Apple2000

THE NATIONAL APPLE USERS GROUP

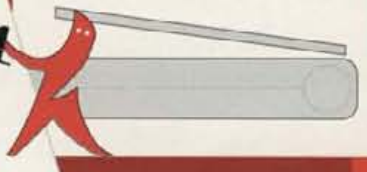
APRIL 1992

Colour Classic Overdue

Latest Rumour 1993

Barbecue Bug Free with Powerbook!

when battery not in powerbook carry in protective case – or you could be a Fire Bug



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Apple2000

The All Apple User Group Committed to All Apple Users including Macintosh

The Apple2000 magazine is published by Apple2000, P.O.Box 3 Liverpool , L21 8PY

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Apple2000 supports users of all the Apple computers. The **ITT 2020, I, II, II+, //e, //c, //c+, IIgs, IIgs+, ///, Lisa, XL, Mac 128, 512, MacPlus, Classic, Classic II, SE, SE/30, Mac LC, II, IIsi, IIcx, IIci, IIx, IIfx, Quadra, Portable and PowerBooks**

Contributions and articles for the magazine are always welcome. We can handle any disk size or format. Send to PO Box 3, Liverpool, L21 8PY

PLEASE NOTE

Any articles of specific interest to Apple II, Apple IIgs and Apple /// users are printed in the front half of the magazine, while those relating to the Macintosh and Lisa are at the back. Look for the page icons:

Key:

Apple II, //e and //c

Apple ///

Apple IIgs

Macintosh, Lisa

Macintosh II

Apple2000
April 1992

MEMBER MNS MUG NEWS SERVICE

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USER GROUP CONNECTION

There are a number of ways to contact Apple2000

If you wish to order goods or services from Apple2000 or just leave us a message, call Irene on [illegible] (Ansafone during the day). Alternatively you can Fax. your order to [illegible] or write to the PO Box. If you use comms you can leave orders on TABBS addressed to the SYSOP or contact us on AppleLink (BASUG.1).

If you are experiencing problems with Apple hardware or software Dave Ward and John Arnold run the Hotlines and will try and help you solve it.

We are very interested in the activities of local user groups, and if you have any information which you would like publicised John Lee would like to hear from you.

We reserve the right to publish, without prejudice, any advice or comments given to members as a result of letters received, in the journals of Apple2000.

A little praise for a few of our authors wouldn't go amiss. Send all comments, and contributions, via the PO box, especially suggestions about what you would like to see in your magazine.

Chairman's Corner

Apple2000 1980-1992

❑ The March batch of new Macintoshes has just been unveiled.

The LC II is now available fitted with the 68030 chip instead of the current 68020. The old 68020 LC seems still to be on the price lists however at a new reduced price. A new price structure also brings the prices down yet again on all the low end Mac's. A Classic with a 40mb hard disk drive can now be bought for the price of the hard drive alone a short time ago. The special bundled prices of Classic, LC and StyleWriter which we saw in early January has now been dropped with the new price structure.

The launch of the LaserWriter II NTR seems to have taken the wind out of the sales of the Personal LaserWriter NT. There will be an upgrade path we think.

The round of new machines, drop in prices and updated specifications seems now to be an annual event. Whether Apple can sustain it we shall have to see.

What is very clear of course is that the Apple II is now firmly and irrevocably dead in the UK and Europe. It has had a good run for its money with 15 years of evolution to its name. It will still be available in the States, but it would be a costly exercise to bring one back for home consumption. I can only hope that those still left working here in the UK will have a long life ahead of them.

❑ Many of you have commented on the lack of articles for the Apple II in recent issues. We have had a real problem getting material that is new, fresh and UK written. It seems that of the many members who can write about such things they have either moved on to other fields or just do not have the time to write any longer. We have had to resort to reprinting material from the other side of the pond. This however has given us the fascinating insight into the Apple II development in the series of articles on Apple History in this issue. There was not room to include the full set this time and so the remainder will have to wait till a future issue.

❑ System 6.0 for the IIgs has finally arrived. Apple got as far as mastering and distributing a first set of 'Golden Masters', but had to withdraw them rapidly when a serious bug was discovered in the DOS 3.3 FST.

An interesting problem has arisen over the inclusion of CloseView with the new System software. CloseView patches QuickDraw as the system boots. Any program which decides to write directly to the SHR screen may well discover the 'erasing cursor' syndrome if it incorrectly writes directly to screen without first checking where the screen is! Apple carefully warn programmers about the need to check the location of the screen, but only now has this warning had a real meaning! The solution is simple if you know what the problem is!

Ewen Wannop

STOP PRESS

GS/OS System 6.0 arrives !

❑ The complete set of six disks making up the new GS/OS System 6.0 are now available from the Apple2000 library. The set is priced at £20 inclusive of VAT and P&P. Order as disks numbers 2GS060 through 2GS065.

Although System 6.0 can be run on a basic 1.25mb computer, it is advised that you have at least 1.5 or 2mb for the system if you are going to run any amount of desk accessories or other Init's.

Similarly it is advised that you run the system from a hard disk. A complete system disk can be built on a floppy, but you will not be able to use all the features without a hard drive.

System 6.0 allows you to use both ProDOS and HFS disks as read and write storage media. It will also read DOS 3.3 and Pascal disks. It supports both 800k and 1.4mb HD disks in the Apple SuperDrive connected to the new 3.5 inch floppy controller card. This card cannot be obtained directly through Apple dealers in the UK.

The Editorial team is:

Apple II	Ewen Wannop
Macintosh	Norah Arnold, Irene Flaxman
Reviews	Elizabeth Littlewood

Many thanks to all those who work behind the scenes and who receive no personal credit. These people are the stalwarts of Apple2000.
Additional thanks go to Val Evans for designing our front cover, and to Walter Lewis of Old Roan Press (051-227-4818) for our printing service.

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Letter Box

From: John Stanier, 100010,2611
To: Apple2000, 76004,3333
Subject: Mac II Power Supplies

Ewen,

In the last few weeks I have left a couple of messages on Compuserve Mac New Users and Help Forum asking for information on the wiring and component changes to cure this d...d fault of failure to switch on. You will be amused at the only three replies:-

1. If you find the solution, be sure to let me know, for I've the same problem.
2. Why bother to switch off at all? Mine has been running for two years nonstop. I replied that my cat sneaked up to sleep on the monitor when my back was turned, doing the ventilation a power of no good if the machine was left on. And leaving a Mac II on costs around 300 pounds a year in electricity charges.
3. You must have a faulty power pack.

I am heartened by the replies. There ARE people around who know less about computers than me! But I still haven't the information.

John Stanier

❑ The solution to your long running problem seems to be just as far away as ever. It is a good idea to leave the computer on, but you do not need to leave the monitor on as well, the cat will just have to find somewhere else to sleep!

Ewen Wannop

From: John Stanier, 100010,2611
To: Apple2000, 76004,3333
Subject: System 7 and All That

When Apple introduced the Macintosh, a new and simpler method of using a computer was revealed to the public. Instead of having to type an incomprehensible series of characters to open some function or other, the Mac needed just a few clicks with the mouse, and, lo and behold, up comes the function or file.

With the much hyped arrival of System 7, Apple have taken a couple of steps backward, and seem to have gone out of their way to make use of the Mac as difficult as possible. A friend hazarded a guess that, now that Apple and IBM are in the same bed together, Apple are trying to switch everyone to a standard operating system with Windows on a PC.

I know that the hype on System 7 flaunts all the bells and whistles alleged to be on the new system, but what actually happens in practice?

I edit, print (and largely write) a small Club Magazine which goes out to our tiny but world-wide membership, and I store the current issue of mixed text and illustrations page by page as it is prepared in a folder on a removable disc on my Mac IIcx.

When I switch on - a task which can take up to ten minutes since no-one has yet described how to cure the standard IIcx problem of "I won't switch on" - I double click the 'Removable disc' icon to open the disc.

If I double click the required folder, it doesn't open, and I have to Double Click on the program in the Apple menu or wherever it is. This brings up the list of folders on the Start-up disc which used this program and I scroll through the drives to pick up the removable disc. This brings up the list of folders on the removable disc which used this program.

I scroll down the list and Double Click on the selected folder. The folder opens and a list of files within the folder is displayed.

I scroll down the list to select the page I want.

If I then need a file prepared under another program, I have to go back and open that program on the Apple menu or wherever before I can access the file, even though it may be in the same folder.

That makes a minimum of ten mouse operations to get the first page on the screen and another eight to access an alternative page.

By contrast, System 6 needed only five mouse operations to do the same job, and a file prepared under any program is available with just a Double Click without having to find and open that program.

Trying to open a CD folder can be a nightmare, for the program reports insufficient memory, when I have 4MB RAM, 8MB HD and 33MB RD free. Works all right under system 6.

I am sure that the experts can manage to chart a way through the maze which is an easier path than I have to use, but the Mac was supposed to be a computer for the layman.

John Stanier

❑ I agree with you that things have got more complex with System 7.0, but I think this is outweighed by the advantages that it brings.

I now have 14 Macintoshes of various flavours in the college where I work. Two of these are IIcx's. We must have been lucky because they always start up fine. What I have done to make the life of the student easier, is to make an alias of all the programs on the hard disk, then edit these down to a sensible description of the program, and put them all into the Apple Menu Items folder. With one mouse drag and click the program is launched.

If the program is not on this list, then a 'Command F' brings up the Find box. I can type ahead as the box is coming up and enter a partial name of the program I want. If the program is around on any of the hard disk directly attached, or even on another computer mounted on the network, then the folder is opened in front of my eyes and I can double click on the program icon to run it. All this is under MultiFinder so I don't need to put away any program I am using, just Hide it from view to run the next one.

This is only one command, some typing and a double click. Faster than System 6.0 I think.

The advantage of having AppleShare built in to System 7.0 means that if I need to service the 14 Macintoshes to remove the files that students love to litter around the folders, all I need to do is to find the nearest unused one, mount all of the others on the desktop through AppleShare and then open the folders one by one and clean out the garbage. All this while the other 13 are in full use!

While I was doing this one day, a student sitting next to me asked where a file was she had saved earlier that day. I realised she must have saved it on one of the other computers, but which one she could not remember. As I had all of the computers mounted on my desktop, I used the Find command with a partial name and found the file

across the network in seconds. I then dragged the icon from the open folder I saw on my machine to the icon of the computer she was using. She was happy, and got on with her work without any further delay.

These are some of the advantages, the disadvantage is of course the cost of all the extra memory we had to buy!

Ewen Wannop

Douchapt
France

Dear Apple2000,

ImageWriter II Colour Printing Problems

When I attempt to print in colour from a Macintosh IIsi the result is hopeless; few of the colours bear any resemblance to those on the screen and shades of grey are not even reproduced - see attached sheet. The colours that are reproduced are not very even but by its nature, I suppose, one cannot expect a ribbon printer to do any better.

The same printer was used with an Apple II GS and produced colours that did have some resemblance to the screen colours, and also printed shades of grey. Is there any way of getting results from the Mac that are as good as those from the IIGS?

I believe it was mentioned in the October issue of the magazine that a review of DeskWriter C would soon be published - when will this be? Also, is there likely to be a review of COLOURJET 132? The only place, other than Apple2000, where I have seen this printer advertised, or even mentioned, is in Electronics World. If any members have a ColourJet 132 I would be interested to know what they think of it.

Ron Perkins

❑ I cannot give you the answer you really want to hear but can make some observations from seeing the sample sheet you sent.

Those of us who own or remember the old ImageWriter or DMP printer will know that it was able to produce a more even printing of flat blacks than the newer colour ImageWriter II. This explains the poor greys on the colour chart, they are no worse than I would expect from the ImageWriter II.

As to the colours themselves, there are of course only three colours on the ribbon to print all the colours that you can have. The sheet you have printed from ClarisWorks seems to have made no effort to dither the printing. It has simply printed flat colour giving no subtleties of tone at all between the whole range. I would not expect it to look anything like the screen when printing like that.

You found the IIgs printed with truer colour. The IIgs usually prints using a colour dither technique. Although this method reduces resolution, it improves the colour range you can get. The IIgs screen is lower resolution than a Mac anyway, so this usually does not matter. I would expect that you might get quite different results using different types of programs on the Mac, with better colour traded for resolution in the paint programs.

The DeskWriter C review has of course been published in the February magazine. It was not possible to print any of the test results in colour, but I found that colours varied from good to poor depending on the program that was used. The best were very near the screen colours, albeit flatter and greyer, the worst were way out. I have seen the ColourJet in operation and was not impressed. It was not as good as the DeskWriter C for many things, though as good for others. I think it is worth looking at, though I found its main disadvantage was the lack of proper paper tray as it seems to prefer pin feed paper like a dot matrix printer.

We have no plans to do a review on this printer at the moment, but perhaps there is a member using one who would like to send us a review.

Ewen Wannop

Largs
Ayrshire

Dear Sir,

I use a HP DeskWriter C printer with a Mac IIsi. I am having trouble printing from certain applications.

ScanMan 2.1 - The following message appears when I try to print anything:

'A printer error occurred: No Printer is selected'

Digital Darkroom 2.0 - The system hangs (wristwatch forever) when I try to print anything. Prior to printing, clicking the Image Information button gives a Printed Image Size about 14.6 times what it should be.

I use a Mac IIsi running under System 7.0. The DeskWriter C (Serial) driver is version 1.0. Is there a new version of the DeskWriter C driver available which will solve this problem?

I.G.Dalgleish

❑ I don't know precisely which version number they are now up to with the DeskWriter C drivers, and cannot find mention in the extensive notes included on disk of these particular problems. I would suggest getting in touch With Hewlett Packard to see if they have a solution.

Hewlett Packard Ltd., Cain Road, Bracknell, Berkshire, RG12 1HN. Tel: 0344 360000

Editor

Beeston
Nottingham

Dear Irene,

This letter is being typed using Word 4 not on a Mac but on an Atari running the Spectre GCR Mac emulator, and printed on a Panasonic 24-pin printer using a custom printer driver and ATM. Not great results, particularly with serifs, but the set-up is on the whole better than a Mac Plus and it lets me bring work home. I would be interested to know of anyone else in this user group with similar equipment—as you can imagine, fairly unique problems arise from time to time!

Dave Woods

Bolgam Street
CAMPBELTOWN

Dear Sir

Although I use an Apple //e, and sometimes a II+, for most "serious" matters, I also use a Cambridge Z88 because of its portability and versatility. I have not yet seen described a method of getting text files from the Z88's "Pipedream" program into the //e or, less importantly for me, the other way round. I feel that it should be a simple matter: can anyone help?

As a user of the Apple II range since the early days and my main concern has been the creation of BASIC programs for my own business use. The early parallel printers only had one Character Set and were driven without much complication by an Apple Parallel Printer Card. However modern dot matrix printers now have two character sets which are selected by the value of bit 7 of the output byte. Often, as with my Citizen LSP10, the alternative set is italic type; however some printers offer foreign characters and graphic shapes. From BASIC, the Apple II and //e always output text with the high bit set, consequently you do not get the print that you want.

The Apple Parallel Card, unlike some others, such as the Simon Computers "Aristocard", does not offer a method of turning the high bit off. Some printers make a gesture of meeting the problem even if they get the situation completely wrong: my Citizen manual claims that the Apple II output has its high bit off and provides a method of turning it on!

I originally overcame the problem by butchering the Apple Parallel Card and earthed the line for bit 7. This worked perfectly until I tried using commercial programs such as "Publish-It" that require the use of bit 7.

After having a discussion with David Ward on "Hotline" I tried to find a software fix and have come up with the following relatively simple solution under ProDOS BASIC. Lines 10 to 60 of the following demonstration program should be run at the start of or before the main application program and not again. It initialises a printer in Slot 1 and then redirects the output for future printer output to a six byte machine code program in PAGE 3 of the Apple's memory. If page 3 is going to be used by another routine then the value of the variable P in line 10 should be changed to any location where there are 6 spare bytes.

It cannot be used as it stands in DOS 3.3 because the command "PR#1,A768" is not supported: a slightly more involved routine would have to be written.

Control I commands do not always work as expected if included in the main program so Control I 255N has been included in the printer initialisation in line 50.

There are some slight and unimportant peculiarities in the behaviour of this routine, but what do you expect from 6 bytes of machine code? Has this printer problem being mentioned in Apple 2000 before? Many members must have found it in the past. If there is a better way of fixing it I should be grateful to know.

```
 10 P = 768: REM  ADDRESS FOR M/C PROGRAM
20 D$ =  CHR$ (4)
30  FOR I = P TO P + 5: READ A: POKE I,A: NEXT
40  DATA   216,41,127,76,2,193
50  PRINT D$"PR#1": PRINT  CHR$ (9)"K"; CHR$
    (9)255"N": PRINT D$"PR#0": REM  INITIAL-
    ISE CARD, SUPPRESS LINEFEED & ECHO
60  PRINT D$"PR#1,A"P: REM REDIRECT OUTPUT TO
    M/C PROGRAM
70  REM THE VARIABLES A, I & P ARE AVAILABLE
    FOR REUSE
80  INPUT "OUTPUT LINKS SET <RETN>: ";A$
100  INPUT "INPUT STRING TO PRINT: ";A$
110  PRINT D$"PR#1"
120  PRINT "IS THIS IT? - "; CHR$ (27)"E"A$
130  PRINT  CHR$ (27)"F";"And again - "; CHR$
    (27)"E"A$
140  PRINT D$"PR#0"
150  PRINT D$"PR#1"
160  PRINT  CHR$ (27)"F" CHR$ (15)"Now smaller
    - ";A$ CHR$ (18)
170  PRINT D$"PR#0"
180  END
```

Hedley G Wright

Andoversford
Cheltenham

Dear Sir/Madam,

I currently run two //e's one fairly standard the other fairly enhanced ie- 8MHz ZipChip 1Mb Plusram Board +

10Mb Ice Hard disk. I use the main system with AppleWorks.3 for my business use.

I own a Boarding Kennels and have a Data base of over 100 clients and their various animals. The other system is mainly used for stuff like Print Shop & Print Magic for advertising etc.

I m currently very keen to obtain access to bulletin boards etc., and would appreciate any advice on suitable Modems etc., I do have a CCS Model 7710 Asynchronous Serial Interface would this be of any use?

Paul Crippen

❑ The three elements you need to access a Bulletin Board or any of the online services are a modem, serial port and software. The //c and the IIgs both have onboard serial ports and so answer one of the three requirements. The CCS 7710 serial card is an excellent one for comms use. Its only disadvantage is that you must set the baud rate (speed) by means of small switches on the card itself.

Software must of course be suitable for the machine in question. On the //e you can use Talk Is Cheap, Gazelle or Point to Point amongst the many communications programs available.

The modem is a trickier question. There are hundreds to choose from. The cheapest are probably imported US modems. These are often available for under a £100 in a fixed speed version. The disadvantage of a US modem is that you will usually need to rewire the phone plug to a UK one, and can only plug it into a private phone network as British Telecom will not let you use them on its phone lines.

Modems with the magic green sticker allowing you to use them in the UK, will cost upwards of a £100, reaching a ceiling of around a £1000. Basically the more you pay the faster the modem will go. Most callers to our own Bulletin Board TABBS are now using 2400 baud, with a few at the exotic speed of 9600 baud!

If you call Irene on our Liverpool number of 051 928 4142, she will arrange a quote for one of the PACE Linnet modems. These are good all round modems which will give you full Hayes compatibility as well as a range of speeds.

Ewen Wannop

Les Couets
BOUGUENAIS
FRANCE

Dear Irene,

In my opinion, the Public Domain Software for the Apple II catalogue you sent me is not up to date... It stops at Xtras.GS.No.4 and according to your magazine the current disk is Xtras.GS.No.12: there is a gap of 8 disks! The same for Disks IIGS which go beyond number 34...

I do not blame you but I would like to receive a new up to date PD catalogue. Since I have already a great number of PD software, it was hard with a 'incomplete' catalogue to take advantage of your "Special Offer" on PD software.

I would like to know as well if you are interested in receiving PD that is not recorded in your catalogue... When I read your magazine Letter Box, I thought that there are many people who don't take full advantage of their Apple IIGS (like the one asking if GS/OS 5.0 is of any use. Of course, it is! And I think that GS/OS 6.0 will be awesome!).

There is one more thing I would like to know: is Zip Chip GS a reliable accelerator and what about its rumoured incompatibility with AppleTalk (perhaps Apple 2000 authors could review such products as TransWarp GS and Zip Chip GS in the magazine if it wasn't made before)? Could you tell me also what happened to Complete Technology and its Complete Pascal 2.0 a sent money but I never received it...)?

Michael Guitton

❑ As you will have seen in AppleSlices we are now issuing all the library catalogs on disk. New members will now receive an appropriate copy of the library catalog with their welcome pack. For other members who would like an up to date catalog, please send £2 for the cost of disk and P&P, with a note of the machine you use, and we shall send you the correct disk catalog.

There are five to choose from, the][+, the //e and //c, the IIgs, Macintosh HyperCard and Macintosh Hypercard 2.0.

We welcome submitted ShareWare and PD software, as well as programs that members might like to put in the Special Release sections of the library.

The Zip Chip GS has had good reports. I have not had experience of it on the AppleTalk so will need to rely on members experience on that one. We have reviewed both the TransWarp and the Zip in the past. The TransWarp has no problems at all with anything I have thrown at it!

As to Complete Technology ... perhaps a member can help us with up to date news?

Editor

Orpington
Kent

Dear Ewen,

Some new powers can be bolted on.

I have been doing my homework in anticipation of GS/OS System 6. There are some very interesting items in it, which have caught the headlines. Even

the mundane Basic.system and ProDOS files have some interesting changes.

Basic.System (launched from GS/OS) will now start an S16 file without the "FILE TYPE MISMATCH" error that until now required a patch to get round.

The quit code in P8 V2.0 looks similar to that in V1.9, but with a slight boost. You can use it directly to launch PRODOS (the prelude to initiating the GS/OS system) without a hang. (It won't launch and S16 file.)

I have always rather liked Glen Bredon's Select.System (part of ProSel 8) as a means of dropping out of GS.OS, staying in P8, yet having a very simple, memory resident launcher. Sadly it doesn't quite have the capability of the new ProDOS Quit Code. So what about having a little system file with the launching powers of P8, I hear you ask ? It can be very easily done by bolting it to part of Select.System. (The files need to be in the same directory. We've been doing this sort of thing for years with Birds Better BYE.)

```
10  REM Transpose PRODOS Quit to SELECT.SYSTEM
15  REM  P8 V1.8 $5A00
20  REM  P8 V1.9 $5D00
25  REM  P8 V2.0 $5D00
30 D$ =  CHR$ (4)
35  PRINT D$"bload P8, A$2000, tSYS"
40  PRINT D$"bsave P.ATE.QUIT, A$5D00, L$300"
45  PRINT "Done - Extracted ProDOS Quit"
50  PRINT "Deal with Select.System ?";: GET A$
```

```
55 PRINT D$"bload SELECT.SYSTEM, A$2000, tSYS"
60 PRINT D$"bload P.ATE.QUIT, A$20ED"
65 PRINT D$"bsave SELECT.SYSTEM, A$2000, tSYS"
```

Peter Davis

Mellstock Avenue
Dorchester

Dear Friends,

I am an enthusiastic][e user with particular interests in education/kids programs, AppleWorks/Publish-it and comms, and would like to ask Elizabeth Littlewood if I can join her team of software reviewers.

As a writer - I am a staff reporter with a local paper - I am also interested in moving text from Apple][to Mac (and PC) and back (which I currently do by means of a hard wire and Gazelle) .

Software Dinosaurs

The trouble with buying software for the Apple][is that you never quite know when you are buying a dinosaur and when you are buying something really useful.

MGA Softcat's offer last year of the "brilliant" Complete Graphics System by Penguin for a tenner had to be too good to be true - and it was.

I don't imagine I was the only one to splash out their hard earned cash to discover that what was brilliant in 1983 may be positively lack lustre in 1991.

Of course we have all been spoiled by programs like Publish it and AppleWorks with Timeout which take the][way beyond the wildest dreams of anybody in the early days.

Expectations have of course changed, but because the Apple][has been around such a long time, there is a lot of old software around.

Thanks of course to the American market, there is also a huge amount of software available and it is great to see programs like Publish-it still being developed and upgraded.

I would like to see more Apple 2000 members writing in to the magazine telling the rest of us what they do with their machines, what games still give them a kick, what software they like and dislike.

Although I use my Apple mainly for word processing, it's a great kids machine, and I am always on the look out for good software for my children to use. (And if it wasn't so expensive, I would buy more - MGA SoftCat please note!)

My current favourites are Where in the World is Carmen Santiago and the Audubon Whales package.

Despite Elizabeth Littlewood's lukewarm review I think Carmen Santiago has to be one of the best Apple][games. For those who have not played it, you become a detective given the job of pursuing a band of criminals across the world, following clues, and learning about different countries as you go. It's fun, highly addictive, and fairly educational in that you learn about obscure places like San Marino, and often have to do some fairly detailed research in the huge World Almanac (which comes with the program) to follow the clues the criminals leave behind.

The Audubon Whales package, on three 5.25 in discs is a great way of learning about whales - and that other endangered sea mammal the Florida manatee.

You choose from four different adventures to track whales, rescue whales, meet the ghost of an old whaler, or work on a manatee hotline.

You can go on a voyage with a whale expert and learn to identify whales by their calls, or hunt for clues in the old whaler's house and take them to a whaling museum.

In each of the adventures there is series of characters you meet, ranging from the friendly whale tracking skipper Bill Martinez to the breathless Florida Sun reporter Nick Puck who you call for help in protecting the manateees. The program also introduces users to the idea of a database - you can spot a whale as it jumps out of the water, and then hunt for an identifying characteristic in the date base.

As well as "taking photographs" and identifying whales as they jump out of the water, you can also listen to the high pitched calls of many of the whales, recorded and digitised into the program.

In Apple][terms you get a lot for you money. Whales will keep you interested and amused for hours. My only quibble is that if you are changing adventures, there is a lot of disk swapping. It is a shame it won't support the use of two drives, or a RAM disk.

Given the graphics limitations of the Apple][, this is a superb package which has taught both me, and my children a huge amount about whales.

In contrast, the Britannica Software program Designasaurus was something of a disappointment.

Poor graphics in mono became worse when I tried to view them on my Microvitec colour monitor - the colours were all wrong. MGA took the trouble to write to both Microvitec and Britannica, who replied that they had not heard of Microvitec and could not guarantee the use of their software with third party equipment.

The idea is to walk a dinosaur through four different environments while trying to avoid either dying of starvation or being eaten by a predator. The other part of the program enables you to print out a dozen different pictures of dinosaurs and brief descriptions of them.

You can also make up your own fossil picture of an imaginary dinosaur and print it - a great idea, but again a disappointment. The quality of the pictures was decidedly low-res - however it has to be said that when I printed out a set and my wife photocopied them for her six year olds at first school, they thought they were absolutely wonderful and coloured them all in beautifully!

Dorset Apple][User Group folds

The Dorset group which met every couple of months in Broadstone has effectively packed up through a combination of lack of people turning up and accountant Stuart Magnus, who hosted the meetings, switching to Macintoshes. Until last Spring he ran his business on around a dozen][es, which served him superbly for ten years.

I am in touch with one or two users in the area and am happy to be a Dorset contact. Anybody interested in getting together for the occasional Apple 2 chat can contact me on Dorchester 0305 268655. Alastair Nisbet.

Can anybody recommend some good software for the][e which will output to a plotter? I have acquired a handsome Graphtec MP 1000 A3 plotter (without a manual!) and am looking for some inexpensive software which will enable me to do some simple CAD with it. Any suggestions gratefully received.

Alastair Nisbet

❑ Thanks Alastair, what more can I add? We welcome reviewers and article writers. The magazine only exists because members contribute! We would especially like articles that can help the growing band of beginners at the Apple II. Many of the newer members do not know how to

use the machines we love so well. They often do not have system disks let alone the operating manuals.

If any members would like to become a reviewer or regular contributor, please send details and range of expertise, preferably with a sample article, to Elizabeth Littlewood c/o Apple2000, PO Box 3, Liverpool, L21 8PY.

Editor

[illegible] Road
London

Dear ladies and gentlemen,

I have been for some time been contemplating ProDOS with a view to updating it. Can you give me some advice? The system is a "grey" Apple][+ (1978 with 48k on board, Microsoft 16k expansion, Videx Videoterm, 64k print buffer, printer interface, Z80 card, Apple disk controller, colour card and 128k Ram board all in various slots!)

1. Will it work on this system? Is the position of the cards going to make any difference and if so where should I put them?

2. If it will work, is it worth it and how do I get hold of a ProDOS master etc., for such an old system?

Rex M. F. Smith

❑ When you say you have a "grey" Apple II, I wonder exactly what you mean. If you mean a Taiwanese copy of the Apple II, then you will have problems running ProDOS upon it. ProDOS checks to see the computer is a real Apple one before it will run!

You require 64k of memory to run ProDOS. With your Microsoft 16k language card you have enough memory. Those with only the standard 48k memory must install a memory expansion card in Slot 0 to bring the computer up to 64k.

You will then need a copy of the ProDOS system disk. Order disk S004 from our Apple II library for a copy of the ProDOS 1.8 master disk.

The position of the cards does not matter in general, but much software expects certain things in certain places. The usual positions are as follows:

Slot 0	Memory expansion card (][+ only)
Slot 1	Printer card
Slot 2	Serial card for comms
Slot 3	80 column video card
Slot 4	Z80 CP/M card or Mouse controller card
Slot 5	3.5 inch disk controller card
Slot 6	5.25 inch disk controller card
Slot 7	Colour video card

Whether you will find ProDOS useful or not will depend on the kind of work you want to do. Programs running under DOS 3.3 will not usually run under ProDOS. This in itself is not a problem, as a copy of DOS 3.3 is usually found on all program disks operating in this environment. Similarly ProDOS is usually found on most program disks running under ProDOS. What a ProDOS master disk gives you are some other useful programs and file utilities.

Where you are going to notice the biggest problem is if you are in the habit of using files generated in one program on an other. Some files can be moved between the two environments, but not all. Usually only text files can be moved in this way.

The other problem will arise from ProDOS being the current operating system for the II series and that most Americans run the //e not the][+. The newer software that we include on our 5.25 Xtras disks virtually all runs under ProDOS and in most cases is also //e specific, and also usually enhanced //e specific as well. This software will not run on the][+.

Much of our older Apple II library is under DOS 3.3. These programs will run on your][+ without problems. If you try a ProDOS disk you will see if it will run on your system as you have it. No harm will happen to the computer or a locked disk if it will not.

The biggest problem most new users of ProDOS have is understanding the pathname conventions. This is really too big a subject to cover here. It has been covered in the past in the magazine and will be covered again in the future, but in the meantime please read the reply to Cathi Lillis-James further down these letter pages.

Editor

Chesham
Bucks

Dear Ewen,

I wonder if you know of any 'free' macro makers for AppleWorks v3.0?

My problem is I want to type descriptions of a film of photos with a header which puts the film number and a consecutive negative number on each negative. But if I have some 36 page breaks the inevitable 'bug' causes problems ie, after some 7+ pages it won't print from the page where the cursor is shown on screen when I send it to print from "this page". The only solution has been to replace page breaks with another symbol ie. xxx, until near the 'page' (photo) I want to print on. Doing this manually is very time consuming! (I insert the photos into a carrier sheet and the ImageWriter prints quite well onto the back - I don't want the thickness of a sticker in the folder of photos.)

Merrin Molesworth

❑ There are no free macro makers that I know of, but perhaps someone else does. Can anyone help further with Merrin's dilemma?

Ewen Wannop

[illegible] Road
Watford

Dear Apple2000,

I received the PD software I requested, but unfortunately am completely baffled by the ProDOS disks. I have tried every command style I can think of but cannot get the files loaded. The screen messages which come up are FILE TYPE MISMATCH, PATH NOT FOUND, SYNTAX ERROR.

Please could you tell me how to enter a ProDOS command because I have exhausted the possibilities!

Cathi Lillis-James

❑ Normally ProDOS will run the first program it finds on a bootable ProDOS disk (that is it has a copy of ProDOS on it) having a filetype of SYS ($FF) and the name suffix of .SYSTEM. You would then usually access its own files through the program itself.

If the first program it finds is BASIC.SYSTEM, it will run this and leave you at the (un)friendly ']' prompt.

Here you can run AppleSoft Basic, Exec and System

programs by typing a minus sign immediately in front of the filename. Binary files or other text files will not run and are intended to be used by a suitable program only.

If the program you wish to use is in a subdirectory you will need to make sure you either give the complete pathname or set the prefix to the correct subdirectory:

`-/MYDISK/MYFOLDER/MYPROG.SYSTEM` runs MYPROG.SYSTEM in the folder MYFOLDER on MYDISK.

Alternatively I could have type `PREFIX /MYDISK/MYFOLDER` to set the prefix to MYFOLDER and then `-MYPROG.SYSTEM` to run the program.

For further reference you could get one of the many books that explain how to use the Apple II series, DOS 3.3 and ProDOS or get a copy of the Apple][User's Guide for Apple][Plus and Apple //e from Apple2000. This book should tell you all you want to know about the Apple II, //e, DOS 3.3 and ProDOS. Check with Liverpool for the current price and order as 0 07 881176 7.

Editor

Barrow-in-Furness
Cumbria

Dear Ewen,

Having written to you about my difficulties with AppleWorks 3.0 and my printer, on receiving your reply I had a word with this bloke Percy Veer (persevere) and have been able to solve my problem after long and painful attempts. Thank you for your letter anyway as I feel it made me try again and again, though I now have a lot of double-sided waste paper, so if you know of any re-cyclers they can have it.

In some future publication maybe someone could explain how (if possible) files kept under the Quickfile //e could be transferred to AppleWorks. Just a thought.

G Philipson

❑ Do you not have a waste paper recycle point in a nearby car park? Or have you filled it up already! Can anyone help on the Quickfile problem?

Editor

Edgeware
Middlesex

Dear Ewen,

Having just acquired a Hard Disk for my IIgs, and having faced the problems of installation of the operating system, I was interested to read your advice in December Apple2000. However my machine only has 1.25 mb of memory and therefore installation on a RAM disk was not possible.

However there is a simpler way of getting round the problem. If the two 'tutorial' directories are removed from the system disk, there is room to install "SCSI Hard Disk" on this disk.

One can simply boot the computer with the SYSTEM.DISK with these files removed, and from the SYSTEM.TOOLS disk launch the Installer, from the root directory of that disk. Scroll to "SCSI Hard Disk" and then click on the disk button, with the SYSTEM.DISK in a drive, until that disk is indicated as the target device. Then click to install the SCSI drivers.

Now with the drivers on your copy of GS/OS, booted from that disk the system will "see" the Hard Disk, and if the computer is booted again from the modified disk, a normal installation of GS/OS and necessary drivers can be carried out, on to the first partition of the Hard Drive.

While writing about GS/OS may I commend to members a careful; study of Gary Utter's very useful 'Information on Icons and the Finder', which can be found in the file LAUNCH.TXT in ICNPIX.BXY on the XTRAS.GS.NO.10 disk (and elsewhere). First you will learn a lot about GS/OS and the operating system. The intention is to show how the Finder can be used as an efficient program launcher. Having just switched from ProSel 8 on a //c, I find the Finder set up in the way Gary describes, makes it a very acceptable alternative to a text based system, and in many ways superior. And this is with GS/OS version 5.0.4; I am looking forward to version 6, impatiently!

Harvey Nyman

❑ There is more than one way to crack the IIgs nut! Thanks for the alternative solution to the hard drive installation problem. They have finally realised what a problem we had installing GS/OS as a first time hard disk user and so System 6.0 installs easily without all this fuss.

Ewen Wannop

[redacted]
Nottingham

Dear Apple2000,

I use both an Apple //e and an AT (for home use and part time business) and have an urgent need to transfer large data files from the 10mb disc on the Apple, which they have outgrown, over to the PC's 44mb disc, ie from Omnis3 to DBaseIII.

I wonder if you can recommend to me someone who could do this for me or could sell me a program to achieve it? I have already rung a number of Apple enthusiasts and have heard rumours of a programme called "Brooklyn Bridge", and of another called "CrossWorks" but have no details about either. I was also referred to "Gray Matter" in Devon but they say they are unable to do the transfer for me as they have no hard disc on their Apple II and the largest file I need to transfer is at least ten times too big for a floppy.

One problem I anticipate if I try to use either of the above programs myself is that the data is in Pascal, not the AppleDos partition, and getting it converted to and accessible by the DOS, if this will be necessary, doesn't appear to be as straightforward as I had imagined: although Omnis offers a Pascal to DOS file conversion on its disk utilities menu so far this has failed to work. It always alleges that "the output directory is not a DOS disc". I wonder if you can think of any reason that this error is happening?

Rob Cann

❑ I have published your letter in the hope that someone may have better news for you than I have.

As far as I can see you have an insurmountable problem unless you can find someone who can write a custom program, running under Pascal, which could use a serial port on your //e to transfer the data in the files to the AT computer.

The main problems you face are that you have the data on one of the old hard disks that do not conform to Apple's block device format. This means that you have got customised operating systems running and programs such as Chameleon will not be able to transfer files between the Pascal and other environments, as it just does not recog-

nise the devices you have.

It is also for this reason that Omnis would not see the DOS conversion as having an output directory available on a DOS disk. You cannot of course use a normal DOS disk in a floppy drive as output as there is a 128k limit on those disks!

I cannot see how you are going to be able to move the data unless it is done directly from the Pascal environment. This is where you need customised programming as there are no Pascal comms programs that I know of.

So please, can anyone else help?

Ewen Wannop

❑ If you have an urgent problem you should ring the Hotline to get help. Letters and Fax submitted to Apple2000 will normally be dealt with as part of the editorial content of the next magazine. We shall endeavour to answer problems if at all possible before publication, but due to the large volume of letters received this may not be possible in all circumstances. Please submit all letters and articles to the magazine on disk wherever possible. The disks will be returned to you when the magazine is published. The publication deadline is the beginning of the month preceeding publication. If you have a modem, send us letters, articles, reviews and PD and ShareWare programs to the Sysop on TABBS

North West Apple Computer Club

All meetings start at 8.00 p.m. prompt on Thursday evenings at the Chetwode Arms, Lower Whitley, Nr. Warrington. Visitors welcome.

9th April	Beginners 2: AppleWorks in Action, some examples of uses
14th May	Guest Speaker
11th June	Beginners 3: How to Improve AppleWorks with Ultramacros MAC: HyperCard demo by W. Lamb
9th July	Summer Bring and Buy Sale
13th Aug	General meeting to exchange ideas, etc.
10th Sept	Communications including Modems N. Robinson
8th October	Beginners 4: Advanced AppleWorks with TimeOut modules MAC: MacWrite Pro
12th Nov	Annual General Meeting followed by Quiz Night
10th Dec	Social - Dinner at Chetwode Arms

Committee - 1992

Chairman	Steve Armitage	[illegible]
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	Ken Dawson	[illegible]
	Jim Roscoe	[illegible]
	George Evans	[illegible]
	Bill Lamb	[illegible]

❑ Send us details of your clubs programme and we shall publish it in the Apple2000 magazine.

Compuserve®

❑ Please send us your ID's either to the Apple2000 ID 76004,3333 or to the PO Box in Liverpool or of course to the Sysop of TABBS (0225-743797).

Apple2000	76004,3333
John Beattie	100012,360
Peter Bell	100010,404
David Collins	100016,3060
Ken Dawson	100016,2275
Michael Dawson	100015,2232
Gary Doades	100016,2353
Felim Doyle	100016,1151
Greg Elkin	100023,616
David Evans	100014,1161
Mateen Greenaway	100016,602
Alastair Greenstreet	100010,742
Dale James	100016,1152
Bryn Jones	71307,1457
Mark Hooper (DiscWorld)	100014,374
Jihad Jaafar	100016,526
Richard Kelly	100029,177
Peter Kemp	100016,1172
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Elizabeth Littlewood	100016,401
John Maltby	100014,2216
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Philip Ormond (Theatre Dispatch)	100013,1162
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John Richey	100016,1037
Russell Ridout	72007,211
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John Stanier	100010,2611
James Southward	73767,1336
Ahmet Turkistanli	100016,3365
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Membership

Compuserve/Forum

World's largest online database with many specialist Apple forums. Large libraries of PD and ShareWare software, real time conferences, message areas and much more. Accessed ether directly on 071-490 8881, or through the BT DialPlus network. You do not need to have a DialPlus account to access Compuserve. It will cost you around £8-£12 an hour inclusive of all online charges, network access and local phone call.

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❑ If you are a Macintosh user then you should order a copy of Compuserve Information Manager when you join.

Help Lines

❑ Members having offered specialist help facilities are listed below:

Alan Armstrong (Apple II+, IIgs)	[illegible]
Ken Dawson (TimeOut, ProSel)	[illegible]
Dave Edmundson (A/UX)	[illegible]
Michael Foy (Amateur Radio)	[illegible]
A.W. Harmer (Mac)	[illegible]
Leonard Horthy (4th Dimension)	[illegible]
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A2-Central

A2-Central magazine	$34
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❑ All prices are for one year's subscription and include world-wide airmail delivery. All usual credit cards accepted.
❑ Resource Central are also the distributors for all APDA Apple II development products. Please contact them for a current price list.

Order from:
Resource Central
P.O. Box 11250
Overland Park
Kansas 66207-1250
U.S.A.

GS+ magazine

❑ GS+ the magazine for software developers is published by EGO Systems. This magazine is published bi-monthly and is now the only magazine devoted to programming on the Apple IIgs now that 8/16-Central has ceased to be.

Contact:
EGO Systems
PO Box 15366
Chattanooga
IN 374150366

A+ magazine

❑ The A+ magazine is published every month and costs $82.97 for one year.

Contact:
inCider/A+
PO Box 50358
Boulder
CO 80321-0358

Genie™

❑ CompuServe is the biggest online system that interests Apple users. It has many areas within MAUG of specific interest to us. However, there is another online system in the States that has special areas for Apple users. GEnie is a branch of the General Electric company and the online service is now available for UK users. The GE Services network that is used from the UK is in fact the one also used by AppleLink.

Online charges to GEnie are charged in two price bands. Peak periods (Mon-Fri 8 am to 6 pm Eastern Standard Time) are charged at $20 and offpeak (all other times) at $8. The offpeak charge is therefore cheaper than CompuServe.

These however are the online charges only. You have to access GEnie in the first place. So far they have not installed a similar access to CompuServe so it will be necessary to have your own PSS or DialPlus account and call the NUA '334219601282'. This is a UK NUA so only the £1.65 an hour PSS charge will apply. The total charges for GEnie therefore work out at around £7.06 an hour offpeak.

Enter XJM11797,CENTRAL at the U#= prompt when you reach GEnie and follow instructions.

To obtain a DialPlus account contact:
British Telecom
Customer Service
Managed Network Services
St. Andrews House
Portland Street
Manchester
M60 1BT

AppleLink™

❑ Send us your AppleLink ID's to the Apple2000 box.

Apple2000	BASUG.1
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Herts User Group	NA.HERTSUG
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Radio Hams

❑ We now have more call signs!

Trevor Baker	-	G4CLE
Mike Bass	-	G3OJE
Harold Bennet	-	G4LPV
Ian Bryden	-	G0PMZ
Jim Danby	-	GZOVM
(Packet Radio Mbox)	-	GB7FCI
Michael Foy	-	G7KOD
Andy Harrington	-	G1XLW
(Packet Radio Mbox)	-	GB7SUT
Rev John Lincoln	-	GM0JOL
Tony Gatrell	-	G4SVB
Arthur Owen	-	G2FUD
John Stanier	-	G3APU

AppleXtras

Xtras.P8.No.14

```
Side One
   T A2FX8.SHK          LIB      26523
   T DESKJET.SHK        LIB       8871
   T Eamon.120.SHK      LIB      47648
   T LIFE.BXY           BIN      44672
 Issue.Programs   DIR > 1          512
   1 NO.SCROLL          BAS        379
   1 MACHINE.ID         BAS       1182
   1 DHR.TEST           BAS       1627
   1 SAMPLE.W.AVE       ASP       2157
   1 BLANK              BAS        409
Side Two
   T EAM033.BXY         BIN      27008
   T EAM034.BXY         BIN      35712
   T EAM069.BXY         BIN      34048
   T EAM077.BXY         BIN      38656
```

Xtras.GS.No.14

```
Applications     DIR =  2          512
   2 SHRV35.BXY         BIN      23168
IconChecker      DIR >  3          512
   3 IconAppChecker     S16      35379
   3 IconAppChk.Docs    TXT       4914
Memory.Usage     DIR =  4          512
   4 Memory.Use         NDA       2629
   4 MemoryUse.docs     TXT       1104
ShowPic          DIR =  5          512
   5 ShowPic6           NDA      36756
   5 ShowPic6.1.Doc     TXT      27718
   5 ShowPic.History    TXT       8830
   5 JesusAware.List    TXT       3515
Cpu              DIR =  6          512
   6 Cpu.Cda            CDA       5632
   6 Cpu.Dox            TXT       9126
   6 Cpu.Mac            TXT       2842
   6 Cpu.Make           SRC        191
   6 Cpu.S              SRC      43175
   6 Ctrl.Pnl.Util      CDA       5632
ImageWriter      DIR =  7          512
   7 Iw2cda.Doc         TXT       1642
   7 Iw2.Da             CDA      12260
IntDetect        DIR =  8          512
   8 IntDetect          CDA        512
   8 IntDetect.Asm      SRC       3704
   8 IntDetect.Mac      TXT       1670
   8 IntDetect.Make     SRC         86
Frantic          DIR =  9          512
   9 Franticnda         NDA       3584
   9 Frantic.P          SRC       3110
Games            DIR < 10          512
  10 SENSEI.BXY         UNK     454912
  10 PACNDA.BXY         BIN      28928
```

/XTRAS.P8.NO.14/

❑ Use ShrinkIt to unpack .SHK and .BXY files.

A2FX8.SHK
A utility to allow you to read the files direct from Macintosh 3.5 inch 800k disks. It will handle both the data and the resource forks.

DESKJET.SHK
A suite of files to allow you to use your DeskJet with AppleWorks Classic.

EAMON.120.SHK
Enter the realm of 'Orb of My Life' and take part in another Eamon adventure.
Use the Games Hall master from Xtras.P8.No.13 for this program and the four on the flip side of the disk.

LIFE.BXY
Conway's game of life brought up to date.

Issue.Programs
A suite of sample programs to assist the beginner programming on the Apple II.

EAM033.BXY
'Orb of Polaris'. An Eamon adventure game.

EAM034.BXY
'Death's Gateway'. An Eamon adventure game.

EAM069.BXY
'The Black Castle of Nagog'. An Eamon adventure game.

EAM077.BXY
'Temple of the Trolls'. An Eamon adventure game.

/XTRAS.GS.NO.14/

SHRV35.BXY
SHR View v3.5 slide show and picture display system. SHR View displays virtually every picture format there is, including all the 3200 types. A must if you use clip art.

IconChecker
A handy utility that checks that your Icons have the correct pathnames attached. It will automatically update them for you if they are incorrect.

Memory.Usage
A small NDA that shows you the current free memory.

ShowPic
ShowPic v1.6 NDA displaysmost picture types.

CPU
A CDA that saves the current state of the Control Panel and allows you to restore from a stored file.

ImageWriter
A Classic Desk Accessory that lets you send control codes direct to your ImageWriter from the IIgs serial port.

IntDetect
A handy program for the programmer. It will beep when it detects an interrupt has happened.

Frantic
A mesmeric screen saver that doodles while you watch!

SENSEI.BXY
Have you ever wanted to be a Karate expert but were too shy to show of your prowess. Sensei is a full feature action packed game of Karate. Will keep you glued for hours to your screen while you learn how to be a real expert!

PACNDA.BXY
You must remember this. Yes it is the original PacMan, but brought up to date as a miniature game in an NDA!

