Applecations

Market Day, 1990

Lane Cove Town Hall

November 25

10.00 am until 4.00 pm

Admission $2.00

"Here and there, FREEWARE!"

By Richard Bennett

The are four methods of software distribution available. The first, is obviously commercial distribution. By paying an inflated Australian price for a product, you too can get virtually no after sales support, and a pain in the arse when upgrading.

The second is called shareware. Derived from the two words "share" and "ware", these programs usually contain a license which allows you to use the product free for a certain number of days. After that period, you either delete the program, or send a nominal fee of around US$20 to cover the author's "...cash flow problems, as I'm currently unemployed and trying to get through college to be a doctor and work in the third world for the good of all human beings and the planet in general...". They then mail you the latest version of their program on a disk with a pre-printed label, some usually rather sketchy documentation, and a specially printed envelope and letter head note saying "hello" and signed Joe Blow M.D. A.B.C. X.Y.Z., a nuclear physicist with the Environmental Destruction Agency. Well it's usually not that bad, but I'm sure you get the idea.

The third method is freeware. The only difference to shareware, is that you don't have to pay for it. However the original author, as in shareware, still holds the copyright on the program.

The fourth, is anything placed in the Public Domain, which includes anything which does not contain a copyright notice.

Now ask any shareware author if he gets much of a return on his wares, and you'll get an immediate response of "No. Why? Are you one of the filthy mongrels who hasn't paid?!". Return on minor commercial ventures can likewise question an author's interest in computers at all, and refuse to provide anything but modest amounts of pocket money.

Although offering your programs as freeware simply formalises the return on shareware as being absolutely nothing, it does offer a few things which no other method of distribution provides.

For starters, there is no reason why the user cannot write to the author. With shareware which you haven't paid for, it's probably a lot easier to simply live with the current version than having to get a money order and write away to someone. Then you have to try and explain how you haven't been using it for over six months, and you're not simply forking out the cash now because the latest system software doesn't work with the program. With freeware, you can be a candid as you like in your letter. Usually a token of appreciation is in order, and couple of disks with local wares on them will guarantee they write back with a new version. For example, "I've been using your fantastic program for years now, but I'm sick and tired of the xxx option, could you take it out and send me a new copy please."

One of my main reasons for writing

freeware, is the assortment of mail I get from all around the world. With my shareware programs, I could have cashed in my Post Office box for good. But with freeware, I get a steady stream of mail from the US and Canada, and even from what was previously called West Germany. I receive disks full of programs, and even US bank notes (don't tell Oz Post), with thank you notes, and ideas for program improvements.

If a program is free, people are more likely to keep a copy of it, and thus give to other people with similar interests. In the case of the major US networks, such as Genie and America Online, most of the US can be aware of your program within a week or two of your releasing it. You could then include with it, an advertisement for shareware or commercial products.

If you're a shareware author, or even a commercially oriented one with a small utility you can't sell, consider freeware as an alternative. You'll get more mail than any other method, you'll get more honest opinions of your work, it will get distributed faster, it will help support the existence of Apple, and should help "sell" you and your other work.

Above all, because freeware takes away the financial interest in a program, the author and the user are free to enjoy the product and the response it gets. Then if some guilt ridden person does send you something of monetary value, you'll get a pleasant surprise!

"8/16" magazine

Reviewed by Chris Birch

This is very much the era of the power PC user as opposed to the power PC programmer. We are more concerned with getting the most out of Appleworks than understanding the complexities of the Toolbox or ProDos.

The Apple II family of computers has a strong tradition in the programming or hacking arena, due largely to the much heralded "openness" or accessibility of the machines' hardware and firmware.

With the introduction of the IIgs we saw the Apple II family acquire a new complexity. The cost of embracing the Mac's WIMP technology is such that much of the programming enthusiasm of previous years has been rechannelled.

This change in orientation is very apparent in the evolution of the magazine industry built up around the Apple II family. The glossy, high budget magazines such as "InCider" or "Nibble" concentrate on reviews and how to get the most out of your computer from off the shelf software.

In contrast, publications of a technical or programming nature do not attract the advertising revenue or circulation. They are impossible to find on the newsstands and almost certainly are published in similar circumstances as our own "Applecations".

In spite of this, these publications can actually benefit and perhaps flourish simply because they are orientated towards a niche and not off the shelf software.

For instance, they do not have as severe deadlines so they are often able to provide a more timely and accurate service to their readers. They are also not fettered with the constraints of a traditional magazine such as providing a stunning, expensive to produce front cover.

"A2-Central" is recognised as the best Apple II technical publication. In fact it is the largest circulating Apple II publication of any kind, not just in the technical arena. It thrives on the fact that its newsletter format and overall design is the best vehicle for disseminating technical tid bits, news

and advice.

That "A2-Central" can flourish is ample evidence a publication will succeed if it is able to fulfill the needs of the Apple II community. Much has been said about the demise of several Apple II journals, as though it was symptomatic of the demise of the Apple II. The bottom line is that the magazines themselves failed. They failed to deliver what the Apple II user wants today.

Rising out of the ashes of some recent failures is a new programming magazine, "8/16". It is essentially "The Sourceror's Apprentice", "Znews", and "Reboot" all rolled into one and repackaged to (hopefully) more successfully cater for the needs of the Apple II programming community.

There are even appearances from regular columnists formerly found in "Call-A.P.P.L.E" (RIP) which was the best Apple II family programming journal. Those of us who go back a decade will remember it as the bible of Apple Integer BASIC, DOS and Applesoft programming.

There is only one other magazine largely devoted to programming, "GS+", which this author reviewed in the September "Applecations". It is not entirely a programming journal and it only covers the IIgs model.

As its name implies, "8/16" is a programming magazine for any Apple II computer with at least 64K of RAM and ProDos. This includes all but the most minimally configured Apple][and][+ computers.

Each edition is categorised broadly into Classic, GS and General. There is no GS bias, as you may expect with a new publication. This is probably due to the roots of "8/16". The first edition contains an errata file! Not for "8/16" of course, but for the above mentioned publications which gave birth to "8/16". Also, the fact that a //e or //c owner is more likely to be interested in programming than a IIgs owner cannot be denied.

The languages supported by "8/16" also reflect the origins and interests of those at Ariel Publishing. There is a

distinct emphasis toward Merlin assembler code, with ZBasic and occasionally Applesoft covered in the Classic Apple section. Pascal and C are included occasionally, due largely to a lack of submissions to the editors.

The editors try to include one or two feature articles in each of the main segments with shorter items rounding out the magazine. The subject matter is diverse which means the next edition may not contain much of value or might be a gold mine of source code, depending upon your interests.

There is also the obvious problem that approximately half the magazine's contents will not be of more than passing interest, depending upon whether your preferred cpu is a Classic Apple or a IIgs. By maintaining diversity though, even articles written around the "other" cpu are often interesting.

For example, my major interest is the IIgs, yet the best article in one edition was an exploration of speech recognition on a stock Apple][. Also, an enterprising hi-res programmer would have been able to glean a lot of important animation concepts from a recent three part series of animation with Quickdraw II.

Occasionally, "8/16" will provide a pure gem which more than justifies the subscription. The entire source code to BLU, the Apple II archiving standard prior to ShrinkIt, was great but the historical article on Steve Wozniak's Sweet16 interpreter blew me away!

The source code to the FindFile NDA was useful as a tutorial on background processing and Steve Lepisto's aforementioned animation series simultaneously tackled the Quickdraw II toolset and animation techniques.

It was interesting to note how slow the animation source code for the IIgs executed when compared with Apple Invaders on the original Apple][which had to be slowed down by a factor of ten to make the game playable! I wonder if someone will

ever dissect this arcade classic for "8/16". It's a programming masterpiece.

The September 1990 edition contained the entire source code to Dogpaw, the utility bundled with every "A2-Central" disk. All at once, the budding 8 bit programmer has routines to select files in a hierarchical directory structure (ie: ProDos 8), launch programs, read and display files and even print them.

IIgs owners were treated to a previously unpublished utility called the Low Level Resource Editor. No source code with this one though.

There are also the occasional items of interest to all Apple II enthusiasts such as a report on the KansasFest or an occasional scuttlebut column. These are found in the General folder.

The emphasis on source code and variety is crucial to "8/16"'s survival. They must extend the language coverage to include the more mainstream C and Pascal languages for the IIgs and promote Applesoft and backoff with ZBasic if they wish to extend their subscription base beyond several hundred.

If you are unable to scan assembler then I would suggest purchasing a book on assembler programming. Leventhal has excellent volumes on 6502 and 65816 programming, published by Osborne/McGraw-Hill.

IIgs programmers in particular will find the assembler listings useful as it is the combination of tool calls and the way they are used which is more important than what happens to be on top of the stack or in the accumulator.

Like a lot of similar publications there is a disk option. However with "8/16" you can choose to subscribe to either the disk or the hard-copy or both. You miss out on some of the ads and the occasional art work with a disk only subscription but the disk is indispensable due to the abundance of source code. In fact the hard copy is entirely superfluous and not at all cost effective if you own a printer.

One gripe with the distribution of the hard copy magazine though. Subscriptions outside of the USA are by Air/surface mail. This means the typical delay for the printed magazine with a much shorter delay for a disk only subscription.

A publication like "8/16" is NOT positioned with a potential readership of almost all Apple owners. Most Apple owners would prefer not to develop software or hardware. "Call-A.P.P.L.E." was positioned to tap the creative enthusiasm of Apple owners. "8/16" must tap what remains of this interest and also develop the interest if it is to survive.

Its a "big ask", as Rugby League coach Jack Gibson would say and I wish the editors well. They have "played fine, done strong" up to this stage and I'm certainly looking forward to renewing my subscription in January.

Subscriptions: 1 year US$70 disk or US$30 hard-copy. State disk size.

Address: Ariel Publishing, Box 398, Pateros, WA 98846, USA.

Phone: 0011 1 (509) 923-2249. Our breakfast time or after the Vincent Price movie.

Do it yourself Joystick

By Dominic Cioccarelli

After discovering the poor quality of many Apple joysticks, and the price tag of the better ones ($60 or more), I decided to make my own. This is not a complicated procedure, all that is needed is a basic knowledge of electronics, about $20, and a spare hour or two. Most of the parts are readily available, the only relatively hard to get part is the joystick pot itself. I know for a fact that a high quality mechanism can be obtained from Rod Irving Electronics (Paramatta road, Stanmore), for $9.95 (Cat no. X15637). A similar pot used to also be available through Altronics distributors for $4.95.

The circuit can be seen in figure 3, and as you can see, it is relatively simple. You will have to have a knowledge of electronics to construct this circuit, though there is little chance of damaging your computer if you get things wrong. I constructed the circuit in a small jiffy box (Rod Irving cat no. H10111) with two push-buttons (Cat no. S11036). Due to the simplicity of the circuit, no PC board is needed, as the components can simply be soldered together. To construct the circuit, simply follow the circuit diagram. The Joystick pot is mounted in the center of the box with the buttons to one side (figure 1). Connections are made to the back of the computer via a DB-9 connector (Cat no. P10878), and a backshell (Cat no. P10882) should be placed over this. Note, this is only for the //e, //c, IIgs. For the][,][+, and older //e's a 16 pin DIN connector is needed. These connections are shown in figure 1. A 6 wire cable (Cat no. W12670) is used to connect the joystick to the plug.

List of parts available from Rod Irving Electronics:

Joystick Pot - X15637
Jiffy Box   - H10111
2 Pushbuttons - S11036
DB9 Connector - P10878
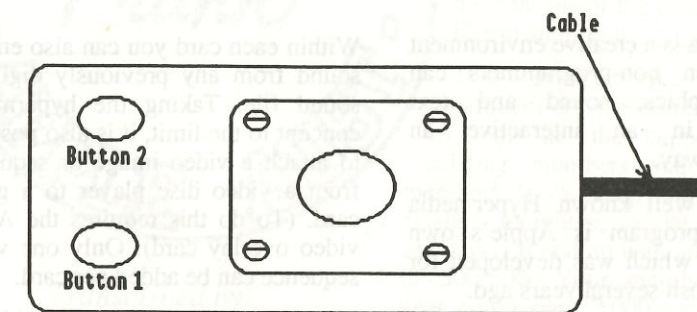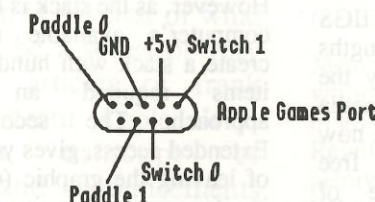DB9 Backshell - P10882
6 Wire Cable - W12670

Figure 1
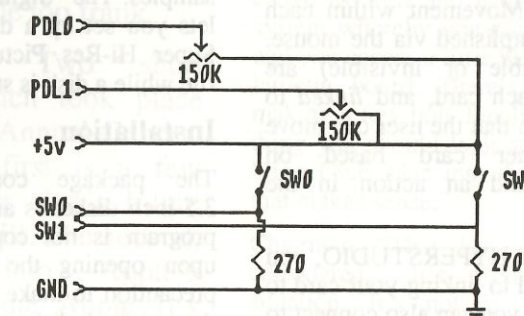

Figure 2

Figure 3

HYPERSTUDIO -
The Hypermedia System for the Apple IIGS

Reviewed By Wayne Short

Hypermedia is a creative environment where even non-programmers can bring graphics, sound and text together, in an interactive an connected way.

The most well known Hypermedia authoring program is Apple's own *Hypercard* which was developed for the Macintosh several years ago.

HYPERSTUDIO, from Roger Wagner Publishing, is similar in features to *Hypercard* but was developed to run on the Apple IIGS and take advantages of the strengths of that machine. It is currently the only native 16 bit hypermedia program for the IIGS and could now be considered relatively bug free following the recent release of version 2.1 of the software. (Apple has been working on its own Hypercard GS but no firm release dates are available.)

HYPERSTUDIO uses the analogy of index cards, on which can be placed graphics and text, etc. A collection of cards is known as a *stack* and the first card of each stack is referred to as the *Home Card*. Movement within each stack is accomplished via the mouse. Buttons (visible or invisible) are attached to each card, and *linked* to other cards, so that the user can move to any other card based on information and an action in the current card.

However with HYPERSTUDIO, you are not limited to linking your card to other cards as you can also connect to stacks or application programs (S16 files). In this way, you could utilise HYPERSTUDIO as a mini program launcher for applications on a hard disk.

Each card is a Super Hi-Res graphics image and these can be developed within HYPERSTUDIO or imported from other graphics packages such as the PaintWorks Gold, Deluxe Paint II or the Graphics Exchange. Text for each card can be entered via HYPERSTUDIO or imported from products such as Appleworks or ASCII text files.

Within each card you can also embed sound from any previously digitised sound file. Taking the hypermedia concept to the limit, it is also possible to attach a video image or sequence from a video disc player to a given card. (To do this requires the Apple video overlay card). Only one video sequence can be added per card.

When you add either text, graphics or sound to a card the default is to embed the data within the stack itself. However, as the stack is limited to the computer's available memory, to create a stack with hundreds of such items required an alternative approach. The second choice, Extended access, gives you the option of leaving the graphic (or other) file in its current location and having HYPERSTUDIO go back to that location whenever it needs it. Although this gives a slower transition between cards, it significantly increases the overall size of the stack you can create.

Also included is the "Sound Shop", a utility program for digitising sound samples. The "Sight 'n Sound" utility lets you set up a disk to bring up a Super Hi-Res Picture and/or sound file while a disk is starting up.

Installation

The package comes with four 3.5-inch diskettes and a manual. The program is not copy protected and upon opening the box it is good precaution to make backup copies of the original disks and only use the backup disks.

Installation on a hard drive is straight forward as a script for using Apple's Installer program is supplied. Just follow the prompts to insert the required disk for copying.

HYPERSTUDIO is a complete system and includes:
• hypermedia authoring system
• paint tools
• text editor
• sound editor

• amplified speaker
• sound digitising hardware card
• microphone

HYPERSTUDIO is both a hardware and software product, so installation is not instantaneous. You'll need to actually open the IIGS and use a screwdriver.

The hardware portion of the package is the sound digitiser. This is a small circuit board that does not plug into a slot. A lengthy ribbon cable attaches the board to the sound input socket on the IIGS motherboard near the Ensoniq sound chip. The digitiser board gets its electrical power from the little two-prong socket reserved for the Apple fan. If you already have a fan in that socket, the digitiser provides another chain port. Plug the digitiser board into the socket and plug the fan into the chain port on the digitiser.

The microphone plugs directly into the digitiser board. A cord with two phone plugs (one at each end) is supplied for use with the speaker or allows the connection of a Walkman-type device into the digitiser. This allows you to record and digitise sounds from portable stereos and compact disc players.

The speaker plugs into the audio port on the back of the IIGS and provides improved, if only mono sound.

Demos

HYPERSTUDIO includes several demonstration stacks which provide ideas for creating your own stacks.

One demo shows the different ways a screen can be "wiped" during transfer from one card to another. Several screen wipes are available, including top to bottom, left to right and fade to black or white.

Another demo displays several buttons, each plays a different sound file from the disk. Another flips through several stack and card ideas, displaying useful background pictures

of notebook pages, address books and Rolodex-type cards.

Clip Art and Sound

One entire disk is devoted to clip art and associated graphics files. From these, you can build backgrounds or snatch icons or other graphics images for use in your own stacks.

Another disk is filled with digitised sound files, ranging from animal noises to bell and chimes and voices.

Stacks For Others

Original distribution of stacks was limited because the HYPERSTUDIO authoring program was required to run them. Legally, this restricted the exchange of stacks to occur between bona-fide owners of the program only. Version 2.1 of HYPERSTUDIO remedies this problem by supplying a "run-time" file HS.Sys16, that is located on the HS.Art disk.

Self-contained "User Disks" can be created by copying this file and any other stacks you wish to distribute.

Although it lacks the scripting language found on HyperCard for the Macintosh (HyperTalk), HYPERSTUDIO offers hypermedia on the IIGS in color and utilizes the sound capabilities of the machine.

Our thanks to TECHFLOW for the review copy.

Product at a Glance :

HYPERSTUDIO Version 2.1
by Roger Wagner Publishing
1050 Pioneer Way, Suite P
El Cajon, CA 92020, USA

Australian Distributor :
Techflow Pty Ltd.
Phone : (063) 551-988
       or (02) 758-2688
Price : $225
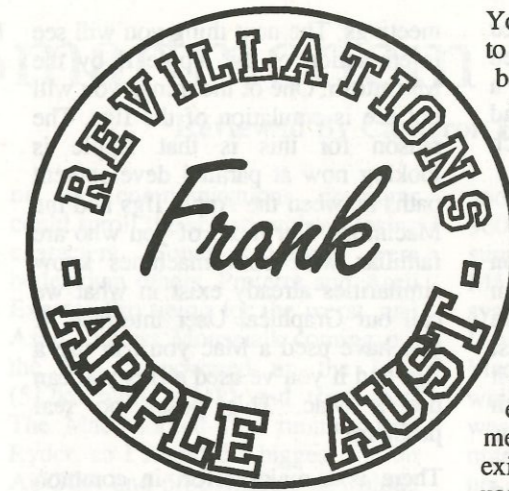
*Transcribed by
Graham Clarke*

This column is the first of what I think will be a series of very informative articles of frank revelations from Apple. It is simply a transcript of comments and announcements from two men, Mr. Frank Revill and Mr. Godfrey Gamble, from Apple Australia. They are members of our club and attend most of our regular meetings. They speaks to the group on all manner of things. They pull no punches and are sometimes a little too frank.

