran out. Used wisely, though, they have a wide range of potential application.

For example, our local primary school is always giving out certificates for things like recorder grades and swimming standards. Then there's Sports Day, handwriting competitions, and all the other things which the average school subjects its kids to. With programs like these, the results would be a lot more professional-looking without costing the earth.

In business too, the programs could be put to a variety of uses. The manuals use examples like "Salesman of the Month" which hint at possible serious uses.

Even the home use can be extended beyond the immediate family to include relatives and friends, as long as you resist the temptation to flood the market.

Certificate Maker for the Mac assumes an ImageWriter I or II, but will only drive the latter in plain black print. As is usual with Apple II software, Award Maker Plus can be configured for a whole range of printers; it will also drive the ImageWriter II in colour.

I did have a couple of problems with Award Maker when it came to printing. Although it listed the Fingerprint card, attempts to output through such a card in my IIe met with failure.

This isn't the first time I've met software which lists the Fingerprint but won't work through it, so I may have an early (or in some way odd) version of this interface card. I also had trouble with a Pact parallel printer card connected to an Epson FX80.

The printer is supported, but the card is peculiar to Britain and so doesn't appear on the list.

I tried just about all of the possible alternatives and thought I'd succeeded with the choice of Grappler, but the program printed a line of garbage across the middle of the award.

However, the standard options worked perfectly and I had no trouble outputting from a IIc to an ImageWriter I. If you've got an unusual interface card, it's worth checking that the program supports it before writing the cheque.

Certificate Maker lets you save the final certificate as a MacPaint file which means that you can customise it to your heart's content. In a similar vein, Award Maker has certain "blanks" which will accept a standard hi-res picture binary file.

If you want to make use of this option, you can use your favourite graphics package but you must copy the picture file to a Prodos disc. The same procedure is necessary if you want to take advantage of the facility to use a Print Shop border graphic.

For the final touch, sticky seals are provided in both packages. It's surprising the difference a gold seal makes to an otherwise black certificate.

If you're always having trouble finding a present for "the person who's got everything", now there's an answer – give them a certificate to prove it.

**Cliff McKnight**

Product: Certificate Maker  
Price: £59.95  
Publisher: Springboard  
Requirements: 512k Macintosh  
Product: Award Maker Plus  
Price: £34.99  
Publisher: Baudville  
Requirements: Apple II with 64k  
Supplier: Springboard/MGA Microsystems,  
140 High Street, Tenterden, Kent TN30  
6HT.  
Tel: 05806 4278

# AppleUser SPECIAL OFFERS!

**The first Apple User Games Disc was one of the most popular packages we've ever offered our readers. Now comes Apple User Games Disc No. 2 – more great games that we thought were ideal but which were just too long to be printed in the magazine. And the price is still £5.95 for 7 games – that's just 85p a game!**

## AppleUser GAMES

  
DISCS  
No. 2

**ALIEN ZAP** – Good, old-fashioned machine code arcade game by Peter Ibbotson. Clever Apple graphics, and plenty of action.

**SATELLITE CONTROL** – A game of skill on the hi-res screen by Edwin Long. You're challenged to change the shape of a shuttle's orbit.

**LIFE** – This ubiquitous game has seen many forms. This latest, by Gerrard Manning, uses the hi-res screen to create new challenges.

**TYPING TEST** – A nice, simple game from Lawrence Tan, but one that will help improve your typing and keyboard skills. Ideal for beginners.

**CARD TRICK** – The computer is an excellent medium for performing feats of sleight of hand. Play tricks with cards with J. Taylor.

**NOUGHTS & CROSSES** – The graphics may not be sensational, but Frank Lewis shows how to play a fast game using only the lo-res screen.

**THE PERILS OF PRINCESS EMMELINE** – Denise McKnight invites you to face unknown foes as you immerse yourself in this adventure.

**MURDER** – Can you deduce who the murderer was? Roger the Lodger, maybe? And what weapon did he use – an exploding cigar?

**BOMBER** – Flatten the deserted city to provide a landing strip for your plane. If you're in a destructive mood you'll have a field day!

**PELMAN** – A two-player game of memory. Pit your wits against another human for a change – and let your Apple be the referee.

**DINGHY SAILOR** – We've all seen flight simulators. Now for something completely different. See how you can handle this sailing dinghy.

**NIM** – It may look like a straightforward game. In fact, nothing could be simpler. But YOU try beating this challenging program.

**MASTERMIND** – No, not the black leather chair version, but the much older, brain-bending code-breaker. It's just as compulsive!

**WORD SEARCH** – Hook up your printer and use this program to create your own word square puzzles to try out on your friends.

**3D ENERGY FIELD** – A superb three dimensional maze game. Can you escape from the labyrinth or will the energy field catch you?

## AppleUser GAMES

  
DISCS  
No. 1

STILL  
AVAILABLE

**TO ORDER PLEASE USE THE FORM ON PAGE 65**

# Apple to Mac, Mac to Apple

ANYONE who has done some disc editing on both the Mac and the Apple II will have noticed the similarity of formatting bytes, headers and so forth between the two systems – obviously when Apple has a good thing it doesn't let go. This is convenient because sometimes we want to transfer data between machines and systems.

Transferring files between systems such as UCSD Pascal, Dos 3.3, CP/M and Prodos on the Apple II 5.25in disc formats has been possible for a long time, and commercial products like the Chameleon and some public domain and magazine derived programs will do this for you.

However, transferring data between machines is usually accomplished with several lengths of wire, some plugs and two pieces of software, one in each machine. It can also be achieved via a modem and telephone system, either directly from machine to machine or via a central computer system such as MicroLink which is hosted by Telecom Gold's mainframe.

Armed with knowledge about the disc similarities, it would seem reasonable to attempt transfer of data between Macintoshes and Apple IIs now that the latter often come equipped with 3.5in drives of one sort or another, and given that we can already transfer data around the 5.25in systems.

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## Scrolling areas

To save us the trouble of writing the translation software, ALSoft Inc. has done it for us. It's called ProLink, and the bottom line is that it's reasonably priced and it works well.

The program operates from the Mac end and will cope with both HFS and MFS volumes, so needs the "new" roms, despite being provided on a 400k single-sided disc. An attempt to run it on an old 512k machine will produce a message to the effect that it needs HFS.

When started ProLink displays a window similar in style to the Mac's Font/DA Mover (see Figure 1). There are two scrolling areas: The one on the right lists only text files and subdirectories of Prodos discs, the one on the left only text files and folders of Mac-

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## Cliff McKnight and Max Parrott try transferring text with ProLink

---

intosh volumes.

Clicking on a folder or subdirectory will cause it to be opened and displayed. Clicking on a file name, in either scroll area, will select and highlight it. Then clicking on the COPY button causes the file to be transferred, in either direction, between the two discs directly.

---

## Discs used

Although we both use both machines, Cliff mainly uses Macs and Max mainly uses IIs and we both transfer a lot of data between machines. In order to test ProLink, we decided to send each other discs rather than using the more esoteric means we have used up to now.

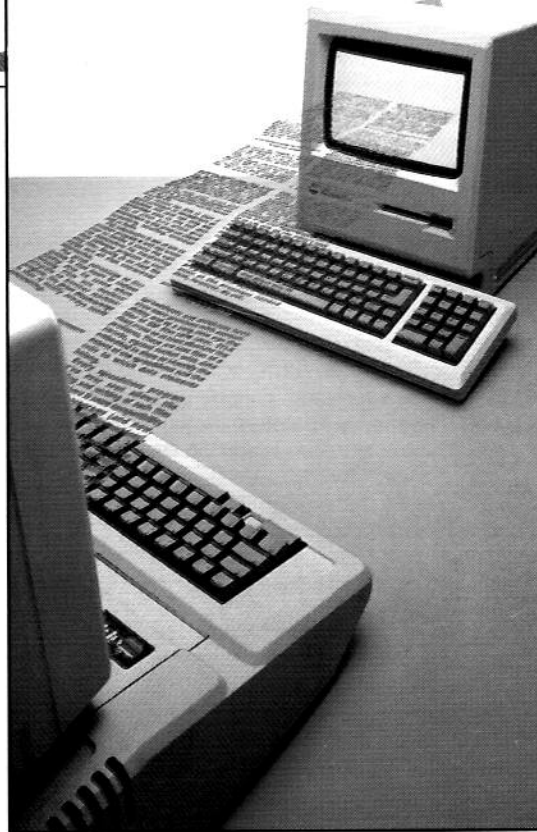
We can only report that ProLink functions perfectly. However, this does not mean that everything is straightforward, though to be fair the result is exactly the same as transferring data via the serial ports of the machines.

ProLink only transfers text, which is not necessarily what you normally save from your favourite word processor or spreadsheet. For example, on your Mac you normally use a Save as... option, and give a filename. To produce a text file, you need to go a little further and select the Text Only option before clicking on the Save button.