Library II Update

/Library.PRO.26/=

```
   T TN.INDEX.90.11   TXT    52765
   T Read.Me          TXT      783
   T TN.ABOUT.90.11   TXT    20149
AIIc              DIR >  1      512
   1 TN.AIIc.001      TXT     4814
   1 TN.AIIc.002      TXT     3639
   1 TN.AIIc.003      TXT      965
   1 TN.AIIc.004      TXT     3759
   1 TN.AIIc.005      TXT     4058
   1 TN.AIIc.006      TXT     3131
   1 TN.AIIc.007      TXT     3130
   1 TN.AIIc.008      TXT     1251
   1 TN.AIIC.009      TXT     1330
MemX              DIR =  2      512
   2 TN.MemX.001      TXT     4332
UDsk              DIR =  3      512
   3 TN.UDsk.001      TXT     1057
   3 TN.UDsk.002      TXT     2162
   3 TN.UDsk.003      TXT     3243
   3 TN.UDsk.004      TXT     7199
   3 TN.UDsk.005      TXT     4336
```

/Library.PRO.27/=

```
Misc              DIR >  1     1024
   1 TN.Misc.001      TXT     4519
   1 TN.Misc.002      TXT    30485
   1 TN.Misc.003      TXT     2572
   1 TN.Misc.004      TXT     1521
   1 TN.Misc.005      TXT     1888
   1 TN.Misc.006      TXT     3330
   1 TN.Misc.007      TXT     4548
   1 TN.Misc.008      TXT     4711
   1 TN.Misc.009      TXT     2096
   1 TN.Misc.010      TXT     7550
   1 TN.Misc.011      TXT     2148
   1 TN.Misc.012      TXT     2348
   1 TN.Misc.014      TXT     8556
   1 TN.Misc.015      TXT     1890
   1 TN.Misc.016      TXT     7609
   1 TN.Misc.017      TXT    15263
ImWr              DIR =  2      512
   2 TN.ImWr.001      TXT     1201
```

/Library.PRO.28/=

```
Mous              DIR >  1      512
   1 TN.Mous.001      TXT     2615
   1 TN.Mous.002      TXT     2096
   1 TN.Mous.003      TXT     2043
   1 TN.Mous.004      TXT     2939
   1 TN.MOUS.005      TXT     1630
   1 TN.Mous.006      TXT     6425
   1 TN.Mous.007      TXT     2851
Pasc              DIR =  2      512
   2 TN.Pasc.004      TXT      856
   2 TN.Pasc.010      TXT    37978
   2 TN.Pasc.012      TXT    13951
   2 TN.Pasc.014      TXT     8219
   2 TN.Pasc.015      TXT     7446
   2 TN.Pasc.016      TXT    15428
   2 TN.PASC.017      TXT     2015
PDOS.1            DIR =  3      512
   3 TN.PDOS.001      TXT     2196
   3 TN.PDOS.005      TXT     1279
   3 TN.PDOS.004      TXT     1788
   3 TN.PDOS.003      TXT     1361
   3 TN.PDOS.002      TXT      891
   3 TN.PDOS.006      TXT      854
   3 TN.PDOS.007      TXT      912
   3 TN.PDOS.008      TXT     1604
```

/Library.PRO.29/=

```
PDOS.2            DIR >  1     1024
   1 TN.PDOS.011      TXT     2308
   1 TN.PDOS.010      TXT      934
   1 TN.PDOS.012      TXT     2626
   1 TN.PDOS.009      TXT     3585
   1 TN.PDOS.013      TXT      840
   1 TN.PDOS.014      TXT      912
   1 TN.PDOS.015      TXT     2997
   1 TN.PDOS.016      TXT     2956
   1 TN.PDOS.017      TXT    34379
   1 TN.PDOS.018      TXT     2490
   1 TN.PDOS.019      TXT     3245
   1 TN.PDOS.020      TXT     6178
   1 TN.PDOS.021      TXT    22510
   1 TN.PDOS.022      TXT     1115
   1 TN.PDOS.023      TXT    17391
   1 TN.PDOS.024      TXT     3353
   1 TN.PDOS.025      TXT    10156
   1 TN.PDOS.026      TXT     5875
```

/Library.PRO.30/=

```
PDOS.3            DIR >  1      512
   1 TN.PDOS.027      TXT     3817
   1 TN.PDOS.028      TXT     3708
   1 TN.PDOS.029      TXT     3395
AIIe.1            DIR =  2      512
   2 TN.AIIe.001      TXT      848
   2 TN.AIIe.005      TXT    12453
   2 TN.AIIe.004      TXT    17087
   2 TN.AIIe.003      TXT    63399
   2 TN.AIIe.002      TXT    25329
```

/Library.PRO.31/=

```
AIIe.2            DIR >  1      512
   1 TN.AIIe.006      TXT    17858
   1 TN.AIIe.007      TXT     6354
   1 TN.AIIe.008      TXT     5061
   1 TN.AIIe.009      TXT     2639
   T FT.Assign.Form   TXT     2711
   T FTN.ABOUT.90.11  TXT    21616
   T FT.Letter        TXT     3353
FT.Notes          DIR =  2      512
   2 FTN.1A.xxxx      TXT    13837
   2 FTN.1B.xxxx      TXT    27683
   2 FTN.19.xxxx      TXT    23042
   2 FTN.00.xxxx      TXT     1743
   2 FTN.01.xxxx      TXT     1618
```

/Library.PRO32/=

```
FT.Notes          DIR >  1      512
   1 FTN.E0.8000      TXT    27180
   1 FTN.E0.0002.3    TXT    22453
   1 FTN.D6.xxxx      TXT     2210
   1 FTN.D7.xxxx      TXT     2437
   1 FTN.C8.0000      TXT     1777
   1 FTN.08.4001      TXT     1761
   1 FTN.08.0000      TXT     2456
   1 FTN.08.4000      TXT     1633
   1 FTN.E0.8002      TXT    50936
   1 FTN.E0.0001      TXT    16938
```

❑ Disks PRO26 through PRO32 are the official Apple II Technical Notes recently released in the library on 3.5 disks. We have extracted the IIgs specific files and only include here those files relevant to the Apple II+, the //e and the //c.

Order from the Apple II Disk Library, PO Box 3, Liverpool, L21 8PY priced at £3.40 each.

What's New in System 6.0?

Tim Swihart from A2-Central gives us a preview of the new System

Here's an inside look at what's new and/or improved in Apple IIgs System Software version 6.0, better known simply as System 6. Here at Apple, we consider System 6 to be a major release since it introduces significant new functionality in the form of new tool sets, new applications, new NDAs, new control panels, and much more. Some of the new components were frequently requested by users (the HFS File System Translator [FST] for Macintosh disks is a prime example) and some are unexpected (like the Media Control Toolset).

System 6 is expected to require about as much memory as a similarly configured system 5.0.4 disk. It's important to note the words similarly configured - additional items that were not available with System 5.0.4, such as the new tool sets and FST's, require memory above and beyond what was needed for 5.0.4. A fully configured System 6 set up (fully configured equals all FST's, all NDA's, all Control panels, all drivers, etc. installed) will require slightly more memory than 5.0.4 did. All that extra functionality has to go somewhere.

When the System 6 Beta CD was released to developers, it could cleanly boot on a stock ROM 03 Apple IIgs and leave a small amount of RAM available while in the Finder. And the CD included more than just all of the FST's, drivers, etc. - it also included GSBug and NiftyList (both of which take up additional memory). The footprint of golden master System 6 may wind up slightly larger than the footprint at beta, but it should be obvious that the engineers behind System 6 took great pains in keeping things as small as possible while still providing some exciting new capabilities.

Speaking of exciting new capabilities, system 6 includes three new applications: Teach, Archiver, and synthLAB. Teach is an elegant text processing environment, perfect for Read Me files, perfect for quick notes to family and friends, and perfect for reading a variety of other file formats. Teach can read files saved in the standard Apple IIgs styled text format (text in the data fork, styling information in the resource fork), plain ASCII, AppleWorks (8-bit) format, AppleWorks GS format, and MacWrite v.5.0 format (right off of a Macintosh floppy if you have the HFS FST installed).

Teach can save documents as styled text files, as plain ASCII files, or as installer scripts. Teach does not support saving files in AppleWorks, AppleWorks GS, or MacWrite v.5.0 files.

Teach includes the bare bones features you'd expect in a text processor: Find, Find Same, Replace, Replace Same, printing, and full control over fonts/styles/sizes. You won't find high-end word processor features such as a spelling checker, a ruler (where you'd adjust TAB stops, margins, etc), colored text, or the ability to mix text and graphics. Teach is intended to provide a general purpose solution for text handling on the Apple IIgs, not be the next great word processor to end all word processors.

Archiver is a hard drive backup utility with a desktop interface (unlike Backup II, which is an 8-bit application). Archiver provides the basic services many users need in a disk backup utility: simple compression to reduce the number of disks required to hold the backup, support for tape drives, and the ability to backup either an exact image or individual files. There are third-party disk backup applications already available that have more functionality than Archiver, but Archiver's definitely worth checking out if you own a hard drive.

synthLAB is a sample application that showcases the power of the new MIDI synth toolset. Originally available in beta format from APDA for use with System 5.0.4, synthLAB combines a synthesizer, a sequencer, and a MIDI driver to let users create new instruments, record their own custom MIDI sequences, or play back other user's sequences. Until you've heard your Apple IIgs's sound hardware being put through its paces by synthLAB, you just haven't heard what that sound hardware can really do.

The MIDI Synth toolset is a second generation note synthesizer that handles most of the work required by an application in order to create incredible music. MIDI Synth requires about 25-30 percent of the CPU's time while running in the background (less if your Apple IIgs is accelerated). There's already a commercial game for the Apple IIgs that takes advantage of the power of MIDI Synth (Dragon Wars GS from Interplay), and XCMD's for using MIDI Synth from HyperCard IIgs or HyperStudio (ClipTunes from Triad Software).

MIDI synth isn't the only new toolset in system 6. There's also the media control toolset, which provides a standard interface to non-standard media devices such as laser discs and CD's. These devices have a common high-level feature set; they can play, jump forward or backward, pause, eject,and so on. But they have a very non-standard application interface; some players have a serial interface, others connect to the game port, some use numeric codes as commands, other use short ASCII strings. The situation is so bad that laser disc players from one company are controlled radically differently from those of another and in fact, different models of players from one company are controlled very differently from other models from the **same** company. Good examples are the popular consumer and industrial models produced by Pioneer. All are excellent players, but they are controlled very differently by computers.

Prior to System 6, few applications implemented support for such devices because of the inconsistent approach needed for each type of device. Those applications that did implement such support generally only worked with a small handful of players.

During the course of providing support for multimedia devices from within Hypercard IIgs, it became obvious that a general purpose solution was needed; one that provided access to a multitude of radically different devices with essentially no impact on the applications. The Media Control Toolset offers such a general purpose solution, not just to HyperCard IIgs, but to any GS/OS application that wants to push multimedia to the limits. Up to eight different devices can

be controlled at one time by assigning each device to a channel. A channel is defined as the combination of a type of device and a description of how it's connected to your Apple IIgs. For example, a channel might have a Pioneer 4200 video disk player connected via the modem port or a CD-drive connected via your SCSI port.

Instead of changing the application to support a new type of player, developers can simply create a media control driver for that player, drop it into the user's System folder, and all applications that support the media control toolset now work with that new type of player.

The Media Control Toolset includes drivers for Apple's CD drives, Pioneer's consumer models, and Pioneer's industrial models. Other drivers may appear later, released separately from System 6 itself by Apple, or they may come from third parties. Their format is fairly straightforward and documented on the System 6 Beta CD, which means the information should be available to all developers once System 6 is released. Essentially, third parties could provide packs of drivers for a variety of devices just like the current products that provide printer drivers for printers that aren't supported by Apple's drivers.

Included in System 6 is a new NDA for use with the media control toolset. Called the Media Control Remote, this NDA acts like a super remote control; it controls all eight channels, provides access to device-specific controls, such as turning on or off the left and right sound channels on a laser disc, and provides status information, such as which track is playing, or how many tracks there are on the disc. Coupled with the Video Overlay Card, the Media Control Remote opens the door to some exciting new possibilities.

The next release of HyperCard IIgs (version 1.1) includes a stack that takes advantage of the Media Control Toolset. Called the Media Control stack (ok, so the name's not all that original, at least it's obvious what it does), it marries the ease of use of HyperCard IIgs with the power of both the Video Overlay Card and the Media Control toolset. Think of it as a user-scriptable super remote control for all those multimedia devices, you just point and click as you create whole new stacks that take advantage of all this new technology. No scripting is required. The Media Control stack creates or contains most of the scripts you'll need for a very wide variety of media activities.

The media control remote isn't the only NDA being introduced with System 6. There's a Find File NDA which quickly searches any online volume for a file. It can search in the background, allowing users to keep working while a large volume is being searched. Find File NDA allows users to control whether the search string should be the exact file name, the beginning of a file's name, the ending of a file's name, or exist anywhere within a file's name.

There's also a Calculator Desk Accessory in System 6. Nothing too fancy, just your typical 4-function calculator that also handles hexadecimal. Users enter numbers by clicking the numbers on the calculator itself, pressing the corresponding number keys on their keyboards, or pasting a number in from the clipboard. To access the hexadecimal functions, just click in the Calculator's zoom box and it will widen, revealing the hex keypad and two buttons that

control whether the calculator is working in hex or decimal format.

System 6 is the first release of Apple IIgs system software to incorporate the Universal Access Suite. Designed originally to aid users with a variety of disabilities, the components of the Universal Access suite are useful for all users. This suite is composed of CloseView, Video Keyboard, and Easy Access, which in turn is composed of Sticky Keys and Mouse Keys.

CloseView magnifies the screen from two to twelve times its original size, making the pixels much fatter and thus easier to read by users with some visual impairments. It also makes it easier to line up objects in any desktop application that doesn't already provide a fat bits mode. Since the desktop can now be several times its original size, only part of it shows on your Apple IIgs's monitor. How then do you control which parts show and which parts don't? Simple - the area around the mouse is always shown on the monitor. To scroll the desktop so that other parts of it are shown on screen, simply move the mouse toward the area you want to see. As the mouse gets close to the edge of the visible area, the desktop will automatically scroll to show a previously hidden area. CloseView only works with desktop applications, but does have key equivalents for all of its major operations so that you can turn it on or off and even adjust the zoom without having to actually open the CloseView NDA.

Video Keyboard has been around the longest of any component in the Universal Access Suite. It's been available in beta format from APDA for quite some time and has been a regular on the d e v e l o p CDs. d e v e l o p is a technical journal published by Apple that focuses primarily on the Macintosh, but its CD contains some useful Apple II material that's often not available to the public anywhere else.

Video Keyboard is a special window that exists above all other windows and even above dialogs and alerts. This window contains the layout of a regular keyboard, allowing users to click on the keys in the window instead of having to press a key on a physical keyboard. Coupled with an alternative pointing device such as the HeadMaster, Video Keyboard provides much richer access to the Apple IIgs than might otherwise be possible for some users.

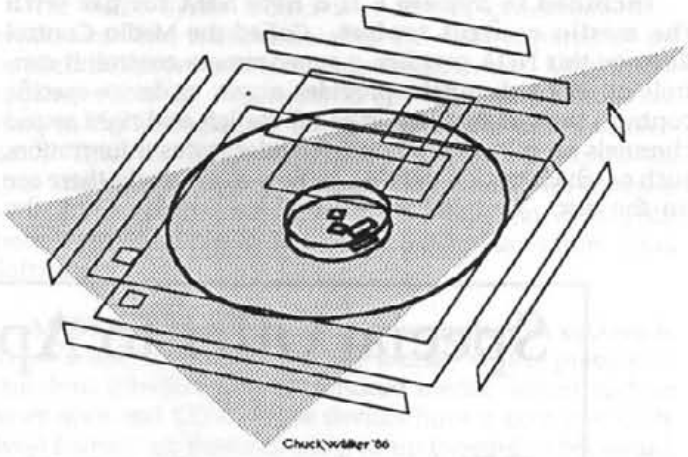
Users familiar with desktop applications are sure to point out that often modifier keys have to be held down while a key is pressed in order to access certain characters within a font, issue key equivalents, etc. No problem! Video Keyboard allows users to click first on the modifier (or modifiers if more than one is needed) and then on the key. Video Keyboard simply holds down the modifier for you. To release a modifier you didn't meant to click on, simply click it a second time. VideoKeyboard only works with desktop applications.

MouseKeys allows the apple IIgs's keypad to be used to move the pointer on the screen instead of the actual mouse. Once activated, the 5 key is the same as clicking the mouse, the 8 key moves the pointer straight up the screen, the 2 key moves it straight down, the 9 key moves the pointer up and right, etc. Just think of the 1, 2, 3, 4, 6, 7, 8, and 9 keys as arrows instead of numbers, each pointing outward from the 5 key.

The 0 key is the same thing as holding down the mouse button, so users can drag an item using only the keypad by first maneuvering the mouse over the item, then typing 0 to hold the mouse button down, and then using the eight 'arrow' keys on the keypad to drag the item, and finally type the 5 key to release the mouse button. While that may sound like a lot of work, it's actually quite simple and proves very handy when you're trying to align items on the screen (which is especially simple to do using MouseKeys since you can move the pointer in a single axis with ease). MouseKeys is toggled on and off by pressing Command-Shift-Clear.

StickyKeys is built into Rom 03 cpu'S, but System 6 brings that functionality to Rom 01 users as well! Some users have difficulty holding down modifier keys and pressing another key at the same time. StickyKeys simply remembers which modifier key (or keys) were pressed one at a time before the regular key was pressed. Thus, to type the equivalent of Command-Control-Esc using Sticky-Keys, a user would press and release the Command key, then press and release the Control key, then press and release the Esc key.

StickyKeys can be activated by pressing the SHIFT key 5 times quickly. Once on, a small icon will appear in the upper right corner of the menu bar. If a modifier key (or



keys) is being held down by Sticky keys, the icon changes to include a down arrow, providing visual feedback since the keys aren't physically held down. Once activated, a modifier can be locked down so it can be used with a series of key presses without having to be pressed again each time, simply by pressing the modifier key twice in a row. For example, the sequence Select All, Copy, Paste three times can be typed using StickyKeys as Command, Command (the second Command locks it down), A, C, V, V, V which would be the equivalent of pressing Command-A, Command-C, and Command-V three times. StickyKeys can be turned off by again quickly pressing the SHIFT key 5 times or by simply pressing a modifier key AND a non-modifier key at the same time (which indicates to StickyKeys that it's not needed since obviously you can press more than one key at a time).

The components of the Universal Access Suite have all appeared for several months now on the developer CD'S and on the D E V E L O P CD'S so that developers could have advanced notice in case they needed to change anything in their applications to be compatible with universal access. Developers uncertain whether or not they're doing everything they need to do in order to remain compatible should read Apple IIgs Tech Notes #91.

The most likely cause of conflict between appli-

cations and the components of universal access seems to be applications that write directly to the screen instead of going through QuickDraw normally (this was typically done to get a slight performance improvements in the days before System 5.x's faster QuickDraw was released). CloseView has to patch QuickDraw at boot time in order to work and applications going around QuickDraw are then going around CloseView as well. The end result is that even if CloseView is installed but the screen is not currently being magnified, screen update problems can occur in certain applications. If you suspect an application is incompatible with CloseView, or you simply seem to be having weird things happen to your screen under System 6, remove or inactivate CloseView, reboot, and try again. Simply avoiding the use of CloseView isn't enough, you'll have to either delete it from your boot disk or inactivate it using the Finder's Icon Info window for CloseView and making sure its Inactive check box is checked.

The Alliance for Technology Access Centers were licensed to distribute the Universal Access suite, along with electronic documentation for it, in late 1991. This was possible because Universal Access was finished before the rest of System 6 and there was a strong desire to get these important components to their target market as quickly as possible.

Three new file system translators (FST) Are being introduced with System 6! The first two are read-only FST's that allow Apple II DOS 3.3 and Apple II Pascal formatted disks to be used with any application that properly supports GS/OS. These two FST's make it simple to move files formerly trapped on DOS 3.3 or Pascal floppies onto ProDOS, AppleShare, or HFS disks.

The third translator is the long-awaited HFS FST - HFS is the file system used on the Macintosh. The introduction of this FST means that it's now possible to read and write Mac floppies from Apple IIgs applications! You can't run Macintosh applications on your Apple IIgs and only some Mac file formats are useful on a Apple IIgs, but there are definite benefits to this FST. The most noticeable benefit is the elimination of the 32 meg limit for hard drive partitions (ProDOS-formatted files will always be limited to 32 Megs, but now you can create HFS-formatted partitions).

Only a ProDOS partition or an AppleShare server can be booted from, so a user with one high-capacity hard drive would typically have a 32 meg ProDOS partitions (for booting and for their 8-bit applications) and the rest of the hard drive (well beyond the 32 meg limit of ProDOS) can be one big HFS partition. To drive this point home to developers, the special System 6 Beta CD that was sent to Apple II Partners and Associates in late 1991 included four ProDOS partitions, the first of which was bootable on an Apple IIgs, and one 160-Meg HFS partition, all of which was accessible from a stock ROM 03 simply by booting from the CD. The HFS FST was installed on the CD's boot partition. The 160-meg partition is no- where close to the maximum size of an HFS partition, it was simply all the room that was left on the hard drive that was used as the master for the CD.

The control panel NDA has undergone radical surgery—the computer equivalent of a combination face lift, tummy tuck, liposuction, and hair transplant. It barely resembles the Control Panel found in System 5.x. In fact, the changes are so dramatic that CDev's (the items found within the Control Panel NDA) are no longer called CDev's. Instead, they're each referred to as a control panel and users are no longer limited to only one CDev, er control panel, open at a time. All of your control panels can be open at once if you want, since each control panel opens into its own window. In fact, if you open the CDevs folder, you can open any control panel by simply double-clicking on its icon! Since each control panel has its own window under System 6, control panels can use smaller or larger windows than the standard size imposed by System 5.x - SetStart uses a very tiny window, while the AppleShare control panel uses a window that's very wide and very tall.

System 6 also introduces several new control panels including: sounds, Setstart, Media control, Namer, and even one to allow network booting directly into ProDOS 8. The Sounds control panel allows sounds, stored as rSound resources, to be assigned to various system events such as disk inserts, disk ejects, the regular beep, bad keypress, windows whooshing open/close, etc. These sounds are stored in the same format used by Hypercard iigs, in fact, HyperCard IIgs v.1.1 knows when it's running under System 6 and will also search for a requested sound in the *:System:Sounds folder. Sound utilities such as Triad Venture's Sound Convert should make it simple to create rSound files for use with System 6.

Setstart allows users to easily boot into an application besides the Finder. SetStart allows users to pick the Finder (which facilitates restoring the factory settings), the currently running application, or any application on the boot volume via a Standard File dialog. The introduction of SetStart means users no longer have to know exactly what file to rename in their System folder and no longer have to copy their desired boot application into the System folder (or play any other boot-time games) in order to boot into the application of their choice.

The media control control panel (now there's a mouthful) allows users to define how their multimedia devices are connected. Users pick each of the eight channels, ignoring any unused channels, and click on a list of drivers to indicate the type of device for a given channel, then click on a list of connection methods for that device. For example, my channel 1 is assigned to a CD-drive connected via my SCSI card and my channel 2 is assigned to a Pioneer 4200 Laser disc player via my modem port. I could also assign channel 4 (skipping channel 3 just because I can) to a Pioneer 2000 Laser Disc player connected via the game port (no serial interface adaptor needed!) and channel 5 could be assigned to a second CD drive (if I had two) which would probably also be connected via the same SCSI card that the first one was. Once your channels are assigned, the Media Control Remote is about all you need to start dabbling in the various media devices.

Users familiar with AppleTalk networks have probably seen the old Namer application (an 8-bit application). Namer is used to assign names to printers on your network (something normally done by the network administrator). System 6 introduces a control panel version of Namer that's **much** easier to use than the old 8-bit application. Once you've used the Namer control panel, you'll forget all about the old way of doing things.

And speaking of networking becoming easier, System 6 includes a new Network control panel that allows users booting over a server to boot directly into GS/OS, like they did with System 5.x, or directly into ProDOS 8 **without** having to install a IIe Workstation card and connecting through it. Simply click the ProDOS 8 radio button in the Network control panel and the next time your Apple IIgs

boots from a server, it will quickly boot directly into ProDOS 8.

Many of the control panels from System 5.X have been dramatically improved for better performance, a cleaner user interface, simplification through combining several small control panels into one, etc.

The AppleShare control panel is a little wider than it used to be, making it easier to read the zone and server names. Perhaps this wasn't a problem if your Apple IIgs was on a tiny network, but users on larger networks should find this improvement to be quite a blessing.

The AppleShare control panel also uses targetable controls (see the explanation below) for its server and zone lists. As a result, users can jump right to a specific server or zone by typing the first few characters of that server's or zone's name. On a network with hundreds of zones such as the one at Apple, this feature is almost mandatory -without it, selecting zones involves a **lot** of scrolling.

The time control panel has been rewritten. It no longer uses pop-up menus to set the hours, minutes, and seconds. Instead, users click on the hour, minute, or second portions of the time display and either type a new value for it or click on the up/down arrow buttons in the Time control panel to adjust the value. The month, day, and year are adjusted in a similar fashion.

Other changes in the Time control panel include a display of what day of the year it is and how many days are left in the year (which simplifies planning your New Year's Eve parties).

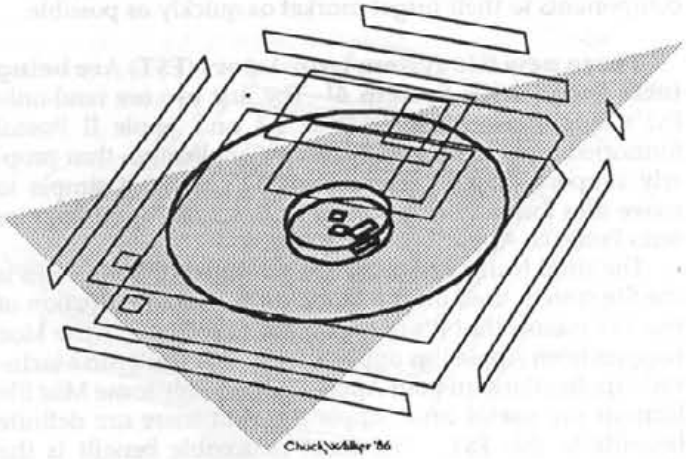
The Time control panel also features a checkbox that lets users decide whether or not they'd like the Time control panel to handle adjusting their clocks automatically for Daylight Savings time. If you prefer to track that manually, there are radio buttons for Daylight Time and Standard Time, clicking the unselected button will adjust your current clock's time up or back one hour.

The general control panel is a combination of the old general CDEV, the mouse CDEV, and the alphabet CDEV. Now, you can adjust menu blinking, cursor flash rates, system speed, mouse speed, double-click timing, display language, keyboard layout (USA, Dvorak, etc.), and whether or not keyboard translation is performed. Keyboard translation allows or prevents access to characters within a font that requires the Option key to be held down. There's even a check box that allows you to have your NDA menu alphabetized.

So much is new in System 6 that a shortcuts file was added to one of the disks. Prior to release, it was on the SystemTools2 disk but it could be moved to another disk if space constraints demand it. Once you have System 6 installed, open the Shortcuts file with Teach and you'll find tips for all aspects of System 6, including such gems as:

❑ Command-W always closes the front window even if it's a desk accessory or control panel.
❑ Whenever you see a List control with a bold frame, you can use the up and down arrows to select various items in the list, and you can type the first one or more letters of an item to select it. (When typing the first several letters of an item, you have to type a key every two-thirds of a second or faster.)
❑ You can type letters to move around in the CDA menu (first letter only). Each press moves you to the next line that starts with that letter).
❑ When Initializing or Erasing a disk (in the "Initialize device .SPLAT as..." dialog), Command-Return works for the Initialize or Erase button.
❑ In the Finder, you can hold down Option and choose Control Panels from the Apple menu to open the System:CDevs folder.
❑ Command-Shift-Esc opens the Control Panels NDA, just like choosing Control Panels from the Apple menu.
❑ You can use letters and the arrow keys to select a control panel icon.
❑ You can hold down the Command key and click on an icon to select several control panel icons at once, or you can hold down Shift to select a whole range of control panel icons.

There are some subtle changes to System 6 that may briefly trip up experienced users who don't bother to read the shortcuts file or the manual for System 6. Most notably, TAB no longer advances to the next disk when a Standard File dialog is open. To understand why, I'll first need to explain the concept of targetable controls.



System 6 supports the same concept of targetable controls that was first introduced in Macintosh System 7.0. A control is said to be the target if key presses from the user are handled by the control instead of being passed somewhere else or simply ignored. Let's look at a generic example first: a dialog with two text entry fields. Normally, users would have to click in one field or the other to move between them. Under System 6, if both are targetable controls, then the current target is the one that is sent the user's key presses. Pressing the TAB key tells the system to make the next control the target. For controls other than line edit/text edit controls, a bold frame is drawn around the current target to help inform the user where their key presses will be sent. Text entry fields have a blinking cursor when they're active (or a range of selected text), so no bold frame is needed.

In a Standard Save File dialog, the initial target is the file name field (where you type a name for the new file). Pressing the TAB key makes the list of files/folders the target - pressing keys now simply moves through the list of existing files/folders. While this may seem a tad confusing at first, it take only a few tries to get used to this enhanced approach to navigating disks.

So just how does a user advance to the next online device if tab now does something different? Command-TAB moves to the next disk. Also, Command-Esc is a new key equivalent for the Volumes button, making it much easier to move between your online devices.

Look around the system for other places that take advantage of targetable controls. The AppleShare control panel is another great example, it's much easier to move around large networks when the zone/server/volume lists can accept keyboard input to jump to your desired location without a lot of scrolling.

The control panels NDA isn't the only long-time component of apple IIgs system software that's undergone a major rework for System 6. The Installer has been greatly simplified so it should no longer be intimidating to normal users. Instead of forcing users to pick which components of the System Software they want installed, a new EasyUpdate approach has been implemented. EasyUpdate tells the Installer to figure out what the user needs to have installed in order to bring an existing or new system disk up to date with System 6. The Installer looks at what you have already installed (drivers, FST's, CDev's, etc) as well as what you have connected (in case you forgot to install a driver that you really needed).

The old familiar list of scripts that could be installed is still available, just click the Customize button on the Installer's EasyUpdate screen. There are some changes in the custom installation area though. Mostly they are behind the scenes changes that simplify installation. If you select several scripts, each of which may include the same file, the System 5.x Installer would copy that file several times, once for each script that called for it. The System 6 Installer is smarter than that - it scans the selected scripts and combines them into one super script, eliminating all redundancies along the way. The result is a faster installation and fewer disk swaps.

The installer in System 6 won't let you install to the disk you booted from, so make sure you boot from the floppy that the installer comes on. If you're not certain what portions of System 6 you need installed on your Apple IIgs, just let EasyUpdate handle things for you. Bear in mind though that EasyUpdate won't add **new** items, like the HFS FST, to your system. You'll need to use the Customize mode for that after you've run EasyUpdate.

EasyUpdate also won't install applications like Teach or Archiver since they could be placed anywhere, unlike regular system components that have to be in exactly the right spot. Just use the Customize mode and tell the Installer where you want those applications to be placed.

One last note about the Installer - when you're prompted to insert a disk, just stick the floppy in the drive. You do not need to click on the OK button. No, the Installer's not doing anything special, it's actually a change deeper within System 6. Anytime the system prompts you to insert a 3.5 inch floppy, the System will click the OK button for you once it detects a disk has been inserted. 5.25 inch disks can't be detected as they're inserted, so you'll still need to click your own OK buttons when prompted for one of them.

There are dramatic, behind the scenes, improvements throughout System 6's toolbox, but most of them don't show up for end users. Instead, they open new doors or remove existing hurdles for developers. One of the most obvious changes you will see is that the standard scroll bar coloring is no longer the coarse black and white checkerboard. Instead, it's a smooth grey. While this probably sounds like a trivial change, the effect in terms of polishing the look of the desktop is quite large.

Other toolbox changes include support for larger font sizes and thermometer controls like the one on the boot screen. Many of the changes within the toolbox are the addition of new bits to define new behavior, a change that end users aren't likely to notice but developers certainly have. There are so many of these changes that the lead Toolbox engineer coined the phrase "we have a flag bit for that."

There's one last major area of change - the Finder. So much has changed in the Finder that it really needs to be fully explored as a separate article. Rather than make you wait in suspense until such an article appears (editor's note: he can't wait till next month?), I'll briefly mention a few of the changes.

My favorite new feature may seem a little odd to some folks but it makes managing the Finder's desktop so much easier that I now expect all applications to include similar functionality. I'm talking, of course about the new Windows menu. If you've ever had several windows open at once, you know what a hassle it can be to find a smaller window that's completely hidden by a larger one. You have to shuffle windows around so they're hanging mostly offscreen, or close them and reopen them after you've carefully positioned the smaller window. No more! Each window that the Finder opens is listed in the Windows menu. Selecting a window's name from this menu snaps that window to the front without requiring any other shuffling. Word processors already have this functionality, but I find it particularly handy to have it in the Finder.

Holding the Option key down while selecting a window's name from the Windows menu tells the Finder to close that window instead of bringing it to the front. Another nice touch for managing your desktop.

The Windows menu also includes a Stack Windows item that, when selected, neatly stacks all of your open windows on the screen. The title bars are staggered vertically so that each title bar can be read. A seemingly simple touch perhaps, but a very nice one!

As hard drives become increasingly popular among apple IIgs users, files seem to be buried deeper and deeper within nested folders. As you navigate downwards through the sea of folders, your desktop becomes a veritable junkyard of open windows. What if there were way to close the current window as you were opening a folder within it? As you dove deeper and deeper into the sea of folders, you could keep only one folder open at a time if you so desired (or keep only some of the folders along the way open).

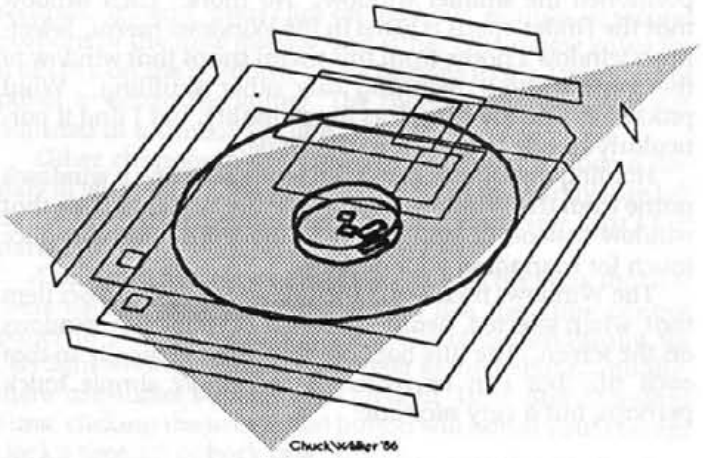
System 6's Finder provides tunneling, first introduced in Macintosh System 7, and also reverse tunneling, which lets you keep your desktop neat as you navigate back up the sea of folders. Holding down the Option key when you double-click on a folder icon will open that folder, and then close the parent folder (the one that contained the folder icon you just double-clicked). If you want the parent folder to stay open, don't hold down the Option key.

Reverse tunneling requires two keys to be held down, the Option key and the Command key. Plus, you have to click on the window's title bar. Don't just click and let go of the mouse, you'll need to hold the mouse button down because your action will cause a pop-up menu to appear, dangling from the window's title bar. In that pop-up will be the list of folders all the way back to the disk that the folder is on. The top item in the list is the current folder, the bottom item is the disk the folder is on, and the items in between represent the parent folders for the current folder. Perhaps it's easier to visualize if I say the middle items are the parent, grandparent, great grandparent, etc folders. To close the current folder, and open a parent folder, simply select a parent

folder from the pop-up menu and release the mouse. The parent folder will be opened, then the folder whose title bar you clicked in will be closed.

If you don't hold down the Option key while clicking on a window's title bar, you can still navigate to a parent folder, but the folder you're coming from won't be closed. Together, tunneling, reverse tunneling, and reverse tunneling without closing (for lack of a better name) make it much easier to work in the Finder without introducing a lot of window clutter.

Prior to System 6, users have often asked how they could be certain they were using a specific version of the system software. Hard core power users knew how to read the version numbers that appeared if you held down the space bar while booting, but that's hardly a solution for the masses. So, System 6 starts a new tradition. On the splash screen, just above the thermometer that indicates boot progress, the words "System 6.0" are displayed. As the system is revised in the future, these words



should change to reflect what system is being booted.

If you forgot to check your splash screen during booting but still want to verify what version of the System you're running under, there's no need to reboot. Simply open the Finder's About box. In it, you'll see the Finder's version number, the System's version number, how much memory is installed in your Apple IIgs, and how much memory is currently available. Does it seem like there's not much memory left over and you're certain it's 6.0's fault? Look again, the Finder's About box also breaks out how much memory is being used by the System, how much is being used by the Finder, how much is being used by Setup files (things like SysBeep and GSBug), and how much is being used by all those desk accessories you already had installed.

I was shocked the first time I saw how much memory my desk accessories and setup files were using! So shocked that I cleaned out the ones that I didn't really use. I was surprised at how many desk accessories were still active that I'd dropped in to try out, but never used again. If you have a hard drive, odds are high that you're spending a lot more memory than you realize on things you don't really use.

System 6 is in its final stages of development as I write this. Engineering is working on their first final candidate, and Testing is taking a deep breath to prepare for the big push towards golden master. Hopefully, by Valentine's Day, System 6 will long-since be in the hands of end users. That's a little later than I predicted during last October's User Group TV broadcast, but I did say we reserve the right to slip the schedule in the interest of delivering a top-quality product.

So, where can you get System 6? All the usual places: order it directly from **Resource Central;** get it from a User Group **(Apple2000)** that's licensed to distribute Apple IIgs System Software; download it from an online service such as GEnie, CompuServe, or America Online; etc. System 6 is expected to be available in several formats: in the box with new CPU's; as disks only for customers that want to save a few bucks; for sale with the manuals that document all the new features; and, if everything goes right, for sale on a special CD that contains System 6, related sample code, related updates to Apple's developer tools, updated interfaces, electronic documentation for the new tool and operating system changes, and much more. Watch for more details in future issues of **A2-Central** or keep in touch with your User Group or online service.

As a closing note, many users ponder whether or not a hard drive is needed for use with an apple IIgs and/or System 6. Technically, the answer is "no". You can operate cleanly in a floppy-only environment, but you won't have full access to everything the system has to offer (there just isn't enough room on an 800K floppy to hold all of the excitement that's been packed into System 6). If you have a hard drive, you're probably going to get a lot more out of the system. My personal opinion on the subject is that it's like wearing a warm coat on a very cold day, it's not required, but it's generally a darned good idea.

❑ (Tim Swihart has been working with computers since his first FORTRAN class in 1980. He was hired by Apple Computer, Inc to manage Apple IIgs developer tools and is currently Apple's Product Manager for Apple IIgs System Software, HyperCard Apple IIgs, and developer tools. Tim's been part of the HyperCard Apple IIgs v.1.0 and v.1.1 teams, the HyperMover team, the System 5.0.3, 5.0.4, and 6.0 teams, and lead the effort in the creation of the System 6 Beta CD. He's also written FreeWare and ShareWare solutions for the Apple IIgs, programming articles for the Apple IIgs, fielded questions of all sorts on America Online and GEnie, and recently co-authored a book on Macintosh programming, **Programming for System 7**, Addison-Wesley, Gary Little & Tim Swihart).

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A2-Central are now the official distributor of all APDA development products and are also distributing the System 6.0 disks.

Apple2000 will be placing the System 6.0 disks into our library as soon as we can obtain them. Please check direct with Apple2000 for current availibility.

Apple2000
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L21 8PY

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Jam Session

A musical appreciation for the IIgs by Dave Ferris

Introduction

I have to admit it, I am not particularly gifted when it comes to playing musical instruments. I try occasionally to learn but lack the real commitment needed to become anything better than a pain in the ears. In spite of this I do have Music Studio, which allows me to play with music, without being able to do anything really clever, and at least I can play the supplied tunes and others available for download from TABBS.

Then I found Jam Session...

... Now I can play along with the band and sound like a real professional as it's almost impossible to go wrong. Hit a key, any key, they all produce different notes or riffs (sequences of notes), but the program can make sure they sound right.

The Program

Jam Session comes on two 3.5" floppy discs and requires an Apple //GS with at least 768K, 1 * 3.5" drive, keyboard and mouse. It works with a monochrome display, but is at its best in colour. External amplified speaker(s) are recommended (it doesn't need to be anything as expensive as Bose, I use a pair of Ross RE-4230 which cost under £30.00 and an old Walkman-type set of headphones for when the rest of the family is asleep).

The first disc contains the program and music files, the second disc contains instruments and scene information (more of this later). There are 20 prerecorded songs for you to jam along with, ranging from Classical through Country and Jazz to Rock & Roll and Heavy Metal.

A song is selected by 'opening' it from the standard File Menu, if you only have a single 3.5" disc you will then have to swap discs a few times while it collects all the data required. Each song comes with one of five scenes, most appropriate to the style. A dimly lit, smoke filled night-club for the Jazz pieces. A farmyard for Country, a concert grand on the stage for Classical, and two different bands for Rock/Pop and Heavy Metal.

These scenes are brilliantly animated, not just to get the musician(s) to play their instruments but also to complete the picture with background detail. I nearly fell off my chair laughing when I first saw the man in the front row of the concert hall dozing off in the middle of my virtuoso piano performance.

Once you have loaded a song you control what happens next from two main menus:-

Jam Menu

Four choices here are:-

❑ Play - This starts the music playing with the keyboard ready for you to join in. Any standard key on the top four rows will produce something, a scale, riffs or percussion. Using shift or caps-lock will switch to an alternate set of instruments or riffs. Using Open-Apple or Option keys while playing some repeating riffs will cause them to ascend or descend chromatically (a half step at a time). The space bar cuts off the current riff.

❑ Record - This is the same as Play except that all your key presses are recorded and may be saved as a song to be loaded and played again at a later date.

❑ Erase - deletes a previously recorded set of keystrokes, without effecting the original file, and re-enables Record.

❑ Auto-Play - When an original song is loaded this may be selected to have the computer jam with itself.

Options Menu

Seven choices here are:-

❑ Keyboard Index - selecting this brings up a window showing what each row of keys represents, e.g. Piano Scale, Guitar Riffs etc. Selecting the shift key or caps-lock while this window is on display shows any alternate uses of the keys.

❑ Show/Hide Piano Keyboard - enables or disables a display at the bottom of the screen showing the actual notes being played as a result of your key presses as if on a piano keyboard.

❑ Set Song Length - alters the number of times the basic piece of music is repeated for a performance.

❑ Set Song Tempo - enter a number between 10 and 450, the higher the faster. I don't recommend 10 unless you have a lot of time to kill!

❑ Atmosphere - toggles applause at the beginning and end of each performance.

❑ Sequence Riffs - Normally the playing of a riff will be cut off by any subsequent key press. With this option selected, all key presses are queued up and each riff is played all the way through.

❑ Sync to Measure - Normally a riff will begin to play as soon as the key press is detected. With this option selected

it will be held off until the start of the next musical measure.

With both the last two options selected, a sequence of key presses on riff keys can take a long time to play all the way through, and though it usually sounds OK, will probably not be quite what you intended.

Editing Riffs

Selected from the Edit menu, this option allows you to change what is played for each key. The edited data may be saved as a new song file, in the same way as a recorded performance. The original riffs may be restored by using the Revert selection from the file menu.

The riff editor leaves something to be desired. If I was musical enough to want to use this facility I think it could have me climbing the walls in short order. Changing note and rest duration is tricky, involving holding the mouse button down and sliding the mouse left or right to decrease or increase. Hold note and repeat functions built into a riff may not be changed. Some keys have more than one riff assigned to them and the only way to find these is to play the song and invoke Edit Riffs when then appropriate point is reached. This is virtually impossible. In addition, there is no indication of the number of riffs associated with any one key, so you won't know if you have missed any until the tune goes wrong when you play it!

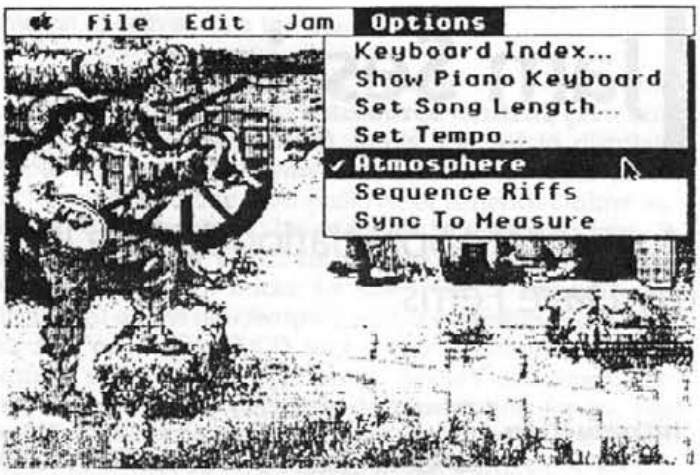
Documentation

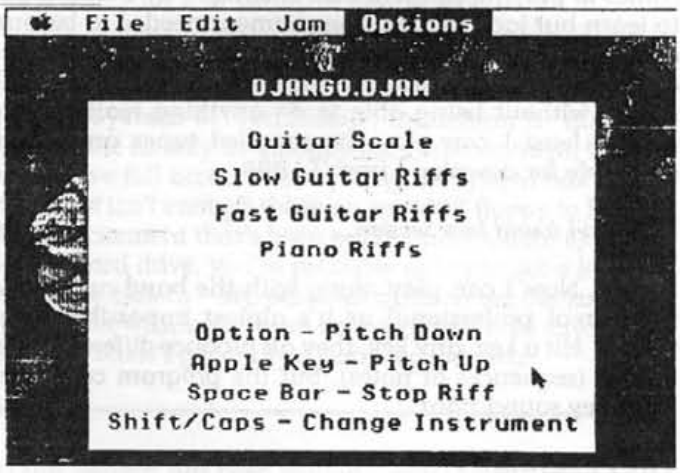
The 28 page user's guide booklet covers everything you need to get started, including hard disk installation and even how to use the mouse. A confusing comment at the end of the section covering Editing Riffs, suggests that instruments can be edited also, though no facility is documented that enables you to do this.

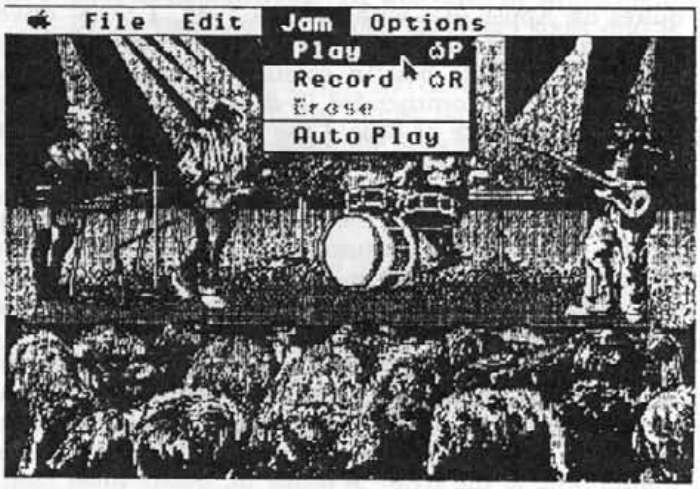
Conclusion

This is a really excellent program that justly deserves the awards heaped on it by the Software Publishers Association for Best Entertainment Product, Sound and New Use of a Computer. I am completely hooked, every time I turn the computer on now, for whatever reason, at some stage I'm going to be jamming along with Django.Jam, Jamtanna or others. I hope that the writers (who include Ed Bogas, who produced a lot of the music for Music Studio) can bring out some new songs so that when(if) I get bored with this set, I can keep on jamming. An import function from Music studio would be a splendid addition.

Dave Ferris







Product : Jam Session
Publisher : Broderbund
Available from :
MGA SoftCat
41 Cinque Port Street
Rye
East Sussex TN31 7AD
0797-226971
Price : £29.90 WYSIWYP

Value for money :
Performance :
Documentation :

information

Science Toolkit

Jeff Clayton reviews a package for the //e from Broderbund

Introduction

The reviewer of this program has a IIGS, and unfortunately the software wouldn't run on it! A quick trip down the road to a friend with a IIe showed that it ran perfectly well there, as far as we could tell in the time available. A telephone call to the Apple II hot-line man Dave Ward raised the thought that Broderbund copy-protection can give rise to this kind of problem, whereas I seem to remember reading somewhere that IIGS interupts can equally be troublesome in these cases. I should make it clear that I tried all the permutations I (and friends!) could think of, unplugging everything surplus to requirements, and setting the IIGS to IIe emulation, with no success.

Therefore this review is rather limited, being just an over-view of what you get and what it will do for you.

Packaging

The toolkit comes in three separate boxes:

- MASTER MODULE, which contains the interface box, a thermistor, a photo-electric cell, a 5.25" program disc, the manual and toolkit guide, and cardboard stands for the measuring equipment. The probes are not labelled - you have to guess which is which! The manual is a 130 page, 170 by 220mm bound soft-cover, where a ring binder would have been better as the book is best laying open for reference when setting up the experiments. These are designed around the thermistor for what appears to be a quite comprehensive range of 24 tests on heat conduction, capacity, and very simple chemical reactions. The photocell has a similar range of experiments with brightness, reflectivity and absorbtion.

- MODULE 1 has another photocell, a 5.25" program disc, components for constructing a cardboard/plastic car driven by a balloon acting as a jet engine, and a manual describing eight experiments measuring linear and rotational speeds. The two photocells are set up a fixed distance apart, which with the timer allows linear velocity to be measured, while rotational speed needs the timer alone.

- MODULE 2 contains a build-it-yourself seismoscope, a 5.25" program disc, and a manual describing the experiments to be carried out. Apparently this set-up can be used as a security alarm, detecting movement in the vicinity.

There are no indexes for the manuals, which incidentally cover the IBM/Tandy version as well. Modules 1 & 2 manuals are stapled. It should be noted that modules 1 & 2 require the Master Module disc.

Requirements

The manual states that the program will work on a II+, when an adaptor is needed to allow the interface box to be connected into the internal game port, and the IIe and IIc. Minimum memory of 64K is needed. No mention is made about the IIGS. A 5.25" drive is required. A monochrome monitor is an advantage because fringes appear on a colour monitor, even if set to monochrome.

Installation

The interface box has a 9-pin connector on a three-foot cable which fits into the game/joystick socket at the back of the IIe and IIGS. Four input sockets are available on the box for the sensory elements: two read digital inputs and the other two analog inputs. No problems were experienced, or could be foreseen, with the installation of the box or the probes.

Software

This comes on a 5.25" disc, copy protected. There is a 'set-up' section which allows your own particular configuration of drive(s) and printer to be saved to the disc. Data discs can be initialized from here, and the probe calibrations adjusted. Which input sockets on the interface box are in use can also be checked.

Built into the program is a timer and a 'strip-chart', both appearing quite life-like on the screen. These allow experiments with changes in temperature or illumination versus time, which can be recorded on the strip chart. And the data collected here can be stored on a data disc, and also printed out, it is claimed, on most commonly-used printers.

General

It being a long time since I saw the inside of a school, I got the 16-year-old son of a friend to have a look at the manuals. He recognised most of the experiments, and thought they were quite well put together. His estimate of the suitable age-range was 13 to 16 years. The program is, of course, based on schooling in the U.S.A.