This Month: Two short discussions which took place during our last Annual General Meeting. The first is a few thoughts on our club's future from Frank Revill. The second, an insight into Apple's direction with the Apple II's and Macintosh by Godfrey.

Frank "Normally before the elections I talk about the importance of positions (on the committee) but what has been said this evening concerns me greatly. And that is the falling membership. Do you know that Apple sells 24,000 CPU's each year, 24,000 approximately a year. New South Wales getting about 10,000 of those. We estimate that 70% go to existing buyers. 3,000 people who are brand new buyers buy one computer CPU.

Your new committee, coming in, has to find some way of getting the benefits of your club to those 3,000 people. Three times your current membership are brand new users to the computers you have a club for. I wonder how many of those know about the club, know about the benefits of the club and would like to support it.

Two aspects that the new members (of the committee) need to look at: the support of the existing members and your new members. If you keep supporting your existing members, to the 3,000 new users, you'll end up with an elite group of 500-600. Your membership next year could pass 2,000 members very easily if your new committee set their mind on getting new members. Keep that in mind when you are looking at (new committee) positions. "

Member "I think everyone can see the writing on the wall that our fees have to go up. With all due respect to Frank Revill it's all very well to say there's plenty of people there but how many of IBM's are sold in the same year, this is possibly where people are buying other computers go over to Mac's because Mac's are a bit higher product for Apples. Those who are here, obviously, are Apple or Mac users.

Nevertheless I agree we should increase our fees to keep the club going. However, there has to be a carrot as well and Club Mac have a system whereby you pay a little extra and you access a little bit more of their bulletin board. There's one way of making a few bob. Finally, there's one thing you should look at is to try and bring Club Mac into the fold. Surely that makes sense."

Chairman "That has actually been considered... It's a fairly difficult situation. It's not as simple as it sounds. For those of you who have been with this club for a while will know we have already done that once with another organisation, Sydney Macintosh Users Group which we now incorporate. We are co-existing relatively happily at the moment (with Club Mac), at least we're not fighting one another at the moment."

Member "Getting back to this business (of fees) I think we have a wonderful bulletin board and a wonderful magazine and I support it wholly. But, this is one way. We have a huge variety of software, ok, make that

accessible to people who are prepared to pay more. They might be prepared to pay an extra $16, or whatever a year, to go on the bulletin board and pick out some very select stuff which is not immediately available.

Godfrey "What I wanted to mention to you is something which has been previously mentioned to the Apple IIgs people (IIgs Special Interest Group). I wanted to talk about it tonight because it is relevant to both Apple II and Macintosh people. It is also the direction in which Apple's going with the Apple II and Macintosh and I think it is also the direction you should think about for the club. It is a concern to me and to some other people that the club runs as two completely separate entities. I don't think it is a good thing. I think it should run as a single entity and I'll outline some of my reasons.

If you look at the products that Apple currently has now they appear to be in three separate areas. We have the Mac, the IIe and the IIgs. These appear to be three separate products but they are not and I'll explain why. The thing Apple has done is make the three accessible to each other by putting them on AppleShare, on the AppleTalk Network. All the three work together on AppleTalk completely. The main difference between the three different platforms is that the Apple II is an 8-bit machine, the IIgs is a 16-bit machine and the Macintosh is a 32-bit machine. That is the way they are sitting at the moment. What we want to have a look at is the way that Apple's going to go with its products and the way Apple sees them.

Because the Apple II is 8-bit technology it's in the land of IBM AT's and things like that, that are also 8-bit technology really. There isn't going to be any on-going development in the 8-bit world. Where we are going to see development is in the 16 and 32-bit machines. The way that Apple is going to do this is look at a couple of things. One of them that you already know about is emulation. The IIgs will emulate the Apple IIe.

What I'll share with you is what is going to happen. I want you to treat this as confidential, (until Oct.16th) as we have done in the past, which we have proved we can do at these meetings. The next thing you will see is emulation of the Apple II by the Macintosh. One of the things you will not see is emulation of the IIgs. The reason for this is that Apple is looking now at parallel development paths between the Apple IIgs and the Macintosh. For those of you who are familiar with both machines know similarities already exist in what we call our Graphical User Interface. If you have used a Mac you can use a IIgs and if you've used a IIgs you can use a Mac. This poses no real problem.

There is a major effort in common software. Apple Developer Services, in the States, puts a lot of pressure on people who develop for one platform, with a good product, to develop for the other platform as well, in both directions. On a lower level you've seen that already on things like Crystal Quest and things like that. The way that AppleWorks GS works is the same as the way MacWrite and MacDraw work.

Another area where you see commonality is in the peripherals. Things like printers and SCSI bus. All the SCSI devices will work with both machines and that's the way it is going. The AppleShare network is already in place so the next one is HyperCard. HyperCard 2.0 and HyperCard GS will look exactly the same and will operate in exactly the same way with the only restriction being that HyperCard GS will support colour. The scripting language is the same, the way they run is the same, the way people drive them is the same so what you will see, more and more, is common access.

As a club, speaking now as an AUG club member, I think it should be prepared to have a closer look at this. In particular, meetings or events about peripherals like hard drives and printers should be held as common meetings because they are common to both. Third parties who come in and demonstrate devices like that should be available to both. Things like Midi interface devices work on both. If we look at HyperCard SIG's (Special Interest Groups) there is no reason at all why the HyperCard SIG could not be open to both Apple II people and Macintosh people. The obvious conflict that comes up is one of time, when do you run them. I'm not going to attempt to answer that but I'm just going to say that I think the future

committee has a lot of work to do on trying to resolve how they will approach that.

We have had a real problem in the past where we had, in this club and everywhere else, Mac people and Apple II people. As soon as an announcement is made that concerns the Mac you get a big cry from the people "What about the Apple II? You're not supporting the Apple II". As soon as we have something for the Apple II you get a cry from the Mac people "What about the Mac people? Why aren't you supporting the Mac in schools?" That happens all the time.

What Apple is doing is saying "Hey, guys it's not separate machines, what it's really like is, both at once, both together not two separate entities. Apple has always shown an interest in looking into the future and saying "Hey, we've seen where computers have come in the last ten years. Where are they going in the next ten years?"

That's where Apple's going.

Printed with permission of

Frank Revill - Apple Computer.

Netcomm Smartmodem M5

Reviewed By Cameron Brawn, Apple // BBS Sysop.

Currently, the majority of Sydney Bulletin boards are running modems with a maximum speed of 2400 baud, or about 240 characters per second. However there are more and more BBS's around that are switching to higher speed modems, and users are also going to the higher speeds.

Netcomm, probably the best modem builders in Australia, have a number of modems that are capable of running faster than what has been the norm for the last few years.

The modem I am reviewing is the Smartmodem M5, which has a maximum speed of 9600 Baud, or approximately 960 characters per second. After using the modem for nearly two weeks, and running the BBS on the modem, I am very impressed with it. I was able to take the modem straight out of the box, and use it without having to change and of the settings. The modem is capable of 300, 1200, 1200/75, 2400, 4800 and 9600 Baud, everything you would ever want. The modem also has other advanced features, many of which would never be used by the average user. On the front of them modem are 9 leds, telling the user at all times what is happening, including what speed the modem is currently running.

The manual that comes with the modem is almost 250 pages, and is not written with the first time user in mind. If I had never used a modem before, the manual would have been impossible to understand. The fact that the modem can be used straight out of the box reduces this problem somewhat, as you would probably be able to use the modem without ever needing to read beyond the installation instructions.

As soon as I had the modem plugged in and running, I started to look through the BBS list for systems that have 9600. There were quite a few in Sydney, and I must point out that neither of the AUG's systems have 9600 baud modems yet, although Club Mac does, and AUGUR, the only other system that supports the Apple // to a decent extent in Sydney. So AUGUR it was, and the first problem I came across was that none of the communications programs could scroll the screen without losing characters. Some programs were better than others, Proterm and Ascii Express Pro tieing for the worst, and Ascii Express Mousetalk coming out the best. I powered up the Mac (512ke with 1024k) and tried that. The Mac worked fine running Red Ryder, so I found the biggest file on AUGUR and proceeded to download it. The file was 314,368 Bytes, or 307k. Augur said the file would take about 10 Minutes at 9600. If you set up two computers side by side and transmitted data without any error checking protocols, it would take about 6 minutes, with error checking, about 8.

Considering the distance between systems, software and hardware overheads, 10 Minutes sounds very good. It ended up taking 23 Minutes. Some difference! By then I had set up the GS in place of the //e on the BBS, so I kicked off AE mousetalk on the GS and away we went. Proterm on a 7Mhz GS still wasn't fast enough, but Mousetalk was fine on a standard 2.8Mhz GS, so I downloaded the same file. 9 Minutes, 31 seconds later it was all over, faster than Augur had suggested, and 2.4 times faster than the Mac! This shows how important a good communications package is at such high speeds. No doubt there are better programs available on the Mac which would reduce the transfer time.

My next test was to ring the States at 9600 to see how the modem went over such a distance, and how well it handled line noise. The problem here is that there is a world standard for modems that the US and Canada decided not to follow. The M5 is compatible with the US standard (Bell) 300 and 1200 Baud only, so the modem cannot be used at even 2400, something that I found very unusual, as the Netcomm 1234A does have Bell 2400. Meaning that if you want to ring the States, you are better off with a 1234, not an M5.... While I was logged on to a Washington BBS (at 1200), I downloaded a list of US BBS's and had a look through it later to see how many supported 9600. There were 1300 entries in the list, and about 600 of them supported 9600 baud. Of those, about 30 supported the 9600 standard that the M5 follows. I didn't ring any of the systems at 9600, as they were all for IBM users, and I don't have a list for Mac or Apple II systems. However while online to Washington, there were two errors in the 102k transfer, much less than I was expecting, and no noticeable line errors while not transferring.

There are a number of other features the modem has that are worth mentioning, "Trellis Coded Modulation" (TCM), and "Microcom Networking Protocol" (MNP) Error correction. TCM is a system the modem uses to detect and sometimes automatically correct data errors during 9600 baud communications.

MNP is a modem based transfer protocol that allows for detection and correction of data errors. The smartmodem supports 4 classes of MNP, and will automatically work out with the other modem which class to use (the highest common class). Class 4 allows a transfer rate of 120% to be achieved, or a transfer of 2900 baud on a 2400 baud line. I tried this at 9600 on Augur, and the transfer took 11.5 minutes, somewhat confusing.

In summary, I was very impressed by the Netcomm M5 Smartmodem, it worked flawlessly, and has nearly all the features somebody would ever require. There are many other features I have not gone into here, such as leased line operation, ringback security, stored number dialing and synchronous operation. Many of which would probably never be used by the average user. My only complaint is the fact that it does not support Bell 2400, when lower specification Netcomm modems do.

The Modem is not cheap, with a RRP of $1999, however for your money you get a very reliable and powerful modem that will not become out of date for a great deal of years.

QUANTUM QUIPS, QUIRKS AND QUIDDITY

By Chris Birch

A hard disk is probably the most important peripheral an Apple II or Mac owner will ever connect to their computer. Increasingly, owners are purchasing hard disks as opposed to additional RAM or floppy drives and not surprisingly they often select a Quantum hard drive mechanism.

Hard drives come in various configurations. They can be internal drives which means they are housed inside the computer on a peripheral card placed in an expansion slot or often incorporated into a new power supply which replaces the original power supply.

Alternatively a hard disk (HD) could be an external device and as such it is placed inside a casing, sometimes with a fan and connected to the computer with a cable. The casing is often colour coordinated with the computer and usually approximates the footprint of the computer. This means the HD's width and breadth are similar to the computer's dimensions.

A disadvantage with purchasing an internal drive is that they have to be manufactured to work with a specific model or subset of Apple models. If you decide to change computers then chances are the hard disk will not be fully hardware compatible with the new computer.

Alternatively, most of the newer external HDs which claim to work with one type of Apple computer will actually work with any Apple computer. This is due to the adoption, by Apple, of a standard way of interfacing or connecting peripherals to its computers.

The standard is known as the Small Computer Systems Interface or SCSI (pronounced *SCUH-zee*) and its main rival is the Enhanced Small Device Interface or ESDI. I won't confuse things here by attempting a comparison. Suffice it to say the two protocols are fundamentally very different ways of approaching the question of connecting devices to a computer system and they operate on different levels.

From the computer owner's point of view, a single SCSI device would be slightly out performed by the equivalent ESDI device. The real difference is in large, powerful networked systems where the SCSI solution is clearly superior and the performance difference not so trivial.

There is no reason why a SCSI HD advertised in a Macintosh magazine cannot work with an Apple IIe. In fact owners of an Apple II type computer should check out the SCSI HDs which claim to be Macintosh peripherals. The only problem would be that any software bundled with the drive would be unusable but probably superfluous.

In this way, Apple II owners can take advantage of the Mac's higher profile and the competitiveness of the Mac marketplace. They may also pickup a newer, faster drive than some of the HDs typically advertised in Apple II journals.

Whatever your computer, the Quantum HD is fast becoming the standard Apple HD. In fact, if you take a look inside any off the shelf Mac which comes with an internal HD, chances are that Apple themselves have used a Quantum mechanism.

Quantum HDs obviously come highly recommended and this article will use a 105Mb ProDrive to illustrate the discussion. The performance specifications of the Quantum range are indeed impressive and they are discussed later. The drive mechanism is also interesting in that several patented features are included.

You can think of the HD as similar to a record player with a read head or needle fixed to one end of an arm able to sweep across the record. Now imagine several records (3 with the 105Mb ProDrive) mounted atop each other with a head/arm assembly for each side of each record.

The records as such are the same size as the common 3.5" floppies but these are rigid and of aluminium alloy construction. The nominal rotational speed is much faster than any record player or floppy disk drive. A 105Mb Quantum spins at 3,662 RPM +/- 0.3% compared with 300 RPM +/- 1% for the original Disk II 5.25" drive and 394-590 RPM with the Apple 3.5 Drive.

The platters have a carbon overcoat to lubricate the surface in case a head should touch the disk. The heads, at 7 microinches (0.18 microns), do fly close to the disk surface but they would never actually come into contact with the data area. The overcoat is principally intended to protect the drive heads when outside the data area.

If the disk should slow down to 3423 RPM or less for more than 2 seconds then the heads are automatically pulled over to the shipping/landing zone located toward the centre of the disk stack assembly.

A drive head simultaneously handles read and write functions and is mounted at one end of an arm which in turn is connected to a rotor. The rotor is technically called a rotary voice coil and this entire rotary positioning assembly is known as an actuator.

The disk surface is broken up into thin bands of data known as cylinders. The number of cylinders is determined by the precision of the actuator and the sensitivity of the drive heads. Our example Quantum has 1,019 of these compared with 80 on the Apple 3.5 Drive and 35 with a Disk II.

The width of a track is the same as a cylinder on the Apple 3.5 Drive but an 800K 3.5" floppy is double sided so we would say that the Apple 3.5 Drive has 160 tracks. In comparison our Quantum drive also has tracks the same width as a cylinder. With 6 surfaces the Quantum then has 6,114 data tracks.

The data is stored on any HD in an encoded format due to hardware requirements. Various schemes include NRZ (non return to zero), MFM (modified frequency modulation) and RLL (run length limited). The RLL scheme is superior and the example Quantum uses a "RLL 2,7" encoding scheme.

Each cylinder is segmented into sectors of a uniform 512 byte size. The number of sectors per cylinder varies. The outermost 831 cylinders on a 105Mb ProDrive have 209 physical sectors per cylinder, including specially reserved defect areas. The inner 188 cylinders have 167 sectors. Each 512 byte sector also has 6 bytes allocated as an ECC (error correction code).

Each sector has a number allocated sequentially amongst adjacent sectors on a track from cylinder 0, head 0 through to cylinder 1018, head 5. When the ProDrive needs to access a sector it knows the sector will always be in a predetermined position. This means Quantum drives are hard sectored drives.

In comparison the various Apple disk operating systems over the years have supported soft sectored floppy drives. It is up to the disk operating system to lay down a sector pattern. During the life time of a disk the sectors will actually move around, although they will always be located on the same track.

Each soft sector disk requires much more than the Quantum's 6 bytes of overhead. They need at least a header/prefix containing data to identify the sector to the disk operating system in addition to any error or checksum code. The disk operating system must also manage the space between the sectors.

A hard sectored drive has an advantage in terms of the density of data stored on each track. Additionally, the computer's disk operating system is freed up from sector management and similar considerations. The drive is able to benefit from this set up by allocating a sectoring scheme optimised to the drive, rather than the computer. As a HD is a mechanical device and hence slower at manipulating data than a computer it makes sense to do any optimising at the HD end.

A problem with many disk drives, hard and floppy, is rotational latency time. We have already seen that the ProDrives are voice coil, SCSI devices with RLL 2,7 encryption. This is good technology but the Quantum HDs excel with their very low latency times.

Latency time refers to the delay caused between sector accesses when the HD must wait for the next sector to spin around under the drive head and/or for the head to be repositioned. Most HDs and all floppy drives minimise this time by employing sector interleaving.

Each sector has a physical address or sector number as discussed above and even the various soft sector based Apple disk operating systems use a sequential numbering system (the exception is Dos 3.2.1 and earlier).

But the disk operating systems fiddle this allocation by assigning a sequential access order which skips a certain number of sectors when the next sector is required. This is the effective or logical sector numbering system. For instance, if the next logical sector is physically located four sectors later then this is referred to as a 4:1 interleave.

A 2:1 interleave system is ascending if the next logical sector is physically located two sectors away against the direction of disk spin (HFS) or descending if in the direction of disk spin (Dos 3.3).

The ProDrives are so fast that sector interleaving is unnecessary although we would say the HD has a 1:1 interleave. Not so long ago this technology was so expensive it would only be employed on large capacity mainframe drives or DASD (direct access storage device).

The Quantums do employ track and cylinder skewing though. The ProDrive uses track skewing to ensure that when a different head on the same cylinder is needed, the head will be above the next sequential sector.

For example, an outer track on the 105Mb drive would have all the sectors shifted or skewed by 7 between tracks. This results in a sequential head switch time of 3.0 msec which is extremely fast.

Cylinder skewing minimises the latency time between head switches when accessing sequential sectors across adjacent cylinders. The Quantum typically uses a 15 sector cylinder skew.

The result of all this skewing is a very fast 16.4 msec maximum rotational latency time and an average of 8.2 msec.

The above timing standards are not usually quoted in HD advertisements. You would often see reference to the average seek time though. This is the average time to complete a specified number (say 1000) of random seeks anywhere in the drive.

You would need voice coil technology to achieve a sub 30 msec average seek time. Resellers will usually boast of times in the 20's for a high performance drive to hang off an 020 or 386 cpu. Quantum come in at only 19 msec and you can hang these off any of Apple's current cpus.

