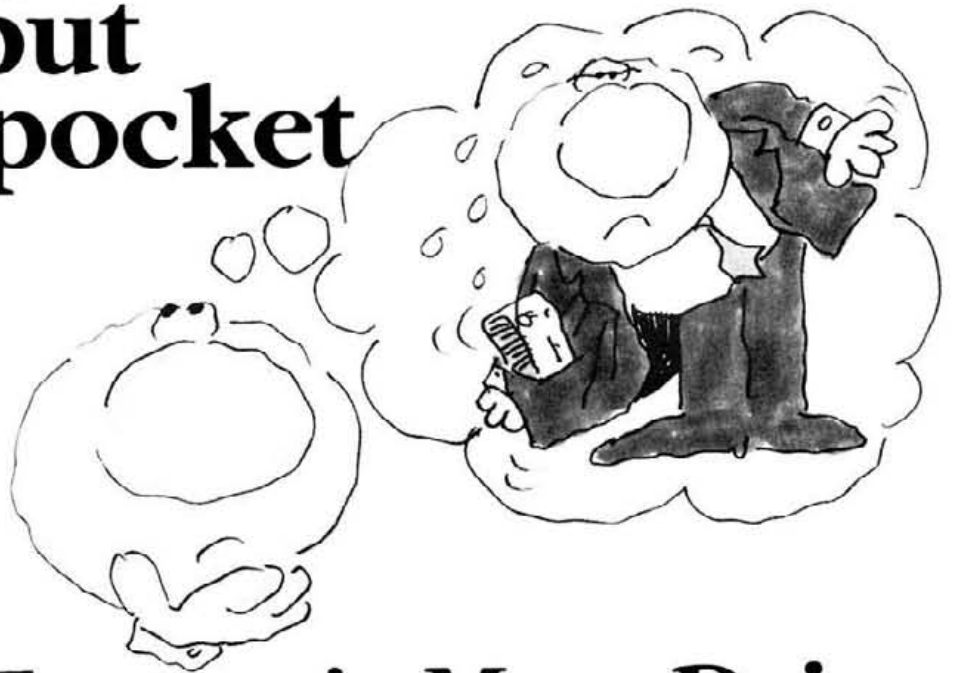


The hard disk you put in your pocket



MacEurope's MegaDrive

Jasmine announce the first successful, reliable, affordable combination of hard disk speed and the endless expansion and security of a removable floppy.

Reliable because MegaDrive is extremely crash-resistant, unlike previous attempts to achieve the elusive goal. Fast because you get SCSI performance.

Expandable because each floppy is a rugged 10MB disk, toughened to protect your data against extreme mishandling, yet light enough to carry around or post.

Affordable because MegaDrive is just £875.

MegaDrive possibilities are limitless: lawyers, doctors, designers, artists, business users, accountants -everyone can guarantee data security by removing their disks when they quit.

And occasional users, such as students, each unable to justify his own hard disk, can easily share a drive without clogging up costly online disk space.

With MegaDrive, your data library expands inexpensively. 10MB floppies allow endless storage of data, high-res scanned images, clip-art, and archived material at a far lower cost/MB than hard disks without sacrificing speed of operation or involving you in a confusing jumble of 800K disks. And 10MB is a sensible size to ensure against the soft floppy shuffle whilst you're working.

MegaDrive makes a superb backup device for your hard disks. Faster and cheaper than tape when you consider your backup device is a production device, too.

For many, security will be a key reason to choose MegaDrive. Sharing disk space always involves the risk of deliberate or accidental exposure, modification or total loss through reinitialization. MegaDrive offers the ultimate in security: the drive doesn't exist which can read data riding around in your pocket or locked in your safe.

For everyone, MacEurope's MegaDrive from Jasmine offers high performance in a compact package half the height of Apple's hard disk, with the same footprint.

Careful design ensures protection extends to isolating your data from power surges, by providing full protection on all 3 power lines. And there's excellent resilience to physical shock.

Every single unit is tested with real time diagnostics prior to shipping, unlike manufacturers who cut costs by testing random samples.

MegaDrive is a great solution to your storage problems. It's only available from MacEurope, Jasmine's partners in Europe, who provide all the sales and engineering support you expect from a major manufacturer.

Give Colette Fanning a ring on (01) 965 6905 for a data sheet and the nearest MacEurope dealer to you with MegaDrive to demonstrate. Demand for this successful drive is very high, so please do not delay seeing for yourself how your system can benefit from MegaDrive.

MegaDrive from **MacEurope**

MacEurope Ltd,
Crown House, Abbeydale Rd, London NW10 7PN, England
Tel: (01) 965 6905 Telex 265871 Ref 72:MAG20278

Apple2000

CONTENTS

VOLUME 2 ISSUE 5

OCTOBER 1987

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Apple2000

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Editorial		2
Club News		3
Local Group News		4
News Bytes	Jim Panks	6
Document Checker	Nigel Bradley	11
GS Tips	Graham Attwood	12
Multiscribe GS	Graham Attwood	13
Tips & Techniques		14
Fortran	Dave Miller	18
Warship	Tom Wright	22
Computer Eyes	Dave Ward	24
Cirtech CP/M Plus	Dave Ward	26
PinPoint ToolKit	Nigel Bradley	32
A £500 Hard Disk	Dougal Hendry	34
MAC2000	Norah Arnold	36
Welcome to MacWorld	Irene Flaxman	38
Why Desktop Publishing	Lawrence Miller	42
Ready Set Go 3	Dougal Hendry	44
Laser Paint	Norah Arnold	46
Keynote Speeches	Peter Olsen	51
PowerDisk	Keith Chamberlain	58
MaLibrary	Norah Arnold	59
Art at the Expo	Irene Flaxman	62
Network News		63
Lightspeed Pascal	John Arnold	65
Typesetting with Textures	Sak Wathanasin	68
Arabic by Computer	A. Bracket M. Al-Helaly	73
XPress	Derry Thompson/J. Panks	76

EDITORIAL

The last two years have flown by and I now find myself entering the third year as editor/compiler, the challenge is still there, new products and new techniques arrive by the bucket full and I intend that your journal will change for the better.

The last six months have been traumatic for the Apple II user, it appears that Apple UK have almost given up on this front. Many dealers now find it hard to explain what an Apple IIGS is, let alone stock such a rare beast. Sadly this attitude is spreading very fast and the Macintosh seems the only interest to many in the trade. This attitude has in the past killed off some really good machines, the Apple III was an exceptional machine but was not supported in this country and hence died very quickly.

My main concern is with the amount of Apple II articles being submitted - if you wish to keep the machine alive as USERS you will have to start contributing - do not expect Apple or any other organisation to help, WE have to do it ourselves and that means all interested parties making sure that they contribute something.

So come on all you Apple II

USERS send an article, tip or anything useful for inclusion in your journal.

I hear that the management at Apple are changing and that David Hancock the M.D. is being promoted to Apple Inc with responsibility for the Pacific region. We wish him well in his new post.

The MacUser Show will be upon us shortly and I expect many of you will attend - but I would just like to give you a warning - your presence is not really wanted - you see apparently USER GROUP members are not the market the organisers are after. You will get your free ticket in this issue - but it is not really free because the group has been forced to pay commercial rates for a stand at this USER's Show.

The massive advertising campaign in this journal to get you to attend proves the point above!

On to better things - I was invited to represent the group at the MacSeptember event organised by the East Midlands Macintosh Group and MacTel at Nottingham University. The event was exceptional, the lectures were informative and the company great. The only thing missing was the MUG or to be precise the man who runs that organisation. I

hear that the organisers could not afford his fee!

I hope to have a full report of the event with pictures in the next issue! Thanks to David and David for the first of many USER EVENTS.

Right off we jolly well go - If any of you would like to help us on the stand at MacUser please drop a line and let us know what day or part day you could help. It is important that we gain as much from this show as possible and your help would be welcomed.



Jim Panks
Chairman/Editor

P.S.

I have just had news that we can offer 3.5 inch disks at £15 inclusive of VAT and P&P. The disks are Double Sided Sony unbranded and come in a FREE plastic box. I suppose I had better get some money out!

Club News

TIPS FROM THE HOT LINE

1

A number of parameters associated with Dos 3.3 are set to a maximum of 32767 bytes for some unknown reason. For instance you may only BLOAD a file which is no longer than 32767 (\$7FFF) bytes long when there seems no reason why longer files should not be supported. In fact Dos 3.3 maintains a table of maximum sizes and amending the appropriate one will allow you to BLOAD larger files. When in the Applesoft prompt] just type the following:

POKE 43364,255

2

A similar problem occurs with the BYTE offset keyword when you are accessing textfiles. This has a maximum of 32767 bytes too. Peter Edwards found this a problem but changing the maximum value in the table of maximum sizes in Dos 3.3 from 32767 (\$7FFF) to 65535 (\$FFFF) appears to have solved his problem. Here's how it is done :-

When the Applesoft prompt appears type :-

POKE 43372,255

3

As discussed last time Appewriter ProDOS versions 2.0 and 2.1 work just fine with the Apple IIGS except that the program hangs when attempts are made to print through the printer port. Many callers have commented upon this problem and until recently the only way was to use a printer card! That position has now, however, changed.

Don Lancaster, one of the foremost Appewriter experts, has published a patch in the July 1987 edition of Call-A.P.P.L.E magazine. Many readers will no doubt know that that magazine is published by an Apple users group which is a little larger than Apple 2000! The problem occurs because Appewriter attempts to set serial data values in a non-existent 6551 chip!!

The following program, based upon Don Lancaster's article should do the trick for version 2.0.

```
10 HOME
   : PRINT CHR$(4)"BLOAD
   : AWD.SYS,A$2000,TSYS"
   : POKE 19888,96
   : POKE 20327,16
   : POKE 20334,19
20 PRINT CHR$(4)"UNLOCK AWD.SYS"
   : PRINT CHR$(4)"BSAVE
   : AWD.SYS,TSYS,A$2000,L$6020"
   : PRINT CHR$(4)"LOCK AWD.SYS"
30 HOME
   : VTAB 10
   : HTAB 10
   : PRINT "DONE!!"CHR$(7)
```

The patch for version 2.1 is a little different but I have left that out since I believe that it was not published in the UK.

GOLD CHARGES SCHEDULE

The following changes to the Telecom Gold Charges Schedule will be implemented with effect from 1st October 1987.

CONNECT CHARGE

Charges for the connection for any purpose to the Service.

Standard Rate -
6.5p per minute
4p per 512 characters

Cheap Rate -
2p per minute
1p per 512 characters

Note: The character charge is the sum of the number of characters passed to and from the user's terminal and the system. The character count is rounded up to the nearest multiple of 512 characters for each connection.

DATABASE SERVICES

Infocheck
300 pence per minute or part.

SUBSCRIPTION

All accounts will be subject to an additional subscription of £5 per month per mailbox.

In the past five years the service has undergone considerable developments and the facilities available to users are now much more extensive. Telecom Gold have found it necessary to make the above revisions to the charges and will continue to enhance and improve the service.

The NEW charges and the FORCE.

We now have the new charges from BTG and we can tell you the Good News as well as the not so good news in detail.

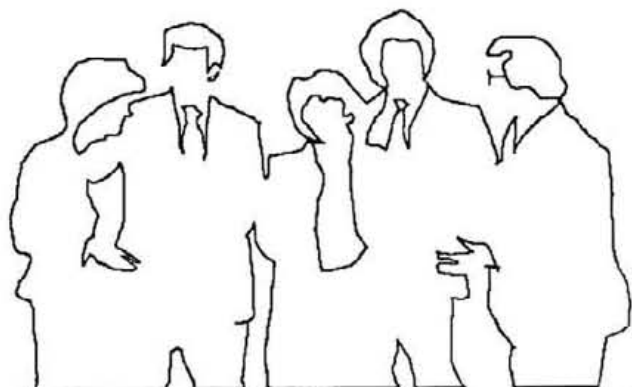
First the Good News .. as you know BTG have decided to surcharge every box by a standing charge once per month. We are pleased to announce that we shall only pass on to you £2 of the new £5 charge. This will be added to your present standing rate of £3 making a standing charge of £5 per month on each box. This charge will take effect from 1st October. We hope we can maintain it at this rate for some time to come, but as we are only just covering the actual system costs, we may have to review this in time.

The charging structure is to be changed. At present you pay a time charge which depends on the time of day you access the Force From 1st October this will change to a split charge, a reduced time charge and a character charge for all data transmitted. BTG will waive the first 512 characters which covers with the logon and headers and notices that they put up themselves!

For those who only send an odd mailbox .. or are slow typists, the new charges may actually mean their monthly bills are less, for the others, there will be an increase depending on the kind of access they use, we can do nothing about those increases.

Full details of ALL the new BT GOLD charges can be found on the FORCE in the FORCE NEWS area.

If you use the FORCE please download the charges so that you are aware and do not get a sudden shock!



Local Group News

APPLE DEDICATED GROUPS STARTING-UP

DONCASTER - SOUTH YORKSHIRE

Colin Withington, a Mac User in the Doncaster Area is interested in helping to start a User Group. Colin can be contacted on (01924 433333) or by post at 33, Salford Crescent, HE6 3AD, South Yorkshire, DN1 1EF.

DORCHESTER

CONTACT Ron Hoare Tel: (01223 452222)
Aeolus, 11 Redbridge Road, Crossways, Dorchester, Dorset.

POOLE MACINTOSH USER GROUP

CONTACT Apple Dealer - Poole, Dorset

SOUTHAMPTON

CONTACT Geoff Parson Tel: (07030 471333) (Work)
(07030 224227) (Home) - 121, Highfield Lane, Highfield, Southampton, SO9 1WL.

ACTIVE APPLE DEDICATED GROUPS

APPLE II PROGRAMMERS CLUB

CONTACT Philip Dixon TEL: (0434 400011)
VENUE None — operates as a postal group via a monthly newsletter.

BENTWATERS APPLE USER GROUP

CONTACT John Thomas Tel: (01224 277244)
VENUE R.A.F. Woodbridge
MEETS 7.00pm first Tuesday of each month

BRISTOL GROUP (B.A.U.D)

CONTACT MIKE FARMER Tel: (0274 661177)
VENUE Decimal Business Machines, Three Queens Lane, Redcliffe
MEETS 7th of each month, or the Friday nearest if the 7th falls on a weekend.

CAMBRIDGE APPLE USERS GROUP

CONTACT Ian Archibald Tel: (0223 311167)
VENUE Varies, Isons Cycle shop, 72, Chesterton Rd., Cambridge,
MEETS Fortnightly

CROYDON APPLE USERS GROUP

CONTACT Graham Attwood Tel: (01 885 2222)
VENUE 515, Limpfield Road, Warlingham, Surrey
MEETS 7.30pm on the third Thursday.

EAST MIDLANDS MAC USER GROUP

CONTACT Nick Helm Tel: (0533 211777)
VENUE Willford Cricket & Rugby Club, Nottingham
MEETS 8.00pm on the first and third Wednesday.

EDINBURGH GROUP

CONTACT Adam Gilinsky Tel: (031 4466333)
VENUE Proteus Micro Systems, 55, Frederick Street, Edinburgh, EH2 1LH
MEETS Monthly, check with Adam.

ESSEX GROUP

CONTACT Pat Bermingham Tel: (0204 233333)
VENUE The Y.M.C.A., Victoria Road, Chelmsford
MEETS Third Friday of every month

GATEWAY COMPUTER CLUB

CONTACT Robert D Hall Tel: (0863 717722)
VENUE Bob Hope Recreation Centre, R.A.F Mildenhall
MEETS Normally meets at weekend, check with Bob before going along.

GLASGOW GROUP

CONTACT Donald Davidson Tel: (044 4551133)
VENUE Proteus Micro Systems, 17, Park Circus Place, Glasgow
MEETS 3-4 times per year, check with Donald

HANTS & BERKS GROUP

CONTACT Mike Hollyfield Tel: (0773 740111)
VENUE Thames Valley Systems, 128 High Street, Maidenhead, Berkshire, SL6 1PT
MEETS 7.00pm on the second Monday.

HERTS & BEDS GROUP

CONTACT Norah Arnold Tel: (0494 477444)
VENUE The Old School, 1, Branch Road, Park Street Village, St Albans, Herts.
MEETS 8.00pm on the first Tuesday.

KENT GROUP

CONTACT Richard Daniels Tel: (01822 414444)
VENUE MICROSPOT, 5-11, London Road, Maidstone.
MEETS 7.30pm on last Monday of each month.

LONDON APPLE II COMPUTER CLUB

CONTACT Chris Williams Tel: (01 49440000)
VENUE Studio 8, Wharfedale Projects, 47, Wharfedale Road, London, N1 9SE
MEETS 6.00pm, first Wednesday of every month.

LONDON MACINTOSH GROUP

CONTACT Maureen de Saxe Tel: (01 42244444)
VENUE Room 683, London University Institute of Education, Bedford Way, London, WC1
MEETS 6.00pm on the second Tuesday.

MACINTOSH USER GROUP (CAMBRIDGE)

CONTACT Patrick Winterson Tel: (0223 311167)
VENUE Formal venue now established.
MEETS Every three months.

MACTAFF - SOUTH WALES MAC GROUP

CONTACT Lorraine Thornback Tel: (01495 444444)
VENUE Apple Centre South Wales, Longcross Court, 47 Newport Road, Cardiff
MEETS 7.00pm on the first Thursday.

MIDAPPLE

CONTACT Tom Wright Tel: (0527 711111)
VENUE I.T.E.C., Tildasley Street, West Bromwich.
MEETS 7.00pm on the second Friday.

SOUTH EAST ESSEX MAC GROUP

CONTACT Mick Foy Tel: (0773 444444)
VENUE D.P.S., Acorn House, Little Oaks, Basildon, Essex.
MEETS First Monday of every month

THE MIDLAND MAC GROUP

CONTACT Ivan Knezovich Tel: (0583 477777)
VENUE Spring Grove House, West Midland Safari Park, Bewdley, Worcestershire.
MEETS 7.00pm on the first Tuesday.

THE NORTH EAST APPLE USER GROUP

CONTACT Philip Dixon Tel: (0434 400011)
VENUE AppleCentre North East, Ponteland Road, Ponteland, Newcastle-upon-Tyne
MEETS First Wednesday of every month

THE NORTH WEST APPLE COMPUTER CLUB

CONTACT Jim Rosco Tel: (0525 331111)
VENUE Horse & Jockey Pub., Winwick Road, Warrington
MEETS First Monday of every month

MULTI-INTEREST GROUPS WITH APPLE USERS AMONG THE MEMBERSHIP

CREWE COMPUTER USERS CLUB

CONTACT Paul Edmonds Tel: (0283 777777)
VENUE Christ Church Hall, Crewe
MEETS Fortnightly, Fridays, 7.30pm to 10.00pm

LEICESTER GROUP

CONTACT Bob Bow Tel: (0533 477722)
VENUE Shakespeare Pub, Braunstone Lane, Leicester
MEETS 7.30pm to 10.0pm on first Wednesday.

THE NORTH WEST APPLE USERS GROUP

CONTACT Max Parrot Tel: (051 222222) (Work)
(051 222222) (Home) - 121, Highfield Lane, Highfield, Southampton, SO9 1WL.
VENUE Staff House (2nd floor), University of Manchester Institute of Science & Technology, P.O Box 88, Sackville Street, Manchester, M60 1QD
MEETS 8.00pm on the last Thursday.

WEST MIDLANDS AMATEUR COMPUTER CLUB

CONTACT John Tracey Tel: (0204 744444)
VENUE Hill Crest School, Simms Lane, Netherton, Near Dudley.
MEETS 7.00pm on the 2nd & 4th Thursday.

APPLE DEDICATED GROUPS IRREGULAR ACTIVITY

FURNESS AREA

CONTACT Alan Curtiss Tel: (01768 444444)
NOTE There has been more activity in this area recently, I have been unable to contact Alan for some time so check with him yourself.

APPLE USERS IN CONTACT NO ORGANIZED GROUP

HARROGATE AREA

CONTACT Peter Sutton Tel: (01937 444444)
A number of keen Apple users in contact with each other.

LIVERPOOL GROUP

CONTACT Irene Flaxman Tel: (0151 422222)
MEETS No regular meetings being held.

GENERAL INTEREST CLUBS NO APPLE MEMBERS

BRIGHTON, HOVE & DISTRICT COMPUTER CLUB

CONTACT - George Seears Tel: (01273 444444)
NOTE There are no Apple members in this club at present but they welcome users of all machines. If you're in that area you can at least enjoy the companionship and help of other micro users.



The Apple Directors Chair – just one of the superb items available in The Apple[™] Collection. Apple are pleased to announce the launch of The Apple Collection, a special range of items designed with the needs of Apple enthusiasts in mind, each one carrying the Apple name as a guarantee of the highest quality.

The Apple Collection is available exclusively through Authorised Apple Dealers, so for full details of the Collection range and how you can order your items, pull up a chair at your nearest Apple dealer now.

Take your Pick from The Apple[™] Collection



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NEWS BYTES

Compiled by Jim Panks

APPLE ANNOUNCE PRODUCTS

Apple Computer Inc announced new software and hardware products for the Macintosh and Apple II range.

HyperCard.

HyperCard is a tool that lets people use information in new and original ways.

A personal toolkit that allows Macintosh users to access, customise and create new information of many types, such as text, graphics, video, music, voice and animation. In addition, it offers an easy-to-use English based scripting language called HyperTalk which enables users to write their own programs if they so wish.

HyperCard lets users work with information the way they think - by association and context as well as hierarchy. Its unique navigational method lets people browse and search quickly through large amounts of information, making it a vital tool with the advent of mass storage optical media technologies.

HyperCard is based on a simple idea - a stack of cards, each containing information. The number of cards, each of which is created with the familiar Macintosh point and click technique, is limited only by the storage capacity of the user's disk. Users can browse, sort, make notes, type or draw on these cards..

One of the most powerful features of HyperCard is the ability to create 'buttons' by pointing and clicking the mouse. Buttons can be activated to link one card to many others, either in the same stack or different ones.

Using HyperTalk, a button can launch an application directly from HyperCard, or perform a wide range of tasks such as driving external devices like optical disks or CD-ROM, sorting a stack or performing a calculation, according to the user's requirements.

HyperCard - the culmination of a three year team effort led by Bill Atkinson, Apple Fellow and developer of QuickDraw and MacPaint - is software which Apple considers to be a fundamental building block of Macintosh technology.

'StackWare' is the category of applications that Apple expects to emerge from HyperCard technology, although unlike other software applications, the quality of the 'StackWare' will depend more on the author's ability to create content than the author's proficiency with computer code.

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

As an example, a television producer with no previous programming experience has created a multi-media electronic atlas, which combines thousands of photos, maps, charts, sounds, and film clips from around the world, allowing users to easily scan and select visual information about life on Earth.

HyperCard's ease-of-use and extreme flexibility will give it a broad range of applications, including business and government, education and training, and personal use.

In a corporation, for example, HyperCard is an ideal front

end to large databases, or as a presentation medium for interactive training courses.

In education, scholars in all disciplines can use HyperCard to develop course materials. StackWare can then be purchased or created for integration into the curriculum, with an unlimited potential to customise information as required.

HyperCard comes on three disks plus a back-up. You will get an online Help facility, a diary, an address file and a 'to do' list. Also provided are numerous examples of card, button and stack ideas.

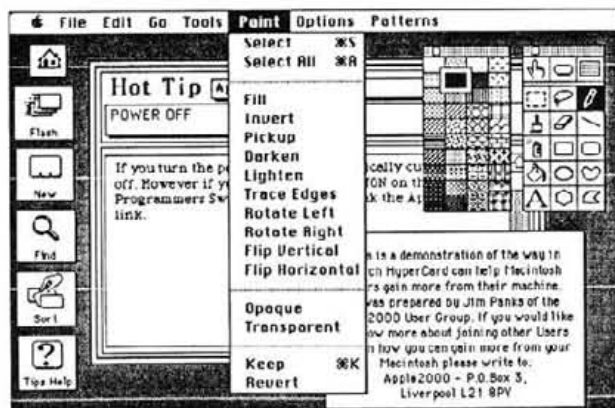
HyperCard runs on Macintosh Plus, SE and II with a minimum two 800k drives although a hard disk is recommended.

HyperCard will be provided with all new Macintoshes after October 87. Other users will be able to purchase it for an undisclosed fee.

(We have been lead to believe that it will be around the £50 mark. See the next magazine).

MultiFinder

MultiFinder is the first generation multi-tasking operating system for the Macintosh family of computers. This powerful enhancement of the Macintosh operating system offers fast switching between applications, allows other tasks to be performed while printing, and provides a platform for the creation of applications that can perform tasks in the background - full multi-tasking.





MultiFinder allows users to view multiple applications concurrently and to move quickly between them. It also allows for rapid cut, copy and paste between these applications, whilst retaining the look and feel of the Macintosh and the same ease of use found in all Macintosh products.

Users can benefit from MultiFinder's multi-tasking capabilities in a number of ways. For example, at the start of the day, they can open all the applications they typically use so that they have instant access to all their key productivity tools. This saves time and enhances system utility.

MultiFinder provides a variety of ways to switch between applications, either by selecting from active applications listed in the 'Apple' menu, by clicking in the desired applications window, or double-clicking its icon on the desktop. A small icon in the upper right corner of the screen indicates the application which is currently

example, with the Mac 286 card from AST, Macintosh II users can run Lotus 1-2-3 under MS-DOS in a Macintosh, window and copy and paste information directly into a Macintosh application with a few clicks of the mouse.

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

MultiFinder is compatible with the Macintosh Plus, SE and Macintosh II, as well as the majority of existing Macintosh applications.

MultiFinder will be available in the U.K. during the Autumn, and is an integral part of the Macintosh System Software Update which will be included in all new Macintosh computers from that time. MultiFinder will also be available to existing users

quality dot-matrix printer with diverse paper handling capabilities for such tasks as processing multiple-part forms, printing labels, addressing envelopes and producing colour-enhanced text and graphics. Its 15-inch carriage can handle full sized spreadsheets and wide forms.

The ImageWriter LQ's 27-pin print head produces letter-quality text and graphics at 216 x 216 dots per inch. It has double the dot density of the ImageWriter II and prints in three modes: draft, near letter-quality and letter-quality.

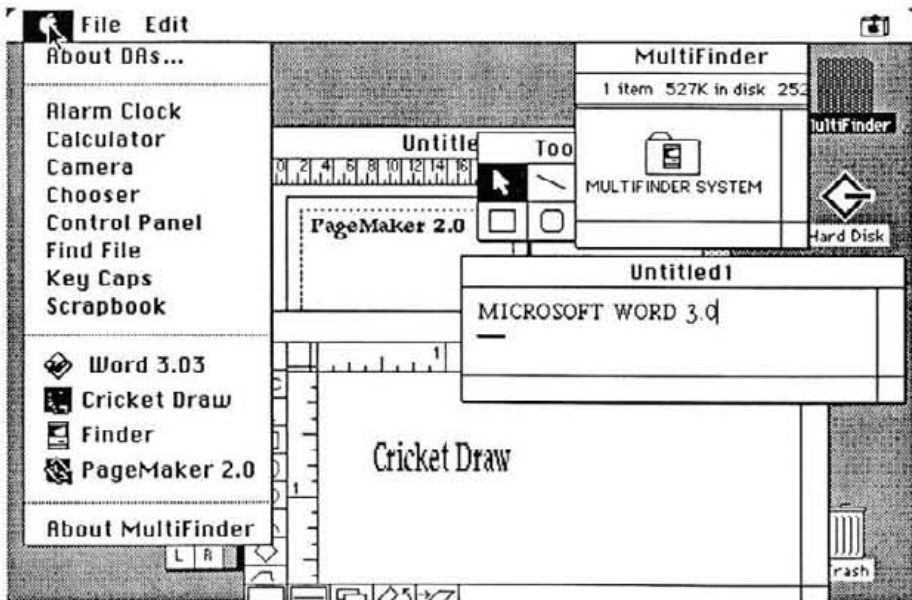
The impact print technology of the ImageWriter LQ accepts multiple-layer forms of up to five pages. Its paper handling capabilities include push tractor and pull tractor mode and bottom feed, which allows pin-feed paper and multiple-part forms to be processed directly beneath the printer, preventing jamming associated with top-through feed.

An AppleTalk option allows the ImageWriter LQ to be a shared printing device on an AppleTalk network. The ImageWriter LQ can also be configured with an optional expandable cut-sheet feeder, enabling unattended sheet feeding while operating on a network. The feeder can have up to three bins, allowing a variety of paper to be used, and it has an optional envelope attachment.

Like the ImageWriter II and LaserWriter, the ImageWriter LQ offers users great flexibility with standard features such as automatic page size reduction, vertical or horizontal orientations and cut-sheet feeder bin selection.

The ImageWriter LQ also offers a selection of Macintosh fonts: Times, Helvetica, Symbol and Courier. Resident, fixed and proportional fonts offer Apple II owners a variety of styles. Colour printing is available from Apple II and Macintosh products using an optional four-colour ribbon.

The ImageWriter LQ will be available in the U.K. from November, and full details of pricing will be announced shortly (*A LITTLE FAIRY SAID IT WILL BE AROUND £1000*). It will replace the ImageWriter 15".



being used.

A maximum of 30 applications can be open simultaneously, limited by the amount of memory available. For optimal use and planning, the Macintosh Finder displays the amount of memory used by each application.

The ability to concurrently view documents from different applications is particularly useful in desktop publishing where items copied from other applications can be edited by simply moving back to the program that created them. For instance, a graphic pasted into MacWrite can be altered quickly by copying it into an open MacDraw window - without quitting the application.

With the appropriate hardware, MultiFinder also makes it possible to concurrently work in and integrate information between different operating systems, such as MS-DOS. For

through Apple dealers. Its price will be announced shortly.

The System Software Update will include the latest version of the Macintosh System, Finder, MultiFinder, Apple File Exchange, and new Macintosh utilities and complete documentation.

ImageWriter LQ

Apple Computer have announced the ImageWriter LQ, a 27 pin, letter-quality, wide-carriage dot-matrix printer offering versatile paper handling to satisfy a broad range of office printing needs.

The ImageWriter LQ, compatible with Macintosh and Apple II computers, responds to a demand from business and education users for a high-

COMMUNICATIONS

Apple Computer has extended the Macintosh computer's communications capabilities with the introduction of three desktop communications products. The Macintosh II EtherTalk Interface Card, AppleShare PC and Apple File Exchange offer integration into other computing environments and allow alternate systems to take advantage of Macin-



tosh capabilities.

EtherTalk Interface Card.

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

The EtherTalk Interface Card gives Macintosh II users access to the 10-megabit-per-second Ethernet network for higher data throughput capabilities in data-intensive applications such as transaction processing, database processing and technical engineering applications. Large workgroups can be accommodated on a single network - up to 254-nodes and 1,000 meters of cabling. An onboard transceiver offers optional use of thin Ethernet coaxial cabling.

This product should be shipping by the end of 1987. Price TBA

AppleShare PC

When used with the AppleTalk PC Card, AppleShare PC software lets IBM PCs or compatibles share or gain information stored in the AppleShare File Server. Information from the Macintosh and the MS-DOS environments can now be transparently shared, allowing users to integrate MS-DOS documents into Macintosh applications, such as desktop publishing, productivity, and business management. Through AppleShare PC, IBM users can transparently use files from the AppleShare File Server as though they were on local disk.

IBM PC users gain access to the AppleShare File Server by using a pop-up menu modeled after a Macintosh desk accessory. The memory-resident pop-up window can be opened by using a 'hot' key from within any application, or it can be executed from the command line in the same manner as other MS-DOS applications. A non-windowing command-line interface is also provided.

AppleShare PC requires an IBM PC or compatible with a minimum of 384 kilobytes of RAM, MS-DOS version 3.1 or greater, an AppleTalk PC Card and an AppleTalk Connector Kit.

This product will be shipping during the autumn. Price TBA

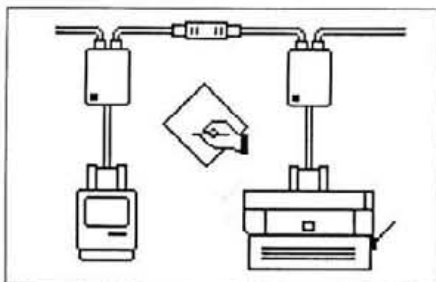
Apple File Exchange.

Apple File Exchange translates files or documents created by an application into the format required by another application and gives Macin-

tosh users the ability to transfer and translate documents created in MS-DOS and Apple II Pro-DOS environments. For example, a document created in DisplayWrite, an MS-DOS application, can be translated into a format that can be used with MacWrite.

Apple File Exchange transfers and translates between Macintosh and MS-DOS environments using the Apple PC 5.25 inch drive or between Macintosh and Apple II Pro-DOS environments using the Macintosh 3.5 inch (800K floppy), offering greater flexibility in data sharing. It can also be used with the data files transferred to the Macintosh via networks such as AppleTalk and AppleShare or other communications links, such as modems.

Apple File Exchange includes three of the most common translators. The text translator translates bidirectionally between plain text formats (ASCII) of MS-DOS, Pro-DOS and Macintosh; binary is primarily used for



transferring documents without modification and allowing them to be imported directly into another application; and DCA-RFT/MacWrite translator translates bidirectionally between IBM Document Content Architecture / Revisable Form Text - commonly used in the MS-DOS environment - and MacWrite.

Apple File Exchange allows translator configurations to be saved for customizing the conversion process for commonly exchanged documents, and it offers batch translation, which automates the translation of large numbers of files or documents from different applications.

Apple File Exchange provides the platform on which third-party developers can build translators. One such translator is MacLink Plus Translators from DataViz Inc., which provides translations from popular MS-DOS word processing, spread sheets, and database programs. The standard architecture provided by Apple File Exchange assures users compatibility with other translators developed for the Macintosh.

Apple File Exchange requires a Macintosh 512k/800, Macintosh Plus, Macintosh SE or Macintosh II. Apple File Exchange, projected for delivery in the autumn, will be included in the system software of all

new Macintosh computers. The installed user base can purchase it as part of a SYSTEM SOFTWARE UPDATE. Price TBA

The Apple Collection.

Following the successful US range of Apple branded products, a selection of items including directors chairs and sweatshirts, mugs, disk holders and Filofaxes are now available in the UK through authorised Apple Dealers.

The Chinese Macintosh.

Apple Computer International has announced the introduction of Zhongwen Talk, an easy-to-use Chinese operating system for the Macintosh family.

Apple now produces Macintosh in 22 localised versions, including all major European languages, Arabic and Japanese. From its inception, the Macintosh was designed with the international markets in mind. Its unique interface and graphics capabilities facilitate the development of software in a variety of languages.

"The Chinese Macintosh reinforces Apple's commitment to make technology accessible to individuals around the world," said Michael Rashkin, general manager of Apple Computer International Ltd in Hong Kong.

"The operating system makes the translation of third-party software fast, effortless and inexpensive and it provides an environment for the development of specific Chinese software products. It is the most sophisticated and flexible Chinese solution on the market today."

Zhongwen Talk allows for input and output in Chinese on any Macintosh personal computer. It offers users the choice of several input methods, including the standard Pin Yin phonetic method as well as stroke ordering and coding systems, which take full advantage of the intuitive Macintosh user interface. Zhongwen Talk also features a built in dictionary of 6,763 Chinese characters and the potential for users to create thousands more. The Zhongwen Talk operating system is available in both simplified (modern) and standard (traditional) character versions.

Gassee on the way UP!

Apple Computer Inc have promoted Jean-Louis Gassee from vice-presi-



dent of product development to senior vice-president of research and development. To coincide with the promotion, the company has made organisational changes to combine its advanced technology and product development groups under Gasse's leadership.

An Optimistic Outlook

Apple chairman and chief executive officer, John Sculley told security analysts that he expects revenues for the company's fourth fiscal quarter, which will end on 25th September 1987, to be in the range of between \$725 million and \$750 million, an increase of over 40 per cent over the same quarter a year ago. Speaking at the company's quarterly review meeting with analysts in Palo Alto, California, Sculley said he expected "good profits" for the fourth quarter. He said his outlook for 1988 was "optimistic".

OTHER NEWS

Database goes USA bound.

Database Software has announced a deal with ShareData, pioneers of budget software in the States, to promote the best of British and European software developments in the USA market.

SMARTPAD from Blyth

Blyth have introduced a new desk accessory for the Mac which stores and retrieves textual data in a note pad form. Each SmartPad page can have up to 32000 characters, and a fast search routine finds all pages containing the words or strings you specify. This makes it ideal as a jotter, diary, database, reference book or whatever you want it to be. It will be on sale at £49.00.

Lode RunnerScreens Disk

MGA Micro Systems of Tenterden now have in stock a Screens Disk for Apple // Lode Runner and Championship Load Runner containing 150 user-created screens to bring new variety to this splendid game. Price is £6.95 inclusive of VAT and pp.

Levco & SuperMac Merge

Levco Inc., a developer of Macintosh enhancement products, has been acquired by Scientific Micro Systems, and will merge its product line with their SuperMac Technology division.

Levco are well known for their memory and upgrade boards for the Mac, and SuperMac manufacture the large screen colour monitor for the Mac II, and the DataFrame hard disk systems.

Computer Images Show

On October 14th the Film Festival will be held at the Wembley Conference Centre to find the best in computer-animated images and effects. Entries from nine countries will compete in a total of eight different categories and will be judged by an international panel.

DeskTop Publishing Show

The Business Design Centre, Islington will stage the DeskTop Publishing Show from 15 to 17th October. All the major forces in DTP will be represented including Apple, IBM, Linotype, McQueens and Heyden & Sons. A full programme of seminars will be run during the period of the show.

OMNIS Express

Blyth have released Omnis Express, a program to make the creation of new Omnis 3 Plus applications much simpler for the user. The program automatically creates file formats, entry layouts and reports, and claims to cut by half the time spent in production, and is a valuable help to the newcomer to Omnis 3 programming. The price is £49.00 to registered Omnis 3 Plus users.

Crossword Puzzles

Solve some of the original crosswords from The New York Times with this program for the Apple // machines. Available from MGA Micro Systems it has a 'special clues' function to help you, and built-in word checker. Price is £19.99 plus VAT.

DTP Yearbook

One of the benefits of going to the

DTP Show is a free copy of the DeskTop Publishing Yearbook containing practical articles, and information on all the latest hardware and software in the DTP market. The book will be available from booksellers at £5.00.

DTE takes off.

DeskTop Engineering Systems, the first third-party company to deal exclusively in Macintosh engineering solutions has been set up by the Stanhope Group. The company has already secured the exclusive rights to a number of DeskTop Engineering products now available. These include, MGM Station CAD, MGM Station CAD/CAM, ArchiCAD, Dimensions, McCAD Schematics, MCAD SMT/PCB Design, Simul and Parameter Manager Plus. For further details contact DeskTop Engineering Systems. Tel (0895) 637037

Ready, Set, Go 4.

Letraset UK have announced they will release Ready Set Go 4 at the DeskTop Publishing Show in October.

It has over eighty new features and these include Hi-Resolution Graphics, bigger pages (up to 99 x 99 inches), and style sheets.

Some of the poor features of RSG 3 have been improved. There are new Tab facilities, facing pages and glossaries. You will be able to view this enhanced software at the DTP Show.

ImageStudio

ImageStudio is designated as an Image Processing System which goes far beyond the normal 'paint' type programs in manipulating images produced by scanners.

ImageStudio gives the user camera-ready art work from scanned images and will be launched at the DTP Show in October.



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Jazz-Lotus	£316.25	Multi-plan V 1.7	£104.50	CP/M IIc Cirtech	£132.00
Just Text	£224.25	Multi-Scribe GS	£108.90	CP/M Program Pack Cirtech	£97.90
Lightspeed C	£165.50	Multi-Scribe 2.0	£75.90	CP/M Plus Wordstar/IIc Cirtech	£308.00
Lightspeed Pascal	£121.00	Paintworks Plus GS	£38.25	Grappler IIc - Orange Micro	£119.90
Mac 3-D Ver 2	£217.55	Print Shop	£43.99	Microstar 10MB b/u - AST	£1,650.00
MacPalette	£53.90	Shanghai	£27.49	Plusram 256K RAM Cirtech	£94.30
Paintworks	£38.45	Skyfox	£19.75	Plusram Extra 1MB RAM Cirtech	£188.60
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Sargon 3	£44.00	U.S.A.A.F.	£32.99	Nightingale Modem V21/23	£96.53
Silicon Press	£82.45	Vicom-Comms Software	£86.25	Linnnet Modem Auto D/A V21/23	£136.00
Super Paint	£87.02	VIP Professional c/e	£218.90	Pace Series 4 M.2123S/V21/23	£261.33
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Thunderscan Digitizer	£273.90	Visualiser c/e	£86.90	Pace 4 M.2400S V21/3/2/2Bis	£514.18
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Document

The best way to spell

The best way to spell

Checker

Nigel Bradley tears up his dictionary and goes electronic with the latest Spell Checker from Pinpoint.

DOCUMENT CHECKER complements PINPOINT Desktop Accessories (reviewed in this issue). It is a stand alone program as opposed to being an accessory accessed via the PINPOINT menu.

The package includes a small but comprehensive manual and a double sided disk. One side holds the main program whilst the other side holds the dictionaries. The dictionaries are the same ones as used by the PINPOINT SPELLING CHECKER reviewed in the August 87 edition of Apple 2000 magazine..

The DOCUMENT CHECKER can carry out individual or batch checks on AppleWorks word processing files, AppleWriter text files or ASCII text files of any size.

After booting the disk a main menu appears from which four options are available.

- View/check documents
- Other activities
- Set configuration defaults
- Quit

Use the up/down arrow keys or press the initial letter of an option to select that option.

CONFIGURATION DEFAULTS

This allows the user to set the default directory of the dictionaries by either slot and drive number or by ProDOS pathname.

You can also set the following parameters:

- The name of the auxiliary dictionary.
- The marking character (see later)
- The omit line character (see later)
- Duplicate word checking on or off
- Interactive document checking on or off

OTHER ACTIVITIES

This allows the user to set the default directory of the documents.

- List files in current directory
- List all volumes on line
- Delete files from the disk

VIEW/CHECK DOCUMENTS

This is where the real work is done. Another menu allows selection of Checking a document, Viewing a document or Examining the word cache contents.

Selection of Check a document provides a catalog of the disk containing the documents. Assuming that Interactive checking is ON then a display will show: Document check in progress (interactive mode), the number of files to check and the amount of the file to check in percentage.

As the document checker finds incorrect words the user has the options of adding the word to the auxiliary dictionary, ignoring the word, editing the word or accepting a word that has been suggested. Apart from the obvious words it will suggest words with the first two characters reversed or words that it suspects should be split. e.g if it finds a word like 'pathname' it will put a space between 'path' and 'name' and suggest this spelling.

If 'Duplicate word check' is ON then DOCUMENT CHECKER will also show duplicate words as suspected errors, i.e. Apple 2000 *is is* the best ever Apple mag. (*I can't remember how many times I've done this*).

When the document has been checked, a summary for the document appears. This summary shows the following: How many lines checked, how many words checked, how many suspect words found, how many correct words found, how many words learned, how many words ignored, how many corrections made and finally how many words in the vocabulary.

At this time the opportunity to save any corrections is given: should the user choose SAVE then the corrected document is saved to the disk with the same name as the original unchecked document and the original unchecked document will have a '.B' appended to it. At this time a warning is given that the document may need reformatting. (see later)

Assuming that interactive checking is OFF then the DOCUMENT CHECKER will check the document as above but will not stop on any errors encountered. At the end of the

document check, a file called DOCUMENT.LOG is saved to the disk. This file is an ASCII text file and contains a list of words that DOCUMENT CHECKER suspects are errors. This file can be viewed from the View a document option on the menu or can be converted to an AppleWorks word processor file and the errors can then be manually corrected. If this file contains no valid errors then of course no further action is necessary. If it contains valid errors then check the document again with interactive checking switched ON.

This non interactive checking is a useful feature when batch checking files (batch checking of up to 20 files is possible). You can even go and have a quick pint and check the DOCUMENT.LOG file when you come back! Each file checked will produce a new heading surrounded by '****' in the DOCUMENT.LOG file so it is easy to see which errors belong to which document.