Descriptions of the experiments in the manuals contain quite a lot of advice on recording the results in a notebook. And a lot of questions are asked, giving rise to further experiments. Both metric and imperial units are available. I rate the manuals four out of five only, because of the unsuitable binding and lack of indexes.

The Science Toolkit was supplied by M.G.A. Softcat. No prices were evident anywhere, so value-for-money cannot be estimated.

Problems With the IIGS

The program appears to load properly, but the Broderbund logo does not appear for a short time, as it does on a IIe. Then the first three 'pages' of the program: main menu, tools menu, and thermometer or photocell set-up, all seem to run perfectly. It is just that when the 'Start button' is activated the program hangs, reverting to the previous page when ESC is hit. Strangely, if you go to the 'Set-up' menu, and query the 'hardware status', the relevant probe connection point is shown as connected. Also blank discs could be initialized using the relevant menu command.

When run on a IIe we proved that temperatures could be read, lamp brightness shown, the timer times, and the screen stripchart works. There was no reason to think that the program would not work as described in the manual.

Jeff Clayton

Ultimate Words

Peter Stark enhances his AppleWorks and improves his phrasing and readability

Introduction

Ultimate Words is an AppleWorks enhancement program which can be used to check and improve one's written work. Its most important function is to look through the proposed text for phrases and words which might usefully be changed or deleted, and to suggest possible improvements. The aim is to make your writing clearer, more concise, and easier to read. Recommendations about capitalisation and punctuation are also available.

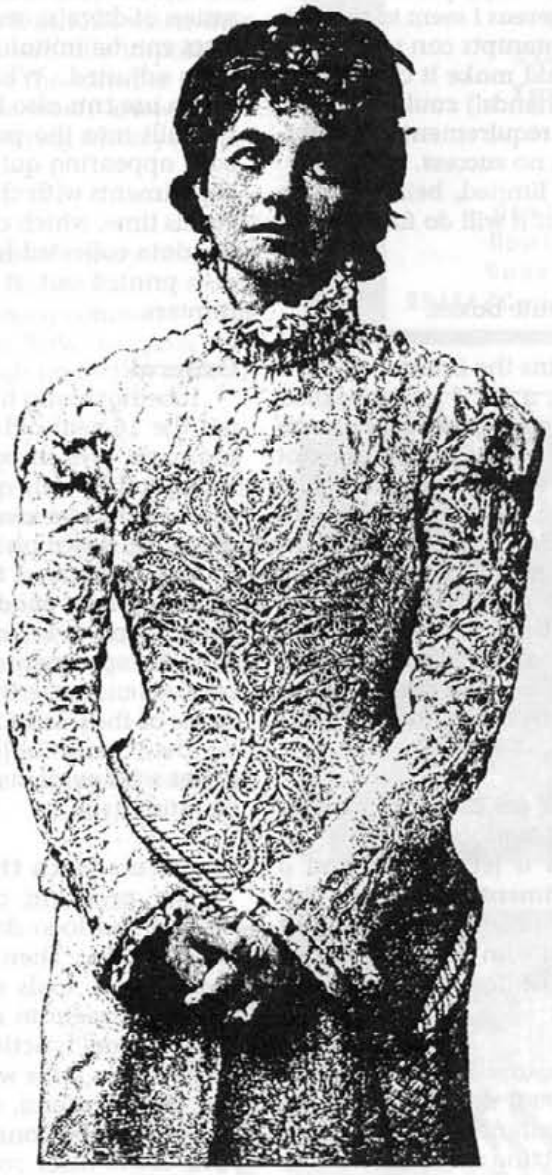
What you need, and what is supplied

To use Ultimate Words, you need an Apple IIe, IIc, IIc+, or IIGS, and AppleWorks 3.0 and TimeOut UltraMacros 3.1 (or later versions). If you have a 5.25" disk system, two disk drives are required.

Ultimate Words is supplied both on 5.25" and on 3.5" disks, and is not copy-protected. Side 1 of the 5.25" disk includes a 'short' version of the program, whereas Side 2 of the 5.25" disk and the 3.5" disk both include a 'long' version. There is also a well written 20 page manual which gives clear instructions for the installation and use of Ultimate Words. If you are using a standard Apple IIe or IIc, it is generally advisable to use the 'short' version (which contains 8 phrase programs and checks about 500 phrases), whereas the 'long' version (which contains 13 phrase programs and checks about 850 phrases) is better if your computer (say, a IIGS) is running at 2.5 MHz or faster.

Installation

Depending on the capacity of the disk from which you are running AppleWorks, one of the two methods described in the manual should be used. In both cases, the process is simple and merely involves the use of a file copy program such as Copy II Plus. One of the steps is to copy the 'TO.ULTIMATE.WOR' file to your TimeOut accessories disk or directory.



Use

When you select Ultimate Words from your TimeOut menu, an AppleWorks-like menu appears which offers six choices: 1. Check phrases; 2. Check capitalisation; 3. Check punctuation; 4. Check custom phrases; 5. Spelling Teacher; and 6. Exit to AppleWorks. If you select one of the first five of these, Ultimate Words asks you to indicate which desktop file is to be checked. The '1. Check phrases' option is the most important one. If you choose this, Ultimate Words scans your text for phrases which it feels may be wordy, unnecessary, faulty, or misused. When such a phrase is found, it is highlighted, and a horizontal menu containing four, five, or six options appears. Always, three of these options are: 'Ignore', 'Skip', and 'Enter new phrase'. The remaining options may be possible replacement phrases or else may be the 'DELETE IT' instruction. If you make a selection other than 'Ignore' or 'Skip', the highlighted phrase or word is suitably replaced or deleted at once. It is important to realise that all of the options offered are merely suggestions: it is entirely for you to decide whether to adopt any of them. Another useful feature is that you can customise Ultimate Words if you wish, by adding further phrases of your choice, up to a total of 70-80. To add a custom phrase, you need to modify the file 'Make.CustomGram', compile it, and then run a macro in this file which saves a modified special Ultimate Words task file, 'Gram.Custom', to disk. This sequence sounds complicated, but it is simple in practice, and very clear details are given in the manual. Incidentally: if you have both AppleWorks and the entire Ultimate Words program on the same disk (see 'Installation: Method 2' in the manual), it is helpful to add a new macro to the 'Make.CustomGram' file such that when activated, it causes the modified 'Gram.Custom' task file to be saved to the correct disk. For instance: as I was running AppleWorks plus Ultimate Words from a 3.5" disk called / APPLEWORKS, I found it useful to add the macro: "<ba-9>:<all><oa-esc $0 = "Macro O" : find : rtn down rtn oa-Y>/APPLEWORKS/Gram.Custom<rtn>y <esc>!" to the 'Make.CustomGram' file. This complements the 'SA-9' macro which is already provided with Ultimate Words and which writes 'Gram.Custom' to a separate disk named /ULTIMATE. If you choose '1. Check phrases' from the Ultimate Words menu, 'Gram.Custom' is always the first phrase program to be run, and is followed by the others. If however you choose menu item 4 ('Check custom phrases'), then 'Gram.Custom' is the only phrase program run.

The capitalisation and punctuation selections (items

Product : Ultimate Words
Publisher : Kingwood Micro Software
Available from :
Kingwood Micro Software
2018 Oak Dew Drive
San Antonio
Texas 78232
U.S.A.
Price : $24.95 + $6 shipping to UK

Value for money :
Performance :
Documentation :

information

'2' and '3' in the Ultimate Words menu) test for about 150-200 different situations each; both work in much the same way as the phrase programs.

The fifth item in the Ultimate Words menu is Spelling Teacher. This is really a bonus program, rather than an intrinsic part of Ultimate Words. If you choose it, a further menu appears, offering various spelling-related options. These allow you to underline and list any misspelled words, or incorporate them in a database, or practise the correct spelling.

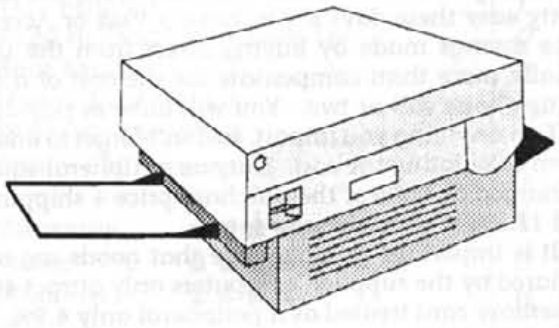
Other points

As the manual points out, there are various grammatical errors which Ultimate Words does not test for. Thus, the program cannot distinguish between nouns and verbs, adverbs and adjectives, active and passive voices, and so on; basic grammatical points remain your responsibility. What Ultimate Words does is to draw attention to possible ways in which your text might be improved, particularly as regards style and the avoidance of 'padding'. The manual also explains that Ultimate Words is not the fastest of programs: using it to check a long document will need some patience on the user's part. However, this is no bad thing: time spent on improving and refining anything you write is seldom a waste! The Phrase.List file on the Ultimate Words disk gives a list of the phrases which the program regards as candidates for deletion or replacement. It is worthwhile to print this out and browse through it.

Overall comments

Ultimate Words is simple to install and very easy to use. I found this product a valuable and effective means of helping to review and improve draft articles and reports. Many people would benefit from its use.

Peter Stark



Hard Times

Dave Ferris takes a quantam leap into hard disk territory

Introduction

Ever since I got my //GS I have lusted after a Hard Disk. I wanted one, I needed one, I couldn't afford one! Well, it's very hard to convince your wife that mass storage has a higher priority than the children's shoes! I struggled on with a single 3.5" drive and the two old 5.25" drives that I had on my old Apple][. With successive releases of GS/OS this has become more and more difficult.

Just because it says its SCSI...

After bemoaning my fate to a colleague at work, he put me in touch with somebody else who had a SCSI type disk for sale. 230 Megabytes he said, at a pound a Meg. Sounds too good to be true? It was. The device was reported to have worked on a Macintosh at some time, but it wasn't a true SCSI disk, it was an MFM drive with an Adaptec 4000 interface. This makes it look like a SCSI disk, providing you don't look too closely! Fortunately, the owner was prepared to let me ..y it out, but I didn't have a SCSI card. At this point I would like to offer many thanks to Holdens for leasing me a Cirtech SCSI card. What I found was that the disk would only respond as a standard ProDOS hard disk, and could not be partitioned, so only 32 Megabytes out of the available 230 could be used.

This raised the price to over 7 pounds a Meg, which isn't bad at current rates, but it seemed such a waste of megabytes. Fortunately, at this point my company sent me on a site visit overseas, and I managed to save a suitable sum of money from expenses.

It pays to shop around

So, I started to look round seriously at what a brand new SCSI disk would cost me. In the UK, too much. Using the pounds per megabyte yardstick, I found that prices varied from £28/MB for a 20MB Cirtech InSyder to about £11/MB for an Apple HD160 (if you're prepared to lash out nearly £1500 in the first place!). Next, I took a look at what I could get from the USA. This was more like it, the expensive ones are only around £13/MB for a 40MB disk and then I spotted one that worked out at just over £6/MB for a 52MB (unformatted) drive.

TMS Peripherals of Boca Raton, Florida were advertising their TMS Pro 52 LPS Quantum drive for $379 in A+/InCyder magazine. I gave them a call, to check on suitability and price. The price was wrong..., it was now only $349, but everything else was right, including the Auto-switching power supply which would allow it to work in the UK. Shipping by Federal Express Priority would cost an extra $75. I ordered one right then and there, and received it 40 hours later.

The total cost of the SCSI disk + shipping + duty + VAT was still only about £307.00. I have recently seen the same drive offered in this country by Frog systems (who displayed the 105MB version at the Mac User show) at a similar sort of price, but I don't know what they would have charged over the top for shipping. Alternatively Mac&More, who were also present at the Mac User show, were advertising a do-it-yourself version for £300 + carriage and VAT. Selling these peripherals is still a pretty cut-throat business in the States so I wouldn't be surprised if the US price didn't continue to drop and if the exchange rate continues to favour us, a quick enquiry could save some money.

Some technical details on Quantum ProDrive LPS 52S:-

- Disk: A single 3.5" disk with 2 heads, 2,438 tracks at 1,330 tpi, uses RLL 2,7 encoding, 1:1 interleave.
- Transfer Rates: 2.0 MBytes/sec Asynchronous, 4.0 MBytes/sec Synchronous
- Seek Times: 17msec Average, 5msec Track-to-Track, 33msec Full Stroke
- Disk Cache: 64 KByte look-ahead (gives an effective average seek time < 12msec)
- Mean Time Between Failures: 60,000 Power-on-Hours!! (about 6 years, full-time)
- Mean Time to Repair: 30 minutes
- Periodic Maintenance: None
- Head Parking: Automatic

Features:-

- 2 SCSI Ports with standard 50 way connectors, to allow for daisy chaining
- Internal SCSI termination (the disk must go at the end of any chain, or the terminator disabled through the inspection cover underneath).
- Push Button SCSI ID selector
- International Auto-Switch Shielded Power Supply
- 2 US style AC Outlets on the back of case allow for computer and monitor to be powered from the same switch as the disk drive, providing you have the appropriate leads.
- Thermostatically controlled 'Whisper Quiet' fan.

The disk as supplied by TMS Peripherals is 'plug & play' coming supplied with cables, pre-formatted and partitioned, setup with the latest System Software plus over 8MB of shareware on it. Unfortunately the partitioning was done with a RamFAST SCSI controller, which is not compatible with the Cirtech card I now have. However, I was able to read the raw disc data using the Cirtech SCSI Test program, in order to examine what they had put on it. It included Font/Icon editors, Utilities, Desk Accessories, Games and HyperStudio demos. The disk is accompanied by a 24 page manual which covers all Pro Series drives on both Apple // and Macintosh. This is quite adequate.

Do-it-Yourself importing

Buying hardware (and software) from the States is pretty easy these days if you have a Visa or Access card. Price savings made by buying direct from the USA will usually more than compensate for the cost of a transatlantic phone call or two. You will have to pay duty and VAT on anything you import, so don't forget to add that in when calculating the cost. Duty on peripheral equipment is charged at 4.9% of the purchase price + shipping, then add 17.5% VAT on the new total.

It is important to make sure that goods are correctly declared by the supplier, computers only attract 4% duty, a memory card treated as a peripheral only 4.9%, but the memory I.C.s themselves would be 14%. Even

H.M.Customs have difficulty sorting all this out.

Of course buying such a major item from so far away takes a great deal of faith that you aren't going to be ripped off. I had to rely on the fact that the advert was carried in a reputable magazine. So far, my faith has been rewarded, not only with the hard disk, but also with software purchased from another advertiser in the same magazine.

Performance

I have had the drive in use now for a couple of months and it runs beautifully. The fan really is one of the quietest I have ever come across, making the unit quieter than some internal ones.

Dave Ferris

❑ Apart from Dave's unusual experience in finding a secondhand drive that was not 'true' Apple SCSI compatible, you should find that virtually any SCSI hard drive that works with a Macintosh will work fine on the Apple II. There are many suppliers of drives for the Macintosh in the UK. You only need to scan the pages of this and any other magazine for details.

If you are prepared to 'do it yourself' then you can pick up a 'bare' SCSI drive from many of the dealers advertising in the PC magazines. You will also need a standard power supply, as used in a PC, a box and a few connectors.

I have used one of the newer SCSI-2 hard drives, in this case a 200mb one, on the IIgs using the Apple High Speed SCSI card and GS/OS 6.0. The drive was formatted for Macintosh and appeared on the desktop in all its 200mb glory under the HFS FST now part of the new system.. As the drive was seen by the hardware I would have been able to format it in any combination of GS/OS partitions under the older System 5.0.4.

You will need a SCSI card as well to drive the disk itself. The usual card to use is the Apple High Speed SCSI card, but many people by the super fast RamFAST card. The Cirtech card that Dave used is also available from many dealers.

If you are going to run under ProDOS 8 or use the older GS/OS System 5.0.4 then you will only be able to partition a large disk in 32mb chunks. If you are only going to use ProDOS 8 then only the first two partitions will appear for use. A good sized drive to aim for is a 50-60 mb drive in this case.

Remember that however big you think the drive is, you will run out of storage space sooner or later!

The Editor

Product : TMS Pro 52 LPS SCSI drive
Maker : TMS Peripherals
Available from :
TMS Peripherals
1120 Holland Drive, Suite 16
Boca Raton
Florida 33487, U.S.A.
0101-407-998-9928
Price : £307 approx

Value for money :
Performance :
Documentation :

information

Tips for Working With a Desktop Publishing Service

Phil Shapiro leads us through the tricky minefield of DTP

Apple Computer, Inc. would like you to think that the desktop publishing revolution is all a matter of hardware. Software companies, such as Aldus, would like you to think that desktop publishing is all a matter of software. The truth is that hardware and software are vital ingredients. But the real desktop publishing revolution is created neither by hardware nor software, but by people.

Thousands of people have set up their own small desktop publishing services in the past five years. They can print anything from resumes to business cards to display ads to signs to booklets. Just about anything you can print on paper can be accomplished by a skilled desktop publisher.

In the past year I've had considerable success working with a small desktop publishing service, and thought it might be beneficial to pass along some tips. The following tips might prove useful in getting your material printed at a minimum cost.

Shopping for a desktop publishing service can be a little more tricky than shopping for laundry detergent. Many of the smaller services do not advertise in large newspapers. A good place to start is with the yellow pages. But you won't find every desktop publishing company listed in the yellow pages. Some services, for instance, are run as moonlight services, after regular office hours.

A second place to go shopping for a desktop publishing service is your local computer user group. Go to one of their meetings. Ask people if they've heard of someone who's recently started up their own business. Check the small, community newspaper for ads. Small businesses advertise in small newspapers.

Once you locate several services, find out their hourly labor rate. Ask them how much they charge per laser printed page. (A typical rate is a dollar per page.) Ask to see samples of their work. Even new startup companies will have portfolios to show you.

More important than rates, though, is the general impression you get from the person(s) running the company. Does it sound like they want your business? Ask them if they mind doing frequent smaller jobs for you. (Many services would prefer to do larger, long-term jobs, where they don't have to have excessive interactions with clients.)

Be realistic about their point of view. If you expect to use their services rarely, for smaller jobs, you can expect to pay a little more for the work. If you expect to use them regularly for larger types of projects, you can expect more flexibility and slightly lower prices.

The fees for getting material desktop published varies somewhat from service to service. Typical fees range from $20 per hour on the low side to $80 per hour on the high side. As you might expect, materials costs need to be added in above the costs of labor.

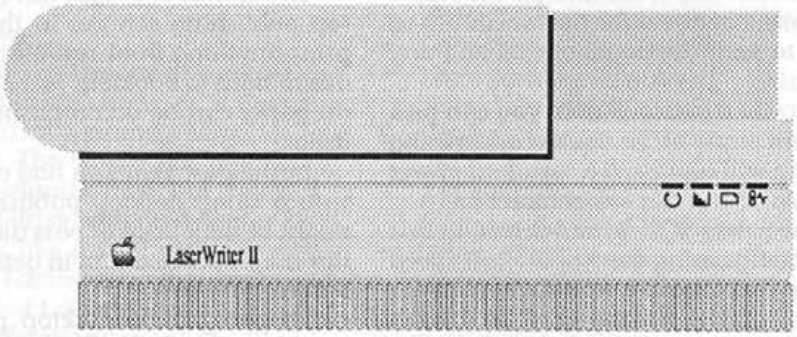
A skilled desktop publisher can get quite a lot of work

done in one hour. But some layout jobs are more tricky than other layout jobs. Communicate your desires in simple and clear terms. Ask for an estimate of how much work is involved in getting what you want.

In some cases the service might offer you options. They could offer you the "quick and easy" route to produce elegant but not entirely "professional" looking output. If you're willing to compromise a little on how the finished product looks, you may be able to save considerably on the final cost.

Other ways to cut down on your costs is to help the service minimize [their] costs. Bring recycled cardboard folders (or large clasp envelopes) with you when you go to get something laser printed. That way your work will be safely protected on the way home. If you can save them the expense of providing envelopes and folders, that's one less outlay on their part. Another small courtesy is to offer to pay your bills on the spot, rather than having them mail you an invoice. The stamp and envelope you save is one less expense for the service.

Another way to help minimize your desktop publishing costs is to plan ahead, giving the service a few extra days to get your work done. If you can let the service fit your work in around their other jobs, they're more likely to compromise a little on the rates they charge you.



It's helpful to know that many desktop publishers charge a premium fee for "rush jobs." A rush job is any job that must be positively completed within 48 hours. A typical fee for rush jobs is double the regular fee for the same job on an unrushed schedule.

Yet another way to help minimize your desktop publishing costs is to collect several small jobs for printing at the same time. Although desktop publishers routinely charge by the hour, they typically have a minimum fee of one hour's work. If you establish a good rapport with the desktop publisher, you may even be able to get your printing done while you wait. The more familiar you become with desktop publishing in general, the better you'll be able to estimate

how much work is involved in getting your particular job done.

Clear communication is the key to getting what you want from a desktop publishing service. If the printed output is really important, plan on having the service produce at least one rough draft. Typographical and spelling errors are very easy to correct at the last minute. But rephrased sentences, or deleted paragraphs, could possibly throw a whole page off. If you expect to be doing major last minute revisions, expect to pay for the work to accommodate these revisions.

Speaking of corrections, you may or may not want to leave the proofreading work to the service. Ask the service if they have the skills and inclination to do your proofreading work. Ask them how much extra they charge for such service.

If your work is important, you'll want to have several people do a fine-tooth proofreading job before the work ever gets viewed by the public eye. If possible, you'll get your proofreading entirely finished before you even approach the service.

You ought to know that desktop publishing often involves a healthy amount of aesthetic judgment. Be honest with the publisher if the printed work does not suit your aesthetic tastes. But be flexible if the printed work meets your general expectations. When your work involves artistic elements, you may want to communicate the general mood you're looking for. The service can then act according to these general directions. (Rough sketches of what you have in mind can be very helpful, by the way.)

Some desktop publishing jobs you'll want to take to a printer, after generating the camera-ready copy on a laser printer. Your desktop publisher may be able to recommend an affordable printer, thereby saving you the effort of making

inquiries all over town. (On one large printing job of mine, I saved about $500 by using a printer recommended to me.)

Finally, if you're on a bare-bones budget you might look for a high school student to perform your publishing work. These days many high schools laser-print their school newspapers. And some of the kids have quite a lot of experience laying out text and graphics.

Find out if the kid has a laser printer at home. (You don't want to be mooching off the school printer, if at all possible.) Realize that your cost savings might be traded-off against the benefits of working with a full time professional service.

One last word. Kinko's, the national photocopying chain, offers self-service Macintosh computers at many of their stores. Unless you've had considerable experience using a Mac, and considerable experience using the software they offer, it's best to steer clear of such services. The frustration of trying to figure out everything on your own is just not worth the bother. It may even end up costing you more than taking the job to a professional service. (Kinko's full-service publishing is a better option. Keep in mind that you may get more personalized service from a small startup desktop publishing service than from Kinko's.)

Other people have mastered the skills needed to produce excellent looking laser printed output. Take advantage of

their expertise, and you'll do well in the long run. In time, you yourself may develop the skills necessary to do simpler types of publishing. And then you can tap the experts for your more complex printing jobs.

Phil Shapiro

❑ (The author is the founder of Balloons Software, a new Apple II educational software company. He has used a small desktop publishing service to produce his company logo, business cards, letterhead, advertising, informational flyers, and software documentation. He can be reached at: Balloons Software, 5201 Chevy Chase Parkway, NW, Washington, DC 20015-1747. (202) 244-2223. Or, via electronic mail on GEnie at: p.shapiro1; America Online: pshapiro; Internet: pshapiro@pro-novapple.cts.com Please include a stamped, self-addressed envelope for hard copy correspondence.)

Apple II History

Compiled and written by Steven Weyhrich (C) Copyright 1991, Zonker Software

(PART 1 — PRE-APPLE HISTORY)

Introduction

This project began as a description of how the Apple II evolved into a IIGS, and some of the standards that emerged along the way. It has grown into a history of Apple Computer, with an emphasis on the place of the Apple II in that history. It has been gleaned from a variety of magazine articles and books that I have collected over the years, supplemented by information supplied by individuals who were "there" when it happened. I have tried not to spend much time on information that has been often repeated, but rather on the less known stories that led to the Apple II as we know it (and love it) today. Along the way I hope to present some interesting technical trivia, some thoughts about what the Apple II could have been, and what the Apple II still can be. The Apple II has been described as the computer that refuses to die. This story tells a little bit of why that is true.

If you are a new Apple II owner in 1991 and use any 8-bit Apple II software at all, you may feel bewildered by the seemingly nonsensical way in which certain things are laid out. AppleWorks asks which "slot" your printer is in. If you want to use the 80 column screen in Applesoft BASIC you must type an odd command, "PR#3". If you want to write PROGRAMS for Applesoft, you may have some of those ridiculous PEEKs and POKEs to contend with. The disk layout (which type is supposed to go into which slot) seems to be in some random order! And then there is the alphabet soup of disk systems: DOS 3.3, CP/M, Pascal, ProDOS, and GS/OS (if you have a IIGS). If you use 16-bit software EXCLUSIVELY, you will probably see none of this; however, even the most diehard GS user of the "latest and greatest" 16-bit programs will eventually need to use an 8-bit program. If you can tolerate a history lesson and would like to know "the rest of the story," I will try to make sense of it all.

I think one of the Apple II's greatest strengths is the attention they have paid over the years to be backward compatible. That means that a IIGS "power system" manufactured in 1991, with 8 meg of memory, a hand-held optical scanner, CD-ROM drive, and 150 meg of hard disk storage can still run an Integer BASIC program written in 1977, probably without ANY modification! In the world of microcomputers, where technology continues to advance monthly, and old programs may or may not run on the new models, that consistency is amazing to me. Consider the quantum leap in complexity and function between the original 4K Apple][and the ROM 03 IIGS; the amount of firmware (built-in programs) in the IIGS is larger than the entire RAM SPACE in a fully expanded original Apple][! This strength of the Apple II could also be considered a weakness, because it presents a major difficulty in making design improvements that keep up with the advances in computer technology between 1976 and the present, and yet maintain that compatibility with the past. Other early computer makers found it easy to design improvements that created a better machine, but they did so at the expense of their existing user base (Commodore comes to mind, with the PET, Vic 20, Commodore 64, and lastly the Amiga, all completely incompatible). However, this attention to detail is just one of the things that has made the Apple II the long-lived computer that it is. In examining the development of the Apple II, we will take a look at some pre-Apple microcomputer history, the Apple I, and the formation of Apple Computers, Inc., with some sideroads into ways in which early users overcame the limits of their systems. We will follow through with the development of the Apple IIe, IIc, and IIGS, and lastly make some comments on the current state of affairs at Apple Inc. regarding the Apple II.

Pre-Apple History

Let's begin our adventure in history. I've designed a special interface card that plugs into slot 7 on an Apple II. It contains an item its inventor called a "Flux Capacitor" (something about the being able to modify flux and flow of time). The card derives its power from a self-contained generator called "Mr. Fusion" (another item I dug out of the wreckage from a train/auto accident in California a couple of years ago). Connected to the card via a specially shielded line, Mr. Fusion runs on trash (and is, therefore, the ultimate computer peripheral, if you recall the old principal of "garbage in, garbage out"). Let's put a few issues of PC MAGAZINE into Mr. Fusion, and switch on the Flux Capacitor. (Incidentally, for this to work, it needs an Apple II equipped with a specially modified Zip chip running at 88 MHz). Boot the disk and set the time circuits for 1975. Ready? Set? Go! ** CRACKADOOM ** !!

Did you make it all right? (Just don't touch anything — you don't want to disrupt the space-time continuum, you know!) Now, since the first Apple II wasn't released until 1977, what are we doing back in 1975? Well, to understand how the Apple II came about, it helps to know the environment that produced it. In 1975, the microcomputer industry was still very much in its infancy. There were few "home computers" that you can choose from, and their capabilities were very much limited. The first microprocessor chip, the 4-bit 4004, had been released by Intel back in 1971. The first video game, Pong, was created by Nolan Bushnell of Atari in 1972. Also in 1972, Intel had gone a step further in microprocessor development and released the 8-bit 8008, and then the 8080 in 1973. The year 1974 saw Scelbi Computer Consulting sell what some consider to be the first commercially built microcomputer, the Scelbi 8-H, based on Intel's 8008 chip. However, it had limited distribution and due to the designer's health problems it didn't go very far. The first home-built computer, the Mark 8, was released that same year. The Mark 8 used the Intel 8080 chip, but had no power supply, monitor, keyboard, or case, and only a few hobbyists ever finished their kits. Overall, the microchip had yet to make much of an impact on the general public beyond the introduction of the hand-held calculator. With the start of 1975 came a significant event in microcomputer history. If you will consider the early microprocessors of the years 1971 through 1974 as a time of germination and "pregnancy" of ideas and various hardware designs, January of 1975 saw the "labor and delivery" of a special package. The birth announcement was splashed on the front cover of a hacker's magazine, Popular Electronics. The baby's parents, MITS, Inc., named it "Altair 8800"; it measured 18-inches deep by 17 inches wide by 7 inches high, and it weighed in at a massive 256 bytes (that's one fourth of a "K"). Called the "World's First Minicomputer Kit to Rival Commercial Models," the Altair 8800 used the Intel

8080 chip, and sold for $395 (or $498 fully assembled). MITS hoped that they would get about four hundred orders for clones of this baby, trickling in over the months that the two-part article was printed. This would supply the money MITS needed to buy the parts to send to people ordering the kits (one common way those days of "bootstrapping" a small electronics business). This "trickle" of orders would also give MITS time to establish a proper assembly line for packaging the kits. However, they misjudged the burning desire of Popular Electronic's readers to build and operate their own computer. MITS received four hundred orders in ONE AFTERNOON, and in three weeks it had taken in $250,000.<1> The Popular Electronics article was a bit exuberant in the way the Altair 8800 was described. They called it "a full-blown computer that can hold its own against sophisticated minicomputers now on the market... The Altair 8800 is not a 'demonstrator' or souped-up calculator... [it] is a complete system." The article had an insert that lists some possible applications for the computer, stating that "the Altair 8800 is so powerful, in fact, that many of these applications can be performed simultaneously." Among the possible uses listed are an automated control for a ham station, a digital clock with time zone conversion, an autopilot for planes and boats, navigation computer, a brain for a robot, a pattern-recognition device, and a printed matter-to-Braille converter for the blind.<2> Many of these things will be possible with microcomputers by 1991, but even by then few people will have the hardware add-ons to make some of these applications possible. Also, despite the power that micros will have in that year, the ability to carry out more than one of these applications "simultaneously" will not be not practical or in some cases even possible. The exaggeration by the authors of the Popular Electronics article can perhaps be excused by their excitement in being able to offer a computer that ANYONE can own and use. All this was promised from a computer that came "complete" with only 256 bytes of memory (expandable if you can afford it) and no keyboard, monitor, or storage device. The IMSAI 8080 (an Altair clone) also came out in 1975 and did fairly well in the hobbyist market. Another popular early computer, the Sol, would not be released until the following year. Other computers released in 1975 that enjoyed limited success were the Altair 680 (also from MITS, Inc., based on the Motorola 6800 processor), the Jupiter II (Wavemate), M6800 (Southwest Technical Products), and the JOLT (Microcomputer Associates), all kits.<3> The entire microcomputer market was still very much a hobbyist market, best suited for those who enjoyed assembling a computer from a kit. After you assembled your computer, you either had to write your own programs (from assembly language) or enter a program someone else wrote. If you could afford the extra memory and the cost of buying a BASIC interpreter, you might have been able to write some small programs that ran in that language instead of having to figure out 8080 assembly language. If you were lucky (or rich) you had 16K of memory, possibly more; if you were REALLY lucky you owned (or could borrow) a surplus paper tape reader to avoid typing in manually your friend's checkbook balancing program. Did I say typing? Many early computer hobbyists didn't even have the interface allowing them to TYPE from a keyboard or teletype. The "complete" Altair 8800 discussed above could only be programmed by entering data via tiny little switches on its front panel, as either octal (base 8) bytes or hexadecimal (base 16) bytes. With no television monitor available either, the results of the program were read in binary (base 2) from lights on that front panel. This may sound like the old story that begins with the statement, "I had to walk five miles to school through snow three feet deep when I was your age," but it helps to understand how things were at this time to see what a leap forward the Apple II really was (er, will be. Time travel complicates grammar!)

NOTES

<1> Steven Levy, HACKERS: HEROES OF THE COMPUTER REVOLUTION, pp. 187-192.

<2> H. Edward Roberts and William Yates, "Altair 8800 Minicomputer, Part 1", POPULAR ELECTRONICS, 7(1) (January 1975), pp. 33, 38. The article is interesting also in some of the terminology that is used. The Altair is described as having "256 eight-bit words" of RAM. Apparently, the term "byte" was not in common use yet.

<3> Gene Smarte and Andrew Reinhardt, "15 Years of Bits, Bytes, and Other Great Moments", BYTE, (September 1990), pp. 370-371.

(PART 2 — THE APPLE I)

The Apple I: Development

At the Homebrew Computer club in Palo Alto, California (in Silicon Valley), Steve Wozniak, a 26 year old employee of Hewlett-Packard and a long-time digital electronics hacker, had been wanting to build a computer of his own for a long time. For years he had designed many on paper, and even written FORTRAN compilers and BASIC interpreters for these theoretical machines, but a lack of money kept him from carrying out his desire. He looked at the Intel 8080 chip (the heart of the Altair), but at $179 decided he couldn't afford it. A decision to NOT use the 8080 was considered foolhardy by other members of the club. Consider this description of the microcomputer "world" as it was in the summer of 1975:

"That summer at the Homebrew Club the Intel 8080 formed the center of the universe. The Altair was built around the 8080 and its early popularity spawned a cottage industry of small companies that either made machines that would run programs written for the Altair or made attachments that would plug into the computer. The private peculiarities of microprocessors meant that a program or device designed for one would not work on another. The junction of these peripheral devices for the Altair was known as the S-100 bus because it used one hundred signal lines. Disciples of the 8080 formed religious attachments to the 8080 and S-100 even though they readily admitted that the latter was poorly designed. The people who wrote programs or built peripherals for 8080 computers thought that later, competing microprocessors were doomed. The sheer weight of the programs and the choice of peripherals, so the argument went, would make it more useful to more users and more profitable for more companies. The 8080, they liked to say, had critical mass which was sufficient to consign anything else to oblivion."<1>

Another chip, the Motorola 6800, interested Wozniak because it resembled his favorite minicomputers (such as the Data General Nova) more than the 8080. However, cost was still a problem for him until he and his friend Allen Baum discovered a chip that was almost identical to the 6800, while considerably cheaper. MOS Technology sold their 6502 chip for $25, as opposed to the $175 Motorola 6800. Wozniak decided to change his choice of processor to the 6502 and began writing a version of BASIC that would run on it. A friend over at Hewlett-Packard programmed a computer to simulate the function of the 6502, and Wozniak used it to test some of his early routines. When his BASIC interpreter was finished, he turned his attention to designing the computer he could run it on. Except for some small timing differences, he was able to use the hardware design he had earlier done on paper for the 6800.<2> To make the

computer easier to use, Wozniak favored a keyboard over the front panel switches that came on the Altair. He also made it simple to use a television for a video terminal. (Recall that at this time the most common mechanism used for input/output was a teletype, which consisted of a keyboard, typewriter, and if you were lucky, a paper tape reader/puncher). Functionally, it was a television terminal attached to a computer, all on one printed circuit board (another enhancement over the Altair). Wozniak used two 256 x 4 PROM (programmable read-only memory) chips to create a 256 byte program (called a "monitor") that looked at the keyboard when the computer was turned on. This monitor program could not do much more than allow entry of hex bytes, examine a range of memory, and run a program at a specific address.<3> (The Altair needed these "bootstrapping" instructions to be entered by hand each time the computer was turned on). Because there were no cheap RAMs available, Woz used shift registers to send text to the TV screen. Consequently, his video terminal was somewhat slow, displaying characters at about 60 characters per second, one character per scan of the TV screen. (This speed would be similar to watching a computer communicate via a modem at 1200 baud). It was slow by 1991 standards, but an advancement over the teletypes that could only type 10 characters per second. The computer had 8K of dynamic RAM. You could load BASIC into 4K of memory and have 4K left over for your own programs. It had a video connector, but you had to connect a monitor on your own. You also had to buy the keyboard separately and wire it into a 16-pin DIP connector. The power supply had to be connected to two transformers to get 5 volts and 12 volts for the motherboard. There was no speaker, no graphics, and no color. There was a single peripheral slot, and when it was first released there was nothing available to plug into this slot. It was entirely contained on a single printed circuit board, about six by eight inches in size (most hobby computers of that time needed at least two boards), used only 30 or 40 chips, and because it could run BASIC programs it got people's attention.<4>

The Apple I: Marketing

Let's adjust our time circuits for 1976, and jump forward in time. By now, Steve Wozniak had completed his 6502-based computer and would display enhancements or modifications at the bi-weekly Homebrew Computer Club meetings. Steve Jobs was a 21 year old friend of Wozniak's and also a visitor at the Homebrew club. He had worked with Wozniak in the past (together they designed the arcade game "Breakout" for Atari) and was very interested in his computer. During the design process Jobs made suggestions that helped shape the final product, such as the use of the newer dynamic RAMs instead of older, more expensive static RAMs. He suggested to Wozniak that they get some printed circuit boards made for the computer and sell it at the club for people to assemble themselves. They pooled their financial resources together to have PC boards made, and on April 1st, 1976 they officially formed the Apple Computer Company. Jobs had recently worked at an organic apple orchard, and liked the name because "he thought of the apple as the perfect fruit—it has a high nutritional content, it comes in a nice package, it doesn't damage easily—and he wanted Apple to be the perfect company. Besides, they couldn't come up with a better name."<5> Jobs approached the owner of a new computer store in the bay area called "The Byte Shop." This businessman, Paul Terrell, expressed an interest in the Apple Computer (to be known later as the "Apple I"), but wanted only fully assembled computers to sell. If they could provide this, Terrell told them he would order fifty Apples, and pay cash on delivery. Suddenly, the cost of making (and selling) this computer was considerably more than they expected. Jobs and Wozniak managed to get the parts on "net 30 days" (30 days credit without interest), and set themselves up in Job's garage for assembly and testing of the Apple I. After marathon sessions of stuffing and soldering PC boards, Jobs delivered the computers to the Byte Shop. Although these "fully assembled" computers lacked a power supply, keyboard, or monitor, Terrell bought them as promised. In July of 1976 the Apple I was released and sold for $666.66, which was about twice the cost of the parts plus a 33% dealer markup.<6> Two hundred Apple I computers were manufactured, and all except twenty-five of them sold over a period of ten months.<7> Although the Apple I was easier to begin using than the Altair (thanks to its built-in ROM code), it was still a time consuming process to set it up to do something useful. Steve Wozniak would have to type in about 3K of hexadecimal bytes before BASIC was ready to use. He could do it in about 20 to 30 minutes, but he almost knew the code by heart. The typical user was more limited in ability to use BASIC on the Apple I. To broaden the appeal of the Apple I (and at the insistence of Paul Terrell), Wozniak designed a cassette interface. It was mounted on a small two-inch-high printed circuit board and plugged into the single slot on the motherboard. The card sold for $75 and a cassette tape of Woz's BASIC was included with it. The advertisement Apple included with the card stated, "Our philosophy is to provide software for our machines free or at minimal cost." The interface worked, but worked well only with cassettes running on expensive tape recorders. To further try to enhance sales, the Byte Shop stores found a local cabinetmaker that made some koa-wood cases for the Apple computer (so it would no longer be just a "naked" circuit board).<8> Interestingly, although most of the action in the micro world was going on in Silicon Valley, news of the Apple I made its way east. Stan Veit, owner of the east coast's first computer store, bought an Apple I and took it to a meeting of the Association of Computer Machinery. Those attending were quite skeptical that a REAL computer could fit into a small briefcase; they were sure that the machine was just a portable terminal, attached by a hidden phone line to a mainframe somewhere!<9>

NOTES

<1> Michael Moritz, THE LITTLE KINGDOM, p. 123.
<2> Moritz, pp. 124-127.
<3> Williams & Moore, p. A69.
<4> Gregg Williams and Rob Moore, "The Apple Story, Part 1: Early History", BYTE, Dec 1984, pp. A68-A69.
<5> Frank Rose, WEST OF EDEN: THE END OF INNOCENCE AT APPLE COMPUTER, p. 33.
<6> Moritz, pp. 138-144.
<7> Williams & Moore, pp. A69.
<8> Moritz, pp. 147-149.
<9> Chien, Philip, "Apple's First Decade: A Look Back", THE APPLE II REVIEW, Fall/Winter 1986, p. 12.

(PART 3 — THE APPLE II)

The Apple II: Hardware and Firmware

Moving our time machine on to 1977, we can now look at Steve Wozniak's next generation Apple. Even as the Apple I was completed and was slowly selling, Wozniak was already working on making enhancements that would make his computer faster and more functional. He wanted to make it display in color. He worked to combine the terminal and memory functions of the Apple I by moving the display into main memory, allowing instant screen changes. Many

of his changes were not added with the end user specifically in mind. Wozniak stated:

"A lot of features of the Apple II went in because I had designed Breakout for Atari. I had designed it in hardware. I wanted to write it in software now. So that was the reason that color was added in first—so that games could be programmed. I sat down one night and tried to put it into BASIC. Fortunately I had written the BASIC myself, so I just burned some new ROMs with line drawing commands, color changing commands, and various BASIC commands that would plot in color. I got this ball bouncing around, and I said, 'Well it needs sound,' and I had to add a speaker to the Apple II. It wasn't planned, it was just accidental... Obviously you need paddles, so I had to scratch my head and design a simple minimum-chip paddle circuit, and put on some paddles. So a lot of these features that really made the Apple II stand out in its day came from a game, and the fun features that were built in were only to do one pet project, which was to program a BASIC version of Breakout and show it off at the club."<1>

Wozniak added other features that he felt were important for a computer that was useful, one that he would want to own. Since the 6502 processor could address a total of 64K of memory, he designed the computer with the ability to use either 4K RAM chips, or the newer (and more expensive) 16K RAM chips. The first Apple II's came standard with 4K of memory, and more could be added, to a maximum of 12K (if using the 4K chips) or 48K (if using the 16K chips). Specially wired strapping blocks attached to the motherboard told the Apple II how much memory was present and where it was. According to the 1981 edition of the APPLE II REFERENCE MANUAL, the Apple could have memory in the following sizes: 4K, 8K, 12K, 16K, 20K, 24K, 32K, 36K, or a full 48K. (These sizes were determined by the different ways that three RAM chips, either 4K or 16K, could be installed). The strapping blocks were even designed with the flexibility of allowing blank spots in memory if there were no RAM chips available to fill those spots. The first 4K of memory always had to have RAM present, since it was used by the 6502 processor, the ROM routines, and the text screen display. If, for example, you only had two other 4K RAM chips to install and you wanted to display hi-res graphics, you could strap one chip to the lower half of hi-res memory from $2000-$2FFF, and the other to the upper half of hi-res memory from $3000-$3FFF.<2> Since 16K RAM chips cost about $500 when Wozniak designed the Apple II, not many users could afford them. Whereas the Commodore PET and the Radio Shack TRS-80 could not easily be expanded beyond the 4K they came with, the Apple II from the beginning was designed with expansion in mind.<3> The row of eight expansion slots was another feature about the Apple II that was a strong selling point. Unlike the TRS-80 or PET, you could easily expand the Apple II by simply plugging a card into one of these slots. This degree of expandability made it more expensive to build, however. Steve Jobs didn't believe that anyone would ever need more than two slots, one for a printer and one possibly for a modem. Wozniak knew from his experience with computers at Hewlett-Packard that computer users would always find SOMETHING to fill those extra slots, and insisted that they keep the number at eight.<4> One problem Apple had to deal with was getting FCC approval for the computer. The RF (radio frequency) modulator that had been designed gave off too much interference, and it was probable that the FCC would not approve it. (The RF modulator allowed a user to attach the Apple to a standard television receiver, instead of requiring the purchase of an expensive computer monitor). Rather than have the release of the Apple II delayed for re-engineering of the RF modulator to get that FCC approval, Apple gave the specifications for the RF modulator to Marty Spergel. He ran a small company (called M&R Electronics) that specialized in obtaining hard-to-get parts that electronics and computer hackers wanted for their projects. Their agreement allowed M&R to make and sell the RF modulators, while Apple could concentrate on making and selling the Apple II. Dealers would sell an Apple II with a "Sup'r Mod" (costing about $30) if the buyer wanted to see the graphics on their color TV. Jobs assured Spergel that the item would sell well, maybe as many as fifty units a month. (Years later Spergel estimated that he had sold about four hundred thousand Sup'r Mods).<5> Other features that Wozniak (and Allen Baum, who helped him with the project) included in the Apple II ROMs included the terminal software to do screen text display, expanded Monitor functionality, and cassette input/output routines. They added the ability to split the screen into different sized windows. They also wrote a disassembler, which was one of the most important features of the Apple II from the beginning and a significant part of its open design. It allowed ANYONE to view the 6502 code that ANY program used, and matched the philosophy of the Homebrew Club of making all computer knowledge available to everybody. In the Apple I days, when Apple was supplying software "free or at minimal charge", Wozniak and Baum published an early version of their 6502 disassembler in a hacker's magazine. It was designed to be loaded in memory on the Apple I from $800 to $9D8 and the routine could be executed from the monitor. This early code was quit similar to the disassembler that was later included in the Apple II ROM.<6> Having an expanded Monitor program in ROM and color graphics were not the only features in the Apple II that attracted people to it. Having Wozniak's BASIC language in ROM, available immediately when the power was turned on, made it possible for non-hackers to write programs that used the Apple II's color graphics. An interesting bit of trivia about Wozniak's Integer BASIC was that he never had an assembly language source file for it. He wrote it in machine language, assembling it by hand on paper:

"I wrote this BASIC processor, and I wrote a little ALGOL simulator and got it simulated. It looked like it would work, but I had forgotten to build the machine. I had no assembler, that was another thing. To use an assembler, they figured that somebody was going to buy this processor [the 6502] to use for a company, and their company can pay a few thousand dollars in time-sharing charges to use an assembler that was available in time-share. I didn't have any money like that, so a friend taught me that you just sort of look at each instruction, you write your instructions on the right side of the page, you write the addresses over on the left side, and you then look up the hex data for each instruction—you could assemble it yourself. So I would just sit there and assemble it myself. The [Integer] BASIC, which we shipped with the first Apple II's, was never assembled—ever. There was one handwritten copy, all handwritten, all hand-assembled. So we were in an era that we could not afford tools."<7>

Even to this day there is not an official source code listing of Integer BASIC at Apple. And interestingly, the only error I am aware of in the Integer interpreter is one involving a single byte. If a line is entered that has too many parentheses, the "TOO LONG" error message is displayed instead of the "TOO MANY PARENS" message.<8>

Now a Word From Our Sponsor: Back to the Basics...

I want to take a short break in this discussion of the Apple II firmware to look at some other items that will make

further descriptions easier to understand. If you are a programmer already, you may want to skip this section, since you probably already know this stuff. First we will examine some definitions of terms that are commonly known to programmers, but possibly not to you. Next will be a brief excursion into the realm of hexadecimal, and finally a look at the memory map of the original Apple II. First, let's look at definitions of some words that I have been loosely throwing around:

BIT The smallest piece of information that a computer can deal with, it is either a "0" (off, clear) or a "1" (on, set).

BYTE The most convenient piece of information (for humans) that computers use. One byte consists of eight bits, and ranges from "00000000" (0 decimal) to "11111111" (255 decimal).

NIBBLE (also spelled "nybble"). One half of a byte, consisting of four bits, ranging from "0000" (0 decimal) to "1111" (15 decimal).

WORD Two bytes (or four nibbles, if you prefer), consisting of sixteen bits, and ranging from "00000000 00000000" (0 decimal) to "11111111 11111111" (65535 decimal). Not used much in microcomputers.

BINARY A system of counting using only two digits, "0" and "1" (base 2). Computers speak in binary at their most basic level; anything else is translated into binary, so the computer can understand it.

DECIMAL A system of counting using ten digits, "0" through "9" (base 10). Most of the Western world uses this system.

HEXADECIMAL A system of counting using sixteen digits, "0" through "9" and "A" through "F" (base 16). Programmers use this system as a convenient way of organizing groups of binary numbers.

KILOBYTE Abbreviated "K", "KB", or "Kbytes", it refers to 1,024 bytes. A 64K computer has 64 x 1024 = 65536 bytes.

MEGABYTE Abbreviated "M", "MB", or "meg", it refers to 1,024 Kbytes, or 1,024 x 1,024 = 1,048,576 bytes. A 32 MB hard disk, the largest size volume that ProDOS can handle, holds 32 x 1,024 = 32,768 Kbytes, or 32 x 1,024 x 1,024 = 33,554,432 bytes.

GIGABYTE Abbreviated "G", "GB", or "gig", it refers to 1,024 MB, or 1,048,576 Kbytes, or 10,737,441,824 bytes. The Apple II Smartport (which will be mentioned later in this history) can handle disk devices up to 4 gig in size (although the software to handle that type of size has yet to be written).

RAM Random Access Memory. Any data stored in this memory disappears when the computer is turned off.

ROM Read Only Memory. Data cannot be stored in this type of memory, but instead it usually contains programs or other information that does not disappear when the computer is turned off.

HARDWARE The physical electronic components and mechanical parts that make up a piece of computer equipment. Examples would be the keyboard, disk drive, or television monitor (also called CRT, or Cathode Ray Tube).

SOFTWARE The digital instructions executed by the computer in RAM. They may act on the hardware that is attached to the computer. Examples would be a BASIC or Pascal program, an assembly language routine to read a clock, or a disk operating system. Since software is executed in RAM, it disappears from memory when the computer is turned off.