What is more remarkable is the effective average seek time is even lower due to another of the ProDrive's features. The DisCache (R) is a 64K programmable buffer which anticipates future sector needs. As 50% or more of sector accesses are sequential then the cache virtually eliminates the 8 msec rotational latency time.

An average effective seek time of around 12-13 msec is often quoted for the Quantum ProDrives and these claims would be difficult to dispute.

The ProDrives really shine in multiuser environments where both head seek and latency times are more pronounced. If the data is in the cache then Quantum claim 27 msec on average can be saved.

The example drive is able to transfer up to 4 Mb/sec from the cache to the SCSI cable in any one direction. This is fast enough to support animation or multiple graphic images being displayed on the monitor every second.

In the Apple II world there is a much talked about demonstration of several hundred digitised grey scale images from "The Empire Strikes Back" played at just over 30 frames per second. The Quantum could transfer the data four times faster than this if the Apple IIgs were able to handle it.

Such a demonstration would also be possible on a directly connected Mac SE/30 for instance.

A 4 Mb/sec transfer rate is not quite up to scratch to justify a bank of Quantums for a 3090 mainframe's DASD needs. Yet in the land of Motorola and WDC cpus the ProDrives offer superior transfer rates.

It is obvious from the above discussion the ProDrives achieve their remarkable performance from some very exacting technology. The drive was assembled in a Class 100 purified air environment and remains closed during its life. The drive is sealed with a metal cover, gasket and a ferro-fluid magnetic seal around the spindle bearing.

Inside the drive are two 0.3 micron filters. One is a breather filter for internal/external pressure equalization purposes and the other is a circulation filter to help maintain the stringent cleanliness.

The standard measure of reliability is the mean time between failure (MTBF), expressed as a number of power on hours (POH). The aforementioned 25-30 msec average seek time drives are in the 20,000-30,000 POH vicinity. Our example drive has a MTBF of 50,000 POH which is exceptional.

Random or soft errors do inevitably occur. The 105Mb drive has a maximum random data error rate of one every 1e+10 bits read. These are relatively easy to recover from.

A hard error is due to factory defects and partially explains why a 105Mb drive, when formatted by your computer's software may have only 100Mb of available storage. Prior to shipment any defects such as scratches or thin spots in the media are detected and these sectors are deallocated.

In addition, one sector for every 6 tracks is set aside for field found/grown hard errors which might occur during the life of the drive. The example drive thus has a minimum of 3,057K set aside as defect zones. The corresponding maximum defect data error rate is one every 1e+12 bits read.

How the errors and defects are managed is beyond the scope of this discussion. Suffice it to say that the management is efficient and transparent to the computer's disk operating system and the SCSI protocols.

A final feature which sets a ProDrive apart from the rest is the Airlock (R).

It is merely an airvane which is capable of intersecting the actuator to force the headstack to be held over a non data area of the disks. This protects the heads from coming into contact with the storage media during transportation.

The Airlock is additional to the automatic parking/placement of the heads in the shipping/landing zone when DC power is removed from the spindle motor. It provides additional insurance against the head stack moving out of the landing zone.

When purchasing a HD you should enquire about the mechanism inside the packaging. It is certainly a more important consideration than any software bundled with the drive or the colour of the drive case.

Surprisingly, the ProDrives are price competitive and occasionally cheaper than their counterparts. Unusually, it is cheaper to purchase a Quantum here in Australia than through US mailorder. Little wonder Quantums are increasingly the hard drive of choice for Apple owners.

QED

Market Day Signs
Last month we sent you two Market Day signs.
Here is what you do with them.

No! you don't throw them away and No! you didn't get too many. You will put the one marked 'For your notice board', on your notice board at the office or your school. If neither of these two options are available you will take your sign down to the Community notice board, in your area, and place it there. Your local library will have a notice board and even your local arcade may have a suitable place. Your sigh may be photocopied. The second sign, the one you can read at fifty paces, is for the rear window of your car. Ok, your rear window is out of the question so what about the side rear window. Your Market Day will be a huge success if you do these two little jobs. Advertising will bring visitors and visitors will bring money and money will bring you more benefits and more benefits will make you a happy person. So, don't delay. . . Get those brochures out of the trash and up where they were supposed to be telling everyone where and when to get to the Apple Users' Group Market Day 1990.

What Equipment Do You Have?
By Max Smith

In the interest of advancing our knowledge of Apple computers I am inviting members to send in an article to *Applecations* telling how you have your computer set up. I am sure this will be very interesting if you have something unusual.

To start the idea off, I will relate what equipment I have and how I have it set up, this in turn may give someone some ideas for improvement and, I, in turn might get some ideas from someone else. In some later issues I may be able to offer some information on ways in which I have some of my programs and disks set up.

The History

In 1981 I decided that I needed to purchase some sort of computer and as I was involved in doing a course in Sydney at ITATE (Institute of Technical and Adult Teacher Education) where they used and instructed on Apple computers it seemed logical that I became interested in an Apple. I priced new ones and second hand ones, the trouble was they seemed to want too much money. Then one day while reading through the Sydney Trading Post I saw a compatible advertised in Lane Cove, as I was going to Sydney the next Friday I went and had a look and became the proud owner of a Laser (Apple II+ compatible), I paid $1200 for, a 12" Amber monitor, an Apple II disk drive and the computer complete with 80 column card, Z80 card, a 16k language card and several programs and manuals all of which I proudly carted back to Griffith on the plane that night, and so began my frustrations, sleepless nights and my official launching into the world of computers.

It was not very long before I started to outgrow my little machines ability and started to look for bigger and brighter things in the future. I had been dabbling in Electronics for some years and had always had a mad hankering to build my own computer, which was probably the driving force that sent me along the trail I chose to follow. It seemed that while my little Laser was doing the job reasonably well I always seemed to be chasing

some little thing or another and that the programs that I wanted to run would quite often not run on my machine and it became increasingly evident that an upgrade to a IIe was the way to go.

The New Start

About 1985 I came upon an Apple IIe (64k) motherboard and decided to proceed with building up my own system. I am a teacher of Building with NSW TAFE and therefore have access to a number of other teachers and after discussion with a very good friend, a Metal Fabrication teacher, I decided that I would build the computer into an Aluminium case about 630mm wide, 150mm high and 400mm deep and this was to slide into a cupboard. The cupboard which I built up is 1400mm wide, 1800mm high and sits on top of an old school desk which I purchased at a sale for $2.00. The cupboard is in fact my computer station with disk storage and bookshelves and printer beside the computer.

Piece by piece I gathered all the items that I thought I would need keeping in mind the number of components I had already purchased and was using in my Laser.

I decided on a 7 amp power supply as I had ideas of larger memory size, and I wanted a detachable keyboard, so I purchased a K8AP keyboard and the power supply from Computer Electronics. I had already purchased 2 new Super 5 5.25" disk drives which I was using in the Laser. At about this time (1986) I purchased a 3.5" Apple Unidrive for use with the new computer and a couple of weeks after the purchase I was chasing after a "Starcard" when I came across Applix Pty Ltd in Beverly Hills. In some information that I collected from them I read an article about the "Applix Overdrive". Now one of the items on my hit list was a "Clock card" and this immediately caught my attention as I could purchase two 3.5 "Overdrives" complete with "Clock Card", a Master disk, a program called "Ozdos" which allows "Applesoft" storage on the 3.5 drives and a 3.5 Overdrive/CPM support

master all for less than I paid for the Unidrive. After some considerable investigation and trialling I promptly sold my "Unidrive" to another teacher who had a IIc and bought the "Overdrive" system.

The New Machine

My computer eventually was completed (well so I thought) and is set up as follows in a fabricated aluminium case:

Apple IIe Motherboard (64K)
K8AP Detachable Keyboard (IBM style)
Tiger 7 amp Power supply
Slot 1 Auto Ice Parallel Printer Card
Slot 2 Apple Super Serial Card
Slot 3 Empty
Slot 4 Apple II Memory Expansion Card (1Meg)
Slot 5 Micro Pro Starcard (64k CPM)
Slot 6 Apple II 5.25 Drive Card
Slot 7 Applix 3.5 Overdrive and Clock Card
Auxiliary/Slot 80 Column / Super Ramworks II Card (1Meg)

The Details

The Auto Ice card is connected to a 256k printer buffer which I built, the main components being supplied by Don McKenzie of Tullamarine in Victoria for about $40.00 and the remainder of the bits from Dick Smith. The buffer is then connected to a parallel printer switch, (also home made) which allows me to run 2 printers without the messy problem of changing plugs around. I normally borrow a second printer on the odd occasion when I need to print some high quality type of work (this is a Tandy TRS-80 daisy wheel) and the other printer is my own Amust 1800 Dot Matrix which takes 132 column paper. Either printer can be selected at the flick of a switch on the front panel and the status of which printer is selected is indicated by an LED adjacent the switch.

The Super Serial card is connected through a 2 way switch on the front to either an RS-232 plug on the front or to a rebuilt Microbee modem which is

built within the case. The control switches and indicating LED's are on the front panel and control Orig/Ans, 300/1200-75 baud and Phone/Modem. The Videotex program that I have for Viatel would not work with this type of 1200-75 modem so I built a Baud Rate converter as listed in AEM, January 1987 page 82. This now allows me access to Viatel by the program operating at 1200 baud and the unit then converts to 1200-75. I suppose you could say this is a bit messy. Well, yes it is, but it was very cheap and it works. I also learnt a lot and had a lot of fun as well as the satisfaction involved in the creation.

The Super Ramworks II card in the Auxiliary slot provides unbelievable versatility with "Appleworks" as it provides me with a desktop of 960k depending on how it is partitioned (More about that in a later article).

The Apple II Memory Expansion card in slot 4 also provides me with 1 Meg of storage for all programs and disk based files that I would use in a number of different systems. The main advantage with this card over the Ramworks is that it has a Rom on board and if your IIe is enhanced the card is automatically recognized as a "Prodos" device and will appear as /RAM/ disk drive and does not need to be formatted.

The Starcard is a CPM card with has 64k of usable ram on board that can be programed as a pseudo drive. I have several CPM programs which I use regularly among which are Roots, Accounting Packages and some home

written stuff in M-Basic.

The Apple II drive card has the two 5.25 Super 5 drives attached.

The Overdrive card has a battery backed Prodos compatible clock included and is coupled to the two 3.5 drives which I can also use as four by 400k (Drives 1,2,3 & 4) "Dos" storage devices or two 800k Prodos storage devices or two 800k CPM storage devices.

And I still have my original Amber monitor which I like very much.

I eventually sold my Laser for $750 full of cards, with Apple II drive and without a monitor.

The Opposition

A few years ago I was being told and pestered to change over to IBM compatible and I almost did until I took one pace backwards to look at what I wanted out of my computer. I decided that it would be plain stupid and a waste of money at that point as my Apple was capable of performing everything that I wanted and with the infrastructure available in the Apple Users' Group, it allows for much more flexibility than an IBM PC. At this point in time I am considering a PC Transporter card which will then close that occasional gap when I might want to access a program that is only available in IBM MS Dos format.

I believe the cost of this method will only be around $500.00 to $750.00 as

against a totally new system. Perhaps some other member has had some experience and could provide their thoughts.

The Future

In a later article I will describe how I have some of my operating systems set up and how I use the system in such a way that I believe I can do almost anything and out perform the allegedly superior system. Most of what I have created has been created after seeking advice and on occasions much assistance from other committee members and then just sitting down and trying all sorts of different ideas. I strongly believe that the only way we will learn more about our machines is by using whatever communication methods we have and *Applecations* and the user group are the best ways to start.

In them of course we have that dedicated group of people who are prepared to offer their time and provide assistance to anyone who asks for it. My congratulations to all members involved. Should you require any further information on my discussion please make contact.

I hope you have enjoyed the description of my system and I look forward to seeing an article from any other hacker who may have found pleasure in creating the unusual.

Max Smith
191 Nicholson St
Goulburn NSW

Apology/Errata

Last months review of Design Master, by Chris Birch was somehow destroyed by the editing process.

Apart from eliminating all the carriage returns in Chris's article, I also managed to completely lose the last part of the article.

I'm still not quite sure how I managed this, but I certainly made a mess of this particular article.

Rather than try to patch it up by printing the rest of the article this month, I will re-print the whole article in the January/February magazine.

My aplogies to Chris and to anyone who had some trouble reading this article.

If I have made any other severe blunders, again I apologise to both the writers and the readers.

ed.

D. I. Y. -

A small hardware project for Apple //c owners.

By Michael Hickey

Apple Computer Inc designed the Apple //c and gave the buyer everything they were likely to need all wrapped up in one neat, cheap package.

A full complement of 128k RAM, 80 column firmware, dual serial ports, 3.5" and 5.25" drive controller, mouse, joystick and hand controller port and 1 disk drive, all in a small transportable package.

What other Apple could match it?

At the time even the Macintosh was cursed with a pitiful 128k RAM, a "toy computer" image and the merest hint of software.

The Apple //c was (and still is), to those fortunate enough to own one, the real "computer for the rest of us".

Don't get me wrong, the Apple //e is excellent value too, but by the time you configure your Apple //e with two super serial cards extended 80 card, smart drive port and mouse card you are out of pocket some hundreds of dollars over the cost of that cute, snow white wonder, the Apple //c.
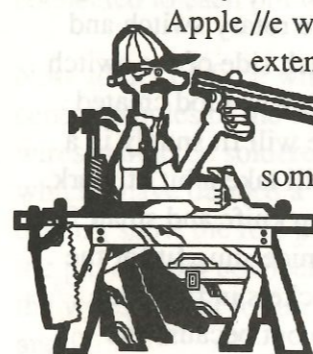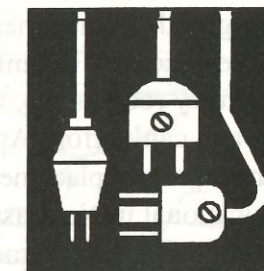
Sadly Apple Computer, Inc in its finite wisdom has stopped selling the machine in Australia, presumably in favour of the new kid on the block, the much raved about Apple //gs.

By now there should be no-one left on Earth who thinks that the Apple //c is unexpandable. You only have to skim any American Apple magazine, such as A+ or Incider, and you are confronted by add-on options for the Apple //c including RAM cards, Z80 co-processors (for CP/M), clock chips, sound synthesizers, accelerator chips, MIDI connectors and even a hard drive! These options are sometimes fitted inside the case and add scant few (kilo?) grams to the all-up weight.

Of course, Apple got into the Apple //c expansion game some time ago and offers a 1mb expansion card for use in the later, memory-expandable, Apple //c's and now even produces a 4Mhz CPU model with a built-in 3.5" drive called the Apple //c+.

So with the right amount of cash it is quite feasible to have the ultimate Apple //c with a 4Mhz cpu, 20Mb hard drive, clock/calendar chip, 1.25 Mb RAM, colour monitor, LCD flat screen, colour printer, 2400 baud modem and 3.5" 800k disk drive all parked on your desk.

Of course in this rodent driven age, the most common add-on for the Apple //c is probably the Apple mouse.

This handy little tool is an absolute must for graphics programs like The Newsroom, Mousepaint and Dazzle Draw and a positive advantage in word processing with packages like Mouse Word and Mouse Write. Of course the ultimate mouse-based suite of programs from GEOS would be lobotomised without the little rodent.

Along with all the other built-in's Apple included all the necessary circuitry to drive one of these non-furry rodents. So, if you don't already have one and can't afford Apple's offering, why not try a third-party replacement from Micro-Educational in Newcastle? It is almost half the cost of the Apple //c mouse and should work just as well.

For those not in the know, the mouse port is the same one your joystick uses, which brings me to the real reason for this article. Nobody wants the risk of damage to plugs or the inconvenience of repeatedly removing and replacing the mouse and joystick plugs when the right one isn't plugged in, do they?

A friend of mine approached me with this same complaint some time ago and after a time (well a couple of times really) I came up with a masterful plan, why not build a box to switch between the two devices? After a quick ruffle through several dozen technical reference type books and magazines I had the necessary pin-outs, a quick trip to Dick Smith Electronics for the necessary parts and I was off, soldering iron in hand, to my hobbyists haven to whip up the switch box.

Like all good cooks I'll list the ingredients:

PARTS NEEDED :

1 Zippy Box	cat H-2855
2 DB 9 solder type sockets	cat P-2685
1 DB 9 solder type plug	cat P-2684
+ backshell to suit	cat P-2686
1 6 pole, 2 position rotary switch	cat S-6302
1 Instrument knob	cat H-3766

Suitable length of 8 core shielded wire. Dick Smith has 12 core listed on cat W-2041 so I bought 1 metre for later use, but 1/2 metre is the absolute minimum.

EXTRA BITS :
1 small soldering iron (15 - 30 watts)
A quantity of 0.71mm solder cat N-1638
A pair of wire strippers/wire cutters.
A small sharp knife.

(Three french hens,
Two turtle doves and
"The Partridge Family's Greatest Hits" album)
Some skill with a soldering iron and ...
Willingness to void your warranty

All these bits are available from Dick Smith Electronics 1989/90 catalog and altogether will cost at most $25.

The first step before attempting this simple project is to read through these instructions from start to end. If you have a good grasp of what is going on then proceed with all blessings, but if you are unsure or hesitant, get advice from a friend familiar with simple electronics or give me a call. My number is in the Service Providers section.

NOW FOR THE HARD WORK!

While you are waiting for your soldering iron to heat, take your shielded wire and cut a length equivalent to the distance you want to place the switching box away from the computer + 5cm. I found 35cm to be a comfortable distance. Now cut away the outer insulation from each end of the wire a distance of about 2.5cm to expose the smaller wires inside. If you do not have 8 core wire remove the excess wires by pulling them from the loom with a pair of pliers or cut them level with the stripped insulation. If possible, choose colours which are duplicated, so that you are left with a 35cm, 8 core cable with 2.5cm of the outer plastic insulation removed.

Now prepare the Zippy box.

You will need to make a hole in the middle of the bottom of the box (or in the plastic lid) big enough for the spindle of the rotary switch and two "D" shaped holes on each side of the switch for the DB 9 sockets. This is why God created soldering irons! The spindle will fit snugly in a 9mm hole but the DB 9's will take a bit of work. With judicious use of a sharp knife and small file you should be able to get a nice snug fit for the DB 9. I pushed the DB 9 sockets in from the outside rather than inside to out because the

flange on the DB 9 hid my mess of a hole nicely. If the fit is snug enough you might get away without using glue to hold the DB 9 sockets in place. Then drill/cut/burn a hole in one of the short sides of the Zippy box through which to thread the wire, then thread the 8 core wire cable leaving about 7.5cm inside the Zippy box. Now carefully expose the actual wires by stripping the final 5mm of insulation from each end of the 8 wires. Try not to fan out the copper strands as you do this or you will have trouble when attempting to solder it later on. If they are fanned out give it a twist between two clean fingers to gather the fine copper strands together.