---

## Destination options

If you use AppleWorks you've probably saved your files many times without thinking about it, but have you noticed that when AppleWorks lists the files to add to the desktop it does not pick up other types of files, only AppleWorks created files? Or, when creating a new file you are given the options *From scratch* or *From a Text (Ascii) file* or *From a DIF file*?



In the same way, when you print a file, one of the destination options is as a *Text (ASCII) file on disc* or a spreadsheet can be saved as a DIF file.

The reason for this is that a word-processor or spreadsheet or database will save not only the immediate data to disc but also lots of other data which give information to the program about formatting, labelling, formulae and so forth.

This information is not of use to another program it will not know how to handle it hence the various mechanisms for transferring data between programs as text-only files. Saving as an ASCII file strips out all that extraneous information.

The great advantage of this system is that hours of tedious typing may be saved when moving from one machine/program to another machine/program. The great disadvantage is that it nearly always needs reformatting.

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## Wandering indents

Take the simplest case, a piece of text like this. If Max prints it to disc, as a text file, from AppleWorks it will be "formatted" according to the margins and spacings and justifications in force at the time of printing.

If Cliff now picks it up, by whatever means, on his Mac and takes the text file into MacWrite, he has the gist of the original but MacWrite knows nothing of the font expected and so will probably "move" indented lines around and maybe ignore the original tab settings and the like.

Worse, Cliff may find embedded carriage returns/linefeeds at the end of every line, so if he wants to reformat the document in any way he has to remove those which were not intended as "hard" end-of-lines in the original.

The same happens round the other way if Cliff creates something in MacWrite and ▶

Max picks it up into AppleWorks. Both of us can pick up the other's text file and print it more or less faithfully (but just about never completely so) but it is more tedious to reformat it for whatever reason.

Some wordprocessors enable control character combinations to be searched for and replaced automatically, others do not. Some go further and allow you to create simple wordprocessing programs which allow automation of the processes needed most, however, do not.

### Agreed format

Spreadsheets and databases have even more problems with compatibility and so a long time ago the idea of DIF files (and later, SYLK files) arose to at least alleviate the problems. These are text files of a certain, agreed format with data embedded in them to identify the extent of the spreadsheet and the cells to which data elements belong.

Every spreadsheet program we've ever seen allows the reading and writing of such files and so there is some compatibility between programs (and now, with ProLink, between machines).

However, a note of caution. The latest

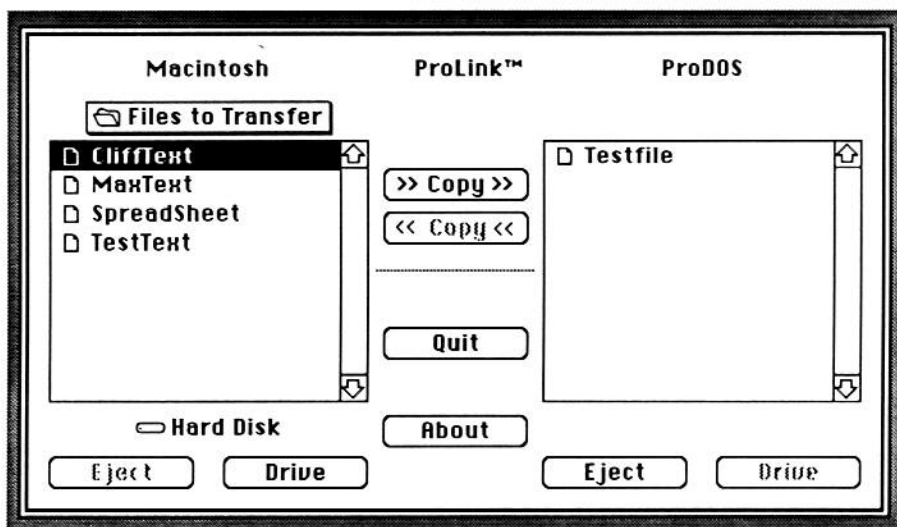


Figure 1: The ProLink screen

Mac programs such as Works and Excel use SYLK files whereas Apple II programs tend to use DIF files.

These, then, are some of the problems with data transfer. All of these aside, it is still tremendously convenient to have the ability to transfer data between machines and programs, and ProLink makes Mac/II transfers even easier.

Product: ProLink

Requirements: Mac with internal or external 800K drive, with an Apple II fitted with an 800K 3.5in drive and running ProDOS in any form.

Price: £39.95.

Supplier: MGA Microsystems, 140 High Street, Tenterden, Kent, TN30 6HT. Tel: 05806-4278.

# The truth about TELEX

## How much does it cost to go on Telex?

You could go the conventional way and buy a dedicated Telex machine. The cheapest will cost you £1,604 (the Whisper), the dearest £2,892 (the Cheetah). You will also need a separate telephone line, costing £101 to install, plus £404 a year rental. That's a total outlay over the first year of a minimum of £2,109. (All prices include VAT.)

Or you could do what more and more Apple users are doing – use your Apple II or Macintosh to double as a Telex machine. And just use your ordinary telephone!

## How do I turn my Apple II or Macintosh into a Telex machine?

All you need is a modem and appropriate communications software (see the advertisements in this issue), a telephone, and a subscription to *MicroLink*.

Telex is just one of a growing number of services available to Apple users on *MicroLink*. With it you can also read the news as it happens, go telesshopping, create your own closed user group, send telemessages and electronic mail right round the world, download free telesoftware programs directly into your micro... and much

## But why use Telex?

Because it's a standard means of instant communication between businesses. Today there are 150,000 Telex machines in use in Britain – and more than 2 million worldwide. It's used to dramatically speed up business communications – just as quick as using the phone but far more efficient, because you have a hard copy of every "conversation" for your records.

But there's a big bonus you get when you use *MicroLink* for Telex that the conventional way doesn't offer.

With *MicroLink* you don't HAVE to be in your office to send or receive Telex messages. You can just as easily use your computer at home (or even a portable). So now you can check whether there are any Telex messages waiting for you – anywhere, anytime. How's that for your business efficiency?

How to Join:  
See Page 4



## Data transfer

TODAY, for the first time, I have noticed the Apple User magazine on display at a news agency in Sydney. As an Apple IIc user I was naturally interested and flipped through the pages of the May 1987 issue.

The question entitled PC Transfer in the Feedback section caught my eye and prompted me to buy the issue. Now I can share with Ben Marselis of Woking my experience with Apple - IBM PC file transfer.

I use my Apple at home and, on occasions, take it to work where IBM XTs are used. I use AppleWorks extensively and need to print files on the IBM parallel Quietwriter or Prowriter.

I connect port 1 of the Apple to the serial port of the IBM by means of a 30 foot custom cable. I print from AppleWorks to port 1 as if I were using my serial printer at home.

The IBM receives the data in the Cross Talk XVI communication program and directs its output to the printer. When a file is sent, it appears on the IBM screen and is printed out immediately. Of course, it can be captured and saved by the IBM.

I enter into AppleWorks the appropriate Quietwriter control codes for pitch, spacing, and so on, and this enables me to use the parallel printer in the same fashion as I would use my printer at home, that is, for printing perfectly formatted files.

Communication parameters can be set easily in the Cross Talk program. I use 4800 baud (higher baud rates seem to cause dropping of characters) and 8+2 bits with

the INFILTER on to filter out the eighth bit. AppleWorks database reports and spreadsheets can also be printed this way. I have no experience with using on the IBM the data transferred from the Apple - I just needed the printouts. - **Steven Janda, Bexley South, Australia.**

## Serial port snag

WITH reference to Mr Aubrey's letter about the Apple IIc prototype (Apple User April 1987) it may be worthwhile to know that most likely the RS232 serial port for a modem will not work. Apparently a manufacturing error was made on earlier machines like my own Apple IIc, so Mr Aubrey is likely to suffer as well.

It's not easy to have this corrected, as I am currently experiencing. Apple's customer support may well be very good, but nevertheless I'm still forced to send you this as a hand written letter. Be warned, Mr Aubrey! - **Ben Marselis, Woking.**

## Second choice

I AM writing in response to a letter by M.C. Aubrey in your April 1987 issue in which he asks various questions regarding a second hand Apple IIc he is considering buying.

I feel that I can be of help to him on some of the points, so here goes. The modulator that he has with his IIc appears to be one of the monochrome ones

shipped with the earlier machines. He can tell this by the fact that it has only one video socket on the side of the modulator.

The later colour modulators were wider and had two sockets, one above the other, the top one being the colour output and the lower monochrome. He should be able to obtain one of these from an Apple dealer if he rings round.

The quality of text display on a television with either modulator in 80 column mode is always poor, as televisions are unsuitable for a high resolution display.

The quality of the colour graphics display is however quite acceptable using the colour modulator.