FIRMWARE The same as software, except it is executed from ROM, and does not disappear when the computer is turned off. Almost any software could be in ROM, except programs that modify themselves as they run.

Next, let's look at hexadecimal numbers in more detail. Since computers deal in binary (base 2), the true language of computers is either in terms of "0" (off) or "1" (on). However, it quickly becomes cumbersome to refer to large numbers in binary; the base 10 number "458" is "111001010" in binary. So programmers have decided to group numbers in such a way as to make it easy to convert part or all of that number to binary if necessary, but still have numbers (almost) as easy to deal with as our standard base 10 system. Now, in the familiar base 10 system there are ten digits, 0 through 9. When counting, after you pass 9, you add one to the digit to the left of the 9, change the 9 to a 0, and continue. So, "09" becomes "10", "19" becomes "20", and so on. However, in the base 16 system there are sixteen digits, 0 through 9, and then A through F (representing decimal 10 through 15). When counting, then, you go 7, 8, 9, then A (not 10), B, C, D, E, F, 10, 11, 12, and so on. In the Apple world we have traditionally used a preceding dollar sign to signify a hexadecimal number, so "25" means twenty-five, but "$25" means thirty-seven (2 x 16, plus 5). To translate a hexadecimal number to decimal, use powers of 16:

$B65F = (11 x 16^3) + (6 x 16^2) + (5 x 16^1) + (15 x 16^0)
= (11 x 4096) + (6 x 256) + (5 x 16) + (15 x 1)
= 45056 + 1536 + 80 + 15
= 46687

The same thing can be done in reverse to convert base 10 to hexadecimal, starting by dividing the number by 4096, then the remainder by 256, then 16. If the number is greater than 65536, you need a bigger power of 16 (and you are probably not dealing with an 8-bit Apple II!) Or you can just get a programmer's calculator like mine that automatically does the conversion for you... When dealing with memory addresses on an Apple II, we usually designate them as four digit hex numbers (such as the $B65F example above). Numbers less than $1000 often are printed without the leading blank ($400 instead of $0400), and numbers less than $100 are treated the same way ($32 instead of $0032).

The Apple II: Memory Map

To understand the memory layout of the Apple II, consider this analogy: Imagine a cabinet with sixteen shelves, and sixteen separate slots or pigeon holes on each shelf (similar to those found in old roll-top desks). Each slot refers to a specific address in memory on the computer, and each slot can hold a number between 0 and 255. (Since a byte is eight bits wide, the largest number that can be represented by eight binary bits is 255). The bottom shelf is row "0", and the leftmost slot in that row is slot "0". The address of that slot, then, is $00. As we move to the right, the addresses increase, $01, $02, $03, and so on to $0F at the end. We then go up to the next row, (row "1"), and the addresses continue in the same fashion with $10, $11, $12, and so on as before. The sixteenth row is row "F", the rightmost slot in that row is slot "F", and the address of that slot is $FF. This cabinet has, then, 256 slots (16 x 16), and represents what is called a "page" in the Apple memory. The cabinet itself has an address (since computers need addresses for everything), and this one's address is "00". The full address of row "5", slot "A" on cabinet "00" is $005A. Only the Altair 8800 came with just 256 bytes of memory, so we have to account for the entire 64K memory space that the 6502 chip in the Apple II can handle. There is a cabinet sitting on top of cabinet "00", and it is laid out in the same fashion with its 256 slots in sixteen rows. This is cabinet "01", and on top of that one is cabinet "02"; this continues on up until we reach

cabinet "FF" way up at the top. Apple programmers refer to these cabinets as "pages" of memory. There are 256 pages of memory, each with 256 bytes on a page, making a grand total of 256 x 256 = 65536 bytes of memory (or slots that can hold a number, if you prefer the analogy). In discussing the memory map on the Apple II, we can refer to pages of memory with a hexadecimal two-digit number for shorthand if we wish. The general layout of the Apple II memory is as follows:

Page $00: used by the 6502 processor for storage of information that it can access quickly. This is prime real-estate that is seldom available for general use by programmers without special care.
Page $01: used by the 6502 for internal operations as a "stack."
Page $02: used by the Apple II firmware as an input buffer when using the keyboard from BASIC, or when a program uses any of the firmware input routines.
Page $03: general storage area, up to the top three rows (from $3D0 through $3FF) which are used by the disk operating system and the firmware for pointers to internal routines.
Pages $04-$07: used for the 40 column text screen.
Pages $08-$BF: available for use by programs, operating systems, and for hi-res graphics. Within this space, Woz designated pages $20-$3F for hi-res "page" one, and pages $40-$5F for hi-res "page" two.
Page $C0: internal I/O and softswitches
Pages $C1-$C7: ROM assigned to each of the seven peripheral cards
Pages $C8-$CF: switchable ROM available for any of the seven cards
Pages $D0-$D7: empty ROM socket #1
Pages $D8-$DF: empty ROM socket #2
Pages $E0-$F7: Integer BASIC ROM
Pages $F8-$FF: Monitor ROM

The memory space on the Apple II between $C000 and $CFFF was assigned to handle input and output. From $C000 to $C0FF the space was reserved for various soft-switches used to control the display, and various built-in I/O devices, such as the keyboard, paddles, annunciators, and the cassette port. (A soft-switch is simply a memory location that, when a number is stored there, changes something in the computer—such as switching on graphics mode). From $C100 to $CFFF the space was reserved for ROM on the plug-in peripheral cards for each of the seven slots. Slot 1 was given the space from $C100 to $C1FF, slot 2 from $C200 to $C2FF, and so on. The $C800 to $CFFF space was special slot-selectable ROM that was uniquely available for each of the seven peripheral cards. For example, a program running on the card in slot 6 to control a device could use the $C800-$CFFF space for its own purpose. When control passed to the card in slot 3, that card could use a program of its own that ran in the same $C800-$CFFF space. This was accomplished by allowing each card to have ROM code that covered pages $C8-$CF, and making that space "switchable", depending on which card wanted to use it. Having this space available made writing ROM code simpler, since it would not have to be capable of running at various memory locations (depending on which slot a card was plugged into). The memory from $D000 to $D7FF and $D800 to $DFFF was empty on all early Apple II computers. On the motherboard were two empty sockets that were available for the user to plug in their own ROM chips. The $D000-$D7FF space was most often used by a plug-in ROM chip sold by Apple, known as "Programmer's Aid #1." It contained various utilities for Integer BASIC programmers, including machine language routines to do the following:

Renumber BASIC programs Append one BASIC program to the end of another Verify a BASIC program that had been saved on tape (to confirm it was an accurate save) Verify non-program data that had been saved on tape Relocate assembly language routines to a different location in memory (most would only run in one place in memory) Test the Apple II RAM Generate musical tones through the built-in speaker Handle hi-res graphics from BASIC, including code to clear the hi-res screen, set colors, plot points and lines, draw shapes, and load shapes from tape.

All the routines on the Programmer's Aid #1 ROM were written by Wozniak between June 1977 (the RAM test routine) and April 1978 (program renumber and append), except for the music routine, which was written by Gary Shannon. The other empty ROM socket (covering memory from $D800 to $DFFF) was never filled by Apple. Various third-party vendors sold ROMs for that socket (or for the $D000-$D7FF socket used by the Programmer's Aid #1 ROM), but none made enough of an inroad to be preserved in the INTBASIC file that would later be included on the DOS 3.3 System Master disk. In fact, the $D800-$DFFF space in the INTBASIC file on that disk contains an image of that same space taken directly from the Applesoft ROM! It is completely useless to Integer BASIC, of course, but disk files being what they are, Apple had to fill that space with SOMETHING! The Integer BASIC interpreter lived in the ROM space between $E000 and $F7FF. However, BASIC only used the space up to $F424. Between $F425-$F4FB and $F63D-$F65D could be found a floating-point math package that was not used by Integer BASIC, but was available for BASIC programmers who were astute enough to figure out how it worked. (An early Apple user group, the Apple Pugetsound Program Library Exchange, or A.P.P.L.E., sold a tape and notes by Steve Wozniak they called "Wozpak", that documented some of the secrets of the Integer BASIC ROM). Between $F500-$F63C there was code that was known as the "miniassembler", which was executed starting at the ominous address $F666. The miniassembler allowed you to enter short machine language programs using the standard 6502 mnemonics (the three letter codes that referred to a specific type of operation; for example, "LDA #" represented the 6502 opcode $A9) instead of entering the program byte by byte in the monitor. The $F689-$F7FC space contained Woz's SWEET 16 interpreter. Wozniak wrote SWEET 16 to simulate a 16-bit processor; it simplified some routines he wrote for the Apple II ROMs, including the Programmer's Aid #1 renumber, append, and relocate routines. Simply put, he took a series of hex bytes, defined them as "opcodes" the way HE wanted them to function, and when executing the code used his SWEET 16 interpreter to translate the code into legal 6502 operations. It ran slower than standard 6502 code, but when memory space was at a premium it was better to have a slow program than to not have enough room for the program at all. For those who are keeping count, there are a few unreferenced bytes in the latter part of the Integer ROM. Those bytes contained filler bytes that were not used as any program code.<9>,<10>,<11> The last part of the Apple II memory, from $F800-$FFFF, contained Wozniak's Monitor program which has already been discussed above.

NOTES

<1> Jack Connick, "...And Then There Was Apple", CALL-A.P.P.L.E., Oct 1986, p. 24.
<2> ——, "Memory Organization", APPLE II REFERENCE MANUAL, 1979, 1981, pp. 70-73.

<3> Val J. Golding, "Applesoft From Bottom To Top", CALL-A.P.P.L.E. IN DEPTH #1, 1981, p. 8.
<4> Michael Moritz, THE LITTLE KINGDOM, p. 157.
<5> Steven Levy, HACKERS: HEROES OF THE COMPUTER REVOLUTION, pp. 260-261.
<6> Steve Wozniak and Allen Baum, "A 6502 Disassembler From Apple", Dr. Dobb's Journal of Computer Calisthenics & Orthodontia, Sep 1976, pp. 22-25.
<7> Jack Connick, p. 23.
<8> Christopher Volpe, "Beep: A Tale of (T)ERROR", CALL-A.P.P.L.E., Mar 1983, p. 114.
<9> Bob Bragner, "Open Discussion", SOFTALK, Nov 1983, pp. 51-52.
<10> ——, PROGRAMMER'S AID #1, 1978.
<11> Dick Sedgewick, "SWEET 16 - Introduction", MERLIN USER'S MANUAL, 1982, pp. 103-109.

(PART 4 — THE APPLE II, CONT.)

The Apple II: Other Design Features

Since Steve Wozniak was the designer of the Apple I and II, exactly what contribution did Steve Jobs make to the effort? Unlike Wozniak, who would not think much of extra wires hanging out of a computer that worked properly, Jobs had an eye for the appearance of the final product. He wanted the Apple II to be a product that people outside the Homebrew Computer Club would want to own:

"Jobs thought the cigar boxes [housing the home-made computers] that sat on the ... desk tops during Homebrew meetings were as elegant as fly traps. The angular, blue and black sheet-metal case that housed Processor Technology's Sol struck him as clumsy and industrial ... A plastic case was generally considered a needless expense compared to the cheaper and more pliable sheet metal. Hobbyists, so the arguments went, didn't care as much for appearance as they did for substance. Jobs wanted to model the case for the Apple after those Hewlett-Packard used for its calculators. He admired their sleek, fresh lines, their hardy finish, and the way they looked at home on a table or desk."<1>

The final case design made the Apple II look quite different from most of their competition. The other computers looked like they had been assembled at home (and many of them were). The Apple had no visible screws or bolts (the ten screws attached at the bottom). It had the appearance of some variation of a typewriter, but still looked futuristic enough to be a computer. The friendliness of the design even extended to the lid, which popped off easily to allow access to the expansion slots, almost inviting the user to look inside (unlike most electronic devices that held the warning "CAUTION! NO USER SERVICEABLE PARTS INSIDE").<2> Other aesthetics to which Jobs paid attention were the color of the keyboard, vents for heat dissipation (avoiding the need for a noisy fan), and a shape and color that would blend in with other items in a home or on a desk. He also hired an engineer who was good with analog circuitry (not Wozniak's area of interest) to design a reliable, lightweight power supply that would stay cool. The engineer, Rod Holt, was working at Atari at the time, but was convinced to help Jobs and Wozniak. He developed a new approach (for microcomputers) by taking household current and switching it on and off rapidly, producing a steady current that was safe for the expensive memory chips. The final design of this switching power supply was smaller than a quart carton of milk and was quite reliable. Holt also helped design the television interface for the Apple II.<3> The new company was racing to have the Apple II ready for the First West Coast Computer Fair in April of 1977. Some last minute bugs had to be eliminated; because of a static electricity problem affecting a sensitive chip, the keyboards went dead every twenty minutes. Chris Espinosa and Randy Wigginton, two high school students who were early employees of Apple, had written programs to demonstrate the computer's color and sound. They were hurriedly working to duplicate these programs on cassette. People at Apple were working to fix blemishes in the computer cases that had returned from the plastics molding company. The name for this new computer was also finalized as "Apple II", following the example of Digital Equipment Company, who had given each newer version of its PDP series a higher number (PDP-1, PDP-6, etc.). They stylized the "II" in the product name by using right and left brackets, and displaying it on the case as "][". The final product bore the mark of each person at Apple:

"The computer that appeared at the West Coast Computer Faire was not one person's machine. It was the product of collaboration and blended contributions in digital logic design, analog engineering, and aesthetic appeal. The color, the slots, the way in which the memory could be expanded from 4K to 48K bytes, the control of the keyboard and hookup to the cassette recorder, and the BASIC that was stored in the ROM chip—in effect the motherboard—was Wozniak's contribution. Holt had contributed the extremely significant power supply, and Jerry Mannock the case. The engineering advances were officially recognized when, some months later, Wozniak was awarded U.S. Patent #4,136,359 for a microcomputer for use with video display, and Holt was given Patent #4,130,862 for direct current power supply. But behind them all Jobs was poking, prodding, and pushing and it was he, with his seemingly inexhaustible supply of energy, who became the chief arbiter and rejector... [Finally,] the combination of [Mike] Markkula [Apple's first president], Jobs, and the McKenna Agency turned Apple's public bow [at the West Coast Computer Faire] into a coup."<4>

The Apple II: Product Introduction

As they prepared for the display at the First West Coast Faire, it was decided to create a new corporate logo. The original one, used in sales of the Apple I, was a picture of Isaac Newton sitting under an apple tree, with a phrase from Wordsworth: "Newton...'A Mind Forever Voyaging Through Strange Seas of Thought...Alone.'" Jobs had been concerned that the logo had part of the slow sales of the Apple I, and the Regis McKenna Agency was hired to help in the design of a new one.

"Rob Janov, a young art director, was assigned to the Apple account and set about designing a corporate logo. Armed with the idea that the computers would be sold to consumers and that their machine was one of the few to offer color, Janov set about drawing still lifes from a bowl of apples ... He gouged a rounded chunk from one side of the Apple, seeing this as a playful comment on the world of bits and bytes but also as a novel design. To Janov the missing portion 'prevented the apple from looking like a cherry tomato.' He ran six colorful stripes across the Apple, starting with a jaunty sprig of green, and the mixture had a slightly psychedelic tint. The overall result was enticing and warm ..." "[Steve] Jobs was meticulous about the style and appearance of the logo ... When Janov suggested that the six colors be separated by thin strips to make the reproduction easier, Jobs refused."<5>

For the Faire, Markkula had ordered a smoky, backlit, illuminated plexiglas sign with the new logo. Although Apple had a smaller booth than other companies displaying their products at the Faire, and some of the other microcomputer makers (Processor Technology, IMSAI, and Cromemco) had been in business longer, Apple's booth

looked far more professional, thanks to Markkula's sign. Some of the other participants, companies larger than Apple, had done no more than use card tables with signs written in black markers. Because they had been one of the first to commit themselves to displaying at the Faire, Apple's booth was near the entrance and was visible to everybody entering the convention center. They demonstrated a kaleidoscopic video graphics program (possibly an early version of "BRIAN'S THEME") on a huge Advent display monitor, catching everybody's attention. But, after the Faire its organizer Jim Warren (Homebrew club member and editor of DR. DOBB'S JOURNAL) didn't think that Apple was a strong exhibitor. Byte magazine, in their report of the show, failed to even mention Apple. Despite these early opinions by influential people, over the next few months Apple received about three hundred orders for the Apple II, over a hundred more than the total number of Apple I's sold.<6>

The Apple II: Cost

Prebuilt systems were also sold by Commodore (the 6502-based PET, for $595), and Radio Shack (the Z80-based TRS-80, for $600). This was quite a bit less than the Apple II's premium price of $1,298 for a 4K computer, a pair of game paddles, and an audio cassette with demo programs. This price did not include a cassette recorder or monitor (which both the PET and TRS-80 did include). The hardware limitations and lack of expandability of those machines, however, offset some of the price difference. Also, one other hardware introduction for the Apple II that happened in mid-1978 set it well ahead of its immediate competitors; we'll get to that shortly.

The Apple II: Experiences of Early Users

The original manual for the Apple II was sparse. It consisted of thirty photocopied pages, including some handwritten notes from Woz. The cover stated, "simplicity is the ultimate sophistication: introducing Apple][, the personal computer." In early 1978 these original photocopied manuals were replaced with the new "Apple II Technical Reference Manual" (also known as the "Red Book"), and copies were mailed to previous customers. Steve Jobs realized that people often viewed the quality of a product by the quality of its documentation, and so he took pains to get manuals that were easy to read and had a professional appearance.<7> Setting up an early Apple II was fairly simple. The lid popped off easily, and one of the first things you would attach was the Sup'r Mod (RF modulator). This was plugged onto two pins sticking up from the back rear of the motherboard, near the video output jack (assuming that you did not also buy a REAL computer monitor). The game paddles were two small black boxes, with a knob on the top attached to a potentiometer (similar to volume controls on a radio) and a tiny black button on the side. These boxes were attached via a narrow cable to a plug that looked (and was) fragile; this plug also went into a small socket in the motherboard. Lastly, you attached your data storage device (the cassette recorder) to the input and output jacks in the back of the computer. After turning on the Apple II, the first thing to greet you was a screen full of random alphabetic characters and symbols, and possibly some colored blocks (lo-res graphics mode might be turned on). Here you had to press the RESET key in the upper right hand side of the keyboard, which, after releasing the key, would cause a "beep!" and an asterisk to appear in the bottom left-hand corner of the screen. (If the lo-res graphics mode had been on, it would now be off). Next to the asterisk (which was a prompt to show that you were in the Monitor) was a flashing box, the cursor. To get into BASIC, you had to press the "Ctrl" key and the "B" key simultaneously. Now you would see a different prompt, one that looked like a ">". At this point, you could either begin entering a BASIC program, or try to load one from cassette. To load from cassette was not always easy; it took time to get the right volume and tone settings on the tape player in order to avoid getting the "ERR" or "*** SYNTAX ERR" message. (And if you didn't have much memory, you might get a "*** MEM FULL ERR" message!) When you got it properly loaded, you could type RUN and see what happened. Beyond that, it was more or less up to you to actually find something to DO with your new toy.<8>

The Apple II: Early Hardware Add-Ons

Aside from the M&R "Sup'r Mod" that allowed early Apple II users to run their computer on their color TV's, some other enterprising hackers designed their own versions of modulators. One used by an early member of an Apple user group in Washington State (Apple Pugetsound Program Library Exchange, or A.P.P.L.E.) was somewhat better shielded than the "Sup'r Mod". It had its own power supply and plugged into the video output jack on the back of the Apple. The "Sup'r Mod" was by far the biggest seller, however.<9> At first, there were no interface cards for any of Woz's eight slots. With the limited funds that computer purchasers had then (and now) there was not much they could afford after shelling out anywhere from $1200 to $1800 just to get their own Apple II. But they were innovative, and like many other hardware hackers of the day managed to make do with old or surplus parts. Some people, for instance, had gotten their hands on used teletype printers, such as the ASR-33 (called "battleships" because they were so rugged and heavy). Since there weren't any printer interface cards to plug into the slots to allow the computer to communicate with the teletype, they used a trick they learned from Woz himself. The Apple II had four single-bit output pins on the game controller socket that could be used for various purposes. A schematic floated through the various user groups that showed how to connect the teletype to an annunciator pin; along with it was a machine language program that re-directed output from the screen to that one-bit port, and on to the printer.<10>

NOTES

<1> Michael Moritz, THE LITTLE KINGDOM, p. 186.
<2> Steven Levy, HACKERS: HEROES OF THE COMPUTER REVOLUTION, pp. 263-264.
<3> Moritz, p. 189.
<4> Moritz, pp. 190-191.
<5> Moritz, p. 188.
<6> Moritz, pp. 192-193.
<7> Philip Chien, "The First Ten Years: A Look Back", THE APPLE II REVIEW, Fall/Winter 1986, p. 12.
<8> ——, APPLE II BASIC PROGRAMMING MANUAL, 1978, 1979, 1980, 1981, pp. 1-19.
<9> ——, "A.P.P.L.E. Co-op Celebrates A Decade of Service", CALL-A.P.P.L.E., Feb 1988, pp. 12-27.
<10> Val J. Golding, "Applesoft From Bottom To Top", CALL-A.P.P.L.E. IN DEPTH #1, 1981, p. 8.

Steven Weyhrich

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Enjoy!

Apple 2000 presents....

FUN + GAMES

Welcome to the Fun and Games section of Apple 2000 Magazine

Crusaders of the Dark Savant (or Wizardry 7 if you prefer) but in any case the follow-up to Bane of the Cosmic Forge seemingly is delayed still further until March. This is the latest news as far as I know about this role-playing game for the Mac. You will have read the review of Bane in February's magazine and gathered that the interface was pretty horrible and the colours etc. not what we would expect on the Mac. It's promised that Crusaders will work in full 256 colour mode and that the interface for the Mac will be more what we are used to and not a poor import from IBM. Rumours about what will happen to your favourite characters when you import them to Crusaders from Bane really don't have much to them — I think that Sir-Tech are keeping their secrets pretty well on that front. The 'super goody' in particular has had many people guessing as to its role in the follow-up but the guesses remain just that..... guesses! I suppose we will just have to wait and see though by the time you read this it may be that I will have seen something, with any luck. We'll certainly do a review of Crusaders just as soon as we can. E.E.L.

For those of you who have Apple II's and like playing adventure games and are also quite happy to do without graphics and just play the games text-based style à la Infocom, may I remind you of the **Eamon** adventures. Not only can you play these but you can join in and write scenarios too! The Eamon Master and a selection of scenarios are available on TABBS but also on library disks for those who don't own modems. The rules that you must agree to bide by for the construction of an Eamon scenario are fairly simple.

Tom Zuchowski is the originator of the Eamon adventures and he runs the Eamon Adventurer's Guild, a non-profit user group for Eamon. Membership for folks here in the UK is $12. Tom really isn't out to make a profit so if there's any money left over he just extends your membership. Currently, $12 covers eighteen months of membership dues. His address is:-

7625 Hawkhaven Dr.,
Clemmons,
North Carolina 27012
Tel: (919) 766-7490.

Tom has updated many of the older Eamons (written in DOS 3.3) to ProDOS and a few months ago went on an update binge. The newsletter contains reviews, hints on creating your own adventures, bug-fixes, etc. Updates to old Eamons are $1. As of the December 91 newsletter, there were 213 Eamons, all with ratings. E.E.L.

On the Apple IIGS front there is another shareware game from Ken Franklin, the author of One-Arm Bandit. The new game is called **Milestones** and though I've only played it once (while waiting for a committee meeting to convene and I lost too!) I thought he had done his usual great job in using the IIGS's colour and sound. His games are rather unusual ones and this one is based on one of those board games where you have to move a piece around according to cards drawn and the first to reach the finishing line is the winner. You know the kind of thing..... Donkey Derby or whatever, though this one is a car race. By the way, Ken calls his programs 'relief ware' as he donates the proceeds to charity. E.E.L.

And finally — good news for **SimCity** fans with versions allergic to Multifinder (as well as LC and SI owners). Maxis Software has posted an application on Compuserve to convert all versions of SimCity to be Multifinder friendly.

This has been downloaded and will be available from the library shortly. Black and white versions need a 'crib sheet'. Registered UK owners will need to contact Maxis direct — 010 1 510 254 9700. P.K.

CONTENTS

Aqua Blooper Piper

A race against time to sort out the plumbing before the customer gets into the shower. Spanner at the ready, **David Tointon** dons his overalls...

What you get

Aqua Blooper Piper (A.B.P. for short) comes on 2 discs containing a plug-in file, a High Score file, the application and a system folder. It can be run from a floppy drive or from hard disk. Installation onto a hard disk is simple, just drag the contents of the floppies (not the system folder though!) onto your HD. You are then ready to play A.B.P. And I mean that, because there is no copy protection thingy.

Pipeline games

You've probably all come across some sort of pipeline type game before. I compare them to Tetris because there are lots of versions around but they all revolve around the same basic aim. That aim, as far as pipeline games go, is to build a long enough line of piping to stop some form of sludge squelching out at the other end. So, we have the basics of A.B.P. but to be more precise here's the scenario: your customer wants to have a shower so it's your duty (blah, blah) to join the water supply to her (or his) shower.

What makes A.B.P. a bit different is that all your beloved pieces of pipe are on a conveyor at the bottom of the screen. As you can imagine, your pipes face certain destruction if they fall off the end.

Compatible?

A.B.P. seems just about System 7 clean. The game itself is fine under System 7, but you get into a right mess if you try to use more than one program running concurrently with A.B.P.

This is another one of those programs that won't run in colour on the LC with a 12" monitor. Almost every colour shareware or PD game I've tried runs in colour on the 12" monitor. So how come a company like Casady and Greene can't get it right? After all Crystal Quest (also by C & G!) runs in colour.

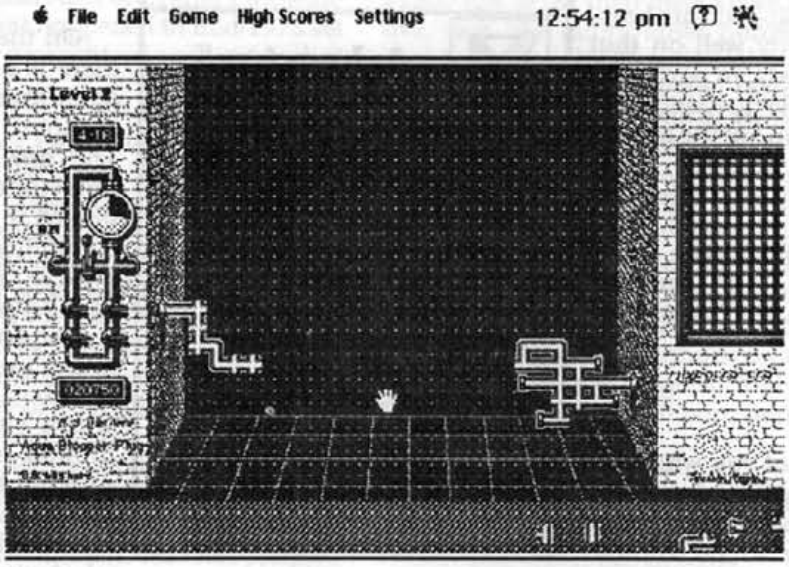
Second impressions

After that little grumble I must admit that A.B.P. looks and sounds fairly impressive. If all the Mac games in the world sounded like this, the Mac world would be a better place. Don't get me wrong, I'm not saying there is no room for improvement, there is definitely still room for improvement, but A.B.P. sounds a darn sight better than a lot of other commercial Mac games.

The graphics are quite good, nothing to rave about, but Casady and Greene have kept it interesting enough for my liking, and let's hope other Mac games look as good from now on.

Playing the game

Soon after double-clicking the A.B.P. icon I was asked to select the plug-in file and High Score file that I wanted to use. This was done with a standard open dialog box. After that it was time for the game. I heard a nice little tune and saw a nice little intro screen then, after looking, listening and reading for a short time, I decided it was time to play the game. I set the level to apprentice from the game menu and along the bottom of the screen there appeared a message saying that A.B.P. was preparing a game at apprentice level. While this was happening the music changed to another delightful jingle and soon the game screen appeared. The cursor changed to a hand that was in the 'countdown' mode. Yet another nice tune could be heard.



Suddenly the music stopped and the conveyor belt started moving. You control your plumber's hand with the mouse, and you rotate the pieces with the keys A and S (it told you this on the intro screen). To pick up and move the sections of pipe you simply drag them off the conveyor belt. There is a vast variety of pieces that appear on your conveyor belt.

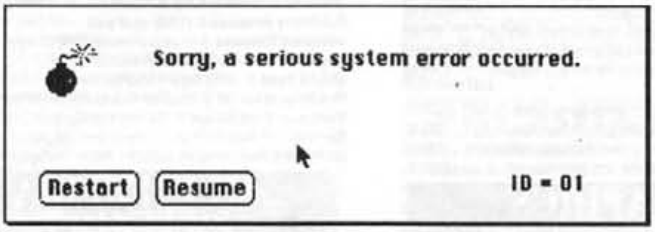
When playing at apprentice level the pieces have dimensions of 1x1 but on the later levels you get pieces of widely varying length and height. The game is accompanied by lots of reasonable clunks and clanks but I can't help thinking that it would have been nice to have a soundtrack during play. The end of the level or game (depending on how good your pipe is) comes when the water supply is turned on. The water supply can be turned on in 3 ways. The time limit can run out, 4 pieces of pipe can fall off the conveyor, or if you are sure you have finished your construction you can click the 'ON' lever. Then if your pipe has no leaks you will be told you are great and you'll be moved up a difficulty level. If your pipe was not too well made then a lot of watery noises will be made while a message comes up, smugly stating something like "Singing in the rain, just singing in the rain". Apart from this I

can't really say much more about playing the game because, like Tetris, the idea is childishly simple but the game is frighteningly addictive.

One thing that I really like about A.B.P. is the level of difficulty. It is not so hard that you just can't be bothered to play because your goes are over in 2 seconds. However, even more importantly, it is not so easy that each go takes you half an hour or more.

Options

Most of the options are fairly standard, changing the level, switching the sound off etc. One of the more interesting options is the pause mode ('Boss coming' is



its title under the game menu). This hides the A.B.P. screen and puts a fake bomb on your screen, so your boss (supposedly) takes pity on you and gives you a pay rise (or something like that).

A.B.P. has built in virus detection so it tells you if A.B.P. has been infected by a virus. Plug in files store the sounds used for A.B.P. and I think that you can make or obtain different ones, however we got a cut down version which doesn't include the game editor so some of the customisation features in the full version I don't know much about. You can have multiple High Score files and create new ones.

At any time you can change the speed of the conveyor belt which is rather useful if you either a wizard at the game or can't play for toffee.

Conclusion

Some pipeline games could be classified as puzzle games or arcade games. As far as A.B.P. is concerned it is a bit of both, but really you need to like puzzle games and arcade games if you are going to like A.B.P. It requires a lot of tactical thinking as well as quick movement. Having said this Aqua Blooper Piper is the sort of game that will turn arcade fans into puzzle fans and vice versa. So, if you can't see yourself being a fan of one of the above types of game, A.B.P. is still worth a buy.

A.B.P. is very, very addictive and is one of the few Mac games that has graphics and sound that make you sit up, look, listen, and play. It is the normal sort of price for a Mac game, about £30, but if you're going to spend £30 on a game then A.B.P. is as good a choice as any. It is a bit of a pity that it doesn't run in colour on the 12" monitor, and also that it is not totally System 7 savvy, but overall 4 apples is a good mark for A.B.P. and there aren't many Mac games that I'd give any more to.

Graphics	🍎🍎🍎
Sound	🍎🍎🍎🍎
Addictiveness	🍎🍎🍎🍎
Overall	🍎🍎🍎🍎

PGA Golf

We've all heard about this game — but just how well does it play in real life? **David Tointon** swaps his overalls for plus-fours and takes to the links...

After having many traumatic experiences with MacGolf Classic, it took some nerve to take the plunge and order this well reviewed golf game. In the end I was not disappointed.

First impressions

As soon as you look at the PGA Tour Golf package, everything says quality. The Mac screen shots on the back looked fabulous, and the box was colourful and well designed. Inside was a thick (for a game) manual, but anybody who has played golf simulations would not have to read much of it. However, if you do want to read it you will find the manual easy to read and well set out.

Installation

You can play PGA Tour Golf from floppy or using a hard drive but only the latter uses colour. Installation onto hard disk is simple and straightforward:- just copy all the files onto the HD and put them in some sort of folder. When you have done this you are ready to play PGA Tour Golf....

The hype

The moment you load PGA Tour you are swept off your feet. The startup screen is a gorgeously digitised golfer, accompanied by an exciting sound track. Unfortunately there is copy protection and this involves

looking up the yardage of a hole from PGA Tour's 4 courses. When you have entered this correctly you move to the 'Pro Shop' where you choose, via pull down menus, what you want to do. There are driving ranges and putting greens for all of the courses and if

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MacDraw Pro Ⓒ (upgraded and hugely powerful) £275.00
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MacCheese Ⓒ (super cheap 32 bit colour paint tool) £59.00
Oasis Ⓒ (marvellous new 24 bit colour mimics oils etc) £555.00
Painter Ⓒ (similar to Oasis in features but cheaper) £245.00
Pixel Paint Professional 2.0 Ⓒ (32 bit, the rest as above) £475.00
SuperPaint 3.0 Ⓒ (24 bit colour, very full featured) £89.00
Studio 1 Ⓒ (unique animating paint package) £75.00
Studio 8 Ⓒ (full featured high end colour paint program) £145.00
Studio 32 Ⓒ (32 bit version of the above, 5 mice MacUser) £365.00
UltraPaint Ⓒ (knockout colour paint and draw program) £125.00

DARKROOM & RETOUCHING

ColourStudio Ⓒ (powerful retouching, free Shapes) £475.00
Digital Darkroom Ⓒ (monochrome photo retouching) £250.00
Image Studio Ⓒ (monochrome photo retouching) £145.00
Jag Ⓒ (anti-aliases PICT and PICS graphics) £79.00
PhotoShop 2.0 Ⓒ (king of the photo retouching packages) £575.00

CAD & MODELLING

Claris CAD 2.0 Ⓒ (straightforward powerful CAD) £495.00
Infini-D Ⓒ (heading the pack in modelling & rendering) £495.00
MacRenderman Ⓒ (the best rendering tool for 3D images) £545.00
MiniCad (maxi CAD performance) £435.00
Model Shop 2.0 Ⓒ (3D solid object modelling tool) £545.00
Ray Dream Designer (3D modelling & rendering) £595.00
StrataVision 3D 2.0 Ⓒ (24 bit photo realistic rendering) £495.00
Swivel 3D Pro Ⓒ (now supports 24 bit colour) £435.00
Super 3D 2.0 (flexible colour 3D tool) £325.00
Virtus Walkthrough Ⓒ (draw in 3D and fly through the model) £295.00

POSTSCRIPT GRAPHICS

Freehand 3.0 Ⓒ (PostScript drawing with text manipulation) £295.00
Illustrator 3.2 Ⓒ (power PostScript text and layout ability) £375.00
EPS Exchange Ⓒ (save Freehand files in Illustrator format) £89.00
Streamline Ⓒ (best PostScript auto tracing tool) £135.00

DESKTOP PUBLISHING

DTP APPLICATIONS

DesignStudio Ⓒ (high end DTP program) £475.00
FrameMaker Ⓒ (pro publishing also on UNIX and NEXT) £575.00
Multi Ad Creator (specialised DTP for laying out adverts) £630.00
PageMaker 4.2 Ⓒ (one of the two major sellers) £475.00
Personal Press (new baby brother for PageMaker) £89.00
Publish It Easy 2.0 Ⓒ (MacUser US best DTP winner) £145.00
Quark Xpress 3.1 Ⓒ (the other of the two major sellers) £475.00
Quark Xtras Ⓒ (goodies that add to Xpress' features) £69.00
Ventura Publisher Ⓒ (migration from the DOS world) £595.00

DTP AIDS & FONT MANIPULATION

CheckList (check PageMaker and EPS files) £99.00
DataShaper Ⓒ (database publishing tool) £225.00
Mariah Ⓒ (database for your graphics, search, keywords) £99.00
LetraStudio (powerful headline font manipulation software) £225.00
Pre Print Ⓒ (colour separates your PageMaker output) £365.00
TypeStyler Ⓒ (manipulates PostScript fonts) £155.00
TypeAlign Ⓒ (draw a wiggly line and type text, needs ATM) £67.00

FONTS

TYPEFACES (all Ⓒ)

Adobe Fonts (all available) ..... from £80.00
Adobe Type on Call (CD Rom of all the typefaces) £55.00
ATM Plus Pack (Adobe versions of rest of the Laser fonts) £110.00
Adobe Type Manager (THE essential DTP utility) £59.00
Adobe Type Sets (collections of Headline fonts) ..... from £79.00
Bitstream (TrueType font packs 1 and 2) ..... each £59.00
Fraction Fonts (a Serif and San Serif font for any fraction) £45.00
Fluent Laser Fonts (79 excellent PS fonts) £130.00
Monotype Fonts (much of the famous library is now on the Mac) ... call
Network Font (design your own Networks with Netfonts) £75.00
Phone Fonts (the entire Adobe AND Monotype range on CD) £99.00
TrueType Starter Pack (22 great typefaces) £69.00

FONT FOUNDRIES & UTILITIES

Adobe Type Reunion (if you use lots of fonts you need it) £45.00
FontStudio Ⓒ (fab full featured font foundry from Letraset) £450.00
Fontographer 3.5 Ⓒ (most popular PostScript font creator) £295.00
FontMonger Ⓒ (converts Type 1 & 3 to TrueType) £75.00
Metamorphosis Pro Ⓒ (converts Type 1 & 3 to TrueType) £95.00

CLIP ART

Publishers Resource Ⓒ (10MB set of great UK EPS art) £99.00
Designers Resource Ⓒ (dozens of beautiful EPS backgrounds) £75.00
MapArt EPSF Ⓒ (world maps in PostScript format) £95.00
MapArt Paint Ⓒ (world maps in MacPaint format) £45.00
PostScript Maps UK Ⓒ (counties roads towns, London postal) . £95.00
PostScript Maps Europe Ⓒ (outlines of all European countries) £95.00
Spectrum CD Rom Ⓒ (huge quantity of good images) £199.00
WetPaint Ⓒ (best bitmap art available - 1000's of images) , each £59.00

MULTIMEDIA

HARDWARE

Computer Eyes (colour video capture with some FX) £395.00
NuVista+ (4Mb broadcast quality video board) £2995.00
Neotech Image Grabber (manipulate video images) £1050.00
QuickImage 24 (24 bit NuBus video frame capture card) £595.00
VideoLogic DVA4000 Kit (multimedia card & software) £1395.00
VideoSpigot (video capture card ideal for QuickTime) ..... from £395.00

SOFTWARE

Animation Works Ⓒ (great value animation package) £110.00
FilmMaker (high end multimedia animation package) £695.00
MacroMind Director 3.0 Ⓒ (key multimedia tool) £575.00
Magic Ⓒ (basically a simpler version of Director) £245.00
MediaMaker Ⓒ (edit video, stills etc for recording onto tape) ... £475.00
MediaTracks Ⓒ (record, edit and playback screen sequences) . £170.00
Premiere Ⓒ (Adobe's brilliant QuickTime editor) £345.00
QuickTime Ⓒ (Apple's QuickTime Init) £3.00

PC COMPATIBILITY

Access PC Ⓒ (read/write PC files direct from floppy) £49.00
DOS Mounter Ⓒ (same as above) £69.00
DOS ReaDA (DA allows Mac to read text from PC disks) £29.00
MacLink Plus Ⓒ (popular Mac/PC link with100's translators) ... £135.00
Soft PC Universal Ⓒ (allows running of PC software on a Mac) £155.00
Soft PC Entry Level (for LC and Classic users) £99.00
SoftNode (access a Novell Network) £95.00
Tops Flashcard (LocalTalk card for PC works with Tops DOS) . £130.00
Tops DOS 3.0 (PC version of Tops for Apple networks) £145.00

COMMUNICATIONS

SOFTWARE

AppleLink (access Apple's worldwide database) £95.00
Classicom (cut down version of Vicom for basic comms) £75.00
DoveFax LAN pack (allows 10 users on one DoveFax) £225.00
Vicom Connect (famous UK package easy to use yet powerful) £140.00
White Knight Ⓒ (very powerful but complex) £99.00

HARDWARE

DoveFax (excellent send and receive fax modem) £255.00
TelePort Fax Modem Ⓒ (a great product at a great price) from £170.00
WS3000 V22 BIS (rock solid 2400 BAUD modem) £175.00
Courier HST dual standard (9600 BAUD for DTP tranfer) £645.00

NETWORKING

SOFTWARE

Carbon Copy Ⓒ (like Timbuktu but cheaper unlimited user) £225.00
DataClub Ⓒ (new pretender to Tops crown) ..... from £105.00
GraceLAN 2.0 Ⓒ (lousy name, good network analysis) £245.00
Liason Ⓒ (print router and network dial in) £245.00
Microsoft Mail Ⓒ (classic powerful E-Mail) ..... from £185.00
NetOctopus Ⓒ (network analysis program) ..... from £395.00
QuickMail 2.5 10 User Ⓒ (powerful flexible E-Mail) £320.00
Timbuktu 4.0 Ⓒ (remote access software for networks) £85.00
Timbuktu Remote Ⓒ (remote access software for modems) £130.00
TOPS Classic (cut down, cheaper version of below) £95.00
TOPS 3.1 (file sharing software without dedicated Mac) £145.00
System 7.0 (the time to upgrade is now!) £45.00

HARDWARE

Anet (LocalTalk connector boxes) £25.00
MacNet (PhoneNet connector boxes) £19.00
Ethernet Boards (thick thin wire or twisted pair versions) from £195.00
LocalTalk (Apple branded connector boxes) £45.00
NetModem Ⓒ (share one modem over entire network) ..... from £335.00
NetSerial Ⓒ (share serial devices on network) £250.00
NetBridge (bridge networks for extra speed etc) £365.00

HARDWARE

INPUT DEVICES

Gravis MouseStick ADB (perfect for Flight Simulator) £59.00
Extended Keyboard (15 function keys, numeric pad) £105.00
External Floppy Drives (800K and 1.44Mb) ..... from £195.00

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*International orders accepted with credit card only. Shipping added at cost.

Calcomp Graphics Tablet (pressure sensitive inc. Painter) £675.00
Wacom Graphics Tablet (pressure sensitive) ..... from £495.00
Logitech MouseMan (small alternative mouse) £69.00
MacMike Ⓣ (microphone and software for Macs without mikes) £42.00
MacRecorder II Ⓣ (classic cult sound digitiser with software) £165.00
Optical Mouse Ⓣ (no ball to get dirty and stick!) £69.00
Voice Digitiser (as below without sound edit software) £99.00
Voice Navigator II (most sophisticated voice recognition yet) £495.00

CHIPS and BOARDS

SIMMs Memory Upgrades ..... see memory box
Brainstorm (more than doubles the speed of a Plus) £175.00
DoubleUp (NuBus board and compression software) £215.00
Math Co-Processor Mac LC (speed up your LC) £95.00
New Life (25Mhz 030 accelerator for Mac Plus and SE) £725.00
New Life Classic (16Mhz 030 accelerator for Mac Classic) £525.00
PowerCache (25 to 50 Mhz accelerators for II's and SE30) from £575.00
VRAM Mac LC & Quadra (upgrade your colours) ..... from £95.00
Radius Rocket (faster than an FX, 25Mhz 040 accelerator) from £995.00

PRINTERS

ColorMaster Plus (Calcomp's brilliant A4 colour printer) £4995.00
LaserMax 800 (800dpi A4 mono printer) £3295.00
GCC PLPII (great laser printer at a great price) £695.00
GCC BLP Elite (low cost PostScript laserprinter) £1275.00
HP DeskWriter (superb inkjet, new low price/Appletalk) £350.00
HP DeskWriter C (now with colour capability!) £550.00
HP Laserjet series (Postscript and Localtalk) ..... from £1295.00
LabelWriter II (mini thermal printer produces sticky labels) £199.00
LZR 960 (PostScript level 2, really quick) £1595.00
LZR 1560 (PostScript level 2, A3 and A4) £3995.00
Oki OL840 (PostScript laser printer at a great price) £1495.00
QMS PS410 (PostScript laser printer) £1395.00
Shinko A4 (high qualti 300 dpi A4 colour printer) £2995.00

PRINTER SOFTWARE

The Witch (driver and cable for serial printers) £55.00
Freedom of the Press Ⓣ (PS interpreter for many printers) £30.00
Freedom of the Press Light Ⓣ (mono printers version) £65.00
MacPalette (greatly improves colour ImageWriter output) £45.00
MacLabel Pro (sophisticated label printing) £99.00
ShadowWriter Ⓣ (networks most printers!) £105.00

DATA STORAGE

42 Mb external drive (Qisk) £275.00
50 Mb external drive (La Cie) £310.00
80 Mb external drive (Qisk) £375.00
105 Mb external drive (La Cie) £399.00
130 Mb external drive (Qisk) £445.00
160 Mb external drive (Qisk) £535.00
240 Mb external drive (La Cie) £599.00
400 Mb external drive (Qisk) £995.00
500 Mb external drive (Qisk) £1095.00
Hammer Drives (absolutely the fastest available) ..... from £475.00
Tape Backup 150 Mb (Qisk) £595.00
DAT Tape Backup 1.3 Gb (ETC) £1695.00
Optical Drive 600 Mb (D2) £1995.00
Optical Floppy Disk Drive 128Mb (D2) £1095.00
CD ROM Drive (Hitachi or Toshiba) ..... from £395.00
45 Mb Syquest Removable Drive (ETC or D2) £375.00
80 Mb Syquest Removable Drive (ETC or D2) £595.00
Syquest Removable 45 Mb Cartridge £55.00
90 Mb Bernoulli Removable Drive £725.00

SCANNING

Agfa Focus II 800GS (best A4 scanner around) £3895.00
Animas Colour (24bit colour, up to 400dpi hand held) £495.00
Microtek 600ZS (great quality low cost colour 600 dpi) £1295.00
OmniPage Ⓣ (best OCR currently in existence needs 4Mb) £445.00
OmniDraft Ⓣ (add in to above for dot matrix OCR) £75.00
OmniSpell Ⓣ (spelling checker for OmniPage) £75.00
Ricoh RS322 (256 Grey Scale with software) £895.00
Read-It 3.0 (classic OCR at a good price) £295.00
Read-It Personal (budget OCR for handhelds) £155.00
ScanMan (biggest selling handheld scanner) £225.00
ScanJet IIC (new HP colour scanner) £1195.00
Scan XPert (scans up to to 1500 dpi/256 greys) £950.00
Scan XPert Colour (600 dpi colour) £1350.00
Sharp JX 300 (superb quality A4 colour scanner) £1895.00
Typist Ⓣ (handheld with best built in OCR needs 4Mb) £435.00

PROGRAMMING

Frontier (allows "programming" of the Finder and more) £195.00
Plus 2.0 (full colour alternative to HyperCard also for PC) £325.00
ProGraph Ⓣ (new OOPS programming tool) £245.00
Prototyper II (creates C code for Windows Menus Dialogs) £195.00
QuickBasic (a little BASIC zinger from Microsoft) £55.00
SmallTalk V Ⓣ (best version of the definitive OOPS language) £139.00
SuperCard (alternative to HyperCard has powerful language) £210.00
Think C 5.0 Ⓣ (PageMaker was written in this) £125.00

CALL US BEFORE YOU BUY ELSEWHERE

Think Pascal 4.0 Ⓣ (it probably could be rewritten in this) £125.00
True Basic Ⓣ (the original Basic language) £69.00
TMON (debugger catches your Mac when your app crashes) £98.00
ZBasic 5 Ⓣ (heavyweight BASIC with good toolbox access) £125.00

MUSIC

Beginners Music Toolkit Ⓣ (interface and software) £165.00
Concertware + Ⓣ (instrument maker composer and player) £45.00
Concertware + MIDI Ⓣ (as above for MIDI) £125.00
Practica Musica (teaches music theory and ear training) £79.00
Super Studio Session (8 voice composer and player) £69.00
MIDI Interface £57.00

UTILITIES & DA's

FILE & DISK MANAGEMENT

911 Utilities Ⓣ (the pro's file & disk recovery tool) £69.00
AutoDoubler Ⓣ (automatic transparent file compression) £59.00
Complete Undelete Ⓣ (recover trashed documents) £39.00
ClickChange Ⓣ (interface customisation) £65.00
Crash Barrier Ⓣ (intercept crashes to save data) £49.00
DIRectory Ⓣ (brilliant floppy and/or hard drive file logger) £59.00
Disk Express II Ⓣ (speed up, unfragment hard drives) £55.00
DiskDoubler Ⓣ (file compaction to save space) £59.00
Disk Top 4 Ⓣ (powerful DA finder) £69.00
File Director (9 essential DA's and Finder enhancement) £75.00
Frontier (allows "programming" of the Finder and more) £195.00
HandOff II Ⓣ (no more "application is busy or missing") £69.00
Hard Disk Toolkit Ⓣ (the best formatter and checker) £115.00
Impressit (software only compression from Radius) £125.00
InitInfo Ⓣ (book and stack about Init Clashes) £29.00
InitPicker 2.0 Ⓣ (choose startup Inits) £35.00
MasterFinder Ⓣ (time saving finder utility) £55.00
MultiDisk Ⓣ (best hard disk partitioner) £59.00
Norton Utilities (hard disk utils from the PC) £65.00
Now Utilities Ⓣ (10 wonderful Inits & DA's. Essential) £75.00
On Cue II (launch applications and documents from menu bar) £65.00
On Location (lightning fast file location) £85.00
Power Utilities Ⓣ (Disk Express, Juggler, MultiDisk, more) £79.00
Shortcut Ⓣ (extra commands in open dialogue box) £49.00
SuperDisk Ⓣ (file compression) £59.00
SUM II (essential utilities plus guard against crashes) £89.00