Once you have the wire exposed, "tin" the exposed copper wire by applying the soldering iron to each wire in turn, touch the tip of the roll of solder to the copper wire and permit a small amount of solder to "soak" into the wire. Don't use too much solder or you will be left with some unsightly and unworkable blobs on the wire. As a rule of thumb (the famous computer hacker) always use the least amount of solder sufficient to do the job.

Now prepare the DB 9 plug. As with the wire, "tin" each solder point on the back of the DB 9 with the exception of pin 6. Do not fill each of the holes with solder or you may end up shorting out pins and it's a waste of solder. Once this is accomplished heat each socket in turn and with the length of wire outside the Zippy box insert the tip of each wire into the socket up to the insulation. Do not apply too much heat, or you will end up melting the insulation and/or the DB 9!! Do not connect pin 6 as this has no connection inside the Apple //c. With this accomplished, take note of which colour is connected to each pin for later reference.

Now solder 6 of the wires inside the DB 9 to the central 6 poles of the rotary switch, But which wires should be soldered? Examine Figure 2, which I have dubbed a "Logic diagram" this doesn't show the real positions to connect, just the pin number connections. So just connect all the wires except for the wires connected to pins 4 and 9.
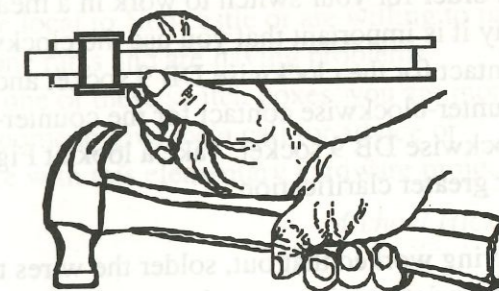
Position doesn't matter at this stage but do give some consideration to yourself and try not to tangle yourself up. The best method for connection I have found is to poke the tinned wire through the hole in the switch solder point from the outer rim of the switch and solder from the middle. You should end up with something similar to the dark lined connections in Figure 1.

Now would be a good time to take a break from all that fine solder work and do some more work on the wire. To produce the entanglement you see on Figure 1 you will need two sets of 6 wires. Cut the remaining 15 cm from the original 50cm in half and remove all the wires from the outer insulation. You should have a little pile of 7.5cm varigated wires. Select 12 of these wires matching two for each colour soldered to the central 6 positions on the rotary switch. Prepare each of these wires by stripping a small amount of insulation from each end and tinning it as before. Now take each socket, tin the pins and solder each of the six wires into the appropriate pins matching the colours with the pin positions on the original DB 9 plug.

Make a slit in the outer insulation of the cable connecting to the rotary switch just long enough for the two unconnected wires to poke through the closest hole cutout for a DB 9 socket. These two wires should be soldered to the appropriate pins on the DB 9 plug to the DB 9 socket, that is pins 4 and 9. Once this is done, stuff all the remaining wires in through the cutouts and firmly push the DB 9 sockets home into the cutouts.

By now you should have the rotary switch mounted through the bottom of the Zippy box. Examine the contacts of the switch closely. Each central contact has a matching clockwise and counter-clockwise position on the outer ring of the switch.

In order for your switch to work in a meaningful way it is important that you use the clockwise contact for the clockwise DB 9 socket and the counter-clockwise contact for the counter-clockwise DB 9 socket. Take a look at Figure 1 for greater clarification.

Having worked that out, solder the wires to the appropriate positions on the rotary switch. Don't get them mixed up! *Make absolutely sure that pin 1 on the DB 9 plug switches to pin 1 on the clockwise DB 9 socket and pin 1 on the counter-clockwise DB 9.*

It's a simple concept, but an important one if you don't want to send 5 volts down the wrong wire.

In my experience the Apple //c will not switch on if anything is wrong with its serial or game ports so you may be safe, but then again you may be sorry! If you aren't sure, stop and think, look at Figure 1 and Figure 2 until you are sure.

Figure 5. Top view of the completed switch box.
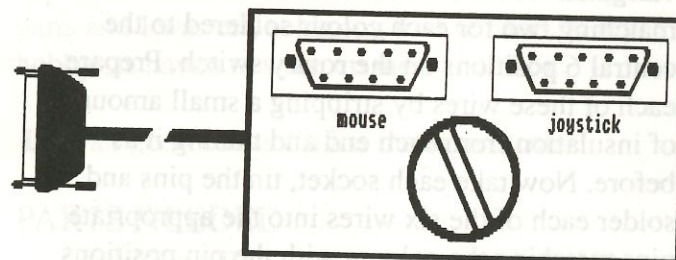
Figure 5. Top view of the completed switch box.

If you have done everything as directed you will have completed 99% of the job. Put the lid on the Zippy box, the instrument knob on the switch spindle and put the backshell around the DB 9 plug, making sure that the cable strain clamp is far enough down the cable to prevent stress on the solder connections. The backshell should also include a pair of finger tightenable bolts, these too, should be installed. All that remains now is to test the unit on the Apple.

First turn off your Apple //c.

Now connect the DB 9 plug to the to the mouse/game port on the back of the Apple, and screw in the securing bolts. Do not connect anything to the DB 9 sockets just yet. Now switch on your Apple //c.

If it turns on and attempts to boot normally everything is fine. If it just sits there - switch it off - fast! You have either wired up the connectors incorrectly or you have shorted out a pin or two on the switch or any of the DB 9's.

The most dangerous short is probably anything connected to the power circuitry.

For instance if pins 1 and two were shorted out, an unattenuated voltage would be sent to the computer though the pin 1 circuitry. In the joystick and the mouse there is a resistor which attenuates the voltage when that particular circuit is used.

Check out your solder connections and when you are satisfied with your work, test it again until the fault is discovered and fixed.
Once you have it up and running without the joystick or mouse connected, try plugging both the devices into the appropriate sockets on the Zippy box and boot something like The Newsroom which can be driven by both the mouse and a joystick. Otherwise test the box out using first a game for the joystick and then a mouse driven package like Mousepaint.

Which socket is which?

Well, remember when you connected two extra wires to one of the DB 9 sockets? That one is the mouse port and will most likely be the one closest to the entry point of the external cable! Switch to the joystick and try it out then switch over to the mouse port and use the mouse.
If all is well both will work with their respective programs.

To get The Newsroom to recognise a mouse after testing with the joystick, first switch over to the

mouse port and hold down the <CONTROL> key and press <RESET>. This causes The Newsroom program to read the mouse ID through pin 1 and will accept input from the mouse thereafter.

I have now built two of these devices, & both have been working happily for well over a year.

If you are local to Newcastle or are willing to pay STD phone rates and are having problems building one of these switch boxes, you are more than welcome to give me a call for advice or assistance with this elementary hardware project.
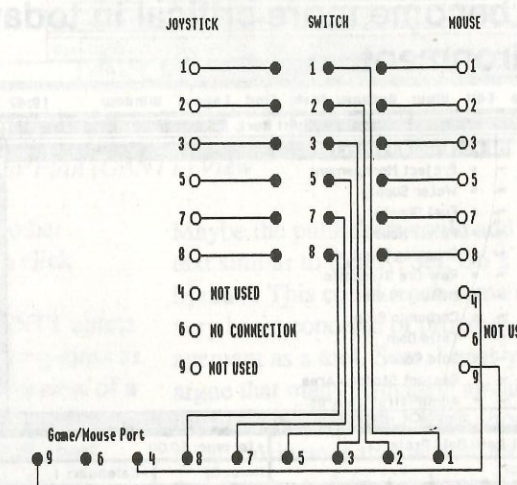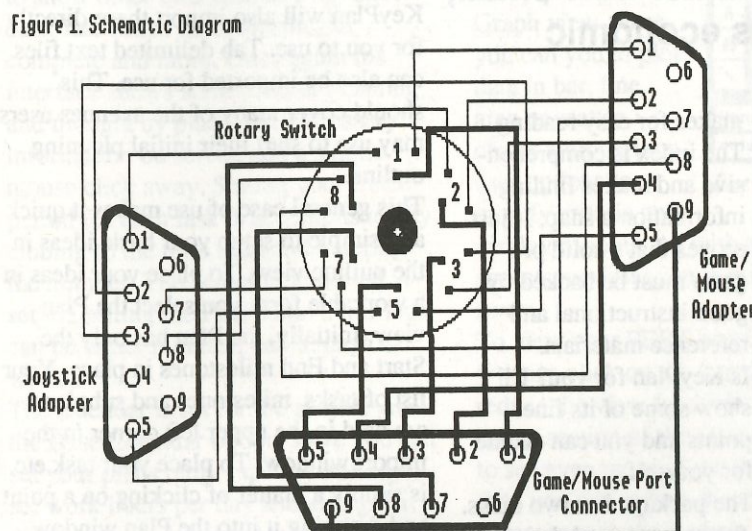
Michael Hickey

Figure 1. Schematic Diagram

Figure 2. Logic Diagram

PIN	SIGNAL DESCRIPTION
1	Switch 1 - Closed Apple
2	+5 volts
3	Signal Ground
4	Not Used
5	Paddle 0
6	No Connection
7	Switch 0 - Open Apple
8	Paddle 1
9	Not Used

Game Port

Figure 3. Game port pin-outs

PIN	SIGNAL DESCRIPTION
1	Mouse Identification
2	+5 volts
3	Signal Ground
4	Mouse X direction
5	Mouse X movement interrupt
6	No Connection
7	Mouse Button
8	Mouse Y direction
9	Mouse Y movement interrupt

Mouse Port

Figure 4. Mouse port pin-outs

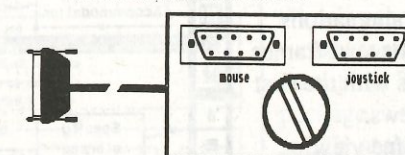Figure 5. Top view of the completed switch box.

November Apple II & IIGS Software Releases.

APPLE II Releases

AUG.135 - MacWorld Disk - Sides 1 and 2

If you were unable to attend MacWorld during October then you missed out on a great show - you also missed out on the opportunity to purchase our special disks for MacWorld. We cannot help with your attendance problem but here is one of the disks that were on sale - the other is in the IIGS releases.

The MacWorld 5.25in disk is double-sided and has Public Domain programs on both sides. The programs are all DOS 3.3 and as such can be run on any of the Apple II family.

Side 1 contains Games and Utilities. These are:

1. Blast - a shoot-em up space game. This one needs a joystick.

2. Box Puzzles - These are word puzzles. You are marked on your ability to solve them.

3. Electronic Jukebox - plays a selection of four tunes.

4. Guess a number - a "Master-Mind" type game where you have to guess a 3 digit number.

5. IQ Test - a series of tricky questions to test your intelligence.

6. Oil Baron - a simulation where you are responsible for the continuing development of a number of oil fields and the maintenance of your cash reserves.

7. Road Map - a graphic game for two players in which you have to plot a road from one point to another and beat your opponent.

8. Spellbound - This is a flashcard simulation. It is a useful learning aid.

Side 2 - Elf ABC - This program is designed to help younger children to learn and re-inforce their knowledge of the Alphabet and the numbers from 0 - 9. The program uses graphics and music to make the learning enjoyable.

AUG.136 - Christmas Games for the Children

Sides 1 and 2 contain shareware DOS 3.3 games which will come in handy as Christmas presents for the younger ones. Both programs were written by the same people and use a similar approach, however, Side 1 "Santa's Workshop" is a graphic-based adventure game, while Side 2 "Where's Santa Claus" is text-based.

AUG.137 - Side 1 - LIST

Written up in A+/Incider as being one of the best Shareware utility programs for the Apple II, Stowe Keller's LIST has been updated, and this disk contains the all new version 2.0. LIST, a $US15 shareware program operates under ProDOS 8, and is designed to allow the viewing of the contents of any ProDOS file, except GS/OS forked files which are not supported by ProDOS 8. It is particularly useful for examining text files which are too big to fit into any word processor. It is designed to handle file sizes up to the full 16 Megabyte limit of ProDOS 8, and provides several different display modes, allowing scrolling up and down through a file by line, by screen or by half screen, has commands for searching, and print all or parts of a file to the printer, or to disk. LIST requires and enhanced 128k IIe, IIc, or IIGS.

AUG.137 - Side 2 - Compac City

This DOS 3.3 disk is a shareware program of utilities written by an AUG member, Grant Kwai. This is version 2 of the program, Grant has already written version 2.1 and this will be forwarded to you with a manual on the payment of the $10 shareware fee. The program contains utilities for formatting disks, copying, locking, unlocking and deleting files.

AUG.138 - Yo Yo Duck - Side 1 (Side 2 has complete documentation)

Yo Yo Duck is a series of diagnostic programs for the Apple IIe, IIc and IIGS. The disk is shareware and included on the disk are programs to "burn in" your computer, i.e., test it over a long period of time, test your CD connection, monitor tests, a drive cleaner program, a double hi-res test, a disk tester, ImageWriter II and LQ test programs, a joystick tester and alignment program, etc, etc. There are 18 different options on the Yo Yo Duck main menu.

Side 2 contains Appleworks files which produce a 48 page manual.

AUG.139 - Publish-It 3 Resource Disk - Sides 1 and 2

This disk contains a collection of all the different types of graphics and fonts that are supported by the recently released Publish-It 3. There are SHR, DHR graphics, Print Shop GS graphics (use these with Labels, Labels, Labels), encapsulated Post Script graphics (the October 1990 issue of A2-Central has an interesting letter on how Publish-It handles postscript files) and much more. If you like Publish-It 3, you will want this disk.

IIGS Releases

GS76 - MacWorld 90 Disk

This disk was the IIGS/IIe offering at MacWorld 90 and is listed here for those of you who wished to purchase but were unable to do so. The disk contains Appleworks GS templates and Appleworks patches for Appleworks 2.0 and 2.1. These patches include this information:

Summary of changes in this upgrade:

There are three major improvements: 1) SuperPatch now recognizes which version of AppleWorks it is patching and adjusts its operations accordingly. Thus, no longer are there two versions of SuperPatch, each aimed at a specific version of AW—SuperPatch 3.0 copes with both releases at the 2.x level; 2) Thanks to Stephen Weyhrich, SuperPatch will size the desktop for //e and //c folks who use slinky type RAMcards—see the description of that patch for more info; and 3) SuperPatch will now patch SEG.PR for half-height sub/superscripting if you are using an ImageWriter II.

With these two new patches, SuperPatch now installs/de-installs/analyzes 29 patches on 8-bit AppleWorks 2.x.

This upgrade also fixes a couple of bugs in the operation of former versions of this program, and adds a much better routine for locating the data byte Ultra.System stores for use by its <find> command, so that the bent arrow carriage return symbol patch works better with UMW. I also noticed that users of 5.25 disks were not prompted to insert the disk when Ultra.System and/or Super.System was about to be patched, and since SEG.M1 is so large that no room exists to place these files on the same side with it on a 5.25 disk, I wonder why no one ever raised the problem. Anyhow, it's fixed. Joe Bradley and Wally Bradford together pointed out some problems with the "Don't disable boldface" patch, and Wally suggested some different patch locations which resolved them.

The special options portion of the menus have been changed, because there are now three files patched by SuperPatch. The previous "[S]witch" option is now replaced with "[1]...[2]...[3]" with the command for the current menu disabled.

Making room for the new features, especially the ability to cope with both current versions of AW simultaneously, was not simple. It was necessary to remove much of the "text prompting" in previous versions of SuperPatch to accomplish these goals. Therefore, these Dox are more important than before, as much information once presented during the process of patching is now found here, and nowhere else.

The program is in the Public Domain and so can be distributed freely.

The file aw.patcHES contains an array of patches for Appleworks versions 1.2, 1.3, and 2.0. So the needs of most Appleworks users should be covered.

Another file "Super Sub Test" tests the ability of the Imagewriter II to write both sub and superscript in a document.

There are 44 templates for Appleworks GS. They include templates that are useful for Business, Home and School.

GS77 - GIF Graphics Disk No 5

Another in the series of disks and complement GS71, 72 and 76. There are 17 more GIF type graphics on this disk and include Cheryl Tiegs, Sawbuck, Cheetah and Balloons.

GS78 - John's Clip Art Disk No 3

There are a wide variety of SHR clip art files on this disk, which have been converted from public domain Macintosh graphics. These files are stored in Apple Preferred Format and are suitable for use with Appleworks GS, Hyperstudio, and other GS applications.

GS79 -

Productivity Disk

Included on this disk are programs designed to allow you to use your IIGS computer as a productivity tool. The programs include a label making program that will let you create 5 line mailing labels, print them out or save them for future use, a program to create custom labels for audio cassettes, a name and address database for up to 700 people, a word processor that displays a notebook-like screen and many more. All of the programs are shareware with fees payable directly to the authors of the programs.

GS80 - Print Shop IIGS Graphics

This disk is similar to last months GS75. This disk contains another 72 all new, multi-coloured graphics for Print Shop GS, Publish-It 3! and Labels, Labels, Labels. There are also 15 new borders and 15 new fonts for Print Shop GS only.

GS81 - Plunder!

This is the latest game from Dr Ken Franklin, author of One Arm Battle. This disk is Reliefware - pay your $US15 to Dr Franklin and he will donate it to charities working for homeless relief.

Plunder! is a game of chance and daring for 1 to 4 players of any age. The program contains over 500K of digitised sound and graphics files, packed into a single file for ease of use.

GS82 - PaintWorks Animation

PaintWorks Plus and PaintWorks Gold are two commercially available programs with the capacity to display animated graphics. For those of you who do not own either of these programs there is a small IIGS program on the disk which will allow you to display the animations. Some of the animations were created on the IIGS, while others have been "ported over" from systems such as Atari and IBM.

The files on this disk include:

Brush - A paintbrush dripping with paint.

Chaser - Two paper aeroplanes flying around and chasing each other.

Dragon - A fire-breathing dragon.

Fly - A butterfly in motion, and

Tron - Based on the movie of the same name.

GS83 - Customize the Finder Desktop

This disk contains a number of IIGS Shareware files that will change the way you use GS/OS's finder. A2.FX reads Macintosh formatted disks and converts files for ProDOS compatibility. It also successfully translates MacPaint graphics with the proper aspect ratio. Finder.Patcher provides numerous patches for the Finder to allow folders on the desktop and Open Apple command equivalents for all of Finder's pull down menus. Instant Icon lets you save a portion of a Super Hi-Res graphic as a IIGS Icon. Other programs include RunQ, UserNDA, TransProg GS, Font/DA Mover, File Manager and Firetools. If you want the power to do your best, this disk is a must!

GS84 - Music Studio Song Disk

There are 30 songs on this disk which have been written to take advantage of Music Studio V2.0 capabilities, including tempo changes, fade in and fade out, and the raising and lowering of volume.

Included are songs from the Swing Era's GlennMiller, a Mozart Horn Concerto, movie theme such as "As time goes by" (from Casablanca) and pop classics from the Beatles, Roy

Orbison, Ben E. King, Buddy Holly, Bob Dylan, Fleetwood Mac and Chicago.

GS85 - IIGS Potpourri

This disk contains something for everyone! Geometry Primer is an introduction to the world of Geometry, French Verb Race is a timed game to see how fast you can conjugate french verbs, Bartender displays the recipes for drinks that you choose, LottoGS picks all of your winning Lotto numbers and so on.