With regards to the case on the IIc, he may be able to acquire one from an authorised Apple Service Centre dealer, as they may have second hand ones taken from unreparable IIc computers. - **M.D. Berni, Bristol.**

## Tug o'war

AM I alone in my sense of fury at Apple for its insane design of the Imagewriter II? Would anybody else be treated seriously if they offered a design for a tractor feed that PUSHED the paper through the rollers?

If there is anyone who will supply me with an Apple Mac - compatible printer that I can use with micro-perforated continuous stationery, please send me your card - **D.C. Sutton, System Six Ltd, PO Box 67, Warrington WA2 0UN.**

● Well, I like it that way! When paper is pulled through you waste half a page every time you start printing **Max Parrott.**

## Foreign fonts

I WAS interested to read the story of Jaromir Smejic's search for a word processor to produce foreign character fonts (Apple User April 1987). My own experience of the Apple II family began with a IIc and AppleWorks. The combination, I think, still stands up well to my other experience with, for example, CP/M machines and WordStar, or IBM PCs and Framework II.

I, too, had a need to produce some foreign character text. In my case it was Hebrew. This not only has a different character set, but reads right to left.

For a previous computer I owned I had written a very simple word processor using Hebrew characters generated by a font editor, and managed with a Basic program to print right to left on the screen. But as you can imagine things were rather slow.

When I first got my Apple I used Beagle Brothers Apple Mechanics, a Dos 3.3 program, which printed characters which one could design with a font editor program and use with the Xtyper program.

I didn't succeed in producing a reversed ▶

◁ VDU display, no doubt because of lack of experience on the Apple at the time.

The use of this program was discontinued with the appearance of FontWorks, which uses AppleWorks word processor files to print in a large range of fonts, and also has a font editor. I produced the foreign language set with very successful results but the practical application was the opposite of WYSIWYG.

Lower case English characters on the screen ended up on the printer as the new characters. Since FontWorks has to run separately from AppleWorks and cannot edit the files, making connections – which was frequently necessary – was very tedious.

In the last sentence of his article Jaromir mentions MultiScribe. I think he will find, as I have, that this is the answer to most of the problems of printing foreign characters and accents. It has an easy-to-use font editor, and I have produced on it two Hebrew fonts of very acceptable quality.

Most important, it is a true WYSIWYG program. Changing fonts is via pull down menus and is immediate. I cannot reverse the screen display of course, but for small amounts of text this is quite manageable.

I have recently come across a set of 10 Hebrew fonts produced commercially by Davka Software in Chicago. It is possible to add graphics from Mousepaint or Dazzle Draw to the text files via an add-on to MultiScribe. I look forward to reading of Jaromir's experience with the program.

I also notice that he has problems with the macros produced on AppleWorks by Beagle Bros' Macroworks when used outside word processing files. I use the later AutoWorks from the Software Touch. I described its facilities in my article published in the January 1987 issue of Apple User.

The macros produced by this utility seem to work in database files without problems. Perhaps he might like to try it – **Harvey L. Nyman, Harrow**

## Magnified Mac

I WOULD like to know if there is any way of enlarging the screen of the Macintosh computer, or alternatively if you could make the print bigger on the existing screen.

I am 10 years old, wear glasses and don't see especially well. I await your reply with interest. – **Daniel Kerr, Hastings.**

● Our first thought was that you could make use of Stepping Out from Berkeley System Design, available from MacSerious for £75.

Although its main purpose is to provide a larger virtual screen – it has been called the poor man's MegaScreen – it can also be used to magnify the screen image by fac-

tors from 2 to 16.

However, the Stepping Out manual also mentions a Berkeley System Design product called inLARGE which is designed for the visually impaired.

We haven't seen this product and don't know of a stockist, but you could start by trying MacSerious.

## Stocks . . .

I am seeking a supplier of micro software and wonder if you can help me. I am looking for suitable software to produce both line and point and figure charts of share and commodity prices.

The software should be compatible for use on an Apple IIe or similar micro. Any assistance you can offer will be greatly appreciated. – **M.G. Hallmey, Reading.**

● We have little experience on share prices – but it's worth looking back in Apple User at Chris Burridge's series on using a spreadsheet. For sure there is software out there; perhaps someone with real experience will write in.

## . . . and shares

I WOULD very much appreciate if you can inform me where I can obtain software on stock shares and investments for the Apple IIe. Is there a computer club where I can exchange or rent out software? – **U.H. Samani, Wellingborough.**

## Wider coverage

LIKE A.I.S. Ferguson of Zimbabwe, I miss the former more general coverage of Apple User. That has helped me greatly with the efficient programming of our Apple II Europus in various sales applications, for which standard packages were unsuitable originally.

And now that some are suitable, our investment in Applesoft programs is so large that I hesitate to try changing course.

Since company policy is to buy IBM, ours is the last Apple on site to be used in this way. The upshot is that I cannot justify continuing our subscription to Apple User, unless you indicate that some space will be given in future to Apple II applications and programming.

I should be loth to cancel, since there is no other periodical giving reasonable coverage of the Apple II to my knowledge – or is there? – **G.C. Balmain, Bucks.**

● Just to prove that we'll do anything to keep a subscriber on the books, you should

find enough Apple II-relevant material in this issue to keep you on course.

We do try to strike a balance though, and the Apple User umbrella has to cover quite a few machines. As for other periodicals – try our November issue.

## Printing from Mousepaint

IN reply to the letter "Print problems", featured in Apple User's August edition, we'd like to introduce Mr Zinzuwadia to MousePrintz – a print utility specially designed to give Mousepaint users more of a choice when printing.

MousePrintz offers a concise menu of versatile screen-editing and printing features and allows Mousepaint graphics to be printed to virtually any dot-matrix printer.

For more information, contact us on 01-900 0104, or at 78 Robin Hood Way, Greenford, Middlesex UB6 7QW. – **L. Mackay, Dark Star Systems, Middlesex.**

## Printing queries

MR Zinzuwadia and others have asked about printing Mousepaint pictures and screen and text dumps. We would recommend MousePrintz at £25 for Mousepaint pictures and Triple Dump at £34.99 for screen/text dumps.

To set the record straight on the business of Prince and its ribbons, the prices are as follows: Prince (software only) is £39.99, Prince with a set of four special, heat transfer ribbons is £67.99 and a refill kit of replacement, heat transfer ribbons is £29.99.

Individual heat transfer ribbons cost £9.99 and a refill kit of standard, colour (not heat transfer) ribbons is £16.95. None of these prices include VAT. – **Jon Gurr, MGA Microsystems, Kent.** □





# Called to the bar

THE program listed here, Menugen, demonstrates the ease with which menus controlled by bars can be created on the Ile, IIC and IIGs.

Menugen has been written for 80 column Apple Iles, and as it uses the graphic symbols for up and down arrows, and switches the cursor on and off, it will only run without modification on an enhanced Apple Ile with 65C02 processor and enhanced character generator roms.

I haven't tried it, but it should work equally well on an Apple IIC. And it will successfully compile and work under any version of Apple Pascal.

It should be fairly simple to modify the program to use the arrow symbols and keys instead of the up/down symbols and keys. II+ owners might also need to modify the coding to switch between inverse and normal.

It will also be necessary to change the horizontal positions of text lines to run the program on a 40 column screen, as the GETKEY procedure makes it impossible to toggle between screens with Control+A.

## Structure

The logic behind the program is very straightforward. Two arrays are set up, one a character array, MENU [ ], which will hold the Lines of the menu: And LINES [ ], an integer array which holds the vertical position of each menu line. A third variable, MENULINES, holds the number of lines the menu consists of.

The first procedure, MAKELINE, generates a string variable LINE which holds a series of 80 underline symbols (chr(95)) so that a line can be drawn across the screen at any time.

MENUDISPLAY then sets up a centred title with lines above and below and the

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## Len Hewitt generates inverse bar menus from Apple Pascal

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words "Do You Require:" at the top of the menu window.

The two arrays are now given the desired values and MENULINES set to the number of menu lines required. MENUDISPLAY then calls GETKEY, which is the heart of the whole program.

## Execution

GETKEY first displays the menu in the correct position in NORMAL characters. It then calls PROMPTLINE to display the prompt at the bottom of the screen. This is where the enhanced graphic characters are used.

It now waits for a Keypress, then reads the keyboard character into the variable RESPONSE. The keyboard strobe is cleared with a call to UNITCLEAR(1) and the integer variable VALUE set to the ordinal value of RESPONSE.

VALUE now holds the Ascii code of the keypress. RESPONSE is set to a non-operative character and VALUE is checked to see if it was an arrow key, Return or an Integer number between one and the number of menu lines on the screen. If not the procedure waits for the next keypress.

The values checked for are 10, 11, a menu line number or 32. This is because READ converts the RETURN (code 13) to a SPACE (code 32). The effect of this is that either the spacebar or the Return key may be used to select a highlighted line.

If the keypress is an arrow key, the line

that was inverse is reprinted in normal, the menu line is incremented or decremented as required, and the new menu line is printed in inverse. If the increment takes the value over the maximum line number, line number one is highlighted.