SECURITY

A.M.E. (very sophisticated data security) £195.00
DiskLock Ⓣ (reasonably priced data file security) £105.00
Empower I Ⓣ (file & data security) £120.00
Empower II Ⓣ (sophisticated file & data security) £225.00
FolderBolt Ⓣ (lock up folders simply and effectively) £65.00
MacSafe II (file security) £95.00
FileGuard Ⓣ (data encryption) £145.00
Nightwatch (hard disk security) £75.00
QuickLock (lock out prying eyes from your data) £32.00

BACKUP & VIRUS PROTECTION

AutoSave Ⓣ (saves your work at user determined intervals) £29.00
Backmatic Ⓣ (for those who hate backing up) £55.00
DiskTwin (constant HD duplication security) £595.00
FastBack II Ⓣ (very fast and compact) £105.00
NightShift (sophisticated network backup) £525.00
Redux Ⓣ (best value backup program on the market) £59.00
Retrospect Ⓣ (most sophisticated archival backup) £130.00
Retrospect Remote Ⓣ (THE solution for network backup) £225.00
SAM 3.0 Ⓣ (Symantec's anti virus utility) £79.00
Virex 3.5 Ⓣ (best virus tracer & eradicator of all) £49.00

PRODUCTIVITY ENHANCERS

After Dark 2.0 Ⓣ (screen saver with many options) £22.00
More After Dark Ⓣ (25 great new screens) £19.00
After Dark/More After Dark Bundle £37.00
At Your Service Ⓣ (animated and vocal "assistant") £35.00
Calculator Constructor 2 Ⓣ (create DA calculators) £69.00
Calendar Maker Ⓣ (customise calendars) £39.00
DynoPage Ⓣ (allows printing of anything to filofax paper) £89.00
Exposure Pro Ⓣ (screen dump utility with paint tools) £82.00
First Things First Ⓣ (alarms, reminders, to do's) £40.00
Help! Ⓣ (sorts out clashes and crashes) £85.00
Hyper DA II Ⓣ (read HyperCard files from a DA) £79.00
Master Juggler Ⓣ (100's DA's & fonts bypassing F/DA Mover) £35.00
Maxima (access more than the 8Mb limit of RAM) £85.00
MultiClip 2.0 (multiple copies & pastes) £65.00
Now Up-To-Date Ⓣ (calendar and reminder system) £59.00
QuicKeys 2.0 Ⓣ (macro maker, time saver utility) £99.00
QuickDex II Ⓣ (lightning fast DA database, essential) £35.00
Screenshot (low cost full featured screen dump utility) £35.00
Stepping Out 2 Ⓣ (software big screen extender) £59.00
Smart Alarms Ⓣ (DA reminder/diary system) £49.00
SmartScrap & Clipper (enhanced scrapbook) £65.00
Snooper Ⓣ (hardware fault diagnosis for all Macs) ..... from £150.00
stopWatch 3.0 Ⓣ (client & project time/activity monitoring) £85.00
StuffIt DeLuxe Ⓣ (premier file compression program available) £69.00
Suitcase 2.0 Ⓣ (now version manages 100's DA's & fonts) £49.00
SuperSpool (best ImageWriter spooler) £59.00
SuperLaserSpool (Laser & ImageWriter spooler) £85.00
Talking Moose Ⓣ (not a productivity enhancer) £23.00
Tempo II (powerful macro maker) £99.00

The Far Side Calendar Ⓣ (diary with the cartoons) £55.00
Tiles Ⓣ (Finder enhancement, program launcher) £69.00
WallPaperⓉ (beautify the boring desktop) £39.00
windoWatch Ⓣ (logs time usage of windows) £85.00

ENTERTAINMENT

ARCADE

✔**Aqua Blooper** (fit pipes together before it floods) £29.00
➔**Beyond Dark Castle** (more of the classic game) £31.00
✔**Blade** (arcade adventure kill or be killed) ..... call
✔**Crystal Quest 2** (Britain's favourite game) £29.00
✔**Colony** (loosely based on the movie "Aliens") £24.00
✚**Dark Castle** (the classic Mac game still going strong) £31.00
✔**Faces** (from the Tetris people) £24.00
✔**Glider** (fly a glidor through eerie house, best new game) £29.00
✔**Harpoon** (naval game) £39.00
✔**Hostage** (anti terrorist rescue mission) £29.00
✔**Indiana Jones** (wonder what this one's about?) £29.00
✔**Mission Starlight** (addictive space shoot-em-up) £29.00
✔**OIDS** (addictive space shoot-em-up) £25.00
➔**PipeMania** (arcade game from Lucas Films) £24.00
✔**RoboSport** (the thinking man's shoot-em-up) £35.00
✔**Sky Shadow** (shoot 'em up from the Crystal Quest author) £29.00
✔**Spectre** (brilliant tank battle game) £35.00
✔**Spectre LAN Pack** (3 user pack for network battling) £59.00
✔**Splat'ers** (paintball arcade and strategy game) £39.00
✔**Tetris** (award winning colour Soviet game) £24.00
✔**Wordtris** (Tetris with words) £24.00
✔**Welltris** (3 Dimensional Tetris, could drive you insane) £24.00

SIMULATIONS

✚**4th and Inches** (manage an American Football team) £19.00
✔**Carrier Command** (aircraft carrier simulation) £21.00
✔**Crazy Cars** (exciting driving simulation) £24.00
✔**The Cycles** (excellent motorcycle racing sim) £27.00
✔**Falcon 2** (exciting & networkable flight simulator) £34.00
✔**Fast Break** (exciting basketball game) £29.00
✔**Ferrari Grand Prix** (formula one racing simulation) £36.00
✔**Fokker Triplane** (World War One flight simulator) £29.00
✔**Helicats** (WWII F6F flight simulator, best graphics) £39.00
✚**Hunt For Red October** (read the book, see the film...) £21.00
✔**Jack Nicklaus Golf** (highly rated simulation) £32.00
✔**Life and Death** (be a doctor, perform actual operations!) £24.00
✔**MacSki** (get in shape for the slopes!) £42.00
✔**Microsoft Flight Simulator** (long awaited new version) £35.00
✔**Mustang P51** (fighter plane simulation) £39.00
✔**Net Trek** (multi player network space game) £39.00
✔**PGA Golf** (far and away the best Golf game) £27.00
✔**Railroad Tycoon** (run a Wild West rail company) £27.00
✔**Sim Ant** (control an ant colony) £45.00
✔**Sim City** (design and run your own city) £32.00
✔**Sim City Colour** (design and run a colour city!) £52.00
✔**Sim Earth** (design and run your own planet) £49.00
✔**Space Rogue** (equivalent of Elite only better) £27.00
✔**Starflight** (space thriller) £29.00
✔**Strategic Conquest** (top war simulation) £39.00
✔**Tristan** (the only Pinball game for the Mac) £39.00
✔**The Duel:Test Drive** (race your Porche round California) £32.00
✔**Universal Military Simulator** (the classic war game) £27.00
✔**Vette** (race a Corvette through San Francisco) £34.00

STRATEGY

✚**Ancient Art of War** (Sun Tsu's high quality war simulation) £26.00
✚**Ancient Art of War at Sea** (seafaring version of above) £26.00
✚**Balance of Power** (use political strategy to keep the peace) £24.00
➔**Balance of Power 1990** (sequel to the best seller) £24.00
➔**Balance of the Planet** (save the environment and world) £32.00
✔**Darwins Dilemma** (based on evolution) £29.00
✔**Guns & Butter** (run your own country) £27.00

ADVENTURES

✔**Citadel** (fantasy adventure) £29.00
✚**Deja Vu** (hard boiled private detective adventure) £24.00
✔**Deja Vu II - Lost in Las Vegas** (the sequel) £24.00
✔**Manhunter New York** (excellent graphic adventure) £35.00
✔**Manhunter San Francisco** (the adventure continues) £35.00
✔**Mission Thunderbolt** (huge graphic/text adventure) £29.00
✔**Pirates** (swashbuckling graphic adventure) £21.00
✔**Spaceward Ho!** (explore and colonise a galaxy!) £49.00

BOARD GAMES

✔**Battle Chess** (animated and powerful game) £25.00
✔**Bridge** (from novice to advanced playing levels) £24.00
✔**Casino Master** (Roulette, Blacjack, Poker, Baccarat, Craps) £34.00
✔**Chess Champion** (best Chess game now) £25.00
✔**Go Junior** (award winning version of famous game) £21.00
✔**Ishido** (award winning oriental Go/Mah Johng style) £32.00
✔**Shanghai II** (new version of the famous game) £25.00
✔**Solitaire Colour** (with beautiful graphics) £24.00
✔**Stratego** (award winning classic war game) £27.00
✔**Tesserae** (colour matching mind stretcher) £29.00

KEY Works on :-

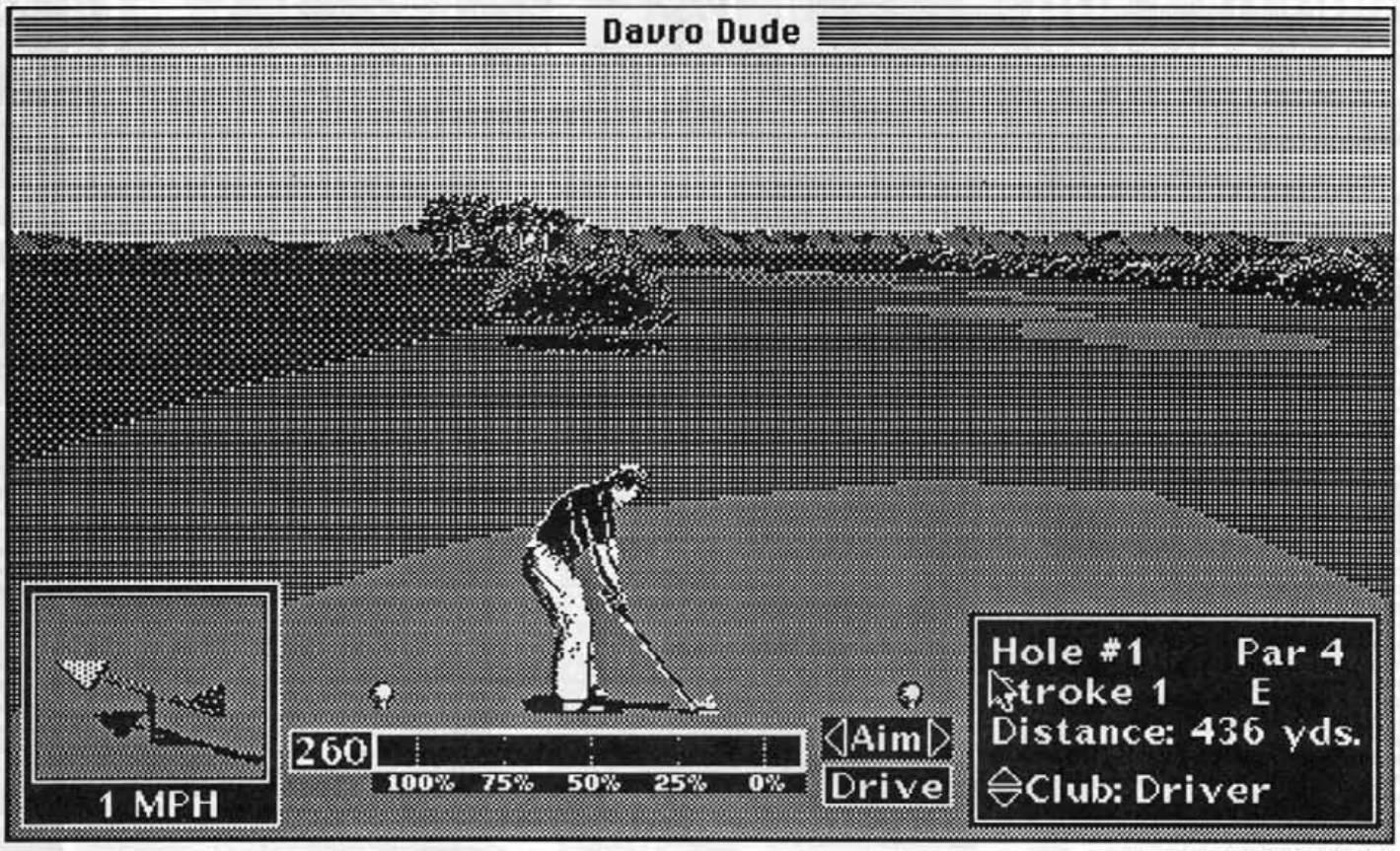
✚ Plus & SE only, ➔ Plus, SE, II ✔ Plus, SE, II, CX and SE30

Many games do not work on the Ci, FX, Classic, Si, LC, Quadras and the new PowerBooks.

Please enquire before ordering games to run on these machines.

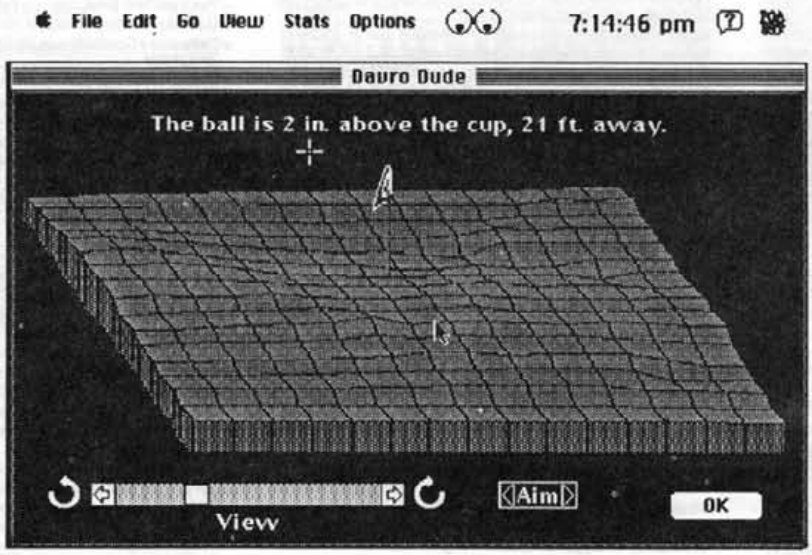
MacLine Britain's first Macintosh mail order company

File Edit Go View Stats Options 7 13 59 pm



you want practice at the real thing you can play a practice round or two. The main section of PGA Tour Golf, however, is (surprisingly) the PGA Tour.

When you choose to start the tournament you are asked the usual stuff, how many players etc., but one interesting option is saving characters. Because so much of PGA Tour Golf is based on how much money you earn, and other similar statistics, rather than controlling an anonymous person round the golf course, you actually name your character, so that when your friends come round, you can reload him (or her) and gloat about all the money he/she has earned. Anyway, after you've got all that off your plate you're actually into the game....well almost. Another nice looking screen appears and in the centre is a friendly looking fellow who explains exactly how much money is up for grabs. After this, you see the leader board and finally you reach the game. No, actually you don't, because before playing you get a spectacular flyby view of the hole, accompanied by a pro's tip and some great but slightly repetitive music. Not only is the flyby stunning it is also useful as it allows you to view the hole in more depth than the standard overhead map. Finally, after this (although you can stop the flyby with a mouse click) and a look at an overhead map of the hole, you reach the game. Again, the graphics are wonderful and there are some cute birdie noises in the background.



The game

Playing the game is quite simple. You choose your club (using up and down arrows), you aim (using left and right arrows) — and, not forgetting the wind dial — you come to the power bar. At the left side of this rectangle is a distance potential which tells you, with no wind, approximately how far the ball would go if hit at 100% power. The main bar has percentages from 0 to 100 written on it. Either side of the 0 and 100% is some more space. On the 100% percent side this is 'overswing', the extra distance you could get the ball to go if you really thrash at it. On the 0% side the space is to allow you to slice the ball (you'll see why later). After all that explaining you're probably baffled about what its use is, so I'll explain. When you click the 'drive' button to hit the ball, a red line quickly moves towards the 100% mark.

A click of the mouse stops it and sends it back down again and you have to try and stop it on the 0% mark to hit the ball straight. If on the way up you let the line go into the 'overswing' area you will get more distance, but if you don't stop the line on the 0% mark on its way back, you'll be in big trouble.

After you have got through all that (it doesn't take long really!), you can watch your ball fly through the air, until it approaches its finishing position, then the 'camera' changes its angle and you can watch the ball bounce to a stand still, probably in a bunker. Then when it is your turn again, up comes the overhead map again, but unlike when hitting off the tee, a ball lie window appears telling you (probably) that your ball is half buried in a bunker and to accompany it is a nice picture of your ball, making you realise just how bad a golfer you are.

When you approach the green, you may want to use some of PGA Tour Golf's special shot options. These let you chip, punch, or do a fringe putt. When you get very close to the green, PGA Tour Golf shows its class. Up pops a grid type display of the green, showing all the bumps and pits. The topography is one of the best ideas I've seen in a golf game, and really makes the game more realistic. If you read this correctly you will probably get the ball in the hole and the crowd will give you a round of applause.

Compatible

I'm pleased to announce that PGA Tour Golf is compatible with 12" colour monitors and System 7. In fact, PGA Tour Golf is compatible with just about everything.

Flaws

PGA Tour Golf may have a little too much hype for some people. PGA Tour Golf may have not enough for some people. You see, PGA Tour golf is a bit in between. It hasn't got quite enough music and speech (no speech) for somebody who wants the sort of golf game you might find in an arcade. It has, however, got slightly too much for a serious simulation. Having said that though, anyone with an ounce of tolerance will still enjoy PGA Tour Golf.

Summary

That last paragraph took up much too large a percentage of my review, really. Due to its great graphics, sound and presentation, in my opinion PGA Tour Golf is by far the best golf game out on the Mac and is one of the best golf games in any format. Unless you are entirely against golf games being fun, go out and buy this game. In my opinion (even though I'm not a golf lover) PGA Tour Golf is the best game available for a Macintosh computer.

Graphics	95%
Sound	84%
Addictiveness	90%
Playability	90 %
Overall	93 %

CD-ROM update

Peter Kemp takes a look at 750 Mb of public domain software from Educorp

The name of Educorp is well known to collectors of shareware — over the years it has built up a huge library of software (now running at more than 23,000 items amounting to over 750 Mb of data). Distributing more than a fraction of this material by the conventional route of floppy disc is no longer practical, so Educorp has made the entire library available on two CD-ROMs.

There's a lot of it about

The sheer volume of material is staggering. A HyperCard interface is provided which, via an index for each of the 16 major topics, allows searching by category, title, type and so forth. For speed these should be copied to your hard disk, but make sure you've got plenty of room — they average about 400 to 500 Kb, but the clip art index runs to just over 3.5 Mb! (I found the interface clumsy and usually went browsing via Finder. Best of all, get a paper copy of Educorp's catalogue — it's a lot more convenient and easy to use.)

Good news .... and bad news ...

As you'd expect from a collection spanning six or seven years, the quality is variable. There are many excellent applications (such as Seahaven — a magnificent Mac II patience game) which are easily up to commercial standards. There is a tremendous amount of MacPaint format artwork which can, presumably, be used free of copyright restrictions. There are innumerable DAs and INITs to clutter up the System file. There is even a folder with 45 Mb of demonstration versions of programs to allow you to "try before you buy".

But on the downside, there are plenty of applications from the days before HFS which will crash your machine as soon as they're launched, so be careful — treat anything before 1987 with the greatest suspicion!

Is it for me?

This is a wonderful collection of odds and ends. Although there is a fair amount of serious material (a couple of hundred megabytes...), most of it comes under the broad heading of "entertainment". If you're into shareware, then there is probably no better collection than these two discs. Educorp is now shipping version 6 of their library, which is even larger than the version reviewed. Availability in the UK is patchy, but the CDs can be purchased direct from the USA for $199 (plus shipping, VAT and insurance).

But wherever you get your material from, please remember that shareware isn't free. If you use the program, then pay the author's fee — it's a fraction of what it would cost in the shops!

My thanks to **Daredd Roberts**, who kindly lent his personal copy for review.

Odds 'n' Ends

Welcome to the new section

Hi, and welcome to the new Apple 2000 games section. Six whole pages of nothing but fun and games! The front page of Fun + Games will be dedicated to giving you news and previews of the latest releases. The middle four pages are the real nitty gritty, in the form of reviews. The back page (where you are now) will — if you send us letters — be full of hints and tips, together with the current charts (courtesy of MacLine & Clocktower). Also, Dave will be putting in a regular appearence just to rave about that new game or anything else he may have on his mind, or maybe just to rave (hee, hee)...

We hope you like this new layout, but do *please* write and tell us what you think.

David, Elizabeth and Peter

Charts

Macintosh

1. Microsoft Flight Simulator
2. PGA Tour Golf
3. Glider
4. Spectre
5. Chess Champion
6. Sim Earth
7. Tristan
8. Crystal Quest
9. Ishido
10. Olds

(Courtesy of Derek at MacLine.)

Apple II

No chart this month, I'm afraid, but we hope to have more information in future editions.

(And in the meantime, why don't all you Apple II game players send in a review of your favourite game? We need everyone's help if we're to stop this looking like an exclusively Macintosh area!)

From the Tipster

Crystal Quest IIGS

As you move through the screens, the waves alternate — first with one new critter, then all the critters to date and so on.

At level 21, the new monster is a type which, when blown up, explodes and throws out shrapnel in a full circle — quite often hitting you in the process.

However, if you hide in a corner the chances of being hit are quite small, so stay there until the screen is as full of the critters as possible (while being reasonably safe) and then blow them all up at once with a bomb.

You get LOTS of points for only a small risk.

(This tip is believed to apply to the Macintosh version of Crystal Quest as well.)

Access DT

(This is whereDave gets those few words mentioned above, about the latest happenings in the games world. If you write to him then he might be able to answer some of your game related problems — then again, he might not...)

On the Mac scene at the moment there seems to be a whole host of new releases. Some knowledgeable folks even seem to be predicting the Mac games "revolution" (which, by the way, I have been championing for some time). Until recently, Mac games have been in a rather sorry state, until good old Electronic Arts brought out PGA Tour Golf (no. 2 in the charts). Now things seem to be on the up and up, with new games like Spectre and Tristan filling parts of the market empty until now, and from what I hear doing a good job of it . So everything is great on the MacFront with just one exception: Wizardry... what a drivelling excuse for a game... IBM graphics (EGA!) and IBM sound that makes you feel seriously ill.

Unfortunately I can't write too much about Apple II stuff now because I'm a Mac owner, but as long as you start sending in some letters then hopefully I'll have all the information that I need to start waffling about the Apple scene in my own inimitable fashion.

Dave

High Scores

Mac		
Crystal Quest	1.6 mil	FGS
Apache Strike	50,000	Phil
PGA Tour (best round)	-3	Arnie
IIGS		
Bouncelt	72740	WGL
Arkanoid	1027490	EEL
Crystal Quest	933000	BSM
II		
Prince of Persia	Level 7	SW

Please send letters, high scores, tips and hints (in fact, anything to do with games) to the Post Box at Liverpool marked for the attention of:-

E.E.Littlewood: Reviews and articles
Access D T: Everything else

MacChat

Press releases and product news

ShirtPocket ships CD-ROM speed-up utility - SpeedyCD

ShirtPocket Software announced the first CD-ROM disk utility, SpeedyCD, for Macintosh computers. SpeedyCD is a Macintosh control panel that speeds up access to CD-ROMs, making directory access to CD-ROMs respond as quickly as a hard disk.

Access CD-ROMs at hard disk speeds

SpeedyCD accomplishes this feat by copying all of the folder and file information for a CD-ROM into a special database on your hard disk when you insert a CD-ROM. By using the hard disk to store this information, Finder operations such as opening windows or finding files are sped up by as much as 700%.

When the actual data from the file is requested, SpeedyCD switches back to the real CD-ROM to retrieve the data. This keeps everyday operations fast, while minimizing the amount of space used on your hard disk.

Modify contents of CD-ROMs

In addition to its speed up capabilities, SpeedyCD also allows the user to modify the contents of the CD-ROM! The user can perform the following operations on any CD-ROM:

- Rename any file or folder
- Move files and folders into other folders or bring buried folders to the top
- Create new folders
- Delete files and folders
- Change window views (eg. from view by icon to view by name)

Because the database is maintained on the user's hard disk, all file and folder changes to the CD-ROM will be remembered even after the CD-ROM is ejected. Upon inserting a "sped up" CD-ROM back into your drive, SpeedyCD will simply use the database from the last time the CD-ROM was in the drive - complete with all of the modifications.

SpeedyCD uses about 15K of memory, works with System 6, and is System 7 savvy. SpeedyCD has a list price of $70.00.

ShirtPocket Software, Inc. is a leading provider of Macintosh connectivity and productivity software. ShirtPocket also developed EasyShare (published by Symmetry Software) and the EasyServer line of AppleShare compatible file servers. EasyServer is the price/performance leader of AppleShare file servers. It is based on a PC platform, thus giving it high speed and low cost, but is unique in that it connects to standard Macintosh SCSI hard disks and CD-ROMs. Users simply attach a Macintosh hard disk (or CD-ROM) and network to EasyServer and the file server is operational. Founded in 1989, ShirtPocket Software is a privately held company based in Mesa, Arizona.

Contact: Jay Eaglstun ShirtPocket Software
P.O. Box 40666
Mesa, AZ 85274
(602)966-7667

SCSI-to-GPIB Ctrlr Features Extensive Functionality

National Instruments have announced a new SCSI-GPIB controller, and a new bus expander/isolator. The company's GPIB-SCSI-A controller has a transfer rate of 1 Mbytes/sec on both the SCSI and GPIB ports. The GPIB-SCSI-A is completely compatible with the IEEE-488.2 standard, which defines data formats, status reporting, error handling, and common configura- tion commands. It uses the National Instruments NAT4882™ chip to perform all Controller functions specified by the IEEE-488.2 standard.

The GPIB-SCSI-A has a built-in power supply, available either for 115 or 230 VAC. It is equipped with two 50-pin SCSI-1 connectors for easy termination and daisy-chaining to other SCSI devices.

The GPIB-SCSI-A also has a built-in 256K RAM data buffer. To increase system throughput with this buffer, the GPIB-SCSI-A can disconnect from the SCSI, allowing other SCSI devices to use the bus.

In addition to being sold alone, the GPIB-SCSI-A will be offered with high-level drivers for the Macintosh, the Sun SPARCstation, the Sun 3, and the DEC VAXstation. The new National Instruments GPIB-120A bus expander/isolator increases the number of GPIB devices allowed on the GPIB from the specified limit of 15 to 28.

In addition, the GPIB-120A can maintain electrical isolation of more than 1,500 V between ports, which is especially useful when instruments on the bus are not referenced to the same ground or are operating in an extremely noisy environment.

The GPIB-120A minimizes data transfer degradation while maintaining data integrity-a normal transfer of 400 kbytes/sec is reduced to only 360 kbytes/sec on a bus using the GPIB-120A, and a normal transfer of 1 Mbytes/sec is reduced to only 800 kbytes/sec. The GPIB-120A has two standard IEEE-488 connectors on its back panel.

The GPIB-SCSI-A and the GPIB-120A are available for $995 each. For more information, contact National Instruments Corporation, 6504 Bridge Point Pkwy., Austin, TX 78730-5039, (512) 794-0100. Or call toll-free in the U.S. and Canada at (800) 433-3488. Telex: 756737 NAT INST AUS. Fax: (512) 794-8411.

InterCon Offers Extensive Discount to Education Sector

Macintosh network administrators at educational institutions across the country are feeling a financial crunch as educational budgets continue to shrink. To help these network administrators remain current with today's computer technology, InterCon Systems Corporation is extending a 60 to 70 percent educational discount on its two most popular TCP/IP networking products, TCP/Connect II and NFS/Share. This is more than double the 30 percent discount previously available.

By offering this extended discount, InterCon hopes to be able to bring more educational users into the broader realm of TCP/IP connectivity.

"We have always made a concentrated effort to listen to our prospects and customers in the various market sectors and have found that far too many Macintosh users in the education marketplace want to upgrade from unsupported, undocumented public domain software packages to COTS (commercial off-the-shelf) software," said Jim Geddes, Vice President of Sales for InterCon.

"The recovery of the many manhours exhausted administering and supporting public domain software, plus the desirable new features gained with our products when coupled with our new pricing program offers this important marketplace a very attractive and much needed alternative."

The new discounts applies only to the following products:

TCP/Connect II - Basic - 70%
TCP/Connect II - Extended - 60%
NFS/Share - 60%
Combo Package of TCP/Connect II - Extended and NFS/Share - 60%

InterCon products are sold in single unit quantities and user bundles to support 10, 25, 50 and 100 workstations. InterCon also offers a variety of other Macintosh networking products, including WatchTower, an SNMP management workstation; Planet X, an X Window client software package that provides remote operation and control of a Macintosh from any X terminal; and Dispatcher/SMTP, a new mail gateway to provide users of CE Software's popular QuickMail electronic mail system with seemless access to other SMTP mail users.

Contact: InterCon Systems Corp. James J. Geddes, Jr. 950 Herndon Parkway Herndon, VA 22070 703.709.9890 ext 226 AppleLink: D1988 Herndon, VA

Transware and Hayes® Support ISDN over AppleTalk®

Embedding itself further into the U.S. networking market, International Transware of Mountain View, Calif., announced its half-router, TransTalk, now fully supports Hayes Microcomputer Products, Inc.'s ISDN System Adapter.

With the Hayes ISDN System Adapter and TransTalk, users will now be able to connect local area networks (LANs) together to form wide-area networks (WANs) using ISDN communication technology. ISDN allows for high-speed transmissions across AppleTalk® connections at a speed of 64 Kbps.

With TransTalk and the Hayes ISDN System Adapter, all users on the inter-network have access to resources at remote sites, including servers and laser printers, as if they were physically connected.

TransTalk is the first hardware product for the Macintosh to offer call-back security, is password protected, has the ability to selectively determine which zones are available to remote users, and can optionally hide laser printers.

TransTalk's compatibility with the Hayes ISDN System Adapter allows TransTalk to use either asynchronous or synchronous modes to automatically dial remote locations. This new feature eliminates the need for TransTalk users to manually down-load phone numbers to the Hayes ISDN System Adapter. Instead, with a simple click of the mouse, users can dial and connect to remote locations.

"The success of ISDN is being driven by the success of commercial applications available to end-users. Developers are a very important part of creating and delivering these applications," said Hayes President Dennis C. Hayes. "By bringing together technologies and expertise to create usable applications, we empower the technology and make ISDN commercially viable. Our relationship with TransWare is an example of how we are providing customers with ISDN solutions that can be used today."

Transware has extensive experience working with ISDN communications in Europe, and Hayes is a leading developer of ISDN communications equipment. Enhancing its half-router to support the Hayes ISDN System Adapter will provide TransTalk's ISDN users with the finest possible communications devices available. Hayes' ISDN System Adapter supports Hayes AutoStream and provides direct access to 64 Kbps B-Channel bit stream for transparent data transmission at the maximum B-channel rate. The architecture of the Hayes ISDN System Adapter has been designed to support National ISDN 1 specifications.

TransTalk has a suggested retail price of $899 and is available directly from Transware.

Transware, Europe's largest AppleTalk developer, has been developing hardware and software products for the Macintosh since 1985. Best known as the leader in microcomputer modems, Hayes develops, supplies and supports computer communications equipment and software for personal computer and computer communications networks. The company distributes its products through an international network of authorized distributors, dealers, and original equipment manufacturers.

Contact: International Transware, Inc. Eric Gould 800 El Camino Real West, Suite 180 Mountain View, CA 94040 415-968-8888 or 800-999-NETS (6387) FAX 415-324-2020

ON Technology, Inc. and Advanced Software, Inc. have announced The Utility Bundle

ON Technology, Inc. and Advanced Software, Inc. have begun shipping its Utility Bundle featuring the award-winning On Location™ software, a Macintosh desk accessory that dramatically reduces the time it takes to find and view files and QuickTools™, an exciting collection of eight Macintosh utilities helping users work more safely, productively and efficiently.

On Location indexes the name and text of files on any volume, including hard disks, network servers, diskettes and CD-ROMs. QuickTools is an exciting collection of eight Macintosh utilities that seamlessly integrates into your system. They make using your Macintosh even more fun and easy to use.

You can configure each QuickTool by changing easy to understand settings in your Control Panel. Here is a brief description of each QuickTool

- Power Strip is a unique, NeXT-like launcher for applications, documents and Desk Accessories.
- Snipper is a 24 bit color screen capture program.
- Sunset is a Screen Saver with a set of over 30 saver modules, many with sound.
- Work Saver automatically issues a "Save..." command in any application to avoid losing unsaved work.
- Instant Menus brings the menus to your cursor and allows switching among programs and windows.
- Barricade is a simple screen locking security program requiring a password for access.
- Dialog Power! assigns unique command key equivalents to each option in a dialog box.
- Functionality enables the F1-F4 keys on an extended keyboard to undo, cut, copy & paste.

"The key benefit of the Utility Bundle is the power it brings to the Macintosh desktop," said Conall Ryan, CEO and president of ON Technology. "Users will have unprecedented flexibility and enhanced use with this package."

The Utility bundle is targeted towards Apple Macintosh users that require a way to increase their productivity. The package addresses this with the versatility of file searching of On Location and the number of valuable system additions in QuickTools.

"The Utility Bundle provides a superb value to any Macintosh user," said Larry Lightman, president of Advanced Software.

"This unique collection of utilities offers a broad range of functionality at a truly affordable price."

On Location's suggested retail price is $129.95. In addition, registered users will receive a disk containing several new screen saver modules for use with Sunset, that comes as part of the QuickTools package. The Utility Bundle will sell for $79.95. The bundle can be purchased by contacting Advanced Software directly at 800/346-5392 or 408/733-0745.

Finder 7

Q and A's on Finder 7 from Apple Computer

Q: What is new in Finder™ 7.0?

A: Finder 7.0 has many refinements and improvements which make Macintosh even easier to use than before. Some of the new features in Finder 7.0 include:

The ability to put applications and documents into the Apple menu
A Find command which allows you to quickly locate files
The ability to run multiple applications simultaneously
The ability to copy files, print and perform other work in the background
A colour interface for Macintoshes supporting colour
Complete on-line Help using System 7's new Balloon Help
Improved window handling
More flexible ways to view files
Better ways of organising the information on your hard disk

The ability to access information regardless of where it's located See the "What's New is System 7" guide for more details.

Q: Will MultiFinder always be turned on in System 7?

A: With System 7, multitasking (previously known as MultiFinder) has been integrated into the system. With multitasking, you can work with several programs at the same time and even do several things concurrently such as working while printing to an Apple LaserWriter. For instance, you could work in a word processing document while downloading a file and recalculating a spreadsheet and printing a large document at the same time.

Q: Is System 7 a multitasking operating system?

A: Yes. System 7 is a multitasking operating system. With multitasking, people can work with several programs at the same time and even do some operations concurrently such as work while printing or copying files or recalculating a spreadsheet. With several programs running and available, people get more effective use out of their Macintosh computer. In System 7, background printing and background copying of files are standard features. Consult your software developer for details on other multitasking capabilities. At a more technical level, multitasking is the ability to perform a number of tasks concurrently. System 7 uses a cooperative multitasking implementation to run several applications concurrently while preforming tasks in the background.

Q: Why can't I open a document under System 7 that I could open under System 6?

A: Because applications share available memory, your application may not have enough memory to open your document. You can easily increase the amount of memory that your application uses with System 7 so that you can open and work with any of your existing documents.

PROCEDURE TO INCREASE APPLICATION MEMORY

(1) Quit the application
(2) Find and select the application
(3) Choose Get Info from the file menu in the Finder.
(4) At the bottom there is a box labelled- Application Memory Size. The number in this box is the amount of memory (e.g. 1024K) used by the application when you run it.
(5) To increase the memory for this application, change the number in the Application Memory Size box. For example, if you are running a Macintosh computer with 4 megabytes, you might increase the number to anything up to about 3000K. Consult your application's manual for specific recommendations.

Q: What should I do when I get the message "there is not enough memory to open this application"?

A: Under System 7, applications share memory with each other. Sometimes you need to determine how much memory an application should be allowed to use. To determine the memory allocation, select "About this Macintosh" from the Apple Menu. This dialog box will display the applications you are currently running and how much memory each application is using. The dialog box also shows how much memory is available for opening new applications (Largest Unused Block).

The "not enough memory" dialog appears when the application you are trying to open wants more memory than the "Largest Unused Block". The amount of memory taken up by "System Software" in the "About this Macintosh" dialog depends on several factors such as how many fonts you have in your system, whether you have file sharing turned on, and how many system extensions (INITs) you have in your System folder.

STEPS TO FOLLOW TO INCREASE AVAILABLE MEMORY

(1) To run your application, you should first try to free up as much memory as possible. To do this, quit some of all running applications. To quit an application, choose it from the Application menu in the upper right corner of your screen and then choose Quit from the File menu. After you have quit, the "Largest Unused Block" (free memory available) in the "About this Macintosh" dialog should be a larger number.
(2) Try running your application again. If you still can't open your application, continue quitting other applications.
(3) If you still get an "out of memory" error, and you have a Mac IIx, IIcx, IIci, IIfx, IIsi or Mac LC you may want to turn Virtual Memory on in the Memory Control Panel (or increase the amount of virtual memory in use). Virtual Memory increases your computer's memory by treating a part of your hard drive as additional memory. After you restart your machine this will increase the free memory available for your applications.
(4) If you do not have Virtual Memory or still do not have enough memory to run your application, you may need to decrease the amount of memory the application is allowed to use when it runs. To do this, select the icon of the application and choose "Get Info" from the the File menu. You can change the number "Current Size" in order to make it smaller than the available free memory (Largest Unused Block). Apple recommends that the current size not be set smaller than the "Suggested Size" also in the "Get Info" dialog box.
(5) If you need to run several applications together and you don't have enough memory to run them, you may need to purchase more RAM memory for your computer.

Q: What is the role of the Extensions folder?

A: The Extensions folder inside the System 7 System Folder contains system extensions (previously known as INITs), and miscellaneous software additions to your Macintosh computer such as printer drivers and network drivers. The Extensions folder is the first place that the system looks when loading system extensions at boot time.

System 7 implements a new capability for automatic installation for system resources. When the user drags a system extension [INIT], control panel, font or a Desk Accessory onto the icon of the System Folder, the system will automatically determine where the resource should go and place it there. If you drag a system extension [INIT] onto the icon of the system folder, it will be placed in the Extensions folder.

Q: What is the role of the Preference folder?

A: The Preferences Folder is a folder inside the System Folder. It provides as a standard place for applications to store their special files such as dictionaries, preference files, option files, settings files, resume files, etc. You should not have any need to access this folder.

Q: Can I move a hard disk between a Macintosh computer running System 6 and a Macintosh computer running System 7?

A: Yes. You can move hard drives between Macintosh computers running system 6 and system 7. When a hard disk is moved from System 6 to System 7, you will see a dialog box during bootup stating that "This disk is being updated for new system software". This process does not touch any data on your disk but means the system is creating a new System 7 desktop on that hard disk. Afterwards, you may use your hard disk as usual. When a hard disk is moved from System 7 back to System 6, you will notice a few differences under System 6. First, you should rebuild the desktop of the hard disk by holding down the command and option keys while booting the Finder. If you don't do this, the first time you go back to System 6, some icons may not appear properly. You may also notice two new folders which appear on your hard disk under System 6 which were not present under System 7. The first of these is the Desktop folder which will contain any items which you placed on the desktop under System 7. The second folder you will see under System 6 is the Trash folder. This folder will contain any items which were dragged to the Trash (but not emptied)under System 7.

Moving a disk between System 6 and System 7 is safe and will not damage any data.

Locked media created under System 7 cannot be mounted under System 6 until they are unlocked.

Q: Will my System 6 desk accessories work under System 7?

A: Yes, virtually all desk accessories written for System 6 run under System 7.

To use a System 6 desk accessory, you first need to take it out of its suitcase.

(1) Locate the desk accessory. It should appear in a file that has a suitcase icon.

(2) Open the suitcase icon by selecting it and choosing Open from the File menu

(3) The suitcase will open into a window and show the desk accessory inside.

(4) Drag the desk accessory out of the window and onto your hard drive. The desk accessory can be placed anywhere on your hard drive you would like. If you want to access the desk accessory from the Apple Menu, you can place the desk accessory in the Apple Menu Items folder.

Some desk accessories such as spell checkers and art effects will need special installation procedures to work properly with System 7 (they must be installed in the system file). Please check with the software developer for additional details on using these desk accessories with System 7.

Q: Do Desk Accessories have to be in the Apple Menu Items folder?

A: No. You may place and use your Desk Accessories anywhere on your hard disk (including the desktop or in the Apple Menu Items).

PUTTING A DESK ACCESSORY INTO THE APPLE MENU

If you want to put a desk accessory into the Apple menu, drag the desk accessory onto the System Folder icon. Your desk accessory will automatically be placed in the Apple Menu Items folder.

MOVING A DESK ACCESSORY FROM THE APPLE MENU TO THE DESKTOP

If you want to remove a desk accessory from the Apple Menu and put it on the desktop instead, follow these steps:

(1) Open your System Folder

(2) Locate and open the Apple Menu Items folder

(3) Locate the desired desk accessory and drag it out of the Apple Menu Items and onto the desktop.

USING A DESK ACCESSORY FROM SYSTEM 6

You may find that older desk accessories appear in desk accessory suitcases. To use this desk accessories, open the suitcase by double-clicking on it, and drag the desk accessory out of the suitcase window. You can now use the desk accessory.

Q: How are INITs loaded in System 7?

A: In System 7 INITs are now referred to as system extensions. The system looks for extension in three places when loading them at boot time. First it looks in the Extensions folder (located in the System Folder), then it looks in the Control Panels folder (also inside the System Folder), and finally it loads any extensions it finds in the root level of the System Folder itself.

Q: Is it possible to disable system extensions (INITs)?

A: Yes. If your machine crashes when you first turn it on or if you are experiencing unexpected behaviour with an application or your desktop, you may have one or more System Extensions (INITs) that are incompatible with System 7 or with each other. If you suspect that problems you are experiencing with your system are due to extensions loaded in your System Folder, Extensions folder, or Control Panels folder, you can temporarily disable them by holding down the shift key as you boot your machine. After you have booted your Macintosh while holding down the shift key, you can remove any extensions which may be causing problems. The next time you reboot all of your extensions will be loaded as normal. Holding down the shift key will turn off ALL extensions which may cause other things on your system not to work. You should only do this when you think a newly added extension is the cause of your problems. Some system extensions are an essential part of your Macintosh computer and are needed to share files, access file servers, access CD-ROMs, etc.

Q: Do INITs go in the "Startup Items" folder?

A: No. INITs (now called system extensions) should be placed inside the Extensions folder or at the root level of the

System Folder.

To have applications, documents, control panels, desk accessories, or aliases to any of these things automatically opened when you turn on your Macintosh computer, simply put the items you want opened into the "Startup Items" folder inside the System Folder.

Q: What should I do if my INIT does not work in the Extensions folder?

A: INITs which do not work when loaded to the Extensions folder should be moved to the root level of the System Folder. Some INITs written for System 6 expect to be at the same folder level as the System file. To put an INIT into the root level of the System Folder without having it automatically routed to the extensions folder, open the System Folder and drag the init into the open window of the System Folder(not the icon of the System Folder). Automatic routing only occurs when you drop something onto the icon of the System Folder.

Q: Will aliases work with disks which are not currently available on my desktop?

A: Yes. When an alias to an icon is opened, and the icon that alias points to is on a disk which is not available on the desktop, the Macintosh computer will ask you to insert the disk. In the case of floppy disks, CD-ROMs, and removable hard disks, the user will be asked to insert the disk which contains the target of the alias. If a hard disk is attached and turned on, but not on the desktop, opening the alias will mount that disk. If the alias points to something on an unavailable file server or to another Macintosh computer using System 7 File Sharing, the server will be automatically mounted on the desktop. If you were signed on as a registered user when the alias was created, you will be prompted for a password.

Q: Can I mail an alias with an E-Mail program?

A: No. The standard open dialog box that is normally used to enclosed documents in an e-mail letter will not allow you to enclose an alias file.

Q: Can I have an alias to a file located on a file server?

A: Yes. Opening the alias will open the file on the file server. When an alias points to an icon which is on a file server, but the file server is not currently on your desktop, opening that alias will automatically make that file server available to your desktop. If you were signed on as a registered user when the alias was created, you will be prompted for the user's password.

Apple has provided hooks for other file server products which do not support the AppleTalk Filing Protocol. You should expect to see new versions of these products supporting aliases in the near future.

Q: Can I boot my Macintosh computer from a file server by putting aliases to the server's system and Finder files on my Macintosh computer?

A: No. Aliases will not provide this functionality.

Q: Do aliases work in System 6?

A: No. Aliases are not supported under System 6. You will be able to see the Alias file under System 6 but they are inoperable.

Q: If I delete a file, what happens to any aliases which point at the deleted file?

A: Nothing. The next time you try to open the alias, you will receive an alert saying that the original item could not be found. If you later place an icon with the same name in the same location, the alias will find the new icon.

Q: When I delete an alias, does it delete the original file?

A: No. Aliases and the files they point to are independent files. When you rename, move, delete, or change the label of an alias you are only modifying the alias, not the target file to which it points.

Q: Can different users have their own view of a shared folder?

A: No. The view of shared folder is controlled by the owner of that folder.

Q: How can I do a Find with several criteria?

A: You may do this through the "Find..." dialog click on the "More Options" button. Select the first criteria you wish to search and check "all at once". Click the Find button. After all the files meeting the first criteria are found and selected, choose Find, More Options, enter the second criteria , and select "Search: the selected items". Click the Find button. Only those items which meet both criteria will remain selected. You can repeat this procedure to narrow the search down as much as you need.

Q: What is stationery? How can I use it? Does it work with all applications?

A: Stationery is a System 7 feature which allows you to create "template" documents. For example, if you have a memo form that you use frequently, you can create a stationery document that gives you a fresh version of the memo every time you open it.

Stationery works with all applications. Some applications are stationery-aware and will let you specify whether a document should be treated as stationery when you first save the document using the "Save As..." command. Although other applications are not stationery-aware, there is another way provided to create a stationery document.

TO CREATE A STATIONERY DOCUMENT
(1) Create your template document in your application. For example, you might have a document that has a logo, "From, To and About lines".
(2) Save the document to your disk
(3) Switch back to the Finder (desktop)
(4) Select the document's icon
(5) Choose Get Info from the File Menu
(6) Click the box marked "Stationery" in the Get Info window.
(7) Close the Get Info window.
(8) Whenever you open the stationery document, you will get a copy of the document for your use.

Q: How do I install FKEY resources to be used with System 7?

A: As in System 6, FKEYs must be installed using a "resource moving" utility such as ResEdit™ software program version 2.0. Upgrading to System 7 does not remove FKEYs that were already installed in your system.

NOTE: The infamous screen-capture FKEY3 has been much improved in System 7. When you press command-shift-3, the system will take a "snapshot" of your screens and create a TeachText file with the image. It even works in colour and with multiple monitors!

Q: When I'm in View by Name, Size or Date, I see a little triangle beside each folder. What does it do?

A: When you are in a list view (View by Name, Size, Kind, Label, Date), you will notice that each folder now has a small triangle just to the left of it. Clicking on this triangle will display the contents of that folder in the same window. If you wish to view the contents of that folder in a separate window, double-click on the folder icon, or select the icon and choose Open from the File menu.

Q: How do I rename icons in System 7?

A: In Finder 7.0, renaming icons is slightly different from System 6. To rename an icon you must click directly on the name of the icon and wait for the cursor to change to an I-beam. A box will appear around the name of the icon and you can then edit the name. The user rapidly clicks twice on the name of an icon, it will be interpreted as a double-click and the icon will be opened.

Q: Can I customise an icon?

A: Yes. Icons may be customised in Finder 7.0 by selecting an icon, choosing "Get Info" from the file menu and clicking on the icon which appears in the Get Info window. Selecting Paste from the Edit menu will replace the icon for that file with any colour or black and white picture which is on the clipboard. To revert to the original icon, click on the icon in the Get Info window and choose Clear from Edit menu.

Q: Can I change the colours of my windows and dialog boxes?

A: Yes. The System 7 Colour Control Panel allows you to change both the colour used for highlighting text as well as the colour scheme used for windows, scroll bars, and dialog boxes. To do this, open the Colour Control Panel and click on the "window colour" popup menu. This menu allows you to select other colour schemes as well as black and white. You may also choose from several colour desktop patterns in the General Controls Control Panel.

Q: How does Balloon Help™ software program work? Will I be able to do work when Help is turned on?

A: When Balloon Help is on, balloons will appear which tell you about anything you point to on the screen. You don't need to click, just point. When help is turned on, every point, click, and drag works exactly as it normally does. To turn Balloon Help ON chose "Show Balloon" in the Help menu. To turn Balloon Help OFF chose "Hide Balloon" in the Help menu.

Q: Why do I only get a beep sound when I try to use the Find command?

A: The beep sound means that Find did not find any files.

When an icon is found, the Find command will open the window where that icon resides and select it for you.

Q: How do I open control panels?

A: To open a control panel in System 7, open the Control Panels folder from the Apple menu and double-click on the Control Panel icon you wish to open. You can now have more than one Control Panel open at the same time.

Q: What happened to the "Set Startup" menu item that was in System 6?

A: "Set Startup" under System 6 allowed you to move between Finder and MultiFinder and set certain applications and desk accessories to be automatically opened when you turned on your Macintosh computer. Using System 7, you can have applications, documents, control panels, desk accessories, or aliases automatically open when you start you Macintosh computer.

To do this, simply put the items you want opened into the "Startup Items" folder inside the System Folder.