Some of the programs are shareware - but not all. A useful program is Virus MD which checks your disks against contagion by several types of IIGS viruses.

September Software Releases

for the Apple II/IIGS

Due to an editorial oversight, September's Software Releases never got into the Magazine. My apologies to all concerned, but they finally made it! ... ed

AUG.120 - Dictionary Files

Both sides of this disk contain dictionary files for use with Appleworks. They are both DATA disks and have Appleworks WP files with information about the operation of the dictionaries - read them first!

AUG.120 - Side 1 - Biology Dictionary

This side of the disk contains a custom biological dictionary that works with TimeOut Quickspell and Appleworks 2.0, 2.1 and 3.0. There are approximately 3,600 scientific terms included in the dictionary. Some of the words included are: aardvark, bacteriophages, barnacle,

cephalochordata and zymogen. The biological dictionary was compiled by Dr. Charles Hoger of Orange, California.

There is also a custom dictionary for speech pathology on this side of the disk. Compiled by David Stachowski of Conesus, New York, it contains about 800 words including: alexia, amentia, cochlea and harmonic.

Additionally, on this side of the disk is a program which will allow you to convert Sensible Speller Dictionaries for use with QuickSpell. Be careful with this one and MAKE SURE you read the documentation before you attempt any conversion. If you do decide then make sure you have set aside about 6 hours for the operation - it is most time-consuming - and very tedious. Still, if you have nothing better to do ??

AUG.120 - Side 2 - Microbiology Dictionary

On this side of the disk are two dictionaries for TimeOut Quickspell and Appleworks. One of the dictionaries contains about 5000 words for use in microbiology and microchemistry. Some of the words include such things as aceoxidans, macroides and xenococcus. Compiled by Dr. John Larkin of Baton Rouge, Louisana, this dictionary is a must for all of you who use these words in your everyday communications - and don't we all! Included also is a 1600 word dictionary of nautical terms compiled by Bruce Condit.

AUG.121 - Side 1 - Prodos Fire Organ

Welcome to the wonderful world of Fire Organ.

If you read inCider magazine, you've probably seen mentions of this program in the "Speaking of Graphics" column. It's cited in that column at least once or twice a year. The authors of that column, Michael Calley and Roberta Schwartz, have called Fire Organ the best graphics program ever for the Apple II.

Fire Organ has been described as kinetic art. It is the type of program that you'll never get tired of. I know; I have had Fire Organ since 1982, and still enjoy it every time I run it. The program was developed by Brooke Boering of Vagabondo Enterprises. In

order to create Fire Organ, he wrote a series of disks called CEEMAC which is a development system that can be used to create disks similar to this one. The CEEMAC program disks are all DOS 3.3, (and one of our members gave me a copy of it for placement into our library. Unfortunately one of the disks had a bug which made the program unuseable - if anyone has an unbugged copy of all of the disks I would be happy to place them in our library - WG). This disk is, as far as I know, the only disk that has been converted to ProDOS. All are, however, in the public domain.

This is an updated version of Fire Organ that operates under ProDOS 8, and requires 64K. Its constantly changing shapes and graphics will delight pre-reading youngsters and computer oldtimers alike. As any key is depressed, the shapes, the colours and designs change. An evolving collage of colours will keep you thrilled for years to come.

There is an Appleworks file on the disk which gives complete information about the program and its authors.

AUG.121 - Side 2 - Wheel of Fortune

Join Adrianna Xennides in a graphic-based version of the popular TV show, Wheel of Fortune. Up to three players can compete while trying to solve word puzzles and gain monetary fortunes. If you decide to play on your own the computer will generate two players to play against you. It has been called one of the best freeware games for the Apple II in both the A+ and inCider magazines. The game requires a 128K enhanced IIe, IIc, or IIGS.

The only problem with the game is that you do not get a chance to spend all of the money you win - or meet John Burgess.

AUG.122/123 - DB Master Version 5.0

This is the 5.25in version of the popular shareware program DB Master. DB Master is a complete database management system that runs on a 128K enhanced IIe, IIc or IIGS computer. For those of you who have a 3.5in drive on your IIe there is

a complete ProDOS 8 version of this program on GS65, this version has more printer driver options than the 5.25in version. These same printer driver options are available to those IIe/GS owners with a hard disk. GS57 contains the same version except that on this disk you will need to "Un-ShrinkIt".

This version is complete on 2 double-sided disks. Disk 1 contains the DB Master program, Disk 2, Side 1 contains sample files while Side 2 contains the documentation. Only Disk 1, Side 1 is a bootable disk. Disk 2, Side 1 files are accessible through the program with the "add, Delete or Edit" option. The documentation on Disk 2, Side 2 is in ASCII text files and can be loaded into any word processor, or printed from Applesoft BASIC by inserting Disk 2, Side 2 and typing in:

RUN STARTUP,S6,D1

If you have outgrown Appleworks, or simply want the very best and most powerful database program for the Apple II family, look no further, DB Master has no competition!

AUG.124 - Side 1 - ShrinkIt

Since being released a year ago, ShrinkIt has become the standard file compression utility in the Apple II world. Used primarily for telecommunications, ShrinkIt allows one to send files, or full disks, over the phone lines, but in a greatly compressed format, resulting in much less time spent online. Yet many Apple II users report great success in using this program to compress and archive files, and thereby free-up valuable disk space. As an example, using ShrinkIt, it is possible to store the contents of an 800K 3.5in disk on two 5.25in disks. A great utility to use if you have too many disks and not enough room.

This contains the latest releases of ShrinkIT. ShrinkIt v3.0.1 is used on an enhanced IIe, IIc or IIGS. ShrinkIt.II+ can be used on the II, II+ and unenhanced IIe's. It is completely menu-driven and extensive documentation is included.

AUG.124 - Side 2 - Class Test Results 5.1

This is the latest version

of the popular and well-written markbook program, Class Test Results. On advice from several people who are users of the program, David Emery, its author has made modifications which allow the user to move more freely through the various options of the program.

This is an Australian Shareware program which should make it easier for you to pay David the money he is due for the time he has spent on creating this very useful program. The address is on the disk. The program requires an enhanced IIe or better.

AUG.125 - Eamon Master 1

As promised here are the 5.25in versions of the Eamon in ProDOS form. Over the coming months more Eamon adventures will be included in the software releases, but remember ALL of them require a Master disk to run. On this disk Side 1 contains the Eamon Master and Beginner's cave, while Side 2 contains the complete Player Manual (Instructions).

AUG.126 - Eamon Master 2

This is an alternative Eamon Master with utilities. Side 1 has Eamon Master, Utilities and Player's Manual. Side 2 is the Beginner's Cave. Remember NONE of these disks are compatible with the earlier DOS 3.3 version of Eamon.

AUG.127 - Side 1 - Eamon Graphic Master

This disk is a graphics based Eamon practice arena.
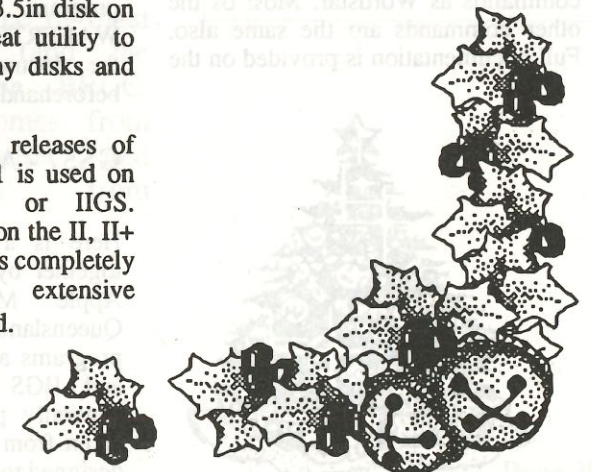
AUG.127 - Side 2 - Eamon - The Caves of Mondamen

On this side is the first of the releases of the adventures. There are another 20 adventures to be released.

AUG.128 - Side 1 - Nifty Works 1.3

This is a DOS 3.3 shareware word processing program. There are some 20 pages of well-written instruction included on the disk. It may have some value for those of you who do not have a word processor and who are unable to pay the purchase price of a commercial program. This one for you to work with and discover for yourself.

AUG.128 - Side 2 - Do-It-Yourself Business Papers

Another shareware program, this disk contains some very useful applications for the small business owner. Once the disk is configured to your printer (and there are a range of options) you are able to print Purchase Orders, Invoices, Letterheads, Business Cards, Forms, Labels, Envelopes, etc. The program comes with detailed instructions and this one alone will be worth the price of the disk.

AUG.129 - Side 1 - Zip Script II

This is also a shareware word processor and for those who were weaned on Wordstar this is a very good attempt to produce a DOS 3.3 version of that program. It can be used on all machines from the Apple II+ upwards and uses the same dot commands as Wordstar. Most os the other commands are the same also. Full documentation is provided on the

disk.

AUG.129 - Side 2 - Blankenship Basic v2.7

Documentation is also included with this shareware program. If you are interested in programming, and in alternative forms of BASIC, then this disk is for you!

II GS Releases

GS56 - Applications (including SoundSmith)

This disk was demonstrated by Godfrey Gamble at the June Apple2 meeting and was made available, to those who wanted it, at the Apple User's Group Conference. There was supposed to be a write-up of the disk in the July Applections but it never made it - it may be in this issue. This version of SoundSmith will run on a single-drive machine - if you only have the one drive and you bought the earlier version of SoundSmith (GS41) then you may swap that disk for this - that is ONLY those of you who have only the one drive. There is a fix for the one drive problem and that was supposed to be in the June issue of Applections but it was also overlooked.

Other programs on this disk include Hacker; Disk Timer GS; a shareware program called Pattern II which creates different background patterns; Mathemusic, an interesting program without documentation, and of course, SoundSmith. There is documentation for SoundSmith which MUST be read before you use the program. This is not a case of WAEFRTD (when all else fails read the documentation) please read it beforehand.

GS57 - Appeelings.PD

Here is a group of programs put together by the publishers of a new Apple Magazine published in Queensland called Appeelings. The programs are divided into Apple IIE and IIGS offerings but they are generally programs that have been taken from the A2-Central disks and designed to run on the IIGS.

The Apple IIE offerings are: FAZ, File Attribute Zapper (No Docs); TEX, Text File Helper (No Docs); NUFX Messenger (Docs); Shrinkit 3.02 (Docs); Dict.Convert (Docs) and DB V5.Shk (Again with Docs). You will need Shrinkit to De-Shrink DB V5. which is a slightly larger version of the database program DB Master which can be found on AUG 122 and 123 (there are more printer files on this version).

The IIGS programs are: Initmaster and Initmaster CDEV; Utility Works GS Launcher; NUPAK.GS; RunQ; and Leapfrog II - all of these have documentation. There is no documentation for Formatter and GS.CAT.

GS58 - Fun and Games

There are 11 GS games on this disk; 3 stunning graphics generation programs, and a program that makes it easy to use icons to launch files without resorting to an icon editor. The graphics programs include 2 from Jason Harper: Polygonia and Fillmaze, both are wonderful 3D representations of IIGS animation. PlasmaLab is almost indescribable; it contains five different modules that generate animated fractal-like graphics.

The games include 2 different versions of Tic Tac Toe where one is easy to win and the other is extremely difficult; a maze creator that prints enormous mazes on Imagewriters; As the Link Turns II, an amusing game where one jumps out of a helicopter; Follower, which is based on Simon; Romulan, an outer-space shoot 'em up based on Star Trek; a very nice Towers of Hanoi; a clone of the popular arcade game Q*burt; a clone based on the classic arcade game Frogger; a game based on the card game Concentration; and a game of Backgammon.

GS59 - John's Clip Art Disk *1

A wide variety of SHR clip art are on this disk. These pictures have been converted from Public Domain Macintosh Graphics. They are stored in Apple Preferred Format and are suitable for use with Appleworks GS, HyperStudio and other GS applications.

The pictures are grouped in four categories; People, Animals, Holidays and Miscellaneous, and there is documentation on the disk.

GS60 - HyperStudio Sound Effects

Are you looking for the right sound effect to add to your HyperStudio stack? Do you need the sound of a doorbell ringing, a dog barking or a Laser Gun? If so, then this disk is for you. The prime source for these sounds were HyperCard resource sounds that have been converted from the Macintosh. Because they were converted from HyperCard sounds, there size makes them very usable with HyperStudio.

GS61 - John's Clip Art Disk *2

These pictures have the same origin as those on GS59. There are, however, no separation into categories on this disk and you are faced with a great range of different ares to choose from.

GS62 - Font Disk 11

This is a continuation of the release of fonts for Superfonts, Publish It! and all the GS word processing programs. Remember, these fonts will run on the Apple 2E, etc., as well as the GS.

The fonts are:

Abbeydeco.14, .28; Aberdeen.12, .24; Akashi.12; Aldous.12, .18, .24, .36; Amslan.18; Andover.12; Apple1.18; Arabic.24; Armonk.12, .24; Ascham.9, .10, .12; Asl.Fingers.14, .18, .24, .36, .48; Athens.18; Baby.Teeth.18; Banner.24, .48; Banner.It.24, .48; Barcode39.9, .12, .18; Basel.48; Berlin.12; Black.Shadow.48; Blockbuster.36; Boise.18; Bold.1.48; Bouton.24; City.9, .10, .12, .14, .18, .20, .24; Crossfire.18, .24; Cyrillic2.12; Fatrhine.18; Frame.1.12; Saigon.12, .18, .24; SanFrancisco.12; Seattle.10, .12, .20, .24; Seattle.Rice.12, .24; Star.Fleet.9, .12, .18, .24; Star.Trek.12, .18, .24, .36, .48; Stuttgart.9, .12, .18, .24; Symbols.24, .48; Toronto.9, .12, .14, .18, .24; Toyland.18; Toyland1.36; Toyland2.36; Trekfont.12; Vancouver.9, .10, .12, .14, .18, .20, .24; Wall.St.9, .10, .12, .14, .18, .20, .24, .36, .48;

Wash.DC.9, .12, .18, .24; Willowdale.9, .12, .14, .18, .24; Zapf.Chancery.10, .12, .14, .18, .24; Zapf.Dingbats.10, .12, .14, .18, .24

GS63 - Mean 18 Golf Courses

For all of you Golf "freaks", here are four more courses you can play with your Mean 18 program. The courses are named Ocean, Bushhill, Butler and Medinah. Enjoy!

GS64 - CheapPaint

In the June issue of Incider A+, this program was rated as one of the top shareware programs. Here is some of what the magazine had to say about this top shareware program:- "Cheap Paint, by Earl Gehr, is a 320-by-200 mode GS paint program. It compares favourably with commercial software; the only thing cheap about it is its $10 shareware fee. Cheap Paint includes colour-cycling animation and the ability to display 256 colours on the screen at the one time. You can load two graphics at the same time, cut and paste between the "canvasses", choose from 12 brush shapes, create stencils, flip horizontally and vertically, and create graphics with all 16 palettes. Cheap Paint requires 768K.

GS65 - DB Master

This is the "Un-Shrinked" version of the Database Management program. This is for those of you who have 3.5in drives and who would like the program in one complete package.

This information was compiled by Wal Glynn, Software Librarian. The source of most of the software (and the information) is the BRCC. Some software comes from Christella Enterprise and CTR5.1 comes from Wollongong.

Coming Macintosh Meetings

December Meeting:

Pica will attend the December Meeting, and there will be demonstrations of Ragtime and Ragtime Classic.

Chris Bayley from Opal Software Pty Ltd, an Apple Developer, will be demonstrating his product.

Ragtime Classic will be raffled!

February Meeting:

Mitsui will be demonstrating Quark Express Version 3.

Applecations

Beagle Bros Bonanza
ReadySetShow

Serve & Volley
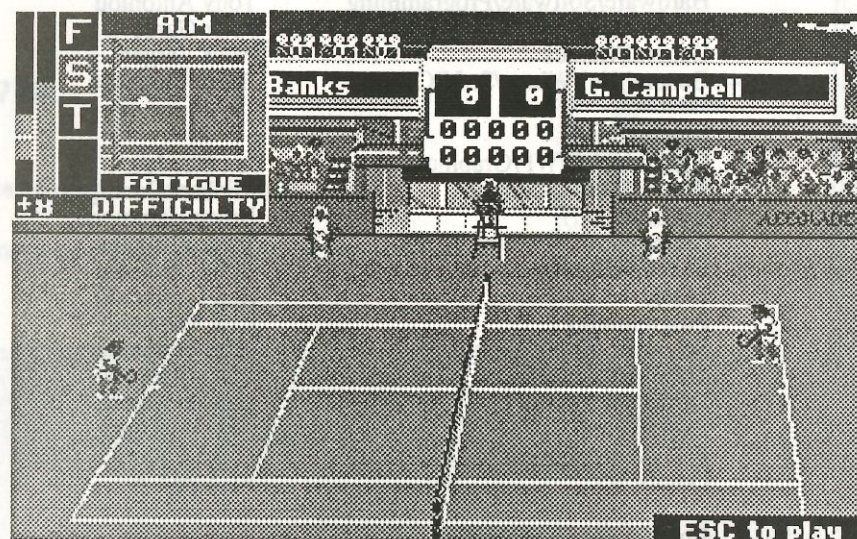
Review By Margo
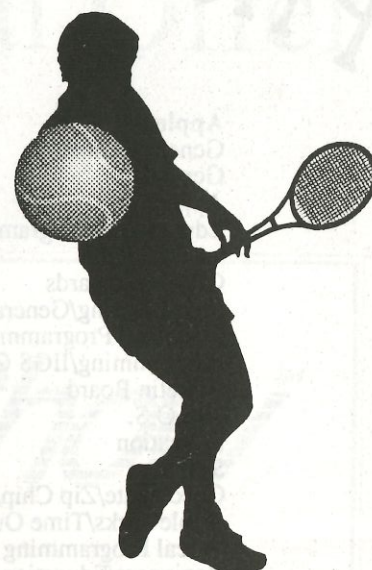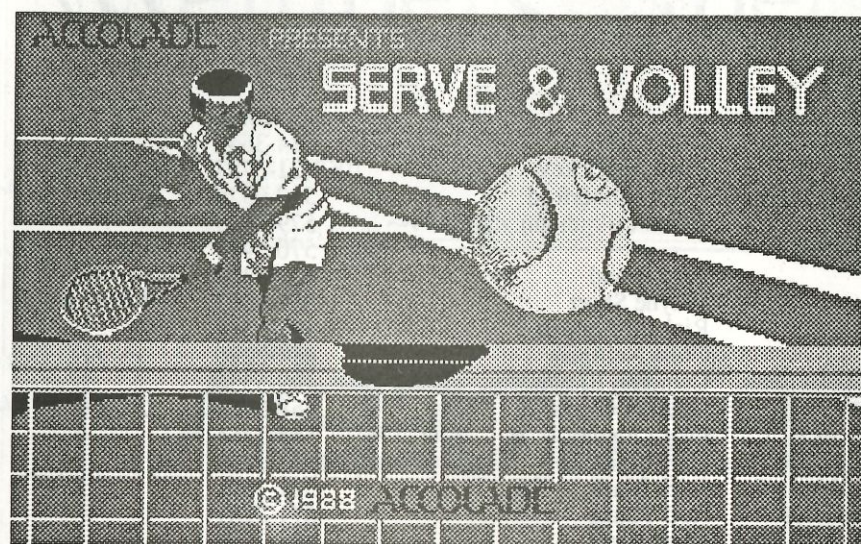
If you want a game to fill a day or so while it is miserable outside, and enjoy the company of your friends, or keep the teenagers busy (quietly) then this is a very good option.