REFORMATTING.

The reformatting of a document is due to the fact that DOCUMENT CHECKER adds a 'marking' character into the checked file at the place where the correction was made. It is very easy to reformat the document, go back to AppleWorks and replace the 'marking' character with 'nothing'.

The standard 'marking' character is '~' TILDE (*the funny squiggly line to the left of the 'RETURN' key*). The only other character which has a special meaning to DOCUMENT CHECKER is the full stop. This is termed the 'omit line' character. When a full stop is placed at the beginning of a line of text this forces DOCUMENT CHECKER to ignore this line. Quite handy when using AppleWriter printer commands or when a line of text contains initials or hexadecimal numbers which will be flagged as errors when in fact they are correct.

SPEED.

DOCUMENT CHECKER will check at a rate of 20 words per second (*that's slow I hear you gasp*). But this rate it is claimed will be uprated to 150 words per second (PHEW!!!!) due to the word cache.

Whilst checking a document, the word cache (*empty at the start*) is filling up with all the words in the document and therefore DOCUMENT CHECKER "remembers" every word in the document. This increases the speed of checking files because DOCUMENT CHECKER looks at the word cache before looking at the dictionaries to check words.

Each document checked during a session will keep adding words to the cache and therefore the more documents checked the larger the cache and the faster the checking.

CONCLUSIONS

This is a very handy program indeed for anyone who writes lots of letters or management reports etc. (*You don't want the boss to find out that you can't spell*).

The main problem with this package is the Main dictionary file. It is the same one that is used with the PINPOINT SPELLING CHECKER and is full of American spellings which causes valid English spellings to be flagged as errors and therefore slows down the document checking until all English spellings are learned and added to the Auxiliary dictionary. *PINPOINT please note:— It is about time that an English dictionary be made available or at least the facility to modify the existing Main dictionary.*

To get full benefit from this program I would suggest that a RAM drive is needed and that the program should be called up from the PINPOINT RUNRUN Desktop Manager (*see Pinpoint Toolkit review*) to facilitate fast switching from AppleWorks to DOCUMENT CHECKER then back to AppleWorks for printing the corrected document.

All in all another very good PINPOINT product.

SUMMARY

The summary produced by DOCUMENT CHECKER for this review was as follows:

- 157 lines checked.
- 1160 words checked.
- 5 suspect words found.
- 1152 words correct.
- 0 words learned.
- 6 words ignored.
- 2 words corrected.
- 365 words in vocabulary.

The check time was 1 minute and 8 seconds. The words ignored were**uprated**, **squiggly**, **reformat**, **mag**, **phew**, and **reformatting**. The words corrected were**beginning** (I missed an 'n') and **don't** (I forgot the apostrophe)

A second check was made after the word cache had collected the words from this document and the check time was 24 seconds. (that's fast) According to AppleWorks this document is 9k in size. Obviously this summary was not included in the check.

SYSTEM REQUIREMENTS

You will require one of the following machines to run this program and as indicated above it is desirable to have extra RAM fitted.

- APPLE //e Enhanced.
- APPLE //c.
- APPLE IIGS.

Ed's Note: The 'summary' details are for normal Apple II output.

GS TIPS

by Graham Attwood

WHERE'S THAT DRIVE GONE?

Normally the 3.5" drives (daisy chained to the drive port) are to be found as Slot 5 Drive 1 and Slot 5 Drive 2. However, when you set up a /RAM drive from the Control Panel this puts itself in the Slot 5 Drive 2 position and becomes /RAM5. Your second 3.5" drive which is often used as a data disk is now to be found in Slot 2 Drive 1, which may not be where your software expects it find it. Pascal for instance will not see Slot 2 as a disk drive. The moral is to set the RAM disk to zero if it is not needed for an application, or to refer to a volume by pathname rather than by its apparent physical slot location.

WATCH OUT

Keep your eyes open for some new software for the GS to be available following release at AppleFest in San Francisco during September. Highly recommended is Mean 18, which is a golf game like MacGolf but in colour and with sound - very demanding but great fun. Also expected soon are Silent Service and Gunship for the games enthusiast. There are even rumours that the GS Finder will be around soon - don't hold your breath, it may just be a rumour!

APPLE II/PC

Applied Engineering are launching their PC Transporter card (after all the 'Little Blue' rumours it is actually

happening), which puts a 7.2MHz MSDOS processor into the Apple // machine. The card includes both 3.5" and 5.25" drive controllers, 640K RAM and CGA hardware, with a socket for a maths coprocessor. Now you can run IBM software on the Apple, and with the right drives move data from one format to the other. The price in the States will be around \$500, which I guess will be £550 by the time it gets here.

UPGRADES FOR THE GS

Owners of earlier IIGS machines should by now have been advised by Apple of two free upgrades available from any Apple dealer. The ROM upgrade corrects some minor bugs and gives some extra features for future software releases. A new Video Graphic Controller chip (VGC) has been needed to cure display problems in text and double hi-res modes. That pink fringing effect on Mousedesk and other programs should be gone forever.

If you have not been notified of the upgrade and have not had a recent motherboard swop contact your Apple dealer quoting your machine serial number. He will tell you if the upgrade is required.

KEY COMBINATIONS

From the frequent discussions I have with new owners of GS machines, I find there is a lot of confusion over the accessing of the control panels and other functions from the keyboard. Here are some of the common ones -

Control Panel
O-Apple + Ctrl + press Esc
Change slots, display, clock, /RAM etc.

Master Control Panel
Master Control Option + Ctrl + hold down and release Reset.
Reset system to default settings.

Self Test
Option + O-Apple + Ctrl + hold/release Reset.
Tests machine routine, RAM and screens.

Cold Boot
O-Apple + Ctrl + hold down and release Reset
Restart and reboot.

Warm Boot
Ctrl + hold down and release Reset
Halt program and usually quits to Basic.

info

Product: Document Checker
Publisher: Pinpoint
Available from:
Bidmuthin Technologies.
P O Box 264
Harrow
Middx HA3 9AY

Price: £ 69:00

Value: ★★★★★
Performance: ★★★★★
Documentation: ★★★★★

MultiScribe GS

Graham Attwood asks — 'is this MacWrite for the Apple IIGS?'

When the Macintosh first came out, one of the few programs that were provided with it was a word-processing package called MacWrite. It did not claim to do anything spectacular in terms of wordprocessing, but it made the most of all the advantages of the Mac environment - true WYSIWYG on screen, mouse control, icons and pull down menus. The fact that it was easy to learn and to use, has kept it as one of the Mac programs still in regular use, and often reverted to when one of the latest fancy packages seems too complex for simple text preparation or letter writing.

With the advent of the new GS machine with its Mac-like screen handling and mouse operation, there was obviously an opening for a MacWrite type of wordprocessor to do a similar job for the GS.

MultiScribe

Styleware having successfully promoted their MultiScribe program for the Apple // took up the challenge of designing a similar product for the GS. Their Apple // version was probably the first wordprocessor on the // machines to give a true WYSIWYG display on the screen, and with its wide range of fonts and mouse control, it left behind the Apple Writer and AppleWorks types of programs with their embedded text formatting commands and awkward keyboard editing.

Dave Ward reviewed the //e version of MultiScribe in the June edition, so here I will try to outline the similarities and differences of the GS version.

Screen layout

The screen is arranged like the Mac with a menu bar along the top, a scroll bar on the right, and the document taking the rest of the space. You can resize the document area by clicking on the bottom righthand corner and dragging the document to a new size. This only becomes necessary when you want more than one document in view on the desktop to take information from one and copy it into another.

Editing

Almost all text manipulations are

done with the mouse, for example, by positioning the input cursor and clicking the button you can start text entry from that point. You make changes to existing text by selecting the relevant letter/word/paragraph by dragging the cursor (with mouse button down) across the parts to be changed, and once selected, alterations can be made to the font type, size, colour or style. Selected text can be cut, copied and pasted to and from the clipboard.

The find/replace option allows you to make changes selectively or throughout the whole document, and can be set to take account of upper/lower case letters.

Formatting

The format of the text is controlled by the settings on a Ruler and affects tabs, indents for paragraphs, justification and line spacing. A ruler changes the settings for all text up to the next ruler. If part way through a document a new ruler is inserted then later you want to revert to the earlier settings, the simplest way is to Copy the original ruler and paste it into the new position which saves having to recreate all the tab settings again.

Working with a document which has several rulers tends to restrict the amount of text space on the screen because each ruler is quite large. A menu option lets you display all rulers or hide them all from view; unfortunately you cannot have some on and some off.

Fonts-types-sizes

The **Font** menu lists 10 different fonts, and the **Size** menu shows sizes from 8 to 24 points, but the actual number of useable font/size combinations is limited to 24 because only certain sizes are available in each font.

For some strange reason, when a passage of text is selected and the size menu opened, all of the point sizes appear to be available i.e. show in black whereas non-existent sizes should be dimmed. Also the current font should be 'ticked' in the font menu but it is left blank. This makes it difficult to find out what the current settings are and whether the changes

you are making are having an effect. Once the text is deselected both these menus work fine. I must admit that this fault is mentioned by Styleware in the fly-sheet they included in the manual, but they do not say why it is so - apparently all will be OK on the new version when that comes out.

There is no font editor as there is on the Apple // version, which is a great pity. No doubt someone will come up with a font building utility for the GS, and I believe there will be ways to convert fonts from other applications and put them on the GS, but that is in the future.

Style - Colour

Text can be shown in colour on the screen, and printed in colour on an ImageWriter II. Your choice is limited to a menu of 8 colours; even so, some of these do not show up very easily on the white background, so it is best to stick to the darker colours.

There are three style enhancements to the standard fonts that can be used to make the text more prominent - **Bold**, *Italics*, and Underline. Two other styles - Shadow and Outline - which featured on MacWrite and MultiScribe // are missing, which again is disappointing and suggests they have had problems with the fonts for the GS.

Multiple Windows

You can have up to 12 documents open at one time but they normally lay one on top of another so that those other than the current one are hidden from sight. Fortunately there is a command available under the Options menu to 'stack' the windows to reveal those underneath. Any selected document automatically comes to the top of the stack.

Saving - Loading

You save a document to disk in either of two types of file - formatted and plain ASCII. You would normally save as a MultiScribe file since you would want to retain the formatted setting and font selections. The alternative save as ASCII text produces a file which can be read by other GS programs e.g. AppleWorks, or can be sent by electronic mail via a communications program.

Printing

Of course the most important aspect of any wordprocessor is how it presents the output on paper; after all, the quality of the printed result is usually one of the main objectives of using a computer for the job.

MultiScribe GS has two potential output devices, the Imagewriter and the Laserwriter. Output is automatically directed to the built-in serial port, and there is no option to address a slot resident card or non-Apple printers.

The Imagewriter II print quality is

good for a dot matrix printer, and quite acceptable for normal correspondence, but if a better standard is required, for instance if the document is to be subsequently printed for publication, then the extra quality of 300 dpi on the Laserwriter is what is needed.

Unfortunately, the Laserwriter drivers were not activated on the version being distributed at the time of writing this review, so the performance in this area could not be judged, but there is no reason to think that it would be other than indistinguishable from that of MacWrite.

Clock

A clock desk accessory is included on the program disk and can be called up by clicking on the apple symbol on the menu bar. The time and date are picked up from the GS on-board clock and being interrupt driven are continuously updated unless another activity, e.g. the mouse, is using the interrupt.

The only problem with the clock is that it behaves as if it were a window and gets covered up as soon as another text window is selected - the current window is always brought to the front of the desktop stack. If you want it visible you have to resize the current document leaving a space for the clock; it would have been nicer if you could pop it out of the way on the unused end of the menu bar.

Version 2.0

Since the distributed version is admitted by StyleWare to be less than perfect, they offer a free upgrade to version 2.0 which will have, the proper printer drivers, a few bugs eliminated, and I hope a better method of launching the program. The drivers are rumoured to be near to release so it should not be too long before the new version is around; in the meantime, if you have an Image-writer then the program is quite useable.

Conclusion

Some of the 'Undocumented Features' (a polite way of saying 'bugs') I have come across are, firstly, when two lines of text were of different sizes, the 'leading' (the space between them) should be determined by the first line. I found the reverse to be true, giving a wider than expected gap between lines. Another problem concerned reading in ASCII text files created on another program (AppleWorks). I was amazed to see that all capital I's were missing - nothing else, just the I's.

MultiScribe GS looks very Mac-like in use, and has most of the features of MacWrite. The new version 2.0 should put right the deficiencies in the current release, and since this will be free there is no reason to defer buying the program which in other respects works well.

Tips & Techniques

A selection of tips to help the Apple II User.

Apple IIe Technical Manual

If you are trying to move an area of memory between the primary 64k and the 64k on the memory card you should be aware that the location stated by the manual is wrong. The manual states that AUXMOVE starts at location C311, but the location is actually C312.

Thanks to Bob Platt of WAP.

Checking the BASIC language version

If you are working in machine code and you need to check from within the program to see which version of BASIC is in motherboard ROM, simply add the following code to your program:

```
STA  $C080 ; to access the motherboard
LDA  $E000
```

Integer BASIC is in ROM if the accumulator equals \$20, Applesoft is in ROM if the accumulator equals \$40.

```
.....
.....
.....
```

Self test on the Apple IIGS

Control-Option-Open Apple-N
Try the above key combination when you have the 'rolling apple' on the screen (*Check Startup Device!*)

Spreadsheet tip

To calculate the number of weekdays between two dates, you will probably want to set aside a couple of cells in your spreadsheet. It is calculated as follows:

```
Weeks = INT((date2 - date1)/7)
DoW1 = MAX(MOD(date1 - 1,7),2)
DoW2 = MIN(MOD(date2 - 3,7),4)+2
DoWDiff = IF(DoW1 < DoW2, DoW2 - DoW1, 5 - (DoW1 - DoW2))
WeekDays = 5 * Weeks + DoWDiff
```

A couple of comments are in order. Weeks is simply the number of full weeks between the two dates. There will be 5 weekdays in each of these weeks.

The Day of Week numbers are calculated on the scale

```
0 = Saturday
1 = Sunday
2 = Monday
...
6 = Friday
```

so the calculation for DoW1 pushes the day up to Monday if it falls on a weekend. Likewise the DoW2 pushes it down to a Friday for weekend days. At this point you have two days of the week between Monday and Friday. If they are in the same week (DoW1 < DoW2) you compute the difference. If they are in adjacent weeks, you compute the complement of the difference. These formulae need to be modified slightly if you want the calculation to include the final day (the version above excludes it).

Members Tips Wanted

We welcome members tips - send details in so that other can benefit. Best Tip received by October 31st wins a £10 voucher for Shop2000 items.

info

Product : Multiscribe GS
 Publisher : StyleWare Inc
 Available from :
 MGA MicroSystems
 Bidmuthin Technologies
 Apple Dealers
 Price : £ 89.99

Value : ★★★★★
 Performance : ★★★
 Documentation : ★★★★★

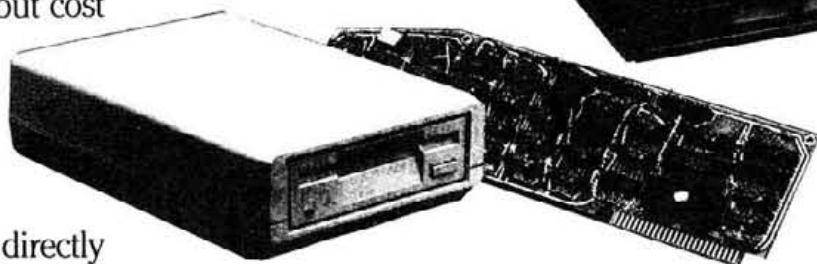
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By Tom Wright

Our August issue listed twenty eight groups/clubs, this issue lists thirty one. Two of the latest additions are in process of forming and the third one has apparently been established for some time. O.K. greed (in my case) knows no bounds, lets find or start some more!

New Groups

The club which is already in existence is based on the Apple dealer in Poole (Dorset), at time of writing I have not been able to obtain an accurate address or contact for this group but we shall have them available by the next issue. The Poole group is apparently a Macintosh one which may be a sign of it being dealer originated. I should be able to call in and find out during September, meanwhile don't delay folks, I've visited the Poole dealer before and they were a friendly bunch.

Dorset Apple users who don't want Macintosh oriented groups need not despair however, Ron Hoare is an Apple IIc user in Dorchester who wants to start a user group in that area. There must be more Apple users in that area, some years ago I used to spend time in an Apple dealers premises in Weymouth during my holidays. Alas that dealer was not to be found during recent years but they sold some machines while they were there and they can't all have vanished. Apple users of Dorset unite, you have nothing to lose but your isolation, and a lot to gain by exchange of information as well as good companionship. Don't forget that we don't transport people these days, even if they are Apple users from Tolpuddle! Ron Hoare will be pleased to discuss Apple matters with anyone who cares to telephone or write to

him. Count two for Dorset.

Southampton is another area where I had not previously been able to find anyone running a group. Geoff Parsons is interested in starting a Macintosh group in the Southampton area and already has two other contacts. Geoff is a consultant Psychologist and is therefore well qualified to keep an eye on any of the more extreme Apple related oddities that may manifest themselves. Geoff already has premises available for meetings so everybody who contacts him can look forward to a fairly easy start to the group. Geoff also has some experience of clubs from when he was in New Zealand which will be a great help. I suggest that users of Apples other than Macintosh derivatives contact Geoff as he sound keen enough to encourage **ALL** Apple users.

All Change !

For the next issue I hope to rearrange the group list of contacts to reflect the difference between Apple anything groups, Mac groups, Apple II groups and multiple interest groups. As well as list even more orchards for all Apple2000 friends convenience.

My notes about newsletters in the last issue prompted some enquiries which have led to my provision of the following brief notes. User group members generally comprise a very mixed range of interests.

Hobbyists are often the largest proportion of a group but "business" users appear to be increasing in proportion. Apart from the hobbyist/business user interest ranges there are other significant differences which have to be catered for in a successful group. Long established

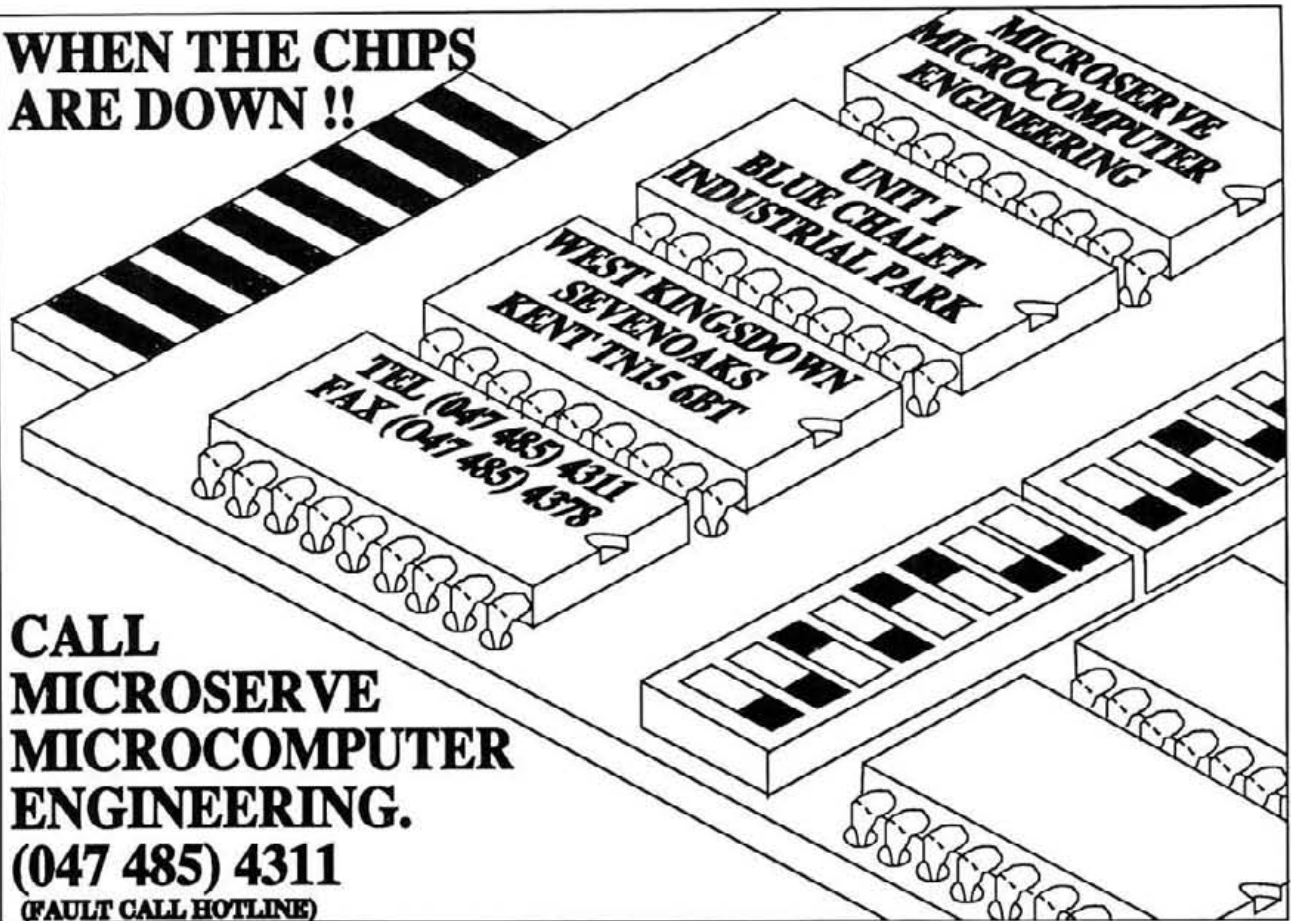
groups sometimes forget that some of their members have only just started out with their Apples, their requirements are those "basic things" that we all take for granted after the first few months (eg what is/are D.O.S and ProDOS? What is hex? Why is there more than one programming language? etc. etc). Some people have no interest at all in programming, they simply want to learn about commercial application packages. Many users have no interest in games and are unlikely to return to a group where games are the main activity. A small number of users are very interested in music via computers, a larger number are interested in graphics, and a very small minority are interested in so called Communications. The number of group members who are genuinely very advanced in terms of machine language programming etc. appears to be fairly small. When planning your group's timetable don't fall into the trap of pleasing a small number of people most of the time. Of course there is always the problem of finding out what the **members want** from the group, but thats a story in itself and there is no easy answer to that problem.

I seem to have been almost totally occupied with work of one kind or another during the last few months and as a result have not been able to contact many groups, hopefully I can remedy this state of affairs soon.

Enjoy your groups and don't forget that they represent the cheapest form of user training and help that you are likely to find anywhere.

Let Tom know of your local group activities, if you want to start a new local group Tom can help you - give him a ring or drop him a line.
Telephone 01527 710113

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FORTRAN

In the second part of this series we look at the oldest and most long-lived of languages.

The name FORTRAN derives from the phrase 'formula translation'. FORTRAN was developed in 1955 by IBM as a means of allowing mathematicians to formulate problems without resorting to assembly code. As the name suggests it translates these specially-coded formulae into the required machine code.

Although originally a mathematical language, FORTRAN is the first mainstream general purpose language to be implemented on a computer. Its main applications, though, still lie in the mathematical field. Most large mathematical software is written in FORTRAN along with much numerical modelling systems and virtually all large graphics packages.

The more unkind amongst us maintain that FORTRAN allows mathematicians to screw up the computer in a way previously possible only with the most devious of assembly code. I think that this is rather unfair. FORTRAN, like some of the other 'more mature' languages, has been under some quite considerable criticism recently. Possibly this is because it is no longer the newest, most 'gee-whizz', language with the most bells and whistles. I am sure, though, that after some of these wonder-languages have been forgotten, FORTRAN will still be with us - not least because it has such a huge user-base. The cost of throwing out all the millions of FORTRAN applications would be astronomical.

In its history FORTRAN has undergone four major revisions. The original FORTRAN was standardised into FORTRAN-II and then FORTRAN-IV in the 1960s (I don't know what happened to FORTRAN-III). In 1966 FORTRAN-66 was defined. This is based upon FORTRAN-IV but included character handling. Until recently FORTRAN-66 was the most common version. In 1977 the International Standards Organisation issued the latest standard for FORTRAN: FORTRAN-77 which introduced a standard method of file handling and other advances. There is talk of the newest version of FORTRAN: FORTRAN-8X but it looks as if it will not appear before the turn of the decade.

Originally FORTRAN was entered via punched cards. This is still evident in its source code format shown in table 1. Column six is used to

indicate a continuation line should a program statement be too long for one line. This is done by inserting a non-space or non-zero character in this position on the continuation line or lines. A comment is indicated by an alphabetic character, usually C, in column one.

columns:	1-5	6	7-72	73+
use:	labels	line continuation	program statements	comments

Table 1

A FORTRAN program is split into segments. Each segment contains a subprogram which can either be a subroutine or a function. The variables in each subprogram are local to that subprogram: there are no such things as true global variables. There are two ways which data can be exchanged between subprograms: parameters and 'common blocks' - more about these later.

Segmentation is a very useful feature because various segments can be in separate source files. FORTRAN allows them to be compiled separately and linked together at a later time. It allows for libraries of FORTRAN subroutines to be easily built up. This is the first example of a 'modular pro-

```
PROGRAM FRED
INTEGER VAL
C Num is a real array dimensioned from 1 to 9 and NUM2 is
C a two dimensional array dimensioned from 1, -4 to 10, 5
REAL NUM (9), NUM2 (10, -4: 5)
C LOG is a logical array dimensioned from -4 to 7
LOGICAL LOG (-4: 7)
```

gramming environment' although it is rather crude when compared to some of the more modern languages.

FORTRAN has seven basic types of variables: *integer*, *real*, *double precision real*, *logical*, *character*, *complex* and *double precision complex*. Logical variables have two possible values: *.TRUE.* and *.FALSE.*

Complex variables are two real variables which represent a complex number, the first value is the real part and the second is the imaginary part such that the complex number is equivalent to $A + \text{square root of } -1 B$. "What is a complex number?" I hear you ask. Well, for the answer I suggest that you ask a mathematician be-

cause I don't know either.

Double precision variables are twice as long as their normal forms thus increasing their resolution. FORTRAN is very flexible in defining the lengths of variables: the programmer is free to define the actual lengths of variables in byte-sized increments thus:

CHARACTER*80	CHAR80
INTEGER*2	INTEGER2BYTE
LOGICAL*1	LOGICAL1BYTE
REAL*8	REAL8BYTE

FORTRAN can have arrays of any of the above types.

Because there are so many types, special declarative statements, like those above, must be included in the code to tell the compiler what variables are of what type. This is called EXPLICIT TYPING. FORTRAN also has a form of IMPLICIT TYPING. Unless otherwise stated FORTRAN will assume that all new variables begin-

ning with I to N are integer and all other variables are real. Implicit typing can be spread to other variable types as well. This has one major draw-back: unless implicit typing has been disabled, any new variable will automatically be created and typed depending upon the first letter of its name. Many a bug has been caused by a careless programmer mistyping a variable's name. Unfortunately many FORTRAN compilers have not the facility for disabling implicit typing.

FORTRAN has six basic types of statement:

1. The declarative statement such as:

These statements do not produce any code: they give the compiler extra information.

2. The assignment statement:

```
I = 2
C SIN and COS are functions
S = SIN (X) * COS (Y)
```

3. The GOTO statement. This is the simplest method of jumping to another part of the program although the destination statement must be in the same program segment. The destination statement is marked with a LABEL. This is a decimal number

from 1 to 99999 placed in columns 1-5:

```
GOTO 99
.....
99  D = 1.2
```

4. The CALL statement. This calls a subroutine with an optional parameter list:

```
CALL SUBROUTINE (X, Y, Z)
```

FORTRAN always attempts to return any new values set to parameters inside the subroutine. So if the above subroutine set the third parameter to 0, then Z would also be set to zero. Obviously this can not happen if a constant were specified such as:

```
CALL SUBROUTINE (X, Y, 4)
```

Most FORTRAN compilers (but, unfortunately not all) are smart enough to cope with this by ignoring the assignment.

5. The IF statement. This has three main forms:

The oldest form is now seldom used: it is the ARITHMETIC IF- the given NUMERIC expression is evaluated and if it be negative then the first label is jumped to, if it be zero the second label is jumped to and if it be positive then the third label is jumped to:

```
C  Evaluate the absolute value of a variable
C  (note the use of the dummy C statement CONTINUE)

      IF (I) 10, 20, 20
10    I = -I
20    CONTINUE
```

The LOGICAL IF is far more common: specified using special format state-

```
C  Test for I being > 3 and < 5 and then set I to -9 if so
C  IF (I .GT. 3 .AND. I .LT. 5) I = -9
```

The BLOCK IF is the newest form (introduced in FORTRAN-77) and allows several statements to be executed in one group. It also allows the optional use of ELSE IF and and ELSE:

```
C  Test the value of I and if it be 1 then call R1, if I be
C  2 then call R2 otherwise call RREST

      IF (I .EQ. 1) THEN
        PRINT *, 'I equals 1'
        CALL R1
      ELSE IF (I .EQ. 2) THEN
        PRINT *, 'I equals 2'
        CALL R2
      ELSE
        PRINT *, 'I is neither 1 nor 2'
        CALL RREST
      END IF
```

5. The DO statement. This is the main method of controlled looping (short of using GOTO):

```
C  Calculate the sum of the five elements of an array
      SUM = 0
      DO 10 I = 1, 5
        SUM = SUM + ARRAY (I)
10    CONTINUE
```

Some compilers use a modified, non-standard, version of the DO statement which does not require that the last statement of the loop be marked with a label:

```
SUM = 0
DO I = 1, 5
  SUM = SUM + ARRAY (I)
END DO
```

The DO WHILE statement, a non-standard feature often supported by compilers, allows statements to be executed while a condition remains true:

```
C  Process data until an end of file condition

      ENDOFFILE = .FALSE.
      DO WHILE (.NOT. ENDOFFILE)
        CALL PROCESS (ENDOFFILE)
      END DO
```

FORTRAN also has many input and output statements. For a language so old it is surprising to note that its input and output features are still regarded as being very comprehensive. Most have been in the language in a standard form since the days of FORTRAN-IV.

FORTRAN generally uses record-based I/O (that is whole groups of data are read/written at once as opposed to single characters). The precise format of the data can be

guage in supporting device independence: exactly the same I/O functions and formats can be applied to virtually all I/O devices (within reason though: you can not read from a card punch or write to a keyboard no matter how hard you try).

FORTRAN provides two very powerful data handling features. One is the common block. This defines a group of common data which can be accessed by more than one subroutine. A program can have many common blocks. The useful feature here is that whole packages can maintain their global variables in common blocks

which the application programmer never has to know about. They live in their own common blocks and, providing that the programmer does not redefine a common block by mistake, are quite safe and independent from anything done in the application program.

The other feature is that variables can be overlaid via the EQUIVALENCE statement. Originally this was used to save storage space but it is useful since it allows often quite complicated data handling. One use is to access the elements of an array explicitly as opposed to the usual method of supplying the array name and subscript. This is done by overlaying a series of single variables over the array allowing FORTRAN to simulate some of the more fancy features of later languages such as Pascal's records. Variables can also be preset with an initial value via the DATA statement.

All in all FORTRAN is a well supported, and comparatively uniform language. It is THE language for mathematical work: it has amassed a host of standard external functions and routines to provide various mathematical functions and, because it is relatively simple, compilers are fairly quick and produce quite efficient machine code. Its inbuilt support of library routines makes the task of producing packages very easy: you just write your procedures and then compile them all. All the application programmer has to do is to compile his/her program and then link the produced object code with the package's object files.

On the minus side, FORTRAN is very loose: it allows the sloppy programmer to get away with murder (although in my experience, if the programmer is determined enough, even the most structured language can be coaxed to produce absolutely appalling code). FORTRAN, though, often seems to go out of its way to cause trouble. For instance it does not check that parameter lists are equivalent. Obviously if the subprogram is external (i.e. already compiled and

program is executing- a sort of low-level I/O minilanguage!

FORTRAN is unusual for an old lan-

waiting to be linked into the program later) then the parameter list can not be compared. That is no excuse not to check the parameter lists of those routines actually defined in the program.

Another fault is that it will happily define new variables for you when really you have mistyped a variable's name in a statement. Its loose typing of variables and implicit typing causes much trouble. For instance examine the following statement:

```
VAL1 = NUMB / NUMC
```

What if VAL1 should have been VALI (the I and l look similar) or if VAL1 and NUMC are defined as real but NUMB is not defined at all? In the latter case NUMB will automatically be defined as an integer which will cause a slightly odd answer to result. Also FORTRAN's punched card-based format (FIXED FORMAT, as it is called) is an irritation.

Conclusion

Generally FORTRAN provides a useful tool suited for numerical and mathematical applications even though it is somewhat dangerous in the hands of a careless and sloppy programmer. It is here to stay, though, if for no other reason than because of the volume of existing FORTRAN software.

Example FORTRAN Program

This program reads in an integer number from the user and then prints out the following information: its sign, its factorial value and whether it be even or odd. Processing continues until a non-numeric value be entered.

Part three in the December issue will look at:

COBOL

the language that was to make business computing a practical possibility.



```
PROGRAM NUMBERSTUFF
INTEGER NUMBER
LOGICAL ISMINUS, ISEVEN

C Program to read in a number and print out its sign, factorial value and
C if it be even or odd

C Read in the number- if it be non-numeric then label 900 is jumped to
100 PRINT *, 'Please enter an integer number (anything else to end)'
    READ (*, *, ERR = 900) NUMBER

C Print out whether the number is -ve or +ve via a call to the LOGICAL function
C ISMINUS- note the use of the FORMAT statements (I4 means insert the specified
C four-digit integer number into the format at that position)
    IF (ISMINUS (NUMBER)) THEN
        PRINT 10, NUMBER
        FORMAT (' The number ', I4, ' is negative')
        PRINT *, 'A negative number has no factorial value'
    ELSE
        PRINT 20, NUMBER
        FORMAT (' The number ', I4, ' is positive')

C Calculate the factorial of the number and print out the result only if the
C number be +ve
        PRINT 30, NUMBER, FACTORIAL (NUMBER)
        FORMAT (' The factorial value of ', I4, ' is ', I4)
    END IF

C Determine whether the number be even via a call to the subroutine EVEN
    CALL EVEN (ISEVEN, NUMBER)
    IF (ISEVEN) THEN
        PRINT 40, NUMBER
        FORMAT (' The number ', I4, ' is even')
    ELSE
        PRINT 50, NUMBER
        FORMAT (' The number ', I4, ' is odd')
    END IF

C Do again
    GOTO 100

C End message (note the method of including a quote in the text)
900 PRINT *, 'That''s all folks'
    STOP
    END

LOGICAL FUNCTION ISMINUS (NUMBER)
C Function to determine whether the number be -ve or +ve
INTEGER NUMBER
IF (NUMBER .LT. 0) THEN
    ISMINUS = .TRUE.
ELSE
    ISMINUS = .FALSE.
END IF
RETURN
END

SUBROUTINE EVEN (ISEVEN, NUMBER)
C Subroutine to determine whether the number be even/odd
INTEGER NUMBER
LOGICAL ISEVEN
IF ((NUMBER / 2) * 2 .EQ. NUMBER) THEN
    ISEVEN = .TRUE.
ELSE
    ISEVEN = .FALSE.
END IF
RETURN
END

INTEGER FUNCTION FACTORIAL (NUMBER)
C Function to return the factorial of the passed number
INTEGER NUMBER, FACT, I
FACT = 1
DO 10 I = 1, NUMBER
    FACT = FACT * I
10 CONTINUE
FACTORIAL = FACT
RETURN
END
```

APPLEWORKS AND IIGS APPLEWORKS 2 EXPANDER

The Appleworks 2 Expander is an enhancement program for Appleworks 2 which enhances and expands Appleworks 2 when used with certain memory cards.

Here's a list of the AppleWorks enhancements created by the AppleWorks 2 expander when used with GS-RAM Plus cards on the IIGS:

- * Word Processor and database Clipboard expanded to 2,042 lines (versus 250)
- * Up to 22,600 lines in the Word Processor (versus 7,250 lines)
- * Up to 22,600 records in the Data Base (versus 6,350 records)
- * Variable size printer buffer
- * On-screen time display
- * Automatic time/date entry into the database
- * Print-file cache (i.e. ALL of AppleWorks is loaded into memory - so doesn't access the disk to print)
- * Expander options menu
- * Multiple disk file-saving capability
- * AppleWorks Desktop expansion to 8 Meg

Other features: GS-RAM and GS-RAM Plus are totally compatible with and surpass the Apple GS Memory card standard.

The AppleWorks 2 expander is supplied FREE with GS-RAM and GS-RAM Plus.

Prices (excluding VAT)

GS-RAM 256K	£169.00
GS-RAM 512K	£209.00
GS-RAM 1 Meg	£269.00
GS-RAM 1.5 Meg	£319.00
GS-RAM Plus 1 Meg	£399.00
GS-RAM Plus 2 Meg	£629.00
GS-RAM Plus 3 Meg	£849.00
GS-RAM Plus 4 Meg	£1059.00
GS-RAM Plus 5 Meg	£1259.00
GS-RAM Plus 6 Meg	£1419.00
GS-RAM Plus 7-8 Meg	£CALL
256K Upgrade Kit	£40.00
1 Meg Upgrade Kit	£240.00

The AppleWorks 2 Expander also works with, and is supplied FREE with these other memory cards:

for IIC

Z-RAM Ultra 2 - 256K	£269.00
Z-RAM Ultra 2 - 512K	£309.00
Z-RAM Ultra 2 - 1 Meg	£389.00
Z-RAM Ultra 3 - 256K	£329.00
Z-RAM Ultra 3 - 512K	£369.00
Z-RAM Ultra 3 - 1 Meg	£449.00
65C816 16 Bit Option	£79.00

Enhancements as for GS-RAM and GS-RAM Plus but maximum desktop is 727K (1 Meg Z-RAM Ultra) and printer buffer is fixed at 64K. The in-built clock also provides file date/time stamping as well as other time options. AppleWorks is fully pre-loaded into RAM. Also provides most of the enhancements for ALL earlier versions of AppleWorks.

Other facilities: 16-Bit Option, clock
Z-RAM Ultra 3 includes Z-80 co-processor and CPM.

for Ile

256K Ramworks III	£199.00
512K Ramworks III	£239.00
1 Meg Ramworks III	£319.00
1.5 Meg Ramworks III	£469.00
3 Meg Ramworks III	£1,299.00

All products are also available from your local dealer.
All products carry a ten-day no-quibble "money back if not delighted" promise plus a one year guarantee.
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Enhancements as for Z-RAM Ultra, but separate clock (e.g. TimeMaster or SerialPro) required for time/date features and printer buffer only works with Super Serial Card (or SerialPro).

Other features: 80 column display built in. (Replaces 80 col card). RGB option, for Ile

256K RamFactor	£239.00
512K RamFactor	£269.00
1 Meg RamFactor	£319.00

RamCharger Battery Back-Up £179.00

Enhancements as for GS-RAM but no printer buffer and separate clock (e.g. TimeMaster or SerialPro) required for time/date features. Max desktop 1 Meg.

Other features: Allows AppleWorks V1.3 to run on II+. Also enhances AppleWorks V1.3 on Ile. Battery back-up option for permanent data storage, can boot from RamFactor, on-board partitioning firmware. Functions as full RamDisk on GS,e & +.

OTHER HARDWARE

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WARSHIP

Tom Wright dons his life jacket and takes his Apple)(to sea!

Warship is a tactical game of naval combat from Strategic Simulations Inc., who are well known for their series of strategic and tactical wargames. The game is supplied in an A4 size box and contains a 5.25" disk, an advertising booklet for SSI games, and a very well presented manual.

My only previous venture into naval games was with Computer Bismarck, my memories of various attempts to sink the Bismarck mainly consisting of many hours of increasing confusion while attempting to coordinate the movements of various naval and air units in the search for the Bismarck, usually to find them being disposed of piecemeal by the Bismarck units which were controlled by my computer opponent.

Fortunately, Warship is a different kind of game, four different scenarios are available each with different numbers/types of ship available to the opposing sides. The variety of choice available is illustrated by the fact that the manual lists 79 different vessels!

The manual is excellent and sufficiently detailed to enable a newcomer to this type of game to quickly become sufficiently competent to enjoy playing, of course it doesn't win games for you and it is easy to fight your way to the sort of game end that leaves you with no ships!

The copy supplied for review was suitable for Apple II, II+, IIe and IIc, (there are versions for other machines including the Atari and C-64). An Apple II Europlus was used for the reviews.

I found that the selection for the computer to play both sides resulted in normal entry into a game in which I was to control the allied fleet. After five attempts I decided that at least the review copy of this game doesn't enable the player to select computer to play both sides, a pity as newcomers to wargames would find a computer demonstration very helpful.

For descriptive purposes I'll concentrate on the SAN BERNADINO scenario. After setting the HANDICAP LEVEL to 5 (well you have to give yourself a bit of an edge don't you?), I set the DELAY LENGTH to 1, selected SAN BERNADINO and then pressed the <SPC> bar.

This left me in command of an

American fleet. The VISIBILITY rating of 34 indicated excellent visibility, a rating of 1 would be very poor visibility. SSI games usually play to a predetermined end date or time but I have to confess that I couldn't find a reference to this in the manual and am unable to say what significance the date has. On Page 8 the manual states that the San Bernadino scenario has a "two-hour game length", have I got news for the author of that statement. I bear the scars to prove that this scenario can take 5+ hours to play and it still wasn't finished at that stage! The manual also states that the battle represents a hypothetical engagement during the Leyte invasion.

Action screen displays during the game consist of basic plan views of the various ships, perhaps silhouette is a more accurate description than plan, there are very minor differences in size and shape between the various vessels but in conjunction with the text displays available they are adequate. At the bottom L.H corner of the display is (O)RDERS while the bottom R.H corner displays the time (eg 1732).

A cursor moves round each of the American ships as the default orders are executed. Each ship will be moved in compliance with the default speed and course, default gunnery control for all American ships is HOLD FIRE. After a couple of moves the message ENEMY SHIPS DETECTED will appear briefly at the bottom of the screen. Continuing to do nothing will fairly quickly result in your ships coming under fire from the Japanese fleet which is not yet visible on screen. As each ship comes under fire additional temporary information displays report as follows: DD UNDER FIRE FROM 8/50 GUNS ACCURACY 1/54 PEN 3 3. This display will vary dependent on the type of target ship (DD = Destroyer), the type of gun firing (8/50 = 8" 50 calibre gun), accuracy of the fire (1/54 is a calculated hit probability which is affected by speed and rate of turn of the two ships, visibility, whether or not the gun is under radar direction, and whether or not the gun is already ranged-in and/or other ships are firing at the same target). Damage capability of the shells is indicated by PEN

(PEN 3 3 indicates that the shells have vertical and horizontal penetration capabilities of 3). Actual impact of the shells is indicated by another temporary display which can include any of the following: NEAR MISS, SUPERSTRUCTURE HIT, BELT HIT, DECK HIT, PRIMARY TURRET HIT, TERTIARY TURRET HIT, SECONDARY GUN MOUNT HIT, TORPEDO MOUNT HIT. Any of these messages may be accompanied by an asterisk which indicates that the shell penetrated the target, a double asterisk indicates that floatation damage was inflicted. Pretty comprehensive that lot and it appears to result in fairly realistic effects on the targets in terms of inflicted damage. Damage is cumulative in effect until either the disappearance of the ship is accompanied by the message "DD SINKS", or the ships damage control has effected repairs. The fact that repairs are possible causes some headaches in terms of deciding how long you can afford to ignore a damaged ship before it becomes dangerous again. You can't simply decide to sink all ships that you engage before moving on, Yamato for instance is so powerful that I began to wonder if Christmas would arrive before I could achieve the "BB SINKS" message.

Each game move begins with artillery and/or torpedo fire and ends with execution of movement orders during which stage you can elect to enter the ship control menu by pressing 'O'. From this position you can move a cursor around the map to examine the various fleet dispositions (I suppose this may be equivalent to air reconnaissance?).