Q: What does the "PrintMonitor Documents" folder do?

A: System 7 allows your Macintosh computer to print to a LaserWriter while you do other work with your Macintosh computer. For instance, you can now print and continue working on a document at the same time. This is called "background printing". When background printing is turned on for LaserWriters in the Chooser, files which are waiting to be printed are temporarily stored in the "PrintMonitor Documents" folder until the printer is ready to print them. This is all done in the background.

Q: What does the Views control panel do?

A: The Views Control Panel is System 7 allows you to control how the files and windows on your desktop are displayed. You can change the font and font size the Finder uses to display icons, as well as how icons are arranged when you select Clean Up from the Special menu. Other options allow you to change how information in displayed in the various list views (View by Name, Date, Kind, Size, Label) such as icon size, space available and what type of information should be displayed.

Q: Why does the trash icon expand when I insert a disk?

A: In System 7, items dragged to the Trash are not deleted until you select "Empty Trash" from the Special menu. If you drag items from a floppy to the Trash, those items will appear in the Trash whenever that disk is inserted until you empty the Trash. If you insert a disk which has some items in the Trash, the Trash icon will bulge when you insert the disk to let you know this disk has items in the Trash.

Q: Why do I get the message "Some items could not be opened" every time I boot up my Macintosh computer?

A: Whenever your Macintosh computer starts up, it looks inside the folder "Startup Items" inside the System Folder and tries to open all of the icons it finds in that folder. This is useful when you have applications, documents, desk accessories, and control panels which you want to have opened automatically at startup time. If you see the message "Some items could not be opened" you have probably placed an icon which cannot be opened (such as an init, system extension, printer driver, etc.) inside your Startup Items folder.

Q: Why do I occasionally get the message "All items could not be displayed in this window" when I do a "Find-All At Once?"

A: This message is displayed whenever you find more items than the Finder can display at one time. A partial list of the items meeting your "Find" criteria will be shown. To see the remaining items, select "Find Again" from the File menu.

CanOpener

A review of this universal file opener by Terry Cymbalisty

Product : CanOpener
Publisher : Abbott Systems
Distributed by : A M Micro Distribution
Available from :
Local Apple dealers

£89.00 + VAT

Value for money :
Performance :
Documentation :

information

CanOpener allows you to access text, graphics and sounds held inside documents for which you don't have the relevant application. It enables you to append files together, copy to other files and archive complete files or selections of text and graphics in any number of user-defined CanOpener libraries. Alternatively you can paste material directly into your current application document.

CanOpener also has a search facility. CanOpener will locate files based upon an example of the material you wish to find and will search the disks you submit, and construct a record of all files containing the required data.

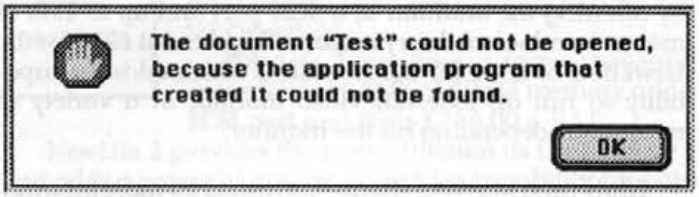
CanOpener comes on a single, unprotected floppy with a twenty page booklet. The programme comes as a desk accessory or as a stand-alone application programme for use with System 7. You also get a set of filters which go into their own folder within the System Folder. CanOpener is System 7 compatible without being "savvy" - i.e. no publish and subscribe, balloon help, Apple events etc. Having said this, CanOpener allows you to drag your document over the CanOpener icon in order for CanOpener to directly open that document.

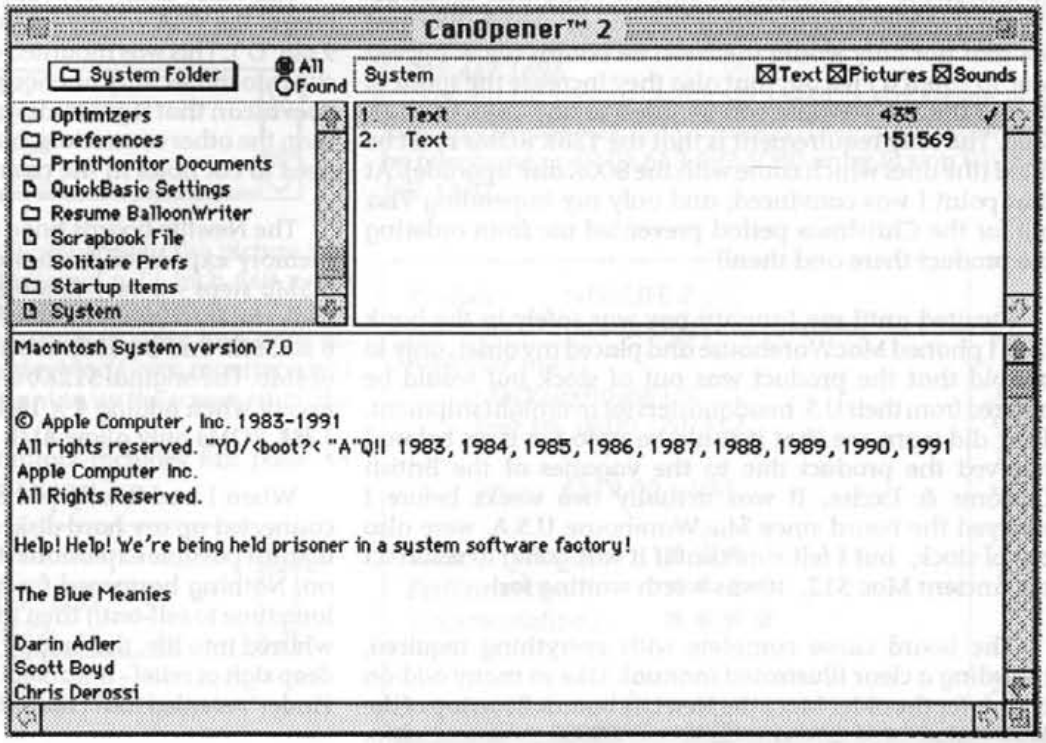
One gets a "Ready-Set-Go" document on the the programme disk. This is used by way of a tutorial in the use of CanOpener. Ready-Set-Go is a desk-top publishing programme and CanOpener can open its documents to show you the text and graphics contained within. Indeed I used CanOpener to open the System file, with the results above. it also worked fine on some ColorMacCheese 24 bit graphics documents as well as most run of the mill word-processor documents.

One very useful feature of CanOpener was its ability to clean-up corrupted files. I had a few corrupted TeachText documents on some public domain disks I got via Mac User. On normal opening TeachText, the document was difficult to read due to the large amount of spurious control characters and other garbage which somehow crept into the file. CanOpener's clean-up facility stripped out the control characters and most of the spurious characters making the files far more intelligible.

CanOpener has an amusing animated icon of a can opener opening a can whenever it is thinking. The user interface is so intuitive that the documentation doesn't really need to be consulted. Although if you didn't read the documentation then you would miss out on some useful tips. Obviously the programme does have limitations, opening Excel spreadsheets produces little of use, just raw text.

The test system was a 4 MByte Mac LC running tuned-up System 7.0. In all my time using CanOpener, I found no bugs or system crashes. The programme seems to be very rugged and reliable. If only Elizabeth Littlewood had had a copy last December, then she wouldn't have had difficulties reading my Microsoft Works file. I feel that this programme will be a genuine boon to my computer productivity and comes highly recommended. Hopefully I will no longer get that dreaded alert box in the future.





Newbridge Systems NEWLIFE 2

A review by Dick Menhinick

I am in the privileged position of being the proud owner of two Macs! Alas, not the newer speedier machines but just a Macintosh Plus and an elderly Mac 512KE (which evolved slowly from a humble Mac 128 bought eight years ago!).

The 512KE had long been relegated to the attic. I missed out on the cheap upgrades to Mac Plus because during the offer I was broke and when I had finally scraped enough cash together good old Apple had discontinued the offer! Then recently, I bought an HP Deskwriter printer to use with my Plus, thereby freeing my equally elderly Imagewriter1 for alternate use. My youngest daughter Kate begged for the old machine and printer to be installed in her room so that she could use it for school work and I willingly set it up for her.

Browsing wistfully through the MacWarehouse catalogue over the Christmas period my eye was drawn to the description of the NewLife product range from Newbridge Microsystems. These promised to bring 'new life to old Macs' by allowing the addition of a SCSI port and up to 4Mb of memory and seemed very reasonably priced at £219 for the NewLife 1 or £319 for the NewLife 2 which adds the capability to run an external video monitor at a variety of resolutions depending on the monitor.

I duly rang MacWarehouse and asked for more information. I eventually received a factsheet from Newbridge Microsystems - a Canadian company who also make accelerator products for the whole Mac range - which informed me that not only would the NewLife boards allow my old Mac to equal a Plus but that also they increase the speed to that of the SE! NewLife can be fitted to any 128K or 512K Mac. The only requirement is that the 128K ROMs must be fitted (the ones which come with the 800K disk upgrade). At that point I was convinced, and only my impending Visa bill for the Christmas period prevented me from ordering the product there and then!!

I waited until my January pay was safely in the bank then I phoned MacWarehouse and placed my order, only to be told that the product was out of stock but would be ordered from their U.S. headquarters for overnight shipment. They did warn me that it could be upto ten days before I received the product due to the vagaries of the British Customs & Excise. It was actually two weeks before I received the board since MacWarehouse U.S.A. were also out of stock, but I felt sure that if it was going to resurrect my ancient Mac 512, it was worth waiting for!

The board came complete with everything required, including a clear illustrated manual. Like so many add-on boards for the older Macs the NewLife boards fit on top of the Mac logic board and attach to the 68000 processor chip. Newbridge provide two methods for achieving this - a Killy clip which simply 'hangs on' to the 68000 chip and a solder-on connector for use where the 68000 is a ceramic type (the Killy clip does not work well in this case). I had a few anxious moments trying to fit the clip over my 68000 chip since I did my own 'illicit' upgrade to 512K many years ago and my home-made address decoder sticks up in the air a little too much, requiring a little pin-shortening surgery! Sensible Mac owners whose upgrades from 128K were done properly should have no fears!

Having fitted the Killy clip (or the solder-on alternative), the NewLife board is then mounted on top of the logic board, its socket engaging the Killy clip's pins - care needs to be taken to ensure correct alignment of the pins and this can be tricky because the connector is near the centre of the board and visibility can be a problem. Having mounted the NewLife board, the next job is to re-fit the logic board back into the chassis. This requires a different technique to the removal because with the NewLife fitted, the board is now too high to slide in the card guides! The NewLife instructions explain that a little brute force is required to prise apart the guides, allowing the board to be fitted between them.

Once the boards are in place the Mac's power supply voltage has to be checked to ensure that it is high enough to cope with the extra load. This proved to be straightforward thanks to the clear instructions.

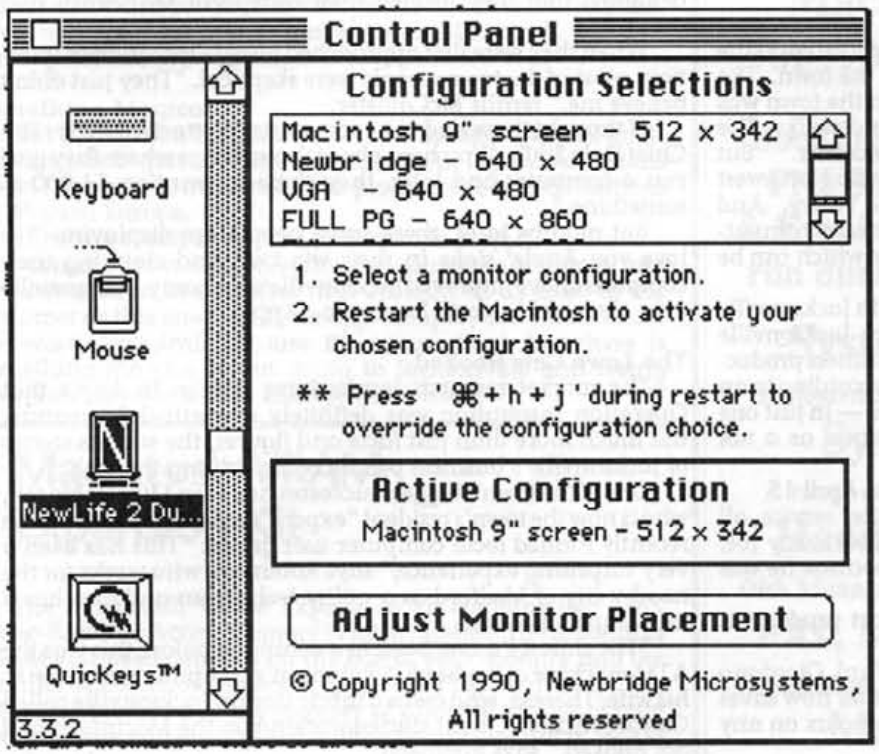
Newbridge have thought out neat solutions to the problems of getting the SCSI and video connectors to the outside. The SCSI connector is fitted into a replacement battery cover. A small amount of trimming with a sharp knife is required to allow the ribbon cable over the inner wall of the battery compartment. This done however, the result looks really professional. The one item that I felt was missing from the kit, was a long 'Torx' screw to attach the modified battery cover, since the original screw inside the battery cover is just not long enough. Luckily, I found a self-tapping screw of the right length in my junk box, but it would have been helpful for Newbridge to have provided one.

The Video connector supplied was a 15 pin compact 'D' type of the VGA variety (although the manual said it was a 9 pin 'D'). This was mounted on a plastic carrier designed to clip into the security anchor point on the back cabinet. This does mean that it protrudes a little further from the cabinet than the other connectors, but it looks tidy and prevents the need to cut holes in the casing.

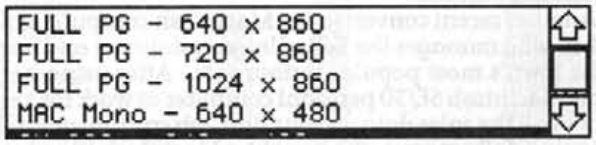
The Newlife boards have eight SIMM sockets and allow memory expansion from the original 0.5Mb unto 4Mb in 0.5Mb steps - a very flexible arrangement allowing for a wide variety combinations of 256Kb and 1Mb SIMMs. I used 6 x 256Kb and 2 x 1Mb to bring the machine unto the total of 4Mb. The original 512Kb is recognised in all combinations except when adding 4 x 1Mb when it is ignored (since the 128K ROMs only allow 4Mb max.)

When I had finally put the machine together again, I connected up my hard disk, and, cowering at arms length against possible explosions (there's confidence!), I switched on. Nothing happened for ages (4Mb of memory takes a long time to self-test!) then the screen cleared, the hard disk whirred into life, the 'happy Mac' appeared and I let out a deep sigh of relief - it worked! A few seconds later 'About the Finder' revealed that I had indeed got 4Mb and all was well.

The next task was to load the driver for the video board. This is a CDEV that you just drop in the System Folder and re-boot. I opened up the control panel and examined the list of supported modes. This also was somewhat different from that described in the manual (and in the MacWarehouse catalogue!). Not that I was going to complain since the list was considerably longer than the literature suggested! I also noted that the name of the driver supplied was different from that described and I subsequently came to the impression that the software had been enhanced, but the manual hadn't!

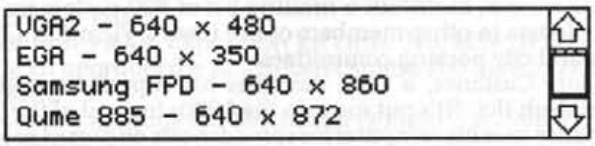


I had an old Wyse 14" VGA Monochrome monitor kicking about doing nothing so I connected it up, selected "Mac Monochrome 640 x 480" from the list of supported monitors and re-booted.

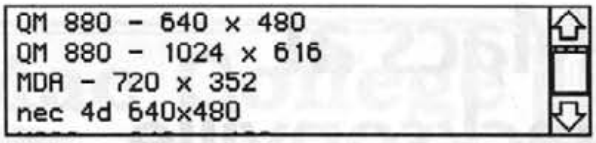


Apart from needing a little adjustment the picture was great - you cannot believe the joy of a 14 inch 640 x 480 display after having worked with the old Mac's 512 x 342 display for so long!! The display was clear and crisp although not as 'flicker free' as the Mac's own monitor and I am getting faint 'hum' bars running up the screen when the monitor is close to the Mac.

The list of supported monitors includes full page A4 monitors from Samsung and Qume



as well as IBM Monochrome (MDA)



and Super VGA (800 x 600). I have since discovered that Newbridge Microsystems normally expect to be told what type of monitor you are going to use when ordering the product so that the correct cables etc. can be supplied. I discovered this after I tried out a borrowed MultiSync monitor and failed to get the 800 x 600 mode working. I phoned Newbridge (in Canada) and was informed that there is a technical manual on the card which explains the video capabilities in more depth and I have been promised a copy (although at the time of writing it has not yet arrived). I guess that the VGA connector supplied allows for different monitor types to be detected, using a similar system to IBM VGA i.e. using the monitor I.D. signals by grounding combinations of pins 4,11 and 12 in the cable.

I have been really pleased with the NewLife 2 since I installed it and would happily recommend it to anyone with an old Mac, especially as an alternative to selling it for a pittance in order to buy a Classic! My faithful old Mac512 now runs faster than my Mac Plus (about 20% faster) and the bigger screen is a real improvement. My daughter is also delighted with it - she now has the Mac Plus complete with a hard disk and enough memory to run Crystal Quest!

NewLife 1 provides a faster processor, space for upto 4Mb of SIMM memory and a SCSI port and costs £219.00 + VAT.

NewLife 2 provides the same function as the NewLife 1 but adds a powerful and flexible video capability supporting a range of different monitors and resolutions and costs £319.00 + VAT

Both cards are available from MacWarehouse UK who can be contacted (free!) on 0800 181332. Their fax number is 081 447 1696.

Newbridge Microsystems are based at 603 March Road, Kanata, Ontario K2K 2M5, Canada. They may be contacted by telephone on 0101 613 592 5080 or by fax on 0101 613 592 1320.

information

Product: NEWLIFE 2
Publisher: Newbridge Microsystems
Available from:
MacWarehouse UK
Free tel. 0800 181 332

Price: £319.00 + VAT

Value for money:
Performance:
Documentation:

Macs at Jacksonville

Apple USA's 'adopt a town' scheme at Jacksonville, Oregon.

Jacksonville, Oregon began during the Gold Rush and the legacy of that historic era is visible throughout the town. The brick buildings lining the street were built when the town was founded in 1851. Wooden planks make up the sidewalks. The original town jail still stands ominously on the corner. But there's something unusual going on in this Pacific Northwest community, located adjacent to the Applegate Valley. And inside shop after shop are Apple Macintosh personal computers, LaserWriter printers, modems, and software which can be used for almost any task imaginable.

Some pretty amazing things are happening in Jacksonville these days as a result of the computers. In fact, Jacksonville small businesses have rated a 55% increase in business productivity as a result of using Macintosh computers according to an independent research study (DRI). For instance: — In just one year, Joe Duggan has nearly doubled his business as a tax specialist

—he was able to take new clients right up to April 15

—and has provided his clients with even better service, all thanks to his Macintosh personal computer. Previously Joe, had to turn away clients and give up revenue because he was too backlogged.

—Britt Music Festivals saved $1,000 and cut production time in half for their annual brochure.

—When the architectural firm of Wagner, Ward, Giordano needs to change a design, the Macintosh computer now saves them numerous steps, and about eight or nine hours on any one change.

—Tom Parks, attorney, has reduced weekly production time of a particular legal document from four hours to just 15 minutes. Spelling and spacing errors are eliminated, and the quality is professional.

How did this all come to pass?

In August of 1990, Apple USA's small business marketing team set some objectives to: get closer to the small business customer, gain fresh input on how customers really use computers, understand how Macintosh addresses those needs—and underscore Apple's commitment to this market. From this, Operation Inspiration was born.

The Apple USA Small Business Marketing team decided to "adopt a town", and after three weeks of intensive planning, an Apple van was unloading dozens of new Macintosh computer systems in Jacksonville, Oregon.

"Operation Inspiration," was designed to be a living research programme. In return for using the computers, printers, modems, and scanners, the businesses would agree to participate in a year-long study to be conducted by Diagnostic Research Inc., an independent market research firm. The programme participants experience will also be documented in a video.

"One of our goals was to demonstrate that the Macintosh can be used across small, diverse businesses and that it's the best personal computer to run every aspect of your business," explains Bobbie Oglesby, manager of Operation Inspiration at Apple USA.

Jacksonville provided an ideal setting for this project. Its economy is based around small businesses ranging from accounting to retail; it is not a suburb, nor is it influenced by a single major corporation.

After selecting Jacksonville in September 1990, Apple presented 31 of the local businesses with Macintosh systems, including the Macintosh Classic, Macintosh LC and Macintosh IIsi computers. Sites included real estate, legal, architecture, accounting, and retail businesses, among many others.

To ensure that the entire town would benefit from this project, Apple also placed computers in public areas like the police and fire departments, the library, the Chamber of Commerce, and the elementary school. Over 20 software developers teamed up to provide software and some training.

"We were careful not to give them too much assistance, however, because we wanted their experience to be consistent with the support programmes available to any customer." says Nancy McCallister, programme marketing specialist for Apple Computer and Operation Inspiration's on-location manager. "The Jacksonville participants had access to their local resellers for any extra training and support they needed and we were delighted that they formed their own local Macintosh user group."

When they were first approached about Operation Inspiration, most of the townspeople were skeptical. "They just didn't believe me," recalls McCallister.

"I thought there had to be some strings attached," says Fire Chief Dale Staib. "You hear about these things where they give you a computer and later, they come in wanting $4,000 or something."

But months later, these same people are displaying 'We love you Apple' signs in their windows and claiming their computers have improved Jacksonville's economy. Jacksonville even threw a big party honouring Apple.

The Town Gets Hooked

The market research results have proven to Apple that Operation Inspiration was definitely a worthwhile venture. But much more than just facts and figures, the success stories of Jacksonville's business people come shining through.

One of the town's biggest successes has been Mike Robinson, who is now the town's resident "expert" and the president of the recently formed local computer user group. "This has been a very surprising experience," says Robinson, who works for the nearby city of Medford as a utility technician and also has a landscape business.

"The closest I'd ever been to a computer before this was the ATM machine at the bank." Robinson's computer was given to his wife, Theresa, who owns a fabric store in Jacksonville called Calico Junction. "But I started working on the Macintosh and got hooked," says Robinson.

Using the computer, Robinson and his wife have since started a mail- order doll pattern business called Pear Blossom Patterns. He's also doing all the accounting and inventory for Calico Junction. "The computer has actually made it more of a family business," he says. "Before, I never really understood what Theresa was doing." The Robinson's have recently purchased two additional Macintosh computers for their rapidly expanding business.

Another recent convert to the Macintosh computer is Karen Parker, who manages the Bella Union restaurant and bar, one of the town's most popular restaurants. After using her new Apple Macintosh SE/30 personal computer at work for keeping track of all the sales data, accounting, job costing, payroll and designing daily menus, she bought a Macintosh Classic to use at home. She can now link her home computer to the office computer via telephone and a modem, giving her a lot more flexibility with her schedule. "This computer has changed my life," she says. The Bella Union also uses the Macintosh to produce it's menus, and what used to take one month to six weeks now takes just a few hours. Costs have been reduced by $200 per menu change, and production time cut by 20 days.

Chauncey Romero, co-owner of the Silver Lining jewellery store, used to be intimidated by computers.

Now Chauncey and his wife, Ladena, have automated their business to track accounts payable, keep appraisals and customer records, maintain a mailing list of 800 customers, and write letters to other members of the town's Victorian Christmas and city parking committees.

Gary Custance, a CPA, describes his experience with his Macintosh IIci: "It's put me into the 1990s instead of the 80s." Custance uses his computer for spreadsheets and word processing and he communicates with many of his clients via modem. "This computer has really done a lot for my business," says Custance, who was using a DOS computer before he was

approached by Apple. "It's filling in some voids that my DOS machine and I had. I often advise my clients on different systems and I never thought I'd be recommending Macintosh to them, but I am. If you want to know the truth, I think I'm one of the luckiest CPAs in the world to be involved in a project like this."

The productivity gains—cost and time savings, and professional- quality documents—are obvious in Jacksonville. But another less- visible benefit to the programme has been that of increased communications between business owners. Quite often the townspeople use their modems to send documents and correspond with each other. Communication between businesses has increased as Macintosh computer users contact each other to share ideas and shortcuts. According to Arlis Duncan of video production company Page One Productions, "We've made more friends thanks to our Macintosh. Now we know everyone in town!"

Something Magical...

But "Operation Inspiration" won't end here. Apple Pacific already has begun a similar programme in Japan. And plans are in the works to implement the programme in two locations in Western Europe.

The final result of Apple's Jacksonville project?

"One of our overall goals is to get closer to the customer, and I've never been in a project that brought us as close to the customer as this one," said one Apple employee. "I hate to use the word, 'magical' because it's so overused, but there is something magical about going to Jacksonville and seeing how the computers have changed that town."

Macintosh VRAM Expansion Kit

The Macintosh VRAM Expansion kit contains two 256K Video-Random Access Memory (VRAM) SIMMs. The amount of VRAM you need depends on the size of your monitor and the number of colors or shades of gray you'd like to display. The following table shows the number of colors or shades of gray your monitor can display, depending on the amount of VRAM you have in your computer:

Monitor	512K VRAM	1 MB VRAM	2 MB VRAM
12" B/W Hi-Res	256	256	millions
12" RGB	256	millions	millions
13" RGB Hi-Res	256	256	millions
Portrait	16	256	256
16" Color	256	256	millions
Two-Page	16	256	256
21" Color	16	256	256
VGA	256	256	millions
Super VGA	256	256	millions
NTSC	256	256	millions
NTSC convolution	—	256	256
PAL	256	256	millions
PAL convolution	—	256	256

The Macintosh Quadra 700 comes with 512 kilobytes (K) of VRAM. To increase the video display capability to 1 MB, you need to install two 256K VRAM SIMMs, or one VRAM Expansion Kit. To increase the video display capability to its maximum of 2 MB, you need to install six 256K VRAM SIMMs, or three kits.

The Macintosh Quadra 900 comes standard with 1 MB of VRAM. To increase the video display capability of the Macintosh Quadra 900 to 2 MB, you need to install four 256K VRAM SIMMs, or two kits.

Macintosh VRAM Expansion Kit Order No. M5951LL/A

>One kit upgrades the Macintosh Quadra 700 from 512K to 1 MB VRAM

>Three kits upgrade the Macintosh Quadra 700 from 512K to 2 MB VRAM

>Two kits upgrade the Macintosh Quadra 900 from 1 MB to 2 MB VRAM

calenDAr™

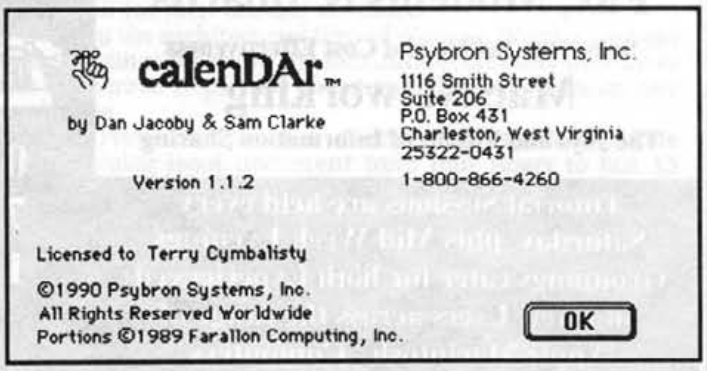
A review of an impressive Appointments Utility by Terry Cymbalisty

calenDAr™, an easy-to-read, full-colour DA, shows future activities (appointments) at a glance. It tells you about important US, Canadian and religious holidays to avoid any conflicts with your schedule. You can set alarms to remind you about important events - even if they only occur once a year. It offers a wide variety of alarm sounds and you can attach your own. With either Farallon's MacRecorder© or the built-in microphone of the new Macintoshes, you can record your own reminder sounds, including spoken messages.

calenDAr™ is, as the name suggests, a DA (desk accessory) and an init (or system extension in system 7.0 speak) which provides for the user, an appointments and reminder system available at any time no matter what application may be running.

The package consists of a disk, a 40 page manual and a 4 page supplement to cover the additions to the latest version of calenDAr™.

calenDAr™ allows you to create a list of reminders for any time in the future and calenDAr™ prompts you when they are due via an on-screen alert and sound. When you select calenDAr™ from the menu, you are presented with the following window.

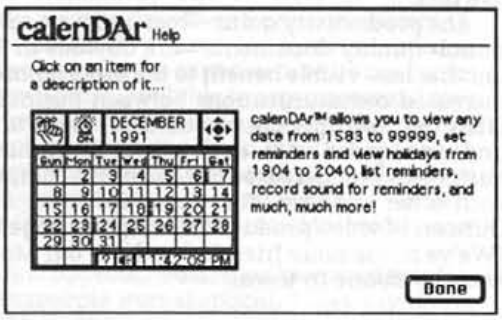


calenDAr™ then installs its own menu as the last item on the menu bar. This is signified by the u symbol. Using the "Navigator Buttons" (the four triangles plus the central circle) you can select the required date, double-click on that date and then enter your reminder. Various other icons in the main calenDAr™ window are used to view previously stored reminders (the "string-around-the-finger" icon), help (the "question-mark" icon), alter sounds, import sounds and record sounds if you have the necessary hardware. Clicking the time box allows you to set the system time and date. Hence calenDAr™ may be used to replace the Apple supplied clock DA.

You may set various types of reminders. Reminders can be set to repeat for any conceivable time period. calenDAr™ can be set to give advance warning of an impending reminder. When reminders come due, you may select a "snooze" feature which makes the reminder repeat after a predetermined time. If you have your Mac switched off when a reminder comes due, you are presented with that reminder alert when you next switch on your Mac.

The calenDAr™ help system

calenDAr™ provides, within its environment, a utility to copy sounds from other sources into calenDAr™. It works very much like Font/DA Mover. Hence its use ought to be fairly obvious.



The 40 page spiral-bound A5 sized manual is well illustrated and explains the product very well. In fact I could say that its description is done too well. It seems to be aimed at the complete novice (idiot?) although, to its defence, "shortcut" boxes are interspersed within the body of the manual which allow the more experienced user to quickly get to know the product.

Various minor shortcomings were found whilst I was using calenDAr™.

You get a HyperCard stack full of sounds which may be used as alarm sounds. You may access them using the built-in sound utility. When I did this. I repeatedly got computer crashes. I remedied this by updating the stack from within HyperCard. (I use version 2.1 of HyperCard.) Some of the sounds in the supplied stack seemed to play at zero volume ? Hence unusable.

Do not put the calenDAr™ extension in the Extensions folder within the System folder as calenDAr™ will not find it. It needs to go into the System folder itself. If one follows the instructions in the manual, you don't get this problem. Having mentioned this system 7.0 shortcoming, calenDAr™ works just file under system 7.0 on my 4 MByte Mac Plus.

When I dragged the calenDAr™ suitcase into the Apple Menu Items folder, the resultant file only had a generic icon. calenDAr™ would not let me alter its icon by selecting it in the "Get Info" box.

A minor problem perhaps, but I ran Norton Disk Doctor on my hard disk a few days after having installed calenDAr™ and I got the error message "invalid bundle bits" for the calenDAr™ file Alarmz Sounds. Norton fixed the file just fine.

When using the sound utility I clicked the "record sound" button. calenDAr™ then told me that I had no sound driver loaded, which was true, then it bombed! Not very clever error trapping.

As a final thought. It seems a great shame that the publishers have not localised calenDAr™. All the holidays are, as previously stated, US and Canadian. At least the publishers could have made the holiday list editable by the user.

calenDAr™ is available from MacLine at a cost of £32 and as such is excellent value.

information

Product : calenDAr™
Publisher : Psybron Systems Inc.
Available from :
MacLine
123 Westmead Road
Sutton, Surrey SM1 4JH
081 642 2222
Price : £32.00 + VAT, P&P

Value for money :
Performance :
Fitness for use :

Collaborative Computing

Apple Announces Directions for Collaborative Computing

Apple Computer, Inc. have disclosed plans to bring collaborative computing to all Macintosh personal computer users. Apple outlined a strategy to enhance its current Macintosh operating system, System 7.0, with the Open Collaboration Environment, an architecture that furthers user interaction and collaboration through personal computers.

Traditionally, electronic collaboration has been restricted to electronic mail. Apple's Open Collaboration Environment will provide an underlying foundation of uniform directory, security, and transport services for developers to create a new generation of collaborative applications beyond electronic mail.

Apple will provide a complete set of programmatic interfaces, foundation services, user-level capabilities, and servers. Key characteristics of the collaboration environment, available to all software developers are:

— A full suite of tools and programmatic interfaces in the areas of messaging, directory, privacy, security public-key based digital signatures, and electronic mail, which extend and complement the InterApplication Communication (IAC) capability of System 7.0.

— An open-system architecture providing the ability to integrate existing and emerging alternative message transports, directory services, electronic mail, and emerging industry standards like X.400.

— Interfaces include the Open Messaging Interface (OMI) for mail and messaging services, which will enhance portability of mail- enabled applications across different computer platforms.

"Providing system software services aimed at overcoming barriers to collaboration such as physical separation, non-simultaneous availability, trust and data compatibility has been an important driving force behind our development work," said Gursharan Sidhu, Apple's technical director for Collaborative Systems Development. "For more than two years we have actively involved a broad spectrum of third-party developers in the design validation of the system and look forward to their continued participation and innovative new products as we roll out these services."

Macintosh users will have the capability to interact with others anywhere, anytime, and regardless of their location—home, office, classroom, or on the move. The system will include a consistent, intuitive, and integrated facility for directory look-up and common collaborative functions such as addressing and mailing letters and documents from any application.

Users can anticipate innovative, new communication-rich applications that support business activities such as information, activity, and communication management, work-flow, and special service agents. For instance, everyday work activities such as the preparation, approval, and processing of work orders, expense reports, and other business documents will be automated by using applications that build on the Open Collaboration Environment. Furthermore, Apple's new system facilities will enable network-based service agents such as news clippings and stock market monitors to deliver customized information to Macintosh users.

"The Open Collaboration Environment has been designed with special attention to creating new third-party opportunities, and developers are very excited about our efforts to produce an open architecture for collaboration," said Roger Heinen, Apple's vice president and general manager of the Macintosh Software division. "To ensure cross- platform interoperation we include use of the Open Messaging Interface (OMI), which we've been jointly defining with Lotus Development Corp."

Omnis 7

Bill Pearce reports on the latest version of this powerful database from Blyth Software

Before launching into a commentary on this latest version of the Blyth database management system I must declare a prejudice - a dislike of connectivity. Of all the dreary Apple advertisements we see, one has the real message: 'You've got the wrong computers.' Fortunately for all the punters who have put their money on the wrong horse, not everyone thinks like me. Blyth probably go further than anyone in enabling you to meddle with all the data that are in the wrong boxes, and are well placed to set data exchange standards for the immediate future. But standards come and standards go: the path of compatibility gets more tortuous by the day. Inevitably, the bigger your databases, or the more connections you have, the bigger the task of maintaining error-free data. The obvious example is natural language translation, where you would need the entire populations of the native speakers engaged full-time in updating the algorithms. Why do we do it?

A simple list of changes from version 5 to version 7 would be too long to comment. In general, limitations on size or number have been raised to utilise all available memory, many new variables have been introduced along with many new manipulation techniques. Even confining my attention to what Omnis can do with its own data, which is what really matters, there are many highways and byways I have not had time to explore. The notes that follow are a selection of features that caught my attention.

Installation: The files come in compacted form on three disks. Unpacking takes some time and requires some user participation. The install program must be kept, as it is also the route to installing additional users. The manuals are in normal book form: a small Quick Start that includes the installation information, Getting Started that teaches all the most basic techniques, the Application Designers' Handbook and the Programmers' Reference - all very much as in version 5. The handy filofax pocket reference guide has been replaced by two pocket reference guides in book form. One lists all the Omnis-specific functions and commands, showing the path to each command. Usefully, it also shows a screenshot of every Omnis menu. The second pocket reference guide lists commands and parameters for establishing SQL connections e.g. with Oracle, OS/2 etc. Note that all the **reference** guides are **identical** for Macintosh and Windows users. Only the **user** guides are tailored to the particular user environment.

System 7: Omnis 7 accesses the system 7 goodies, publish and subscribe, balloon help. I am not converted to system 7. Balloon help I can do without: it is there if you want it, plus the facilities for creating your own balloon help. There is a huge file of what I presume to be the balloon help, and which I was able to read by creating an Omnis application, loading the data file and examining its size and shape with the utilities menu, guessing a suitable file format, refusing to reorganise when prompted, and displaying its gems in a window I created for the purpose. Thus I was able to determine that a certain option 'finds the desired string and replaces it with something else'. Another option is 'not available as no reorganisation is required'. For all the good these messages do, they might just as well all read 'You are now here'. It is gimcrackery for the sake of gimcrackery. The only useful help in applications such as databases and spreadsheets is information that enables you to get from where you are now to where you want to be. It takes considerably more than a hot air balloon to do that.

The problem of where we are now reminds me of my old gripe with Omnis 5 — knowing which particular datafile you are using. I had failed to notice that sys(11-20) variables give the complete path to all segments of the current datafile. What more could you ask? My apologies to Blyth Holdings. This means that a useful program fragment would preface a call to change datafile with a window reminding the user of the current one. The example application I have written shows this information in the 'About...' window (fig.1), and it proved a boon in its development. On gripes, Omnis still does not hide the mouse cursor during data entry. It may be that certain IBM mouse cursors are synonymous with the text cursor, but the Macintosh mouse cursor is a separate entity.

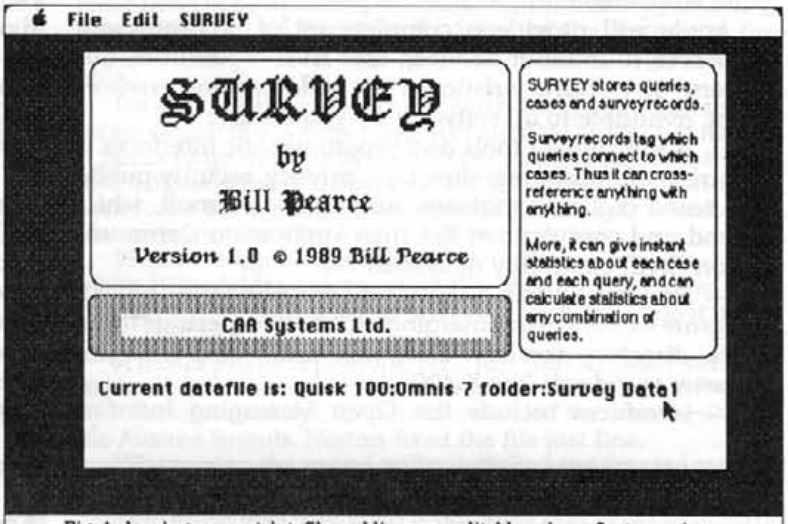


Fig. 1 showing current datafile and licensee, editable only on first running

Addressing the correct, or a correct datafile, is a rather intractable problem if you have lots of applications and lots of datafiles. The old Omnis3.Info and Omnis5.info seemed to work reasonably well. Now there is an Omnis Preferences file in the System folder. However, this problem would affect only the developer with lots of applications and datafiles to choose from. In fact, one of the new functions that does not even rate a mention in the lists of changes supplied by Blyth is the ability to interrogate another Omnis datafile to extract information!

Interestingly, changing datafiles does not destroy any global variables and it is suggested that this would be an alternative route to importing data, remembering that lists can hold the entire contents of files. Obviously you would need to write routines that anticipate this situation, as typically you would clear a list on opening a list window. This is just one of the scores of possibilities that I do not expect to find the time to explore for this review. It was my misfortune to have an early MacPlus that cannot yet take advantage of the automatic conversion of Omnis 5 applications to Omnis 7 — a bug no doubt long since fixed — and it has taken me many days to rewrite from scratch the

program illustrated. Conversion of Omnis 3 Plus applications worked perfectly, though needless to say the program cannot run. The differences between systems is so great that there are dozens of decisions that only the developer can make. The converted file lets you know where the problems exist, but by the time you have sorted them you could have rewritten **and** tailored to your liking. When the going gets tough, a competent typist beats OCR any day!

Omnis Express seems at first sight to have disappeared. On reading the Starter manual I realised that it has now been integrated with the main program. It appears in the guise of 'Short menus'. Much as I dislike the quickstart approach, I was later tempted to give it a whirl just in case I missed out on techniques that might not be mentioned elsewhere. It is unbelievably fast, versatile and easy to follow. For all that, it does not invalidate my view that in the long run you will save time by designing to your own requirements from scratch. Just like those data-modeling programs, it is too simplistic for serious purposes. Not all cars are black. Not all swans are white.

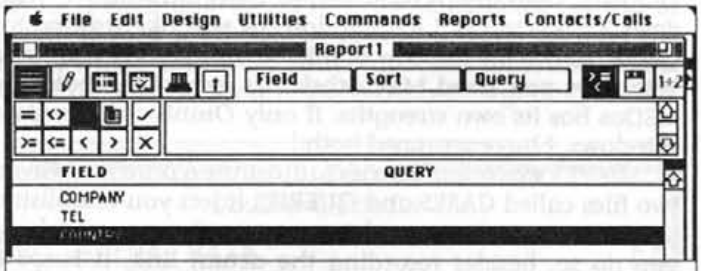


Fig. 2 Tools for ad hoc reports

Ad hoc reports (fig. 2): These are a new feature in this version. My main reason for dabbling with the short menus was to follow the 'Ad hoc report' section. If the user was given access to the report formats then it was always possible to extract any information from any files. Even if access to file formats was denied you could discover practically anything and everything by trial and error report formats, just as I was able to read the help data by creating a window to display it. However, the user wishing to create usable report formats quickly needs to know what the developer knows about the purpose of each field and the manner of record linking. Where do you find such Omniscient users? The *ad hoc* report is not offering anything that was not always available. The difference is that it is available at runtime and offers a compact way of creating it, at the cost of learning to use the new toolkit.

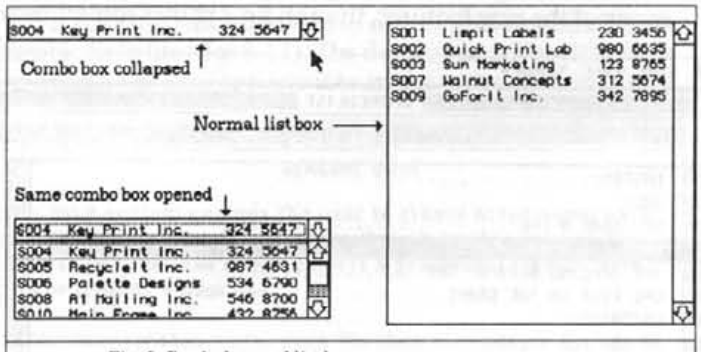


Fig. 3 Combo box and list box

Omnis 7 introduces the popup list, the popup menu and the combo box (fig. 3). The combo box is a cross between the other two, in that its presence is marked by a single entry that serves as a handle to a list. Whereas the menu typically has an inert title as heading for a fixed and limited number of options, the combo box will typically display a variable number of list items in a scrolling display. The 'heading' is in fact the first item in the list. This means that effectively the list can be collapsed to one displayed item.

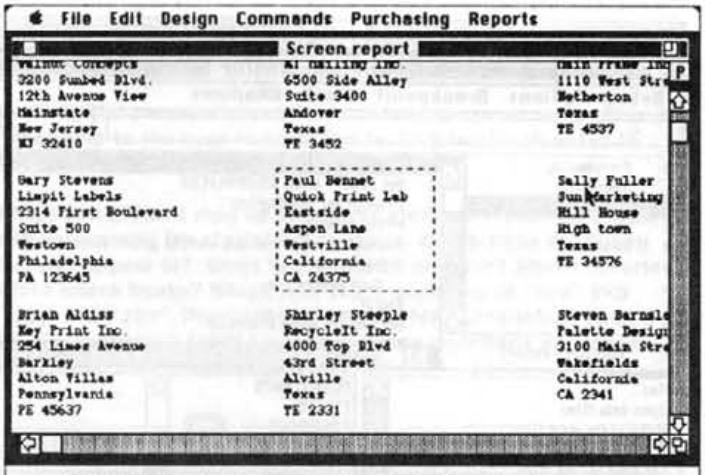


Fig. 4 Selected section of screen report was copied to clipboard. This report was a label report.

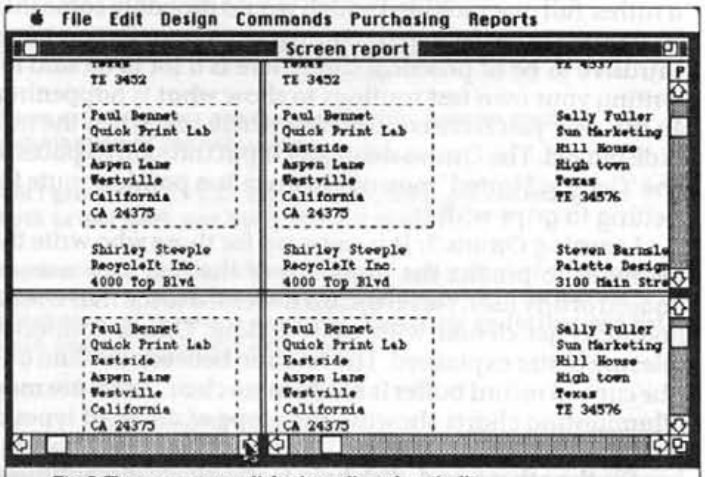


Fig. 5 The same report split horizontally and vertically

Report screens (figs 4 & 5): Many of the Omnis screens, incuding the report screen, (assuming a report has been directed to the screen) can be split both horizontally and vertically. This provides a handy preview of the output. One of the most astonishing features of the screen report is that an area of the screen can be selected simply by dragging across it and copied to the clipboard with the Cut command. From there, tab delimited data can be copied to a spreadsheet.

Date-time fields are new, and a host of formatting options are available. Number fields have proliferated. Again I am not sure that the options are well documented anywhere. Care must now be taken to round numbers to the required precision to ensure that comparisons between hash variables and number fields work correctly. At the time when you want to define a number or a date field, then is when you need to track down the definition of these fields. Perhaps the balloon help does the trick! My preference would be the old HelpLine DA every time.

Prepare for insert/edit. The prepare mode was easily lost in earlier versions and needed careful nursing. Now it stays through thick and thin until you cancel, quit all procedures, or write to disk with an update command. Amazingly, it updates the file that was the main file at the time of setting the prepare mode. Similarly, current record is not so easily lost: quite simply the current record buffer is not multi-purpose: it is not used as the temporary store when lists are built or reports printed. (Print record however, **does** use the current record buffer).

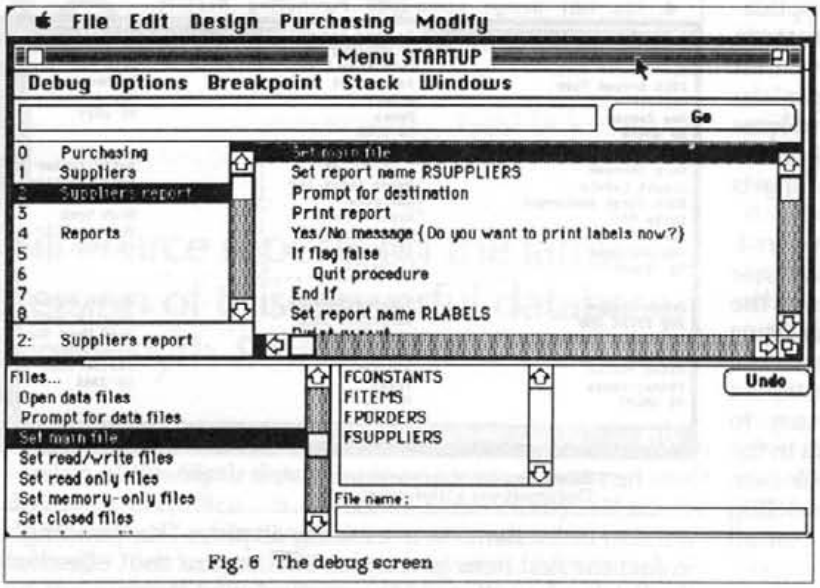


Fig. 6 The debug screen

Debugger (fig. 6): For those who like debuggers there is a rather full one provided which would probably come into its own on a large screen. On my MacPlus screen it is too intrusive to be of practical use. There is a lot to be said for writing your own test routines to show what is happening. In this way you have control over where and when the info is displayed. The Omnis debugger is put through its paces in the 'Getting Started' manual so there is a painless route for getting to grips with it.

Learning Omnis 7: It is not easy for those who write the manuals to predict the problems of the first time user, or indeed of any user. Nevertheless it seemed to me that Omnis manuals get clearer with each update. Omnis connected files are better explained. The relation between list data and the current record buffer is made more clear. There are most illuminating charts showing the scope of different types of variables.

On the other hand, disk help is effectively discontinued, unless you like balloons. One particular problem in the early days when trying to find the procedure you want (assuming that you already know what you want) is where to find it. The procedure list is considerably longer than before. In addition to the handy reference guide listing all the procedures with their path, they are also to be found in the Programmers' Reference. Not only but also... you can type in enough of the procedure for it to find itself. It may jump the gun before you get to the significant bit and take you down the wrong path, but if you persist it corrects itself. There are many short cuts available but I do not think they are actually documented. When you use this method, keypresses are not echoed to the screen so you are typing in the dark. To compensate, a single backspace deletes the entire input and lets you start again.