Conversely, if a decrement attempts to select a menu line number below one, the bottom line is highlighted. This action will continue until either a Space or Return character is received, or until a number equal to one of the possible selections is typed. In either case the program will return to MENUDISPLAY where the CASE statement will control further events.

The inclusion of MENU1PROG is to demonstrate how one menu can access another if either there is insufficient room to include all the choices on one screen, or where a particular selection leads to further menu requirements.

Although in this program a search is made for character values 10 and 11, the Apple Pascal manual suggests that actual values for the arrow keys should not be used as they vary from one configuration to another. The true values should be obtained from System.Miscinfo and these values used.

However, as this program is specific to the enhanced Ile, this additional complication was not considered necessary.

## Improvements?

As I am very much a newcomer to Pascal programming, I'm sure that the coding could be much improved – and would welcome any suggestions from anyone who found that this program made them wince.

For those readers who have not yet been bitten by the Pascal bug, the same logic can be very easily applied in Applesoft.

```

PROGRAM MENUGEN;
USES APPLESTUFF, CHAINSTUFF;

TYPE
  PRINT          = STRING[30];

VAR
  LINE,TITLE     :STRING;
  COUNT,CHOOSE,
  RANGE,LINES,
  MENULINES     :INTEGER;
  CHOICE        :CHAR;
  MENU2,MENU1   :BOOLEAN;
  MENU          :ARRAY[0..10]OF PRINT;
  LINENO        :ARRAY[0..10]OF INTEGER;

PROCEDURE MAKELINE;

CONST
  LN='_';

BEGIN
  LINE:='';
  FOR COUNT:=1 TO 40 DO
  LINE:=CONCAT(LINE,LN);
END;

PROCEDURE PROMPTLINE;

VAR
  ALT,PRIM,
  UP,DOWN      :CHAR;

BEGIN

```

```

ALT:=CHR(27);      (ENHANCED //e CHARACTER SET SWITCHES)
PRIM:=CHR(24);
UP:='J';          (ASSIGNMENT DEPENDANT UPON CONFIGURATION)
DOWN:='K';        (THIS VERSION FOR //e WITH ENHANCEMENT)
GOTOXY(20,23);
WRITE(ALT,CHR(15),UP,CHR(14),' or ',CHR(15),DOWN,PRIM,CHR(14));
WRITE(' to select,RTM to confirm');
END;

PROCEDURE PRINTLINE ;
VAR
  MARGIN      :INTEGER;
BEGIN
  WRITE(CHR(6));      (ENHANCED //e CODE TO SWITCH OFF
CURSOR)
  MARGIN:=36;
  GOTOXY(MARGIN,LINENO[LINES]);
  WRITELN(MENULINES);
END;

PROCEDURE GETKEY;
VAR
  VALUE,
  LIMIT      :INTEGER;
  RESPONSE   :CHAR;
  FINISHED   :BOOLEAN;
BEGIN
  LIMIT:=MENULINES+48;
  FOR LINES:=1 TO MENULINES DO PRINTLINE;
  PROMPTLINE;
  LINES:=1;
  FINISHED:=FALSE;
  WHILE NOT FINISHED DO
  BEGIN
    WRITE(CHR(15));    (80-COL INVERSE CODE)
    PRINTLINE;
    WRITE(CHR(14));    (80-COL NORMAL CODE)
    REPEAT
      IF KEYPRESS THEN READ (KEYBOARD,RESPONSE);
      UNITCLEAR(1);    (CLEAR KEYBOARD STROBE)
      VALUE:=ORD(RESPONSE);
      RESPONSE:='*';  (SET RESPONSE TO NON-SIGNIFICANT
STRING)
      UNTIL VALUE IN [10,11,32,49..LIMIT];    (UP ARROW,DOWN ARROW
      RTN,SPACE OR INTEGER
      IN RANGE OF NO OF
MENU
      LINES)
      IF VALUE = 10 THEN
      BEGIN
        PRINTLINE;
        LINES:=LINES+1;
        IF LINES>MENULINES THEN LINES:=1;
        VALUE:=0;
        FINISHED:=FALSE;
      END
      ELSE IF VALUE = 11 THEN
      BEGIN
        PRINTLINE;
        LINES:=LINES-1;
        IF LINES<1 THEN LINES:=MENULINES;
        VALUE:=0;
        FINISHED:=FALSE;
      END
      ELSE IF (VALUE>48) AND (VALUE <= LIMIT)THEN
      BEGIN
        LINES:= VALUE-48;
        FINISHED:=TRUE;
      END
      ELSE FINISHED:=TRUE;
    END;
  END;

  FUNCTION CENTRETEXT(TEXTS:STRING):INTEGER;
  BEGIN
    CENTRETEXT:=(40-TRUNC((LENGTH(TEXTS)/2)));
  END;

PROCEDURE MENU1DISPLAY;
CONST
  DO_YOU='Do you Require:';
VAR
  RESULT:BOOLEAN;
BEGIN
  RESULT:=FALSE;
  PAGE(OUTPUT);
  TITLE:='Programme Menu Display';
  WRITELN(LINE);
  GOTOXY(CENTRETEXT(TITLE),2);
  WRITE(TITLE);
  GOTOXY(0,3);
  WRITELN(LINE);
  GOTOXY(20,6);
  WRITELN(DO_YOU);
  GOTOXY(0,20);
  WRITELN(LINE);
  MENU[1]:=1. Application 1;LINENO[1]:=8;
  MENU[2]:=2. Application 2;LINENO[2]:=10;
  MENU[3]:=3. Application 3;LINENO[3]:=12;
  MENU[4]:=4. Application 4;LINENO[4]:=14;
  MENU[5]:=5. Application 5;LINENO[5]:=16;
  MENU[6]:=6. Exit;LINENO[6]:=18;
  MENULINES:=6;
  GOTOXY(0,20);
  WRITELN(LINE);
  GETKEY;
  PAGE(OUTPUT);
  WRITE(CHR(5));      (SWITCH CURSOR BACK ON)
  CASE LINES OF
    1: SETCHAIN('*:APPLICATION ');
    2: SETCHAIN('*:APPLICATION ');
    3: SETCHAIN('*:APPLICATION ');
    4: SETCHAIN('*:APPLICATION ');
    5: SETCHAIN('*:APPLICATION ');
    6: EXIT(MENUGEN);
  END;(CASE)
END;

PROCEDURE MENU1_DISPLAY;
CONST
  DO_YOU='Do you Require:';
VAR
  RESULT:BOOLEAN;
BEGIN
  RESULT:=FALSE;
  PAGE(OUTPUT);
  TITLE:='Main Menu Display';
  WRITELN(LINE);
  GOTOXY(CENTRETEXT(TITLE),2);
  WRITE(TITLE);
  GOTOXY(0,3);
  WRITELN(LINE);
  GOTOXY(20,7);
  WRITELN(DO_YOU);
  GOTOXY(35,9);
  MENU[1]:=1. Editor;LINENO[1]:=9;
  MENU[2]:=2. Filer;LINENO[2]:=11;
  MENU[3]:=3. Programme Menu;LINENO[3]:=13;
  MENU[4]:=4. Exit;LINENO[4]:=15;
  MENULINES:=4;
  GOTOXY(0,20);
  WRITELN(LINE);
  GETKEY;
  WRITE(CHR(5));      (SWITCH CURSOR ON)
  PAGE(OUTPUT);
  CHOOSE:=LINES;
  CASE CHOOSE OF
    1: SETCHAIN('*:SYSTEM.EDITOR. ');
    2: SETCHAIN('*:SYSTEM.FILER. ');
    3: MENU1:=TRUE;
    4: EXIT(MENUGEN);
  END;(CASE)
END;

BEGIN
  (main program)
  PAGE(OUTPUT);
  MAKELINE;
  MENU1DISPLAY;
  IF MENU1=TRUE THEN MENU1_DISPLAY;
END.

```

\*\*\*\* END \*\*\*\*

# Getting into shape

THE Applesoft/Dos Programmer's Toolkit is still a very popular software package for printing characters on hi-res graphics screens, mainly because of the ease with which characters can be defined and edited using the Animatrix program included in the package.

Unfortunately, each character created by Animatrix can only be displayed on the hi-res screens in one of the 960 positions corresponding to the usual 24 lines and 40 columns found on the primary text screen and cannot be manipulated in any way.

This is very limiting, particularly for the labelling of graphs and diagrams. The Toolkit Shaper program given in Listing I overcomes this difficulty by converting any character set created by Animatrix into a corresponding shape table. Individual characters can then be printed in any position and rotated through increments of 90 degrees if required.

## Shape tables

The Dos Toolkit disc contains more than 20 attractive character sets which can be customised easily and then converted to shape tables, thereby providing an inexpensive means of producing professional

## Glyn Jones offers a program to expand the Programmer's Toolkit

displays on hi-res graphics screens.