Serve & Volley can help in learning the game of tennis, it also is fast so you have to keep on the ball. Definitely a game for deft fingers and good eye/hand co-ordination although for those who are slower the game can be played quiet successfully using two hands and keeping an eye on the "thermometer" bar.

The graphics are pretty good and the figures are cute. there are lots of options for playing all sorts of games, easy, medium or hard, you can select how many matches you want to play. You can have hard, grass or clay courts, and you can play country club, seaside or centre court. so all round you can play as a rank beginner or a professional.

You can choose one of ten seeded players or you can enter your own players. There are all sorts of statistics on the various players and your created players also earn their statistics by how you play.

There is a small screen for each player on which are two grey columns, one is the performance bar and the other is the difficulty bar. Next to them there is a "close-up Strobe-O-Stroke" view.
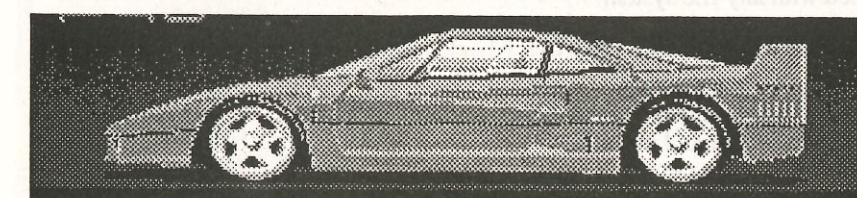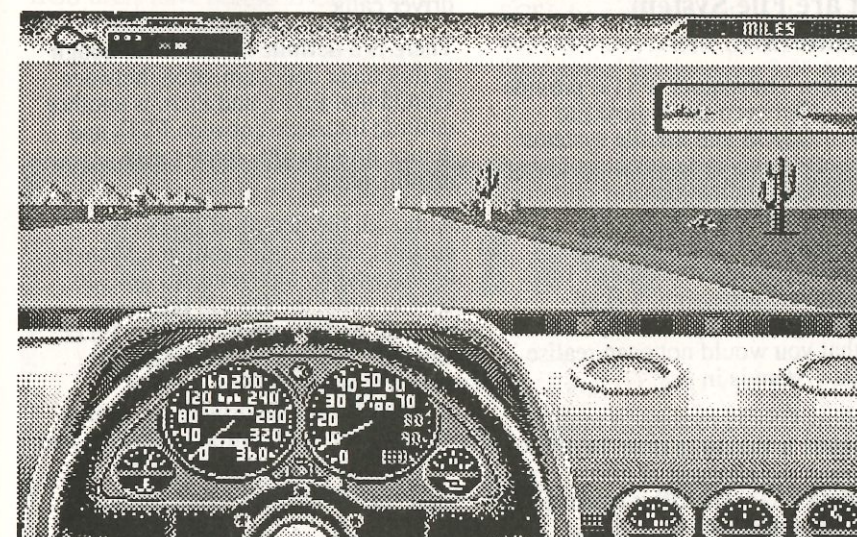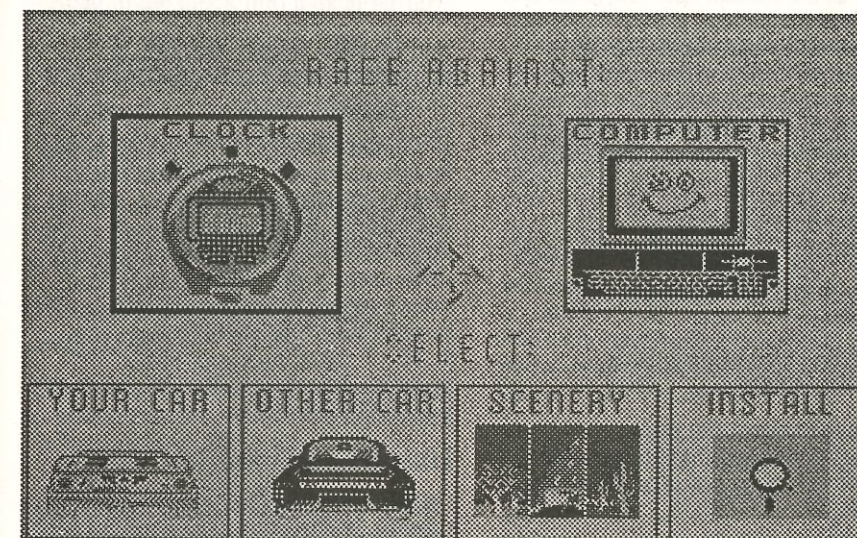

Scoring is done automatically.

If you like a game of concentration, competition and thorough enjoyment then this is for you!

On a scale of 1 to 10 this is a good 8 to 9. Lots of fun.

The Duel "Test Drive 2"

Review By Margo

Test Drive 2 is a driving simulation game for the Apple //GS.

The book with the program is very comprehensive. It is worth reading before starting but it is not essential to do so. The graphics are clear and the sound repetitive. Just on sound ..... there are police sirens, crashes and suitable car sounds.

For loading up it also helps to have a Transwarp GS card. There are a choice of cars, a choice of keyboard or joystick; you can play against the computer, another car or time. There are extra scenarios and you can make as many play disks as you want using the master and extra disks.

The accuracy and response of the joystick is paramount to the enjoyment of this very fast game of SKILL. I found my children could outmaneuver at speed any adult, as a hand/eye co-ordinator this program is great! Of course there is a scoring system so that you may compete against to your hearts content.

Backups may be made for personal archival purposes; we used "Copy][+" but most good copying programs would also do.

If you have a wet Sunday to fill then this is an enjoyable program to share with family and friends. The use of extra cars and scenarios is an advantage.

On a scale of 1 (not good) to 10 (excellent) we think it would be an enjoyable 7 to 8.

File System Translators

By John MacLean

This article explores File System Translators (FSTs); one of the features of GS/OS that makes it such a fascinating and powerful operating system.

What is a file system?

A file system is the way in which files, directories, boot information, and block allocation information are all arranged on storage media at a block level. Each operating system we have seen in the past has a unique file system with a unique set of features.

For example:

• The DOS 3.3 file system uses the first few tracks for the DOS image, the catalog is held on the central track, and there are no sub-directories.

• The ProDOS file system introduced sub-directories, named volumes, mass storage, and very large files.

• The Macintosh file system supports files with two "forks", a resource fork and a data fork; a feature that has since been added to ProDOS.

• Some operating systems such as unix support multiple level access rights within their file systems.

All of these features require different layouts at a block level, and different catalog and file structures.

What we are accustomed to seeing is the support for the file system being an integral part of the operating system; so that, only DOS 3.3 programs can access DOS 3.3 disks, only ProDOS programs can access ProDOS disks, etc. Sure we have seen programs such as Copy II Plus that can access disks initialised with multiple file systems, but they do not provide a way in which other programs can DIRECTLY access data stored under other file systems.

The Logical File System of GS/OS

The operating system of the Apple IIGS (GS/OS) is the first operating system which makes use of a logical file system. GS/OS does not define where on the disk the catalog should be, how the lists of blocks that make up a file should be structured, or how the block usage should be stored.

The native file system of GS/OS is NOT ProDOS, it has the potential to work equally well with other file systems. The GS/OS logical file system supports many features which ProDOS does not such as:

• larger than 32K volumes (theoretically hundreds of Gigabytes).

• larger than 32K files (up to four gigabytes).

• Very long filenames with few character restrictions.

In fact, the logical file system of GS/OS was designed to be, wherever possible, a superset of all existing file systems.

What are File System Translators?

File System Translators (FSTs) provide a mapping between the logical file system of GS/OS and the file systems used by other operating systems. Using FSTs, GS/OS applications are completely isolated from the file system in use. In other words, you never need to choose the type of file system you are accessing, it is all handled automatically; in fact, it is likely that you would not even realise what file system is in use.

FSTs allow GS/OS to support multiple file systems at the same time. In other words, with the addition of the appropriate FSTs, GS/OS is capable of reading from and writing to media initialised with any file system.

What benefits do they give?

You will notice under the Finder, and any other GS/OS application that allows you to format and initialise disks, that you have a choice of which file system is used. We are quite used to applications that can read multiple file systems. On the Apple II, Copy II Plus can read ProDOS and DOS 3.3 disks. My own graphics software, The Graphic Exchange (up to version 3.6), can read ProDOS, DOS 3.3, Newsroom, MFS and HFS (Macintosh disks). On the Macintosh, Apple File Exchange can read ProDOS, MFS, HFS, and MS_DOS disks. FSTs take this concept one step further by providing transparent access to

multiple file systems for ALL applications that make standard use of the operating system.

If we had a DOS 3.3 FST, there would be no reason why you couldn't write your AppleWorks GS files on a DOS 3.3 volume, and read them back again; AppleWorks GS would not know the difference. You could certainly load your Sandy's Word Processor text files directly into AppleWorks from your DOS 3.3 disks, and your hi-res graphics directly into 816 Paint off your DOS 3.3 disks.

How do FSTs work?

FSTs provide the interface between the high level GS/OS calls and the device driver calls.

There is a definite interface (although at this stage undocumented) between GS/OS and FSTs, and there is another definite interface between FSTs and device drivers (this interface is documented).

Although the details of FSTs are currently undocumented, much can be understood by analysing driver calls, GS/OS calls, the GS/OS reference manual, and the existing FSTs. FSTs basically support each GS/OS call directly, by making calls to the appropriate device driver, and return the relevant information to GS/OS, and thus the application, through the GS/OS parameter block.

For example the VOLUME call for a DOS 3.3 FST would perform the following tasks:

• Calculate the ProDOS block number which contains the VTOC.

• Read in the block into a local buffer.

• Identify the volume as a DOS 3.3 volume by checking key locations.

• Calculate the free space and total space on the volume by analysing the free space bit map.

• Update the GS/OS parameter block with the volume name, free space, and total space.

What FSTs are currently available?

Currently, Apple has provided FSTs to support ProDOS (PRO.FST), character devices (CHAR.FST), CD-ROMs (HS.FST), and AppleShare (APPLESHARE.FST). As it turns out, only a very small proportion of Apple IIGS users have access to CD-ROMs or AppleShare networks, so the only file system the majority of users have

access to is ProDOS. In other words, FSTs are fairly useless at present.

What are we likely to see in the future?

It is fairly obvious that the FSTs we are most likely to see introduced in the future are those that aid in data transfers between Macintoshs and Apple IIs. Since we already have an AppleShare FST, it seems likely that if Apple does release further FSTs for the IIGS, they will release an MFS or HFS FST. FSTs for some of the old Apple II file systems, such as DOS 3.3, Apple CPM, and Apple Pascal, would also be welcomed and extremely useful. It may be true that read only versions of these FSTs are released, as this would be sufficient for most users, and much easier to implement.

We are unlikely to get MS-DOS or UNIX FSTs in the near future, as there are currently no device drivers available that can read these file systems at a block level (except for the SCSI drivers). If Apple makes the Superdrive available on the IIGS, or the Applied Engineering 3.5" drive

makes reading these disks possible, then we may get these FSTs in the longer term. It is very likely that the number of file systems will eventually decrease, and converge to a single, or a small number of standards. If this does happen, FSTs will make the migration to other file systems painless. For those that have been around Apple //s for a while, imagine what it would have been like if ProDOS programs could have directly accessed data on DOS 3.3 disks at the point when ProDOS was introduced. This is what future file system migrations should be like.

It appears that Apple has realised the importance of data exchange, and file system isolation for the future survival of their machines. I hope they continue their efforts in making FSTs available on the Apple IIGS and the Macintosh line. If they do, it should really help to extend the life of both machines, and make the life of the Apple user much easier.

A Beagle Bros Bonanza

Wal Glynn

If you've had your Apple long enough, I'm sure you're aware that long before Beagle Bros. wrote the TimeOut AppleWorks add-ons, they were famous for their utility programs.

Rather than completely discontinuing them, Beagle Bros has decided to make its old products available for free on their in-house bulletin board. Since I know that many Apple Users in Australia do not have a modem, I decided to ask for permission to distribute these programs directly to Australian Users, particularly AUG Members. The Staff at the Big Red Computer Club had already approached the Beagle Bros as they (Beagle Bros) had already placed these programs on their own in-house bulletin board. The folks at Beagle were somewhat reluctant to let BRCC sell the disks because they do not want anyone to profit from this. They decided, however, to let BRCC and now, in turn, AUG (Sydney) distribute them provided we made sure that everyone observes the following agreement. Please read it carefully before buying or ordering any of the products. If you do have a modem and would like to download the programs of your choice, they are available on our Apple II BBS. This opportunity is being made available to every Apple II user in Australia, so that non-members of AUG will also have the opportunity to either download or buy the software from us. Naturally non-members will have a restricted access to the BBS.

I need to thank the staff of the BRCC for having the initial temerity to ask Beagle Bros for the opportunity to distribute the "Beagle Oldies" and credit them with most of the information in this article.

The programs listed here are made available under the following agreement. By ordering one or more of these programs you are agreeing to abide by every point in this agreement.

• Only the Beagle products listed here are available at no charge.

• Please do NOT upload any of these programs (or any other Beagle products) to any other information service or place them in user group libraries.

• Please DO give copies of these programs to your friends. Do NOT give away any Beagle product that is not found in this list.

• Note that by making these products available, Beagle Bros is NOT placing them in the public domain. Beagle Bros will retain ownership to all products, trademarks, copyrights, etc.

• Note also that since these products are available at no charge to you, Beagle Bros will no longer offer mail or phone (voice) tech support on these products.

• Beagle always has been and always will be against piracy. Please do not misunderstand this gesture of goodwill and think that it's O.K. to put any Beagle product on a bulletin board for others to steal.

Most of the disks in this collection are primarily designed as utilities for AppleSoft BASIC programmers. All of the programs work on Apple IIc's and IIc's. Only Extra K requires 128K, the others will all work on 64K machines. Most of them will also work on Apple II+.

Since these programs were originally written before the release of the Apple IIGS, there may be some compatibility problems but I believe that they should all work on the IIGS.

Manuals are not included nor are they available. Some of the programs are self-explanatory but others (particularly the programming utilities) will be very difficult to use without a manual.

Some of the disks are DOS 3.3 and some are ProDOS. A few like Extra K have both DOS 3.3 and ProDOS versions. Some programs fill up two or more disks.

We have decided to sell these disks at our usual club fee of $4.00 per disk. If you order all 12 disks, the price will drop to $40.00 for the dozen. We will do a separate accounting for all of the disks and any amount over and above our actual expenses will be donated to a computer-related charity (I have

suggested the Royal Blind Society but am open for suggestions on a more appropriate charity) in the name of Beagle Bros Software.

We wish to thank Beagle Bros. for caring enough about Apple II users to make these great programs available in this manner.

The following short descriptions are meant to give you a feel for what is on each disk. They are not meant to be a complete product description as some of the disks have many different programs.

BIG U: This ProDOS utility contains File Mover, CRT Writer, Key-Cat80, Ram Load, Error Editor, Inputter, Rem-Zapper and much more. There are also 18 new ProDOS Commands.

POWER PRINT: This program lets you "download" a second typestyle into your printer's memory. Now you can alternate between your printer's standard fonts and a custom font with special characters and symbols. Contains custom printer-fonts and Font Editor so that you can design your own. Also allows you to design up to 96 custom printer-characters. AppleWorks compatible.

PRO-BYTER: This program includes Bytezap Pro which allows you to inspect ProDOS & DOS 3.3 disks at the byte level. This allows you to make changes and repairs to the disk. Machine-Language Sort, Machine Language Editor, Appletips and more ProDOS utilities are also on this disk.

D CODE: Use Program Packer to compress Applesoft programs to increase efficiency. Helps to find lines that won't execute. "Live" tracing, Auto-Proof-reader, Super-Trace, Breakpoints and a Lightning-fast Find are all a part of this package. D CODE is fully transparent to your programs.

DOS BOSS: DOS 3.3 editor that allows you to rename DOS commands, obtain program protection and customise DOS the way you want it to be.

PRONTO-DOS: Pronto DOS lets you load and save files at three-times the normal speed of DOS 3.3. You can

create high-speed bootable disks with 15 extra sectors of space. Contains TYPE command utility.

BEAGLE BAG: 12 Apple games on disk that are copyable so that you can change the programs or list them to learn programming tricks by seeing how they work. Includes TextTrain, Wowzo, Magic Pack, Buzzword, Slippery Digits, and many more.

BEAGLE BASIC: AppleSoft Enhancer that includes many new BASIC commands. You can rename any AppleSoft command or Error Message to anything you want.

ALPHA PLOT: Standard hi-res graphics utility that allows you to draw in hi-res on both pages. You can compress hi-res data to 1/3 disk-space and superimpose or relocate images on either hi-res page. Lets you add text to your pictures.

FATCAT: Personal disk library that contains a utility to read both your DOS 3.3 and ProDOS disks into one or more "Master Catalogs" that can be searched, sorted and printed. Alphabetise file names and also compare any program in memory with any other on disk.

SHAPE MECHANIC: Allows you to convert hi-res drawings into "shape tables" so you can create title screens, charts and animation using the built-in DRAW & Xdraw command. thirty hi-res screen display fonts and a Shape Capture utility are included.

TIP DISK #1: 100 listable programs from Beagle Bros Tip Books 1-4. Makes your Apple do things it has never done before. Programs are listable and changeable for experimentation.

UTILITY CITY: Twenty-one programming utilities that include List Formatter, Multi-Column catalogs, Invisible Functioning commands and protect and append programs.

FLEX TYPE: Add Variable-width text on both hi-res screens with normal Applesoft Commands. Combine text and graphics. Run existing Applesoft programs with Flex. You can access up to 9 fonts in memory. The text editor lets you redesign text characters. Humour is a major part of the Beagle Bros. philosophy. Throughout this collection of programs, you'll find cartoons, silly programs and unique graphics.

TYPEFACES: Twenty-six fonts for use with the Font Mechanic program.

The type can be proportionally spaced for a more professional appearance.

FONT MECHANIC: This disk contains 30 hi-res fonts for use with Shape Mechanic. Cat-Menu lets you select and execute ProDOS or DOS 3.3 files from menu with one keystroke. Font utilities are also included.

FRAME UP: Written by Tom Weishaar, this program predates all of the "'Hyper" programs. Using Frame Up you can create a graphics and text based tutorial with most of the bells and whistles one expects from HyperStudio or Hypercard, but in a DOS 3.3 setting. The program has all the instructions for using Frame Up on an on-board tutorial.

SILICON SALAD: A number of mini-utilities in this package which include Program Splitter, Disk Scanner, Key-Clicker, DOS-Killer and Text Screen Formatter. Over 100 programs from Beagle Bros Tip Books 5-7 are also included.