The 'Getting Started' manual, which you cannot afford to bypass, uses a very elaborately planned technique that is possibly intended to make it more suitable for training courses than earlier manuals. An application is already prepared in various stages of development. This neatly sidesteps the very laborious task of explaining every detail from the beginning. The learner gets to the point far more quickly without getting fatigued in the process. Alternative methods and short cuts are introduced at a natural pace without overfacing you. This method, combined with the Express approach, gives you the feeling of instant success.

Example programs are better worked out and more useful than the examples that came with version 5: hardly surprising in view of the march of time. What is surprising is that everything works as well as it does: this is a complete rewrite in C++.

Has someone at Blyth Software read my earlier reviews? One of the example programs is a game, which can be a good way to demonstrate some of the capabilities of Omnis.

List manipulation is more flexible than it was. There is no limit to the number of lists allowed Multiple lines may be selected. Logical operations may be performed on these selections. It gets rather difficult at this point to follow the manuals because they had to invent a vocabulary to describe the options. Current selections can be 'saved' (in memory, not to disk). They can then be modified. We now have two selection states, the 'current' and the 'saved'. These can be ORed, XORed, ANDed, inverted, swapped.

My example: SURVEY. This is a rewrite of a program first written in Omnis 3 Plus, then in Omnis 5, then in GWBasic on the Amstrad. [I have Windows 2 and Omnis 5 for Windows. It was like waiting for Godot. Hence the first law of microdynamics:- **If you need Windows you need Macintosh.** To redress the balance, MSDos has its own strengths. If only Omnis could bypass Windows. I have scrapped both.]

SURVEY was one of a series to illustrate a principle. Given two files called CASES and QUERIES it lets you establish a link between each case and as many queries as you wish. As you do so, besides recording the actual link, it keeps a running total of all links, and also records how many links each case has and how many links each query has. Making or deleting links is simply a matter of double clicking on the appropriate query line. Whether links exist or not, it will also let you delete cases or queries. That is to say, everything is editable at all times.

At the drop of a hat, then, you know how many cases opted for any given query. You may want to know how many opted for A AND G AND P AND Q ONLY. It will print a report listing them. How many opted for AT LEAST A AND G AND P AND Q. It will print a report listing them and telling you by how much they exceeded the target. If asked, it will keep an incremental record of all those who 'pass' any of these tests. This record can be printed or flushed at any time. Any of these searches may be used as a standard (e.g. a list of 'correct' answers) against which ALL the cases can be measured.

I have not got round to figuring out the implications of many of the new features, though fig.7 shows something of

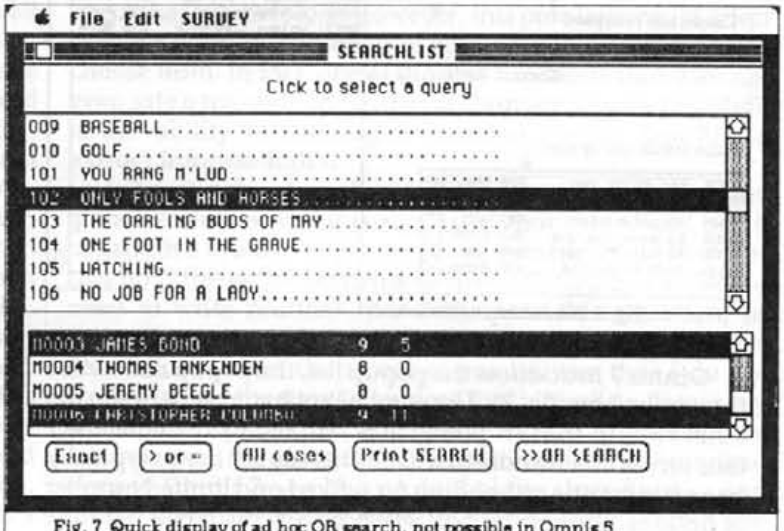


Fig. 7 Quick display of ad hoc OR search, not possible in Omnis 5

the great possibilities opened up with list logic. Hitherto output from the various types of search in 'Survey' was feasible only via report formats, although of course a report could be directed to the screen. Fig. 7 shows two lists. Whenever a query line is selected in the top list, all cases who opted for that query are cumulatively highlighted in the lower list. This is the simplest type of OR search. It would be a simple matter to convert this to an AND search so that the highlighted cases would be the ones that opted for every query selected rather than any query selected. Given time I believe that some of the more complex search capabilities of Survey could similarly be made immediately visible. Even so, for practical purposes you still need the full printout with all the boring percentage figures.

In the example list windows I was making an attempt to include some simple statistics in the list. It did not seem possible to make a hash variable perform as an array variable - maybe because there were at least two lists active at the same time, maybe because I did not hit upon suitable procedures. A memory-only file would solve the problem but then each line would have to be assigned instead of simply loaded from file. Of course, anyone needing the figures would almost certainly want hard copy, and Omnis 3 could do that. In some respects Omnis 7 is gilding the lily.

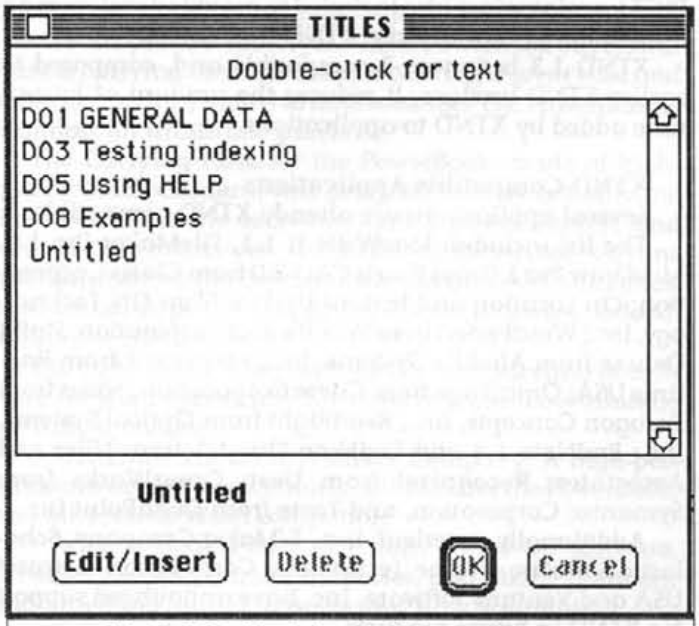


Fig. 8 Editable titles for Help topics

It is easy and useful to add to any Omnis application an editable help file (figs 8-11). The developer can use it to write a manual, the user can use it to make notes relevant to the

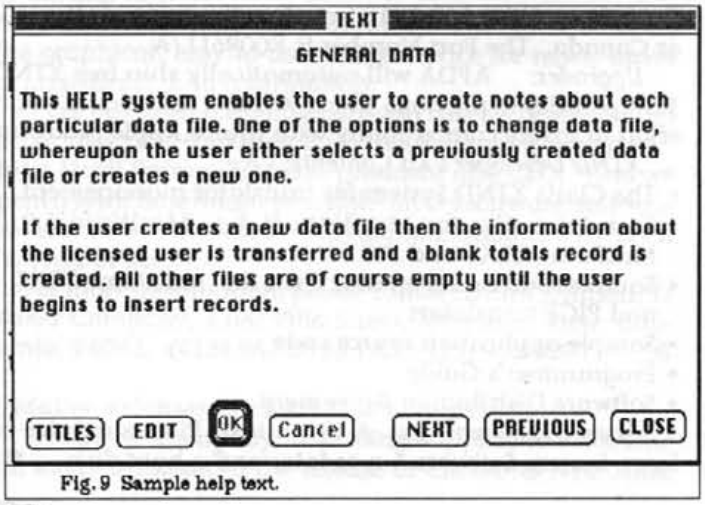


Fig. 9 Sample help text.

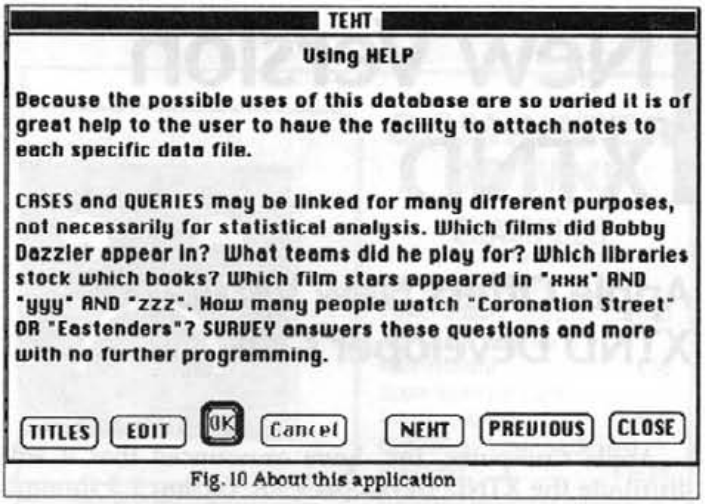


Fig. 10 About this application

datafile. The one you see illustrated works on a similar principle to the old Omnis Help desk accessory - still one of the most useful desk accessories around. The DA finds on any word, this help file finds only by title.

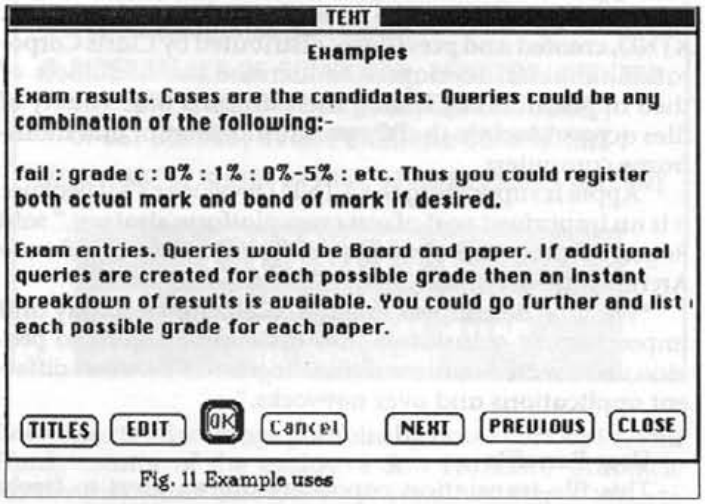


Fig. 11 Example uses

Is it worth updating to Omnis 7 ? If your existing version does what you want and you do not anticipate needing more, either in terms of new applications or extending the existing ones, then you do not need the hassle of changing. If you need more connectivity, and/or larger fields or data files, and/or the best that data handling can offer in the foreseeable future, then Omnis 7 is out there setting the pace.

I have not included a rating chart. It seems like only yesterday that I gave Omnis 5 full marks, and here we have much more of the same. As far as I could discover, there is nothing that version 5 did that version 7 cannot do. Admittedly the newness shows in many insignificant details, but on sheer data handling I cannot fault Omnis.

OMNIS 7 OPTIONS

Omnis Seven is available as a starter kit (full working program, limited to 150 records and two-page reports) or a development kit (without the limitations). Omnis Seven Plus provides Omnis-SQL connectivity, again with the options of a starter kit and a development kit.

Omnis Seven Starter Kit £75
Omnis Seven Development Kit £750
Omnis Seven Plus Starter Kit £150
Omnis Seven Plus Development Kit £1500

New Version XTND

Apple Offers New Version of XTND Developer's Kit

Apple Computer, Inc. have announced that it will distribute the XTND Developer's Kit Version 1.3 through APDA, Apple's source for developer tools, which is available immediately.

XTND is an open-translation architecture that provides software developers with the tools to build functionality into applications for transparent data translation between different applications and in multivendor environments. XTND, created and previously distributed by Claris Corporation, enables developers to increase the usefulness of their applications by letting users access a wide variety of files across Macintosh, PC, workstations, mini and mainframe computers.

"Apple is supporting the XTND Developer's Kit because it is an important part of our cross platform strategy," said Roger Heinen, vice president of the Macintosh Software Architecture division.

"We urge developers to build XTND functionality and import/export translators into their applications to provide users with seamless data integration between different applications and over networks."

User Benefits

This file translation capability allows users to freely access information from a wide variety of file formats. Users can share files among co-workers, regardless of whether the applications creating and reading the files are different. For example, a document created by WordPerfect PC running on a PS/2 computer, can be opened by a user running MacWrite II on a Macintosh computer, modified, and then passed on to a co-worker who is using Ragtime 3. In most cases, all formatting, fonts and styles are retained.

Since XTND takes advantage of the standard Macintosh user interface, users can easily understand and operate it. From within any XTND- compatible applications, they simply select the standard "open" or "save as" option from the menu. The XTND system then lists the file translators currently available from which users can choose, via a pop-down menu. After the user selects the file format preferred, XTND loads the appropriate translator. This allows the document to be translated into the format the user requests.

Users can easily take advantage of XTND file translators by simply copying them into a specific folder in their Macintosh System Folder. When users work with an XTND-compatible application, they have the translation services of all XTND translators that are located in their folder, since applications share translators.

The number of file formats users need translated can be increased at any time by simply dropping new translators into the folder.

"XTND is one of the most important technologies in Apple's arsenal," said Conall Ryan, President of ON Technology, Inc. "It is key in multivendor environments where co-workers engage in collaborative computing across applications and platforms."

XTND Developer's Kit 1.3

Developers can use the XTND kit to increase the value and power of their applications in two ways. First, they can incorporate the XTND system into their application simply by adding a small portion of code. This now enables their XTND-compatible application to read and write hundreds of different file formats.

Secondly, developers can use XTND tools to create file translators specific to their applications, which assures that all XTND-compatible applications can read and write data files of that format.

New Features

Core translators for MacWrite II 1.1, MacWrite 5.0, MacPaint, TEXT and PICT are included with this new XTND Developers Kit to provide developers with an initial set of translators that can be redistributed with their applications.

Source code for the MacWrite 5.0, MacPaint, TEXT and PICT translators are also included to provide developers an illustration of how to write XTND translators.

XTND 1.3 is System 7 compatible and, compared to earlier XTND versions, it reduces the amount of launch time added by XTND to applications.

XTND-Compatible Applications

Several applications are already XTND compatible.

The list includes: MacWrite II 1.1, FileMaker Pro 1.0, MacDraw Pro 1.0 and Claris CAD 2.0 from Claris Corporation; On Location and Instant Update from ON Technology, Inc.; WordPerfect from WordPerfect Corporation; Stuffit Deluxe from Aladdin Systems, Inc.; Ragtime 3 from Ragtime USA; OmniPage from Caere Corporation, Nisus from Paragon Concepts, Inc.; ReadRight from Optical Systems, Inc.; EndNote 1.4 and EndNote Plus 1.1 from Niles and Associates; Recognize! from Dest; GreatWorks from Symantec Corporation, and Taste from DeltaPoint Inc.

Additionally, Interleaf, Inc., T/Maker Company, Scholastic Software, Frame Technology Corporation, Letraset USA and Ventura Software, Inc. have announced support for XTND in future products.

Pricing and Availability

The XTND Developer's Kit Version 1.3 is available immediately for $30. To order this product, contact APDA at (800) 282-2732 within the U.S.; (800) 637-0029 within Canada; or (408) 562-3910 from locations outside the U.S. or Canada. The Part Number is R0096LL/A.

Upgrades: APDA will automatically ship free XTND 1.3 upgrades to previous Claris XTND 1.2 licensees in an effort to insure compatibility with future Apple products.

XTND Developer's Kit Contents:

- The Claris XTND System for translator management.
- Translator files for MacWrite II 1.1, MacWrite 5.0, MacPaint, TEXT and PICT
- Sample source code for MacWrite 5.0, MacPaint, TEXT and PICT translators
- Sample application source code
- Programmer's Guide
- Software Distribution Agreement

System Requirements: A Macintosh Plus computer or later, System Software 6.x or later and a hard disk.

PowerBundle

Two recent press releases from T/Maker Company

T/Maker Announces the PowerBundle for the PowerBook

T/Maker® Company today announced the availability of PowerBundle™ for the new Macintosh® PowerBook™ computers. PowerBundle is a custom-designed carrying case for the Macintosh PowerBook™ containing hundreds of dollars worth of specially selected software for these new 'Macs on the Go.'

The suggested retail price of the PowerBundle is $249.95. If purchased separately, the PowerBundle case and software would retail for $588.80. Availability is immediate. "The PowerBundle is one of the outstanding buys for new Macintosh PowerBook purchasers," states Bruce Gee, Apple's PowerBook product manager. "Most PowerBook buyers will want a carrying case. T/Maker is offering a great case and software specially suited to notebook use. The PowerBundle is almost an irresistible purchase."

The Carrying Case for the PowerBook, made of high-quality black Cordura, was designed to carry not only the PowerBook but the recharger, extra power supply, and other peripherals as well. The double-zippered case contains internal and external pockets for folders, booklets, diskettes, business cards, pens, and papers. Also included is a padded, adjustable shoulder strap.

The PowerBundle also contains a rich selection of software targeted specifically for notebook use. PowerBundle software includes:

- WriteNow 2.2 from T/Maker Company. A high-performance word processor that is optimized for the PowerBook, and Microsoft® Word compatible.
- Address Book Plus™ 2.0 from Power Up Software. Great for keeping names, addresses, and phone numbers, and providing output in numerous handy formats.
- Business Expense Reports by Chipsoft. Convenient, automated reporting of business expenses while on the road.
- ClickArt® for Faxes by T/Maker Company. An innovative collection of electronic FAX cover sheets for business, home, and fun.
- America Online™ by Quantum Computer Services. The graphical, easy-to-use online service for news, travel arrangements, and information.

"We designed a quality carrying case so people would feel comfortable that their PowerBook was well-protected," states Heidi Roizen, T/Maker president and CEO. "And we spent a lot of time finding the right mix of software, software PowerBook owners will find invaluable whether they're on the road or not."

For more information, please contact Laura Johnson, T/Maker Company, 1390 Villa Street, Mountain View, California, 94041. (415) 962-0195 FAX (415) 962-0201

T/Maker Releases ClickArt Newsletter Cartoons

T/Maker® Company, a leading supplier of electronic art, today announced the release of ClickArt® Newsletter Cartoons, its third image portfolio by noted cartoonist, Phil Frank, creator of the exclusive San Francisco Chronicle feature Farley and the nationally syndicated strip, Miles to Go. Newsletter Cartoons marks the fourteenth portfolio in the ClickArt series.

ClickArt Newsletter Cartoons is a collection of 100 imaginative cartoons in bitmapped format. The images add a touch of humor to newsletters, flyers, and other types of publications. Frank's sailboat glides smoothly along on untroubled waters to illustrate financial success; his convertible heaped high with personal belongings calls attention to moves; and a no smoking message comes across loud and clear when a nurse aims a fire hose at a guilty party. The portfolio includes artwork for a variety of subjects including: headlines, health, sports, travel, leisure, people, education, ecology, money, parties, elections, and more. Newsletter Cartoons is available for the Apple Macintosh® at $49.95 suggested retail price and for the IBM® PC and compatibles at $69.95.

"Our Phil Frank cartoon portfolios have been so popular," states Christine Duff, Director of ClickArt Products at T/Maker, "that we decided to publish more. And, although these cartoons were selected with newsletter topics in mind, they'll show up in a lot of places—advertisements, brochures, coupons, you name it. They're so versatile they can be used in a wide variety of situations—from illustrating serious issues like environmental concerns to adding humor to travel or sporting events announcements."

For more information, contact Christine A. Duff, T/Maker Company, 1390 Villa Street, Mountain View, California, 94041. Telephone (415) 962-0195 Fax (415) 962-0201.

SuperMac & DayStar

SuperMac & DayStar's Co-Marketing Relationship

SuperMac Technology™ and DayStar Digital have announced the beginning of an on-going, strategic co-marketing partnership between the leaders in Macintosh® graphics and CPU acceleration. The first result of this relationship is a special promotion for customers who buy a 40 or 50 MHz DayStar PowerCache (for the Macintosh II, IIx, IIcx or IIci) and a SuperMac Thunder/24™ accelerated color graphics card. These customers will receive a SuperMac SuperMatch™ Display Calibrator, valued at $695, free.

"SuperMac's customers desire the utmost in performance from their systems, so it's logical that the leader in CPU acceleration and the leader in color graphics acceleration team up to provide these high-end customers with a complete solution," said Jon Carter, director of vertical marketing at SuperMac.

"The SuperMac Thunder™ family of graphics cards provides the fastest graphics on the Macintosh and Daystar's PowerCache has been widely accepted as the performance leader. Together they provide users of QuarkXPress, Photoshop, FreeHand, and Illustrator the killer combination for graphics performance on the Macintosh."

CPU and graphics acceleration products perform different functions on the Macintosh. CPU acceleration speeds up system-level functions such as numerical calculations and general information processing. A graphics accelerator speeds up QuickDraw™ performance that relates to moving images, drawing lines, scrolling, and other graphics-specific functions. Combining both CPU and QuickDraw acceleration provides the highest level of performance possible on a Macintosh system. SuperMac Thunder/8™ and SuperMac Thunder/24 are the industry's highest-performance 8- and 24-bit workstation-class color graphics cards for the Macintosh.

The SuperMac Thunder cards are the first SuperMac graphic cards to take advantage of the company's unique OpenSlot™ connector that enables unlimited upgrade potential for system software and applications acceleration to be piggybacked onto the card. SuperMac Thunder is already optimized to work with the upcoming Motorola 68040 architectures, to deliver the most powerful prepress solution of the future. DayStar's PowerCache is a universal 68030 accelerator on a cache card with an optional high-speed math chip, which can be used in almost any Macintosh computer. It is available in 33, 40, and 50 MHz speeds, and provides up to triple the performance for most Mac computers.

SuperMac's SuperMatch Display Calibrator provides precise matching between on-screen and printed color by automatically calibrating all the color devices on color and gray-scale Macintosh display systems. The SuperMatch System provides both spot and continuous-tone color matching for accurate reproduction of all color images, including those with photographs or blended color.

SuperMac is a leading supplier of graphics peripherals to the Macintosh color desktop-publishing, color prepress, and digital video markets. Its product lines include color graphics cards; 16", 19", and 21" color displays; image compression products; and digital video solutions. DayStar is a leading provider of high-performance hardware enhancements that improve system performance for the Apple® Macintosh computer. DayStar products include high-performance CPU upgrades, cache memory boards, SCSI accelerators and RAM expansion boards, and an AppleTalk® interface board for IBM-to-Macintosh connectivity.

SuperMac's 24-bit support for Mac Quadras

SuperMac Technology™ have announced that its entire line of 24-bit graphics cards and all large-screen (19" and 21") displays are completely compatible with the new Quadra machines introduced by Apple. Now, color graphics professionals can combine the speed and performance of the new Quadra machines with the latest accelerated graphics-board technology to deliver the color-publishing and prepress systems of the future.

The new Quadra machines are designed to offer on-board video support for 24-bit small-screen (12" and 13") or 8-bit large-screen (21" only) displays. SuperMac offers color graphics professionals 24-bit on large screens, either 19" or 21" displays, and the most complete family of accelerated 24-bit cards. SuperMac Thunder/24™ was designed for use with the new Quadra machines to deliver the most powerful prepress solution available. SuperMac Thunder™ is the first SuperMac™ card to offer the unique OpenSlot™ connector, a feature that offers unlimited potential for acceleration of system (QuickDraw™ and QuickTime™) and for popular color-graphics application software to be added to the card as a daughterboard. SuperMac Thunder represents SuperMac's third-generation ASIC technology offering the industry's fastest accelerated color-graphics performance.

"The combination of Quadra and SuperMac Thunder/24 provides a really screaming solution for serious color-graphics professionals," said Scott Billups, president of VIZ-NET, a computer-graphics production firm. "I can't imagine why users requiring the power of the Quadras will want anything less than fast, large-screen, 24-bit true color."

Display Products

All of SuperMac's displays shipping from now on will be compatible with Quadra. More importantly, SuperMac's 21" displays run directly off the motherboard video without the need for an additional graphics card. The SuperMac 19" Dual-Mode Trinitron® Display is the only Trinitron® that is compatible with Quadra motherboard video. Because of its dual-mode capability, the Trinitron® will "sync" to the motherboard in 21" mode in 8-bit. When combined with a compatible 24-bit card, it will deliver the ultimate solution in fast, high-end, 24-bit performance.

The 21" SuperMatch™ Two-Page Color Display is also fully compatible with Quadra motherboard video. When combined with any SuperMac-compatible 24-bit card, it will deliver fast 24-bit performance, superior color fidelity, and two-page viewing functionality. The 19" SuperMatch Color Display, when combined with a compatible 24-bit SuperMac graphics card, will deliver 24-bit, large-screen performance. All SuperMatch displays provide a true-to-life 6500° Kelvin white point and European Broadcast Union phosphors for richer color fidelity. 24-Bit, Accelerated Color Graphics Cards SuperMac's entire line of large-screen, 24-bit graphics cards will be compatible with Quadra, including the Spectrum/24™ Series III, Spectrum/24 PDQ, Spectrum/8•24™ PDQ, and SuperMac Thunder/24.

The Spectrum/24 Series III will require a free ROM upgrade, which will be available directly through SuperMac.

SuperMac's accelerated 24-bit color graphics cards provide the broadest range of support for large-screen 19" and 21" displays in the industry, including Apple's recently announced 21" and others from SuperMac, Radius, and RasterOps. Current SuperMac customers interested in the compatibility of current products with Quadra should contact SuperMac Technical Support at (408) 245-0646. SuperMac designs products that accelerate or enhance the performance of Apple's system-software standards. The company is a leading supplier of graphics peripherals to the Macintosh color desktop-publishing, color prepress, and digital video

markets. SuperMac's products have received numerous editorial awards for quality and innovation, including the National Software Testing Laboratory's designation as best large-screen Macintosh® display system in April 1991. Its product lines include color graphics cards; 19" and 21" color displays; image compression products; and digital video solutions.

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New MicroNet Internal Disk Arrays for Quadra 900s

MicroNet is proud to introduce the new Micro/RAVEN-040 high-speed, 16-bit disk array for the Macintosh Quadra 900. Designed so that each drive in the two-drive disk array connects directly to the two internal SCSI ports on the Quadra 900's motherboard, the Micro/RAVEN-040 leaves all five NuBus slots open for other applications.

Due to the features of MicroNet's enhanced SCSI Manager, the Micro/RAVEN-040 is capable of 4.7 MByte/sec sustained data transfers. MicroNet SCSI Manager also allows the RAVEN-040 to use both the Quadra's 900 built-in SCIS ports for synchrounous data transfers across a 16-bit data path.

Advanced overlapping-seek algorithms enable seek times as fast as 5.7 ms. Micro/RAVEN-040 is available in internal capacities of 624, 828, 846, 1,030, and 2,024 MBytes. The high performance of the RAVEN disk array is also available for the Quadra 700.

New MicroNet Internal Disk Mirroring for Quadra 900s

Due to its enhanced SCSI Manager for the Quadra family, MicroNet is now offering the fastest disk mirroring systems available for the Quadra 900. MicroNet's SCSI Manager allows the Micro/Mirror-040 to perform fault-tolerant functions with no degradation in performance. When data is mirrored, a copy of the data is placed on two identical drives.

Usually this process causes a performance hit in write operations. However, because MicroNet's SCSI Manager allows both the Quadra 900's SCSI ports to remain active, simultaneous write operations can be performed. Micro/Mirror-040 systems are designed to install internally in the new Macintosh Quadra 900. They connect directly to the SCSI port of the Quadra 900, so no individual mirroring controller card is needed.

This frees all five NuBus slots for other use. If one of the mirrored drives should cease to function, the user is alerted, and MicroNet's unique mirroring software automatically switches to the functioning mirror drive. This protects against data loss, with zero down time. Micro/Mirror-040 systems for the Quadra 900 consist of a matched pair of MicroNet high performance hard disk drives, and MicroNet's mirroring software. Systems are available in capacities ranging from 312 to 515 MBytes. Disk mirroring systems are also available in external configurations for the Quadra 700.

Contact: Omar G. Barraza, MicroNet Technology Inc., 20 Mason Street, Irvine, CA 92718 (714) 837-6033

Ethernet adapters for the Mac

Sonic Systems announces three media Ethernet adapters for the Macintosh

Sonic Systems, Inc. have announced the Ether A1 family of Ethernet adapters for the Apple Macintosh. The Ether A1 family of adapters have all three popular Ethernet cabling media on-board: thin coax, twisted pair and AUI.

The Ether A1 family of adapters are available for the Mac SE, SE/30, IIsi, L and the II family (including the Quadra 700 and 900 machines). All boards utilize a 32-bit bus architecture for maximum throughput. All boards are available with an upgradeable Static RAM buffer, which quadruples the amount of on-board memory from 16K to 64K, for increased data transfer rates. Ether A1 boards for the Mac IIsi and LC have a math co-processor (FPU) socket for math intensive applications. Finally, all boards have a Link Status LED for quick troubleshooting of twisted pair networks.

The new three media Ether A1 boards, as well as the revised two media Ether TnT and Ether TwP boards, are register level compatible with the Apple EtherTalk driver. This allows the boards to be installed in machines which have the Apple EtherTalk driver installed without any further driver installation. This insures a wide range of software compatibility including System 7.0, A/UX, and Phase I and Phase II protocols. Also, all boards are AppleTalk compliant and provide support for AppleShare, TOPS, Novell NetWare, MacTCP and DECNet.

"With the Ether A1 boards, and our revised Ether TnT and TwP two media board because we are register level compatible, the user can simply drop the Ethernet board into a Mac and expect the highest level of performance and compatibility," said Dean Wiegle, Manager of Hardware Engineering at Sonic Systems, Inc. "And all Sonic Systems ethernet boards accept an increased Static RAM cache which allow our boards to be the fastest on the market."

All Sonic Systems Ethernet boards come with Inside Ethernet diagnostic software. Inside Ethernet allows various Loopback tests to be run on the Ethernet hardware and the cable connection to determine whether the board is functioning properly. It also checks the slots of the host Mac and can see all network visible entities for quick troubleshooting.

The Ether A1, Ether TnT and Ether TwP adapters are available for the Mac SE, SE/30, IIsi, LC and the II family (including the Quadra 700 and 900 machines). The retail price for any version of Ether A1 is $399. The retail price for any version of Ether TnT and Ether TwP is $299. The Static RAM upgrade is $49. The FPU upgrade is $149.

All Sonic Systems products have a five year warranty and unlimited technical support. For further information regarding the Ethernet adapters or other Sonic Systems products, please call (408) 736-1900.

Sonic Systems designs and manufactures high performance communications products for the Apple Macintosh. Ranging from high-speed Ethernet boards to network management software to diskless booting software, Sonic Systems is dedicated to developing products implementing the latest in communications technology and offering the end-user the highest performance features for the best value.

Apple News

Downloaded from AppleLink

Apple Announces Apple Keyboard II

Product Description:

The Apple® Keyboard II is an ergonomically-designed keyboard for the Macintosh® family of personal computers. It includes a full alphanumeric typewriter-like key layout and an 18-key numeric keypad. The U.S. version of the keyboard complies with the industry-standard ANSI (American National Standards Institute) layout.

Users can adjust the keyboard angle to suit their preferences using adjustment feet. Its low-profile, quiet keys, small footprint, and affordable price make it the keyboard of choice for cost and ergonomics-conscious customers.

Significance:

The Apple Keyboard II replaces the previous standard Apple Keyboard with a more ergonomically designed alternative. This keyboard was previously offered only as a bundle with the Macintosh Classic, Macintosh Classic II and Macintosh LC. As of this announcement, it will be offered as a stand-alone product. As before, Apple also offers the Apple Extended Keyboard II which features an ergonomic design, as well as an expanded key layout that includes function keys.

Pricing, Availability, and Distribution:

The new keyboard will be available immediately through authorized Apple resellers worldwide. Its suggested retail price is $129 in the United States. Customers should call 1-800-538-9696 for the nearest dealer location. Pricing, availability, and distribution may vary outside the U.S. Editorial Contact: Kate Paisley Apple Public Relations 408-974-5453

Apple and Sony to Offer Customers an Integrated Networking Solution

Apple Computer, Inc. and the Sony Corporation have announced that Sony has licensed Apple's AppleTalk network software, enabling Sony workstations to communicate with a range of computing systems which support AppleTalk.

Under this agreement, Sony will offer AppleTalk as a networking option for their UNIX-based NEWS workstations by mid 1992. The NEWS workstation is available worldwide.

AppleTalk, Apple Computer's network operating system, is built into every Macintosh personal computer and is also available on many other vendors' computer systems and network servers. AppleTalk provides users with an intuitive view of network services and ensures these services work in a consistent manner, no matter on which computing platform the protocols reside.

The agreement announced today will expand the connectivity options for both Sony and Apple Macintosh customers. The four key benefits of this agreement are:

—Simplified connectivity:

Users of Macintosh computers and Sony NEWS workstations will be able to interconnect machines on local area networks.

— Powerful services:

Sony's RISC-based workstations will provide powerful AppleTalk network services such as file service and print service.

— High-speed networking:

Macintosh computers and Sony workstations will communicate via AppleTalk over high-speed (up to 10Mbits/sec.), industry-standard Ethernet.

— Ease of use:

Macintosh users will be able to access information and services on Sony NEWS workstations using the Macintosh computer's consistent, intuitive human interface.

According to Jim Groff, director of marketing for Apple's Enterprise Systems Division, "Sony's licensing of AppleTalk furthers Apple's goal of making the Macintosh interoperable with all major computing platforms. Macintosh computer users will have transparent, high-speed access to information, services and peripherals on Sony NEWS workstations."

"The demand for simple integration between Macintosh and UNIX machines is increasing in a wide variety of corporate and scientific sites," noted Dr. Toshi T. Doi, Senior General Manager, Supermicro Systems Group. "Through the simplicity of AppleTalk's 'plug and play' design, users can now easily access the power of a RISC workstation or server in their microcomputer environment."

Apple has also licensed the AppleTalk protocols to such companies as Adobe Systems, Novell, Digital Equipment Corporation, IBM, Banyan Systems, Microsoft, Tandem Computers and Pacer Software. Pacer, in turn, has licensed AppleTalk to such companies as Data General, Motorola, Hewlett-Packard, Oracle, and Lotus Development.

More than 100 New QuickTime Applications

Apple Computer, Inc.have announced that more than 100 new third party products will take advantage of QuickTime 1.0, its first extension to Macintosh System 7. QuickTime, available since December 1991, allows for the integration of dynamic data such as sound, video, and animation into mainstream applications.

"We believe that QuickTime will spawn a whole new era in personal computing," said Roger Heinen, Apple's vice president and general manager of Macintosh Software Architecture division. "In 1984 , Apple introduced users to the combination of text, and graphics. Today we are extending the combination to include video, sound and animation. QuickTime combined with exciting new third-party innovations will provide Macintosh users with powerful new functionality while maintaining the simplicity and consistency users have grown to expect."

QuickTime, a system software extension, will allow users to cut, copy, and paste, publish, and subscribe dynamic data in much the same way they do text and graphics today. For example, an engineer can create a simple animation to demonstrate the change in gas combustion at various temperatures. This animation can be cut, copied and pasted into a report, created with a standard word processor application. This report can then be shared with colleagues, allowing them to not only read about the

findings but also see the actual effects.

Apple expects that most applications that support graphics today will integrate these new data types. QuickTime is also expected to spearhead a variety of new categories of applications. These new categories include videoconferencing, dynamic documents, just-in-time training, low-cost video editing, and dynamic presentations. Some of the more than 100 third-party products supporting QuickTime include presentation packages such as Aldus Persuasion and Vividus' Cinemation; education applications such as Kid Pix from Broderbund and Scholastic's BankStreet Writer; word processors such as WordPerfect and Microsoft's Word 5.0; and new video-editing products such as Adobe's Premier and Diva's VideoShop.

QuickTime requires a Macintosh computer with a 68020 or later microprocessor, with system software version 6.0.7 or System 7, or later. Apple recommends at least 4MB of memory when using QuickTime with System 7.

Distribution and Pricing

QuickTime will be available to developers and customers in a variety of ways. Apple has licensed QuickTime version 1.0 to Macintosh developers to include with their new "QuickTime Savvy" products. Hardware or software products that take advantage of QuickTime are considered "QuickTime Savvy."

Apple has also begun shipping the QuickTime Developer's Kit. The kit contains more than 800 pages of printed documentation and a CD ROM containing the QuickTime extension, utilities, sample code, sample content, third-party digitizer components, and HyperCard XCMDs.

The QuickTime Developer's Kit retails for $195 and can be ordered by contacting APDA, Apple's source for developer tools, at (800) 282-2732 (AppleLink: APDA) within the United States; (800) 637-0029 (AppleLink: APDA) within Canada. From other international locations users can call APDA at (408) 562-3910 (AppleLink: APDA) or contact the local country APDA representative.

For customers, Apple will make available the QuickTime Starter Kit, which contains the QuickTime extension, new scrapbooks for System 6.0.7 and System 7, utilities, sample content, and an application catalog so users can explore the capabilities of QuickTime. The QuickTime Starter Kit will begin shipping in Spring 1992 and will be available for less than $200 manufacturer's suggested retail price in the United States. The QuickTime extension has also been localized in more than 20 countries with worldwide availability immediately.

Finally, the QuickTime 1.0 extension and new Scrapbook will also be available directly from Apple in the United States either by mail or by calling a toll-free telephone number (800) 947-5176. Future versions of the QuickTime extension will be packaged and sold as part of future versions of System 7. In the interim, the QuickTime 1.0 extension and new Scrapbooks will be available in the United States on electronic bulletin boards and through user groups.

(N.B. Apple UK have not givrn permission for UK user groups to distribute QuickTime extensions)

MacVonk HandiWorks

MacVONK Introduces HandiWorks 'All In One' Software for Macintosh

MacVONK have introduced HandiWorks, a new, integrated software application designed for "high volume" Macintosh computers like the PowerBook, Classic and LC. "We set out to make HandiWorks the most effective integrated application available," said Piet Vonk, cofounder of MacVONK. "We believe HandiWorks will rapidly become the top 'all-in-one' application on the Macintosh. Its low price, small memory requirements and innovative feature set are are unmatched."

HandiWorks combines a word processor, a spreadsheet, basic drawing and desktop publishing tools, and a practical database for phone numbers and addresses. Included with the software are templates for letterhead, invoices and other office forms. The program opens as a blank page where text, numbers (spreadsheets) and images can be created or imported.

Everything on the page is linked, no matter how many independent spreadsheets are in the document. Whenever a data change is required, all the linked items are automatically updated.

HandiWorks can read files from all major word processors and spreadsheets. It can export to them as well. Pictures can be imported from any popular drawing program, and manipulated within HandiWorks.

HandiWorks' PhoneBook is a key feature that differentiates it from other integrated application packages.

The PhoneBook is actually a database which stores up to 5,000 names, phone numbers, and addresses. As a desk accessory it runs in a conservative 50K because only the active record is stored in the computers' RAM. All other records are stored on disk.

The HandiWorks PhoneBook can be used from within other applications and can be merged with documents for personalized mass-mailings. It can also dial the user's phone, even within a large-office phone system.

Other features that make HandiWorks a powerful tool for professional communications include a disk full of templates; a built-in hyphenation program; and dictionaries for spell checking in English and Spanish. Dictionaries for 13 other languages are also available.

HandiWorks' Templates include standard forms, invoices, letterhead, fax forms, and office memos. Users can also create their own standard documents and save them as forms.

HandiWorks consumes a small amount of memory, making it especially well-suited for PowerBooks, Classics and other "high volume" Macintosh computers. Macintoshes with only 1 MB RAM can easily run HandiWorks under System 6, the older version of Apple's operating system software.

The 2 MB RAM, now standard on PowerBooks, Classics and other new Macintoshes is more than sufficient for running HandiWorks under System 7. HandiWorks began shipping in November 1991, available through MacVONK's sales offices in Canada, California, and Pennsylvania. At the suggested retail price of $175, HandiWorks is the lowest-cost 'all-in-one' program on the market.

MacVonk NetOctopus

Network Management Software for the Macintosh

MacVONK•USA have announced the release of NetOctopus, a powerful network management application for Apple Macintosh computers. NetOctopus provides network administrators with a fast, comprehensive tool for maintaining corporate site license agreements, preventing software piracy, managing enterprise-wide system and software upgrades, keeping inventories and trouble shooting throughout the network.

"The move of the Mac into mainstream corporate America has created a rapidly growing need for network management software," said Jan Deruiter, general manager of MacVONK•USA East. "NetOctopus is hitting the market at a prime time. This area is still in its infant stage and at the verge of taking off." With NetOctopus, network administrators can perform multiple (asynchronous) tasks on multiple users at the same time, even across network zones. All tasks take place in the background on both the users' and the network administrators' computers.

NetOctopus addresses two key areas of network management, information gathering and file maintenance, and integrates them so that network administrators can immediately act on the data they find. For example, NetOctopus can compile a list of Macintoshes that are running outdated LaserWriter drivers, allowing the network administrator to instantly upgrade all the users. Simple processes like this used to require hours of manually checking, deleting and installing files on each individual Mac on the network.

File Management & Reporting Capabilities

Safely installing, deleting and updating software on an entire network requires extensive file management capabilities. NetOctopus provides this, compiling logs that inform the administrator if files have been deleted, are in use, or exist more than once. NetOctopus also maintains an internal database, storing information on over 100 items related to setup and system configuration, software, and hardware on users' machines.

Information is accessible on all CPUs, RAM configurations, NuBus cards, monitors, ADB devices, and SCSI devices. The database is also fast. It saves the administrator from re-querying the network every time information is called for. For reports, users can design task-specific templates or use one of the over 20 standard reports included with NetOctopus.

System 7 Compatibility Checker

NetOctopus includes a built-in System 7 compatibility checker that will check an entire network and create a detailed report on compatibility problems, required upgrade versions, and upgrade policies. This streamlines the upgrade process and helps prevent or resolve the time-consuming problems that can occur when upgrading to System 7.

Site Licenses and Piracy Protection

Companies are currently under pressure to honor software license agreements and prevent employees from using illegal copies of software. NetOctopus enables administrators to verify the legitimacy of applications installed on users machines, making it easy to maintain corporate site licenses. It allows

administrators to limit the number of people who can install software on other machines, and prepares customized reports that verify version numbers for software updates.

Security and Access Privileges

NetOctopus includes serialization and security schemes that protect the network from unauthorized users. Those who purchase a separate version of NetOctopus cannot access machines previously initialized by the network administrator, unless they are granted access privileges. NetOctopus can support up to a hundred system managers, each with unique levels of access. End users are also protected: They can specify whether others may install, update, or delete files, search their start up volume, and shut down or restart their computers. Personal files remain confidential, and network administrators cannot view the users' screens or see which applications are currently in use.

Pricing and Availability

The NetOctopus Administrator Kit, priced at $645, supports an unlimited number of administrators and up to ten end-user Macintoshes. Additional kits for up to 5 users are $275. Site licenses are available for installations of 50 or more users. Educational discounts are also available. NetOctopus is available now through MacVONK's direct sales force and through a growing number of dealers. MacVONK•USA, based in Narberth, PA, markets and distributes Macintosh software for business users. The company specializes in "mutually supportive" office programs designed to integrate with and complement others in the product line. Products include P.INK DataServer, KeyPlan, LaserPlot, Inforum, and RagTime 3.

Contact: Richard Wright MacVONK USA West (408)973-7100

Miramar Announces Macintosh Client Support under OS/2

Miramar Systems, a leading provider of Apple Macintosh to PC LAN connectivity software, have introduced a version of their MACLAN Connect gateway software that will support IBM's OS/2 operating system. MACLAN Connect OS/2 will be available in the second quarter of 1992, and will provide consistent functionality with current MACLAN Connect products.

"We're very excited to be able to announce our support for OS/2, which is IBM's preferred operating system for PCs," said Miramar president Neal Rabin. "The OS/2 operating system will provide a high-performance platform for MACLAN Connect, and will allow us to dramatically improve system performance for our users."

Miramar also announced that MACLAN Connect has been tested and approved for inclusion in the IBM National Solutions Center. MACLAN Connect is the exclusive software gateway product that IBM recommends for customers seeking to implement Mac - PC LAN networking.

The inclusion of MACLAN Connect formalizes a relationship that has been developed over the past year between the two companies, and greatly expands the market potential for Miramar Systems' products. MACLAN Connect OS/2 will allow both PC and Macintosh users to access and share resources that exist throughout a network, and to do so using the same user interface they currently use.

"MACLAN Connect OS/2 will provide transparent, seamless integration of Apple Macintosh computers into any OS/2 PC LAN environment," said Greg Goodman, Miramar Systems co-founder. "All our software is fully AFP (AppleTalk File Protocol) and AppleTalk Phase II compliant, and our OS/2 version will take advantage of OS/2's High Performance File System to alleviate system overhead and improve performance."

Netware Version of MACLAN Connect

Miramar Systems, Inc. have announced a new version of MACLAN Connect that is optimized for Novell NetWare. MACLAN Connect for NetWare is a software gateway that integrates Macintosh computers and printers into NetWare environments. Available now, it allows both Macintosh and PC users to easily share printers, LAN volumes, CD-ROM drives and other resources, regardless of their physical location on the network.

"MACLAN Connect for NetWare greatly enhances the options of Network Managers who must satisfy both Macintosh and PC users," said Miramar president Neal Rabin. "Miramar customers can now take full advantage of offerings from both Novell and third-party developers to create enterprise-wide networks. Network resources are easily and reliably available to all users, through the computer interfaces they prefer."

MACLAN Connect for NetWare takes advantage of Novell Application Programming Interfaces (APIs) to provide File and Print sharing to Macintosh and PC users. Hard drives, LAN volumes, CD ROM drives, and other network resources appear to Macintosh users as AppleShare volumes. PC users access them through their normal NetWare interface.

Both Macintosh and PC users can spool print jobs to PostScript printers attached to the Novell file server, the MACLAN gateway machine, or printers in Apple workgroups on LocalTalk.

Multiple NetWare servers can be accessed simultaneously through the MACLAN Connect gateway, which resides on a dedicated PC.

The product includes "NetWare Aware" administration software, with set up features that define pre-existing NetWare users and groups in one easy step.

"One of the problems for Macintosh users in traditional PC-based Novell networks has been that it is extremely confusing to access files without the "point and click" ease of the Macintosh," said Greg Goodman, Miramar co-founder. "We've solved that problem by adding an innovative feature: File Extension Mapping."

File Extension Mapping presents PC files as icons to Macintosh users, allowing them to load both the application and the data simultaneously by "double clicking". This saves several steps; users would otherwise have to locate the appropriate Macintosh application, launch it, and then find and open the data file.

MACLAN Connect for NetWare will be available through Miramar's direct sales force and its growing channel of resellers. It is licensed on a per-gateway basis rather than the more expensive per-server approach of most connectivity companies. Pricing is $795 for 1-4 user package; and $1595 for an unlimited number of users.

MACLAN Connect for NetWare does not require Novell's Network Loadable Module (NLM) or Value Added Product (VAP) for Macintosh, and is compatible with any 2.1X, 3.X or above version of NetWare.

Because MACLAN Connect for NetWare was designed to use Novell APIs in full NetWare environments, it does not support NetWare Lite, Novell's new peer-to-peer product. However, NetWare Lite is compatible with Miramar's original products, MacLAN Connect and MACLAN Connect Lite.

Miramar Systems, Inc. is a leading provider of Macintosh to PC LAN gateway software. Miramar has MACLAN Connect gateways for all major PC LANs, including Banyan Vines, Novell Netware, IBM LAN Server, Microsoft LAN Manager, Ungermann-Bass Net/One and Artisoft LANtastic. It is available in four configurations to meet the broadest range of user and networking requirements. Founded in 1987, Miramar is a privately held company based in Santa Barbara, California.

Contact: Greg Goodman Miramar Systems 805-966-2432

ISDN interface for USA

Apple Computer, Inc., have announced its Integrated Services Digital Network (ISDN) interface card for Macintosh personal computers in the United States and Canada. The company also outlined its architecture for integrating telephone functionality and services for the Macintosh.

ISDN is an evolving set of international standards for unifying a broad range of voice, data, imaging and video communication services in one digital wide area network.

The Apple ISDN NB Card will be the first Basic Rate NuBus interface card available in North America for connecting Macintosh personal computers to ISDN. The ISDN card will enable Macintosh computers to integrate telephone-based voice communications with computer-based high speed data communications, offering a single desktop tool from which users can perform business or personal communications.

When combined with third party applications, the Apple ISDN NB Card will give users access to a wide variety of services, including centralized document-, image- and video-database applications, integrated screen-based telephony and office automation applications, and high-speed file transfer.

Apple's telephony architecture establishes the framework within which Macintosh computers will support telephony integration. At the heart of this architecture is a new system software extension to the Macintosh Communications Toolbox called the Telephone Manager. The Telephone Manager provides a core set of telephone functions for developing and implementing integrated voice applications on the Macintosh.

Apple has been working with developers worldwide to develop Macintosh-telephony integration in three areas: 1.) third-party hardware products that support a broad range of telephony services and networks, 2.) screen-based and programmed-based telephony products and 3.) mainstream applications that are "Telephony- Aware."

The new ISDN card and Apple ISDN software, along with third party products from Cypress Research and Group Technologies, was demonstrated at the Interop 91 trade show and conference, October 9 - 11, 1991, in Apple's booth No. 3522.

In addition, several other vendors have also announced support for the Telephony architecture and Apple's ISDN NB Card. They are: Farallon Computing, Magnum Software and Sunrise Services.

At Interop, Cypress Research demonstrated its PhonePro, designed to make telephony application building easy. With PhonePro's icon-based programming language, users simply use task icons connected with lines to create customized telephony applications.

Any task involving phone, fax or voice can be performed by a Macintosh and the Apple ISDN NB card, including automated call attendant, voice mail and automated fax response. Group Technologies will show its Aspects product, the first software application to offer groups of people the ability to create electronic conferences in which they share written and graphic information. Using Aspects, conference participants on separate Macintosh computers could see and edit the same document, with changes appearing instantly on everyone's computers.