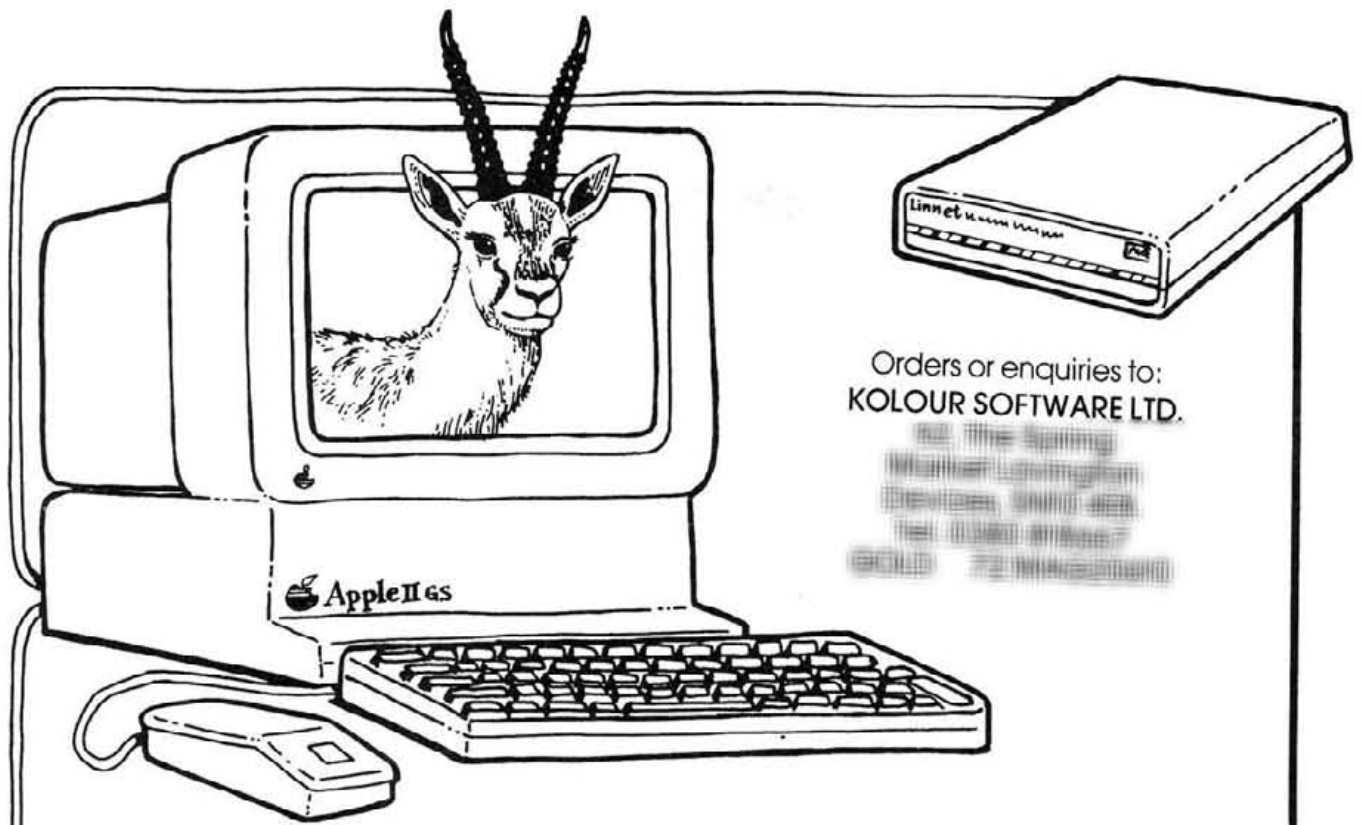
Apart from irritation with the error trapping I was left wondering about some other oddities which may or may not be deliberate. On a number of occasions even after repeatedly giving speed, course and target commands to ships I found that they were not complying with the commands.

I enjoyed the game and in fact developed a habit of saving to disk every sixth move to ensure that I didn't lose the game as a result of carelessly pressing the wrong key.

"Warts and all" Warship is an enjoyable and challenging game which should provide you with many hours of enjoyment, I recommend it.

info

Product :	Warship
Publisher :	Strategic Simulations Inc
Available from :	MGA MicroSystems Apple Dealers
Price :	U.K. price N/K
Value :	-----
Performance :	★★★★
Documentation :	★★★★



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GAZELLE

Communications Software For The Apple //

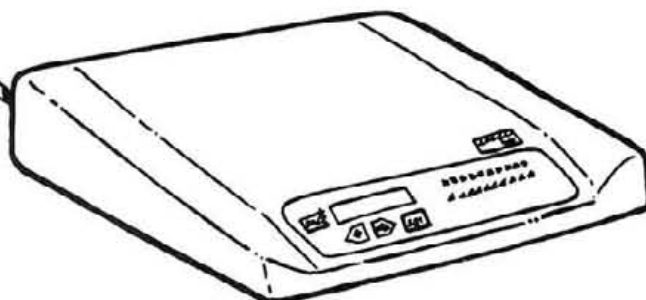
- Written by Ewen Wannop, author of Data Highway.
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ComputerEyes

Dave Ward looks at a digitiser for the Apple II range and finds out if this is the best way to get clip art!

Apple // computer owners make use of the graphics capability of their machine with the excellent graphics programs on the market. Many of these packages have libraries of pictures but what do you do if the picture you want isn't available and your haven't the ability to draw your own? Well here's where a digitiser comes in very useful

William Watson loaned me his COMPUTEREYES/2 system whilst he was on holiday! So after a three-week trial and a lot of help from William here are my findings :-

The COMPUTEREYES/2 system as supplied consisted of a firmware card (130mm by 70mm), three long cables with phono-plugs, a 5.25" diskette of system software and three manuals all in a well padded box. Two other system software 5.25" diskettes were supplied. One of enhanced software for the Apple // range and the other specifically for the Apple IIGS computer.

The main manual is a direct descendant of the original COMPUTEREYES/2 version and this manual clearly describes the system, its installation and use. Some troubleshooting information is also given. The other two manuals rely upon the main manual for basic information and generally only provide details where the new software differs from the old. None of the disks are copy-protected and you are advised that they must be copied before use as the system writes 'setup information' to the diskettes.

The firmware board may be fitted into any of slots 1...7 in any Apple // range computer except the Apple //c. We haven't tried it in Apple look-alikes but it would probably work if ProDOS were patched to work on such machines. The firmware card can be placed in any slot but there are a couple of considerations:-

- 1> Slot 3 in an Apple IIGS is recommended and you don't need to set the control panel for 'your card' as the software takes care of all necessary details. This is clever since slot 3 in an Apple IIGS cannot normally be used.
- 2> Slot 3 in European Apple // computers is baulked by

an 80 column card in the auxiliary slot so you will have to use another.

The manual for the Apple IIGS describes installation of the firmware board into that computer whilst the main manual clearly describes the installation into all the other machines. The operation is really simple except that you have to watch the three cables. These three cables are marked 'M', 'C' and 'V'. The 'V' labelled cable with a female phono-plug takes the video source whilst the two male phono-plugs 'C' and 'M' are plugged into the video output of the computer and another monitor respectively.

The following video sources are generally suitable:

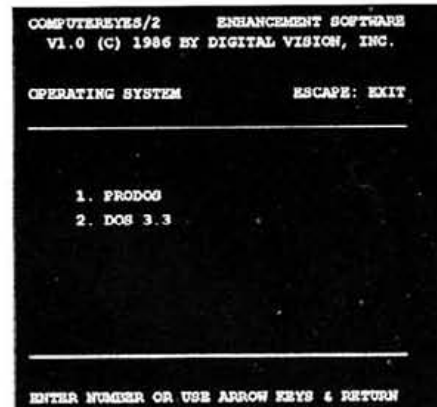
- 1> Another computer - this is a nice feature that allow you to digitise screens from those 'protected' games etc.
- 2> Video camera - we used a high quality camera but less expensive cameras such as those used for closed circuit surveillance system may be used.
- 3> A television - few televisions will have a suitable output and the simplest way would be to pass the signal through a video recorder.
- 4> Video recorder
- 5> Compact disc player

To digress a little; the system was purchased by William Watson exclusively for capturing graphics on his Apple IIGS computer in 320 by 200 Super Hi-resolution mode. Although there was little incentive to examine the other software we did! and will report our findings firstly on the COMPUTEREYES/2 and COMPUTEREYES/2 enhanced software and then separately on the COMPUTEREYES/2 software for the Apple IIGS computer.

COMPUTEREYES/2 & Enhanced version

Both the diskettes are ProDOS/Dos 3.3 hybrids that boot-up into ProDOS and then give you the choice of switching to Dos 3.3 operating system

if you so wish. Booting up the COMPUTEREYES/2 enhanced diskette produces the following screen (actually the first time you boot the diskette you are forced to configure the software to your system) :-



A CATALOG of the files on the diskette shows a SYSTEM file DOS.3.3 which allows switching of systems. This clever hybridisation of the diskette works because ProDOS and DOS 3.3 use different positions for their catalogs.

We will be examining the ProDOS COMPUTEREYES/2 system but will note differences between the two where they occur.

Choosing the ProDOS option from the main menu allows the following options:-

- 1> View Video Input - allows you to view the current video input if you have an auxiliary monitor connected.
- 2> Adjust - This function is described in the Apple IIGS section below.
- 3> Capture - tells the hardware to capture the current video input. Only good images will be captured if the video input does not change over the 6 seconds it takes to scan that image. Screen clipping will almost certainly take place and a few tries will be necessary, at first, to get the image you actually want.
- 4> View current image - Allows you to look at the image you last captured or loaded from disk.
- 5> Modify Image - this gives the following sub-options:-
 1. INVERT
 2. MIRROR
 3. SCROLL
 4. SHRINK
 5. EXPAND
 6. CONV TO PS GRAPHIC
 7. CONV TO NR PHOTO
 8. CONV TO DBL HI-RES
 9. RESTORE

This feature is one of the main differences between the standard and enhanced versions of COMPUTEREYES/2. It is always best to SAVE the image before you work upon it. This is particularly important if you use 6 or 8.

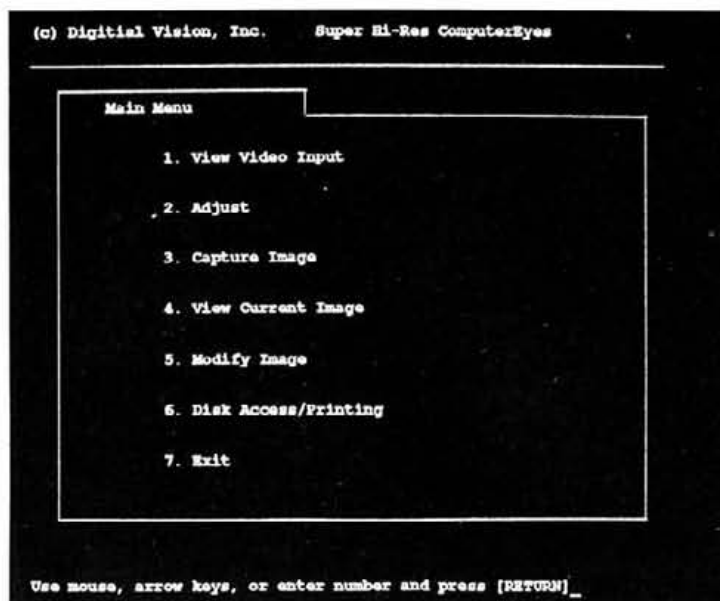
- 6> Allows you to convert to a PrintShop graphic that can later be saved to disk. This is only available in the Dos 3.3 mode.
- 7> Produces a NewsRoom photo. This too is only available in Dos 3.3 mode.
- 8> This is a toggle between double and single Hi-resolution screens. As might be expected this only works with the 128K Apple //e or Apple IIGS. This could be very useful to add double Hi-resolution screens to your library of Single Hi-resolution screens or allow you to view them on an Apple II plus computer.

Screens are saved as standard binary files which means that they can easily be loaded into memory from almost any program. You may also save screens in a packed format to save disk space and the COMPUTEREYES/2 software will re-load them perfectly (that is nothing is lost). Double Hi-resolution screens are saved as two binary files in the 'standard' way used by Triple Dump and Beagle Bros. graphics utilities. The ProDOS version also allows you to save images in the Dazzle Draw format.

COMPUTEREYES/2 - IIGS

The 5.25" diskette supplied is ProDOS operating system only and boots up into 80 columns with screens based upon those used in AppleWorks as can be seen by the screen which appears on boot-up. The options above allow the following to occur:

- 1> Video input - allows you to view the current video input



on the auxiliary monitor you've connected to the lead labelled 'M' from the card. This setup is invaluable for

setting up a rostrum camera, for instance.

- 2> Adjust - this lets you calibrate the system or make changes to the brightness and contrast.
- 3> Capture image - captures the current video input image. Be very careful though, when using a camera, in particular, that the image that you are attempting to capture is within the bounds of the Apple IIGS screen! Screen clipping almost always occurs and a second attempt will be required to avoid the clipping. If you are in any doubt always save the current image (just in case it happens to be the best!) and then re-adjust the camera and re-capture the image. If you feel that the contrast or brightness could be improved use the ADJUST menu to recalibrate the system. You can adjust the brightness and contrast yourself but the automatic calibration
- 4> View current image - let's you view the image you last captured or a picture you have loaded from a disk.
- 5> Modify Image - before you modify any of your images SAVE the screen to disk, just in case you make a mistake.
- 6> Disk access/printing - this allows you to save your images or load others from diskette. Unfortunately disk formatting appears to be absent so you'll need a few pre-formatted diskettes ready. Printing is a utility for Imagewriter II owners who may print out a draft of the current image. No other printers are supported and

the author indicates that it is a bonus for Imagewriter II owners. The print is not very dense and far better pictures will be produced by Paintwork-s plus, for instance.

When you save files they are saved as Type \$C1 which is the standard for most Apple IIGS graphic programs that save 320 by 200 Super Hi-Resolution screens to diskette. Some

may prefer the filetype to be BIN or other.

CONCLUSIONS:

The system works well although we had some problems early on due to a 'dry-joint' in a camera lead which caused the software to assume we had no video signal to which it could sync. It produced the message 'unable to sync.' on any attempt to ADJUST or CAPTURE an image. The error message together with the fact that other video sources worked led us to the conclusion that the camera or a lead was at fault even though we were unable at that time to correct it.

The digitised pictures produced using the Apple // Hi-resolution and double Hi-resolution screens are not particularly good. We were unable to observe any noticeable difference between images produced by the COMPUTEREYES/2 system when compared with the same images captured with the enhanced system. That is not a criticism of the software. It does the best it can with the hardware available.

The Apple // Hi-resolution graphics were state-of-the-art in the late 1970's but times have changed and memory costs are less now. On the other-hand the digitised pictures produced using the Apple IIGS in Super Hi-resolution mode are very good but do not match the capabilities of the Apple IIGS even though 16 shades of grey are used to give better definition.

The scan time of about six seconds makes it difficult to digitise pictures from a hand-held camera or directly from most television or video films due to movement which gives a distorted picture at best! If the picture is steady over 6 seconds or so it is possible to obtain good image as we have proved. With care and good lighting and a rostrum camera digitised pictures can be produced with good contrast that can be edited by utilities such as Paintworks Plus.

I would like to thank both William Watson and Harry Gardiner for the help given in making this review possible.

info

Product : ComputerEyes/2
By : Digital Vision Inc.
Available from :
 Stem Computing
 3 Blackness Avenue
 Dundee DD2 1ER

Price : £ ---

Value : 🍏🍏🍏🍏
Performance : 🍏🍏🍏
Documentation : 🍏🍏🍏🍏

Cirtech CP/M Plus

Dave Ward takes a close look at this updated version of the CP/M operating system.

How singular it is that one of the largest CP/M user bases should be installed in the 6502 based Apple // series computer. Yet it is and there are upwards of half a million users world wide.

Microsoft started the ball rolling in 1979 and since then many other manufacturers have produced systems. In late 1985 Cirtech introduced a board that Apple //c owners could fit into their computers to allow them to use their CP/M software. A year later a similar board was introduced so that 128K Apple //e owners could use CP/M 3.0 without using up a precious slot!

With the introduction of the Apple IIGS few of the old Z80 cards would work at all & those that did would only work with the control panel set for normal speed (1.023 megahertz). Cirtech quickly addressed this problem and introduced what must have been the first Z80 card specifically for the Apple IIGS. This gives the users of CP/M on older Apple computers a route to upgrade to the Apple IIGS.

For the purposes of this review we were supplied with a CP/M Plus system which consisted of a card measuring 130mm by 65mm with a few chips upon it, a 3.5" system diskette and a 57 page rather slim manual all in the usual well padded box.

The manual appears to be common to all CP/M Plus systems as the first thirteen pages contain clear details and diagrams on installation. The largest section, naturally, deals with the installation of the boards in the Apple 128K //e and Apple //c computers. Only two pages, and a single diagram, are necessary to show the card installed in slot 7 of an Apple IIGS. Slot 7 is probably the only slot most Apple IIGS users have available as AppleTalk is not used much at present. In a way it's a pity that the Apple IIGS CP/M Plus system couldn't have been on a board as all slots have a primary 'card' internally attached. The manual continues to describe all the new features of the CP/M Plus system in some detail and the final fourteen pages describing the user friendly error messages that are unique to this implementation of CP/M 3.0. The manual does not attempt to teach CP/M even though the system does have a very comprehen-

sive HELP program that can be used at the command level. New users of CP/M Plus may need to purchase a good book describing the system. A Programmer's guide is available from Cirtech which also has extensive details technical details on the Cirtech implementation, however, this may well be a little too advanced for new users.

The 3.5" diskette supplied with the system contains both the system files and the Programmer's utilities with still about 300K to spare. The 3.5" diskette is ideal since it has sufficient space to allow you to have both system and working files on the same diskette. Each card and diskette are numbered and apparently only matched pairs will work together.

Booting the disk quickly produces a credit page followed almost instantly by the familiar CP/M prompt A> .

CP/M Plus Version 3.0 for the Apple //
(C) CIRTECH 1985 Release 2.02

In fact you would, apart from the above heading, find yourself in very familiar surroundings. CP/M version 3.0 has many changes and enhancements and Cirtech have added many more to produce CP/M Plus!

The DIRectory command produces the screen below:

```
A>DIR
A: CPM3      SYS : DRIVES  COM : SET      COM : PUT      COM : RENAME  COM
A: PATCH    COM : SDT    COM : PIP      COM : DEVICE  COM : SHOW  COM
A: DIR       COM : ERASE  COM : GMT      COM : SETDEF  COM : SUBMIT  COM
A: TYPE     COM : COPYSYS COM : SETMOUSE COM : RAMCALC  COM : HEXCOM  COM
A: HELP     HLP : ED      COM : MPATCH   COM : INITDIR  COM : GENCOM  COM
A: GPATCH   COM : SID    COM : HELP     COM : LIB      COM : LINK  COM
A: MAC      COM : RMAC   COM : SAVE     COM : XREF     COM : ZSID  COM
A: HIST     UTL : TRACE  UTL : Z80     LIB : DUMP    ASM : DUMP   COM
A: HARDISK  COM : MANAGER  COM SYSTEM FILE(S) EXIST
```

It looks normal but wait where's the STAT.COM file and what are all these other files like HELP.COM ? So let's try... A>HELP

```
HELP UTILITY V1.1
At "HELP>" enter topic (,subtopic)...
EXAMPLE: HELP> DIR EXAMPLES
Topics available:
APPLE2      COMMANDS  CNTRLCHARS  COPYSYS    CPM        DATE
DEVICE     DIR       DRIVES      ED          ERASE      ERRORS
FILESPEC   GET       HARDISK     HELP        INITDIR    MANAGER
HOUSE      PATCH    PERIPHERALS PIP        PROG       PUT
RAMCALC    RENAME   SDT         SET        SETDEF     SETMOUSE
SHOW       SUMMIT   TOOLKEY     TYPE       USER       Z80
```

HELP is a program that gives help screens for most of the commands you will be using from the CP/M Plus prompt. The command DIR has been enhanced partly at the expense of STAT so let's take a look at that: HELP>DIR

DIR The DIR command reads & displays the CP/M directory of a disk (the directory is a special area on a disk where a catalog of the files contained on the disk is stored) . There are three versions of the DIRectory command :

DIR

DIRSys

DIR with options

DIR & DIRS are resident commands. DIR with options is a transient utility which must be loaded from disk when needed.

We all know the resident DIR so let's look at the transient extensions:
DIR TRANSIENT:Syntax: DIR {d;} [{options}] or
DIR {filespec}[filespec]...[{options}]

The transient command DIR can display the names of your files in a variety of ways. By specifying different options you can make DIR search for files on any or all drives, in any or all user numbers. One or two letters is enough to identify an option, & the right square bracket is optional.

Perhaps it's a good idea to look at some of the transient examples. Entry of subtopics can be done with separating spaces or commas and note that both topics and subtopics can be entered as the least number of characters that are unique.

[ATT] Display file attributes

[DATE] Display date & time stamps.

[DIR] Display only files with the DIR attribute.

[DRIVE=ALL] Display files on all on-line drives.

[DRIVE=(A to P)] Display files on the drives specified.

[DRIVE=d] Display files on the drive specified by 'd'.

- [EXCLUDE] Display files that DO NOT MATCH the files specified in the command line.
- [FF] Send an initial 'form-feed' to the LST: device if it has been activated by 'Control-P'.
- [FULL] Display the name, size, number of 128-byte records & attributes of files. If there's a directory label DIR shows password protection mode & timestamps. The directory will be sorted alphabetically. (See 'SET' for description of attributes, directory labels, passwords & protection modes.)
- [LENGTH=N] Display 'n' lines of output before inserting table heading ('n' = a number from 5 to 65536, default length is one screenful).

The HELP screen PROG will tell you there is a Programmer's Utilities Help system on USER 1 area.

Since the Cirtech manual does not give a CP/M tutorial these HELP screens are most useful and can even be printed using control-P or by using the Toolkey Dump utility.

The HELP screens for the DIR command show that it has been expanded to include many of the features of the old STAT command. A few other new commands are available in CP/M Plus which will be found useful:-

SHOW This is a command that shows information about a drive such as free space, access modes etc. There are five options two of which are shown below:-

A>SHOW C:

```
C: RW, Space: 228K
```

A>SHOW B:[DRIVES]

```
B: Drive Characteristics
4,000: 128 Byte Record Capacity
500: Kilobyte Drive Capacity
128: 32 Byte Directory Entries
0: Checked Directory Entries
512: Records / Directory Entry
32: Records / Block
32: Sectors / Track
3: Reserved Track
512: Bytes / Physical Record
```

The first example SHOWs that C: (the chosen drive) is read/write and has 228K of free space. The second with the option [DRIVES] SHOWs the Drive Characteristics of the chosen drive B:

DRIVES - A usefull command to list all the drives recognised by the system. A slight confusion can occur if you only have one 5.25" drive in <slot 6> because two will always be shown.

DEVICE - This command allows you to view or change assignments;

PUT - This command can be used to re-direct the output from the CONSOLE or PRINTER to a text file. For instance, this

could be used to make a printed manual from the HELP system the file could then be tidied up using Wordstar.

This is how it might be done :-
A>PUT CONSOLE OUTPUT TO FILE HELP.TXT
[ECHO,SYSTEM]

This sends all the information both to the screen and file HELP.TXT simultaneously. So simply look at all the HELP screens and when done enter the following :-
A>PUT CONSOLE OUTPUT TO CONSOLE

Quite a lot of tidying will be required but the finished document will prove quite a useful reference manual.

Toolkey functions.

The Toolkey functions are a neat and unique feature added to Cirtech's CP/M Plus. Users of the Apple //c and Apple //c versions will be familiar with them, but for new users here is a description of them:-

A help window is available and is invoked simply by pressing the closed-apple and / keys together:



You can choose to use a Toolkey function at any time simply by pressing closed-apple key and the first character of one of the 7 options listed above. You can even use them from within a running program! There is, however, one exception to this ; when you are already using a Toolkey function or the Ramcalc pop-up calculator. Here is a brief description of the seven functions:

- COPY** This is a utility that allows you to copy 5.25" and 3.5" diskettes at any time, even within a running program.
- FORMAT** Just like **COPY** but formats diskettes.
- DUMP** This prints the current screen to the printer.
- EMPTY** Empties the print buffer.
- BLINK** Toggles the cursor between blinking and a solid white box.
- XTRA** Allows you to print extra copies of documents stored in the print buffer.
- TIME** Gives you the time!

Just to illustrate the flexibility of these Toolkey functions I invoked MBASIC and wrote a program that printed the numbers 0-9999 on the screen and about half-way through the operation I pressed the closed-apple + C keys and copied the system master diskette. On completion I returned to the program which continued just as if there had been no interruption!!

The **COPY** function works in a similar way to the one supplied by Apple

Computer Inc. on the system diskettes for the Apple IIGS in that it only copies about 117K at a time, irrespective of the amount of free memory in the machine. Copying with two drives is fine but if you only have one 3.5" drive, like me, then to copy an almost full 3.5" diskette involves about 40 swaps which is a little wearing.

RamCalc popup calculator

Cirtech have also supplied users with the option of their Ramcalc resident pop-up calculator. To set this up you will be required to enter:
A>RAMCALC

Once installed you can invoke the Ramcalc resident calculator by pressing open-apple + C keys together. I'd swear that the Ramcalc pop-up calculator is the same as that supplied with the Cirtech plusRAM cards as an AppleWorks enhancement!! Well here's a description:

The RAMCALC pop-up calculator may be moved all over the screen using the arrow keys and all entries are made from the keyboard or keypad. Much easier, in my opinion, than pointing out each entry with the mouse. RAMcalc has many features that other pop-up calculators don't have and is extremely easy to use. RAMcalc has :- Memory Percentage % - Square roots - Exponents - Exchange of display and last entry. Numbers are entered from the keyboard or keypad and arithmetical operators as you might expect to enter them: Multiply : * X x. Divide : / D d

The rest are just as simple. Calculations are performed in the order that they are entered. When you are done just hit ESCape to exit back to AppleWorks. You will notice when you later recall the RAMcalc Resident Calculator that it was exactly the same as when you left it.

Storage devices

As we have seen CP/M Plus supports 5.25" and 3.5" drives but will, infact, recognise any drive that can use the ProDOS block method. For instance if you have a RAMdisk set up on your Apple IIGS this will be automatically recognised and formatted as a RAM disk. Likewise any plusRAM card in slots 1..7 will be hijacked as a RAM disk when the system is booted. Before you boot CP/M Plus make sure that your data on a plusRAM card in slots 1..7 is of no value since CP/M Plus is like a guided missile and always converts it into a CP/M RAM drive wiping away all your data! Hard disks are also supported as storage devices, and in my opinion, in a very neat and thoughtful way.

- 1) You can format your hard disk if you so wish with the Toolkey format function and use it as a massive store.
- 2) The rather nice feature though, is the ability to make

a partition in a ProDOS formatted hard disk if you have more than 512K of free space. The partition can be as large as this free space. To form a CP/M Plus storage partition on a ProDOS formatted hard disk just type, at the A> prompt:- A>HARDISK All you need to do is to follow the prompts.

Using the Mouse

Who would have thought that you could use a mouse on an Apple // computer whilst using Wordstar. Well Cirtech have provided the facility to use the Apple mouse in almost any program running under CP/M Plus! The manual tells you how to do this:

A>DEVICE CONIN:=MOUSE1,CONSOL

You can disable the mouse by omitting MOUSE, in the above. When using the mouse the cursor blink rate varies so it's a good idea to make the cursor into a solid box using the close-apple + B Toolkey utility. Movements of the mouse and pressing the button are made to simulate various key presses and these can be customised using a transient command SETMOUSE.

The HELP screen for the mouse gives an example of connecting the mouse which differs slightly from that in the manual ; it doesn't work which I found a trifle confusing. Use the example above, taken from the manual, which is correct.

FILE MANAGER

Cirtech have added another useful utility for those users of CP/M who are frightened off by the apparently unfriendly A> prompt. The FILE MANAGER program produces a menu from which the user may choose to 'RUN', 'COPY', 'ERASE', 'PRINT', 'VIEW' and show directory information on any file or drive. Type in at the prompt:- A>MANAGER After a credit the following screen appears:-

```
CP/M File Manager v1.00      OpenApple-? for help      User Area = 0
Drive A: Drive B: Drive C:  Drive D: Drive E:

Drives  com
Set      com
Put      com
Rename  com
Help    com
Sdt     com
Pip     com
Device  com
Show    com
Dir     com
Erase   com
Cot     com
Setdef  com
Submit  com
Type    com
Setmouse com
Ramcalc com
Harcom  com

RET = Run COM/SUB program
0-9 = Select user area
QA-D = Duplicate/copy file
QA-E = Delete/erase file
QA-I = Disk/file info
QA-R = Rename file
QA-S = Swap COM to non-COM
QA-P = Print current file
QA-V = View file/program
```

The screen shows the main MANAGER screen with the 'help' window chosen. You may choose another drive by pressing the key letter or using the left/right arrow keys. Note that Drive A: and Drives.com are current. The current file can be changed by the up/down arrow keys. We will choose the current file and so press the return key :-

```
CP/M Slot Drive Setup
(c) CIRTECH (UK) Ltd Version 2.0

CP/M drive A: -> Slot 7 Drive Card Type PlusRAM RAMcard
CP/M drive B: -> Slot 6 Drive Card Type Apple Disk// drive
CP/M drive C: -> Slot 6 Drive Card Type Apple Disk// drive
CP/M drive D: -> Slot 5 Drive Card Type SmartPort device
CP/M drive E: -> Slot 5 Drive Card Type SmartPort device
```

D>D:MANAGER

```
CP/M PLUS File Manager
(c) CIRTECH 1987
Press any key to enter Manager
ESC to quit using Manager
```

After the above drive information table is written re-entry to the MANAGER is automatic D>D:MANAGER is entered by the computer.

ERROR Messages

Users of the older CP/M versions were plagued by the dreaded BDOS errors such as the helpful : BDOS ERR ON A: BAD SECTOR !!

CP/M version 3.0 is a little more friendly and Cirtech have made CP/M Plus very friendly. For instance if you don't have your system disk in the currently logged drive and you try to take a DIRectory you get the following message window:-

```
CIRTECH Toolkey
Disk Read Error on A: Try again Y/N?
Press ESC to quit
```

ESC - takes you back to the CP/M prompt. Just try getting out of some errors under older versions of CP/M!!

Y - lets you try again.

N - produces the following CP/M 3.0 error messages!

CP/M Error on A: Disk I/O

BDOS Function =17 File = ??????????.??? . Which message would you prefer?

Speed considerations

Cirtech advertise this product as a Z80 card with an 8 megahertz Z80H micro-processor that works with the Apple IIGS in fast mode.

I like where ever possible to provide objective timings to compare products, however, in this case there are so many conflicting parameters that without a considerable expenditure of time I could not do the matter justice. I therefore, make the following subjective comparisons:-

- 1) The system Cirtech use requires that the 65816 micro-processor at the heart of the Apple IIGS is occasionally 'refreshed' even though the Z80H processor is doing the bulk of the work. As a consequence of this the effective clock rate is about 4 megahertz ; that is the effective rate of the Z80H chip is halved. This is still, of course, twice as fast as the 4 megahertz processor on the Softcard whose effective clock speed will be reduced to 2 megahertz, Cirtech claim that the effective rate of the Z80H micro-processor on the CP/M Plus card is near to 5 megahertz because of the circuitry that they use.

It is my opinion that the true rate is somewhere between 4 and 5 megahertz. Most cards follow this method but one other card I did see appears to use a different method and approaches the effective speed of the Z80H with a 6 megahertz chip, however, that card is not fully compatible with the Apple IIGS.

- 2) The fact that the Apple IIGS works in fast mode will probably not add that much to the overall speed but it will depend on what program is running. It is actually possible to write programs that will be markedly speeded up because of this to prove a point. Most programs you run under CP/M Plus will, how-

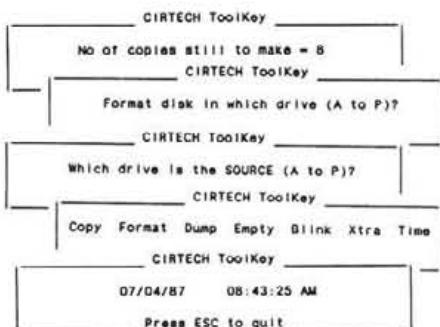
A sophisticated, new operating system for the IIGS

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!*



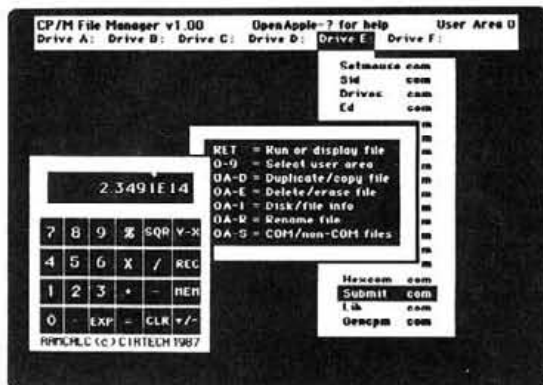
- **BLINK** controls the cursor – *you have the choice of blinking or static!*
- **XTRA** lets you print multiple copies of everything that's in the printer buffer at any time during a CP/M program; and *printing is in 'background mode', so you save time too!*
- **TIME** instantly displays a neat, on-screen 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.

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ever, see only a slight increase in speed because the Apple IIGS is running in fast mode. The fact that Cirtech have designed the card to work in both normal and fast modes is important because you don't need to consider altering the control panel, which plagued me whilst testing out other CP/M cards designed for the Apple //e.

3) The screen handling on the CP/M Plus system is markedly faster than older versions. Cirtech, in advertisements, claim an overall increase of the order of a factor of 4 times.

4) Many CP/M users will, no doubt, have been converted from Apple DOS 3.3 by virtue of the speed of disk access of CP/M. CP/M boots up in seconds and all disk access is clean and crisp. CP/M Plus is no exception to this. Can disk access be speeded up further? Yes it can! and here's how:-

A) The 3.5" drives are marginally faster than the older 5.25" drives and their vastly increased capacity means less disk swapping.

B) You can transfer your system files and working files to a hard disk. The manual clearly describes how this can be done.

C) If you have a memory expansion card in your Apple IIGS you can specify some or all of this as a RAM disk. On booting CP/M Plus any RAM disk found is formatted and assigned a drive label (A-P). You could make this a bootable disk by using the COPYSYS utility and then copy across the files you require using PIP. First use the DRIVES command and you will find that the RAM disk is usually assigned B: A>PIP B:=A:*.*

B:
B>

All this has the effect of transferring all your files to the RAM disk and B: logs you onto drive B: the RAM disk. Disk access will now be considerably faster!

D) Diversi-CACHE a product of Diversified Software Research and is compatible with CP/M Plus and greatly speeds up 'dumb' 3.5" drives by a factor of at least two. With an assigned buffer it can approach the speed of a RAM disk, particularly for reading!

Software Considerations

One slight disadvantage, particularly for new users, of the Cirtech CP/M Plus system is that it does not contain any higher level languages or application programs. It is true that it contains the Programmer's Utilities which consist of a macro assembler, relocatable macro assembler, an editor, an improved debugger and many other utilities for assembler programmers.

If you have older software on CP/M version 2 sixteen sector diskettes

these can be read by CP/M Plus and most will run. Wordstar may need to be re-installed and Dbase II should be okay. MBASIC and GBASIC versions of Microsoft Basic need to be patched with the files on the system diskette MPATCH and GPATCH respectively. After patching they work perfectly, except they are faster.

Turbo Pascal version 3.01 works fine with my system which has an Imagewriter II connected to port-1. Turbo Pascal has a very fast compiler anyway but it's nice to see it work twice as fast!! CP/M has one of the largest public domain software base for any micro computer or system and there is even a CP/M users group.

If you are purchasing new software it would be worth checking that it works with CP/M version 3.0 or alternatively testing it on your system first. There are so many different configurations of printers and interface cards that it would be impossible to test all of them. If problems occur it would be most likely that they are due to hardware interfacing such as printers.

CONCLUSION

The Cirtech CP/M Plus system is an excellent implementation of CP/M Plus that is fast very user friendly and the only system, that I am aware of, that is fully compatible and designed for the Apple IIGS.

info

Product : CP/M Plus
 Publisher : Cirtech UK
 Available from :
 Cirtech (UK) Ltd
 Currie Road Industrial Estate
 Galashiels, Selkirkshire
 Price : £ 118.00

Value : ★★★★★
 Performance : ★★★★★
 Documentation : ★★★★★

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Pinpoint Toolkit

HEX CALCULATOR

Nigel Bradley looks at this new addition and finds 'RunRun' - The Desktop Manager an added bonus.

The PINPOINT TOOLKIT is an addition to the PINPOINT ACCESSORIES reviewed in the August 87 volume 2 (4) of APPLE 2000 magazine.

The package consists of two double sided disks and a well laid out manual. The disks are not copy protected and indeed the manual tells you to copy them before use.

Basically the TOOLKIT gives the users of the PINPOINT desktop accessories an additional eight tools, but for machine code programmers all the source code is provided to aid in the customising of these tools and for the generation of your own personal set of accessories.

For the owners of large RAM cards a program called RUNRUN is also on one of the disks. This is a shell program which enables the user to switch between programs quickly and easily without the need to reboot.

ACCESSORY MOVER

This allows the user to customise the original pop-up accessory window with up to sixteen desktop accessories. Existing accessories may be removed so that only the ones required are shown in the window. Accessories can also be re-named to your own preference, and of course the eight new accessories

MEMORY WINDOW.

This accessory is a handy debugging device for programming. It enables the user to view the current contents of either Main or Auxiliary memory. After selection of this accessory from the POP-UP menu the majority of the screen is filled up with the contents of memory. The left portion of the screen shows the location in hex preceded by either 'MM' main memory or '00' aux memory. The centre part of the screen shows the hex value in the location and the right side of the screen shows the equivalent ascii character at the location. The display shows one full page of memory at a time (i.e. 0000 through 00FF). Using open-apple and the up or down arrow keys lets you move to next page or previous page. Using open-apple '>' (greater than) or '<'

(less than) allows for the switching between main or aux banks of ram. The memory \$C000 through \$CFFF cannot be viewed and memory above \$D000 shows ROM memory not bank switched memory.

The source code for this accessory is included to enable the user to relocate the memory window from it's original home of \$2000 through \$2FFF to some other more suitable place dependent upon the application requirements.

Pressing the 'esc' key will show the commands allowed for this accessory.

PRINTSCREEN.

This accessory prints the screen display on to a printer so allowing the equivalent of the Appleworks open-apple 'H' command in applications such as basic or Applewriter etc. The difference between the open-apple 'H' command and the PRINTSCREEN accessory is the facility to choose the print quality of either draft or final and the print mode of text or graphic, although the quality is only active in graphics mode where a two pass print of the graphic representation of the screen is forced when in final mode. Mousetext characters can also be printed and as the manual states, a true WYSIWYG print is made. (What You See Is What You Get). The source code for this accessory is included on the disk.

MEGADIALER

This accessory is a disk based version of the original DIALER accessory. It will scan the current screen display looking for what it believes to be a phone number and then dial that number should the user accept what is found.

The difference between the two versions is that the original DIALER is RAM resident and can have a 15 byte lead dial string, whereas the MEGADIALER is disk based with a 32 byte lead dial string capability. All the source coding for this accessory is included on the disk for customisation of particular requirements. You will, however, need a Hayes compatible modem.

This calculator (The programmer's calculator) differs from the original basic four function calculator in that it allows for the computation and conversion of decimal (base 10), Hexadecimal (base 16) or binary (base 2) numbers. The HEX CALCULATOR pops up in 'dec' mode where the numbers 0-9 are allowed and the largest number being 65535. By pressing the 'M' key the mode will change to 'hex' or 'bin'. In the 'hex' mode the keys 0-9, A-F are allowed and in the 'bin' mode only 0 or 1 are allowed.

The HEX CALCULATOR is only an integer calculator so the result of a division may seem odd. The four basic functions are available and also Boolean operations can be performed using & (AND), O (OR), X (EXCLUSIVE OR), and N (NOT). The calculator can be used to display the contents of memory ' key. A printout of the computations can also be achieved by pressing the 'P' key.

VIDEO RESOURCE EDITOR

This is an accessory aimed at the user who wishes to create his/her own application accessories. The screen is transformed into a sketchpad and drawing takes place using the keyboard characters. These can be altered by selecting 'Fonts' from the menu which appear at the top of the screen and can be 'Normal' characters (white on black), 'Inverse' (black on white) or 'Icon' (which allows the use of the mousetext characters)

A selection of accessory type windows are available for use in creating your own accessory. These are selected and then pasted onto the drawing screen. Once the screen is designed and saved to disk, programming can commence using a 'script processing language' similar to the 'C' language. This has about 20 commands and allows 16 variables to be used in the creation of the accessories.

RESOURCE CONVERTER

This accessory is linked to the VIDEO RESOURCE EDITOR in that it converts the VIDEO RESOURCE created with the editor into a specific source code. The source code can be in any of the following assembly language formats:

- Apple computer EDASM
- Byteworks ORCA assembler
- Kyan assembler / PASCAL
- MICOL Basic assembler
- MICROSPARC assembler
- S-C assembler
- WSM assembler / Hyper C

PRODOS FILER

This accessory is a version of Apple's ProDos Filer available on the ProDos Users Disk. This is quite a handy accessory in that it allows formatting of disks and copying files from RAM to disk etc. Full operating documentation can be found in the ProDos Technical reference manual.

WIDE CALENDAR PRINT

A wide calendar print routine is supplied on the disk so that the appointment calendar from the original accessories can be printed with four days across the page instead of one. This therefore allows a full week of appointments to be printed on one page.

RUNRUN

As an added bonus a super ProDOS program selector called RUNRUN (The Desktop Manager) is supplied with the TOOLKIT. This program is a shell type program that allows other programs to be run and when exited will return to RUNRUN. The TOOLKIT was used to write the RUNRUN program so it is a very good example of what can be achieved with the TOOLKIT.

RUNRUN has mouse like pull down menu's but does not need a mouse connected. It is also possible within the RUNRUN environment to run a desktop accessory from within another desktop accessory. e.g Use the calculator whilst in the appointment calendar. RUNRUN also enables viewing of disk catalogs in alphabetical order, size order, type order or date order.

To obtain the full benefit of instant program switching then a RAM card is definitely required, although RUNRUN will of course work from drives for those willing to wait for drive access times and be prepared for plenty of disk swapping.

When first booted RUNRUN appears with a command bar at the top of the screen, an application list at the lower left and a ProDos device table at lower right.

By pressing the up/down arrow keys an application can be selected and on pressing 'Return' the selected application can be invoked. Pressing the 'esc' key will take you to the command bar which includes two categories 'accessories' or 'file'. The accessories are identical to the PINPOINT desktop accessories (provided that PINPOINT has been installed onto RUNRUN in the same way as being installed onto Appleworks). The difference is that the solid apple 'P' keys have not been pressed to enable the list of accessories. This means that after an accessory has been chosen, say the Appointments calendar then the solid apple 'P' key will invoke the list of accessories again and a second accessory may be chosen i.e. the calculator. There is only one constraint on this which is that

the second accessory cannot be the same as the first accessory. You cannot for example use the calculator whilst using the calculator. (I hope that makes sense). Pressing 'esc' will put the accessory(s) away but will leave the command bar active. Pressing the left or right arrow keys will move between the two choices on the command bar.

The File command allows the selection of ProDos devices or of cataloging the active device by name, type, date, or size. It will also allow selection of removing, modifying, adding or running an application from the application list. This is where the RUNRUN program is customised to individual requirements. The application list I tried was as follows:

- Appleworks 2.0
- CopyIIplus
- Document checker

After running Appleworks for example the program returned control to RUNRUN and Document checker could then be accessed in seconds to perform the checking of word processor files. (see Document checker review). RUNRUN again took control when leaving the Document checker. CopyIIplus can be used as normal and on selecting quit press 'Q' to exit to ProDos and once more RUNRUN activates.