DOUBLE-TAKE: Use this package to scroll both up and down program listings, disk catalogs, machine language listings and hex-ascii dumps. Allows you to create better list formats and variable number displays. There is an auto-line number utility as well.

EXTRA K: Extra everything is the basis of Extra K. Extra Variables, Extra-Fast Copies, Extra Screens and other Extra features are the utilities found in this package. Extra Apple feature lets you have two 64K Apples & programs in memory (ProDOS and DOS 3.3 at the same time if you want.)

In order to sell the disks at our normal club price (and use both sides of the disk) the following arrangement has been made. If you find that you only want one side then you will get a second side as well, we will NOT be making up special orders. The selection is as follows:

BB 1

Big U	ProDOS
PowerPrint	ProDOS

BB 2

Pro-Byter	ProDOS
D Code	ProDOS

BB 3

Dos Boss	DOS 3.3
Pronto Dos	DOS 3.3

BB 4

Beagle Bag	DOS 3.3
BeagleBasic	DOS 3.3

BB 5

Alpha Plot	DOS 3.3
Fat Cat	DOS 3.3

BB 6

Shape Mech #1	ProDOS
Shape Mech #2	ProDOS

BB 7

Tip Disk 1	DOS 3.3
Utility City	DOS 3.3

BB 8

Flex Type	DOS 3.3
Typefaces	DOS 3.3

BB 9

Font Mech #1	ProDOS
Font Mech #2	ProDOS

BB 10

Font Mech #1	ProDOS
Font Mech #2	DOS 3.3

BB 11

Frame Up	DOS 3.3
Silicon Salad	DOS 3.3

BB 12

Double Take	ProDOS
Double Take	DOS 3.3

BB 13

Extra K	ProDOS
Extra K	DOS 3.3

REMEMBER - This offer is open to every Apple II user in Australia. If you have friends in other parts of the country who are not members of the Club, let them know about these disks, (and include a membership application with your letter). They do not have to be members to buy the disks! Frank Revell, Apple Australia, has offered to disseminate this information as widely as possible!

Beginner's Corner

By Grant Kwai

Over the last few months, I have met with a number of relatively new Apple // users. To my astonishment, I was amazed by how little they actually knew about the Apple //, particularly anything which went beyond the limits of a menu system of operating. They were what I would stereotype as an IBM user, familiar only with programs and knowledge of little else (though I know many IBM 'power users'.)

It then struck me that perhaps the may be many people in the Apple Users' Group who are in the same boat. Whether they thought it was too technical to get into and use DOS, or they didn't know where to start, this article is dedicated to those 'new users' unfamiliar with anything other than other people's programming.

The program which they all seemed to be able to use was Appleworks. Why was this? Was it the power of the program? or the ease of its operation? (in particular, the easy to use menu system). I tend to lean towards the ease at which a beginner can access such a powerhouse program. A person can simply run Appleworks without any prior knowledge in a matter of minutes. It is full of menus which makes it particularly simple for someone to understand what does what.

This perhaps is what makes DOS and ProDOS (and even Integer basic or CP/M) seem so technical and a world better left to the professionals. Think that no more.

Firstly, we will start with what DOS really is.

DOS stands for Disk Operating System. ProDOS is a Professional Disk Operating System (The more recent and more powerful version. Most new commercial programs these days run under ProDOS). Without DOS, your Apple // would not know how to access your disks e.g. how to load your BASIC program. Basically, DOS is a program which is loaded into RAM, (Random Access Memory - Can be thought of as the memory of the computer in that data is stored in it) each time you boot up a disk. Generally, unless you do something drastic, DOS will remain in your Apple until you turn your computer

off.

Since it is a Disk operating system, it has a number of reserved words which are used to access your disks. Some of these which you may be familiar with are LOCK, UNLOCK, CATALOG, RENAME etc. These are all part of DOS. BASIC (Beginners All-purpose Symbolic Instruction Code), also has a number of reserved words such as LIST, GOTO, LET, FOR etc. When you type something in from the keyboard, your computer first checks DOS to see if it is a command to access a disk. If not, it will then check to see if it is a reserved BASIC command. If the computer still doesn't recognise it, then that is when you get a SYNTAX ERROR. e.g. if you type in CATALOGUE, your Apple // will search DOS, it will find it not in its vocabulary, it will then search BASIC, will once again not recognise it, so it will then tell you it must be an error. All this takes place in a fraction of a second.

[A reserved word is a special word, or command that the computer has embedded either in DOS or BASIC so as to know what function you want performed. If you were allowed to use these words for any other purpose, you would seriously confuse your Apple.]

Now that you know the difference between DOS and BASIC, why don't you try it out and see how it works. To get into DOS, load up your system master disk or some other disk which has DOS on it. As stated above, there are two types of DOS and two types of BASICs available. You can tell which one you are in by referencing the following. For DOS 3.3, you will be greeted, upon booting up your disk by the ']' prompt in the lower left portion of your screen. For ProDOS, you will see a screen displaying something like PRODOS 1.1.1 on your screen with a copyright notice by Apple Inc. You should then be greeted by the DOS prompt of ']'.

If you are using ProDOS then if you type CAT (40 column screen) or CATALOG (80 column screen, implemented with a 'PR#3' command) and hit return, you will notice that on the disk you should have a program called PRODOS and possibly

BASIC.SYSTEM.

The two types of BASIC (Applesoft basic and Integer basic) can be easily determined by the type of prompt you get (A prompt is the character next to which your typing appears when the computer accepts input from the keyboard.) For Applesoft, you will get the familiar ']' prompt. This is the most common BASIC, and the one in which you will most likely always use. Integer BASIC displays the '>' prompt. Many older programs may require Integer BASIC, but hardly anyone uses it these days since it was invented before the disk drive era.

The DOS 3.3 catalog

In a DOS 3.3 catalog, you will see something like the following:

DISK VOLUME 254

*A 011 HELLO

B 050 INTBASIC

*I 036 TOMATO PLANTS

T 015 DATA FILE

Here you will notice a variety of information is available at your finger tips. Starting with the top line, most disks will start with DISK VOLUME XXX, where XXX is a number between 0 and 255. This has no real significance.

You will then notice that on the first column some of the programs have a '*' next to the letter. This signifies that the program is 'LOCKED'. When you lock a file, it can not be deleted from DOS with the normal DELETE command. This protects the file from unintentional erasure. To delete such a file, you will be required to UNLOCK the file first. An UNLOCKED file is shown by no asterisk in the first column. For example, the DATA FILE and INTBASIC files above are unlocked and the HELLO and TOMATO PLANTS files are locked. The DATA FILE and INTBASIC files can be deleted with the DELETE command.

Next you will see the letters of; A,B,I,T. What these stand for are Applesoft basic, Binary file, Integer

Basic and text file respectively. Applesoft files are BASIC files which can be entered into the computer at the ']' prompt then saved to disk with the SAVE command. You can then RUN these programs or LOAD them into memory. programs preceded by the 'B' file type must be BRUN to run or BLOADed to load into memory. These are binary files which are usually programs, programmed in machine code. Machine code is the computer's native language and a program written in machine code is therefore generally executed faster. However, programming in machine code is much harder than in Applesoft, so we will leave it at that.

Integer basic programs must be loaded from within Integer basic and therefore you must have the '>' prompt. To load Integer basic, you should find a file on your system master disk called INTBASIC, or something similar to that. You must BRUN this program first before you can RUN any 'I' type programs.

Finally we have the 'T', text file. Such a file is used for storing data for a Applesoft or Binary program. Such information may be high scores for a game, a phone number list, or a word processor document. There are numerous ways to access a text file. For example, an application program, such as a word processor, could access the text file while keeping the details hidden from you, or you could directly OPEN, READ, WRITE or CLOSE the text file from within an Applesoft basic program.

A PRODOS catalog

A ProDOS catalog varies slightly from that of the DOS 3.3 catalog. If you view such a catalog in the 80 column mode, you should see something like:

/PRODOS.DISK

Filename   Type Size Modified Created Endfile

*PRODOS   SYS 23 23-NOV-86 12:23 23-NOV-86 12:23 23188

BASIC.SYSTEM SYS 22 25-DEC-88 02:34 18-DEC-87 18:57 21389

STARTUP   BAS 11 <NO DATE> <NO DATE> 6282

FRED.GIF BIN 9 <NO DATE> <NO DATE> 5258

DATA.FILE TXT 29 04-SEP-90 00:18 30-JUL-90 23:59 31915

Blocks Free: 179   Blocks Used: 101
Total Blocks: 280

The asterisk '*' still represents whether or not the file is locked as in the DOS 3.3 catalog. However you will notice that file names under ProDOS cannot contain spaces, therefore you have a full stop between each word in a filename (e.g. BASIC.SYSTEM, DATA.FILE).

Under the title 'Type', you will notice a slight difference to those in the DOS 3.3 catalog (there are many other file types under ProDOS which were not listed for brevity). Each file type has been condensed into a three character identifier (e.g. SYS, BAS, BIN, TXT). SYS stands for a system file, BAS for BASIC, BIN for Binary and TXT for text. All RUNable files under ProDOS can be simply put into operation by typing '-XXXXX' where XXXXX is the filename. This will work for file of SYS, BAS and BIN filetypes. Alternatively, you can for basic programs, RUN them or LOAD them, and for BIN files, BRUN them or BLOAD them as required.

The next column simply shows you the size of the file in blocks. The larger the number, the larger the file.

The next two columns contain something new to DOS. ProDOS adds the function of a data/time stamping ability. Under the 'modified' heading you will see the date and time the program was last saved. The 'Created' column signifies when the program was created.

In the last column, 'Endfile', we are told the length of the files in bytes (a byte is one character, letter, digit etc).

Finally down the bottom of the catalog we have the blocks free, the blocks used and the total blocks. These tell use how much room it still free on the disk for future files, how much storage space has been used by the files already on the disk and the total amount of storage space available on the disk. [Note, 7 blocks are already use by ProDOS on the disk even without any files, so technically, only 273 free blocks are left].

One little function possible under ProDOS is the ability to catalog just one type of file. That is, just BASIC files, SYS files etc. To do this, simply type:

CATALOG,TXXX

where XXX is the file types three character abbreviation.

Well, after all that I hope that you have learnt the noticeable differences between DOS 3.3 and ProDOS. Now you should be able to look at your disk catalog and understand

everything. If there are any other areas you would like covered then please drop the editor a note.

An Open Letter from Apple's CEO

Reprinted from inCider/A+ October 1990

Have no doubt, Apple Computer Inc. is committed to supporting and marketing the Apple II computer for years to come. Speculation whirling in the marketplace about the Apple II product family has users confused about Apple's commitment to the line. With this open letter to readers of inCider/A+, I hope to dispel concern and assure our Apple II customers that their loyalty to Apple and its products is warranted. I also will address how changes in the marketplace affect the future.

Apple II buyers are a very loyal and passionate group, and your continued appreciation of our products guides us in our decisions. It is particularly gratifying to me and Apple II engineers, both past and present, to see that the Apple II, which launched Apple as a business, continues to be endorsed by educators, consumers, and small-business owners.

During the past few months, I've become more personally involved in Apple's product research and development efforts. Recently funds to continue to improve the Apple II product line were increased substantially. The future of the Apple II's development has been put into the very capable hands of Roger Heinen, Apple Products' vice president of software, and Ralph Russo, Apple Products' director of Apple II development, who now sees to it that the enhancements to the Apple II on the drawing board come to fruition.

Within the last year we've also added employees in both worldwide product marketing and USA product marketing dedicated to the Apple II line.

In 1989 and so far in 1990, Apple introduced a number of significant technological improvements for the Apple IIgs, IIc Plus and IIe without increasing the price of the basic products. Currently, we are working closely with Apple II hardware and software developers to encourage the creation of innovative products for the Apple II family and to provide them with the information they need to make decisions so their businesses continue to be viable. A number of developers in the past year introduced new software and hardware for the Apple II family, as well as made commitments to their customers to continue to introduce creative new products that support our own Apple II development.

One major step Apple made last year to ensure the longevity of the IIgs was to introduce Apple IIgs System Software 5.0,

the first 16-bit operating system for the IIgs that operates over the AppleTalk network system. In response to requests from customers and developers for improved ease of use and functionality, Apple improved the system software's speed and network capabilities as well as made changes to the toolbox that enable the system to handle basic functions, including sound, drawing, scrolling, and memory management, about twice as fast as our earlier System Software 4.0. New toolbox components for developers also make programming for the Apple IIgs easier and faster.

Besides new system software, Apple last year expanded standard memory for the Apple IIgs to 1 megabyte without increasing cost and introduced the Apple II Video Overlay Card, which gives our customers the ability to use the Apple II as a basic interactive multimedia platform. In March, we introduces the Apple II High-Speed SCSI Card, which moves information up to ten times faster between Apple II computers and peripherals. This card provides the user with greater functionality at the same price as the earlier card. This new High-Speed SCSI Card is just one example of Apple's philosophy - based on customers' needs - to allow Apple II users access to many of the same SCSI peripheral devices as Macintosh users. By building bridges between Apple's two product lines, our customers can take advantage of the strength of each. Taken together, our recent II products equal significant improvement in functionality and increase the value of Apple IIs for our customers and developers.

We also understand our customers' need for continued enhancements to the product line, including improvements in the way Apple II and Macintosh computers interact on the AppleTalk network. Apple II customers, particularly primary and secondary schools, want their installed base of Apple IIs to operate in concert with newer Macintosh purchases. We are currently working on a variety of "bridges" between the Apple II and Macintosh families to make that synergy even better. During 1990 and 1991, Apple will introduce several new entry-level Macintosh computers, and at least one will have Apple II emulation capabilities so the two product lines continue to work well together.

I can reassure our Apple customers that we value the Apple II product family as an asset, which we will continue to nourish. Beyond that, I am not at liberty to disclose

specific product plans.

New products aren't the entire answer, and at Apple we are constantly evaluating the changing needs of the Apple II community to ensure top-notch service. We recently established a one-year warranty for new owners of Apple II computers and we continue to offer AppleCare to all owners of Apple II computers.

As tool makers of state-of-the-art personal computers, we recognise the technological limits of the Apple II line, but at the same time these products have neither lost usefulness, nor are they obsolete. Hundreds of thousands of educators, consumers, and small-business owners worldwide rely on the Apple IIgs, IIe, and IIc Plus and will for many years to come. For those reasons, Apple Computer is committed to continuing to enhance the IIgs's functionality, improve our support to customers, and encourage developers to push Apple II technology as far as it can go. As Apple develops new entry-level products, the Apple II family will continue to be recognised for the immense value it provides our customers and our company.

We make that commitment to inCider/A+ readers here, and we've made that same commitment to customers both in person and in a special videotape mailed to more than 10,000 education customers this spring. In addition to a videotape, customers also received a new guide to Apple II software that cited nearly 200 new Apple II education software products to add to the already extensive library of software for the Apple II family. This fall you will see from Apple a new Apple II resource that will be a comprehensive guide covering a wide range of topics, including technical product information, telecommunications, media integration, and service and support. This new guide is another in Apple's continuing effort not only to reward your loyalty but also to make owning and using an Apple II computer the great experience it was meant to be.

Sincerely,

John Sculley

Chairman, President and CEO

Apple Computer Inc.

8/16 Magazine Becomes 8/16-Central

A2-Central, well known for its support of the Apple II power-user, has added a fourth publication to its offerings. To ensure that Apple II and IIgs programmers get the support they need, A2-Central has purchased 8/16 magazine from Ariel Publishing Co. of Pateros, Wash.

8/16, which will now be called 8/16-Central, is the only monthly publication directed exclusively towards Apple II programmers.

8/16-Central, which began with a December 1990 issue, is a 3.5-disk-based publication. Ariel's 8/16 was available in both paper and disk versions, but the paper version has been discontinued. The subscription price of 8/16-Central is the same as the price of a disk subscription to Ariel's 8/16.

8/16-Central includes regular columns, articles, and source code for 8- and 16-bit programs; want-ads; tutorials; and a question-and-answer section.

Each disk will also include extra utilities and programs of interest to developers.

Tom Weishaar, president of A2-Central, said that he wants 8/16-Central to benefit the Apple II programming community. "8/16-Central will round-out our support of the Apple II developer," Weishaar said. "It fits in nicely with our other offerings for developers, including our summer conference, the Apple II Programmers and Developers RoundTable on GEnie, and the programming books and tools we offer through our catalog."

The new editor of 8/16-Central, Jay Jennings, has ties to both Ariel Publishing and A2-Central. Jennings has been a contributing editor to 8/16 since its inception and has been employed by A2-Central since mid-1989. He says 8/16-Central will remain true to the spirit of the old 8/16, "The physical format of the magazine

will change a bit since we're going to be totally disk-based, but the content - hard-core programming info - will remain the same."

Subscriptions to 8/16-Central are available for US$69.95 per year (12 disk issues). 8/16-Central will be available on 3.5 disks only. Contact A2-Central at P.O. Box 11250, Overland Park, KS, 66207. Or call (913) 469-6502.

In addition to 8/16-Central, A2-Central publishes the 3.5 disk based publications Stack-Central, which is for HyperStudio users, and TimeOut-Central, which is for users of AppleWorks and Beagle Bros' TimeOut series. However, the monthly 8-page newsletter, A2-Central, continues to be the company's flagship product. The company also manages the Apple II areas on GEnie, General Electric's online information service, and sells a large variety of Apple II-related books, software, and

Design Master - A Visual Program Design Tool

Review by Chris Birch

Continued from Page 7 of October Applications.

DM should address all such chores if it is to succeed as a fully featured prototyping tool.

"Just like Romeo and Juliet..."

This is clearly a very buggy pre-beta release. The "V2.0" in the About... dialog is a ridiculous assertion. Version 0.2a perhaps. I have shown much restraint in my comments in this review. This is because I believe the author is on the right track and he must certainly be encouraged.

That much said, I would rather have DM now and not later. It is a very usable development tool and C.K. Haun should be congratulated. It does

succeed in making window and menu design a breeze. It is a giant step forward for the IIgs programming community, just be careful to watch your step though.

If C. K. Haun can kick his habits I'm sure he'll live to release the next version of DM. By then it will be packed with goodies. A resource editor would be a nice feature to incorporate. You do not need to have a nicotine or caffeine addiction to program the IIgs. But a taste for Lou Reed helps.

Design Master - A Visual Program Design Tool

Author: C. K. Haun

Publisher: Byte Works.

Aust. Distributor: None

Purchase direct from Byte Works. Ph: 0011-1-(505) 898-8183. RRP US$95.00. Introductory price: $55.00

CHR$(4) Explained

Buffer supplied by Grant Kwai

Recently I posted a message on the Augur Bulletin Board System concerning a little problem I have been having with some of my programs. I knew there must be a logical explanation so I thought someone out there must know why. In the following transcript, I have the advice of many who knew my problem and were able to tell me a solution. I am sure someone out there has encountered a similar problem so I thought it may be of benefit to other Apple users. Many thanks to all those who replied to my message.

[Sub-editor's note: BBS's are a quick source of information on almost any topic. There are hundreds of callers each week. Make new friends - buy a modem!]