The Toolkit Shaper program does not, however, emulate the half dot facility found in Animatrix. It faithfully reproduces the characters seen schematically in the enlarged grid on the left hand side of the Animatrix display. It may be necessary, therefore, to edit some characters (for example the zero in the ASCII.SET) using Animatrix before converting them to shapes in order to avoid slight distortions.

It takes a little while to convert a full 96 character set so be patient. Character sets having fewer characters can be converted in less time by altering the variable NS in line 100 (NS = number of characters in the set).

Toolkit Shaper displays all the shapes after completion of the conversion process (lines 910 to 1000). The program is not presented as a particularly elegant piece of programming, but more as a workhorse for carrying out a particularly useful conversion.

The Apple speaker is "clicked" during the operation to signify that the program is still

busy. The program can be easily silenced by removing lines 540 and 620.

Toolkit Shaper works by scanning each character image to determine which pixels in the seven columns and eight rows are on or off, and formulating the shape table accordingly. In so doing, the origin of each shape is taken as being in the top left hand corner. Any character set to be converted must be on the same disc as the program.

## Display routine

To use the program, type in Listing I and save the program to disc before running it - naming it TOOLKIT SHAPER: Ensure that any character sets for conversion are saved to the same disc.

Then run the program - on completion it displays all the resulting shape table. Press Return to go back to menu, and save the shape table to disc by using option 3.

The short routine given in Listing II is provided for the display of shape tables created by Toolkit Shaper. It allows you to view another shape table after the first. After viewing, press Return to go back to the menu and load another shape table into memory, or press Return again to finish.

### Listing I

```

1  REM *****
2  REM *
3  REM * TOOLKIT SHAPER
4  REM *
5  REM *****
6  REM
7  REM
10 HIMEM: 32000
20 DS = CHR$(4)
  : IF PEEK(104) = 64
  THEN 50
30 POKE 103,1
  : POKE 104,64
  : POKE 16384,0
40 PRINT DS"RUN TOOLKIT SH
  APER"
50 DIM P(7,8),TT(3,50),A(1
  14),TA(150)
60 FOR UE = 0 TO 7
  : READ M%(UE)
  : NEXT
70 DATA 8508,9532,10556,11
  580,12604,13628,14652,1
  5676
80 FOR GJ = 0 TO 114
  : READ A(GJ)
  : NEXT
90 DATA 1,1,3,1,2,1,1,1,6,
  1,5,1,4,2,6,2,7,1,7,2,3
  ,2,4,2,5,3,1,2,1,2,2,3,
  4,3,3,3,2,3,7,3,6,3,5,4
  ,5,4,6,4,7,4,2,4,3,4,4,
  5,2,5,1,4,1,5,5,5,4,5,3
  ,6,7,5,7,5,6,6,4,6,5,6,
  6,6,1,6,2,6,3,7,3,7,2,7
  ,1,7,6,7,5,7,4,8,6,8,7,
  7,7,8,3,8,4,8,5,0,0,8,1
  ,8,2
100 NS = 96
110 CS = 32000
  : SP = CS
120 POKE CS,NS
  : POKE CS + 1,0
130 TM = 2 * NS + 2
140 CS = CS + TM
150 ONERR GOTO 1020
160 TEXT
  : HOME
  : VTAB 2
  : HTAB 13
  : PRINT "TOOLKIT SHAPER"
  : PRINT TAB(13)"=====
  ====="
170 VTAB 7
  : PRINT TAB(8)"1. CONVE
  RT CHARACTER SET"
  : PRINT
  : PRINT TAB(8)"2. CATAL
  OG DISK"
  : PRINT
  : PRINT TAB(8)"3. SAVE
  SHAPE TABLE"
  : PRINT
  : PRINT TAB(8)"4. EXIT"
  : PRINT
  : PRINT
180 PRINT TAB(8)"CHOOSE (
  1, 2, 3, OR 4)"
190 POKE - 16368,0
200 WAIT - 16384,128
  : IF PEEK(- 16384)
  = 177 THEN 330
210 IF PEEK(- 16384)
  = 178 THEN 310
220 IF PEEK(- 16384)
  = 179 THEN 250
230 IF PEEK(- 16384)
  = 180 THEN POKE
  - 16368,0
  : PRINT
  : PRINT
240 GOTO 160
250 POKE - 16368,0
  : PRINT
  : PRINT
  : PRINT TAB(9);
  : IF A(0) > 1 THEN 270
260 PRINT "NO CHARACTERS IN
  STORE"
  : FOR GJ = 1 TO 800
  : NEXT
  : GOTO 160
270 EH = CS - SP + 1
280 INPUT "NAME TO SAVE
  : ";FSS
290 PRINT DS"BSAVE"FS$,A$
  P",L$EH
300 GOTO 160
310 PRINT DS"CATALOG"
320 GOTO 190
330 POKE - 16368,0
  : PRINT
  : PRINT
  : PRINT TAB(8);
  : INPUT "NAME OF CHAR SET
  : ";FTS
  : GOTO 340
340 PRINT DS"BLOAD"FTS",A35
  096"
350 HGR
  : HCOLOR= 3
  : POKE - 16301,0
  : POKE 34,20
  : HOME
360 HPLOT 130,70 TO 156,70
  TO 156,97 TO 130,97
  TO 130,70
370 POKE 232,0
  : POKE 233,125
  : SCALE= 1
  : ROT= 0
  : PRINT "CONVERTING TO SH
  APE TABLES, PLEASE WAIT
  ."
380 FOR K = 1 TO NS
390 FOR GJ = 1 TO 150
  : TA(GJ) = 0
  : NEXT
  : FOR GJ = 1 TO 50

```

```

:TT(1,GJ) = 0
:TT(2,GJ) = 0
:TT(3,GJ) = 0
: NEXT
400 IF K < NS THEN 420
410 FOR GJ = 80 TO 87
: HPL0T 140,GJ
TO 146,GJ
: NEXT
: GOTO 480
420 X = 20
:Y = 10
430 Q = INT (Y / 8)
:R = Y - Q * 8
440 W = 128 * R + 40
* Q + X + 8192
450 FOR L = 0 TO 7
460 POKE W + 1024
* L, PEEK (35096
+ K * 8 + L)
470 NEXT
480 FOR GY = 0 TO 7
490 NJ = PEEK (M%(GY))

:P(UB,GY + 1)
= VAL ( MID$( GJ
$,EF,1))
:EF = EF - 1
: NEXT
550 FOR SJ = 1 TO 7
STEP 2
: FOR MJ = 1 TO 6
560 M = PEEK (49200)
570 IF P(MJ,SJ)
= 0 THEN P(MJ,SJ)
= 1
: GOTO 590
580 P(MJ,SJ) = 5
590 NEXT
600 IF P(7,SJ) = 0
THEN P(7,SJ)
= 2
: GOTO 620
610 P(7,SJ) = 6
620 NEXT
630 FOR SJ = 2 TO 8
STEP 2
: FOR MJ = 2 TO 7
640 M = PEEK (49200)
650 IF P(MJ,SJ)
= 0 THEN P(MJ,SJ)
= 3
: GOTO 670
660 P(MJ,SJ) = 7
670 NEXT
680 IF P(1,SJ) = 0
THEN P(1,SJ)
= 2
: GOTO 700
690 P(1,SJ) = 6
700 NEXT

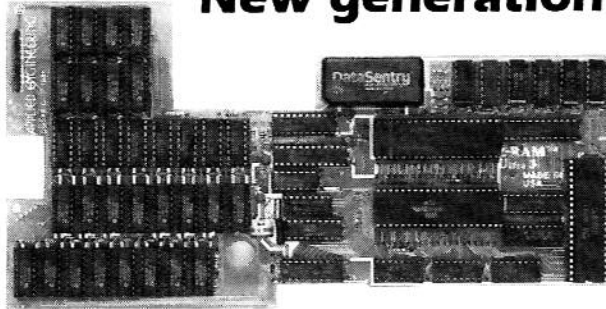
S = 1
710 FOR SJ = 1 TO 19
720 : FOR MJ = 1 TO 3
:TT(MJ,SJ) = P(A(S
+ 1),A(S))
: S = S + 2
: NEXT
730 NEXT
740 FOR GJ = 1 TO 19
:TA(3 * GJ) = TT(1,6
J)
:TA(3 * GJ - 1)
= TT(2,GJ)
:TA(3 * GJ - 2)
= TT(3,GJ)
: NEXT
750 MJ = 3
: SJ = 57
760 IF TA(MJ) > 3 THEN 79
0
770 MJ = MJ + 3
: IF MJ = SJ THEN 810
780 GOTO 760
790 SJ = SJ + 3
: FOR GJ = SJ TO MJ
+ 1 STEP - 1
:TA(GJ) = TA(GJ
- 1)
: NEXT
:TA(MJ) = 0
: MJ = MJ + 3
: IF MJ = SJ THEN 810
800 GOTO 760
810 SJ = 3
820 IF TA(SJ) = 0 AND TA(
SJ - 1) = 0 AND TA(SJ
- 2) = 0 THEN SJ
= SJ - 3
: GOTO 840
830 SJ = SJ + 3
: GOTO 820
840 FOR GJ = 1 TO SJ
/ 3
:TT(1,GJ) = TA(3
* GJ)
:TT(2,GJ) = TA(3
* GJ - 1)

:TT(3,GJ) = TA(3
* GJ - 2)
: NEXT
850 GJ = 1
860 TN = CS - SP
: IF TN < = 255
THEN 880
870 POKE SP + 2 * K,TN
- 256 * INT (TN
/ 256)
: POKE SP + 2 * K
+ 1, INT (TN / 256)
: GOTO 890
880 POKE SP + 2 * K,TN
: POKE SP + 2 * K
+ 1,0
890 CJ = 64 * TT(1,GJ)
+ 8 * TT(2,GJ)
+ TT(3,GJ)
: POKE CS,CJ
900 CS = CS + 1
:GJ = GJ + 1
: IF GJ < = SJ / 3
THEN 890
910 POKE CS,0
:CS = CS + 1
920 NEXT
: HOME
930 CALL 62450
940 POKE - 16302,0
950 FOR C = 1 TO 5
: FOR D = 1 TO 20
960 E = (C - 1) * 20
+ D
970 IF E > NS THEN D
= 20
: GOTO 990
980 DRAW E AT (C
- 1) * 55 + 25,(D
- 1) * 9 + 3
990 NEXT
1000 NEXT
1010 A(0) = A(0) + 1
: CALL - 678
: GOTO 160
1020 POKE 216,0
: GOTO 150