The manual is a little bleak in the respect of setting up RAM drives and the way I did it (after a few discussions with Steve Morrisby of Bidmuthin) was as follows:

- 1> Enhance the Appleworks 2.0 disk with the RAM drive software.
- 2> Partition Appleworks. This must be done to prevent Appleworks from hogging all the RAM available on the RAM card. There is a partition program on the RUNRUN disk.
- 3> Install the PINPOINT accessories on to the Appleworks disk after first setting up the accessories as in the earlier review and of course adding the eight new ones. I set the accessory standard location as /RAM/PP
- 4> Install the same PINPOINT accessories onto the RUNRUN disk. This updates the file RUNRUN.SYSTEM.
- 5> I then used the RAM drive software that came with the RAM card to set up a 704K RAM drive. The PINPOINT RAM enhancement kit can be used but this is limited to moving only 16 files to the RAM drive.
- 6> Boot CopyIIplus and format the RAM drive slot 3, drive 2
- 7> Use CopyIIplus to create subdirectories in RAM labelled as follows:
.../RAM/APPLEWORKS
.../RAM/PP
.../RAM/DOCOCHECKER
.../RAM/COPYIIPLUS
- 8> Use CopyIIplus to copy itself

i.e. UTIL.SYSTEM to the subdirectory /RAM/COPYIIPLUS

- 9> Use CopyIIplus to copy all the Appleworks files on both sides of the Appleworks disk to the subdirectory /RAM/APPLEWORKS
- 10> Use CopyIIplus to copy all the PINPOINT accessory files ending with .PP to the subdirectory /RAM/PP
- 11> Use CopyIIplus to copy all the Document checker files to the subdirectory /RAM/DOCOCHECKER
- 12> Use CopyIIplus to copy the files RUNRUN.SYSTEM, RUNRUN.APPLST and the dictionary files MAIN.DICT and AUX.DICT.S to /RAM
- 13> If required BASIC.SYSTEM can also be put in /RAM
- 14> Quit from CopyIIplus and enter ProDos
- 15> Type the following "-/RAM/RUNRUN.SYSTEM and away you go.

The procedure may seem a little lengthy but in all it took maybe 10 minutes. Provided that the computer is not switched off, then the RAM drive will always remain intact even if another program is booted using open apple Ctrl Reset. The RAM drive software from Applied technology and the RAMWORKS III card which I used will allow for the setting up of a RAM drive whilst retaining the existing directory. This is the way to recover your RAM drive after playing your favourite game.

By the way, out of 1Mbyte of RAM, 320K was required by Appleworks and there was approximately 5K of free space on the 704K RAM drive after loading all these files.

Conclusions

Another good PINPOINT product worth adding to the software library of any serious Apple users. The additional accessories are quite useful, especially the HEX CALCULATOR.

For those who do not want the extra accessories or the ability to create their own then the RUNRUN program can be purchased separately. 🍏

info

Product : Pinpoint Toolkit

Publisher : Pinpoint

Available from :
Bidmuthin Technologies
MGA MicroSystems

Price : £ 69.99

Value : 🍏🍏🍏🍏

Performance : 🍏🍏🍏🍏

Documentation : 🍏🍏🍏

A £500 Hard Disk!

Dougal Hendry looks at the Mac version of the ProApp 20S. A hard disk for the Apple II and Macintosh.

Bidmuthin are importing a SCSI hard disk and have advertised it, complete with Mac software, for just £499 plus VAT. They have kindly provided one for long term review. I can objectively report that it works just fine. Subjectively, there is a snag, which puts me off...

But to begin at the beginning, the packaging is impressively protective, being about a dozen times the volume of the product. No worries there.

Once unwrapped, the disk is revealed as a plain, slim, toaster-style metal box, matching the Apple beige of my Mac+ in colour and texture. It feels impressively 'solid.' The case is adorned solely by a "PROAPP 20S" in red and black. There are no spurious flashing led's. The drive looks good standing alongside the machine, even though the corner detailing doesn't exactly match Apple's. It's the same depth as the Mac, about 7" high and 2.5" wide. It is not the same as the under-Mac ProApp 20 that was reviewed, amongst others in May's Byte.

The logical site for it is a couple of inches away from the right side of the Mac, where it does not obstruct the programmer's switch, or the cooling slots. The 20" long SCSI cable restricts the positioning options. For some reason, long accessory SCSI cables are expensive.

The backpanel has two identical 50-way SCSI sockets, a standard mains inlet and an illuminated on/off rocker switch. I was surprised not to find any legends at all. No ID plate, no serial number, no 240 volts sticker, no on/off markings. (The carton was marked 240 volts, so I pressed on despite the American mains lead supplied.)

Adverts and documentation say that the drive is supplied formatted and ready to go. Mine wasn't, but the "QuickManager" software, supplied on a floppy, dealt with the chore without fuss.

A point not mentioned in the User Manual is that you must localise your system on a floppy, before dragging it across to a hard disk.

Formatting the disk took less than half the time suggested. Was this a hot rod? Running the Disk Timer 2 benchmarking program confirmed that it was. It reported 35dec-seconds for the track-to-track step test

and 99ds for both the read and write tests. The results did not change when the disk was cluttered with fragmented files.

These timings do not measure real life performance, but provide a comparison of raw disk speed for some operations. They confirm that this one is fast, even among current SCSIs.

The speed of practical operations is clearly more Mac-limited than disc-limited. Disc operation is noticeable for the coffee-percolator noises of head stepping. So, while loading an Excel worksheet, for example, one notices the clear pauses while the Mac digests each chunk. This makes that particular task a bad choice for comparing disks — its a common choice though...

Speed of loading documents is just one benefit of having a Hard Disk. Because I normally use part of my megabyte as a Ramdisk, for my System files, I am used to fast System response. But I was not used to the same absence of font-change delays, etc, when using a big, fat, font-stuffed, 15 DA System file!

Another luxury is the sheer space of the thing. However, a variant of Parkinson's Law insists that your needs will expand to fill any disk available.

My solution was to keep applications on the Proapp, and documents on floppy. This overcame the tendency of documents to clone, trifid-like, across the disk! It also allows the facility of double-clicking a document, and allowing the machine to find the relevant application on the hard disk.

This method also reduces the need to back-up the thing. That can be accomplished fairly easily, with the QuickBackup software included in this bargain-priced package. This program is broadly similar to the better known HFSBackup. I appreciate the inclusion of an "Incremental" mode, which backs up only those files changed since the last back-up. If you are dealing with precious (financial?) data, then you should be very prudent and take frequent back-ups — and you will surely bless such a feature.

In fact, during the weeks that I have had the use of the drive, I have experienced 100% reliability. The drive has been run all day, and for five

minutes. It has been treated gently, but realistically — for example travelling unprotected on the back seat of the car. It hasn't missed a beat.

So where are the snags? Well the documentation is a bit skimpy, just 12 double-sided, laser-written, stapled sheets. Almost a third of it is devoted to HFS tips. It consistently refers to a "Logic Array S," never a Proapp. Actually Logic Array Inc is the company, and Proapp their brand name. The section on chaining it with other drives is short, vague and inaccurate... it refers to a different controller. But overall the documentation is adequate, because the drive is utterly simple to use.

Changing SCSI identity and removing the terminators — which is required to chain two or more SCSI devices, is frankly awkward. Again this is not damning, since the other device in the chain might be simple to change!

My problem is much more technically trivial, but much more serious for me. It has a fan. Not just any fan, but one that sounds exactly like an old room-heater fan. It is very loud and very wearying. I can't recall a louder fan on any micro. I have come to loath that noise.

I opened the case, while looking for SCSI terminators and ID jumpers, and found a classically badly designed fan mounting. (It had not been obvious that there was a fan, so low is the airflow.) The culprit seems to be a small, fast, axial fan. It is not ducted to the outside of the case, so that blown air can short-circuit back to the suction side of the fan. The fan's inlet and outlet are partly obstructed. The case's inlet and outlet are restricted. All the above is a recipe for a noisy and inefficient fan. But to make it really loud, you need to mount it rigidly to a metal case. They did.

I feel that the fan is so ineffective that attention to mountings, heat-sinks and a few larger louvres should permit the thing to be slowed down, if not removed, and cooling could still improve... Anyway, I thought that the advantage of this 'toaster' format was that it had better cooling than the under-Mac style — to the extent that noisy fans were unnecessary!

To be fair acoustic pollution is a personal matter, but showing the Proapp at my local group elicited various comments, of which the most polite was "Bit loud, innit?"

On a brighter note, the rest of the innards appear to be constructed to a much higher standard. The drive unit seems to come from NEC, the controller is an Omti and the power supply is from California DC.

So, there you have it. A good-looking, reliable, fast drive — complete with good utility software, offered at the bargain price of just £499, but spoiled for me just by the noise of a nasty little fan.

Available from and loaned for review by Bidmuthin Technologies. An Apple II SCSI version is also available.

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Mac2000

Norah Arnold looks at matters of interest to Macintosh owners.

Is this Fair?

A member has requested that I bring to the attention of Macintosh owners his experiences regarding an application called Printworks for the Mac. Having noticed in the advertising for this program the fact that it supported many different printers, he purchased it from P & P Micros. When it arrived, he was disappointed and annoyed to find that it supported only the ImageWriter I and the ImageWriter II. On taking this up with P & P Micros, he was told that if he read the small print he would find that he could mail his Master disk out to Honolulu and would receive a disk which was specially patched to support any printer he named. In his opinion, the advertising was misleading in purporting to support so many printers. The application he purchased was Printworks for the Mac (v.3.2) by: SoftStyle, Inc. 7192 Kalaniana'ole Hwy. Suite 205, Honolulu, HI 96825.

Drug Alert!

According to a recent survey by the National Association of Elementary School Principals in the U.S.A., 89% of the principals polled believed that drug education should begin by the age of nine. As a response to this, Drug Alert! designed by Methods & Solutions, educates primary and high school pupils on the basic facts of drug abuse by use of a responsible and entertaining computer program.

In Drug Alert!, the children are asked to get Pat, a friend hooked on drugs, out of a seedy hotel. While wandering through the hotel's dank corridors, the children wrestle with the realities of drug addiction. They must figure out how to get out of the hotel by answering drug-related questions, by destroying the drugs hidden away on each floor, and by finding and identifying the drug on which Pat is hooked.

Drug Alert! aims to provide the children with the opportunity to think critically and to solve problems related to the prevention of drug abuse. During the game, students consult the Drug Alert! on-line handbook.



This is a database containing 45 drugs divided into four categories; narcotics and pain killers, stimulants, depressants and hallucinogens. The database may be printed out in its entirety. Each drug is thoroughly described, giving students a glossary of street names, the effects of overdoses and withdrawal, the legal status of the drug in the U.S.A. and a number of other pertinent facts.

One can imagine that this program could possibly be used successfully to alert youngsters to the dangers of drug abuse if handled sensitively alongside teaching from a responsible adult. However, there appears to be a distinct danger that if this program is mishandled, it could become just a mine of information for a future generation of drug users.

MacDraw & MacProject

Updated versions of MacDraw (1.9.5) and MacProject (1.2) will shortly be available at no charge to owners from authorised Apple dealers. Both products have been adapted for the Macintosh II, and colour is implemented on MacProject. MacWrite 4.6 will be available later in the summer with minor enhancements.

Mountain Top Publishing

In Bhutan, the Himalayan kingdom between Tibet and India, two Laser Writers are printing at their altitude limit. They are part of the desktop

publishing system that the Department of Information and Broadcasting introduced in 1986 to produce the national newspaper, Kuensel. Kinley Dorji, the newspaper's Australian-trained editor, decided on Macintosh because his staff of two were not familiar with computers and therefore needed a system which required the minimum amount of training. The choice paid off: the staff were typing stories in MacWrite and laying them out in PageMaker after only two weeks.

Today the staff also use MacDraw and MacPaint to prepare graphics and the circulation manager maintains his circulation list and databases with Microsoft File. Because Bhutan's electricity is down at least twice a day, and because the repair service has to come from Singapore, careful precautions have to be taken to safeguard both the system and the deadlines.

One LaserWriter is kept in reserve, the staff use floppy disks rather than a single hard disk and one of the Macintoshes is solar powered. However, the system's unique claim to fame is the laser printing. The LaserWriter's altitude limit is 8,200 feet. Above that, the laser beam's charging corona's do not work. Kuensel's LaserWriters are on the second floor of the Information Department's offices in Thimbu, which is about 8,100 feet above sea level. Less than a 100 feet from the limit at which they can function, the printers have not failed as yet.

Another Backup Utility

DS BACKUP, a hard disk backup utility for the Macintosh, has been released by Design Software, a leading developer of hard disk management utilities.

DS BACKUP permits users to copy the contents of a Macintosh hard disk to a set of floppy disks or to another hard drive. The utility runs on all Macintosh computers and virtually every Macintosh-compatible hard disk. The program can back up data from one Macintosh to another across an AppleTalk network.

The package is based on DS BACKUP+, Design Software's program for the IBM PC, one of the fastest backup programs on the market and also one of the easiest to learn. DS BACKUP can back up a hard disk in roughly one fifth of the time required by Apple's built-in copy routine, according to the company.

"Macintosh users are discovering what PC users have long known - that no hard disk is forever," says Design Software's Vice President, Sales and Marketing. "The best insurance against costly data loss is a backup utility that is fast and easy to use on a regular basis."

Using standard Macintosh menus and icons, DS BACKUP enables users to backup and restore an entire hard disk, selected directories and files, or

just files that have been changed since the last backup session. Users can automatically include or exclude application and invisible files.

To make file and directory selection easy, the program displays all of the folders on the hard disk graphically in a hierarchical tree. In addition, the utility can generate a hardcopy report of which files have been copied.

DS BACKUP includes an automatic format facility that formats new disks during the backup process, and a verify option that ensures that a file has been copied correctly.

A statistics window provides information about the currently selected hard disk volume, including the number of files and folders, the number of bytes in use and the amount of free space still remaining. It also shows how many files and folders are currently selected for backup and the number of bytes those files represent.

This program is priced at \$79.95 and I have no U.K. price at the moment. More information is available from Design Software, 1275 W. Roosevelt Road, West Chicago, Ill 60185; (800) 231-3088.

More about MSC/pal.

The MacNeal-Schwendler Corporation, the world marketshare leader in finite element analysis software, have announced a new version of their MSC/pal software for the Apple Macintosh II and SE.

MSC/pal version 1.95 is the first finite element analysis program to be implemented on the Macintosh II and SE. MSC/pal enables designers and engineers to analyze designs to determine the strength characteristics and dynamic response of structures or products, prior to their construction or manufacture. A review of MSC/pal was published in the previous issue of *Apple2000*.

MSC/pal v. 1.95's enhancements include display of design analyses with shaded contours, a special screen effect which allows users to quickly identify critically stressed areas of the model. Version 1.95 also includes hidden element plots which depict models with solid shading that is more realistic than wireframe plots.

"After just eight months on the Macintosh Plus, MSC/pal is being integrated into applications ranging from airplane design to basic metal brackets. Desktop engineering should really take off now that there are tools for the Mac II and SE, which are much more powerful platforms," said Ken Blakely, product marketing manager for MacNeal-Schwendler.

MacNeal-Schwendler also announced that it will introduce a more advanced version of MSC/pal for the Macintosh II later in 1987. That version will take full advantage of the Macintosh II's numeric co-processor, run four to ten times faster than existing versions of MSC/pal, and include full colour display.

MSC/pal is part of a family of finite element analysis programs from the company that developed MSC/NASTRAN, the most widely used finite element analysis program in the world.

MSC/pal uses the finite element analysis (FEA) method, in which a structure or mechanical component is broken into a number of discrete elements that can be computer analyzed for response to stress, vibration and pressure. The use of FEA not only optimizes product design, but also streamlines the development process and reduces reliance on costly prototyping and testing to eliminate design flaws.

Applications for the product include the design and analysis of mechanical systems, stress analysis of mechanical components, and automotive and aerospace strength analysis.

Kanji "Print Jack"

This is a notice to all Mac users who are either interested or would like to use the Japanese language.

"Basic House" located in the prefecture of Tochigi in Japan has started the shipment of a Japanese language printer interface box by the name of Print Jack as of May 11. The retail price in Japan is 45,000 yen.

Print Jack enables the connection of the Mac to various 24-dot Kanji printers sold by, for instance, Epson, NEC and Brother. By using it along with Kanji Talk or Egword, the use of Kanji and graphics will be possible.

The following is a list of Kanji Printers which may be connected (the model numbers are those of domestic models in Japan):

NEC:
PC-PR201, PC-PR101, PC-PR406,
NM-9000, PC-PR TL
Epson:
HG-2500, VP-2500, VP-135K,
VP-130K, VP-85K
Brother:
M-1724P, M-1024P
Star:
AR-2410, TR-24CL

Since the Imagewriter uses an 8-dot printer head, there was always a problem that the printed image of a complicated Kanji character did not appear as clearly as it should. In Japan, therefore, various companies have come up with printers having very fine 24-dot printer heads. Unfortunately, it was not possible to connect the Mac with these printers. One software company came up with a printer driver for the Epson Kanji Printer. This, however, could not print out graphics.

Of the printers listed hereinabove, for instance Epson's ink-jet printer HG-2500 has not only Kanji characters (JIS-1, JIS-2) but some English fonts in its ROM. As a matter of course, the English fonts printed out using it are very beautiful. In the case of other printers which do not

have English fonts in their ROMs, the English fonts will be printed out using the 8-dot mode. However, even in this case, the fonts printed out using such printers will be more precise due to the fact that it uses a finer pin. Empirically, graphics printed out using these printers appear to be slightly smaller than those printed out using Imagewriter.

The size of Print Jack is the same as Apple's 800K external drive. The price includes that of the AC/DC converter.

Name: Basic House
Address: 503-1 Takebayashicho
Utsunomiya City, Tochigi 321
Japan
Telephone No.: 0286-22-9811
Facsimile No.: 0286-25-3970

BMUG Whoopsie!

I have been a member of the Berkeley Macintosh Users Group ever since it began, sending off my first subscription immediately on hearing of its formation.

For those Macintosh owners who do not know of it, the group is based at the University of California at Berkeley and it publishes two rather large newsletters a year.

When I received my copy of the Spring/Summer BMUG newsletter, I was amused to find that straight after the table of contents were four blank pages, headed by a sort of apology. My first thought was, "It's gratifying to know that others have the same problems that we do in getting contributors to meet deadlines."

The apology went like this: "If you are reading this, then the table of illustrations and BMUG BBS excerpts arrived too late for the BMUG newsletter, so we'll put it on the membership disk, and you get a bonus three pages for your own notes! Use this space for noting your favourite articles, or corrections to other articles. It is also appropriate to doodle, sketch, and make parenthetical comments in this space."

Whoops! Sorry, it looks like I took up most of the space with this message."

Oh well, I'll forgive them anything while they continue to produce an almost 300 page newsletter twice a year.

If you would like more information about the Berkeley group, their address is:-

BMUG
1442A Walnut St. #62
Berkeley
CA 94709
Tel: (415) 849-9114

I like the lighthearted nature of their newsletter. In the glossary, in among items on such things as 'Post-Script (poe skrippid)' and 'native ImageWriter font (ugg li)' is one on 'marinara sauce (mah ree naw ruh saw ss) A mildly spicy tomato based sauce for pasta; goes particularly well with cheeses,

Welcome to MacWorld

Irene Flaxman reports on the third Boston Exposition

The third MacWorld Expo to be held in Boston was held in the Bayside Exhibition Centre for three days - 11th, 12th and 13th August. We asked Mitch Hall how many visitors had passed through the exhibition, and were given a rough estimate of 25,000 - 26,000.

The weather was glorious, but that was a disadvantage on the first day when the air conditioning failed - the hall was like an oven! The newspapers reported on the constant flow of taxis, the overflow from the car park, and the queues of traffic as the Freeway came to a halt - not bad for an expo devoted to one particular machine!

There was much to see - again, we had no time to visit any of the 59 seminars which were held during the three days. Indeed, we did not manage to go to every stand - with 270 exhibitors, we really didn't have a chance. We were disappointed to find that some of our 'old friends' from previous expos were missing because of the cost of taking a stand. Having said that, there is obviously no shortage of interest and enthusiasm - we were told that the expo will have to be moved to a new location next year, as there will not be enough space at the Bayside Centre.

So, what was new? This was the first opportunity to see the Hypercard which Apple have been keeping under wraps. It is a very powerful piece of software for data organisation and retrieval. It is claimed that the amount of information in the world is doubled every two-and-a-half years - I don't know whether this is true but it would certainly justify the development of information retrieval systems! The Expo guide was created using the new software, so every visitor was able to see a useful demonstration first-hand - indeed, the screen dumps on these pages are representative of the presentation to visitors. It was very impressive, too - but it won't be available until October in the States. The software will be free to all new Mac purchasers, the US price to existing owners will be \$49. I wonder how much we'll be charged, and when it

will be available to us?

Amidst all the excitement about the new product, there was a cautionary comment from Jonathan Rotenberg, Boston Computer Society president. Apple are committed to connectivity between machines, so that (some day) a Mac will read an IBM disk or vice versa. Jonathan sees Hypercard as a step backward from this ideal, as it is a new product which does not relate to any other operating system. He also stated that it is not easy to get information from different places into Hypercard or to get information out of Hypercard back to its original source.

The Multifinder was also on display for the first time. This is a multitasking operating system, allowing quick switching between applications, and frees the system whilst printing to the LaserWriter. Again, the software will be free to all new Mac purchasers, the US price to existing owners will be \$49. Again, I wonder how much we'll be charged?

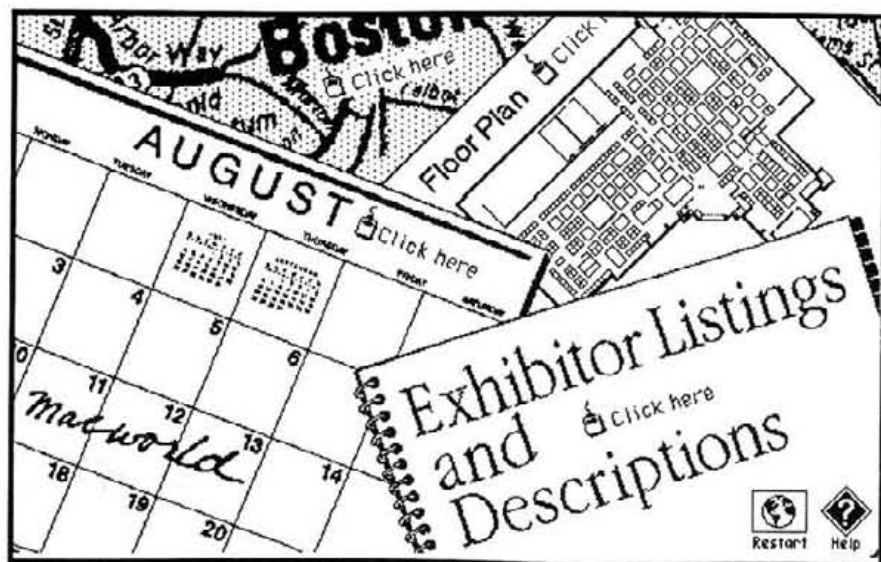
The new ImageWriter LQ was also on view for the first time - a 15" printer, which can have up to three sheet feeders attached - so you can use one for envelopes, one for letterheads, and one for continuation paper. The quality of the print is very good, with three

standards (but we've come to expect that, now). As ever, the sheet feeders have to be removed before you can use fanfold paper.

In comparison to the San Francisco Expo last January, there seemed to be few new products on show - much to our disappointment. Some of the products we saw at the start of the year have yet to be released, so we did not regard them as new. Many releases are promised for October. We have heard this all before, so we'll wait and see what emerges. As ever, target dates can be difficult to meet - it is always annoying, though, to be promised new products and then to be kept waiting for months whilst the finishing touches are being added. Having been a programmer, I know how difficult it can be to tie up the final loose ends, but it is still frustrating to be kept waiting.

The new Personal Laser Printer from General Computers was in evidence, and was very impressive. It's cheaper than others, as it is not a PostScript-compatible printer, which keeps the cost down. Whenever we ask Apple about a cheaper Laser, we are met with silence. The claim is that one of the main costs is the licensing fee which has to be paid to Adobe for the use of PostScript. This would seem to be borne out by the price of the General Computers printer. Rumour has it that Apple were developing this, but there was disagreement as to whether the standard of Laser printers marketed under the Apple label should be lowered by the production of a non-PostScript printer, so the technology was licensed out to recover the development costs. General Computers are also introducing the SE HyperCharger accelerator card. We believe that P&P will be importing both products, so you should be able to purchase from your local Apple dealer.

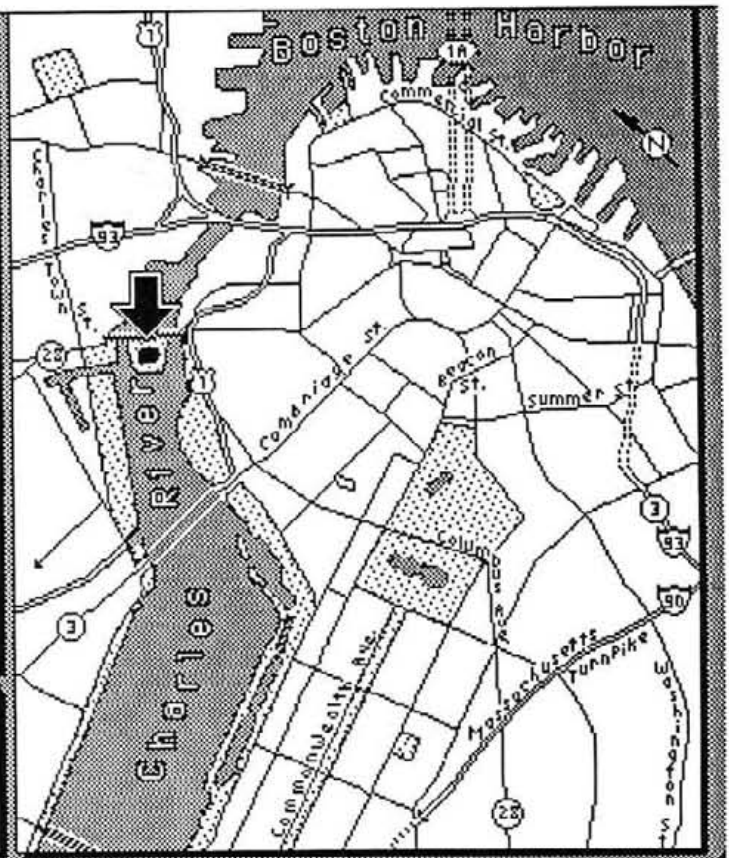
The number of scanners is on the



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 Massachusetts Inst. of Tech
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 Boston Commons
 ✓Museum of Science
 New England Aquarium
 City Hall Center
 Bunker Hill Monument
 Quincy Market/Faneuil Hall
 Freedom Trail



Contents



increase. Whereas there were very few last year, there are now several manufacturers, each with several models available. Flat-bed or sheet-feed, you can now take your choice. Some even have alternative versions of software available. Facilities vary widely, some even having text recognition capabilities. These are limited to the recognition of a limited number of fonts, but it's certainly a step forward. As with everything, they are still much cheaper in the States than they are in Europe. Even the manufacturers are frustrated by this fact - so what's the answer?

What else was new? Adobe had a new program (the Separator) for use with the Illustrator, to allow four-colour separation - it was on display, but not yet available. Anatex had a neat hardware/software combination which will 'teach' the Mac to 'recognise' your handwriting, so that what you write will appear typewritten on the screen. Blyth introduced Omnis Express, to allow easier development of databases. Compugraphic have introduced a 400dpi printer, in competition with Agfa-Gevaert. Dayna Communications introduced a new version of MacCharlie - interesting, that, since we had heard that the product had been scrapped! Letraset introduced Ready Set Go 4 and their new graphics program, Image Studio - again, they were introduced but won't be avail-

able for a while. Jasmine introduced a new idea in hard disks - the BackPac 40 fits onto the back of your Macintosh case, nice and neat! MacMemory introduced an accelerator card for the Mac SE, which is expected to live up to their reputation for high-quality products. MacEurope will be bringing in these latter two products. Spectrum introduced Trueform, which allows you to scan in (or draw) an outline form, then use that as the basis for completion of information - the whole document then being printed in one step (form lines and all). These are just some of the items that we found most interesting. There was plenty to see, but much was still under test so you could not buy.

Rumours were running around the hall, saying that Aldus would be taking over Altsys. Nobody could admit to anything officially, but it looked as though there will be some sort of alliance between the two, and it seems to centre around the new 'postscript graphics' package that Altsys had (reportedly) developed. We shall have to wait and see - Oh, those rumours!

We spoke with Charles Geschke, Vice President of Adobe Systems Inc. He confirmed that they are removing the copy-protection from their fonts. This is welcome news, as we have always seen this as a strong disincentive to buy - the particular type of protection meant that the font could

only be used with one particular printer (or with five, if you paid the higher price!). In practice, this was too restrictive as it made no allowance for any mishaps with the printer. We were also pleased to learn that Adobe will shortly be opening an office in Amsterdam to service the European and UK markets. At least this will make it cheaper to 'phone Adobe for technical advice!

Apple's Sales Pitch!

We attended a talk by Chuck Boesenberg, Apple's Group Vice President for Sales and Marketing (he joined Apple from Data General, six months ago). He spoke of the changes in Apple over the past three years, admitting that they were not always easy to deal with during that time as the organisation grew, products matured, and programs evolved. He claimed that their primary objective is to get closer to the markets, to provide a better service. Apple's growth rate was 50% in the business sector for the second year and the 1,000,000th Mac has been sold. Indeed, the strength of the machine could be gauged by the fact that 270 exhibitors paid for space at the Expo. The emphasis in modern industry must be on managing change - change should be seen as good, not bad; should be seen as an opportunity,

not a problem. The world of computer-users has changed - from individual word processing in the past, to shared data today, to 'intelligent document systems' (i.e. to which all will have free access) by 1990 - the emphasis will be on connectivity and networking in 'a multi-vendor environment'. An awful lot of jargon! What he seemed to be saying is that there will be more portability of data between different types of machines, and that all manufacturers should help in the achievement of this by developing solutions to allow for inter-connectivity. The original concept of 'one Mac

would say) has quadrupled in 1.5 years.

The usual questions and answers session followed Chuck's presentation, the main topics to be addressed are noted here. A personal LaserWriter will probably be marketed in the future. Mac SE and Mac II development started two years ago, \$80000 was spent on Research & Development two years ago, \$250000 will be spent on R&D next year. Apple will keep the consistency amongst the full range of machines, both in terms of architecture and operating systems. The pricing and marketing strategy is different

and a platform for developers); a passion for a changing world; competing in an exciting environment.

I am sorry to say that we were not impressed by Mr Boesenberg's speech. He really didn't say anything new, it was more like a 'pep-talk' for dealers. We have heard it all before - particularly the excuses for the higher prices here. We have not been convinced in the past, and we are still not convinced after his talk.

What The Dealers Say!

We took the opportunity of our visit to look in on some local dealers. In the States, it is unlikely that you will ever find a dealer who handles just one product. Most will handle at least two manufacturers' product lines. We spoke to some Apple/IBM dealers. It was interesting to note that they sell more IBM's but they prefer to sell Mac's. Indeed they use the Mac's in the course of their business, in preference to the IBM's.

Apple undoubtedly have a strong hold on the higher education market (58%), but in the home and business markets IBM sales are higher. IBM is poised to undertake an aggressive marketing strategy with the new PS/2 model 25 at a low price range, in an attempt to attract this market. The dealers welcome the low price, as this will mean more sales. The June '87 sales figures for personal computers showed IBM in the lead with 44.7% of all sales, Apple 2nd with 18.5%, and the rest following on behind. Apple is not concerned by the low price strategy, as they maintain that people buy Apples for reasons other than price.

From a dealer's point-of view, they would rather sell a Mac which involves the minimum amount of training and support - even for a new user. An IBM sale will entail at least a half-day training course, just for the basics. The other fact which came across was the fact that users use more applications on a Mac than they do on any other machine. The increased productivity which can be expected by a Mac-user is well-publicised, and the daily use of Mac's is quoted as being 4.5 times higher than usage of other personal computers.

One of our main complaints is the pricing strategy. The prices in the UK are so much higher than those in the USA. To quote those advertised in the current press, a Mac+ will cost you \$1579, whilst a Mac SE with HD20 is just \$2799! It may seem that we keep labouring this point, but it is the only way to get any action. Why should we be expected to pay more for the same products? Even the fact that units are manufactured in Cork has not redressed the balance!

The Boston Computer Society

One Center Plaza
Boston, MA 02108

The Boston Computer Society Macintosh User Group is a non-profit educational organization, providing its international membership (7,000 Macintosh members across 65 countries and 7 continents) with The Active Window, an award winning monthly Macintosh newsletter, the definitive library of public domain and shareware software, a buyer's guide of discounts available to members, Computer Update, a bimonthly computer industry magazine, and a choice of over 30 other machine specific and interest specific newsletters.

Show me Booth
146



Contents



Calendar



Floor Plan



Restart



Help



Index by Company



Return

to one person' still holds true, but will not be extended to LaserWriters, and the concept will be extended to go into a multi-vendor environment by networking.

He claimed that changes are apparent at Apple. Most notably, the release of the Hypercard, the Multifinder, and the new ImageWriter LQ. He also made mention of the new Applefax modem, the Ethernet interface card and the Appleshare PC card. He posed the question "In the year 2000, will Apple be a strong hardware company that knows a lot about communications, or a communications company that makes computers?" Apple has never been afraid to make mistakes, and that is the secret of success. In three years the Mac has become 10 times more powerful than the original machines. Special applications are being developed to increase the potential of horizontal markets (such as DTP) and vertical markets (such as engineering). The emphasis is on ease-of use software and accessibility. Nothing is permanent in business, other than the fact that there will be change. You should never be afraid of change, but should welcome it as a means of development. As a measure of their commitment to success, the value of Apple's stock (or shares, as we

in Europe (as opposed to the States), and the consequent costs are higher, hence the higher prices of products outside the USA - this was claimed, despite the fact that most machines are manufactured outside the USA. CD Rom is being looked at by Apple and by third party developers. There is no immediate intention to release a portable Mac - the reason given being that Apple do not want to compromise their standards, and the technology is not yet available to allow the development of a portable Mac without the loss of some of the standard Mac features. The question of warranty periods was raised. The stock answer was given - as machines improve in terms of reliability, so the warranty periods will be extended. When it was pointed out that an extended warranty is needed most during the initial production phase, when more problems are likely to arise Mr Boesenberg replied that it's a case of paying sooner or later - if the initial warranty period is extended, the purchase price is increased to compensate. Apple have a strong hold on the educational market with the Apple IIGS, they are striving to make the Mac stronger in this market also. Apple's corporate identity is threefold - a commitment to making great PC products (hardware, software

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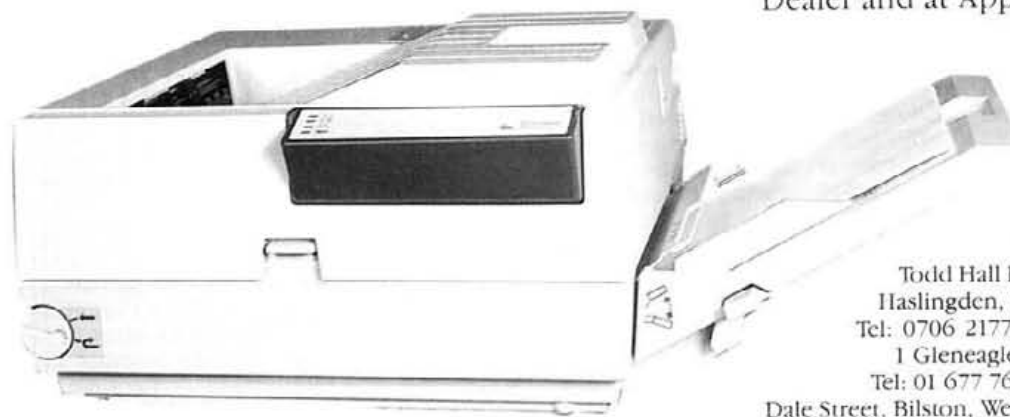
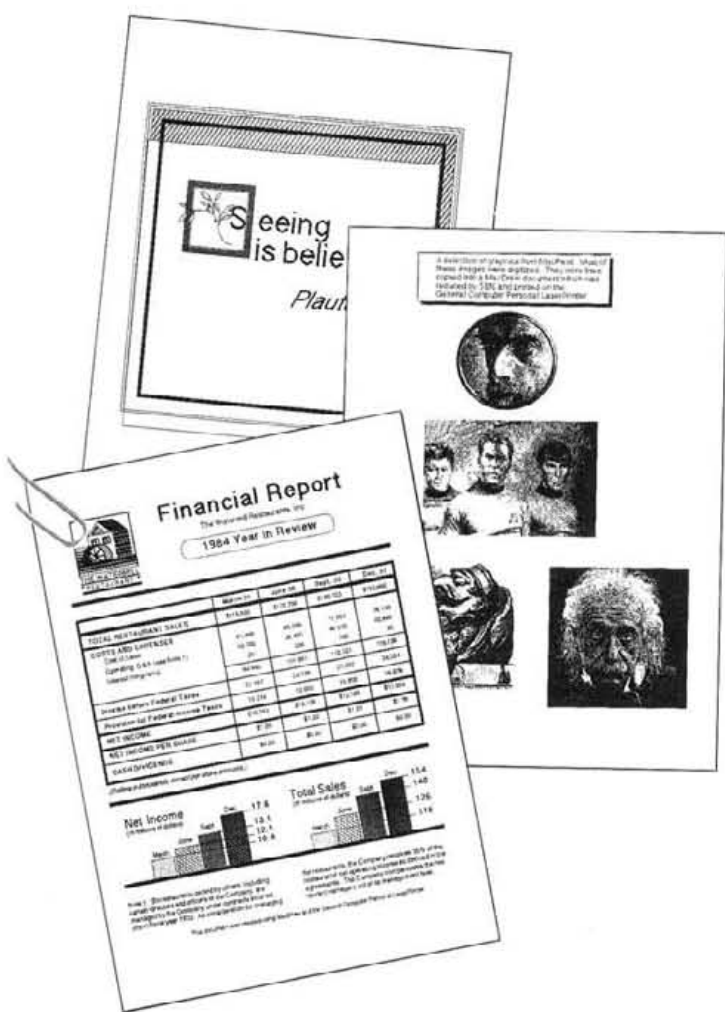
Only slightly larger than the ImageWriter and offering similar printing quality to the LaserWriter, the PLP is well suited for all the documents you create in the course of your work... text, spreadsheets, hi-res graphics, presentations, DTP documents.

The PLP prints scanned images, hi-res graphics and text at an impressive 300 dots per inch near type-set quality. It comes with all the fonts available on the Apple LaserWriter, plus Bitstream's version of Palatino and Helvetica Narrow.

Three powerful printing modes that are presented by the Macintosh print manager are included in the PLP: preview, draft and high quality. It is Quick Draw compatible and prints at a speed of up to six pages per minute.

At a retail price of around half that of the Apple LaserWriter, the General Computer Personal Laser Printer is a must for your Mac.

The PLP is available from your Apple Dealer and at Apple Centres.

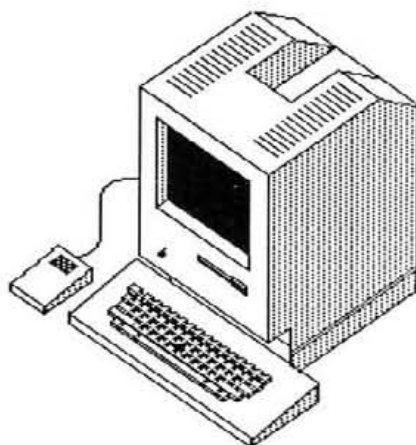


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Why Desktop Publishing?



In the first of a series of articles on DeskTop Publishing Lawrence Miller looks at the history of printing and DTP.

A curious title...

In the light of both Apple's and, in particular, the Macintosh's amazing rise to fame & fortune on the back of Desktop Publishing (DTP). However, I think that that it would be advantageous to take a brief look at the history of printing and the background leading to our current ideas of DTP to gain some perspective on its uses (and abuses). Apologies in advance for any sins of omission but any such viewpoint is obviously limited both by space and the author's personal prejudices.

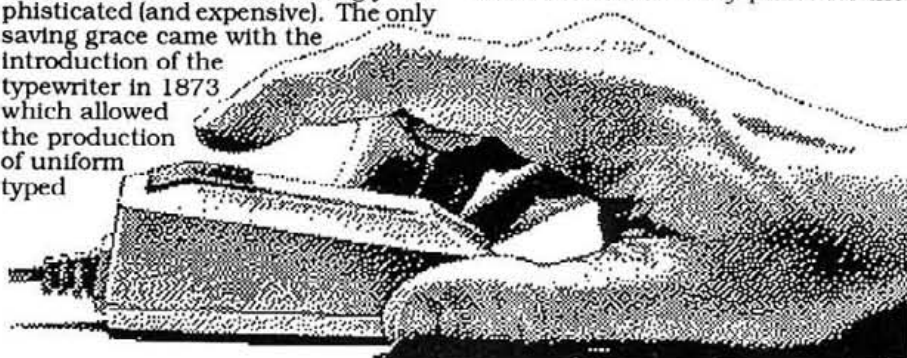
The use of movable type...

For printing is generally believed to have been one of the most significant inventions in the history of mankind. It would be more accurate to say that the introduction of movable type by Gutenberg was the significant event as the principle was known and used by the Chinese for centuries before his use. It needed the background of a society boiling over with a ferment of ideas, together with an alphabetic as opposed to an ideographic written language, for this invention to bear fruit. The development of printing, at a time when the intellectual life of Europe was undergoing a revolution, provided the explosives to be detonated by the fuse and detonators of what we now call the Renaissance. Printing allowed the rapid spread of new ideas amongst thousands, through not only books but pamphlets, at a rate faster than the Church could respond to and faster than the Church could burn or put on the *Index librorum prohibitorum*. A look at the time scale and publication rates reinforces the clear link between printing, the Renaissance and the Reformation. Gutenberg developed the printing press between 1446 and 1448. By 1500 there were presses in 183 European towns and cities with more than 16,000 works printed in some 40,000 editions. Compared to the previous centuries of manually copied books, this was (and is) an unstoppable flood allowing almost anyone to put his thoughts before an ever growing audience in an easier fashion than previously thought possible. The other effect of this revolu-

tion was the continuing of the distancing of the author from the finished work and the introduction of a certain uniformity of appearance in the end product.

The development of printing...

From its 15th century beginnings to the modern day shows a major effort towards automating the typesetting process combined with a move (in this century) away from metal type with the invention of offset typesetting. It has also had the effect of moving printing further from the author and pricing its use out of the reach of the average consumer as printing systems have become increasingly sophisticated (and expensive). The only saving grace came with the introduction of the typewriter in 1873 which allowed the production of uniform typed



documents by the individual but at the expense of the aesthetic production qualities provided by typesetting. This resulted in a multi-tier hierarchy of finished material ranging from the glossy magazine/book through the paperback and Daisywheel / Golfball typewritten document to the far cruder stencil-duplicated document originating on a typewriter. The introduction of the microcomputer has changed the world of typesetting once more.

Computer typesetting...

Initially eased the printer's task especially in the area of newspaper production where it allowed reporters to input text at a VDU attached to a central computer system. From here the editor could access the filed material for direct editing and page layout before the final adjustment to the

finished page combined with a last proofing — all before any printing to paper with the consequent reduction in errors due to the elimination of retyping (with its inherent leaning towards errors) as well as reduced typesetting costs (errors found in proofing mean new or amended plates) and an overall reduction in turnaround time. With the appearance of the microcomputer, it became possible to return control of the keyboard operation directly to the author for any kind of text — from pamphlets to books. It still left the actual printing (for quality reproduction) with the printer but the author could provide the precise layout required (with a willingness to learn the required typesetting codes) or at least the entire text to avoid the entry phase for the

printer. Once more, control over the final appearance of text was moving back to the originator of the material.