Apple's ISDN Product

The new ISDN card comes with Apple ISDN Software, the Telephone Manager and ISDN Tools and an external power supply that enables the telephone to act independently of the computer when the computer is not in operation.

The Telephone Manager and ISDN tools are available separately for developers worldwide who are interested in creating telephony and ISDN applications compatible with the Macintosh.

Apple ISDN NB Card and Software

The Apple ISDN NB Card is an intelligent NuBus card compatible with any Macintosh with a NuBus. Like Apple's other NuBus communications cards, it uses the Macintosh Coprocessor Platform (MCP), based on a Motorola 68000 microprocessor and 512 kilobytes (KB) of RAM.

The new card implements the CCITT ISDN basic rate interface (2B+D) and supports a standard analog DTMF (dual-tone multifrequency) telephone. Used with the Apple ISDN software, the ISDN card is compatible with AT&T 5ESS and Northern Telecom's DMS- 100 ISDN switches.

The card and software support simultaneous voice and data circuit switched connections, providing direct access to 64/56 Kbps connections and support the CCITT V.120 and V.110 rate adaption protocols.

Telephone Manager

The Telephone Manager provides a core set of telephone communications functions for the Macintosh Communications Toolbox, a high-level application programming interface (API). This functionality allows developers to write applications that run over a variety of telephone networks.

ISDN Tools

The Apple ISDN Telephone Tool controls the telephone functions of the Apple ISDN card. The Apple ISDN Serial Tool controls the data communications function of the Apple ISDN card. The Apple ISDN Serial Tool is supported by the existing Connection Manager in the Communications Toolbox, allowing any of the applications that support the connection manager to take advantage of the higher speed data communications functions provided through Apple's ISDN NB Card's and the ISDN network.

Price and Availability

The Apple ISDN NB Card with software and external power supply is available commercially in the United States through authorized Apple dealers for a manufacturer's suggested retail price of $1099 U.S. Prices outside the United States may vary.

The Telephone Manager and ISDN tools are available to any development customer through APDA, Apple's source for developer tools.

For ordering information, contact APDA at (800) 282-2732 in the United States, (800) 637-0029 in Canada, and (408) 562-3910 for other countries.

Apple in CIS

Increased Presence in Eastern Europe

Apple Computer Europe has held the final event in a series of product rollouts designed to mark its entry into the Eastern European and Commonwealth of Independent States (CIS) markets. Since November 4th 1991 when the first of these events took place in Budapest, Apple has been addressing prominent representatives of the national business, government and press communities in Prague, Moscow and Warsaw to formally announce its partnership with local distributors and give details of its strategic directions for those markets.

"We firmly believe that this is the right time to establish the presence of Apple products in all the market segments of these countries," said Sergio Nanni, senior director of Apple Computer Inc., in charge of the development of the Eastern European and CIS markets.

These markets are supported in key areas such as sales, marketing, communications, localization, training and service by the Apple IEA (Independent Marketing Companies - European Area) department, headed by director, Gilles Mouchonnet. The Paris-based department is responsible for the development of Apple's sales and marketing activities in countries where Apple is represented locally through an Independent Marketing Company (IMC).

This model has allowed Apple to establish partnerships with companies who have the necessary local expertise and market knowledge to ensure the best implementation of Apple's strategies. In fact, IEA has been one of Apple's fastest growing business areas during fiscal year 1991, registering a 78% growth in revenue over the previous year.

For the past six months Apple has been working actively in Czechoslovakia, Hungary, Poland and the former USSR to develop relationships with companies whose experience of the local computer market and knowledge of customer base provided a strong synergistic fit with Apple's own business objectives. Apple has four IMCs in this area; Moscow-based Intermicro, Prague-based TIS covering Czechoslovakia, Graphisoft located in Budapest covering Hungary and SAD in headquartered in Warsaw covering Poland. Each of the IMCs has, in turn, already appointed a network of local resellers numbering over ten per country.

The launch event in each city also included the presentation of Apple's localized version of the System 7.0.1 Macintosh operating system along with demonstrations of localized software packages. With the addition of the Hungarian, Polish, Czech, Slovak and Cyrillic versions of the operating system the Macintosh is now offered in 33 local language versions worldwide.

Speaking in Moscow to an audience of several hundred key decision makers, including the rector of Moscow International University, the deputy minister of Education and the president of the Association on Science and Research in Education, Nanni said "Apple Computer sees customer satisfaction as a key element in market development. Offering full localization of the Macintosh operating system, keyboards, manuals and fonts plus ensuring a high quality of service and support through our partners sets the stage for developing a strong business in these new markets".

Apple Computer Europe, Inc. was established in August 1988 as one of the three geographic units of Apple Computer Inc.. The unit includes thirteen subsidiaries in Europe as well as representation through Independent Marketing Companies in African, Mediterranean and Middle Eastern countries and now Central Europe and the CIS.

Macintosh Inside Out

Brief reviews of some of the Macintosh Inside Out Series by John Arnold

Macintosh Inside Out is a series of books edited by Scott Knaster and published by Addison Wesley for Macintosh programmers. So far the series consists of 16 books.

Below are short reviews of some of these. I have tried to give some idea of the range of topics covered by listing the chapter contents for each book.

As I have come to expect with the Addison Wesley Macintosh books, the ones I have seen are well produced all with paper covers.

D. A. Wilson, L.S. Rosenstein, and D. Shafer: Programming with MacApp: 1990: pp550: ISBN 0-201-09784-2: @ £22.95:-

Intended for users of Apple's object orientated programming (OOP) environment MacApp used in conjunction with MPW. The book contains material which would be useful to non owners of MacApp, as it has information on object orientated programming for the Macintosh. MacApp is written in an extended version of Pascal called Object Pascal. Programs are written in Object Pascal using the extensive object library supplied with MacApp. The book consists of five parts 1) discusses starting with MacApp and some basic OOP concepts, 2) deals with Object Pascal including testing with Think Pascal, the MacApp Class library, default behaviour, discussion of a small MacApp program with it's resource file, adding some of the usual items associated with the user interface, and ending with details of the various tools used in conjunction with MacApp. 3) using the Class library to display information, how to use the ViewEdit utility to create complex windows, creating a TextEditor window, storing data, and using lists. 4) dealing with menus, handling the mouse, and dialogs. Finally 5) creating a Real-World application in this case a simple graphics editor, however be warned not all the source code is printed in the book but is available on disk from America.

To take full advantage of the book you should have MacApp but there are parts which contain general useful information.

A. Meadow: System 7 Revealed: 1991: pp361: ISBN 0-201-55040-7: @ £20.65:-

The documentation from Apple for System 7 consists of some 2500 pages , not all of it is to be found in Inside Macintosh Volume 6, and so there is a need for guides to some of the features of the new system. This one deals with the following topics. 1) A short history of System 7. 2) description of the major changes to the Finder, (which incidentally was written in C++). 3) Human Interface Guidelines with respect to colour, menus, windows and dialogs. 4) what happens when you use the installer and details of the installer resources. 5) checking compatibility using the Gestalt manager. 6) The Program to program communications Toolbox which provides low level routines for interapplication communications. High level events and Apple events. 7) Edition Manager which provides the support for the new publish and subscribe feature allowing the updating of documents between applications. 8) Fonts and TrueType. A short history of Fonts as used on the Macintosh followed by brief details of the TrueType font and the Font Manager. 9) A look at the changes to TextEdit and also the Script Manager. Also in this chapter are details of the International resources. 10) The Data Access Language (DAL) with it's statements and operators, and the Data Access Manager. 11) the Help Manager which handles the new balloon help feature, with details of the Help resources. 12) The Sound Manager, the details of which will be needed for any programmer wishing to use sound. 13) The Communications Toolbox used when transferring files, perform terminal emulation and data services to applications. 14) AppleTalk and AppleShare for networking. 15) QuickDraw including coverage of the other graphics managers. 16) Memory Manager dealing with the main change of using virtual memory and 32 bit cleanliness. 17) A look at three managers, the Process Manager which is new to system 7, the Notification Manager and the Time Manager 18) The File System dealing with file handling. 19) Hardware Managers. 20) Object Orientated Programming and MacApp.

As can be seen from the above this book deals with a lot of information and should therefore make it useful as a reference text. It has no programming source code in the text, this aspect is available in another book in the series.

D.A.Holzgang: Programming the LaserWriter: 1991: pp439: ISBN 0-201-57068-8: @ £222.45:-

There have not been any books on programming the LaserWriter published before to my knowledge apart from those from Apple, although there are a number on PostScript, at least three of these being written by David Holzgang, so the current volume is a welcome addition to the Macintosh library. The code provided in the book is Think C 4.0 and PostScript.

The introduction deals with general background information on Macintosh printing with reference to LaserWriters. 1) LaserWriter printing:- containing a short history of the LaserWriter and the software components QuickDraw, PostScript, the Font Manager, the printing manager, the LaserWriter driver, LaserPrep and AppleTalk. Following this are details of the printing process and LaserWriter communications. 2) PostScript language concepts:- a general introduction to PostScript programming. 3) Printing Manager functions:- contains object orientated code using the Think C Class Library to develop a sequence of programs which send PostScript code to the LaserWriter using PicComments. 4) PostScript Program construction:- contains PostScript and C coding, but is not intended as a complete reference to PostScript coding. The chapter starts with the development of a simple tool for testing PostScript code and ends with a look at EPS graphics. 5) Basic LaserWriter programming:- how you program directly on the LaserWriter, including the development of a new class called CLaser. 6) Font Handling:- a look at screen fonts and printer fonts, with some details of PostScript fonts and font management. 7) Advanced LaserWriter operations:- the final chapter deals with communicating with the LaserWriter directly, rather than through the LaserWriter driver. An Appendix gives the complete source code of a LaserWriter programming application.

The book is aimed towards owners of Laser printers which use PostScript, non PostScript Laser printers are not catered for in any detail. A lot of information is presented in this book, and I am looking forward to the time when I have time to try out the coding examples given.

J.C.May & J.B.Whittle: Extending the Macintosh Toolbox: 1991: pp326: ISBN 0-201-57722-4:: @ £22.45:-

1) Introduction:- uses Think C. 2) Programming Language:- a quick review of some C conventions. 3) Initializing the Toolbox:- the C code needed to initialize the Toolbox. 4) Menus:- a collection of thirteen routines for handling menus. 5) Cursors:- creating and using cursors via a resource file. 6) Windows and Dialogs:- customizing dialog boxes. 7) Alerts:- bringing up three types of alert boxes on the screen. 8) Resources:- a look at Macintosh resource files. 9) Buttons:- setting up a default button. 10) Check Boxes:- 11) Radio Buttons:- 12) Icons:- two types: buttons and toggles. 13) Pictures:- drawing a picture from a PICT file. 4) Static Text:- 15) Edit Text:- 28 routines involving the manipulation of strings. 16) Lines:- drawing various lines. 17) Rectangles:- double and shadow frames. 18) Scrolling Lists:- 10 routines for handling scrolling lists. 19) Pop-up Menus:- how to draw and deal with pop-up menus. 20) Putting It All Together:- a small program which puts together some of the ideas from the previous chapters.

D.A.Surovell, F. M. Hall & K. Othmer: Programming QuickDraw: 1992: pp424: ISBN 0-201-57019-X: @ £22.95:-

1) Graphics Programming Overview:- A general introduction to the Macintosh graphic environment within the ToolBox called QuickDraw. 2) Basic Drawing Technique and Theory:- basic QuickDraw shapes and using regions, drawing text, the GrafPort. 3) Drawing in Color:- discussion of Color QuickDraw, color theory, Graphic Devices, Color GrafPorts, PixMaps and moving pixels around. 4) Display Control and Offscreen Drawing:- deals with offscreen drawing and palette-based display control. 5) Applied Graphics Techniques:- the start of the development of a paint application. 6) Mouse-Based Graphics:- discussion of the drawing tools required by the application. 7) Image Processing with QuickDraw:- manipulating images.

The code is object orientated C (but not Think C). The source code of the paint application developed in the later chapters is not printed in full, but is available on disk. The book should prove valuable for anyone interested in programming graphics for the Macintosh.

Other books in the same series are:-

M. Peirce: Programming with AppleTalk: 1991: pp265: ISBN0-201-57780-1: @£21.45.

G. Little & T. Swihart: Programming for System 7: pp400: ISBN 0-201-56770:

J. L. Harrington: The A/UX 2.0 Handbook: pp448: ISBN 0-201-56784:

P. Alley & C. Strange: ResEdit Complete: pp576: ISBN 0-201-55075:

D. Shafer: The Complete Book of HyperTalk 2: pp480: ISBN 0-201-57082:

K. Othmer & J. Straus: Debugging Macintosh Software with MacsBug: pp576: 0-201-57049:

N. Goldstein & J.Alger: Developing Object-Orientated Software for the Macintosh: pp352: ISBN 0-201-57065:

D. R. Carter: Writing Localizable Software for the Macintosh: pp352: ISBN 0-201-57013:

M. Andrews: Programmer's Guide to MPW, Volume 1: pp608: ISBN 0-201-57011:

D.Weston: Elements of C++ Macintosh Programming: pp512: ISBN 0-201-55025:

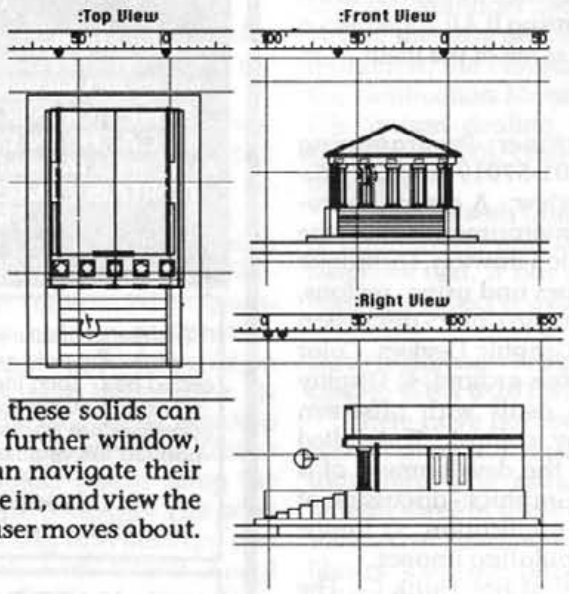
D. A. Wilson, L. S. Rosenstein & D. Shafer: C++ Programming with MacApp: pp624: ISBN 0-201-57020, or 57021 with disk.

Please remember that all Addison Wesley books can be purchased through Apple 2000 by ordering via the P.O. Box.

VIRTUS WalkThrough

A review by John Arnold

Described as a Computer-Aided Visualization package for spatial design, the box comes with a sticker announcing that it was the 1990 MacUser Editors' choice. Having tried it on a Mac Plus and an SE30 I was not all that taken with it initially, however having then tried a Mac IIX it seemed a somewhat more impressive package. I have come to the conclusion that it definitely needs to run on a colour machine. So what does it allow you to do? The idea of it is quite ambitious, and that is to allow the user to draw in plan view a number of pre-specified shapes, which are automatically extruded into the third dimension, these solids can then be viewed in perspective in a further window, and by using the mouse the user can navigate their way through the space the objects live in, and view the objects as they would be seen as the user moves about.



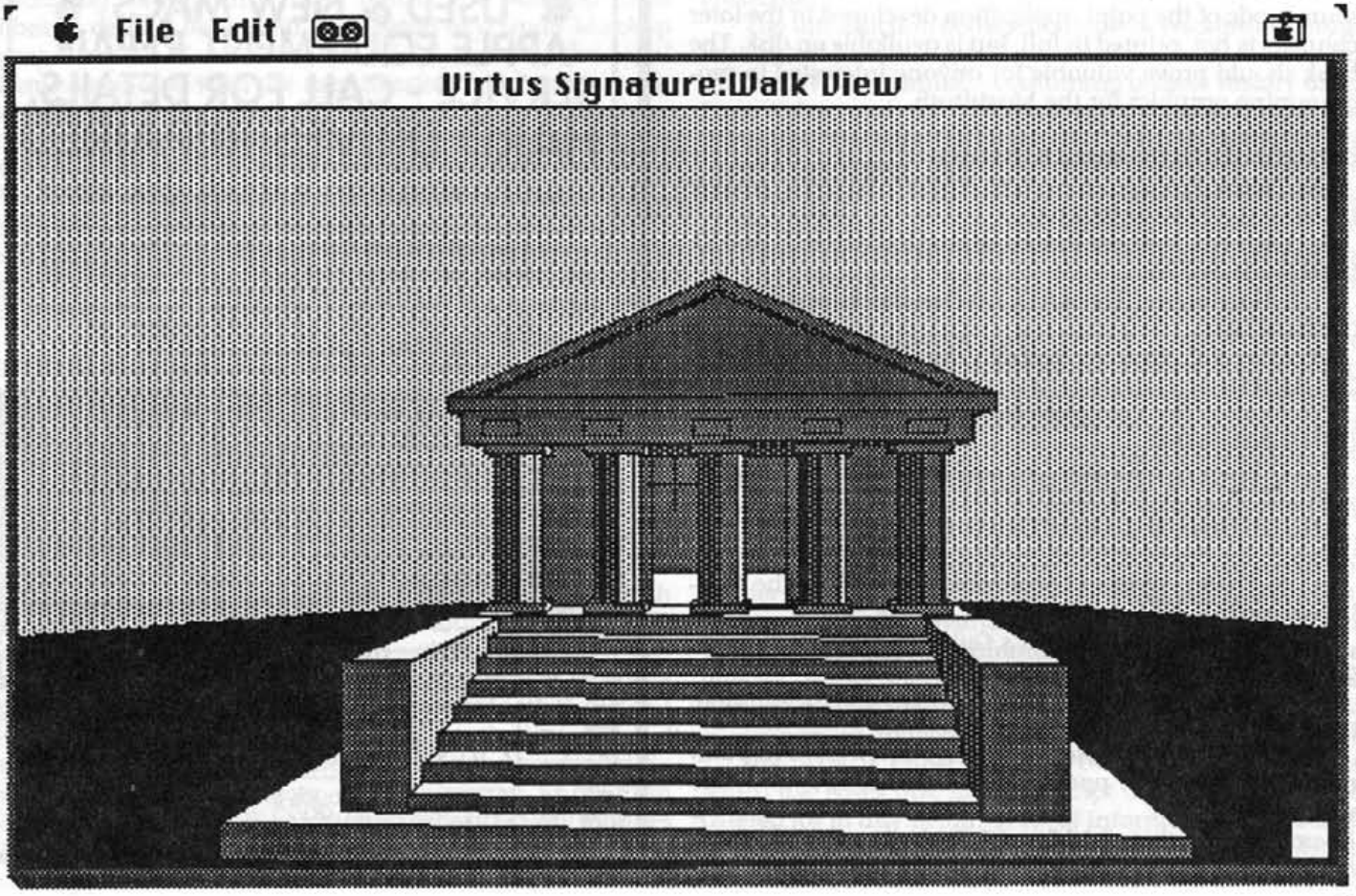
The speed of the window redraw as the position of the viewer moves is obviously dependent upon the complexity of the objects and their number.

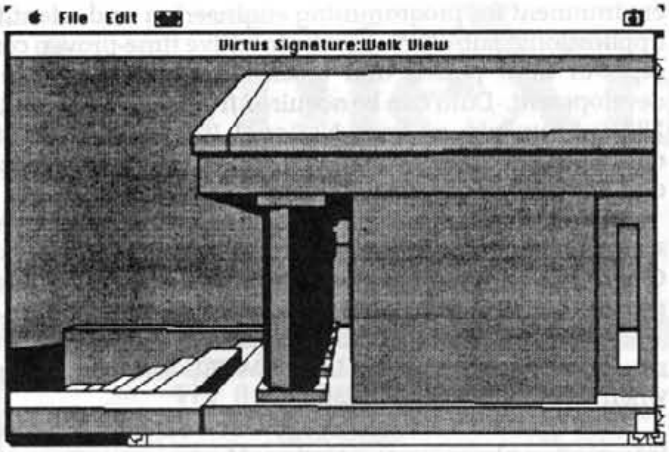
The Virtus package consists of a program disk and a library disk, a152 page manual, a quick reference card and a Virtus mouse mat, the price is £299. Virtus WalkThrough will run on any Macintosh computer, so long as there is at least 2 Mb of memory. The recommended configuration is a Mac II series with 32-bit Color QuickDraw, and the system software should be 6.05 or better.

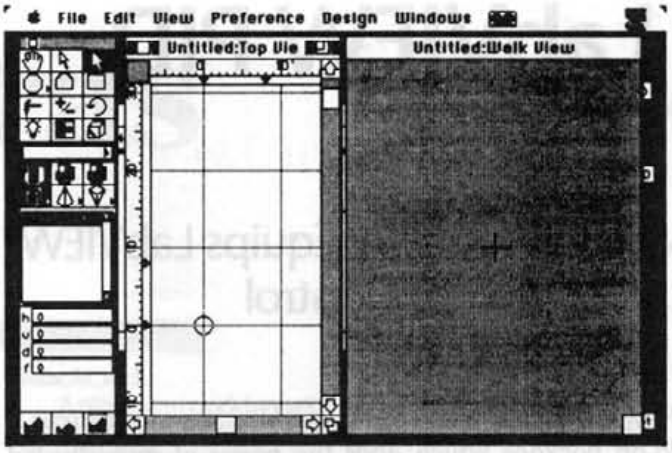
The manual contains the following:- Installation details, An introduction to Computer Aided Visualization (CAV), An overview of the design philosophy, The first tutorial which leads the user through many of the WalkThrough features, A second tutorial which introduces further features, and a Reference section in which all the tools and menu choices are explained.

The manual is adequate, although it contains a fair amount of white paper, and for the price of the package I would have thought it could have been printed on better quality paper. I have the feeling that most people paying £299 for a software package would expect a more substantial manual.

The initial screen is shown in figure 1. As can be seen there is a tool palette, a top view window







and a walk view window. The top view has vertical and horizontal rulers, which have the default setting of feet, this can be changed to metres with Edit:Environment... Also visible in this window is a small circle at (0,0), this represents the position of the observer with a small radius extension showing the direction in which the observer is looking. The direction can be changed by using option click inside the circle and dragging out the radius and setting its position to give the necessary viewing direction.

Virtus WalkThrough models real world objects by essentially using polyhedrons, which are drawn in the top view window by using either the rectangular or regular n-sided or irregular Object tool. The selected tool is used to draw the two dimensional shape, the height is dealt with by the program using a process called extrusion. A Depth Extension ruler can be opened up allowing the extrusion height to be changed, additionally the type of extrusion can be modified, eg. the vertical sides can be parallel or they can converge to give a pyramid shape. The extrusion can be above and/or below the object base to give a representation of a spherical type of solid. Also by using the opacity modifier the walls can be made opaque, transparent or translucent. Non-convex objects can be constructed by joining together convex objects with a transparent common wall. The object produced has both an outside and an inside, and the inside can if required contain further objects. Surface features can be modelled using two dimensional polygons, and their transparency set. In this way doors and windows can be added to the objects.

With thought and patience reasonably complex architectural models can be constructed, the software will then render the model in perspective and display it in the Walk view window. Navigation through and around the model can be achieved in two ways, firstly by moving the position and viewing direction of the observer in the top view, or better by using the cursor position in the Walk view the observer can move in real time through the space.

A number of windows are available in addition to the initial default ones. When designing the objects, the top, bottom, right, left, front or back view can be used. The surfaces can be edited so as to change their nature and their appearance:- the tumble editor for slicing objects, surface editor for adding windows, doors etc. and the lighting editor for adding lights and fixing their orientation.

The tools available from the palette include creating tools,editing tools for reshaping, resizing, colouring and restructuring surfaces and orienting tools for altering the way the image is displayed, it is possible to rotate and tumble objects and to magnify and minify (the program's term not mine, is this the first program to use it? I haven't seen it before but it does describe what the result will be!).

The tutorial section of the manual takes the user through the process of designing a room using the default settings, and using the library file to retrieve previously designed object and incorporating them into the room. Moving the observer through the room is dealt with as is saving and retrieving a file, also printing the active window. The printing on a LaserWriter is of course black and white with various shades of grey, and does not give the same effect as the colour screen image, but does however look much better than the screen image as it appears on the Mac Plus. The second tutorial leads the user through the process of creating objects of any size or shape, changing the surface structure, change the lighting of the model,make use of different layers, change the colour of a surface, and how to record and play back a walk path.

I have never found any three-dimensional drawing package particularly easy or quick to use, and this one is no exception, although the fact that the extrusion can be done automatically definitely will save some time. I noticed that repeated use of the magnify option from the menu will eventually lead to no enlargement even though the choice remains black, the menu choice should be grey when no more magnification is possible. The extrusion ruler filled itself up with rubbish on one or two occasions, and on this session I actually had it hang on me, I was in Multifinder on a Plus with 4 Mb, on trying to return from a wordprocessor to Virtus the menu bar stayed totally blank, and there was nothing to do except press the restart button. I haven't however been able to get it to do it again, and I have no idea of the reason for the hangup. A small but irratating point is that on the package submitted for review the quick reference card wasn't folded exactly square. Obviously this has nothing to do with the program itself but it doesn't give a good impression. In spite of what doubts I have given above, I actually like the program, I feel it would provide the user with a bit of a challenge to model an actual situation.

I think the price is still too high for the package as it stands, and the odd problem or two needs sorting out, and remember it is definitely better on a colour machine where it looks very impressive.

Virtus Walkthrough is distributed by Paramount Presentations, 17B Woodford Road, South Woodford, London, E18 2EL.

The program is available through Apple dealers, at the recommended price of £299.

LabVIEW PID

New PID Ctrl Pkg Equips LabVIEW 2.2 for Process Control

National Instruments announces today a LabVIEW 2 add-on package which adds the power of sophisticated control algorithms to the graphical programming system of LabVIEW. National Instruments demonstrated the LabVIEW PID Control Package this week at the '92 International Control Engineering Expo and Conference in Booth 3189.

The LabVIEW PID Control Package includes functions for:

- P, PI, PD, and PID algorithms
- Error squared PID
- PID with external reset feedback
- Setpoint ramp generation
- Lead/Lag compensation
- Feedforward control
- Multiloop cascade control
- Ratio/bias control
- Override (min/max selector) control

The PID algorithms feature bumpless auto/manual transfer, anti-reset windup, direct/inverse action, manual output adjustment, and a run/hold switch. You can combine the virtual instruments (VIs) in this package with LabVIEW's math and logic functions to quickly assemble block diagrams for real control strategies. All algorithms are created in LabVIEW's graphical programming language for easy modification. With these new PID control features, LabVIEW is more adept for factory floor applications using high-performance personal computers such as the new Macintosh Quadra computers.

Coupled with the company's wide selection of plug-in data acquisition boards for the Macintosh and other computer platforms, the personal computer can be used for monitoring and control of small scale factory automation and process control. In the last year, National Instruments has also announced two other LabVIEW products for the control market.

The company coannounced HighwayVIEW with the Software Engineering Group (Cambridge, MA) last summer. HighwayVIEW is a virtual instrument (VI) library and network driver for communicating with Allen-Bradley PLCs using the Macintosh serial port. National Instruments also recently coannounced HIST with Gary W. Johnson, Electrical Engineer. HIST is also a VI library for LabVIEW used in the process control market for historical trending, data logging, and time stamping. In continuing its commitment to bringing the power of PCs and general purpose instrumentation software to the process control environment, National Instruments is currently working on additional process control oriented LabVIEW features and support for PLCs from other manufacturers.

LabVIEW 2.2 is the latest version of the company's scientific software system for building high-performance instrumentation and analysis applications on the Macintosh. It features a unique icon-based graphical language and graphical compiler that provide a flexible, integrated environment for programming engineering and scientific applications. LabVIEW uses the intuitive time-proven concepts of front panels and block diagrams for software development. Data can be acquired from GPIB, VXI, or RS-232 instruments, or from National Instruments plug-in data acquisition boards. The LabVIEW PID Control Package is available now from National Instruments.

In addition to the PID VIs, the package includes simulations, demonstrations using the company's NuBus I/O boards, and documentation. Current LabVIEW users can receive the package upon request at no charge.

Customers who wish to purchase LabVIEW 2.2 will receive information on the LabVIEW PID Control Package when they receive their order.

LabVIEW 2.2 is available now for $1,995. For more information please contact National Instruments Corporation, 6504 Bridge Point Parkway, Austin, TX 78730-5039, (512) 794-0100, Fax: (512) 794-8411. Call toll-free in the U.S. and Canada at (800) 433-3488.

Alysis Software Corporation Announces More Disk Space

Alysis Software has announced its new hard disk expansion software, More Disk Space. More Disk Space is Alysis Software's alternative to archiving and compression utilities; the software automatically applies an array of data compression and space saving techniques to give users the maximum space that their hard disks are capable of containing — without any sacrifice in performance or compatibility. Users of the software can issue a single command from the program disk and literally double the available capacity of their hard disks.

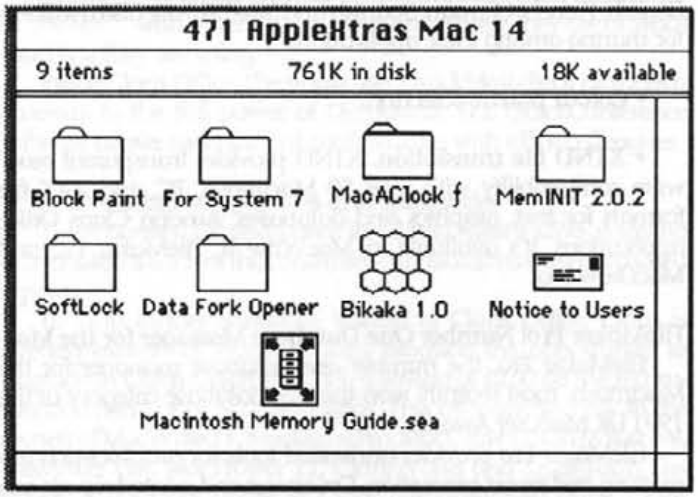
More Disk Space represents the second generation of disk expansion software: to deliver more space than compression utilities, it employees three new breakthrough technologies, resource compression, transportable compressed application (TCA) creation, and duplicate file replacement. As a result More Disk Space not only delivers more usable room on hard disks, but it also allows users to access their files and applications exactly as they normally would. Resouce compression translates into two immediate benefits for users.

The first benefit is accelerated launching times. Not only do applications which are made smaller by More Disk Space launch faster than applications compressed by archiving programs, but in many cases they actually launch faster than the uncompressed original applications.

The second major benefit of resource compression is unmatched compatibility. Resource compression, originally developed by Apple but never released to developers, is already transparently employed in System 7 and in applications like TeachText and the Finder. With More Disk Space, Macintosh users can apply the same technology to their other applications to get more disk space with the same degree of compatibility as Apple's own applications.

In combination with resource compression, Alysis Software's transportable compressed application technology allows users to break free from the compatibility concerns of users of current compression software: applications made smaller with More Disk Space run independently of the software. So MDS users can launch their compressed applications on any system, even those which have never used More Disk Space.

AppleXtras Mac 14



Block Paint:

A great shareware painting program. You paint with objects instead of pixels. It works best on colour but looks fine in black and white too. Shareware Fee:$15

Author: Kendal J. Redburn, BugByte, Inc. 3650 Silverside Road, Wiliminton, DE 19810 800-284-9220

MacAClock:

A nice alarm clock by author:Zikif Hamdy PO Box 782, Corvallis, OR 97339-00782

Data Fork Opener:

This nifty program will extract the text from damaged files. That is if they are less than 32k in size.

MemINIT 2.0.2:

Allows one to displays the amount of RAM you have and how much is being used. Author: Seth Laforge, 658 Wildcat Cny. Berkeley, CA 94708

SoftLock:

Now you can lock disks via software and put a password on the lock. The disk will show up on the desktop with a small lock on the upper corner of the window. It seems to be safe and there are ways to unlock the disk if you forget the password. Shareware Fee:$10 Author:David Davies-Payne, 12 Grosvenor Terrace, Wadestown, Wellington 1, New Zealand

FileTyper :

The easiest way to change a file's Type and Creator. If you have System 7 you can just drop your application on FileTyper and it will show you that files Type and Creators as well as other Finder flags. Shareware Fee:$10 Daniel Azuma 1449 Belleville Way, Sunnyvale, CA 94087

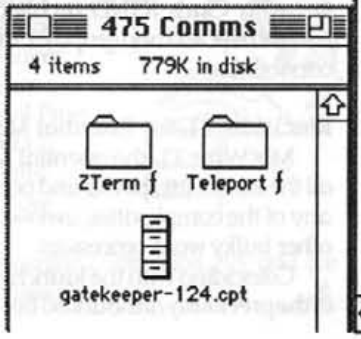
Bikaka 1.0

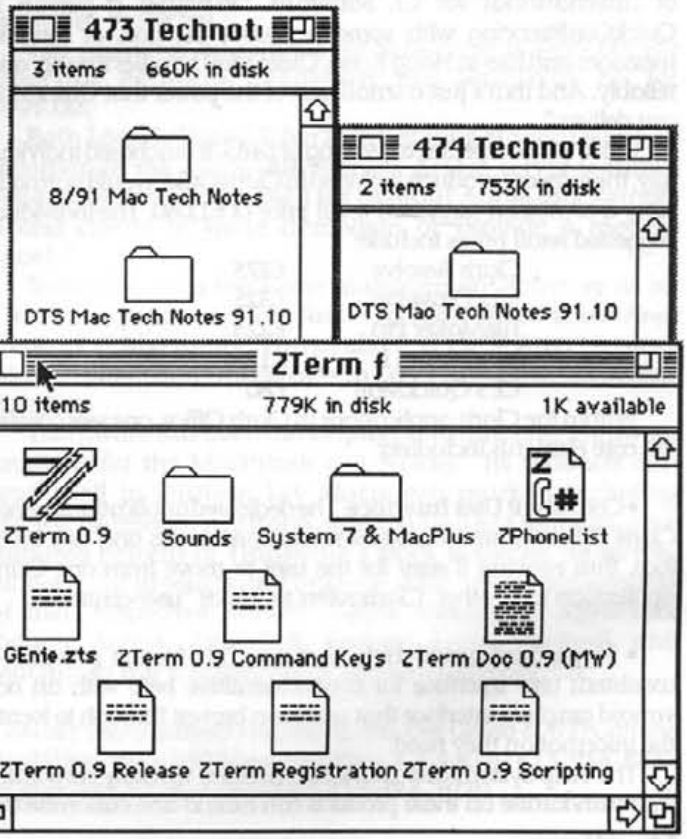
Simple little Tetris like game. Fun to play. By Ingemar Regnemalm, Arrendeg, 102, S-58331 Linkping, Sweden

Mac Library

Disk 472 contains the Apple2000 System 7 InfoStack.

(screen dump above)





Claris™ Office

Claris announces immediate availability of Claris™ Office

What's an Office Without a Database?

Claris today announced the immediate availability of Claris™ Office, a complete and integrated suite of office software comprised of Claris Resolve (spreadsheet), MacDraw Pro (graphics and slide presentations), FileMaker Pro (database), MacWrite 11 (word processing) and CE Software's QuickMail™ 2.5 (electronic mail).

"Claris Office has been created in response to customer demand for a genuine all-in-one office solution," said Richard Kiely, Claris UK Managing Director. "Customers have frequently asked, 'What's an office without a database?' and we've responded with Claris Office which includes FileMaker Pro, the number one database manager for the Macintosh. Claris Office delivers an office solution with the best price, performance, and features in the UK Macintosh marketplace."

"Additionally, Claris Office helps round out our product offering for business," continued Kiely. "At the entry level for smaller business is ClarisWorks, the new number one choice for integrated software. It represents perhaps all the Macintosh software a small business may need - word processing, graphics, spreadsheet, charting, database, and communications - all in one, tightly integrated package. However, as those small businesses grow and become larger and more sophisticated, it's logical to assume their software requirements grow with them. Thus, we've introduced Claris Office to meet those needs and requirements."

"It's only natural to have electronic mail as part of this all-in-one solution for small and large businesses," said Paul Miller, Director of International for CE Software. "Whether a person is QuickConferencing with someone down the hall, or sending messages and files to Hong Kong, QuickMail handles it easily and reliably. And that's just a small part of the power that QuickMail can deliver."

Claris Office represents a saving of £485. If purchased individually, the software products included in Claris Office would normally carry a combined suggested retail price of £1,080. The individual suggested retail prices include:

Claris Resolve	£275
MacDraw Pro	£325
FileMaker Pro	£225
MacWrite 11	£175
CE's QuickMail	£80

Within the Claris applications in Claris Office, one sees consistent core elements including:

• **Consistent User Interface.** The dedicated applications within Claris Office feature consistent menu commands and user interface, thus making it easy for the user to move from one Claris application to another. Claris refers to this as "user-centric".

• **HyperCard-based Help System.** This feature provides a consistent user interface for context-sensitive help with an advanced graphics interface that users can browse through to locate the information they need.

The Help System also provides a method whereby corporates who standardise on these products can extend and customise the Help technology for their own organisations. Thus, they can set common standards within the organisation.

• **Spell Checker.** Unified spell checking technology is found not only in MacWrite 11 where you would expect it - but in all other Claris Office applications, some of which you would least expect to see a spell checker such as MacDraw Pro and Claris Resolve. (In fact, Claris Resolve is the only Macintosh spreadsheet with a spell checker.)

Both the main dictionary and the user-defined dictionary are shared across these applications, reducing redundancy for users. A variety of foreign language dictionaries (American and British English, French, German, Spanish and Swedish) are also available for sharing among these applications.

• **Colour palette selection.**

• **XTND file translation.** XTND provides transparent read/write compatibility with over 50 Macintosh, PC and VAX file formats for text, graphics and databases. Among Claris Office applications, it's available in MacWrite II, FileMaker Pro and MacDraw Pro.

FileMaker Pro! Number One Database Manager for the Mac

FileMaker Pro, the number one database manager for the Macintosh, most recently won the best database category at the 1991 UK MacUser Awards.

FileMaker Pro provides unrivalled tools for graphics-rich formatting and report generation. On-screen and printed reports can be enhanced with the use of colour.

One of the most innovative features of FileMaker Pro are buttons and scripts which allow literally any of the program's commands or series of commands to be automated.

Finally, with its elegant powers for multiuser and network applications, FileMaker Pro vividly illustrates the advantage of the Macintosh in business workgroup environments. Workgroups of all sizes can choose to share FileMaker Pro databases. Every copy of FileMaker Pro is "network ready", enabling any connected and licensed Macintosh to share data without the need for a file server.

Claris Resolve. the Macintosh Spreadsheet for Visible Results

Claris Resolve, the Macintosh spreadsheet for visible results, features an intuitive user interface that combines ease of use and colourful graphics with powerful new spreadsheet functionality. With Resolve, even first-time Macintosh users can quickly create financial models, analyse numerical data with charts and graphs, and publish professional full-colour reports. And Resolve offers advanced features, including a robust scripting language, to enable sophisticated users to automate repetitive tasks or create their own custom solutions.

The tight integration of Resolve with other products in the Claris family gives existing Claris customers a consistent user experience, enabling them to get up to speed on Resolve quickly.

MacDraw Pro. Powerful Graphics Standard for the Mac

MacDraw Pro offers breakthrough colour support for creating and editing colours and gradients, extensive file exchange capabilities with Claris XTND architecture, enhanced tools for greater control over text and graphics, and full on-screen slide presentation capabilities.

MacWrite 11. the Essential Macintosh Word Processor

MacWrite 11, the essential Macintosh word processor, delivers all the ease of use, power and performance customers need without any of the complexities, awkwardness or price tag associated with other bulky word processors.

Coinciding with the launch of Claris Office, is the continuation of the previously announced free upgrade to MacWrite Pro. Anyone

purchasing Claris Office will receive a free upgrade to the announced but not yet shipping MacWrite Pro.

QuickMail™ ! the Number One Electronic Mail Solution

QuickMail™, the leading electronic mail and connectivity option for mixed Macintosh and PC offices, delivers the power of electronic mail in an intuitive and easy-to-use mail system. Whether sharing mail and files with colleagues in the same building or thousands of miles away; reading and responding to mail while on the road; or conference with several colleagues on the network, QuickMail delivers electronic mail that will make your office work more smoothly and efficiently.

In short, QuickMail provides people with the power to communicate easily with other people, no matter where they are or what machine they are using.

Inside Claris Office, the single user QuickMail client provides a gateway to the full power of QuickMail. The QuickConference software allows users instant conferencing with office colleagues.

Price. Availability. Upgrades and Sidegrades

The suggested UK retail price for Claris Office is £595, a saving of over £485 if each of the constituent applications were purchased separately.

To help further stimulate takeup of Claris Office, Claris is offering owners of existing Claris products the opportunity to upgrade to Claris Office for £445, a saving of £150 off the recommended retail price of Claris Office. This offer applies only to the owners of MacWrite 11, MacDraw Pro, MacDraw 11, Claris Resolve, FileMaker Pro, MacProject 11, ClarisWorks and SmartForm Designer. It does not apply to Claris demonstration units, Claris Graphics Translators, International Dictionaries, SmartForm Assistant, MacPaint or upgrades.

Additionally, Claris is offering owners of other Macintosh products the opportunity to sidegrade to Claris Office for £495, a saving of £100 off the recommended retail price of Claris Office. This offer is available for a limited time only through to June 30, 1992.

Eligible Products for Claris™ Office Sidegrade

4th Dimension	Lotus 1-2-3 Macintosh
Publish It! Easy	Quark XPress
Adobe Illustrator	MacroMind Director
Aldus Freehand	MacroMind MediaMaker
SPSS	Studio/8
Aldus PageMaker	Microsoft Excel
Aldus Persuasion	Microsoft File
Super 3D	Systat
Aldus SuperCard	Microsoft Powerpoint
Aldus SuperPaint	Microsoft Project
Swivel 3D	Symantec GreatWorks
ArchiCad	Microsoft Word
Architrion	Microsoft Works
Wingz	WordPerfect
Canvas	MiniCad+
ColorStudio	ModelShop
dBase IV	MORE
Delta Graph	Multi-Ad Creator
DesignCAD	Nisus
DesignStudio	Oasis
Digital Darkroom	Omnis 5
Double Helix	OmniPage
File Force	PageMaker
FrameMaker	Panorama
ImageStudio	Personal Press
Interleaf Publisher	Photoshop
LetraStudio	PixelPaint
WordScan Plus	WriteNow

Claris products are distributed by Frontline Distribution Ltd, and are available for purchase from Apple dealers.

AppleTalk Remote Access

SerialWay™ to Support Remote AppleTalk® with 3 Port Stand Alone Server

International Transware of Mountain View, Calif., announced that its product SerialWay, a three port asynchronous server for AppleTalk® networks, will support Apple Computer, Inc's, AppleTalk Remote Access Protocol.

SerialWay can now function as a stand alone server for AppleTalk Remote Access clients, allowing up to three simultaneous dial-in network connections for each SerialWay unit.

No special software is required to work with SerialWay; users will be able to use Apple's client software.

"Now, with our support, AppleTalk Remote Access server functions can be performed with SerialWay, no longer requiring computing resources from any Macintosh on the network," stated a Transware spokesperson.

SerialWay is an asynchronous serial port server for AppleTalk networks which enables all users on a network to share three RS-232 compatible peripherals such as modems, printers, plotters, and mini and mainframe connections.

Without SerialWay, most RS-232 devices cannot be networked or shared. An unlimited number of SerialWay units can be connected to an AppleTalk network. All shared ports in an AppleTalk zone can be grouped under a common name, even if they are from different SerialWay units, so that users do not need to select an available port or dial-in modem; SerialWay simply uses the next available port or phone line. Shared ports and SerialWay units can be password protected.

The suggested retail price for SerialWay is $499.00. For EtherTalk networks, Transware has SerialWay EN for $999.00.

Both LocalTalk and EtherTalk versions of SerialWay will incorporate the AppleTalk Remote Access server features. SerialWay can also be used for dial-out AppleTalk Remote Access clients to share a modem or provide a modem "pool."

SerialWay uses the same management software as all Transware products: InterTalk™, a high-speed Local Area Network (LAN) router; TransTalk™, a Wide Area Network (WAN) router; and EtherWay™, a LocalTalk-Ethernet router/gateway.

Transware has been developing software and hardware products for the Macintosh since 1984. Its products currently sell in fourteen key Macintosh markets including France, Germany, Australia, and the United Kingdom. One hundred percent of Transware's stock is owned by its employees. All products and brand names are the trademarks of their respective holders. Apple Computer, AppleTalk Remote Access, AppleTalk Remote Access Protocol, and Macintosh are trademarks of Apple Computer, Inc

Contact: International Transware, Inc. Eric Gould 800 El Camino Real West, Suite 180 Mountain View, CA 94040 415-968-8888 or 800-999-NETS (6387) FAX 415-324-2020

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Members Small Adverts are FREE. We reserve the right to edit and or omit them. They are placed in this Magazine in good faith. Apple2000 holds no responsibility over items advertised, and buyers purchase at their own risk.

WARNING: The sale of copied or pirated software is illegal.
Please ensure that items offered for sale are new or are re-registered.

FOR SALE

Apple IIgs with ImageWriter II printer, monitor, 3.5" disk drive, 5.25" disk drive, box of software £650

'Phone Omer Uzum (evenings excl. Tuesday) .081 309 1605

FOR SALE

Think Pascal Version 4 (System 7) £75
1Mbytes SIMM's ..... each £20

'Phone Stephen Pickering (evenings + weekends) [illegible]

Apple IIe / GS Gear For Sale !!

Apple Modem V21/V22/V23 (including cable) £150
Dollars & Sense Home/Small Business Accounts Program £75
The Music Studio Version 2 (IIGS with ROM2 or later) £50
Games : Flight Simulator II £20
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Snooper Troops Case .2 ..... £10

THE LOT FOR £295

Call Dominic ..... [illegible]

FOR SALE

Complete Macintosh System:-
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Mac IIsi 17/80 incd. PSI 64k RAM cache card and FPU .. £2291.25
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System 7.0, Microsoft Word 5.0, Claris Resolve, MacWrite II, Claris Works, Publish it! Easy, Soft PC and many, many others £816.63

Total £4771.69

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Postage costs will be addedto the above prices, if required.
All the above items are in as new condition, complete with original packing and still under manufacturers warranty.

'Phone Simon (daytime) ..... [illegible]
(evenings) ..... [illegible]

WANTED

Games for Apple //e:-
Championship Boxing (Sierra Online)
The Games — Winter Edition (Epyx)
Any Soccer or Football Manager program

'Phone Bobbie Corbett ..... [illegible]

FOR SALE

One 5.25" Apple disk drive + controler card, DOS 3.3 & Prodos system masters and 20 (5.25") disks (with labels but not new) in plastic library cases £40

Selection of Apple II games some still in original boxes (All 5 .25" disks) for the II+ & IIe:-
Jewels of Darkness, Elite, Star Trek (The Promethean Prophecy), Silent Service, Hacker II, Adventure Construction Set, Skyfox, Titan Empire, Zaxxon, Sub Battle Simulator, Torpedo Fire, Aliens (128k IIe & IIc only) ..... each £9, or THE LOT £75

DOS Workbench toolkit contains, 6502 editor/assembler, Machine code tracer, Hires character generator, Full screen editor for Basic programs along with other utilities. Comes on 2 (5.25") disks with loose leaf manual + binder £45

Apple II Reference manual, How to repair & maintain your Apple computer II+, IIe & IIc, Beneath Apple DOS, Apple Pilot (Language reference manual), Enhancing your Apple II+ Vol.1 each £8

Basic computer games + More basic computer games...ea £8, or £12
Programming the 6502 (Zaxs) £12
Microcomputers in Science teaching £7
Apple IIe reference manual (hardback) £14

Windfall (Apple User) magazine all issues from July 81 to the last issue May 88. Sold by year 81 & 88. each year £6
82 - 87 ..... each year £10

As all prices include postage & packing + recorded delivery for anyone ordering more than one item a reduction will be made to the total price of items ordered. Payments by cheque will require to be cleared before items are dispatched. As I wish to clear space for new books and software for my IIGS reasonable offers may be accepted.

Contact Keith ..... [illegible]
after 9pm Mon to Thurs, 6pm on Fri, available most times Sat & Sun.

Advertisers' Index

Other Paint Programs Pail by Comparison

Painter™ simulates real artists tools for the first time on a computer screen, with a wide range of brushes, pens, charcoals, chalks, inks, erasers... (there's more). You can paint in the styles of Van Gogh and Seurat – suddenly everybody is an artist! All of the tools work in exactly the same way as they might if you were sitting in a traditional artist's studio: felt pens bleed, markers smudge, colour builds up gradually – you can even change the paper type to reflect the nature of the tool you are working with.

Originate illustrations, or import images into Painter and 'clone' them in any of the wide range of styles available in the application. Painter is the ideal program for illustrators looking at drawing on a computer, for business professionals wanting to add flair to their presentations, or, as above, for creating outrageous variations upon a common theme. Painter is System 7™ 'savvy', and runs under Windows™ 3.0. Painter supports pressure-sensitive graphic tablets, adding another dimension to the realism of the product. A snip at £295 (+VAT). Prices for Painter with a graphics tablet and pressure-sensitive pen start at £595 (+VAT).

Painter

Letraset Manufacture and distribute a full range of Graphic Design Software for the professional designer

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For more information call **Simon Moore** on **071-928-3411**, or write to Letraset Software Products Division, 195 203 Waterloo Road, London SE1 8XJ

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Macintosh LC 4/40 with 12" Colour Monitor	£1095.00
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Education & Charity (Do you qualify?) * To qualify you must be a bona-fide education establishment, school, college or a teacher student or pupil at same. Or be a registered charity. If in doubt, call.

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