```

## AppleUpdate

### New generation



THE successors to Z-Ram and Z-Ram II expanders for the Apple IIc, all Z-Ram Ultra boards include AppleWorks enhancement software which gives the same AppleWorks enhancements as RamWorks itself and also provides a 64k printer buffer. Also included is ram-discing software for Prodos and Dos 3.3 plus Prodos ram management software.

The series starts with Z-Ram Ultra 1 - a memory only board of 256k or 512k. Ultra 2 provides memory plus battery-backed clock and ranges in size from 256k to a

full 1Mb. The third adds to this a Z-80 co-processor and CP/M.

The most popular from the series is the 1Mb Z-Ram Ultra 2 - priced at £389. Your Apple IIc fitted with this is virtually equivalent to a 1Mb portable IIgs with a built-in disc drive, although it does run 2.7 times slower.

Product: Z-Ram Ultra series  
 Prices: from £199 to £389  
 Supplier: Bidmuthin Technologies, PO Box 264,  
 Harrow, Middlesex HA3  
 9AY.  
 Tel: 01-907 8516

Listing II

```

10 REM *****
20 REM * *
30 REM * SHAPE TABLE *
40 REM * DISPLAY *
50 REM * *
60 REM *****
70 REM
80 REM
90 ONERR GOTO 220
100 TEXT
: HOME
: DS = CHR$(4)
: PRINT
: PRINT
: PRINT TAB(10)"SHAPE T
ABLE DISPLAY"
: PRINT TAB(10)"=====
=====
110 PRINT
: PRINT
: INPUT "SHAPE TABLE NAME
: ;STS
120 IF STS = "" THEN
HOME
: END

130 PRINT DS"BLOAD"STS",A25
000"
140 POKE 232,168
: POKE 233,97
# : NS = PEEK (25000)
*150 HGR
: HCOLOR= 3
: POKE - 16302,0
: ROT= 0
: SCALE= 1
160 FOR A = 1 TO 5
: FOR B = 1 TO 20
170 S = (A - 1) * 20
+ B
180 IF S > NS THEN B
= 20
: GOTO 210
190 DRAW S AT (A
- 1) * 55 + 25,(B
- 1) * 9 + 30
200 NEXT
: NEXT
210 CALL - 678
: GOTO 100
220 POKE 216,0
: GOTO 90

```

# PROBLEM PAGE

**TONY HASEMER**

*This month's column is written in response to points raised by Open University staff, tutors and students at a Summer School.*

## Honorable mention

CONRAD and Cliff have talked about honorware payments in the last couple of months; I make no apology for raising it again. I'm a great believer in actually paying for honorware – in part, possibly, because in order to do so I have to sign purchase requisition forms rather than my own cheques.

Nonetheless, I do think that it'd be a pity if the only new Mac software being written was being written for the big software houses. The amateur software industry which provides so many little gadgets and gizmos, often not so little and often incredibly useful, shouldn't be allowed to die because we're too mean or too uncaring to part with the odd fiver now and again.

Of course virtually all honorware comes from the US, and by the time any particular piece of it gets wide distribution over here its author may long since have moved house. Can Theophilus P. Stopps still live at 9019 Dingle Lane, Redneck, Kentucky? Sometimes it seems that sending the fiver will do less good to anyone than letting go of it on a windy street corner.

And then there are those items of honorware which seem to have been created by a schizophrenic; part of what it can do becomes immediately indispensable to any use of the Mac, while the rest of what it can do invariably crashes your hard disc.

The Printer utility is a case in point. The ability at last to set the default paper size to A4 rather than US brings a deep glow of joy to any MacHacker's heart. But for God's sake don't touch any of its other menu choices. One of them wrecked my hard disc and caused me a wasted afternoon.

Then there is the unproven but virtually self-evident fact that for every person who is honest enough or daft enough to send the money, there must be at least ten who

don't. How can honesty be the best policy when it costs you a fiver a time?

Yeah, yeah. Yeah. The arguments for not paying are legion; probably far outnumbering even the number of non-payers. The arguments for paying, on the other hand, are few and simple:

- Someone, somewhere, has sweated blood and guts (even if it was fun) to give you whatever pleasure or usefulness this piece of software provides. It's uncivilised to return such kindness with disdain.
- Since you have been asked to pay, avoiding doing so is morally, though not legally, theft.
- If honorware does not feed its programmers, there will soon be no more honorware.
- Unless you're unemployed, a fiver won't hurt.

My own practice is to send the requested money for any piece of honorware which is less than two years old when I first acquire it. While that seems to me to be a fair and reasonable way to carry on under the circumstances, others may think it a complete cop-out.

---

### The eyes have it

Surprisingly, the Mac being such an easy machine to use, people who have to work with one all day long often complain about physical discomfort. No one can be expected to work well when they have a nagging ache in their neck, or red, sore eyes, and these are the two most common complaints. Equally surprisingly, the cure in both cases is often simple.

Standing on the average desk and being operated from an average chair, the Mac

screen is actually quite a long way beneath its operator's straight ahead line of vision. S/he has to look downwards at an angle which naturally makes him/her slump in the chair.

Some people poke their heads forward and down, also in an instinctive attempt to get a head-on view. Hence, of course, after a few hours of such contortions, the aches and pains.

Of course the best cure is one of those swivellable and tiltable stands for the machine, but I've found that standing the Mac on its hard disc and then propping up its front with a couple of packs of playing cards is exactly what I need.

Several people have told me of having the same experience, whereby weeks of nagging agony faded away during the course of an unusually productive few hours' work, once the position and angle of their Mac was corrected.

Eyestrain is more of a threat to users who work mainly with text or with very detailed drawings. It arises largely from the fact that the on-screen definition of the Mac is terrible. The letters I see before me as I type this (10pt Helvetica) appear to be composed largely of curves, as letters should be, but if I look more closely they are actually made up of tiny straight lines which are all either horizontal or vertical. All the time I'm working, my eyes and my brain are having to do something very like the LaserWriter's Smoothing option – and we all know how long that takes!

Besides that, the Laserwriter and the Linotronic can make point sizes below 12 perfectly legible in the printed output, and so for the sake of knowing what the final page will look like (this is supposed to be WYSIWYG, isn't it?) we torture ourselves by working with the same point sizes on screen. I keep telling myself that I must remember not to do that (for example, I've just changed this paragraph into Boston II font – I can easily put it back later – and ▶

# Apple User Classifieds

**Has upgrading your computer given you hardware you no longer need? Or have changing interests left you with unwanted software? Then THIS is the place to advertise your surplus items. Apple User readers are always on the lookout for a bargain and this is the first place they look!**

## An added bonus!

Your advert will also be automatically displayed on MicroLink, the electronic mail service operated in association with Telecom Gold. This means it will be seen by thousands of computer enthusiasts who can send an instant response.

## Classified advertisements will be accepted under the following conditions:

- This service is EXCLUSIVELY for the use of private readers. No trade ads will be allowed.
- To avoid encouraging software piracy, all ads will be carefully vetted before they are accepted.
- Ads can only be accepted on this form (or a photocopy of it).
- There is no maximum to the number of words you include in your ad. If there is insufficient room on the form, continue on a separate sheet of paper.
- The cost is 20p per word, with a minimum of 10 words.
- We GUARANTEE your ad will appear in the November issue (on sale October 28) providing it is received by September 28.