There is considerable evidence...

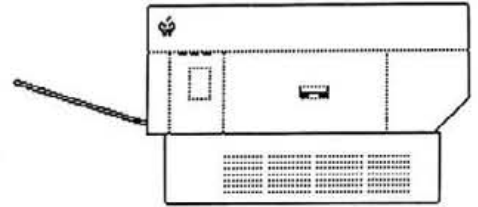
That typesetting has always been a remote mechanical process to take an author's words and change them into an aesthetically pleasing but different form controlled and laid down by people generally unfamiliar with the work as well as unknown by the author. For many writers this has been an advantage to work with no worries concerning the final appearance but for others it has been frustrating to see an idea changed by someone not involved in the original creative process. The next important step, in the process of returning control to the originator as well as widening the range of people who can produce high

quality material, came from Apple and leads back to the title of the article.

The big leap forward...

Came with the introduction of the Apple Laserwriter and Postscript combined with the Macintosh computer and WYSIWYG software. At last, total control from idea to finished article became available at a fraction of the cost of a modern offset photo-litho system. Anyone, needing printing and capable of learning to use or already using a computer, can benefit from a DTP system and the Apple system readily went about filling this need to the extent of creating a brand new niche market. Apple's DTP system does not meet all printing needs but it does solve many and, in addition, eases a lot more. The per copy cost, from the Laserwriter, is relatively high and is only economic for direct reproduction of a limited number of copies. For larger quantities, it is cheaper to use the output as a master for photocopying or, for larger quantities, as a master for offset photo-litho reproduction. Alternatively, with the introduction of Post-

script compatible printers such as the Linotronics, the original text can be used directly from disk but with considerably higher resolution available. Within this range of possibilities lie the solution to most peoples printing requirements combined with a level of control unprecedented since the invention of printing as well as considerably reduced costs for professional typesetting and savings in time between origination and production. Whilst the output from the Laserwriter has a resolution of only 300 dpi, use of Linotronics offers far higher resolutions when required. The success of DTP, as a working concept, is clear to see from the growth of Apple and its sales of systems to the number of users actively involved in DTP systems. The production of magazines such as this bears clear witness to the usefulness of such systems, let alone the plethora of businesses producing catalogues, sales documents, presentations etc. Even greater evidence of the value of DTP comes from authors such as Douglas Adams whose recent book *Dirk Gently's Holistic Detective Agency* was written, typeset and proofed on a Macintosh™ Plus with a



Laserwriter™ Plus using MacAuthor™ before being printed with a Linotron 100. By this means he maintained control over every phase of his work from the first idea to the finished product. This, I think, answers the question *Why Desktop Publishing?* even though there are many caveats to born in mind. I'll cover some of these in my next article - areas such as design, layout and the general aesthetics of typography.

Lawrence Miller is a consultant on Micro Computer and DTP in the West Midlands. Apple2000 welcomes articles on any Apple related subject - please write or phone for contributors guidelines.

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Ready, Set, Go! 3

A Page Layout Program Reviewed by Dougal Hendry

RSG3 is generally simpler to use than its competitors in the "Desktop Publishing" market, particularly for simple layouts.

Its greatest strength is the ease with which text can be edited after positioning on the page. RSG3 runs text around dropped-in blocks of text or graphics, but throughout it is limited to working with rectangular blocks.

There are notable weak spots in the user interface, and the manual is inappropriate to the price.

I have used RSG3 to set this article myself, so don't blame the Editor for the funny looking pages!

Initial Impressions - the manual

The manual is the first thing that strikes you about this package. It looks like a magazine!

The text was written by the author of the standard book on Word 1.05. The manual tells us that after receipt of the text all its "...editing, content amplification and layout was ... performed with RSG3 in about ten days." (56 Pages? At that rate, you'd never get the club's magazine!)

As a magazine, or as a tutorial, its OK. As reference documentation for a £395 program, its frankly inadequate. As an advertisement for the program, it is surprisingly accurate.

Accurate? At first, it looks quite well done. Look closer and the cracks show. It is inexcusable to have a spelling mistake in the section describing the Spelling Checker! (Perhaps they didn't use it and so never noticed that they had one - out of two - Command keys wrong.) Where is the "Help Screen" trouble shooting chapter, mentioned in the introductory "Getting Started" section? Why do all the chapters have headers except "A Quick Tour" and "The Essence of RSG"? Where the graphics break the text awkwardly, are these intended to be educational deliberate mistakes? (For example, Page 45, the start of the chapter entitled "Layout Basics," has a graphic splitting a heading from its section.)

Not bad really, but far from flawless.

Program imperfections

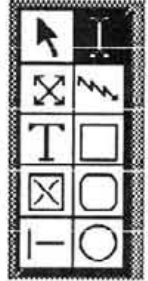
Similar small imperfections mar the program. Tab settings and graphics scaling are done only via numeric dialog boxes. A click in the grey part of the scroll bar jumps you to the opposite end of the page, instead of scrolling by one screenful. Sometimes, screen litter is left behind until the next major refresh - I noticed this when adjusting "Line Spacing," the name RSG3 uses instead of Leading. (Integer point sizes only, by the way.) And I soon became fed up with the jump to the top left corner of the page, which happens every time you change the view size. Multiple windows are possible, but reduce the window width, and you can't scroll to the right edge of the page! It's a pity, but the Edit menu's Undo option *only* restores selections deleted by backspacing.

I'm sure the toolbox could be better laid out. Surely the layout should emphasise the functional pairings of text/graphics, straight/round. This is important because one does change tools a lot.

The pointer selects blocks, and reshapes them. The

lightning bolt selects text block links. The I-beam is for text editing. The 4 arrows adjust pictures. The T creates text blocks, while graphic blocks are created from the X-box. The other four tools create lines and boxes. The toolbox is moveable, but it doesn't 'float to the top' like PageMaker's, so that it does take up desktop space, reducing the amount of page visible on screen.

One reviewer complained that the tools prevented him seeing a whole US letter page at actual size on a Radius big screen. He could have done it if he had moved all the tools across to the Mac screen. Moving the tools is mentioned just once in the manual - in "Getting Started," buried within the section on multiple windows - and not referenced in the index!



The Layout Sequence

OK, so how do you use it? Well, start by reading through the manual! There are no Help screens in the program, so bashing on is pretty unrewarding... What follows is just my sequence, and you can backtrack, change your mind and fiddle as much as you please - in your own time!

Begin with Page Setup. This is limited to the printer's standard paper sizes, so A4 is the biggest - an important limitation for some.

The program permits creation of "Master Pages," which can contain all repeating elements, including layout blocks. Masters can be created for left and right pages of the document.

Choose an overlay Grid. This is a conventional non-printing layout aid, which the various blocks may be required to "Snap To." Many times I wished that I could separately specify horizontal and vertical Snap. The finer the grid, the slower the screen update.

Continue by defining the blocks that will hold the text. I found it easiest to define these for a pageful of text, without illustrations or other breaks. The reason for this is that it is damn difficult to get text in adjacent columns to line up exactly if those columns start off at different distances away from the top of page! There is a neat way to handle graphics, don't worry!

Add as many pages as may be needed, then start entering things...

Text Entry

Text can be entered directly, or from files - Mac-Write, Word 1, or ASCII text. Those text boxes can be linked into chains, along which the text will flow, (and ebb), automatically. The text, *not the box*, is adjusted *automatically* when it is edited or changed in font. It always looks after itself when edited, or a box is resized, or linked in and out of chains. This is pure magic to anyone who has struggled with PageMaker. The mechanics are simple: Get the lightning bolt linker tool, and click just once in each block in sequence. Of course you can scroll and page around between clicks. End by selecting another tool. That's it. Extra blocks can be added, inserted, or even taken out of chains equally simply.

Give Graphics the Run Around

Graphics and Headlines can be placed in blocks



Review

designated as "Run Around."

Run-arounds are blocks placed over the text blocks and which "repel" the text underneath, so clearing out space for themselves. (The secret benefit is that space is cleared in units of whole line numbers, which keeps the alignment!) Again the hardened pagemaker's jaw will drop as the text quickly flows around the new element. A small restriction is that each column of text can flow past the insert on only one side. A column cannot engulf the insert.

Overlapping text or graphics blocks don't have to behave like this, but when they do, they allow easy placement of graphics, sub-headings, drop caps, advertisements... what do you want?

Imported and other Graphics

Graphics are imported into special graphics blocks. These act as a resizable cropping window onto the graphic, which can be freely moved around under it. But, if you should need to stretch or shrink the graphic itself, you *must* use the Special menu's unhelpfully labelled Specifications option to get a dialog box, into which you can type your chosen scale factor. This is not the proper Mac style. Neither is the "Input error" that results from entering too many digits, (even zeroes), in the dialog box. And aren't all menu selections leading to further choices supposed to end with an ellipsis (...)?

It must be said that there is an advantage to treating bit-maps (paintings) in this way. It allows you to set 24, 48 or 96% reduction, giving better LaserWriter printing.

RSG3 has tools for creating lines ("rules"), and boxes for setting off and framing the elements of your masterpiece. ("Thin" is one Laser pixel wide.) The opportunity to use tartan ink actually occurs when one of the QuickDraw patterns is selected for the "Pen" and another for shape filling. Personally, I find the boxes rather cliched, but the textured lines do offer scope for invention, although the printed result varies with precise positioning.

Once again, attempting accurate placement will lead you back to that wretched Specifications dialog box... Overall, it is much more sensible to make up a 'Drawing' in some Draw program, and import it.



Objects, objects

Worth noting is that objects can be grouped by shift-clicking for movement on screen. However, 'nudging' one object via the dialog box leads you into arithmetic to try to apply the same nudge to the others in the group!

To re-order screen objects, RSG3 uses only "Bring To Front" and "Send Behind" menu commands - lacking shuffle up/down one.

P.S there's PostScript too

Implicit in those comments is that this is a 'Draw-type' Object-oriented program, able to utilise the full resolution of the LaserWriter. And for those who dare, it offers PostScript programming. This is the native language of the LaserWriter, and can be used to generate otherwise unobtainable special effects.

The PS program is entered in a normal text box, which is then designated as PostScript - by that same Specifications dialog box.

Word Processing on the Page

While graphics are best prepared outside the program, the word processing facilities are good enough to encourage the creation of copy on the page. The

text editor becomes really useful because of the fast, automatic, text reflow, which allows an editor to properly edit (or just 'sub') an article to fit the space allowed. With PageMaker, and proper text galleys, the temptation is just to cut off the end!

It has a switchable Hyphenation function, which was allowed to do *all* the hyphenation in this review. Words which must not be hyphenated can be held in an exceptions list.

The Spelling Checker

The rudimentary spelling checker really should have been used on the documentation!

It scans the text at a nearly acceptable speed, seemingly limited by repeatedly reloading the dictionary from disk.

It just highlights the first suspect word, then stops. There is no program guess or suggestion, as with Write Now. The vocabulary seems rather limited, (it objected to 'layout', 'OK' and 'desktop'), although 60,000 words are claimed. It would appear to be partly anglicised, objecting to neither 'color' nor 'colour.'

Words can be added to a personal supplementary lexicon, a plain ASCII text file.

Kerning and Baseline Shifts

Letters can be moved apart, together, up or down by whole numbers of points. This was used (along with stretching), to tighten up the main headline. Pretty good, but why must the option key be used to kern a group of letters?

Size and Disk Space

The program and dictionary fit onto a 400k disk, and run in only 192k of Switcher, which makes the program impressively compact. This article occupied just 44k of disk space.

My Conclusions

Version 3.0 is much easier to use than its predecessors, but still gives many causes for irritation. This is unfortunate, since to my mind the program has the makings of an ideal, simple introduction to Desktop Publishing.

It is small enough, and fast enough to be used adequately without a hard disk, although access to a LaserWriter, or other PostScript printer, is really essential for DTP. Lacking my own one, I cannot comment on criticism of extremely slow Laser printing by RSG3.

Letraset took over distribution of the program only after the release of version 3.0, and presumably are aware of its quirks. Release 4, or even 3.1, should surely be pretty good.

My own personal opinion is that the retail price ought to be closer to the US discount at about \$200 (that's £130 including duty), than the British RRP of £395, (both plus VAT).

Editors Note:

After this review was written LetraSet announced the introduction of R.S.G 4.0 which I have been assured clears up the above points and also adds over eighty new features. We will try and get a review copy to Dougal for a comparison review as soon as LetraSet have a release review copy. They will be demonstrating this completely new version at the DeskTop Publishing Show in October.

LaserPaint®

Norah Arnold looks at LaserPaint, the complete environment for graphic design and graphic arts.

Ever since I met the LaserWare Inc. team at the Rotterdam MacWorld Expo I have looked forward to having a closer look at LaserPaint®, their latest offering. They have certainly aimed very high with this program, trying to give every graphic artist and designer the ability to adjust the program to his or her own needs and requirements, so that it suits them 'just like that old familiar pen', to quote the manual. They have not aimed to automate the designers' tasks and create robotic work, but have attempted to give the designer the ability to add endless variety to his work by enabling him to configure each tool to the particular needs of the moment. They have aimed to provide a program giving professional line drawing capabilities, high resolution bitmap editing up to 600 dots per inch, full control of text kerning and leading, text justification around pic-



tures and along paths, four colour and line colour separations and professional camera ready artwork. How far have they succeeded in their aims?

Let us first look at the LaserPaint main screen which appears on startup, a dump of which appears at the bottom of the page, showing one of my drawings already in place. The first Tool Panel to appear is the Drawing Tool Panel, whose commands are documented in more detail below.

Just as in LaserWorks, their high resolution font editor for the Macintosh, LaserWare have succeeded in implementing the Macintosh user interface in an interesting, functional and often novel way. On clicking on most of the icons in the Tool Panels, the icon becomes darkened to show that it is selected and when the cursor is pulled back into the drawing panel, a miniature of the icon design is found to be attached to the cursor, enabling the user to be certain of which function is selected at any particular time.

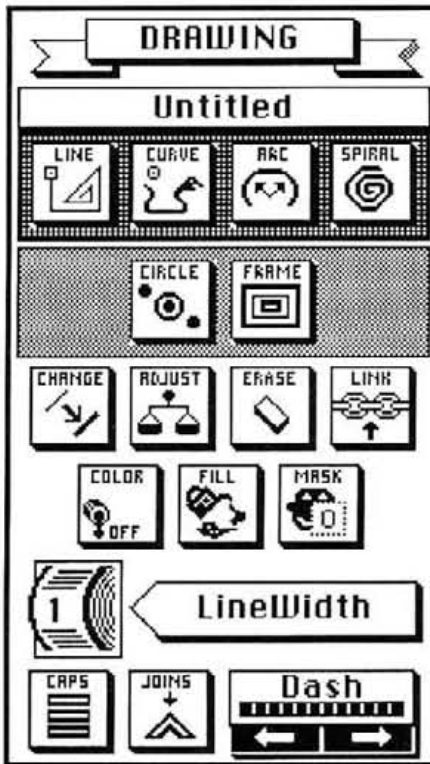
LineWidth is controlled by a thumb wheel and clicking the mouse button on the lower part of the thumb wheel increments the setting by one. Holding the mouse button down causes the thumb wheel to spin and keep on incrementing, while Shift click on the thumb wheel will increment by fives. Placing the cursor on the top half of the thumb wheel causes the setting to decrement. This type of thumb wheel is used on several of the other Tool Panels; to control Diameter and Flow in the Painting Tool Panel, to control Leading and Kerning in the Writing Tool Panel and to control the number of copies and Reduction in the Laser Tool Panel.

Along the bottom of the screen is the Control Panel. The first icon is the Tool Chest and Tray.



These give the user the capability of hiding the Control Panel and/or the





The first line of drawing icons are grouped together because they are all path commands which can be used together to create one continuous path or line. Clicking the Line icon itself lets you draw a line defined by two control points. Double clicking removes the control points and deselects the line, making it into an individual object. Four points are necessary to define a curve as Bezier curves are used in LaserPaint just as in LaserWorks, the Laser font editor from the same authors. The first and last points define the beginning and end of the curve, while the two middle points are 'control points'. An Arc is composed of three control points, the first and third being the start and end points while the second point is the radius of the arc.

The Spiral function is most impressive and is composed of three control points; a starting point, a control point which is the centre of the spiral, and a third point at the position where the spiral will first cross the radius line. Once you get the knack of using the spiral tool you cannot resist play-

ing with it and making beautiful designs. The second line of icons are functions that create one continuous shape. The circle and the frame or rectangle work very like their counterparts in other drawing programs.

The group of seven icons in the centre are all used to edit or to adjust an existing drawing. The Change icon on this drawing tool panel allows the altering of the linewidth, linecolour, linepattern, dash, joins and caps. By clicking on any control point of a path or drawing object, the present settings of these functions can be made to apply to that part of the path. All drawing objects may be Adjusted even after completion. Any selected object may be Erased and the size of the Eraser tool is adjustable from the diameter setting. Link closes the path of objects made with Lines, Curves, Arcs and Spirals.

The controls at the bottom alter the appearance of a line, its linewidth, the capping of the end of the line, the way in which two lines join and the dash pattern of the line.

current Tool Panel so that more of the drawing palette can be seen and the full screen can be visible if necessary. The Tool Chest gives access to the control panel and the Tray allows access to the current Tool Panel. An extremely useful feature is the ability to temporarily turn on the Tool or Control Panel in order to select a new function, and then have the panel automatically turn itself off.

Next in the Control Panel come a row of six push buttons.



Activating any one of these buttons will cause a different tool panel to be

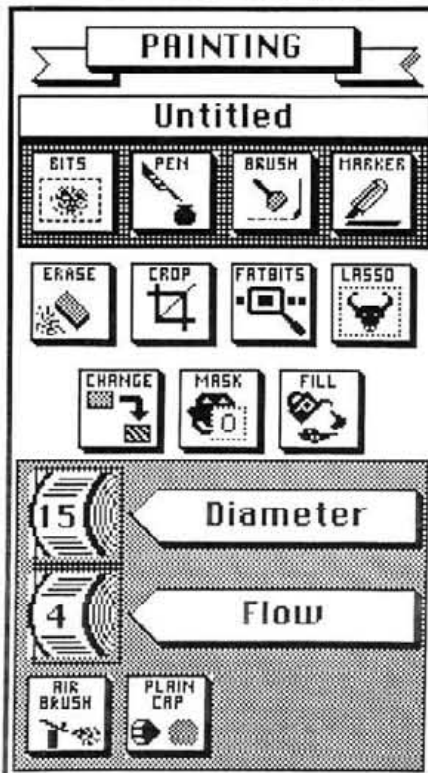
displayed on the screen. Clicking button D brings up the Drawing Panel, P - Painting, W - Writing, G - Goodies, L - Laser and last of all Y stands for Your Own. When you click the sixth button an empty Tool Panel appears with a banner heading 'Your Own'. This is a tool panel which the user may create for himself, by taking functions from any of the other Tool Panels and collecting them together in a way which reflects and assists his own personal use.

After the push buttons is a square icon known as the Color-Scan. Option - clicking on the Color-Scan gives access to a panel of 48 patterns. These patterns represent 48 different

colours. Well, you might start wondering why all this talk of colour when



the majority of Macintosh computers in existence have only black and white screens. The answer is that unless you have a Macintosh II you will have to use your imagination as far as the screen is concerned. The whole point of this system of colour designation is to enable LaserPaint to create either Line Separations or the four plates (magenta, yellow, cyan and black) necessary for the four colour process automatically from



Painting functions can only be used within a Bit Box. Although several Bit Boxes can be created on one palette, only one Bit Box can operate at a time. The size of the Bit Box may be changed at any time by clicking again on Bits and dragging the handles on the upper left or bottom right corners in or out.

The Pen function acts like a graphics pen. The thickness of the stroke can be controlled by operating the diameter setting. The Pen is always black and the Flow setting has no effect on this function.

The Brush function acts like a paint brush. The diameter setting controls the brush thickness and the flow setting controls the amount of paint. When the CapsLock is down the pressure of the brush is at its maximum, and the diameter setting only operates on the brush when the CapsLock is down. The direction of the brush stroke may be rotated by the use of the Option key.

The Marker acts as a normal marker pen with six tips to choose from, controlled by use of the option key. Both diameter and flow can be

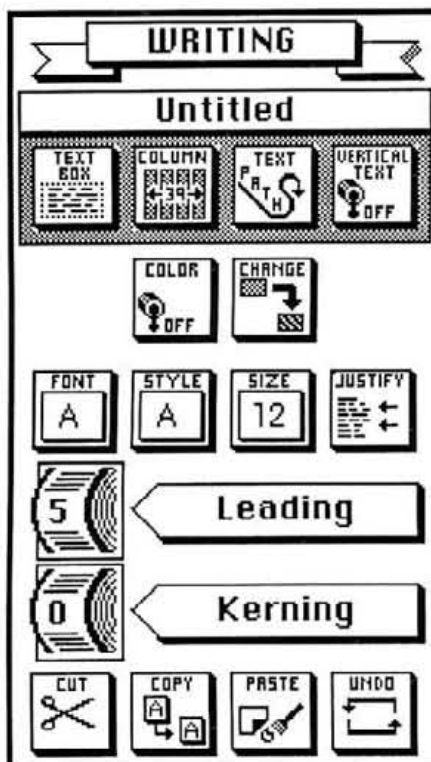
controlled but it is tricky to get them both at exactly the right setting for the effect you wish to produce.

One of the most effective tools on this menu is the Airbrush which has normal flow settings from 1 to 5. There are two Airbrush caps to choose from; the plain cap and the spatter cap. The caps icon indicates which is current.

The Eraser tool works in the usual way with the size of the Eraser being controlled by the diameter setting.

The Crop tool is used to trim the painting in the Bit Box by clicking the Crop icon and dragging the upper left hand corner handle downwards or the lower right hand corner handle upwards. Proportional cropping along the X and Y axis can be done by pressing shift while clicking either of the two handles.

There are three types of mask: opaque, ghost and stencil. Option-click acts as a toggle to change from one to the other. The stencil mask works specifically with the painting commands to enable painting within a defined boundary. With drawing commands the effect is different.



The functions on the writing panel allow you to add or edit text on the artwork.

Clicking on the Text Box icon will change the cursor from an arrow to a hairline text cursor when it enters the drawing palette. Dragging the cursor diagonally will create a Text Box. The blinking vertical cursor in the Text Box indicates the point of text insertion. When the Text Box icon is clicked a second time, a black dot appears in the lower right hand corner, which can then be moved in order to change the shape of the Text Box.

The Column icon is used to set the column layout. Each click on the icon will change the layout to a different choice. The icon with a question mark is reserved for a customized layout which can be made using the configuration option.

With the text selected you can click on any path created with the drawing tools and the text will follow the path. If the text is then selected for editing it will return to its text box to be changed and the Text Path icon can be used to return it to its path. The

text can be placed above, below and on the centre of the path by configuring. The text can be adjusted so that it will fit correctly on the path and look its best by adjusting the Kerning. It is essential to test out the appearance by doing test prints in order to get good results.

The Vertical Text icon may be set to on or off and affects the way in which the text on the path will be done. With Vertical Text on, all the characters on the path will stand up straight regardless of the direction of the path. When Vertical Text is off, the bottom of the characters will adhere to the line of the path.

Font characteristics may be changed from the writing panel by use of the Font, Style and Size Icons. The Justify icon acts as a switch button, a different Justify condition being entered on each click. Both Leading and Kerning may be controlled by the adjustment of the relevant thumb wheel. After text is positioned one can try many different Leading and Kerning values in order to see the effect on the text in question.

the colour information embedded in the artwork. In the case of the four colour process, the four black and white artworks can be given directly to the printer for making the plates and printing.

A Command - click on the Color-Scan icon will open the colour configuration panel. The full range of Pantone colours are available within the program in both coated and uncoated papers. The percentages of the process colours are shown in colour meters and the percentages have been adjusted to reflect as closely as possible the range of Pantones. Those Pantone colours known by name and not by number have been given

numbers for identification purposes and are listed clearly in the manual. In any one artwork, up to 48 Pantone colours may be specified. Colour specifications may be used with drawings, bitmaps or text.



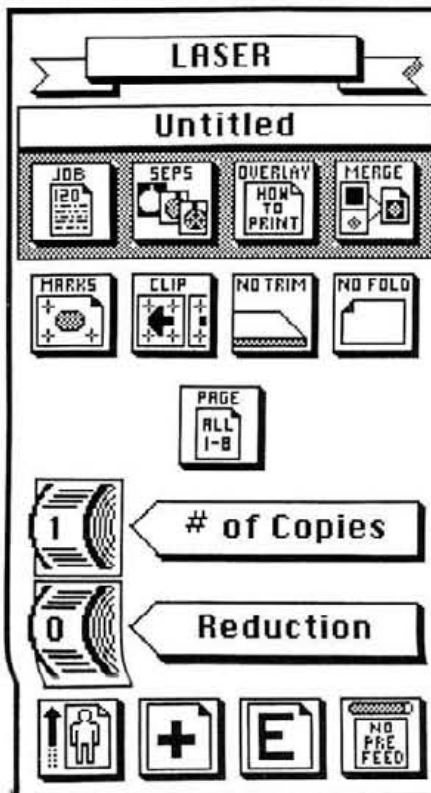
The next icon is the Pat-Scan and this gives access to a panel of 48 patterns which may be used normally like the patterns available in MacPaint or MacDraw.

Once drawn, any object may be locked which prevents it from being altered, either intentionally or

unintentionally. The only thing you can do with a locked object, other than print it, is to unlock it. This feature I have found to be particularly useful when the screen becomes crowded with a complicated drawing.



The Detach icon shows a jigsaw puzzle. This function separates an object into its constituent parts and is the equivalent of 'ungroup' in some other programs. Select is chosen when the user wishes to specify which particular object is to be worked upon.



The Laser Tool Panel is used to prepare the printer for your next printing task. All the printing features are controlled from this panel.

A file called 'LaserPaintJob' may be printed when the current artwork is printed. This is a normal LaserPaint Object File and can be customized by the user. Many items may be grouped as one object and saved in an object file in this way by the use of the Job button.

The Separations button is used if you wish to print Separations rather than artwork. The separations must have been prepared previously using the Separation functions in the Goodies Tool Panel. When the Separations Button is on, all the 4-colour separations or line colour separations relevant to the current artwork will be printed in sequence. The relevant colour will be printed on the bottom of each page. The current artwork has to be unseparated artwork and is not printed.

The Overlay function will print overlays automatically with the current artwork when it is printed. The user is expected to insert the clear

overlay paper between all pages and the colour instructions will be printed on the overlay with an outline of the objects.

The Merge button is used to set the Merge option on or off. A LaserPaint object may be Merged with each page of the current artwork. This can be useful for printing a company logo in, for example, 10 per cent grey and merging it with artwork so that it will be seen only in the background and will not detract from the artwork. A Merge file cannot contain any bitmaps but may contain drawings and text.

When the Registration Marks icon shows the marks then they will be printed on each page in the four corners. These are essential for colour work and can be used to accurately position the eight page format into one plate, in the mountage. They represent the full drawing area of the printed page, although with the clips set to off there is sufficient overprinting. With these controls it is possible to register text running across several pages. Trim marks can indicate where the final job must be cut.

MACINTOSH II DOWN IN PRICE!

Yes, as part of their continuing commitment to Education, Apple have substantially reduced the price of their flagship, to *educational establishments*. Subject to Apple approval, the Macintosh II is now available at the new subsidised prices to Universities, Polytechnics, Colleges, Schools, Hospitals and Registered Charities. In addition to this, we have also trimmed our margins in an effort to make this super Macintosh even better value.

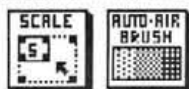
MACINTOSH II SYSTEMS

	APPLE REC	EDUCATION
Single FD Mono System Macintosh II with single internal floppy disk drive, high resolution monochrome monitor, 1/4 bit video card, standard Apple keyboard £	£4495.00	£2650.00
40M HD Mono System Macintosh II with single internal floppy disk drive and internal 40Mb hard disk drive, high resolution monitor, 1/4 bit video card, standard Apple keyboard	£5495.00	£3300.00
40M HD Colour System Macintosh II with single internal floppy disk drive and internal 40Mb hard disk drive, high resolution colour monitor, 1/4 bit video card, standard Apple keyboard	£5995.00	£3575.00
2M, 80M HD Mono System Macintosh II with single internal 800k disk drive, 1 Megabyte RAM upgrade, internal 80 Megabyte hard disk drive, high resolution monochrome monitor, 1/4 bit video card, extended Apple keyboard	£6795.00	£3900.00
2M, 80M HD Colour System Macintosh II with single internal 800k disk drive, 1 Megabyte RAM upgrade, internal 80 Megabyte hard disk drive, high resolution colour monitor, 1/4 bit video card, extended Apple keyboard	£7295.00	£4200.00

Please add VAT to all prices

GOODIES

Untitled



Sep Line Color



Sep 4 - Color

The Goodies Tool Panel Contains functions which act upon the drawings and paintings which are created by the use of the other tool panels. The panel contains six icons and two push buttons.

The Rotate function will turn an

object around on its axis. In order to make very accurate rotations it is necessary to use Rotate in conjunction with the Degree Meter accessed from the Instruments menu. Rotate works on all the functions in the drawing menu except Ovals and Frames. With some objects Rotate is not 100% reversible. Resorting to 'Revert to Saved' may be the only way out.

The Flip function is more or less self-explanatory and is used to Flip an object either horizontally or vertically. Clicking on the arrow Flips in either direction.

Mirror is a special feature that allows the formation of a mirror-image of the current object across any horizontal or vertical axis. The Mirror function works very well with objects made up of lines and has no difficulty in duplicating the object to the other side of the axis. Objects made of curves are much more difficult and some degree of approximation is the result.

The Peak tool can be used to create the effect of perspective. It can

operate on objects made up of Lines and Curves from the Drawing Tool Panel.

The Scale function operates on all other Laser Paint functions. It works on the corners of the bounding boxes that surround the objects.

Auto-AirBrush fills closed paths with fountain effects. To activate the Auto-AirBrush the object must be a closed path. With the object selected, you click on the Auto-AirBrush icon. When the Auto-AirBrush appears in the drawing palette, placing it within the object and clicking will produce the fountain.

The Sep Line Color button will separate the current artwork into several files according to the 'pantone' colours used in the artwork. These are used later for printing and may be edited if the user has any special requirements.

The Sep 4-Color button separates the current artwork into four files, Magenta, Cyan, Yellow and Black and saves them to disk. The files can then be printed automatically or edited to the users special requirements.

The default position of the zoomer is on 1, and while the figures to the right enable the user to zoom out and see more of the page, the figures on the left zoom in to magnify an area of the drawing palette.

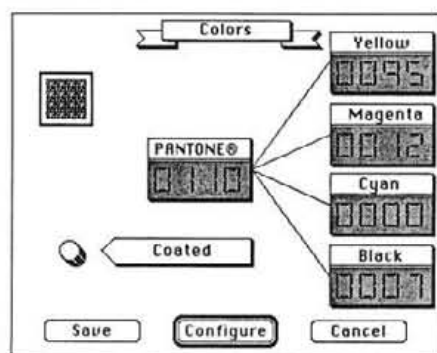


The memory requirements of LaserPaint depend on whether or not the zoomer is set to less than one. With the zoomer on one, the memory demands will be at a minimum and the resolution of a bitmap created in this scale will be 72 dots per inch. Zoomed in to the 2 setting, the artwork would print at approximately 150 DPI, while 4 would give 300 DPI. LaserPaint has the ability to produce bitmaps of 600 DPI for those having sufficient memory available and a printer of that resolution.

One very important thing to remember when using LaserPaint, is that while artwork done in 'draw' mode will be printed in the resolution of the output device, artwork in the form of bitmaps will always be printed in the resolution in which it was printed. That means that if you are printing on a LaserWriter your drawings will be printed in a resolution of 300 dots per inch, but the very same drawings, if printed on a Linotronic, will be printed at a resolution of 2540 dots per inch.



The next icon in the control panel is the joystick control, the centre of which contains the lever. Clicking on the Joystick lever scrolls the palette in the desired direction. There are eight directions to choose from. The scrolling speed increases as the arrow cursor is dragged away from the



centre of the Joystick, and conversely, will slow down as the cursor is dragged closer to the centre.



The last item in the control panel is the Page Matrix which represents the outline of eight fully printed pages. The small black box or view indicator, shows the portion of the palette which is visible on the screen. The view indicator can be dragged anywhere on the palette and I found it to be the quickest way to move from one page to another.

Conclusions

This is a program for the serious graphic artist, not for the MacPaint fan who likes to doodle on the screen now and again. It is a comprehensive program with many features which one cannot get the best out of in a few minutes playing around. The dedicated graphic artist would be willing to spend time in learning how to manipulate the tools to his advantage.

In addition to saving artwork as bit images or drawings, LaserPaint en-

ables you to save in PS (PostScript), EPSF (Encapsulated PostScript Format) and TIFF (Tag Image File Format). Unfortunately I did get a couple of bombs while saving in Encapsulated PostScript Format but this was the only problem which I encountered in using LaserPaint.

In the past the authors have been very responsive to suggestions for improving their products and I am sure that they will continue to improve and refine the many features of LaserPaint in coming months. In the latest update, halftone screens have been made configurable by the user, the text handling improved, and the Configure Font menu lets you display 150 fonts from your system folder!

The documentation is very thorough and well presented. It has given me some really good laughs, though, and I would suggest that the authors get a native English speaker to check the manual for both spelling and meaning.

info

Product : LaserPaint®
Publisher : LaserWare Inc
Available from : (from Oct 1st)
P & P Micro Distributors
Todd Hall Road
Carrs Industrial Estate
Haslingdean
Rossendale
Lancs BB4 5HU

Price : £399 + VAT
Value : ★★★★★
Performance : ★★★★★
Documentation : ★★★★★

Keynote Speeches

The major Keynote Speeches from Boston transcribed by Peter Olsen

John Sculley's Speech

This is a report on the Tuesday Keynote Speech at the Macworld Expo. John Sculley spoke for about 45 minutes and then took questions from the audience. This report was prepared by Peter Olson (PEABO on DELPHI) and any inaccuracies are due to my transcription of the substance of the speech, which I have done in my own words to a large extent (I'm not a stenographer!). If you would like to post this or reprint it, please do so in its entirety.

John was introduced by Pat McGovern of IDC, parent corporation of PC World Communications. Pat mentioned that it is his 50th birthday, and John Sculley's 50-month "anniversary" as the head of Apple Computer. He went on to describe his first view of the Macintosh, in the fall of 1983, which led to the startup of Macworld magazine, and then gave a plug to his new publication Macintosh Today which has its premiere issue at the Expo. He wound up his introduction by mentioning that Sculley will have a book published in October by Harper and Row, entitled "The Odyssey", and by praising Sculley as the man who turned Apple around from the company that the press was ready to write off in 1985 to the company it is today, a forerunner in the world of modern personal computing.

John Sculley then took the podium. He says that in fact, it is not the work of one man making Apple what it is today, but actually the work of many people, both inside and outside Apple. The future depends on the gathering together of a critical mass of computers in the hands of people who use them for interpersonal computing. Computers will be integrated into the workplace and the schools, connecting people to people, and connecting people to information. Developments in artificial intelligence will pave the way for contextual analysis of that information. People will have at their fingertips sophisticated tools for managing information, and this will change the way people think and learn.

Information is displacing natural

resources as a dominant factor in the economy of the world. Up to now, we have seen a hierarchical economic system, where raw materials from third world countries are imported into the US and other developed countries, and made into products of greater value, both for our own use and also for export back to the same countries which provided the raw materials. But now that is shifting, and instead of the hierarchy, we are seeing a network of interrelationships taking its place. The affluent middle class can no longer be the epicentre. It is an ecosystem of a kind, and a seemingly small change in one area can have an enormous effect on the whole (John illustrated his point with a comment about the effect of



John
Sculley

deforestation of the Amazon on the production of oxygen in the atmosphere). The small change that is going to effect our future is the fact that we, the affluent middle class, have been living beyond our means, and we must figure out how we can continue to create value as an affluent middle class society.

We need to create value on the basis of ideas, new paradigms of thinking and communication. The central core of the world economy is at risk, and we need innovation based on powerful ideas. "Changing the world" is NOT just a figure of speech!

It may appear that IBM and Apple are now on the same path, since IBM has finally embraced the world of graphic interfaces and even ships a "pointing device" with their new machines (they don't call it a mouse, you see) [laughter from the audience]. And yes, it will now be easier for the two environments of IBM and Apple to coexist, but Sculley predicts that in a few years, people will see that IBM and Apple are still on two different paths, just as they have been in the past. By the year 2000, the desktop engine will be capable of 100 million instructions per second (the Mac II

tips the scale at 2 MIPS and the Mac Plus is about 0.5 MIPS). Telecommunication and personal computing will have converged, and AI will have progressed. Apple's focus is to bring this technology to the people, and to follow the natural progression from the mainframe as the epicenter of computing power, through to the network (just becoming dominant today), and all the way to the individual's personal computer. In the world of the future, mainframes will make excellent peripherals for personal computers!

To understand the difference between IBM and Apple, all you have to do is see how the two companies will develop their systems for this future. IBM will have the PS/2 talking to every computer IBM makes, but the PS/2 will always be the peripheral. But for Apple, the personal computer is the epicenter and the mainframe is the peripheral. So the vision of these two companies will continue to keep them on separate paths.

Apple appeals to the artists. Apple's role will be to provide a technology platform. Third parties will implement the tools to bring this technology to the people. For example:

- * One of the new products at the show is a FAX modem operating at 9600 bps, allowing Macs to communicate via facsimile or to connect to conventional FAX devices.

- * EtherTalk on the Mac II will make the Mac II a real workstation machine and AppleShare PC will allow IBM PCs to participate in Apple workgroups.

John mentioned some figures on Mac networking, saying that Apple estimates there are now 130,000 AppleTalk networks containing over 400,000 nodes.

One of the important aspects of interpersonal computing is the ability to open multiple windows and work with them concurrently, some of which are related to applications running in your Mac, and some of which may be tied through a network to information on someone else's Mac. Naturally, this cannot be done without some form of multi-tasking, so Apple is announcing MultiFinder, its first generation multi-tasking operating system. MultiFinder was designed for the Mac II, but runs on the Mac Plus and Mac SE as well. It will allow multiple windows from different applications on the screen at once, and will have background printing. Soon there will be background communication and file processing available from third parties. MultiFinder works the way people do, and has fast context switching, integrating information across multiple Macs, and even across multiple operating environments, such as the Mac 286 coprocessor. MultiFinder will be shipping in September, so you will be able to use it in 1987 [unlike the multitasking for the IBM PS/2].

John then went on to talk about an even more exciting new product, which dates back nearly two years

when Apple Fellow Alan Kay convinced him to look at a new project from another Apple Fellow, Bill Atkinson. That work has blossomed into the HyperCard product which Apple will be shipping in a few weeks.

HyperCard is an extension of Macintosh technology which is probably the most exciting thing since the Macintosh itself.

It is a new medium which will revolutionize the use of personal computers. It opens software in a fashion analogous to the way a Mac II opens the hardware. It provides a personal toolkit of snap-together parts called "stackware". Just like the Mac provides a way to use computers without intimidation, HyperCard provides a way to organize information in an associative, natural manner. Stacks of cards are used as a metaphor to tie together text, pictures, and sound allowing you to jump between ideas much as you would think to yourself "That reminds me of ..." — HyperCard is a kind of database, but not like any conventional database you have ever seen.

Because Bill Atkinson is an old hand at writing super-optimized code, HyperCard can do these things quickly as well as elegantly. It's a great organizing tool for people who never can figure out where to file things. Eventually, it may be used as a front end for the massive databases which can be put on CD-ROMs. Although HyperCard is a programmable medium, the emphasis is on the content, not the programming.

HyperCard will be bundled in with all new Macs shipped, and will be sold along with a large amount of example stackware for just \$49 to anyone who has already bought his Mac. Apple wants to see a large installed base for this product grow rapidly.

The Mac II is a brand new center of gravity. All you have to do is look on the exhibit floor at new products such as VersaCAD (a 2-D CAD system), large screens and accelerator cards. Hewlett-Packard has a new line of scanners and printers that are compatible with the Mac, proving that some very large companies have joined the ranks of Apple developers. Apple will continue to lead the way in desktop publishing, but will also be expanding into a variety of other personal productivity markets.

Everyone involved with the Mac can take personal pride in having turned the Macintosh into what it is today. The Mac evokes a passion in its users and its developers, and it is spreading world wide. Thank you.

John then took questions from the audience:

Q: Will Apple be doing something to provide for network management?

A: Yes, both Apple and third parties will be providing management tools.

Q: Will Apple be manufacturing a "mainframe peripheral" as you put it in your speech?

A: We'll leave that to the third parties. [laughter from the audience]

Q: What about graphics boards such as the high-performance engines from Silicon Graphics?

A: I don't know what we'll see in that area just yet.

Q: How long do you intend to continue at Apple?

A: The journey has just begun.

Q: How well has Apple been doing in the Japanese market?

A: For 8 years nobody knew we were there, and we were losing money. Then we developed the first western personal computer with kata kana to kanji translation in ROM and became an instant overnight success, and this has continued for the past year and a half.

Q: What about the memory required for multi-tasking?

A: Multi-tasking does require large memories. While Apple will continue to sell one and two megabyte machines, we think that most Mac IIs will be configured with 4-5 megabytes. That's why we are using the SIMM strips in our memory designs.

Q: What about support for 512K Macs that were gotten with difficulty into corporations "through the back door"?

A: Well, realistically you can use these Macs in a traditional fashion, but you really are missing a lot of the power of a Macintosh if you don't upgrade them.

Q: What is Apple's view of the engineering market?

A: We are not that interested in the engineering market of today, since it is still a small market. What we are interested in is the opportunity we have to break it wide open like we did with desktop publishing. We will do that with productivity tools, and with AU/X, which is UNIX with Apple's user interface.

Jean-Louis Gasse

From: PEABO

Subject: **Jean-Louis Gasse Key-note Speech**

This is a report on the Wednesday Keynote Speech at the Macworld Expo. Jean-Louis Gasse spoke for about an hour. This report was prepared by Peter Olson (PEABO on DELPHI) and any inaccuracies are due to my transcription of the substance of the speech, which I have done in my own words to a large extent (I'm not a stenographer!). If you would like to post this or reprint it, please do so in its entirety.

Since Jean-Louis Gasse needs no introduction, he didn't get one (Only kidding! Mitch Hall did say a word or

two before bringing Jean-Louis on stage).

The title of Jean-Louis' speech was "Personal Computers: Are We There Yet?". He began by commenting about how, when things are going well as they are for Apple right now, there is always the danger of complacency. Apple would like to avoid falling into that trap! Yes, although personal computers are now far from perfect, there are a number of things we have been doing right, and these point out the direction for growth in the future. What do we have to do to fuel innovation?

Using a keyboard is a wonderful thing for a small child, to be able to push on the keys and have things happen.

I think that personal computers are still too hard to use. Let me illustrate by taking an observation from Stewart Alsop, that there are there are perhaps 50,000 people "in the industry". Beyond that, we have several hundred thousand people who are enthusiasts, and maybe 10 million other users of personal computers. And there are many more children who are 4-5 years old. If computers did what we would like them to be able to do, these children would be able to use the computers too, even before becoming literate in the ordinary sense. Using a keyboard is a wonderful thing for a small child, to be able to push on the keys and have things happen, and it produces a sense of exhilaration.

But right now, using computers takes too much knowledge and time. Beyond the 10 million users there are in America alone 200 million other people who are not users of computers. The personal computer is destined to be the magic telephone or magic book, but today too many computers are tied up into very limited uses, constructed with canned, rigid applications for clerical cattle! (You think I am being excessive?) In some companies, people are given locked templates for spreadsheets from their MIS departments and are forbidden to make changes or create their own. What we need is to be able to use these tools in a non-predetermined fashion.

Think for a moment about how cars are more expensive than personal computers, but the market for cars is much larger than the market for computers. The 'car' user interface is one where much of the knowledge is built into the car, not into the head of the person who is driving it. In contrast, our computers (which are our intellectual vehicles in the universe of knowledge), still require a great deal of knowledge in the head of the user, and this is why we are still talking about System Files and folders. The Macintosh user interface is the beginning of putting more knowledge into the computer, since we have the di-

rect manipulation of the graphic metaphor with less encoding and decoding required just to make the computer work. I am not suggesting that everything can or should be reduced to a black box; we have learned from the experience of the original closed Macintosh. We need a layered approach, where the ordinary user can feel comfortable manipulating the computer but the advanced user can still get inside and get into the technical aspect of things.

Pointing to the future, we see we have feedback between two radically different engines: we have the unforgiving, hard, binary logic of the computer; and we have the crazy, illogical thinking of humans. What humans

We have the unforgiving, hard, binary logic of the computer, and we have the crazy, illogical thinking of humans

can do is to draw effective conclusions (not necessarily logical conclusions) from fuzzy data. Intelligence in humans lets us take a concept, and perform elastic deformation upon it, to produce another concept, or link between two ideas. But the artificial intelligentsia who are trying to make a computer think like a human are having a hard time with this, except in very limited areas such as the chess playing programs. And the systems we have made which are easy for the machine, such as the hierarchical card catalog of the library, do not correspond with how people actually think. The computer should instead replicate and follow your thinking process.

Why is Apple's new product HyperCard so important? One way to look at HyperCard is as the stack of cards, but this is only the most limited way to think of it. Now for the first time, a personal computer has built into it an object oriented language. This is the next step beyond BASIC and Pascal in the evolution of personal computers. With BASIC and Pascal there is a large amount of knowledge which must be mastered in order to program. But real people will be able to program in HyperTalk! (Yes, and "programmers" will be able to use it too!) HyperTalk provides a smooth enough path to any degree of complexity you want to take it.

Recently I have been on a sabbatical, and I have had time away from the meetings and demands of business to do some hacking around with Macintoshes and a LaserWriter, and to play with these new tools. HyperCard, I believe, will be even better than Apple thought it would be. And you hardcore C programmers will be able to get into it just like machine language programmers have always been able to extend the functions of Applesoft using the ampersand function to escape into your subroutines.

I want to talk about databases now. You know that very few people are

able to use Dialog (I apologize to anyone in the audience from Lockheed, it is not a fault particularly of that one system). Today's database systems have a very sovietic user interface; I imagine it to have been written by the KGB so as to keep people from getting into the data! We could imagine instead a kind of pyramid, in which the tip of the pyramid is an index in HyperCard which knows something about the data beneath it, and which can assist you in your browsing (even before you connect to the database) to think of the right way of phrasing your question that you didn't realize beforehand.

It is the Mac user interface, and extensions to it, and the smooth access provided by HyperTalk which points in the direction to the future.

Now, before we get the idea that everything is easy, let's talk about the obstacles. There is always resistance to change, which I think of as the "corporate immune system" at work. Now, 3-1/2 years after the Mac was introduced (and now that we have built it up from its 128K beginnings), very few people question what the Mac is. The consistency of the Mac is just like the knowledge that is stored in the car; you don't have to remember so much to use one Mac application and then another. This will only get better because of Juggler [Multi-Finder] because the applications which conform to the standard interface will integrate well and others which may not will be very noticeable. Now imagine if we wanted to make a more efficient, rational car, different from the designs we have now. All the gauges could be in the center near the stick shift, and the stickshift could be like a joystick and moving forward would accelerate and moving to the left or the right would steer the car. Why not have a car like this, which a person in either front seat could drive? It is technically possible. In computer terms, perhaps an analogy is to the use of the QWERTY keyboard. Now, are we [Apple] going to lead a movement to change the keyboard? No, I don't think so! We are already in enough trouble because of the mouse! And a one-button mouse at that! (I want you to think for a moment, by the way, about what will happen when instead of a mouse, we start using a stylus. Those people who think the mouse should have three buttons will need to take saxophone lessons! [laughter from the audience]).

Another thing I am worried about personally is literacy. Too much of today's education is centered around the belief that the student is a kind of vessel into which the educational system will pour knowledge, and the student quite naturally is rebellious because of this. In the entire western world, there is a trend towards a decrease in literacy. One thing we often blame is TV, since TV is in the business to prevent us from having to think. (Now this is not always bad; I know I sometimes like to relax in front

of the set to get my mind off my work.) The other thing besides TV is the fact that technology has made our lives easier, easier to live a homeostatic life, just maintaining body temperature (but what about poetry?) Technology is smoothing our access to the things we want out of life, and this is creating a chasm between the knowledge haves and have-nots. And it is paradoxical that even though you would think that the people who have the worst jobs should be compensated for their extra burden, the fact is that it is the people with the most interesting jobs who get paid the most. It is not what you would call fair.

This will continue to be a widening gap: unless we do something such as applying computers to the problem we will find ourselves in an intellectual South Africa.

And finally, I want to talk about government. You may find this paradoxical, since I am a believer in the free market and so on, but I am very troubled by some of the "deregulation" that is going on now. Think of how the interstate freeway system has contributed to the growth of transportation in this country. Well, I don't see the corresponding "data freeway" being put into place here. The Europeans and the Japanese know very well the value of efficient transport of information. A computer which does not have a memory cannot be intelligent, and access to databases is necessarily a part of the computer with a memory. I know one country by the end of this year will have universal access to electronic mail through X.400 standards. It may be that not everyone will make use of this, but the capability will be there to communicate with anyone in that country electronically.

We cannot lose sight of the goal of creating ultimate simulation tools

ISDN and the personal computer will be able to change the way we compute, since we will be able to do real-time graphics, or fake local editing (there will be no need for arcane commands to fix a typographical error you see three lines above in your typing).

So what should we do in reality? (Coming to the Expo is in some sense a vacation from reality for most of us.) Apple feels that this is the time when we must be very careful to keep our eye on the ball. Don't lose track of what we have been trying to do. Software is fragile, and it would be easy to get off the track. We have to keep improving. For example, installing DAs and Fonts into the System file is really an unsatisfactory way of doing things. An improvement which might seem mundane is actually as noble as creating a new CPU, because creativity does not strike in designated plans. What we might find more difficult to think about is how we can

prevent the corporate immune system from preventing the flourishing of new ideas. We must keep open to innovation.

We cannot lose sight of the goal of creating ultimate simulation tools. There are plenty of things we would like to do which we don't presently have the tools to do. For example, I would like to design a house, and since I live in California, I would like my architectural design program to know about the styles of building appropriate for this climate, and to know about zoning regulations in my area, and building codes. This could be programmed inside, but I think is better handled by the program being able to access a database somewhere, without my having to know the details of how the database might be organized and what commands to use to obtain the information. I don't think we will see this in the next 5 years, because the best CAD/CAM programs today don't have the compute power, or the understanding (in the artificial intelligence sense), and in particular, do not have access to the data freeways necessary to get to the data they would need.

Well that is enough for today, I see our panel for the next discussion would like to convene. I want to thank all of you who are using the Macintosh, and the third party developers who have made such wonderful products for us, for making the Macintosh the success it is.

Bill Campbell

From: PEABO

Subject: **Bill Campbell's Expo Keynote Speech**

This is a report on the Thursday Keynote Speech at the Macworld Expo. Bill Campbell spoke for about 45 minutes. This report was prepared by Peter Olson (PEABO on DELPHI) and any inaccuracies are due to my transcription of the substance of the speech, which I have done in my own words to a large extent (I'm not a stenographer!). If you would like to post this or reprint it, please do so in its entirety.

Bill Campbell walked up to the podium and introduced himself as the new President of Claris, the company Apple has formed to take over application software development: This is my first public appearance since Claris was created, and I want to share with you my view of the industry. I'm pretty sure all of you are cranked up now by seeing products such as HyperCard, and we are too, as soon-to-be Apple developers.

Now, I know you'd all like to hear something about what Claris will be doing, and I hate to disappoint you

but you won't hear any leaks from the top here today. What I want to do is clear up any confusion about what is Claris and what will we be doing.

[In the next few paragraphs, when Bill says "we" he is referring to Apple Computer, not Claris.]

First of all, let me explain why Claris was formed. Apple's software strategy has not been clear the past few years. We have had five strategic products: Appleworks, MacWrite, MacPaint, MacProject, and MacDraw. A lot of us thought Apple should bring new products to market in order to push the technology forward. MacWrite and MacPaint were very well done as ground-breaking applications. I myself was not in favor of aggressive development by Apple, because I thought that Appleworks, for example, had nearly locked out any competition in word processing, spreadsheets, and databases for the Apple // line. But within Apple we (Jean-Louis Gasse, Mike Spindler, Larry Tesler, and I) believed very strongly that it was necessary for someone to be publishing breakthrough applications.

4th Dimension from ACI was a product we felt Apple should label, and the product was even being seeded, but Omnis, Helix, and Ashton-Tate were very concerned that we would be taking away their business. We decided that the threat to our third party developers was too great, so we turned 4D back to ACI [and from there it has been picked up by Guy Kawasaki's new company Acius]. We decided that Apple should get out of the software application business, and we prepared a paper for John Sculley which outlined 3 ways this could be done:

- We could sell the products we had individually.
- We could sell the products as a group.
- We could spin off the products as a kernel for a new company we would form.

Al Eisenstadt (Senior V.P. in development) recommended the third choice, with the addition that we should do it right and make sure the new company was adequately funded.

[Bill now begins to use "we" to refer to Claris.]

What this means for Apple is that there is now another company with a very strong focus toward Macintosh software development. The primary mission of Claris is to produce innovative software and market it for the Macintosh, first and best.

And secondarily, we are very interested in the cottage industry of small developers with bright ideas, who we feel will be a good source for future Macintosh products. We will be developing, publishing and SUPPORTING innovative software for Apple products.

Early on, after the news of the Apple

software spinoff became public knowledge, Guy Kawasaki was quoted in the San Jose Mercury-News as saying the new company should be named BCIUS, for "Bill Campbell Inherits Used Software". Well, we went back to the Latin and came up with CLARUS meaning "Campbell-Labelled Apple-Rejected Used Software" but we decided to change the U to an I for Inspired!

We recognize that just having Appleworks, MacWrite, MacPaint, MacProject, and MacDraw is not a strategy for success, but that's what we are starting out with.

The difference is that we are adding support. This is the first phase of building Claris.

The primary mission of Claris is to produce innovative software

The second phase is to make key acquisitions of new software products and to begin development. It is here that we will be making key strategic decisions about build or buy.

The third phase is to identify key technologies that we need to bring in-house. We do not intend to be just a quick-turnaround publishing company. We believe that great products start with great ideas.

One of the things that will be different about Claris from Apple is support. In the old days, you went to your Apple dealer, bought your Mac with MacWrite and MacPaint, and that was the end of it. You were on your own except for occasional upgrades you got by taking your disk into your dealer. We will change that completely.

There are a few more things you should expect to see from us. One is innovative marketing. We are going to have a very clear idea of our target market segment and how to bring new electronic metaphors to it. We are going to have a strong international presence from day one. Localization is an important competitive weapon.

Yet, there will be some tremendous challenges ahead of us. It is true that we don't have a base of tremendous new technology (yet). Our MIS support, distribution channels, finances, and strategy are not built up yet. We need to formulate our acquisition strategy, and we need to be sure we don't overlook what Apple has taken so much advantage of: serendipity.

Here are the key questions as I see it:

Why have there been no example of portfolio companies that have made it? We think it can be successful if you have hit products.

What is the relationship of Claris to Apple? We will be a wholly-owned subsidiary, which Apple will fund up to the moment of separation. John Sculley is committed however, to making Claris independent of Apple as quickly as possible. We are going to move out to Mountain View this fall, with separate people, payroll,

and benefits by October 1, and by January 1 we will have separate MIS, distribution, and so on, though we will still be owned by Apple.

Dave Winer [of Living Videotex] keeps saying "Claris is Apple, Claris is Apple" but I disagree. Don't expect Claris to have any more relationship to Apple than any other third party. We are asking you third parties to trust us in this, John Sculley and myself. We realize this is a sensitive situation and our integrity is on the line.

Some people have been asking, why didn't you get 4th Dimension? 4th Dimension is not related to us. It was the catalyst that caused the idea of Claris to become important, but it

The three things I see as being important are consistency, standards and communications.

was already done before Claris. What is important to us is the future. We are going to be a major player, putting in place a foundation and building blocks. The three things I see as being important are consistency, standards, and communication.

Consistency is for the users. We will have no need to compromise our programs in the interest of being compatible with the IBM PC. We are committed to the Macintosh world. We will give users what they need, such as software which adapts to their needs. Some of this will emerge over time as we acquire new products, and some will be created by us. For example, should a spelling checker be only a part of a word processor, or should it be available where ever needed? We think MultiFinder will pave the way to a much greater consistency between products.

Standards are reluctantly adopted, but much of today's success is due to coexistence with standards. New standards emerge every day (for instance the TIFF standard developed by Microsoft and Aldus). We believe that Claris must get involved in the making of standards. dBASE III and 1-2-3 are standards in the IBM world, and obviously there must be data interchange. In the Macintosh world, MacWrite and MacPaint are file standards.

Communication is crucial to the workgroup and host system environments, for example IBM and DEC. In tomorrow's environment, communications must recognize software which is in other environments, so we can have true workgroup computing.

Claris will not be an overnight success; you will have to judge us over time. We have the "BCIUS" products today. The products we are yet to acquire will define what we will become, and the technologies we bring on will make us a formidable force in the future. Forming Claris has been a major step for Apple; it has high visibility, high expectations, and it is a different road from what Apple was traveling before. We are going to

enhance what we have, market well, and distribute world-wide. We have a good team, fervor, love of our products, and the deep pockets of our parent company.

Thank you.

Q: Why is Claris not publishing HyperCard?

A: I think Apple has positioned HyperCard as system software. This is very believable, despite what some people have been saying. This product is so great it will ultimately be good for all developers.

Q: How do you intend to qualify small software houses for partnerships?

A: We are going to look for holes in our existing product line, and look for innovative technology. When we first were formed, we were inundated by people wanting us to look at their products, but things have settled down a bit now. Write us or call us. We are very open to good ideas. What we want right now is products which have a broad horizontal application. We're interested in business, education, and scientific/engineering products in particular.

Q: Do you see an attack on the problems of support?

A: YES. We think support is a key element of the equation. We want to be the Mercedes-Benz of support. Look for example how well Microsoft has been doing with support recently. What we expect to do is to train the dealers for the sales transaction, but offer after-sale support ourselves.

Q: What about the special relationship with Apple that vendors like Microsoft have (for example, seeing new hardware in advance of its release)?

A: I hope Claris gets every bit as good a deal as Bill Gates. Most major third party developers do have a very close relationship with Apple. If anything, I think the concern has been that Claris would be too close, but again I want to emphasize that both Apple and I are committed to being fair and trustworthy about this.

Q: Will there be a stock offering?

A: We don't know yet how we will become independent. We may spin off the company to the existing Apple shareholders, or may have an initial public offering.

Q: Will you be selling HyperCard stackware?

A: We don't know yet. Probably not, because what we need to do is build our own core technology. We want to focus on that, and not stackware. I could see doing something with stackware for the university market.

Q: In line with your independence from Apple, when will you announce your first product with NeXT, Inc.?

A: Well, I had breakfast with Steve Jobs recently, but no, we aren't in any strategic relationship with his company.

Q: The products you have are perceived as being entry level, do you plan to raise the level?

A: Yes, we will follow the increased

power of Apple hardware. But, the word processing market is naturally tiered. There is always a place for products like MacWrite and WriteNow. We may be on both tiers for some products, maybe only on the high tier for some products. We will be making our products better. It's a wonderful opportunity.

Q: It seems that Apple software products have been subsidized by the hardware. Will Claris have to raise prices?

A: We are going to have to have a P & L statement to meet, and we have to look good for investment companies. We need to price our products for growth and profitability.

Support is going to cost us money, so the prices will probably have to be a bit higher.

**Bill
Atkinson**

From: PEABO
Subject: **Bill Atkinson talks about HyperCard**

This is a report on the Thursday wrap-up session at the Macworld Expo. Bill Atkinson showed off HyperCard, which John Sculley and Jean-Louis Gasse have both described as the most exciting thing since the introduction of the Macintosh. This report was prepared by Peter Olson (PEABO on DELPHI) and any inaccuracies are due to my transcription of the substance of the speech, which I have done in my own words to a large extent (I'm not a stenographer!). If you would like to post this or reprint it, please do so in its entirety.

Bill Atkinson's talks during this Expo have drawn such crowds that the management has routinely opened up more space, and this final talk was no exception. Bill brought the rest of the HyperCard team with him (there were quite a few Apple employees walking around with the Hypercard "bowling shirts" on - blue with yellow collars, a name over the lapel, and on the back the word HYPERCARD at the top, a large black circle and diagonally rising over it the legend "Acme Dot Co.").

Chris Espinosa, the HyperCard product manager, began by introducing Danny Goodman, author of "The Complete HyperCard Handbook" published by Bantam, and also the author of two extensive stackware products from Activision called "Business Class" and "Focal Point". Goodman, who was not and still is not a "programmer", was involved with the HyperCard development for about 18 months.

Chris then turned the stage over to Bill.

[applause from the audience]

The Macintosh Dream is about getting the power of the personal computer into the hands of individuals. So far what we have accomplished is putting the use of applications into people's hands, by using the graphical interface and metaphors in a consistent way, but this had made it increasingly difficult to be a creator. The split between authors and users keeps increasing.

HyperCard is a software erector set. It's a box of parts, bolts, and examples (just like in the erector set brochure). HyperCard uses the same technique to teach people how to use it. You start with an example you see and try making it yourself. Then you try changing it a bit, and eventually you know it well enough to branch off on your own.

[At this point, they killed the lights and the presentation became predominantly visual and hence difficult to explain in words in this report. Bill showed an expanded version of the stackware which is on the HyperCard release disk. Some fragments that come to mind are:

HyperCard organizes data into stacks of cards. Each card is exactly the size of the original Mac screen, so you can be guaranteed that anything you produce on one kind of Macintosh can be viewed on any other. Cards in any stack can be linked associatively to cards in any other stack.

Each card can have pictures, text, and buttons with any iconic shape or ordinary legend associated. It is like a superset of the usual Mac interface. A variety of text formats is allowed, including scrolling text.

Data compression is so efficient that a thousand clip-art screens can fit in a meg and a half of memory, and on a Mac II the flipping from one card to another is very fast. (Even on a Mac Plus it's no slouch.) Flipping between cards is controlled by a 'visual effect' specification that allows for fades, wipes, and so on as cues to the kind of linkage between cards.

There is a built-in painting system like MacPaint but with a lot of improvements. You can still import and export bit-mapped images in Paint format, and HyperCard is not intended to replace MacPaint at all. (One of the improvements that sticks in my mind is the ability to pick up an arbitrary shaped piece of an existing image by painting a mask over top of it temporarily to define the bits to be picked up, and then being able to move the picked up image around the screen.)

An object-oriented language called HyperTalk (developed by Dan Winkler) is integrated into the system. There is an inheritance among objects represented by buttons, screens, background buttons and screens, stacks, and HyperCard itself. The English-language-like syntax has provisions for event and message processing among the objects and is a modern structured language.

HyperTalk can read and write TEXT importing or exporting from

other database or word processing software. There are built-in procedures for sorting cards in a stack according to field values.

There are various levels of access to stacks, including the low levels required to use a stack, and higher levels which allow painting, authoring (creating structure using links), and scripting (writing in HyperTalk). Although stacks cannot be copy protected as such, they can be password protected in order to keep people from getting to the higher levels of access.

The system is perfectly adapted to building by example. Bill said that HyperCard is like an erector set where you never have to worry about running out of pieces. You can copy button definitions from the examples and "idea stacks" provided with the system and they paste in complete with the associated scripting so you have a functioning button right away. You can also copy entire stacks for incorporation into your own designs, or you can pick out clip art just like you have always been able to do with MacPaint.

At the end of the presentation, Bill continued talking.]

We have made 20,000 copies and sent them out the distribution channels this week. If you buy a new Mac Plus, Mac SE, or Mac II you get HyperCard for free. Otherwise, you can buy it for \$49 including disks and a manual. In about 60 days we expect to begin shipping international versions.

The Macintosh Dream is about getting the power of the personal computer in the hands of individuals.

HyperCard does require 128K ROMs and at least one megabyte of memory. If you use it with MultiFinder, you will need more than a megabyte. We recommend a two-floppy system or a floppy and hard disk. There is 800K of built-in help, so you will need the disk space if you use the help. The four disks you get are a floppy-based HyperCard boot, a setup disk for installing HyperCard on your hard disk, a disk of examples and ideas, and the help disk.

[Chris Espinosa then brought out the rest of the HyperCard development team, to a standing ovation from the crowd. He then handed the mike back to Bill, saying that he thought most of the audience questions would be for Bill.]

Q: Does HyperCard support MIDI?

A: We couldn't anticipate all possible uses of HyperCard, so we put in hooks so you can call any 68000 code you want. You need to compile the code as separate resources of type XCMD or XFCM and install it in your stack. That's how you would get MIDI support.

Q: What is the relative performance of a Mac Plus compared to a Mac II?

A: Card flipping on the Plus is about half as fast as the II.

Q: Can you launch applications or documents from inside HyperCard?

A: Yes, and when you quit the application, it comes back to the same card you launched from. You can also print the same way. There is an example stack which lets you organize your hard disk and automatically update the catalog of documents when you want.

Q: Where did the HyperCard idea come from?

A: QuickFile/Rolodex were very early ancestors of the HyperCard. I have been thinking about the problems of authoring software on the Macintosh for a long time, and this is what I came up with.

Q: How would you import or export to another database?

A: You can read or write text files using HyperTalk, and you could have a card with several conversion buttons on it, for SYLK or DIF formats for example.

Q: How do you access a specific card in the stack?

A: You can bring up cards by position in the stack (first, last, next, previous, or card number in the stack), or by name, or by an internally assigned ID number that never changes.

Q: Can you have a HyperCard stack on AppleShare accessed by several users at once?

A: Not right now. The stacks are opened read-write for one user only, but I'm working on that for a future release.

Q: Could you design a spreadsheet or database program this way?

A: No, it would work but it would be too slow. HyperCard is an organizing tool for personal database, not a development tool.

Q: Is Finder still necessary?

A: Yes. Finder is highly tuned for its purpose, manipulating files. You might consider using HyperCard as a very sophisticated MiniFinder replacement though! HyperCard works very well with MultiFinder (though you need more than the one meg minimum memory to run it this way). It's great to be able to flip back and forth between your word processing and a HyperCard stack in just a second, and not have to break your train of thought waiting 30 seconds to launch.

Q: What are the limits to stack size?

A: We haven't put any arbitrary limits in (that is, you'll run out of disk space before you hit the limits in the program). You can have up to 16 million cards in a stack, and up to half a gigabyte of data.

These speeches were downloaded from Delphi.

Delphi is a commercial time-sharing and bulletin board system.

The Delphi Digests are made available thanks to Jeffrey Shulman of Rutgers University.

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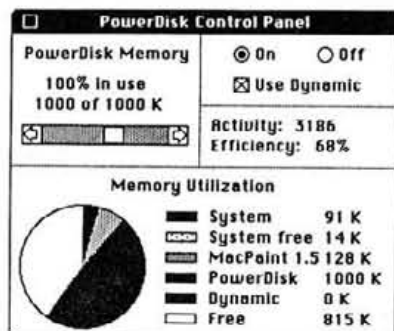
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PowerDisk™

Keith Chamberlain reviews PowerDisk™, a disk utility.

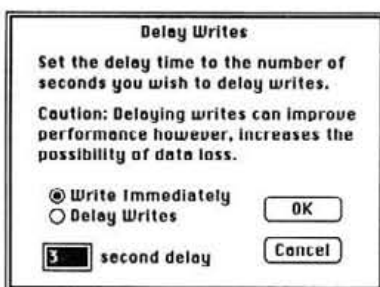
PowerDisk™ comes with a single 3.5 disk and a 26 page owners manual. The program disk is not copy protected and recommends making a working copy before proceeding. Installation is a simple process involving double clicking on the Install icon choosing the system you wish to install to and clicking the INSTALL button. After a short time the message "PowerDisk Installed." appears and you can now proceed to use it by rebooting from the system chosen. If you now pull down the Apple Menu and select the PowerDisk desk accessory the PowerDisk control panel appears. The amount of memory allocated to PowerDisk can be adjusted and the chart shows how all the memory has been allocated.



There is an option in the PowerDisk menu to delay writes which can be overridden which improves performance at the risk of lost data should a crash occur. These options can be saved so that they become the default.



You can also have beeps made when either the normal disk action or the PowerDisk are being used and also a small icon can be put in the top left of the screen to show which is being used. These features would probably be turned off under normal use. The final item in the menu gives information about the disk in use and the

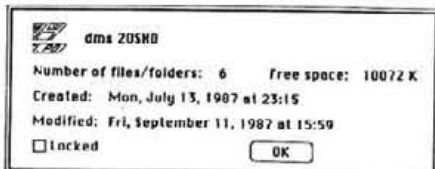


number of files. A further information file is the status

Power Disk Status			
<input type="checkbox"/> PowerDisk Info ID: PDpb	Size: 290	Prime: 1293	Control: 3727
Dynamic: 4%	35 of 810 K	5888	1112
Permanent: 100%	1000 of 1000	0	1113
Smallest i/o: 512	Hit Ratio: 68%	Total blks: 3890	Perm blks: 2100
Average i/o: 1552	Calls: 3232	Dyna blks: 1790	DelayTick: 180
Largest i/o: 206336	Hits: 2202	Last i/o: 1442	Min Heap: 256
Total i/o: 5018624	Misses: 1030	Decay: 63	Hit value: 128
Errors: 0			OK
<input checked="" type="checkbox"/> May now be init'd	<input checked="" type="checkbox"/> On/Off		
<input checked="" type="checkbox"/> Has been initialized	<input checked="" type="checkbox"/> Dynamic		
<input type="checkbox"/> Need Dynamic	<input type="checkbox"/> Disk bell		
<input type="checkbox"/> Dynamic not avail	<input type="checkbox"/> PowerDisk bell		
<input type="checkbox"/> Resize Permanent	<input checked="" type="checkbox"/> Activity Icons		
<input type="checkbox"/> Skip statistics	<input type="checkbox"/> Delay writes		

which although for most users is of little use except for general interest is probably of value to programmers. It is interesting to note some of the claims about information transferred such as the 'Hit Ratio' and 'I/O' transferred but they serve little purpose as the actual program is transparent in operation.

I have had the software for some weeks now and it does speed up some operations especially when moving between applications via finder, obviously this depends on the amount of memory available and the amount of



disk information used by each application.

One interesting feature was that when using a bit copy program for software library disks it went to PowerDisk for information after the first copy, instead of looking for another disk to copy. This means you can have a very fast multiple bit copier, sometimes a useful feature. The disadvantage being that it does not allow copies of different disks without switching off PowerDisk.

When using OMNIS 3+, I found that the control panel showed that the program reserves as much memory as it can and therefore I decided to turn off PowerDisk when using OMNIS as its performance may be affected. Also when using Excel the loading from disk of large templates seemed much slower, which shows there must be some trade off on speed for the first use of data while data is actually being moved into PowerDisk and Excel.

In conclusion I feel that PowerDisk gives some nice features over the normal control panel RAM cache and may be slightly faster when using delay writes, but it does have a few disadvantages.

info

Product: PowerDisk™

Publisher:

Available from:

Software Power Co.

P.O.Box 14133

Fremont, CA 94539

Price: £ 59.95

Value:



Performance:



Documentation:



MacLibrary

Norah Arnold describes the eight new Macintosh Library Disks

The eight new disks this month are all 800K. There are six new Update disks and two demonstration disks.

Disk 167 Update 4

Disk Librarian 1.0 ©1987 by John Lim is designed to catalog your collection of floppy disks quickly and enable you to search for missing files. This program is RAM-based and has



been optimized to read disks and search for files fast.

Directory is a FKEY which allows you to view the contents of your disks and to perform basic operations on your disks.

Icon Extractor takes all the ICN# resources in a file, extracts the icons in the lists, and save them to a new file in individual ICON resources.

PowerStation is a Macintosh "software control centre" that lets you organize your frequently-used applications, documents, and desk accessories in a way that is suited to your working habits, independently of the way they are organized under the file system. Also PowerStation lets you move among applications quickly, usually much more quickly than is possible with the Finder. PowerStation is compatible with all models of the Macintosh having at least 512K of RAM, including the Macintosh XL, and with any screen

size. PowerStation requires System version 3.0 or later.

PostScriptsions is a Turbo Pascal program that will send PostScript to the LaserWriter. There are several templates that will allow you to easily enter the text that you want send.

Disk 168 Update 5

Balloon is a game where points are continuously added as you fly. To accumulate points you must fly in free air. Each object other than the Balloon is enclosed in an invisible rectangle. If you fly into this rectangle with the balloon or cover the object you continue to loose points until you



are out of the rectangle. You loose points twice as fast when you fly into the stork. The Balloon will also explode if the stork hits the centre of the Balloon.

Rogue This is a Macintosh version of the "Rogue Clone" by Tim Stoehr. It is very un-Mac-ish (the mouse is hardly used), but does correspond well to the UNIX™ version. It was compiled with Aztec C by Manx Software Systems.

Jam is an AppleTalk Tele Conferencing program. It allows up to 20 AppleTalk users to communicate to each other in real time. Any user connected to AppleTalk may join the conference.

Disk 169 Update 6

miniWRITER is a text-editing desk accessory with the following features:

- You can use all standard Macin-

tosh features, including Undo.

- You can choose the font the text is displayed in.

- miniWRITER can print your document on an ImageWriter exactly as it appears on the screen – at 'draft' speed. It can also command an ImageWriter to use boldface or underlined characters.

- miniWRITER can send a file to a LaserWriter as PostScript commands.

- miniWRITER can automatically use the 'smart quotes' used by typographers.

- miniWRITER tells you how many lines, words, and characters are in your document.

- Opens and saves TEXT files compatible with any word processor.



HFSDir™, the HFS Disk Directory Cataloging System from OITC, has been created to support disk file management of large HFS storage systems on the Apple Macintosh™. This program provides fast cataloging and supports the creation of hardcopy and softcopy directory listings of HFS volumes. This version has been corrected to operate with the 4.1 version of the Apple Macintosh Operating System and supports the Macintosh SE™ and Macintosh II™. Currently, this released version, 1.61, has no limit on the number of Folders/Files processed and produces complete directory listings for all mounted volumes.

FileMaster has 4 basic functions:

- It can manipulate the flags and comments of files or folders seen in both, the Finder and ResEdit "Get Info..." dialogs.
- It can quickly browse through either data or resource fork of any file without interpreting its contents.
- It can delete a file.
- It can rename a file or folder.

All these functions are provided for either a single file, or for all files on a volume or in a folder, which match a certain search criterium.

Disk 170 Update 7

Cheap Beep lets you easily choose several sounds to be randomly selected from as a replacement for the old SysBeep. CheapBeep is a Control Panel device file for System 4.1 and later. These systems have a Control

Panel desk accessory which can open files of type 'cdev' and allow them to display information and accept commands through the Control Panel window. To enable CheapBeep, you move it into your system folder.

GrayView is made especially for converting ThunderScan SCAN files (that's the big file that results from a scanning session) into actual 32 gray shade images. These can be viewed just for pleasure, or used as Start-upScreens, and should be usable in a variety of new products sure to come for the Mac II. It is also very handy for viewing any PICT resource, color or



black and white.

Kolor is a program for Macintosh II owners. It allows you to change the default colors associated with:

- Controls (buttons, check boxes, radio buttons, and scroll bars)
- Windows
- Menus
- Hilting (most notably used for text hilting)

Kolor is used in conjunction with the Control Panel. It creates resources which are used by the various Managers as default colour tables if an application hasn't supplied them. As of this writing, very few programs written for the Macintosh "colourize" their own resources, thus allowing you to customize your system to suit your tastes.

DupTree is an utility program that copies directory (folder) trees. It will set up a copy of the source directory tree without copying any files. This can be useful in certain circumstances.

Tops Boot :- this is what the author says, "I had been using a Tempo boot macro to automatically invoke the TOPS DA, supply a network name, and publish my hard disk on the network. Unfortunately, the raven-

ous system heap requirements of System 4.1 caused me to stop using Tempo, and I soon got rather bored with doing all this manually. My solution was TOPS boot, a small startup application that does all this for me without chewing up a lot of my system heap."

Disk 171 Update 8

Globe is the classic spinning globe demo seen on Sun workstations. It works on all Macintoshes with at least 512K of memory though it looks best on a Mac II with 8 bits/pixel colour. The program consists of the application Globe along with various data files containing different sizes of the



globe bitmaps. The sizes range from 32 x 32 to 256 x 256. Double clicking on one of the data files will bring up a spinning globe in the desired size. Globe uses lots of memory; minimum around 300K and much more if you are using a Mac II in one of the multi-bit screen modes. The largest globe (256 x 256) uses 2MB! when run at 8 bits/pixel.

GrayHelvetica is a Composite File of Helvetica, which is built into the LaserWriter. It converts the built-in Helvetica into a Gray Helvetica. The Font is best characterized as a display type. Its appearance is best appreciated in sizes of 24 to 124 points in Bold and Italic.

ChicagoSymbols is a very small LaserWriter font, containing representations of the four "hard to get to" characters that are present in Apple Computer's Chicago font. These symbols are the "command" key, the check mark, the diamond mark and the Apple.

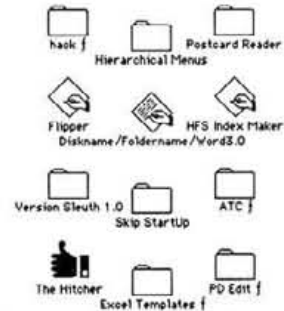
LunarCrack is an INIT resource which causes your SysBeep trap to "crack" the screen. To use it simply put it in your system folder and boot. If you want to get rid of it, just pull it out of your system folder and reboot.

Disk 172 Update 9

ATC stands for AirTraffic Controller and this is Macintosh Version 1.0 of July 1987. The Macintosh version is nearly a straight port of the original Unix™ air traffic controller game by Ed James. The only changes from the original were added to get around the need to pass parameters to the program upon startup and an option to have prop planes enter and exit at different altitudes than jet planes.

Excel Templates:- the author says, "This spreadsheet evolved over the

past five years from the time I first started putting my finances onto a computer (a Columbia Data Products with Perfect Calc.) Over the years it has been expanded and refined, moving through Multiplan and eventually onto Excel. It started as a

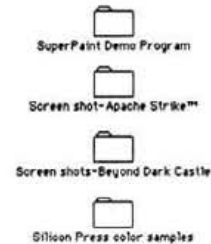


simple way of tracking a few expenses and grew to a system that tracked all of my major expenses, bank accounts, gives projections, tracks budgets, and projects taxes."

Hack is a display oriented dungeons & dragons - like game. Both display and command structure resemble Rogue. To get started you really only need to know two commands. The command ? will give you a list of the available commands and the command / will identify the things you see on the screen.

Disk 173 Silicon Beach

This is a Silicon Beach Sampler disk with a SuperPaint demo and some screens from Dark Castle and



other Silicon Beach software.

Disk 174 Executive Office

This is a demonstration disk of Executive Office. Executive Office is a neat database and filing system



which includes a word processor. Most of the facilities are available to explore on the demo disk, but it is a 'read only' version so no new files can be created.

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						Airborne!	£24.95	£17.50
Borland International			MicroSoft			Dark Castle	£44.95	£28.50
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One GreyFont costs £49; two cost £94; three cost £134; four cost £169; five cost £199; six cost £224; seven cost £244; and all eight cost £259

GhostFonts

GhostFonts allow you to print LaserWriter fonts as background, or shaded text without outlines.

GhostFonts come in Light, Medium & Dark shades. Background printing works in programs that allow mixing of text & graphics, eg:

PageMaker, MacDraw, SuperPaint, Xpress. GhostFonts for the LaserWriter includes Helvetica, Times and Symbol and costs £45. GhostFonts for the LaserWriter Plus also includes Avant Garde, Palatino, Bookman, Dingbats, & Helvetica Narrow, and costs £89.

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Art at the Expo

Continuing the report of the MacWorld Expo. at Boston by Irene Flaxman

We first met Jim Fitsimmons, of MacAmerica, at last year's Boston Expo. He showed us a copy of VERBUM, the magazine for Macintosh artists everywhere.

Jim likes to seek out Mac artists, with a view to finding a means to publish their works where they will be appreciated. So, he has many original works of art, all created on the Macintosh, but created using a number of different programs, and by many different artists.

The picture shown on this page was created in FullPaint by New York artist,

Burt Monroy, to 'suggest a planetary awareness'. Jim gave us permission to reproduce it in the magazine, allowing due recognition to the artist.

Although this illustration originates in the States, many of Jim's collection have come from much further afield. The artists he helps include French, Austrian and Australian, to name a few. All are happy to let Jim look after their interests and get their works published. Having visited his 'office', the originals are there, hanging on the walls with pride.

One means of publishing the works was the creation of a 'year-planner' type

of diary, liberally illustrated with Macintosh-generated pictures. He plans a similar publication for 1988, so he is eagerly looking for new talent.

The topics and styles vary widely, as you would expect from such a diverse group of individuals. I can't say that I understood them all, or that I liked them all - but that is always the case with art, it is a very personal experience.

Jim spent some time as a distributor of magazines, specialising in Mac-related topics, but it's a hard way to make a living. This is his association with VERBUM, and he was promoting that (amongst other publications) at Boston last year, and in San Francisco this January. He was not at this year's Boston Expo, but VERBUM were represented there independently. His name does not appear in the magazine's credits, but the indication was that he was still working away in the background.

What, then, distinguishes VERBUM from other Mac-related magazines? It is described as the 'Journal of Personal Computer Aesthetics', and is devoted to art-related topics, including articles on the various drawing/painting/graphics packages available in addition to the reproduction of computer-produced art.

Volume 1.2 includes a useful chart comparing the facilities offered by various drawing programs (Illustrator and Cricket Draw), font editors (Fontographer and LaserWorks), and font effects programs (LP Text, Text Effects, LaserCraft and LaserFX). The comparisons seem quite comprehensive, so it must have been quite a task for the author.

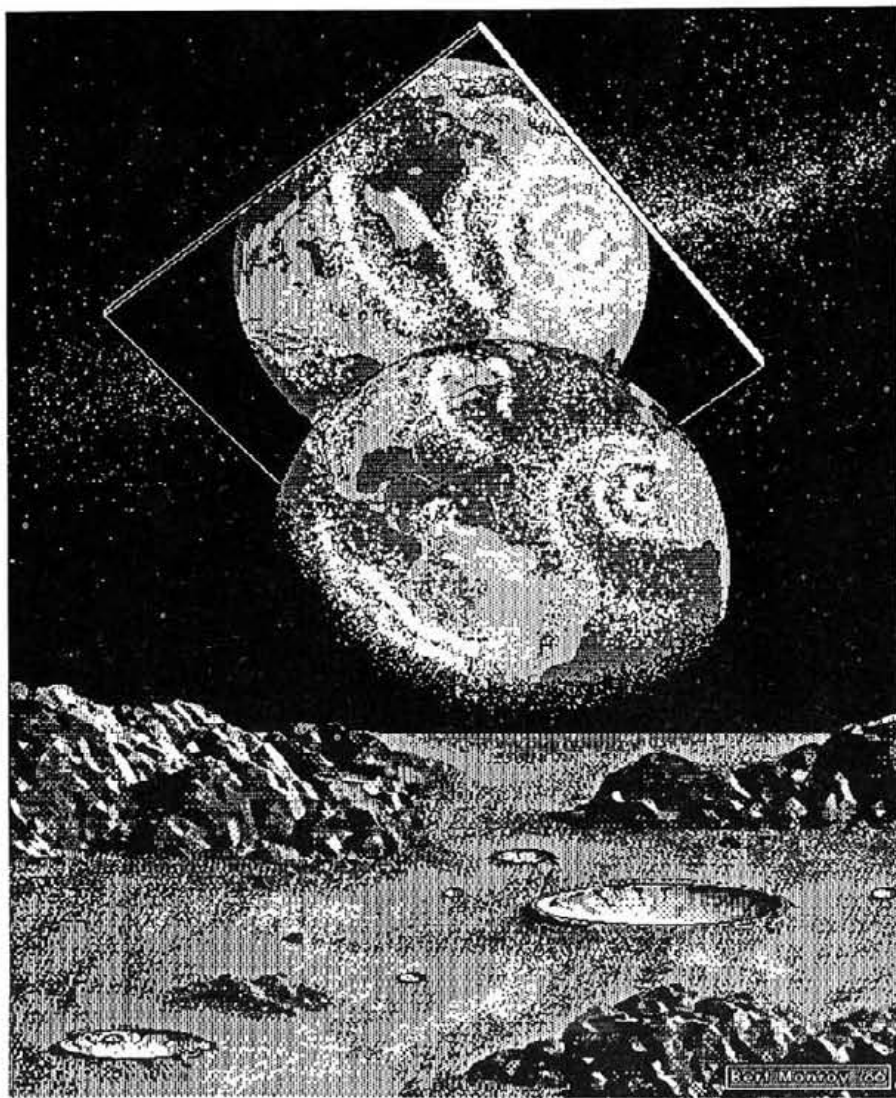
Another interesting article is a comparison between the production of graphics on an IBM (or clone) as compared to that on a Macintosh.

I found the articles of interest, and I barely realised that there were advertisements included at the back (7 pages of adverts. in a 34-page publication).

If you are interested in subscribing, VERBUM is published four times a year, and the cost of an overseas subscription (including airmail postal rates) is \$45.00.

VERBUM
P.O.Box 15439
San Diego
CA 92115
USA

If you are a budding Mac artist, why not send in your pictures to the P.O.Box for publication? Please include any copyright information, and we'll be delighted to include some in future issues.



Network News

Problems with 800K drives, Mac II video boards and colour monitors

From: DDUNHAM
Subject: **Mac II /multiple video cards**

If you're using a Mac II with multiple video cards, be sure to use multiple monitors, too. Otherwise you can drag the mouse pointer off into never-never land. Apparently Apple's cards don't know if a monitor is actually attached.

From: DDUNHAM

Subject: RE: **equation composers**

A local prof who has looked at 4 different equation composers says that Expressionist is the "least bad" of them all. That means, he likes it, but (like most programs) it's got some flaws. It's \$55.

From: PEABO

Subject: **MacsBug 5.3 has new command?**

I just tried out the new version 5.3 MacsBug, and I see that it has a couple neat new features ... one is that the top of the screen is dedicated to a register display with stack frame and top of stack words visible and updated at each command.

Another is that the character set is (maybe) a little more legible ... I'm not convinced yet.

The other one is a new command UT which supposedly should take an address. I haven't been able to figure out yet what it does ... does anyone know?

(And someone else will have to report on the new Mac II debuggers!)

Peter

From: MACWEEKBOS

Subject: **Raskin vs. Jobs**

History buffs should take a look at today's Wall St. Journal (July 27, 1985), in the letters section, for an interesting letter from Jef Raskin rebutting the idea that Jobs created the Macintosh, and explaining how he, Raskin, took it from idea through prototype.

Ric Ford

From: MACWEEKBOS

Subject: **Microsoft acquires Forethought**

Microsoft has acquired Forethought and is negotiating with FileMaker Plus developer Nashoba Systems, Inc. for marketing rights to that program.

Ric Ford

From: ASMCOR

Subject: **Mac II monitors**

I bought a Sony CPD-1302 monitor a month or so ago, for my Mac II, and ever since I've been wondering if I should have had a bit more patience and waited for the Apple monitor. I just got ahold of a real, live Apple RGB and put it side-by-side with my 1302. Here's what I saw:

1. The Sony has a non-glare screen, the Apple doesn't. In fact, the Apple has a very glossy screen that reflects everything in the room. As they say in the dishwashing commercials "I can see myself."

2. The hues and color saturation are virtually identical (it IS the same picture tube, although you have to adjust the pincushion control on the Sony to get the edges straight), but the non-glare screen on the Sony makes things look slightly darker. This can be compensated for with the brightness control. Also, in a darkened room, if you move your head back and forth you can see the non-glare grating if you look for it.