● For Sale: Apple IIc 128k hardly used includes; 5.25 inch drive, monochrome monitor, business and games software, manuals. Offers. Tel: 0234 750111 ext 2128 daytime 0234 751255 evenings.

● Apple II Europlus, Pair Disk II Drives, Apple II Monitor, U Ram 16 Card, Digitek RS232 Interface, Digitek Screenmaster 80, Microsoft Z80, manuals etc. £250 o.n.o. Tel: 0206 560315

● Epson MX/FT80, comes with spare Ribbons £120 o.n.o. Tel: 01 445 4237

● Centronics 702 Dot Matrix Printer 132 CPL Little used over seven years - Offers? Tel: 0903 784255 Evenings

● Apple II+ Two Drives, Monitor, Cards, Manuals,

Wordprocessor £250. Tel 01 633 3095

● Apple II Europlus 64K Twin Disc Drive monitor printer interface 80 column card plus books. Lots of extras. Tel: 0922 406239.

● Mac plus IMB External 800K Drive Imagerwriter printer. Offers (051) 342 7803 Evenings/Weekends.

● Apple II Europlus Twin Drives, Monitor, Printer, Interlekt Modem Tabs Accounting, Visicalc, Applewriter plus others, paddles, Boxes of disks £350. Tel:(0954) 31533

● Mac Plus with microsoft works integrated software £1575. Tel: 01 441 3988.

● Wish to buy Apple III and ICE MUX in good condition.

Leave message. Tel: 01 994 1314.

● IIe 64k, two Apple drives, 2nd controller, K292 green monitor, manuals, DOS disk, VGC £575. Tel Gosport 0705 521961 anytime.

● Apple III software, business graphics, mailing list manager plus training packs, Applewriter 2.0 key-strokes database, easy-pieces. All in mint condition. Tel: Nigel 0203 503042.

● Apple II+,e mouse with card and Mousepaint. New unidisk 5.25in drive card. Offers. Tel: 01 993 1144.

● Peripheral cards: IC tester, buffered grappler, 128k ram. £70 each. 8088 card £80. Alf music, videx 80 column, eeprom writer,

mockingboard £45 each. RGB card, £40. Z80 cp/m, 80 col (IIe) 64k, wildcard. 16k language £27.50 each. Grappler, Communications, Forth, £32 each. Disk drive £75. IIe Motherboard £105, II+ Motherboard £90. IEEE-488 GPIB £65. RGB monitor (.38 dot pitch) IBM/Apple triple standard. New £295. Tel: 01 736 7809.

● 1986 Apple IIc mono monitor with stand, second floppy drive with imagerwriter printer. No system discs or manual. Can be shown working. Tel: 01 207 4488 Ext 276.

● Format 80 scientific, Sensible Speller, Supercalc3, Logo II, Wordperfect, Macintosh Multiplan, Chart, £50 each o.n.o. Tel: 061 427 2315.

**Fill in now for the next issue**

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	10 words £2.00
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	15 words £3.00
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	20 words £4.00
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	25 words £5.00
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	30 words £6.00

I certify that any software offered for sale is original and not a copy  
Signed \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_

Cheque enclosed for £ \_\_\_\_\_

POST TO: Apple Classifieds, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

◁ suddenly I can read it with ease) ... but old habits die hard.

Eyestrain is also the result of reflections of the ambient light in the room from the Mac screen, reducing its apparent contrast. Tilting the machine, as above, can help here, although admittedly it could also make things worse.

The best solution I've seen so far is a special filter which fits over the screen itself. Of course, like any computer add-on, its price is insane: £70 for a small piece of glass, a soft metal surround, and a couple of pads of sticky. But our Lab secretary has one, and swears she'd choose it in preference to even a hard disc any day.

### SCSI addresses

Many people now use an SCSI hard disc with the Mac, which certainly turns it from a general purpose odd job machine into a powerful and customisable personal workstation. Problems arise when they try to add a second SCSI device, such as a second hard disc or a tape streamer.

First of all some SCSI devices are incompatible with one another or with certain models of the Mac itself, the result being that either the Mac refuses to see the SCSI device at all, or that individual items of

software will not run on a particular Mac/SCSI combination.

Fortunately this state of affairs is becoming rarer, except where unusual models such as the Levco Prodigy series are concerned, presumably as increasing numbers of users point their difficulties out to the relevant manufacturers.

But there is a more basic difficulty in chaining SCSI devices and that is the question of SCSI addresses. The Mac is designed to handle up to eight such devices, with "address" numbers from 0 to 7. The Mac itself is always number 7, which solves part of the problem. But every SCSI device on a single chain must have a different address.

Unfortunately not all hardware manufacturers make provision for the user to change the addresses of their products. In at least one case I know of a hard disc and a tape streamer made by the same company are given the same, fixed, SCSI address at the factory, and therefore cannot be chained together unless the user is prepared to void the warranty by digging around inside the equipment with a soldering iron.

When buying SCSI equipment, therefore, it is well worth checking that you will be able to alter its SCSI address should you ever need to. For example, the excellent Oisk hard disc has a mechanical switch on its front panel, while some other manufac-

turers provide the equivalent in software.

But you can bet your bottom dollar that if you can't change the address, then sooner or later you will need to do so.

### The good, the bad and . . .

Last week I was speaking to a teacher of nurses. She described how prevalent computers are becoming in hospitals, especially in intensive care cases, where constant multiple monitoring of the patient's vital signs, and fast response in terms of changed medication, are essential.

However, a human nurse must be present at all times, to monitor what the machine does, in particular to monitor what changes it makes to the various drugs, transfusions and other liquids being fed into the patient. Presumably the idea is that if the machine makes a mistake the nurse will be able to spot it in time to save the patient from any serious harm.

Nonetheless, it remains a fact that throughout the times when nothing does go wrong, it is the machine which is saving the patient's life. That was the statement, made perfectly straightforwardly by a non-nonsense person, which rocked me back on my heels. For, despite the very prevalent fear and awe of intelligent machines which is so clear on the Clapham Omnibus, we'd rather trust our fate to an intelligent machine than die.

No, it's not as simple as that. What's really happening, I suspect, is that those who believe that they can control intelligent machines – that is, their users – are increasingly using them on other people.

This is not only true of doctors but of banks, the stock market, accounts departments, political parties, and large sections of industry. Even the car manufacturer who installs robots on part of the production line and expects human workers to keep up. All of these are demanding that other people change their behaviour because of the alleged "needs" of the machine.

It's already obvious that some individuals are eager to use these "needs", just as previously they used "the rule book" as a means of shifting actual work from themselves to others, or of increasing their own apparent importance by creating unnecessary work for others to do (how often do you receive through the post a form which demands to know your name and address?).

The result is that the myth of the computer as an alien, intractable and often inimical intelligence is being constantly reinforced. It's pleasantly sobering to be reminded that smart machines are also doing the human race a huge amount of good.

Send your Mac queries, comments or plain old gripes to Tony Hasemer at Apple User, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

## AppleUpdate

### Professional package

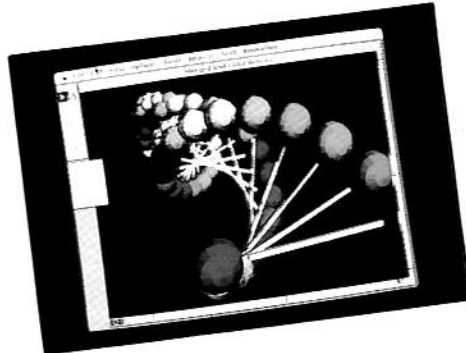
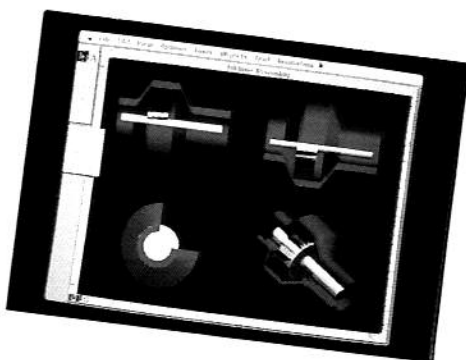
*SUPER 3D is a 3D graphics editor featuring both wire-frame and solid surface modelling as well as built-in animation capability.*

*This package is intended for professional users such as graphic designers, engineers and architects who need a powerful 3D editor that is well-suited for their specific design needs.*

*To run Super 3D you will need a Macintosh 512k Enhanced with one disc drive. A Macintosh Plus or SE with hard disc is the recommended configuration.*

*Super 3D Enhanced takes advantage of the 68881 math co-processor chip (when installed this could be an add-on to a Macintosh SE) and all the colour capabilities of the Macintosh II.*

*Though it will function on a Macintosh II with 1Mb of ram and one 800k disc drive, you should use a hard disc for the best results – and when using 2Mb of ram you will most definitely need one.*



Products: Super 3D, Super 3D Enhanced  
Prices: tba  
Supplier: Silicon Beach Software/  
MacSerious, 17 Park Circus Place,  
Glasgow G3 6AH.  
Tel: 041-332 5622

# BACK ISSUES

Catch up on articles you may have missed. Back issues from January 1987 are available at £1.75.