3. Text appears sharper on the Sony. Again, I think it's because of the non-glare screen, but it's definitely a bit sharper.

4. The Apple has a built-in degausser. You might need it once a year, you might never need it. You can have any TV technician degauss your screen if it needs it, anyway.

5. The Apple has two convergence controls (H and V) and the Sony has one. They both have width, height and centering controls. Selecting the convergence test in the Control panel showed that they both have a slight offset in the blue at 256 colors. The test looked identical to me on both monitors.

6. The Apple matches the Mac II. The Sony is a darker gray, but still looks good.

7. The Apple works only with the Mac II as far as I know, but the Sony will work with quite a few other computers as well (it has both digital and analog inputs).

8. The Apple has a 90-day warranty, and lists for \$999. The Sony has a 1-year warranty on parts and labor, and two years on the picture tube. It lists for \$975, I bought mine in Boston for \$775 and I've heard of folks getting them in New York for \$600.

My conclusion? They're both fine monitors. The Sony is more flexible,

has a non-glare screen and a better warranty, and you can undoubtedly get it cheaper. I'm happy with my choice. Jan

From: BMUG

Subject: RE: **Mac II Color Monitors**
New Trade-In Program for Macintosh II Color Monitors

Cupertino, California. August 3, 1987. Apple Computer, Inc. today announced a program that allows customers to exchange an Apple Macintosh II monochrome monitor purchased by October 31, 1987 for a color monitor purchased during the first quarter of 1988. The new policy is a response to the greater than anticipated demand and the slower than expected availability of the new AppleColor High-Resolution RGB monitors.

Under the policy, Apple will offer customers the opportunity to exchange an Apple High-Resolution Monochrome Monitor purchased before October 31, 1987 for full credit towards the purchase of an AppleColor High Resolution RGB Monitor. The monochrome monitor can be returned to an Apple-authorized dealer between January 1, 1988 and March 31, 1988 to receive full credit towards the purchase of the color monitor.

"Customer satisfaction is one of Apple's top priorities," said Charles Berger, vice president market development for Apple. "Because the demand for the Macintosh II color system is exceeding supply we've taken these steps to give people the opportunity to use their Macintosh II systems right now and have full color when the monitors become available at no cost. In the meantime we are manufacturing the RGB monitor as quickly as we can and expect to have full supply this fall."

[from AppleLink]

From: RICFORD

Subject: **800K drive problems**

Here's a story and some advice... I put one of those yellow disk "protectors" in my SE internal floppy drive, and went for a drive with the Mac. It was well cushioned as usual. At the destination, I booted and the yellow thing jammed. I couldn't get it out no matter what I tried (short of destroying the whole works). It also wouldn't go back in. It was in right side up, by the way...

Back home a couple of days later, I've disassembled the SE and the drive. I don't see any way the "protector" could help to keep the heads from hitting each other. They're a good half inch apart, with no way to contact each other. The protector seems more likely to cause trouble than to prevent it!

My advice is to avoid the blasted things - I threw mine in the trash - and if you feel the need to do something, put a real (blank) floppy disk in the drive for travelling. (It doesn't seem at all necessary).

Ric Ford

From: MACWEEKBOS

Subject: RE: **800K drive problems**
Peabo reminded me that I was wrong

about the carrying bag static in a previous "warning" message, so I thought it best to clarify this floppy-protector warning a bit...

I eventually fixed the drive, after completely disassembling it and tweaking this and that a lot. After re-assembly, it worked, but sluggishly. I took it apart again and found that a pin was jamming a little still. It was a pin I'd bent a bit, and it seems to be a crucial part of the mechanism. It's the thing that engages the semi-circular cutout in the bottom of the floppy underneath the arrow on the other side. If the disk feels tight and sluggish going in or out, this pin may be pushing too hard on the side of the disk before it engages the cutout.

Anyway, the problem may have been caused originally by my inserting the protector upside down, partway in, before I realized and removed it. It didn't seem I'd done it forcefully at all, but maybe enough. I think this is the main danger of the yellow protectors, and it might be good to write "This side Up" on the top of it and "X" on the bottom.

Any Sony/floppy disk experts out there who think this thing really helps prevent some problem in normal transportation?

Ric Ford

From: DEDHED

Subject: RE: **800K drive problems**

Ric, The yellow plastic "disk" which is shipped in the Sony drives is meant to protect the drive heads from contacting each other during shipping. If you look through your drive slot (possibly with a penlight), you'll notice that the heads in an empty drive are separated by quite some distance. It's reasonable to assume that unless a good shock causes the drive mechanism to close (as if a disk were inserted), the heads are in no trouble. If you notice your Mac running the disk eject motors when you power on (especially after travelling with the Mac) you may want to use the protector, if not, it would probably cause more harm than good, since the heads are always in contact with the plastic when it is inserted.

Mike

From: MACWEEKBOS

Subject: RE: **800K drive problems**

Mike, Thanks for the observations. I guess it's still safest to put the protector in, to prevent exactly what you describe, where the mechanism sort of "closes" letting the heads crash together. I'm upset at having the protector jam suddenly, but I've heard of the same thing happening to other people with floppy disks themselves. I've had 2 other 800K floppy drives fail completely and without warning, but both times the floppy disk was released after first getting stuck.

I'm convinced that these drives are overly delicate, and I never slam disks in or out. Sure hope the 1.6MB floppies aren't even worse! Ever since losing my only 800K drive in a Mac Plus the week after the warranty ran out, I've kept a spare external drive on

hand. Now, with a two-floppy SE, I'm not sure what to do. Put a protector in one drive and not the other??

Ric

From: DEDHED

Subject: RE: **800K drive problems**

ptr, The reason for not wanting the heads together during long periods of time is that it may allow condensation to develop between the surfaces, especially if the unit is being transported between temperature extremes. When said condensation evaporates, any dissolved/suspended matter would then be on the heads.

Mike

From: lsr@apple.UUCP (Larry Rosenstein)

Subject: **Re: Multi-tasking Finder**

In article <1584 (Doug Moen) writes: >
>Does MultiFinder load fonts and da's into the system folder dynamically, >as needed, and purge them as needed, or does it try to load every font and >da into memory at once? I have a 1Mb MacPlus, with about 800K worth of >fonts and desk accessories in my system folder. If the latter is true, >then I am afraid that MultiFinder is useless to me, unless I am prepared >to purchase a memory upgrade, or live with a completely stripped system >file.

It only loads the resources as you use them. Basically, resources that come out of the System file are loaded in the System Heap, rather than the Application Heap.

The System Heap under Multifinder is expandable, because application are loaded towards the other end of memory as much as possible. So if you start opening DAs, the System Heap will start growing; as you close them, it will shrink again. (The about box in the Finder shows the current memory usage; as you open and close DAs you can see the size of the System memory grow and shrink.)

The point I made before about the number of DAs, is that the System resource map has to be loaded in the System Heap as well, so every DA and font requires additional map space. For example, the names of resources are in the resource map.

— Larry Rosenstein

Object Specialist Apple Computer

Subject: **Re: Mac Multitasking**

In article <496 (Ali Ozer) writes: > >I did not need to "change a few lines in my code," nor I did not need to >decide before had that I was going to run VT100 during VideoScape.

It turns out that some existing programs will run without change in the background under Multifinder. There are programs that were written to allow user interaction (menus choices, etc.) while it is off computing. The most common way of doing this is to poll for events while processing and handle the event normally when one comes in.

Multifinder will do a process switch at these times. All that is necessary is that Multifinder be told that the application can run in the background, which is indicated by a bit in a re-

source. (The Multifinder people tried this with one public domain program and it worked fine.)

>I appreciate Apple's effort in trying to get the Mac to multitask — what >I don't understand is how they call these current attempts (like the >Switcher and now the Multifinder) "multitasking".

You can say that the multitasking in Unix or the Amiga O/S is more advanced, but you cannot say that Multifinder is not multitasking. Multitasking is the ability to run 2 processes (apparently) at the same time, which is something Multifinder can do.

It is true that Multifinder 1.0 uses non-preemptive scheduling as opposed to preemptive scheduling used by the Amiga or Unix. This means that applications have to be cooperative in order to run in the background. >From the end user's point of view, the result is the same; you can have your computer do more than one thing at a time. The vast majority of users could care less how it works inside. The difference between Multifinder and the Amiga O/S is subtle and something that many users won't understand.

— Larry Rosenstein

Object Specialist Apple Computer

Subject: **Mac II Transputer boards** (by Levco)

I understand that, at the Mac expo, Levco was showing some accelerator boards for the Mac SE and Mac II that used the Inmos "Transputer" chips. There was some sketchy information about these boards in a recent Mac Week but the article there really confused the issue about prices...etc.

Did anyone out there happen to get a good look at one of these boards or get some information about what they are and how they are used/programmed?

If you have any info please post it to the net, if the prices reported by MacWeek are close to correct I'm sure a lot of people on the net would be interested.

Greg Corson

19141 Summers Drive

South Bend,

IN 46637 .

Info-Mac digests consist of submissions by individuals on the academic computer networks. Submission and distribution of these digests is by network, moderated by volunteers at Stanford University.

Usenet is a loosely-coupled network of co-operating academic and commercial computer systems. It is a non-profit network whose primary aim is the sharing of technical information and the spreading of research results.

Delphi is a commercial time-sharing and bulletin board system. The Delphi Digests are made available thanks to Jeffrey Shulman of Rutgers University.

Lightspeed Pascal™

John Arnold reviews this integrated programming environment

LIGHTSPEED PASCAL published by THINK TECHNOLOGIES INC. and is supplied as a package with a manual consisting of the User's Guide and Reference Manual and three 400k disks, LP1 System, LP2 Libraries, and LP3 Utilities.

The review copy is version 1.0 with Release 1.0 supplement which I used with a MacPlus.

The manual consists of 608 pages with a 28 page supplement and although substantial it was not intended to be a Pascal language manual. If for your programming you need information about the Pascal language then you will also need to obtain one of the many Pascal language texts that are available to supplement the manual. Serious programmers would also require Inside Macintosh.

I found the manual to be excellent, very nicely presented and clearly set out, with all the information regarding the package one would need to

make effective use of it.

The manual starts with installation details, a tutorial of some of the main features of Lightspeed Pascal, details about the Editor, creating a Project, running and debugging the program, details about Unit and Libraries, building an application, using resources, interfacing with assembly language, LightsBug, compiler options and menu options. The language reference section follows, with a number of appendices completing the manual.

The section dealing with errors gives short program extracts of code giving examples of both correct and incorrect lines, this could be quite valuable for newcomers to Pascal programming, and perhaps to some who are not newcomers.

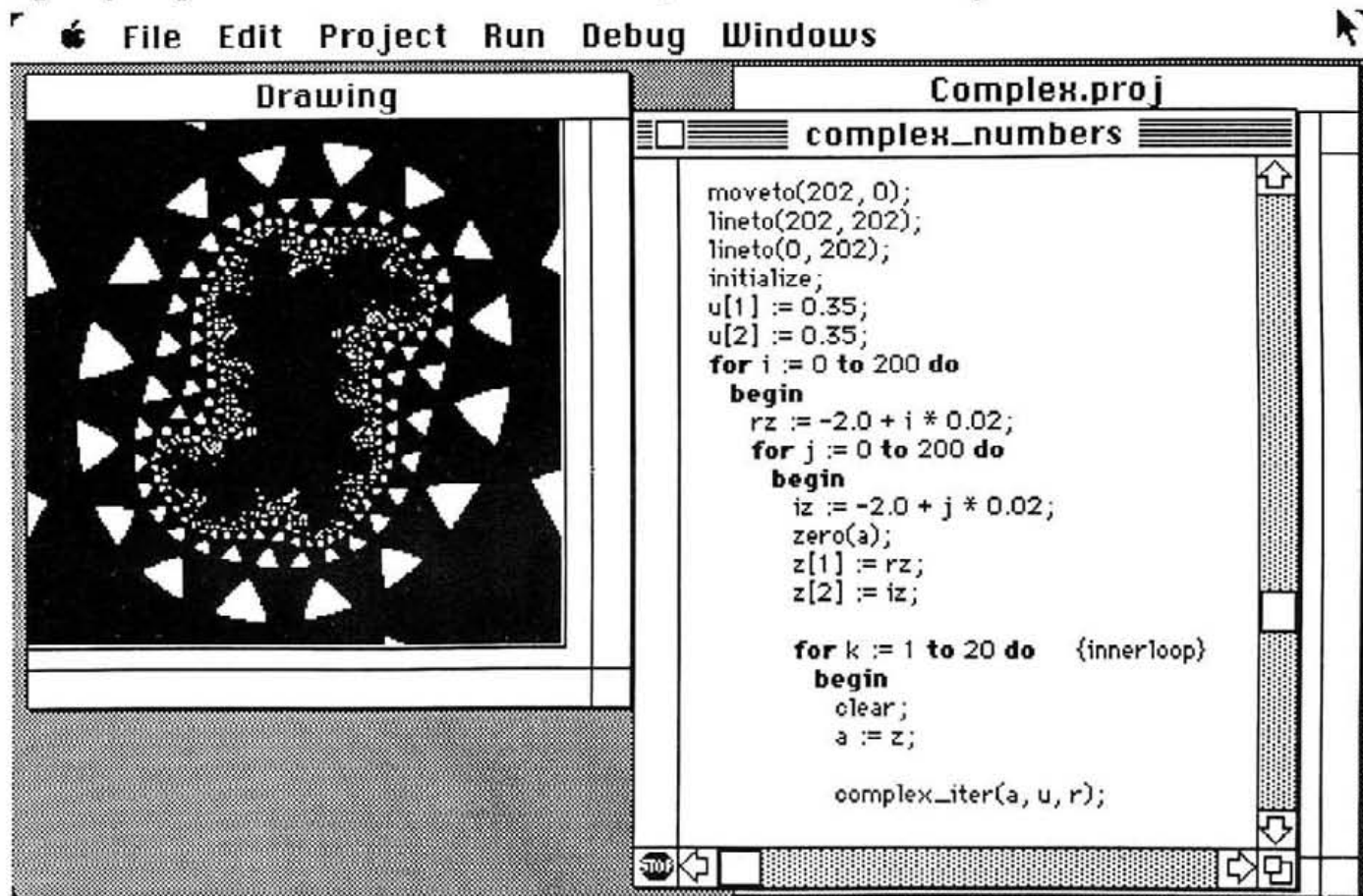
Lightspeed Pascal is produced by the same company that produces MacPascal, and the language is intended to be compatible with MacPas-

cal and also with Apple's Lisa Pascal and A.N.S. Pascal.

For users familiar with the MacPascal package, the development environment of Lightspeed Pascal will come as no surprise.

Programs are written in the editor, lines ending in a return or a ';' producing automatically the bolding of Pascal keywords and the indentation which helps to make the layout of the program more attractive and readable (the indentation, tabs and typeface and size can be changed using the Source Options... from the Project menu), also at the same time syntax errors are picked up with outline text being used to display characters from the point of error. This of course means that the correction can be made immediately before moving on to the next line of program.

Having completed the text of the program the next stage is to create a project. This is done from the Project menu by choosing New Project. Having chosen a project name and saved it from the Create button, the project window appears on the desktop with two files already present ... MacPasLib and MacTraps, files can be added or removed with Add Window, Add File..., and Remove. There are four options that can be set for each added file: D.. must be set if any of the debugging options are required, N.. when set embeds the first 8 characters of the subroutine names into the end of the subroutine code, V.. generates code that detects errors arising from numeric overflows, and R.. does various kinds of range checking. The Project file must contain all the Li-



brary files, Units, source files in the correct sequence, so that the program can be linked and compiled. Once the Project is complete the program can be run from the Run menu with Go, the files in the project are compiled and linked automatically and the program then runs. Should it be necessary to edit a file you have entered in the Project, this fact will be flagged and the next time the program is run only the changed file is recompiled making the process of editing, compiling, and linking extremely simple and very rapid.

Having once experienced the compiling and linking process by this process, the separate linker and compiler procedure adopted by some other products, will I am sure, seem unbelievably tedious in comparison.

The Lightspeed Pascal package retains the debugging facilities introduced in MacPascal, with some powerful new additions. It is possible as in MacPascal to insert and remove stops in the source code, Go from the Run menu will run the program to the inserted stop point, Go can then be used to run to the next stop, or the option is there to Step and Trace line by line through any part of the program. Also familiar to MacPascal users will be the Observe window and the Instant window. Variable values can be displayed at a break point with the Observe window, the variables specified being updated each time a break point is reached. When a running program has been stopped with the Pause option the Instant window gives the facility of being able to enter any valid Pascal statement and executing it immediately, hence if required the values of variables can be changed before continuing the run. The main addition to the debugging facilities is the LightsBug window, this can be opened from within a running program by clicking the spraycan at the right of the menu bar, this stops the program and displays a number of items in three divisions in the LightsBug window. One area displays the activated subroutine call chain, also obtainable from this area are the register, zone, or variables which when selected will be displayed in the second area. The register display shows the values of all the MC68000 registers while running the program. The zone display, or heap display in the upper right window has three control buttons on the top row S..the system zone, A.. the applications zone, and C..the current zone. There is also a zone address box so that any other zone can be displayed by entering its address. The zone display gives the number of pointer objects, handled objects, etc. with a scrollable display beneath giving information of whether the object is locked, the type of block, its address, size etc. Selecting any of the lines produces a memory display starting with the address for the chosen object, the display appears in the bottom area of the LightsBug window and again is scrollable. The memory

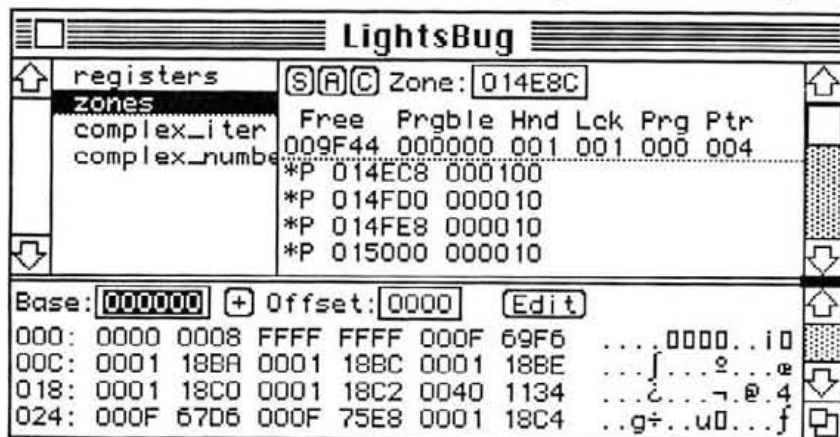
displayed can be edited after clicking the Edit button, although as emphasized in the manual this should only be done with caution.

The LightsBug window can be extremely useful to the debugging of a program as I have had reasons to discover in my own programs which on occasions produced the (for me) inevitable bomb!

Think Technologies have in fact gone further, because they also include the Macsbug file (the actual file on disk is named Maxbug and has to be renamed Macsbug and placed on your startup disk, if you want Macsbug to be installed on startup). Once installed it is obtainable either

came to write the review, as I try to use Switcher to have in memory both MacWrite and the program I am writing about. After using LightsBug I had the error message "Lightspeed Zone has been damaged. Proceed with caution", I couldn't have been cautious enough because shortly afterwards I found myself in MacsBug with the only way out being a quick jab on the reset switch.

I have had a quick look at some of the messages programmers send each other over the wires and notice that others have the same problem when using Lightspeed Pascal with Switcher, there is an obvious solution to that particular difficulty! When



by pressing the interrupt button or from the Debug menu. An appendix in the manual gives details of the commands available from within Macsbug. Typing G returns the user to Pascal.

Altogether the debugging tools available from within Lightspeed Pascal make it a very powerful Pascal program development environment and one which for me at least cuts out a lot of the hassle one has come to regard as normal when compiling programs.

Assembly language source code written and assembled with the MDS assembler, converted to a Lightspeed Pascal library and entered into the Project can be interfaced with your Pascal program. A short section in the User's Guide part of the manual gives the necessary details.

Time critical procedures may therefore be speeded up by using an assembler.

From your Pascal source code by choosing the Build & Save As option in the Project menu you can compile and link to obtain either a stand-alone application or a desk accessory. Any necessary resource files can be attached using RMaker or ResEdit both of which are supplied as part of the package with sections in the manual giving details of their use. The file to feed to RMaker, which is a resource compiler, has to be created with any standard text editor, again for convenience of users a simple one is provided. One then obtains at the end of the process a working application which can be dragged onto any disk.

The only difficulty I had was when I

using Lightspeed Pascal for purely programming purposes there would probably be no need to use Switcher anyway.

One message mentions problems when running with the 68020 on the Mac II, this would need checking out by Mac II owners before purchasing.

Lightspeed Pascal is a strongly typed language, more so than MacPascal, this may give difficulties when trying to compile MacPascal source files, I found problems with programs using pointers to pointers. Fortunately Think Technologies have built in a solution for those who get really stuck, in the form of Inline procedures which enable users to call stack based Macintosh routines with all type and parameter checking disabled.

info

Product : Lightspeed Pascal™
 Publisher : Think Technologies
 Available from :
 Apple2000
 P.O. Box 3
 Liverpool L21 8PY
 Price : £ 109.00

Value : ★★★★★
 Performance : ★★★★★
 Documentation : ★★★★★

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Typesetting with T_EXtures: a review

Sak Wathanasin

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What is T_EXtures?

At a time when everybody and their dogs seem to be releasing new WYSIWYG (what you see is what you get) word-processors or page-makeup programs for the Macintosh family, it must seem somewhat perverse of Addison-Wesley to produce a batch-oriented text formatter called *T_EXtures*. Even though it comes with an integrated editor and previewer, T_EXtures is as far removed from the intuitive, "user-centred" Macintosh word (and page)-processor as you can get. But T_EXtures should not be dismissed out of hand, for it is an implementation of the T_EX type-setting program.

Prof. Donald Knuth, the progenitor of T_EX, is one of the stars of the computer science firmament, and his *magnopus*, *The Art of Computer Programming*, is an essential reference for all programmers that can be found on the shelves of every university library. When he was commissioned by the American Mathematical Society to design a computerized typesetting package for producing their journals, he brought with him the precision, the scholarship, and the rigourness of a professional computer scientist. The result is that T_EX has set a standard in the mini- and main-frame world against which other typesetting programs are judged. T_EX has some of the most sophisticated line- and page-breaking algorithms of any typesetting program, and (as befits its origins) its prowess at setting equations and formulas is second to none.

Prof. Knuth has made the program sources for T_EX (and its supporting utilities) freely available to the public, and a T_EX distribution tape is available for a tape-copying fee. T_EXtures is a port of this program suite onto the Macintosh, and it is, therefore, an accurate and complete implementation of T_EX. (You may wonder whether Addison-Wesley are allowed to charge for something that is free. Yes they are, because the work that has to be done to move the programs onto the Macintosh is considerable, and that work is what you pay for. In addition, T_EXtures comes with an editor and previewer, which were not in-

cluded in the free distribution.)

T_EX basics

It is impossible to review T_EXtures without describing something of T_EX and its approach to typesetting; readers who are familiar with T_EX can skip this section. There is no space here to even give an overview of the T_EX command language (it has an entire book devoted to the subject—*The T_EXbook*¹—, which Addison-Wesley has wisely supplied with the T_EXtures package), but I hope the few examples in the review will give the flavour of the language.

A T_EX input file is an ASCII text file that contains the text that you want printed. Embedded in the text stream are commands that control the appearance of the printed copy. T_EX will process the entire input file (or files) before producing any printed output. T_EX is, thus, similar to JustText, which was reviewed recently in *Apple 2000*².

T_EX has about 300 "primitives" and a further 600 or so control sequences that are built from the primitives. Moreover, T_EX has a macro facility for defining new commands in terms of existing ones, and so the command set can be extended indefinitely. Rather than providing users with a host of "special effects", T_EX provides the means with which to create their own. T_EX is like a programming language with variables, macro definitions, nested scoping, if-else and case constructs, looping constructs, and recursive macro calls. It also has the more familiar formatting commands to control line-spacing, page width, fonts and so on.

Some sample T_EX is shown in figure 1; these are the T_EX commands that generated the beginning of this article. T_EX commands begin with the character "\ " to distinguish them from ordinary text (the stuff that is to be printed). Curly braces are used to group text and commands, and to delimit the scope of a T_EX command: any changes lose their effect on exit from the group. Groups can be nested, and behave like BEGIN-END blocks in PASCAL. Most of the control sequences in the example (`\begincolumn` and so on) are

macros that are defined in a preamble held in a separate file, which is included (using the `\input` command) at the beginning of the document.

T_EX as a document processor

In this section, I look at the use of T_EX as a document processor (I use this term to cover both word-processors and page-makeup programs) and compare it against other Macintosh programs.

The printed copy

The quality of the printed copy is the yardstick by which document processors are judged. For a printer or publisher, all other considerations are secondary. You can see the quality of T_EX's output for yourself: see how the words are evenly spaced in every paragraph (other document processors only do this with "ragged-right" margins), how every page and column has the same length. (Some might object to the three column format, but I had to keep to the "house style" for this magazine. Ragged-right text might have been more appropriate for such narrow columns, but I wanted to show what T_EX could do even under such difficult conditions.)

The primary aim of T_EX is to produce beautiful books that cannot be distinguished from manually typeset ones; nothing is allowed to get in the way of this, no concessions are made to the demands of computer time, computer memory, disk space or user-friendliness if they compromise this ideal. If T_EX's efforts still do not come up to scratch (it's only a computer program after all), you can fine tune the output yourself. The comments in the JustText review about the accuracy of placement, and the fine control of the appearance of the printed copy all apply equally to T_EX.

Logical vs visual formatting

You can format a document in two ways: visually or logically. Visual formatting is the way most Macintosh document processors work (even JustText). You look at the output (on screen or on paper) and add a little space here, take out a little space there, and so on

there until the results “look right”. With logical formatting on the other hand, you first organize your document into logical units—chapters, sections, subsections, paragraphs, and so on—, then specify how these units are to be laid out. For example, instead of saying, “down a line, right a bit” at the beginning of each paragraph, you would say “this is a new paragraph”; at some point you would tell the document processor that starting a new paragraph means “down a line, right a bit”.

At first, it may seem that logical formatting has few advantages: after all, visual formatting is interactive, and you can see how to get the effect you want. The problem with WYSIWYG is, as someone has put it, is that “what you see is *all* you get.” If you need to make global changes later, you have to go through the entire document, making changes everywhere. For example, if, in *MacWrite*, you want to move the left margin an inch to the right, you would have to change every ruler in your document. With a logical format, you merely tell the document processor that the page layout has changed, and it will reformat the entire document.

Word 3.0 and *MacAuthor* support a limited form of logical formatting. \TeX allows both visual or logical formatting, but its design encourages the latter. With \TeX , you can define macros that format each kind of object in your document. For example, consider the sample \TeX input given earlier. Instead of visually formatting each section heading, I chose to define a macro `\beginsection`. By changing this one macro, I can change the font, size, or positioning of all section headers in the article. *Word 3.0* and *MacAuthor* will let you do something similar by defining *styles*, but because \TeX is programmable, I can make my macro behave differently according to circumstance. For example, I can make it set section titles in a different way when the document is printed in one column, instead of two or three. More important, I can squirrel away the section title and use it later to make up a table of contents.

In short, with logical formatting, you trade extra work at the time you create the document for the ease of making changes later. For a large document, or one that will be revised often, the ability to format it logically is an advantage that cannot be over-emphasized.

\TeX features

So, what do you get if you used \TeX to typeset your document instead of using, say, *Word* or *PageMaker*? Here are

some of the main advantages:

Sophisticated line- and page-break algorithms

There is no space here to describe \TeX 's line- and page-breaking algorithms, so this brief discussion will have to do. Anyone interested in computerized typesetting should look at the detailed description in *The \TeX book*. None of the other Macintosh document processors even come close.

When deciding how to set a line, there are several conflicting requirements that have to be considered—this is where printers exercise their skill. For example, printers would try to (among other things)

- set the spaces as close to their natural width as possible
- make the inter-word spacing the same throughout the paragraph
- hyphenate as few words as possible
- add extra spacing (if needed) after punctuation, instead of in between words.

\TeX will try to do all this and more, using an algorithm that produces the best compromise. You can control how \TeX breaks lines by specifying “penalties” (which are hints to \TeX on good and bad places to break), “tolerance” (a parameter that controls the width of the interword spacing that you are prepared to accept), or a host of other parameters or (as a last resort, because it is visual formatting) explicitly breaking the lines yourself.

The page-breaking algorithm is similar, and one of \TeX 's insights is to treat both horizontal and vertical material in much the same way. The user controls vertical spacing in the same way as horizontal: by adjusting the parameters that control \TeX 's behaviour; the notions of penalties and tolerance apply to vertical material.

\TeX can do better than a WYSIWYG program because \TeX can look at as much of the input as it needs; for example, in order to get even page lengths, \TeX needs to look at more than a page's worth of text in order to find the best place to break the page. It then inserts extra spacing between paragraphs if necessary to fill out the page. A WYSIWYG program can only produce even word-spacing within a line (the user may not have typed the rest of the paragraph in yet), but \TeX can look at the entire paragraph before it chooses where to break the line. If it doesn't find a good line break, it then hyphenates all the words in the paragraph, and then tries again.

\TeX uses an ingenious hyphenation algorithm (the subject of a PhD thesis

at Stanford) that does not need a dictionary. I won't go into it here, as *The \TeX book* describes the algorithm in detail, but most of the hyphens in this article were inserted by \TeX (although you can insert “discretionary hyphens” yourself).

User-extensibility

\TeX 's powerful macro facility makes it possible for users to extend the language to fill their needs. A good example is the \LaTeX macro package which was written for novices and casual users who might otherwise have been overwhelmed by \TeX . \LaTeX fully supports the logical approach to formatting documents described earlier by providing “style sheets” that define how each type of document (for example, book, article, report and letter styles are provided) is to be printed. It too is user-extensible, and many \LaTeX style sheets have been placed in the public domain.

Control over placement of characters

Italic correction You may have encountered the problem of italic text “running” into an adjacent un-italicized character. \TeX allows you to specify an italic correction, which is applied in this circumstance (*like this*). The amount of italic correction varies with the character, and is specified by the font designer.

Wide variety of diacritical marks You may never have to mention *Sergei Īur'ev*, *Muhammad ibn Mūsā al-Khwārizmī* or even *Dvořák* in your documents, but if you do, \TeX can handle it. If necessary, you can overtype characters by using the `\kern` control sequence. *MacAuthor* allows you to overtype characters, but it is limited by the accents available on the Macintosh (no ties for example). \TeX also recognizes certain character sequences (e.g., `fi`, `fl`) as ligatures and will substitute the appropriate marks.

You can also place marks on the page wherever you want them: footnote marks, trademarks, marginal notes, kerning (letting one character overhang another) are all possible. It is also possible to do simple line drawings if you have the appropriate fonts (\LaTeX , see below, has a set of macros for this purpose).

Equation processing

At first sight, it would seem that setting mathematics is no different from setting any other kind of text, but anyone who has tried will know that this is not so. It is not just a question of having the right fonts—in the first place, mathematics is laid out in two dimensions; in the second place, the spacing is all important.

Spacing in formulas is used to break it up so that its components are visible at a glance; too much space, and the formula becomes "fractured", too little and the formula is squashed.

This is the area in which T_EX simply outshines the rest: T_EX's heuristics will generate the right spacing in formulas most of the time and, of course, you can fine tune the spacing yourself if needed. T_EX is used to typeset the American Mathematical Society's journals and so has to handle complex formulas. There is no space to describe T_EX's *math mode* in any depth, so you'll have to be content with a list of features and some examples from *The T_EXbook*. Note that T_EX was designed to handle mathematics right from the start, and so its *maths mode* is an integral part of the system.

T_EX allows both *in-line* formulas (like this: $\sum_{n=1}^3 Z_n^2$) and *displayed*:

$$\sum_{n=1}^3 Z_n^2$$

and, as you can see, it will treat them in different ways. Displayed equations can be numbered, and you can line up several equations on their equal signs:

$$\begin{aligned} I^2 &= \left(\int_{-\infty}^{\infty} e^{-x^2} dx \right)^2 \\ &= \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} e^{-(x^2+y^2)} dx dy \\ &= \int_0^{2\pi} \int_0^{\infty} e^{-r^2} r dr d\theta \\ &= \int_0^{2\pi} \left(-\frac{e^{-r^2}}{2} \Big|_{r=0}^{r=\infty} \right) d\theta \\ &= \pi. \end{aligned} \tag{1}$$

Try that with MacDraw if you have a couple of hours to spare—then think of what you would have to do if you want to change it.

T_EX also has a command for making matrices, determinants and the like:

$$A = \begin{pmatrix} a_{11} & a_{12} & \dots & a_{1n} \\ a_{21} & a_{22} & \dots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \dots & a_{mn} \end{pmatrix}$$

Excellent support facilities

T_EX has a table generator that really can't be matched by other Macintosh document processors. The example below comes from *The T_EXbook*. "But I can do that with MacDraw", you say. Of course you can, but what happens when you want to change it? If you add

some text to one of the boxes, you may have to make the box wider or deeper. In either case, you are forced to change adjacent boxes. With T_EX, you just add your new text, and the whole table is redrawn for you.

Year	World Population
8000 B.C.	5,000,000
50 A.D.	200,000,000
1650 A.D.	500,000,000
1850 A.D.	1,000,000,000
1945 A.D.	2,300,000,000
1980 A.D.	4,400,000,000

Footnotes, table of contents generation, cross-references (the ability to mark passages, so that you can refer to them later—useful for bibliographies, or internal references), and help in generating indices are some of the things that T_EX can take in its stride. To provide such features, a document processor must be able to make one or more passes through the entire document, something that does not come naturally to WYSIWYG systems (at least without losing the responsiveness of the system).

Moreover, because T_EX's input is plain text (all control sequences are strings of ASCII characters), it lends itself to preprocessing. For example, it is easy for a bibliography program to generate a string of T_EX control sequences that insert citation marks as well as the bibliography itself in your document (the program called BIB_T_EX does this). As you add or remove items from the bibliography, the citations will be updated appropriately.

T_EX problems

Let us now have a look at some of the disadvantages. There are plenty. The worse is its non-interactive operation: you have to run T_EX on your document and get a printed copy before you can see what it looks like. A simple mistake (like leaving out an opening or closing curly brace) can mean that you have spent ages printing out junk. You can reduce the number of drafts needed by formatting the document logically rather than visually (see earlier discussion), but even so it is not uncommon to have to print many draft copies before you get what you want. Special effects that you take for granted with *PageMaker* like having columns of different widths and heights on the same page are not impossible in T_EX, but they take a lot of work.

Learning the T_EX command language is a major stumbling block. The syntax is simple enough, though some programming experience is helpful; it's just

that the language primitives are very primitive indeed, and even to do something simple takes a lot of T_EX commands. It's like programming in assembler—you have a lot of flexibility, but it's also very tedious and time-consuming. It is not enough just to learn T_EX's command sequences, you also have to understand how T_EX's line and page-breaking algorithms work to harness the full power of T_EX. With T_EX you more or less have to "debug" your documents—not a job for the faint-hearted.

Unadorned or "plain" T_EX as it is called is not really for the novice or casual user. The idea is that T_EX wizards would produce macro packages (or "formats" in T_EX terminology) which would insulate casual users and novices from plain T_EX while still producing high-quality output. Two formats are in wide circulation: L_AT_EX and AMST_EX are on the free T_EX distribution tape, but only L_AT_EX is intended for general use. There are also many L_AT_EX style sheets that have been placed in the public domain.

T_EX's error messages can also be impenetrable to the uninitiated since they are given in terms of T_EX's internal objects ("boxes" and "glue"). It can be hard to relate an error message from T_EX to the input file, and to work out just what it is that T_EX is objecting to. This can be particularly frustrating if you are using a macro package because by the time T_EX detects an error, it is usually deep inside a macro call, and the error message you get probably tells you little about the real problem.

Another problem is that T_EX documents are hard to read because they have T_EX control sequences embedded in the text. I find it hard to proof-read my documents on the screen, as the T_EX control sequences are very distracting. I also find it easier to write the body of the document, then add T_EX commands instead of trying to do both together.

T_EX can be slow even on a mainframe: all this optimizing of line- and page-breaks takes up a lot of machine time. The turn-round time for getting a draft copy can be several minutes even for small documents. T_EX is also big: the free distribution tape is over 25Mb. All in all, it is fair to say that T_EX is a heavy user of computing resources.

A look at T_EXtures

Let me now turn my attention to T_EXtures, and look at the features and problems that are specific to this implementation on the Macintosh. Before I proceed any further, I should say that this review is based on a pre-release version

(0.95) from Addison-Wesley, and the final version can be expected to be much improved.

Good points

Complete implementation

I was able to typeset \TeX tures documents with \TeX on our Unix system, and *vice versa*. The only problem was with fonts that weren't available on the Macintosh and *vice versa*. It also runs at a reasonable speed—at least, I didn't feel that my documents took any longer to process on the Macintosh. For example, it processed this article in about 4 minutes.

I downloaded the \LaTeX macros (over 9000 lines of \TeX) and was able to typeset some \LaTeX documents with them, albeit with a few problems. Apart from fonts that were not available with \TeX tures, a few lines had to be deleted or changed (some \TeX commands are only available with a virgin \TeX —called INITEX—not one that has had a macro package loaded).

Page preview

The \TeX tures page previewer shows you the typeset output in its own window (see figure 1). This facility removes much of the annoyance of using a non-WYSIWYG system. You still have to wait for \TeX tures to process the whole document before seeing what it looks like, but at least you don't have to waste reams of paper. You can view the document, one page at a time, at various magnifications and there is also a useful "magnifying glass" feature to examine detail. With the previewer, you can experiment with \TeX macros till you get what you want.

Built-in editor

\TeX tures has an integrated editor (based on the Macintosh "cut-and-paste" editor) for creating and modifying \TeX documents. The editor window can be moved or resized like any Macintosh window, and you can see both the \TeX input and what it produces side-by-side. The number of files you may have open at any time is limited by the memory available.

Good integration of components

If you've used \TeX on a mini- or mainframe, then \TeX tures will seem very slick. When you open a \TeX tures document by double-clicking on it, the editor is invoked; you can browse through the document, making any changes you want. To typeset your document, you select *Typeset* from the pull-down menu.

\TeX then processes the input from the select window; error messages are displayed in a separate "log" window (see figure 1).

If there are no fatal errors, the first page of the typeset result is displayed in the preview window. If there are errors, you can either ignore them, and force \TeX to continue (to try to catch as many errors as possible), or abort. If you opt for the latter, the editor window is selected with the insertion point close to where \TeX has abandoned processing of the document. The log window is a standard Macintosh window which means that it can be scrolled and resized. This means that you can view the log and editor windows together: very useful for correcting errors in your document.

Allows graphics

\TeX tures allows you to insert graphics (see figure 1) from other Macintosh applications, although the method used is somewhat convoluted. You are also supposed to be able to insert PostScript code directly using \TeX 's `\special` control sequence, but the manual was very sketchy and I have not been able to make this work.

Bad points

Remember that the system sent for review is a pre-release and that some of the problems may be fixed in the production version.

Co-operating with other Macintosh programs

To someone who is used to the Macintosh, \TeX tures will seem clumsy. Although it does its best to fit into the Macintosh "world", it cannot quite disguise its mainframe origins. \TeX tures can only read files created by other applications if they are plain text files. I would like to see a utility to convert files from "outliners" such as *Acta* or *More* or even just *MacWrite* files. Similarly, it would have been handy to use \TeX tures, for example, to set an equation, then paste the result into *PageMaker*.

Picture data are handled in a non-standard and counter-intuitive way. You have to paste pictures into \TeX tures own private "scrapbook" format (there is one for each \TeX input file), and only then can they be inserted into a document using a \TeX macro (examples are given).

Editor

The built-in editor has an annoying bug: instead of deleting highlighted text (which has been selected with the mouse), it *sometimes* deletes from the

beginning of the marked area to the beginning of the line. Another problem is that it does not scroll the window when you move below the last line of the window with the mouse or with cursor keys (it does scroll when you type, thank goodness).

The worse thing about the editor is that it is simply not powerful enough for a text editor: for example, no global "find and replace" command, no control over whether the search string is to be case-sensitive or not, no regular expression matching, no way of defining abbreviations, no parentheses balancing. I also find it disappointing that they have not built in more " \TeX ness" into the editor. No attempt has been made to match the Macintosh keyboard's special symbols to equivalent symbols in \TeX . For example, to type a bullet you still have to type `\bullet` instead of *option-8*; and a "smart quotes" feature (like the one in *Acta*) would have been very welcome.

I said earlier that I preferred to concentrate on the writing, and then to add the \TeX control sequences later. I found it quicker to transfer this article to our Unix system, use its more powerful editor (*emacs*) to do this, and then re-transfer the result to the Macintosh than to use the \TeX tures editor to do the same thing.

\TeX "compiler"

I have few complaints about the \TeX "compiler" itself as it is the same as the one on our Unix system. However, there are several improvements that could be made:

- it needs the \LaTeX macro package or similar. Plain \TeX is just too much for most people.
- there needs to be some way for users to build or save their own macro packages. I had no way of building the \LaTeX package myself; instead I had to explicitly include it each time I wanted to use it, but it takes several minutes just to load the \LaTeX package.
- the program could not find its font files unless they were in the same folder; there should be some way (a *Preferences* menu, say) for the user to say where the font files can be found.

Previewer

Its operation seems counter-intuitive to me. You are only allowed to see one page at a time (at different levels of magnification); to see another page, you have to select it from a pull-down menu. The scroll bars are used only to scroll the current page (you can only see part of a page on the screen unless you

choose *Reduce to fit*). It would be better if the previewer had used the scroll bars the same way as (say) *MacWrite*: putting each page in turn on the screen as you scroll through the file (by clicking in the scrollbar).

TEXtures is big

You need at least 4Mb of disk space (if you want all the fonts), and preferably 1MB of RAM. You will need much more disk space when you start to use it in earnest. The reason is that the typeset output for each document is held in a resource fork in the document's file. This isn't such a bad idea: it means that you don't have to wait for *TEXtures* to process your file each time you want to look at it, but there is no way of deleting it except with the *Resource Editor*.

Incomplete manual

As well as *The TEXbook*, there is a *TEXtures* manual that describes those aspects of the program that are specific to the Macintosh. For the most part, it was adequate, but a crucial part (dealing with fonts) was missing. *TEX* is largely machine-independent, but the fonts available on each system, what they are called, how to access them and so on will be peculiar to each implementation of *TEX*. I was able to deduce some of this information by perusing the supplied examples, but some questions remain unanswered:

- 1 How can downloaded PostScript fonts (like the ones sold by Adobe) be

used? Will there be some utility to convert from Adobe's font metric files to *TEX*'s?

- 2 Is it possible to print to a (PostScript) typesetter at full resolution? How? The PostScript fonts are, of course, device independent, but many *TEX* symbols (particularly the ones used for maths) are not available in the standard PostScript fonts. You have to use the *Computer Modern* fonts, but these are bit-mapped fonts and it is not clear how to persuade *TEXtures* to output a high resolution version for a typesetter.
- 3 Is it possible to access the special symbols in the standard PostScript fonts (bullets, pounds signs and so on)?
- 4 How can PostScript code be inserted into a document?

Cost

I also feel that it is somewhat expensive, considering that the sources for the core of the system were free (well, almost), and that a large part of the *TEX* distribution tape (e.g., *L^ATEX* and *BIBTEX*) is not supplied with *TEXtures*.

Conclusion

TEXtures is a good implementation of *TEX* for the Macintosh, but lacks the features that would make it accessible to casual users. At the moment, I can only recommend this package to existing *TEX* users or those who need fine

control of the printed copy. It is most suited to technical or scholarly documents, but it can be used for other types of documents. *TEXtures* will probably produce the best typography of any of the existing Macintosh document processors, but it probably requires the most effort on the user's part.

Product information

TEXtures costs £495 (+VAT) and is available from Addison-Wesley Publishers Ltd, Wokingham, Berks. You get five double-sided disks containing *TEXtures*, the full set of *Computer Modern* fonts, the font metrics for the built-in *LaserWriter* fonts, some example *TEX* documents, and a copy of *The TEXbook*. It is not copy-protected. You will need at least 512K of RAM, though they say that that would be a tight squeeze—1 Mb and a hard disk is the recommended configuration for serious work.

Acknowledgements

Thanks to Addison-Wesley Pub. Ltd for providing a copy of *TEXtures* for review, and to Kernel Technology Ltd for the use of computing facilities. *TEX* is a trademark of the American Mathematical Society. UNIX is a trademark of AT&T Information Systems. PostScript is a trademark of Adobe Systems Inc.

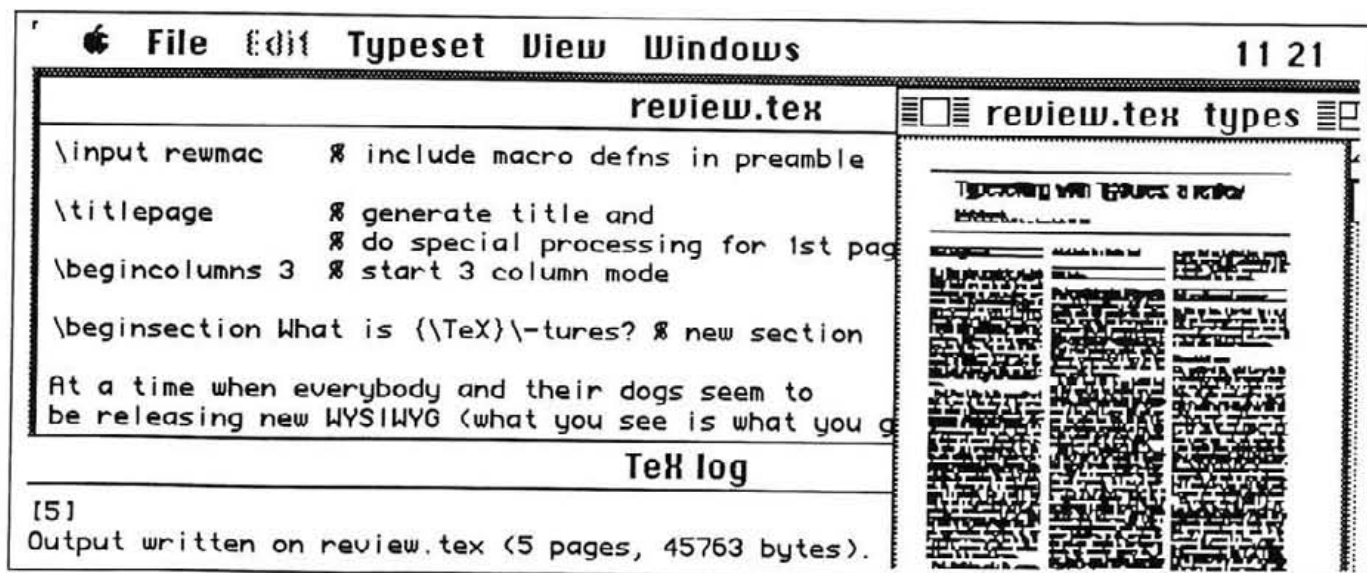


Figure 1. The *TEXtures* screen.

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1. D. E. Knuth, *The TEXbook*. Addison-Wesley, Reading, Mass., U.S.A. (1983).
2. I. Flaxman, *JustText*, *Apple 2000*, 2, 32-34 (1987).

Learn your Arabic by computer

the Mac as a key to the secrets of the East?

by Adrian Brockett and Mansoor Al-Helaly *



Students at Leeds University are learning their Abc (Arabic by computer)! Over the last academic year the 1st year Arabic class has been doing so for a minimum of one hour a week on the BBC micro (Abc1). It is intended that from October 87 students from subsequent years will also be doing something similar on the Macintosh Plus (Abc2).

dle-aged, nevertheless, and despite a number of constraints, not one of the 20 students was hostile. Indeed, 6 of them regularly spent extra hours. Anonymous questionnaires were given to the students after every hour's session and at the ends of term. Following are a couple of extracts from the hourly one: How useful were the exercises? Out of 183 responses: 54 said extremely, 107 very, 19 fairly, 2 a bit, and 1 not at all. Did you enjoy doing it/them? Here out of a total 185 responses: 162 said "yes", 2 "quite", 20 were left blank, and 1 was negative. (Of the 162 a number added "very much". Most of the blanks were through oversight, often students were so wrapped up in their exercises that they left no time to fill the questionnaire in).

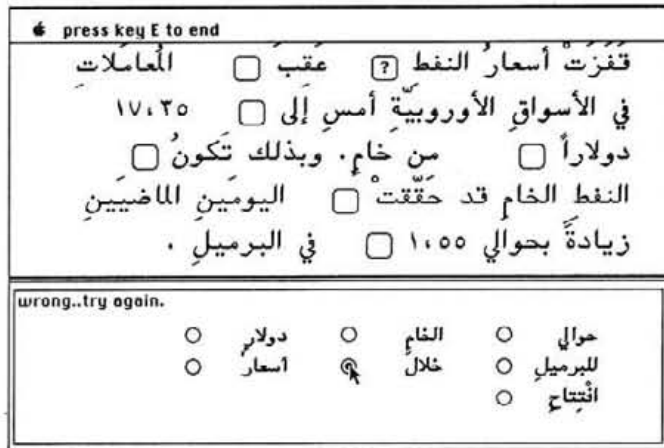


Fig. 1 Filling gaps

fig.1 shows a screendump of the *gap-filling exercise* consisting of two windows. The upper one displays the text with gaps in it, each gap represented by a push button, and the lower one randomly displays the words that have been removed from the text, each with a radio button. On selecting the gap to be filled a question mark appears, and the user then has to select the correct word from the lower window. In fig.1 the user has made an incorrect choice from the lower window, and has been told so in English. Had the correct choice been made the push button in the upper window would have been magically replaced by the word. In this way the user proceeds through the exercise until all the push buttons have been replaced. The two windows display different font sizes (Naskh 28 and Naskh 18). This is to prevent the user trying to guess the correct word by the size, rather than by the meaning.

The programs for Abc1, written by Col.O.Taylor, comprise at present 7 different vocabulary exercises and 22 grammar ones. Two exercises teach, the rest practise what has been done in class. 26 out of the 29 exercises are variations on the multiple-choice form. They are not merely of the type "choose one of the following 4", however, but come in an imaginative variety of forms and colours.

The opinions of those on the receiving end has turned out to be the best method of evaluating the experiment. 90% of the class had had no previous computer experience at all, and four of them were mid-

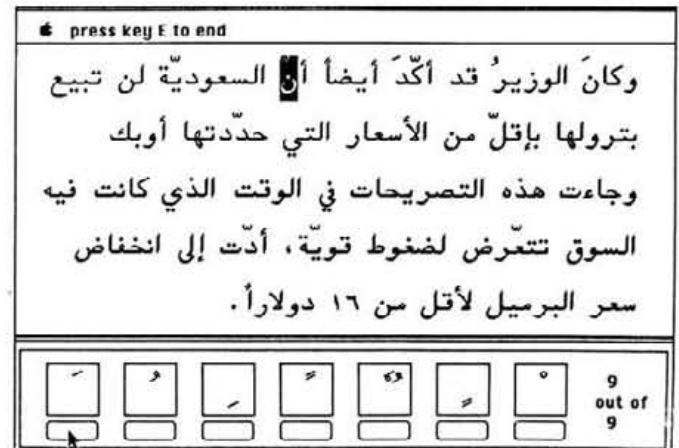


Fig. 2 Vocalization exercise

fig.2 shows a screendump of the *vocalization exercise*, also consisting of two windows. The upper one displays a text whose vowels have been suppressed by the program. Arabic writing basically comprises consonants moving from right to left, many of them joining cursorily on to the next. Vowels are represented by small signs above or below the consonants and are an optional extra. But since they can change according to a word's function (e.g. whether it is subject or object) it is a good test of comprehension to get the user to put them in. The lower window displays boxes containing these vowels, which can be selected by clicking the rectangular push buttons below them. The arrow shows that the far left one is about to be chosen. As can be seen from the text in the upper window three vowels have already been correctly selected (see 9/9 score bottom right), and the next consonant to be done has been highlighted by calling TEXTMODE(4). On selecting the correct vowel it is displayed in the text and the highlight moves to the next consonant to be vocalized. Above some consonants there is already a w-like sign, as in the figure, and to display the vowel also in such cases requires additional processing. Each choice carries (at present) three points, one being lost for every incorrect choice. (Another idea is to make the scoring go 7 for 1st time right, 3 for 2nd, 1 for 3rd). At the end of the exercise the total score is converted into %, with an appropriate message.

Following is a table of the significant findings of the questionnaire given at the end of the first term. The four bracketed numerals in the left hand column indicate the following questions:

1. What were your first impressions of Abc?
2. How much has it helped you revise?
3. How much has it helped you learn for the first time?
4. How tolerant have you been to Abc's teething problems?

Column *A* is extremely positive responses. Column *B* is very positive responses. Column *C* is quite positive responses. Column *D* is not very positive responses. Column *E* is negative responses.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
(1)	7	11	1	-	-
(2)	11	7	1	-	-
(3)	1	12	6	-	-
(4)	7	9	2	1	-

The table clearly shows that the balance of student opinion was heavily weighted on the very positive side. (It should be noted that the course is not designed to teach, as asked in question 3). So the time and effort spent on this experiment appear to have been well justified, and our new venture towards more advanced work on the Macintosh Plus (Abc2) is proceeding with confidence. The Arabic word-system has relatively few irregularities, but extensive rules. Creating a more intelligent environment than that of multiple choice is therefore a feasible proposition.

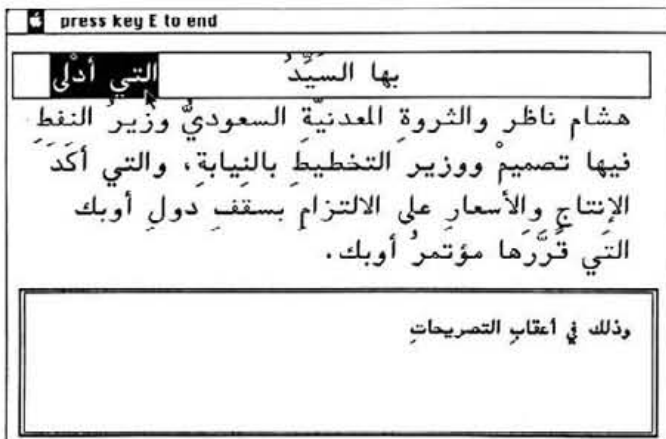


Fig. 3 Unscrambling a text

fig.3 shows a screendump of the *unscrambling exercise*, at first sight again consisting of two windows. The lower "window" however is in fact only a frame. This is to facilitate the descent of the words. Groups of two or three words in each line of the text are randomly scrambled. The line to be unscrambled is indicated by another, subsidiary, frame, and the user clicks once for highlighting a group of words and twice to select and move it to the lower frame. On a correct choice the group of words descends visibly through the text. When it reaches its correct position it is displayed in a smaller font size (to fit the smaller area of the lower frame). On an incorrect choice the group does not descend and a hiss is heard. In this example two groups have already been made to descend and a third has been selected by highlighting prior to descent. Once the whole line has been correctly unscrambled the subsidiary upper frame moves down to the next line and the process begins again. And so on until the whole text has been unscrambled and is displayed in the lower frame.

Three exercises have been created so far - gap-filling, vocalization and unscrambling, and it is now feasible for someone to manipulate today's leading

article from an Arabic newspaper in a number of ways. With the gap-filling exercise, after the choice of text, there is a choice of it being seen in full first, or already with gaps. Then is vocalization wanted? Or not? Are the gaps to be created by deleting 1 in every 3, 4, or 5 words or by deleting every verb, or noun, or adjective and adverb, or particle? See fig.1. The vocalization and unscrambling exercises can be seen in figs.2 and 3. The texts are written in *al-Kaatib*, an Arabic word-processor available from Eastern Language Systems, 240 East Center St., Provo, Utah 84601. See the June issue of *Apple 2000*, pp 39-40 for the sister Hebrew w/p.

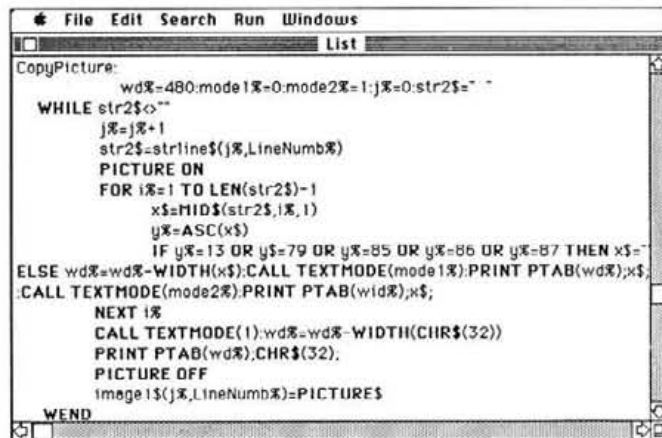


Fig. 4 Subroutine to produce graphic picture of a text, as in fig. 3 top left.

The procedure of highlighting and dehighlighting a group of words on the screen is done by saving the two pictures of each group in the text, highlighted and dehighlighted. This is seen in the extract from the program in fig.4 in between the statements PICTURE ON and PICTURE OFF. (The IF statement has been wrapped round). With each single click on a group in the line this procedure in the program will be called and the highlighted picture will be displayed; any group which has been previously highlighted will be replaced by a dehighlighted picture. In this way the user can easily go through selecting each of the groups in turn before deciding upon the desired one (by a double click), without fear of losing points!

Our year's funding will be up in October, but we have hopes for moving **Abc** out of the multiple choice and on to a more flexible and responsive level in the future - if we can find support. To the extent of our success in gaining support, so the hopes should more or less materialise. Our objectives fall into two stages:

1st stage. To design an intelligent environment on Macintosh Plus microcomputers in which users can roam through a library of Arabic texts. The library of texts will be created from the Arabic press and placed in the following "bays":

1. the oil business
2. wider commerce and industry
3. diplomatic relations
4. economic affairs
5. political events
6. military affairs
7. current religious affairs
8. agriculture
9. medical matters
10. social and domestic life
11. sport and recreation
12. humour

Each of these bays will hold upwards of 100 texts. By selecting a portion of one of these texts on the screen a student will be able to move (at a click of the mouse) to another text containing a similar portion (hypertext). The portions will be thematic (e.g. oil extraction, oil export, trade agreements, visits of ambassadors) or phrasal (e.g. grammatical constructions, idioms) or lexical (e.g. synonyms, antonyms). In this way users will be able to roam through any bay, looking along the shelves as it were, and reading here and there at their own speed, and according to their particular interest.

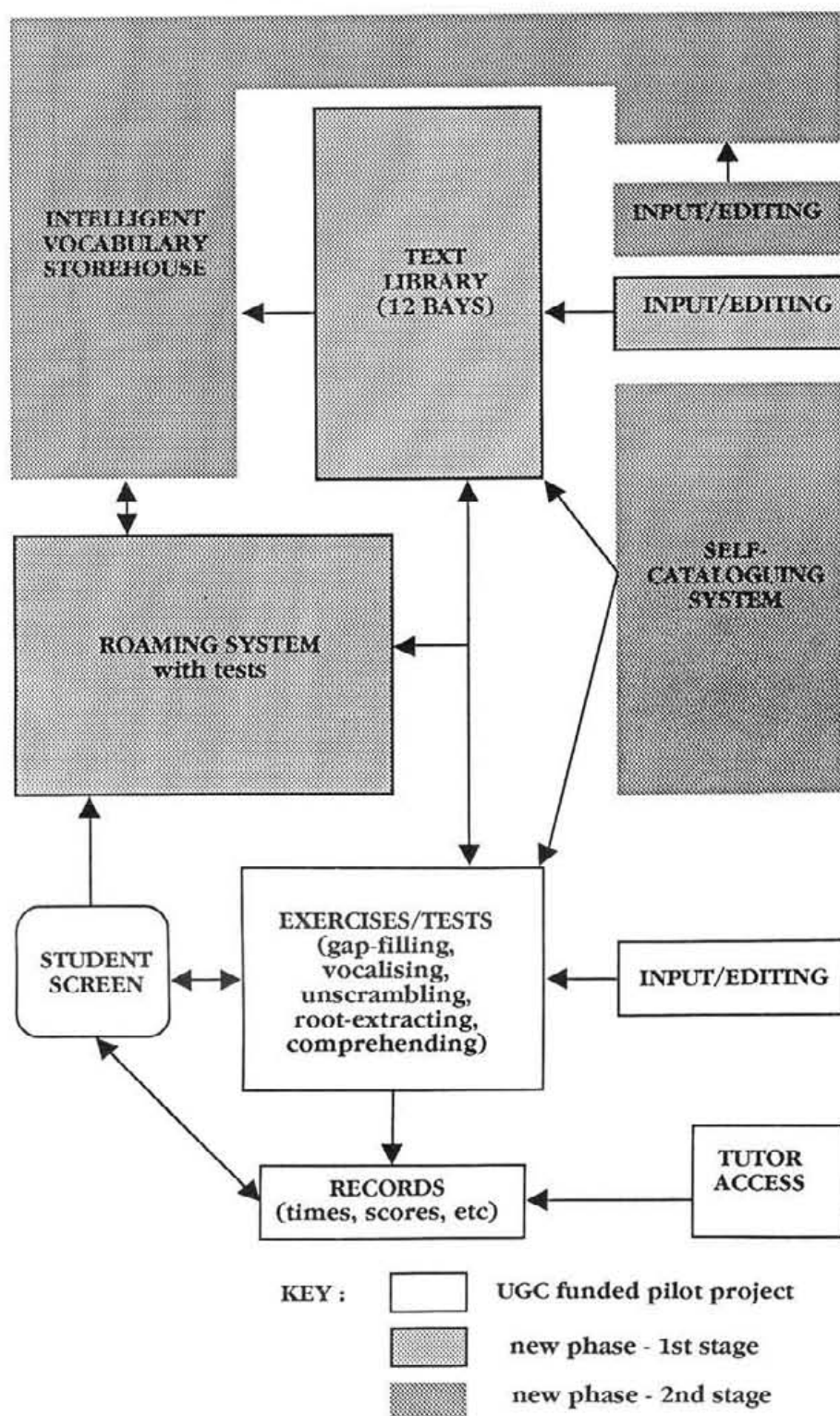
They will also be able to test themselves on their understanding of the material at any point. This "roaming" idea emerged after seeing some teaching software on the Macintosh designed by M.R.Kibby and T.Mayes of Strathclyde University for Bio-science students (see *The CTISS File*, 2, 1986, pp.32-36).

2nd stage. The creation of an intelligent storehouse for the vocabulary of the text-library. The Macintosh Plus will be "taught" parsing rules, and will then be able to provide (again at a click of the mouse) sensible answers, prompts and/or questions to an enquiry about a word in a text. A self-cataloguing (or authoring) system will be devised enabling anyone to place new texts into the library. These texts will automatically both become available for manipulation by the exercises and the tests, and have their vocabulary incorporated into the storehouse. A major emphasis in the course design will be to ensure that the skill required to work the computer will be kept at the most basic level. This should make computer-assisted Arabic learning accessible for even the 'computer-terrified'.

These two stages are laid out in the *Structural plan*, showing how the main edifice and then the overarching intelligent storehouse and self-cataloguing system will be constructed upon existing foundations.

***Footnote:** The two of us have written this article, but we could not have begun to do so without David Barber, the third member of the team, and the Head of Department Dr A Shvitiel whose support we are very grateful for. David Barber's address is Dept. of Linguistics and Phonetics, University of Leeds, and ours is Dept. of Modern Arabic Studies. We would be interested to hear from you!

Abc2 - Structural plan



Editor's Notes:
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XPress Yourself

Derry Thompson and Jim Panks find that it is now possible to XPress yourself with precision in the DTP world!

Introduction

XPress is the first of a new powerful generation of Desktop Publishing packages to hit the Macintosh scene. **Quark**, based in Denver, Colorado, are a company which has been well known for innovative software on the Apple II and III range for many years. They now turn their

and tutorials allow the user to grasp the fundamental's very quickly.

The copy-protection allows you to install the program on your hard disk three times. You can also just drag the icon on to the hard disk but you will be asked for the master each time you re-boot. It is not the ideal system but I must admit it is less hassle

Xpress take Macintosh DTP well into the second generation.

attention to the Macintosh and in particular to the Desktop Publishing area.

The packaging and presentation of XPress is all you would ask of a top of the range program. You receive three disks containing the copy-protected program, system files and some tutorial exercises. The manual is well produced and follows some of the well known guidelines for good manuals - including a tutorial section, reference section and very helpful quick key guides. The layout of the manual

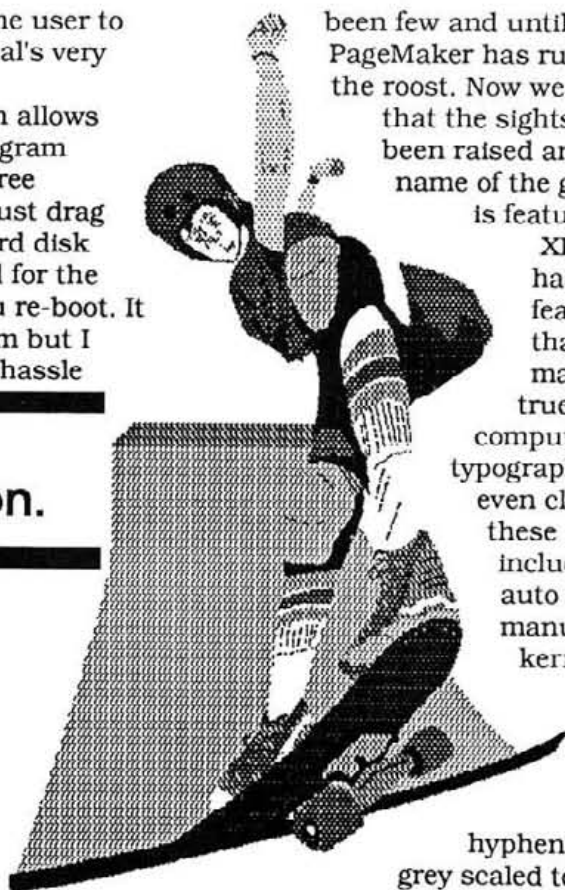
than some software protection where it takes half an hour to get going.

Features

This program offers many features which desktop publishers have been crying out for. Since the launch of PageMaker some two years ago the number of real contenders for it's crown have

been few and until now PageMaker has ruled the roost. Now we find that the sights have been raised and the name of the game is features.

XPress has features that make true computer typography even closer, these include auto & manual kerning,



hyphenation, grey scaled text, text run round, full control over line styles, precise control over spacing and many more.

At present two main methods of placing items on a page exist, you have the system used by PageMaker where you use blinds to place text in columns and there is the 'box system' which uses boxes to specify areas on a page for text, graphics and other items.

Xpress uses the 'box' principle used by such programs as Ready, Set, Go and MacPublisher but takes this principle a stage further. Column guides can be set up within the text boxes making straight column layouts very easy. On the other hand

Preferences for Document 1

Measure: <input checked="" type="radio"/> Inches <input type="radio"/> Picas/In. <input type="radio"/> Picas <input type="radio"/> Points <input type="radio"/> Cm	Auto Hyphenation: <input checked="" type="radio"/> Off <input type="radio"/> On Smallest Word: <input type="text" value="6"/> Break After: <input type="text" value="3"/> <input type="checkbox"/> Break capitalized words	Auto Page Insertion: <input type="radio"/> Off <input type="radio"/> At end of story <input checked="" type="radio"/> At end of section <input type="radio"/> At end of document
Justification Expansion Method: <input checked="" type="radio"/> Standard <input type="radio"/> Uniform <input type="radio"/> Spaces only <input type="radio"/> Other: Spaces: <input type="text" value="16"/> Overall: <input type="text" value="7"/>	Auto Kerning: <input checked="" type="radio"/> Off <input type="radio"/> On	Character Widths: <input checked="" type="radio"/> Fractional <input type="radio"/> Integral

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Continued on page 78

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Continued from page 76

more sophisticated designs can be made by using several text boxes linked together and using the unique method of incorporating other boxes in the main layout page (sisters). Text & graphics boxes can use the auto run-round feature which makes the placing of headlines and pictures very easy.

One of the key features of Xpress is the 'modify' command. This command lets you specify information about any object on your layout. For example, in graphics boxes, you can specify:

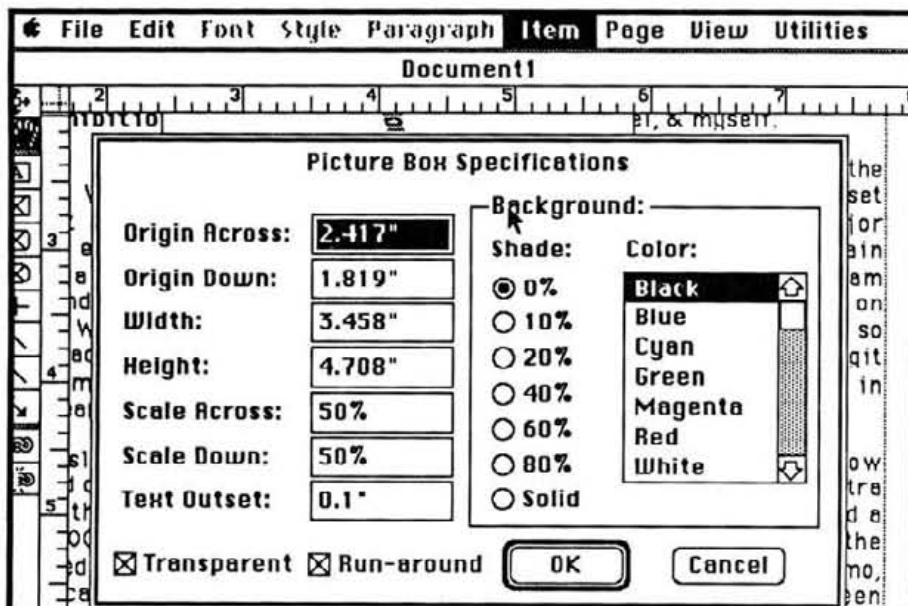
- Horizontal and vertical reduction percentages.
- Width and height of the box.
- Text offset.
- Vertical and horizontal starting position of the box.

If the graphics objects is a frame or a line you can also specify:

- Line type.
- Grey scale
- Point size.

There are two check boxes labeled 'transparent' and 'run-around' in each modify box and these are used to determine how text wraps round the object. If a graphics box is checked with just run-around the text wraps round the box, if however, transparent is also checked the text wraps round the graphic image in the box. The text offset feature lets you determine how far the text is to the object. This feature also works with lines.

Data can be imported from a variety of sources including PICT,



MacPaint, MacWrite, Word 3, Word 1.05, and EPSF. This gives a wide choice of graphic and text input methods, but leaves a few that would have been useful such as WriteNow, and TIFF. Perhaps

spacing/kerning commands. The horizontal scaling is especially good for headlines and titled areas and allows you to fine tune type into a given space. Xpress excels in the typography

'Xpress excels in the typography department'

these will appear in later versions.

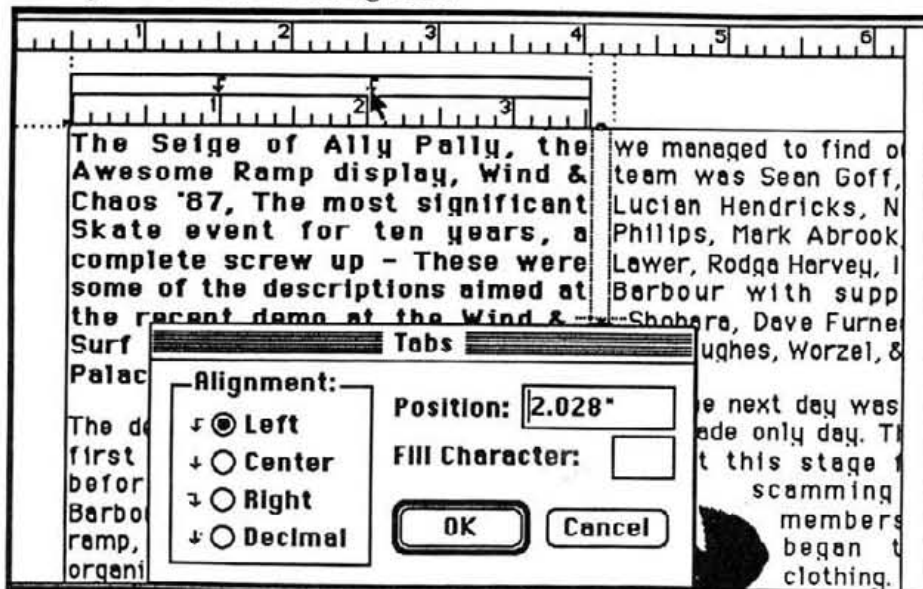
Fonts and styles are handled with standard pull-down menus and this is an improvement over PageMaker. Major font point size can be selected from the menu, the other sizes are made available through a separate 'other sizes' dialogue box. You can specify the grey scale of the text in 10% increments from white (reverse) to black. Two nice features are the horizontal scaling, and letter

department and you will need to spend time to make it work for you. Xpress will kern to 0.01 of an em and if you are using a Linotype or other high resolution output device the difference will amaze you

Text Editing

Xpress can be used as a word processor in it's own right - it has many of the features of a stand alone word processor and you can import/export text to a word processor if you wish. The main features are the automatic new page generation (which can be switched on or off), search and replace (will also find invisible characters), show invisibles (which shows returns, spaces, tabs, etc), and a spelling checker with a word count and User Dictionaries. Powerful paragraph formatting is included and tabs are handled extremely well, anyone familiar with MacWrite or Word will appreciate the ease of use of this function. Left, right,

Continued on page 79



centre, and decimal tabs are all catered for.

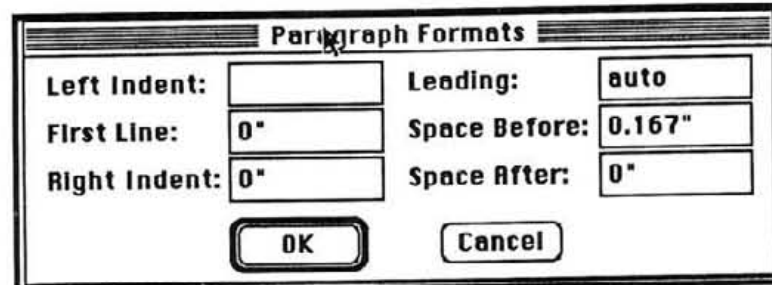
Automatic DTP

XPress is ideal for automating DTP, it has a novel feature that allows the setting up of a complete layout with all the titles, graphics and text boxes together with all text, style and formatting information. All that is then required is the text and pictures to be placed in the boxes provided. This is the ideal way to let the typist or other non technical person complete the task at hand and allows the designer to create the templates.

Another feature that I find indispensable is the ability to



When you are ready to import or type in the text you would use the left right file and import a Chapter Page when you require a



import pages from other XPress files. Imagine you are publishing a book, you would normally need the following page layouts - chapter start page, left page and right page. In XPress you could design the chapter page and name it 'chapter page', you could then open a new file and design the left and right text pages.

another file.

Automatic 'continued' boxes are accommodated in XPress - this allows you to place a column many pages away from the bulk of the story and have an automatic "continued on page #" and "continued from page #" at the bottom and top of columns.

Xpress will allow colour (real on a Mac II) and print colour separations with tick marks. I haven't managed to try it on a MacII yet but it will be fun trying it out in real colour!

Conclusion

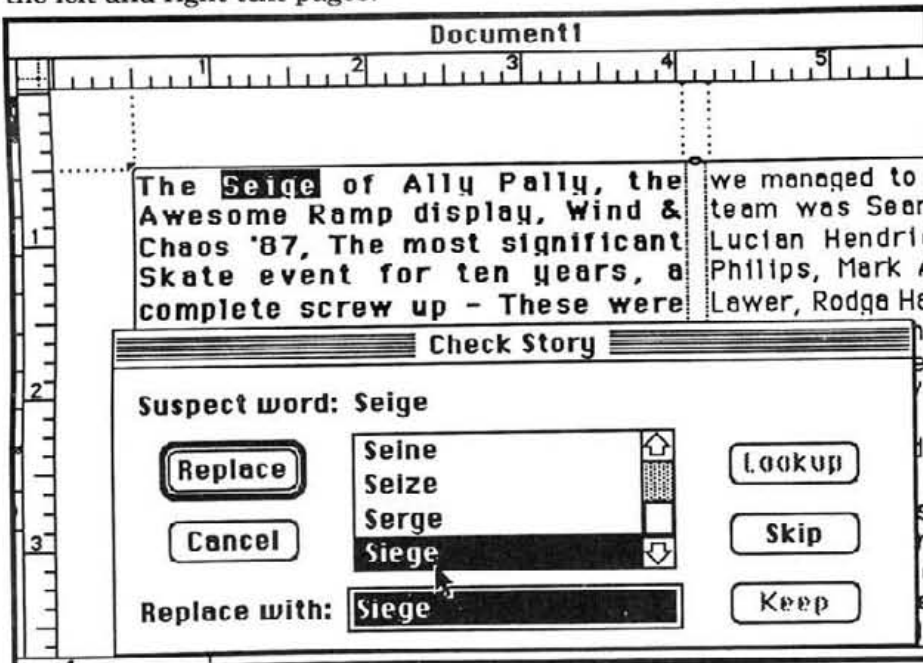
Xpress take Macintosh DTP well into the second generation. It's certainly the most powerful DTP package I've ever seen or used and well worth the extra you pay for it. Quark, and distributor Heyden, are very good on the support side. One early problem of incompatibility with laser spoolers was corrected about one month after launch.

The question many of you will be asking is should I leave the PageMaker camp and defect to XPress? Our advice is this:

1) If you have PageMaker 2.0, have used it for a while and get along fine with it - stick with it unless you have unlimited funds.

2) If you need a DTP package with the features of XPress and have the money "go for it - you will not look back".

3) Large publishing jobs with standard layouts such as books are easier with XPress than PageMaker - therefore if you do lot's of this type of work you could save considerable time by using XPress and thereby recoup the extra cost of purchase.



XPress is distributed in the United Kingdom by Heyden & Son, Spectrum House, Hillview Gardens, London NW4 2JQ. Tel 01 - 203 - 5171

The cost is £695.00 and you can obtain your copy from any Apple dealer. Many thanks to Heyden for the review copy and for help when my early version would not print documents from the latest version.

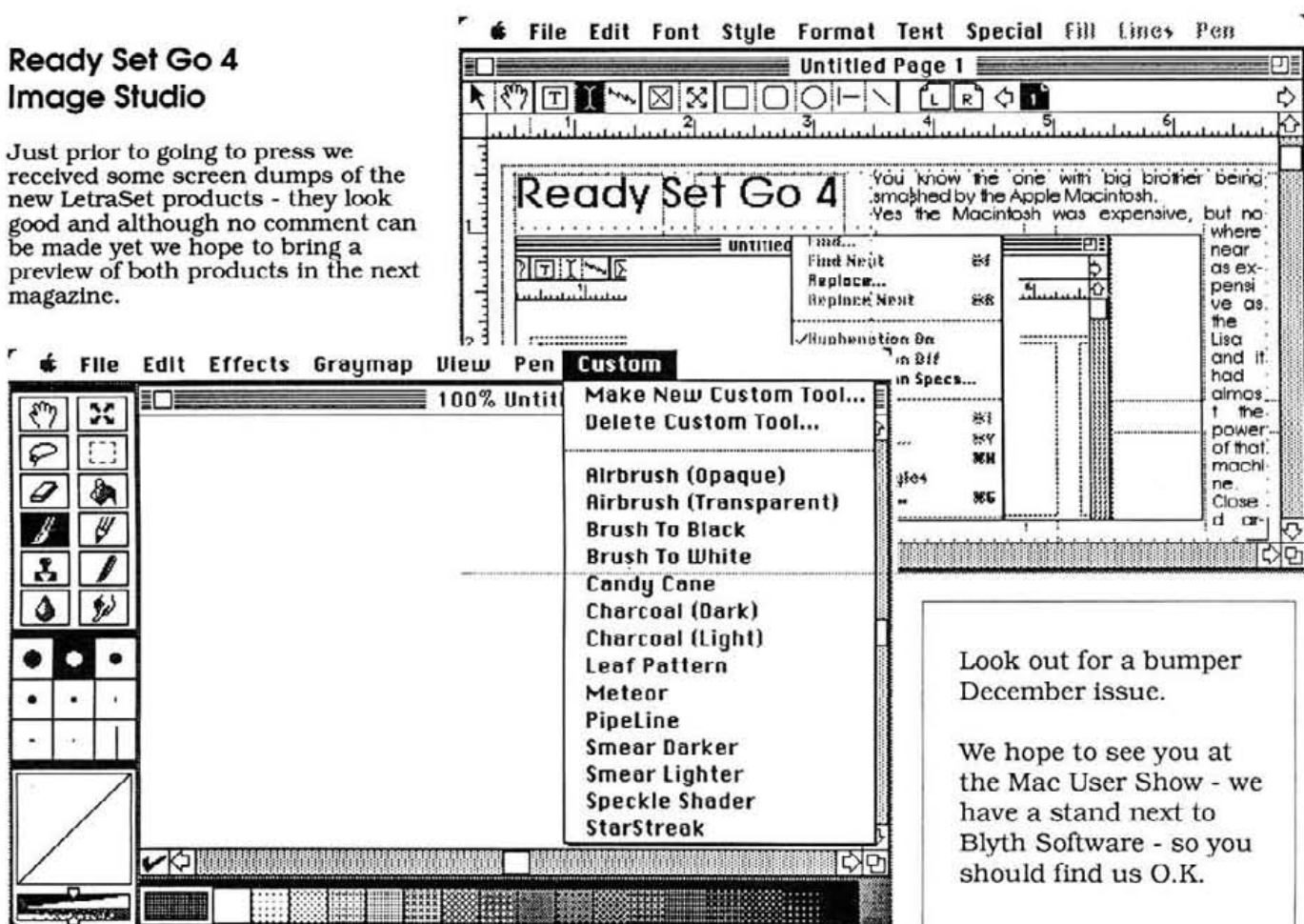
The correct version at the time of publication is 1.4

Back Page Things

Hot off the Press

Ready Set Go 4 Image Studio

Just prior to going to press we received some screen dumps of the new LetraSet products - they look good and although no comment can be made yet we hope to bring a preview of both products in the next magazine.



Look out for a bumper
December issue.

We hope to see you at
the Mac User Show - we
have a stand next to
Blyth Software - so you
should find us O.K.

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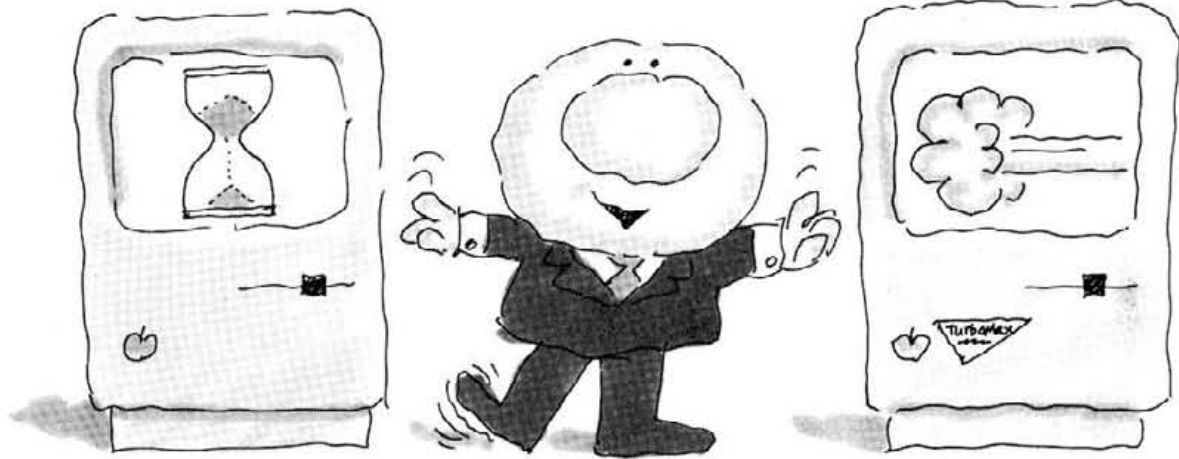
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Copy Date for the Christmas Issue !

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We hope to publish before the end of November if you all co-operate!



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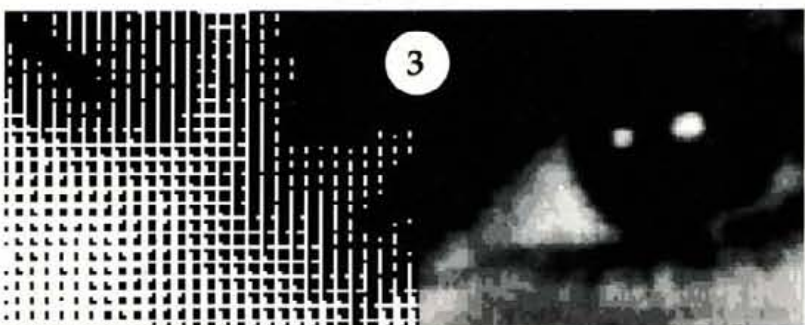
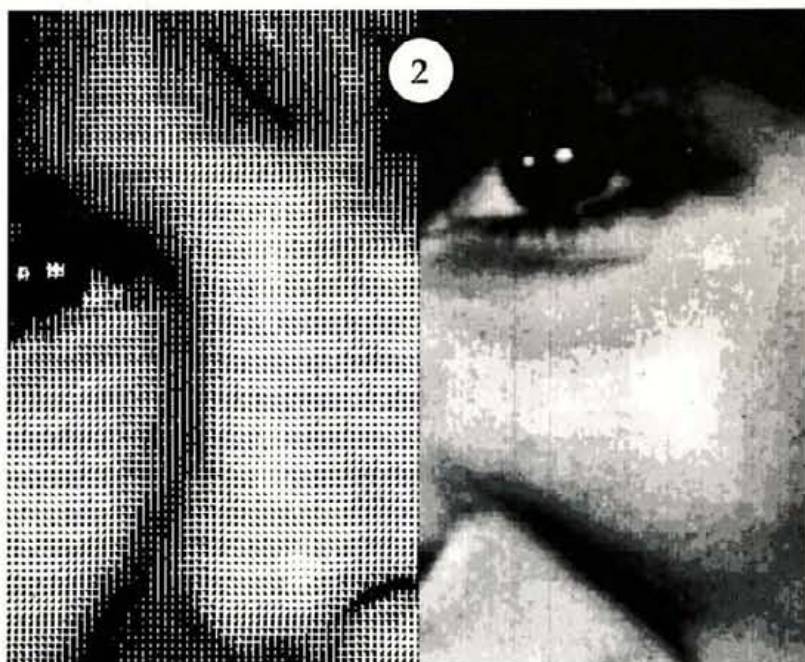
Why an Abaton Scan300/SF or Scan300/FB scanner with C-Scan 1.6
is the *only* choice for graphics scanning with the Macintosh.

HALF TONE



GREY SCALE

- Abaton C-Scan 1.6 software introduces TRUE grey-scale scanning for the first time for a desktop computer.
- To see how it differs from the rest, we've included an example - an image scanned from a photograph, like you've never seen it before!
- Picture 1 shows the picture at full-scale, exactly as scanned.
- In the second picture, we've expanded a small area of the same image, showing how well its appearance is preserved even when blown up three-fold.
- Finally, the third picture blows up the image twice more, to let you see the secret of this magnificent clarity - only now just visible are the individual pixels that come together to make the 16-level (4-bit) true grey-scale image that no other scanner system can offer.
- There are no special tricks here - the picture is completely unretouched, and printed on a Linotron printer.
- And it's the only scanning system that produces images that let you use the full power of Letraset's Image Studio graphics software.



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