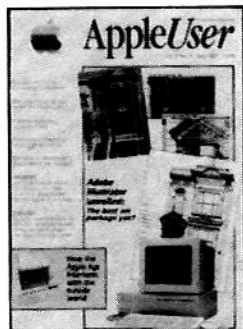
**May 1987**

Reviews; Mousestuff for Pascal, Swyftware on disc, Multiscribe 2 - Fun & Games; Prince (colour printer kit), Brian Clough's Football Fortunes, Hollywood's Hijinx, Starglider and King of Chicago - Programming; Pascal File Control System, CP/M non-disc calls, Multi-choice quiz game - Utilities; Toolkit Assembler from the Flipper, Graphics library cursor routine, encoding techniques - Desk Top Publishing; Quick Print Franchising, Fancy Fonts - PLUS all the latest Apple news and your letters.



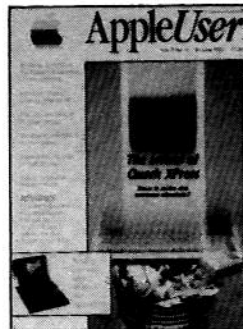
**June 1987**

Reviews: ObjectLogo, IIGS microprocessor, Microsoft's Works, the WIMP environment - Fun & Games; Bureaucracy, Jewels of Darkness, Autoduel - Programming; Pascal File Control System, customising AppleWorks, CP/M disc functions - Utilities; Debugging on-screen listings, Working with Dos sectors, Radio teletype receiver, Machine code tracer - Building a Mac software library, Designing a coding system, Mac Shareware, First impressions of the Mac SE - PLUS news and Feedback.



**July 1987**

Reviews: Adobe Illustrator, LaserWriter, VIP Professional, Microsoft's Word and the Beagle Bros' Prodos compiler - Fun & Games; Dark Castle, Moebius, Silicon Dreams and Guild of Thieves - Programming; Pascal Tutorial, CP/M BDOS function calls, Shape Chaser (a shape table utility), Screen Editor for Basic, Dos Info command utility - Honourware, Biorhythms from Spreadsheets, Mac problems solved, Opening up the Mac, Desktop publishing in South Africa, News and Feedback.



**August 1987**

Reviews: GraphicWriter, Music Studio, Visualiser, Quark XPress; Guide - Fun & Games; Movie Monster, Ogre, Electric Crayon - Programming; Pascal Tutorial, CP/M word counting utility, label-making program - 65C816 update, the Infocom interview, customising the Mac's control panel, Stemko, an Apple-controlled environment, the case for desktop publishing beginners, Problem Page looks at the Finder and copy protection - PLUS all the latest Apple news and your letters.



**September 1987**

Reviews: Notes 'n' Files, Disc hard drive, Sidekick, Plus Ram memory expansion cards, Boosting AppleWorks, - Fun & Games; Printshop, Shard of Spring, Battle Cruiser, Warship, Airheart, Stationfall - Opening up the Mac, True Faith, CAD, First look at comms, Running a dtp bureau, Honourware, Apples and real people - Utilities; Pascal menu layouts, shape tables, AppleWorks database design - Programming; CP/M's BIOS, Bugs in Prodos, Pascal Tutorial - PLUS all the latest Apple news and your letters

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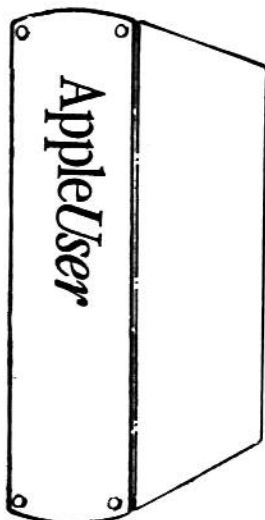
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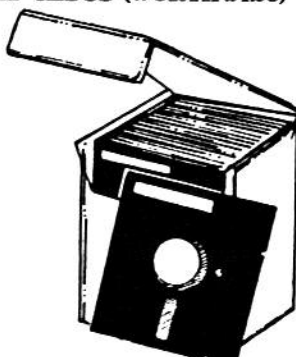
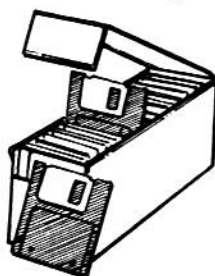
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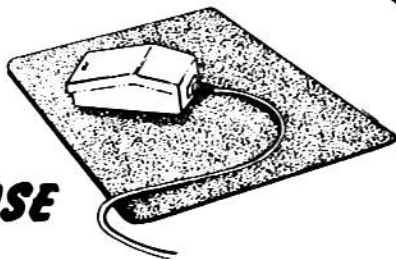
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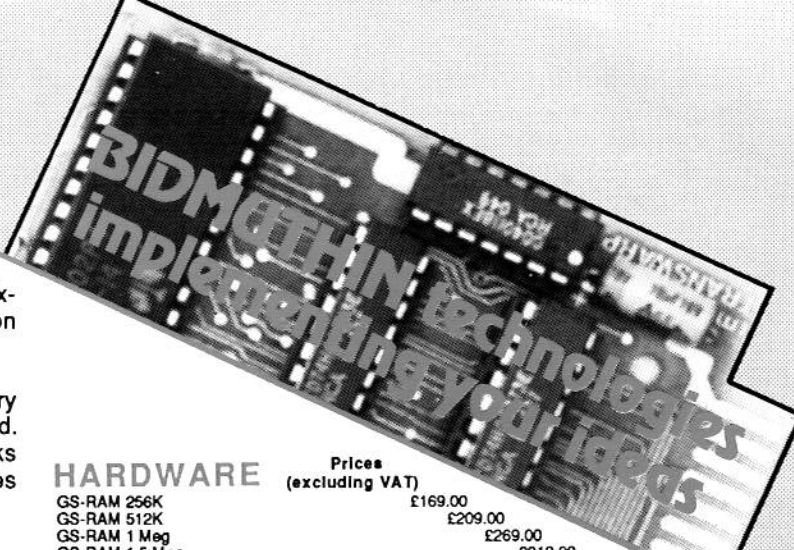
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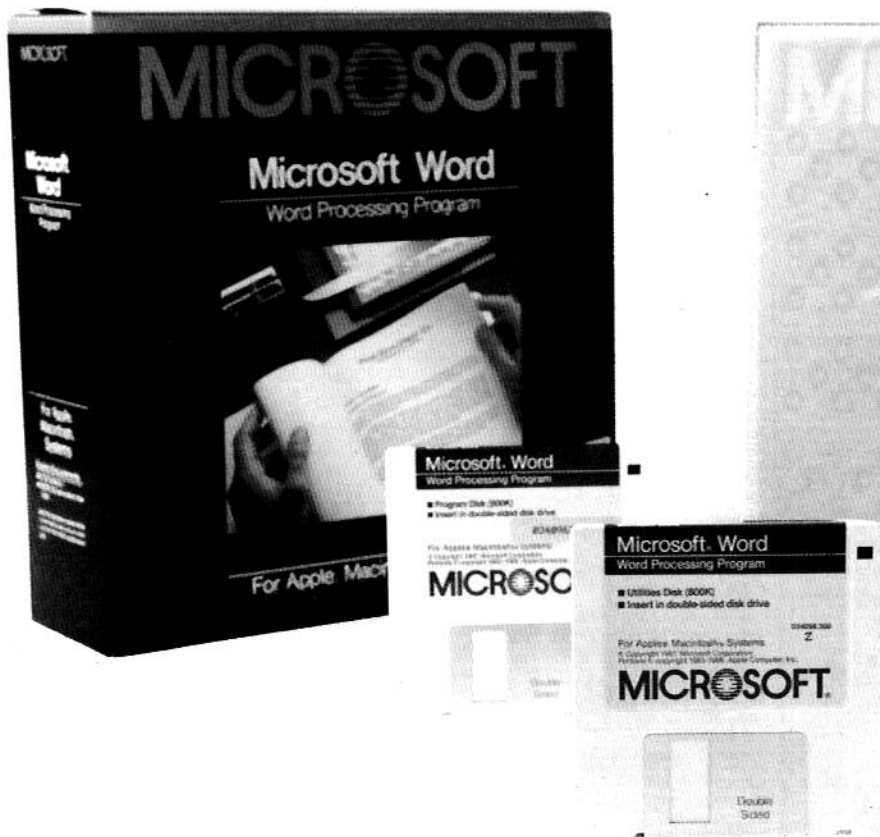


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