From: GRANT KWAI

When writing some BASIC programs, I sometimes come across a small problem which seems to crop up every now and then. Basically, when I enter something like

PRINT CHR$(4);"CATALOG",

you would normally expect a catalog of the disk. however, sometimes it will just print 'CATALOG' to the screen instead of executing the command. This problem has been baffling me for many years now. Has anyone encountered this problem as well? Can anyone offer any suggestions as to why this is happening? Any help would be much appreciated.

From: MICHAEL CHAN

I think it has something to do with what you have running or what's in memory beforehand. To play it safe and to follow good programming practice, do this;

D$=CHR$(13)+CHR$(4)

PRINT D$;"CATALOG"

That will make it go no matter what is in memory (well...almost).

From: MICHAEL CHAN

In addition to my reply...your PRINT CHR$(4) may not be working because you previously had a;

PRINT "ANYTHING";

Now, I can leave you to think about what this does or I can tell you. For those who can't figure it out...if you put the above line before the PRINT CHR$(4) this is what the Apple thinks;

ANYTHING<CTRL-D>CATALOG

Yech! Keep to good programming habits and assign your variables rather than printing out a couple of hundred (and writing it out a couple of hundred times); PRINT CHR$(4).

Use your String variables.

From: COLIN KHONG

Your problem with that little quirk of Applesoft may be due to the fact that you have issued a GET A$ (for example) on the line above. It seems that in Applesoft, after issuing a GET command, all subsequent disk access will not work. The simple remedy (if this is your problem) is to just issue a few print commands. i.e. (line number) print:print

That should do the trick! Colin.

From: GRANT KWAI

Thanks I'll have to give it a go. I was always wondering why it only worked sometimes.

From: FRANK BOYES

In 'BASIC Programming With ProDOS' (page 67) to use a ProDOS command from within a program, you must print a string consisting of a [CONTROL] - [D] as the first thing on a printed line also recommended prodos convention is that CHR$ (13) + CHR$ (4) SHOULD NOT BE USED, and left for those using the old DOS

From: FRANK BOYES

Further to my previous message, I have since had time to look further at 'BASIC Programming With ProDOS' and in chapter 5 (page 68) it states; Print each ProDOS command on a new line preceded by a [RETURN] that is Control-D must be the first character on a printed line. Thus the following program will not work

30 D$ = CHR$ (4)

40 PRINT "AUTUMN "; (note semi-colon)

50 PRINT D$;"CATALOG"

Instead of listing the volume directory, this program prints AUTUMN CATALOG if you program is unexpectedly printing ProDOS commands on the screen - and never at the beginning of a new line - this is probably why NOTICE; If your program contains a statement like this, with [RETURN] preceding Control-D: D$ = CHR$ (13) + CHR$ (4) Your program will only work with DOS and not with ProDOS. Remember that Control-D must be the first thing on a printed line the above is probably copyright Apple Computer, as it is copied directly from the section 'debugging your programs' subsection 'things to watch out for' of course if you are not using ProDOS, you may be better to ignore the above.

From: DARREN LANGER

Depends what operating system you are using.

If you are using Prodos, I'm not sure what it could be, but under DOS3.3, if your statement does not follow a carriage return, Dos3.3 ignores the command and Applesoft then gets hold of it and prints it as a normal statement. This may also happen under Prodos, although I can't remember exactly.

The solution under Dos3.3 is to make the statement as follows.

D$=CHR$(13)+CHR$(4) PRINT D$;"CATALOG"

If the problem occurs under prodos it could well be for the same reason, however the above solution will not work. The best thing to do is ensure that the statement is on a line of its own after a carriage return.

Little Bits

By Andrew Roughan

• Netcomm released their new 12345E smartmodem just prior to Christmas. This modem sports a top speed of 9600bd, MNP error correction and an RRP of $1499. The AUG is considering the purchase of three for the BBSs.

• Who were the four AUG committee members seen recently sitting in a federal court room? No, they weren't on trial, they were in fact taking an interest in the copyright proceedings. The March Applecations issue will contain a complete rundown of events once the trial is completed.

• Grant Kwai reports that the price of the Automatic Ice peripheral that makes your Epson compatible printer emulate an Imagewriter (mentioned in Grant's article in the December issue) has risen from $99 to $130. Grant approached Automatic Ice Co and secured a 10% discount for AUG members. When ordering, say you are a member and quote your membership number.

Automatic Ice Co. 10 Smith St

Charlestown NSW 2290

Ph (049) 63 3188 (049) 63 1386

• There is a new freeware host bulletin board software package available which has been written by three fellow club members. The package is called Eclipse and was written to give the utmost power and control to the sysop. If you would like more information and/or a beta version then write to PO Box 65 Wahroonga, NSW 2076. Alternatively, the latest released bug tested beta version will be available from the Apple // BBS.

• Apologies are extended to Techflow for the dropping of the prices for the LightningScan GS from Richard Bennett's review in the October issue. The cause was Ron's System crash that month. LightningScan GS $575 + tax RRP. Upgrade to LightningScan GS from Thunderscan $447.77 RRP.

Techflow

34 Wolgan Rd

Lidsdale, NSW 2790

(063)55-1988

AutoIce Update

By Grant Kwai

Following my article, "Expanding your Apple" in the October edition of Applecation, I was informed that the price of the Automatic Ice card which allowed you to turn your Epson compatible printer into an Imagewriter, has changed. Instead of the $99 stated, it is now only $130.

After following up this information, I rang up Automatic Ice Co, and managed to get a discount for Applecation members. This applies for both Apple // and Macintosh users! When ordering, mention that you are an Apple Users Group (Sydney) member and they will give you a 10% discount. You had better hurry because theres no telling how long this offer is going to last!

Additionally, a cheap 9 pin printer can also be bought for $299 or even slightly less.(eg Epson LX-400). Look in the Sydney Morning Herald as many companies advertise in it.

Company

Automatic Ice Co.

10 Smith St

Charlestown NSW 2290

Phone

(049) 63 3188

(049) 63 1386

Classic Tip

from Brett Robertson

If you own a non HD Mac Classic, (one without a Hard drive), here is a tip which should end the old '50 disk swaps' routine.

Turn the Classic off, and turn it back on WHILE holding the following keys down on the keyboard:

`<Option>, <Command>, <X> & <O>`

Keep holding these keys down until, you guessed it!, IT BOOTS UP WITHOUT ANY DISKS!.

Yes, thats right, there is a built in ROM disk within the Classic, which has a System & Finder on it!.

Once booted up, if you set the "Startup Device" CDEV in the control panel to the ROM Disk, it will always boot up from it, even if you turn the power off.

BEWARE!- this is ROM, you CAN'T change, copy, delete or add anything to the system folder! (so don't go and try adding INITS, CDEVS, DA'S or Fonts as it won't work).

Exciting additions to our

- # Games
- # Utilities
- # Education
- # Anti Viral updates

can be found on pages 29 - 37 and are well worth your consideration - check out the AUG Utils 40 release for ResEdit 2.1 and the TOP value Anti Viral disk.

•

Can YOU afford to be without it?
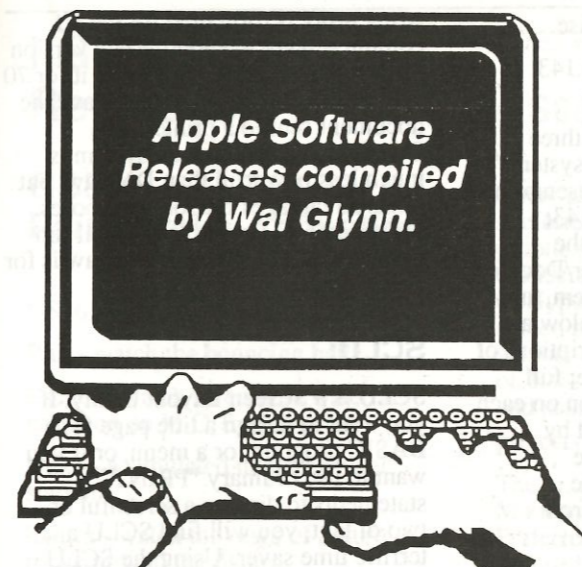
January/February Apple II Software Releases

AUG 140 - Side 1 - King Tut's Revenge

This is a DOS 3.3 game. The game is graphics-based and is very simple to play - it is difficult to play well, however. The instructions (which are limited) are on the disk and the game is played from the keyboard. There are some interesting sound effects which add to the interest of the game.

AUG 140 - Side 2 - South Pacific Quest

No this is not the search for some idyllic tropical island, but another game. You will need the joystick for this one and you will probably have to play it yourself or give it to the older children. There is a brief description of what the game is about when the main screen appears but no instructions. There are four flags to capture, so use your joystick to travel to each of the four positions on the island and attempt to gain the flags. This game is probably played best on a colour screen, on my mono screen I had difficulty determining which of the figures was supposed to be me and consequently I died fairly quickly. You are shot at from all angles but at least you have the chance to shoot back! Enjoy!

AUG 141 - Sides 1 and 2 - The Floppy Book

Phil Shapiro is a school teacher, an Apple II shareware programmer, and an officer of the Washington Apple Pi User Group. He also has a new and novel educational concept that can be accomplished with a 64K Apple II. His concept is that paper is an inefficient way to distribute ideas, articles, reviews, hints and tips, and so he produced the "The Floppy Book".

This double-sided disk contains a number of articles written about the Apple II and which have been used in an educational setting. The articles are very insightful, humorous, and right on the mark. This disk is a must for all educators or those who have the interests of their own children at heart.

To promote the concept of "self-publishing" or "electronic publishing" all the necessary tools and instructions are provided on how to publish a Floppy Book by yourself, or as a classroom activity.

AUG 142 - Side 1 - Flobynoid

Flobynoid is possibly the best Apple II freeware game ever released. This game is a "clone" of Arkanoid, and is a highly addictive action arcade game with astounding graphics. The object of the game is to deflect falling spheres so that they bounce off highly intricate penetrable barriers. Power spheres are included as bonus points. As each screen is cleared of barriers, another, more difficult level is presented.

This game was produced by the French programming wizards, Second Sight Software, and so while an editor is included to allow you to create your own levels, unfortunately you have to understand French to use this feature.

Flobynoid works with either a joystick or a mouse (type J or M) and a 5.25in floppy drive - the game cannot be installed on a hard drive.

The fast action, wonderful music and special sound effects, combined with its visually appealing screens are bound to make this game the most popular public domain game ever released for the Apple. It requires a 128K IIe, IIc, or IIGS.

AUG 142 - Side 2 - Icewar

Icewar is a colourful 1-4 player hi-res strategy game. It is a DOS 3.3 game so Caps Lock must be down to play this one. There is online help to get you started but by paying the shareware fee of $US10 you will receive a 20 page manual containing a complete description of the game including hints and strategies.

The game is set in the distant future, where cold grips the planet. In this icy world there are four kingdoms which lie in a vast body of water known as The Lake. The Lake is where ice is made, harvested and fought over for the control of this most important

---

AUG 143 - Side 1 - Lifelike

LIFELIKE, a $US15 shareware simulation gives you control over the LIFE rules. The rules for how many neighbours are necessary for birth, death, or survival are under your complete control. You can also change the rules that determine which of the eight bordering cells count as valid LIFE neighbours.

The game of LIFE was originally introduced to the world in the October issue of Scientific American. It is ideally suited to the computer and purports to simulate the growth of cells on a flat featureless expanse.

You can save both LIFE images and files of LIFE rules onto disk. Printer dump routines are included for hard copy output. LIFELIKE will run on any 64K Apple II and is sure to provide you, or your children, or students, with a new perspective on life.

AUG 143 - Side 2 - ProDOS Text Stuff

This disk has been put together by Karl Bunker, the author of Dogpaw, and includes the latest version of Dogpaw. The regular buyers of AUG software know that Dogpaw is included with programs which require text readers (including AWP files) and it is an extremely useful utility. This disk contains documentation about how to use Dogpaw.

All of the programs on this disk are public domain. Anyone is welcome to use them for any purpose, commercial

or otherwise.

The AUG.143 programs:

There are three separate "systems" of text-presentation on AUG.143: Dogpaw, the Doc.Getter/Doc.Screener system, and SCLU. Below are brief descriptions of these three; full information on each can be had by making the appropriate selection from disk's main menu.

Dogpaw:

Dogpaw is the Big Cheese on this disk. It is a powerful added-ProDOS-command program which could be considered the "output end" of a word processor. It displays or prints ASCII text files and AppleWorks AWP (word processor) files. It automatically word-wraps the text for 40 or 80 column screen, or for the printed page. When printing a document, a page header can be included, with page numbering if desired. When displaying text on-screen, Dogpaw can be set to scan the file for occurrences of a word or phrase. Line spacing is controllable on both screen and printout. Dogpaw works with files of ANY size.

Doc.Getter and Doc.Screener:

Doc.Getter is a program which reads an ASCII text or AppleWorks word processor file, and converts it into an array of Applesoft strings. These strings are word-wrapped for either the 40 or 80 column screen, according to a selection made before the conversion. This string array is then displayed or printed by the BASIC program Doc.Screener. Doc.Screener has a user interface much like Dogpaw. It displays its text on-screen in pages and can print to a printer with a page header. If the

string array is formatted for the 40 column screen, the appropriate version of Doc.Screener will re-format it for 70 columns if the user selects to have the document sent to a printer. The Doc.Getter/Doc.Screener system is much less powerful than Dogpaw, but it has advantages for some purposes. Most notably, Doc.Screener will run under DOS 3.3, whereas Dogpaw is for ProDOS only.

SCLU:

SCLU is a SCreen Layout Utility. If you want to design a title page for a BASIC program, or a menu, or if you want to use ordinary "PRINT" statements to display a screenful or two of text, you will find SCLU a terrific time saver. Using the SCLU editor, you simply type out your screen as you want it to appear. SCLU allows you to enter normal, inverse, flashing or MouseText characters, and to move text around on the screen. When you are finished, SCLU will translate your screen into Applesoft BASIC statements which will duplicate the screen you designed.

AUG 144 - Sides 1 and 2 - Eamon Adventures

This disk is packed with Eamon Adventures. The adventures are The Master's Dungeon and on side 2 is The Price's Tavern. Remember that to play these adventures you need either of the master disks - AUG.124 or AUG.125.

IIGS Software Releases

GS86 - PaintWorks Animation

GS86 includes these animated files:

Ball - watch the bouncing ball.

Escher - watch an endless waterfall based on an M.C. Escher print.

Nuke - a simulated nuclear power station.

Saturn - watch the rings of Saturn rotate around the planet.

Space - The USS Enterprise raising its shields and firing at an alien ship.

Star Trek - The USS Enterprise warping out of orbit.

Sunset - watch the sun set and the moon rise.

GS87 - PaintWorks Animation

Now you can choose which disk you would like. The animations on this disk include:

Angelfish - watch a fish swimming.

CPU - watch the IIGS revolve.

Darth - Darth Vader as his light weapon becomes activated.

Juggler - The Amiga commercial of a man juggling.

Mountain - an animated fractal mountain.

Nine - watch the figure 9 revolve.

GS88 - Mac Clip Art

There are nearly 70 IIGS Apple Preferred Format 640 mode clipart graphics on this disk. These graphics are ideal to use with AppleWorks GS or Hyperstudio. Each graphic is one screen high and contains numerous smaller images, giving you the choice of 100's of graphics that can be cut and pasted into desktop publishing projects.

The graphics were created using MacPaint and converted to the Apple Preferred Format. They have been grouped by theme and include graphics of people, signs, symbols and logos, borders, animals, flags, boats, cityscapes and buildings.

GS89 - LightningScan Scanned Graphics

This disk has over 20 examples of scans done with ThunderWare's hand held scanner. Included are photographs from both the American and Russian manned space programs, graphics from popular movies and TV shows, graphics of stars such as Madonna and Tina Turner, and photos of natural disasters such as the latest San Francisco earthquake and the Mt St Helen's volcanic eruption.

GS90 - PicMix

PicMix is an extremely enjoyable freeware game. It allows you to load in any IIGS Super Hi-res graphic and the program then creates a jigsaw puzzle from the graphic. A graphic can be broken up into as few as 6 large blocks, or as many as 80 smaller blocks. PicMix allows blocks to be swapped with a simple click of the mouse.

Twenty five graphics are supplied with the program and include many popular cartoon characters such as Bugs and Daffy, Woody Woodpecker, Garfield Fred
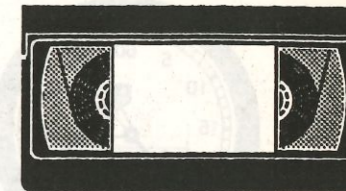
Flintstone and many others. This should definitely be in your Christmas shopping basket for the kids!

GS91 - Sound Smith Song Disk

More songs for the Sound Smith Disk you have already purchased. Many of the songs on this disk play back using all 14 available tracks. Included are: Gofer Boogie, Anyway You Want It, Hip-Hop, Introspection, Musik, and MRI songs 3,4,5, and 6.These songs represent a wide variety of popular music.

GS92 - Entertainment

This disk is bound to provide enjoyment for the varied programs contained on it. There are games, graphic generation programs, and the finest IIGS planetarium program ever released as shareware.

PowerPlay is a freeware package that includes four games modules: FourPlay, Tron, PigNBull and Gridlock. All include music and stunning graphics. Brain Teaser is a freeware game similar to Chinese Checkers. Also included is a shareware Super Hi-res version of Castle Metacus, a dungeons and dragons-like game.

Several graphics programs are included. Video Jazz displays constantly changing moire patterns, and Color GS loads any IIGS graphic and displays it with colour cycling for special effects.

Tonight's Sky v3.0 is an updated version of a previously released program. This shareware program is an integrated software package designed as a simple tool for amateur astronomers to prepare for an evening's viewing. The program
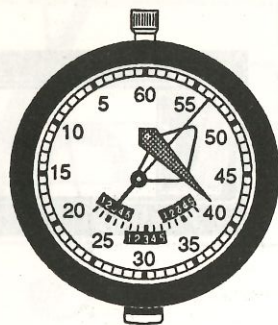
supports five types of maps; the entire sky shown in cylindrical projection, expanded star maps for more detailed displays, small scale star atlas maps, classical maps of the sky overhead, and displays of the sky near the horizon.

GS93 - IIGS Animation

In a very short time the "Simpsons" have become America's favourite animated family. Soon to appear on Australian TV, this is your chance to get ahead of the Joneses. The disk contains an animated file of "Bart Simpson" which were digitised from the TV show and it is displayed with a utility called Anishow.

There are also 5 stand-alone animation demos that show off the IIGS and what it is capable of displaying. Included are Ellipsoids, Shadow Moves, Stars, Textscroll and Dynaphoton and each produce flicker free animation of all the text and graphics.

GS94 - IIGS Tele-communications

If you own a modem you need this disk! It contains the long awaited IIGS specific version of ShrinkIt, a program which has become the de facto standard for disk compression. The latest version of the 8 bit ShrinkIt is also included - the main difference with this is that it can extract files created with ShrinkIt-GS.

ShrinkIt-GS can not only extract files created with any Apple II file compression technique but also those created on Mac, IBM, Atari ST, and UNIX systems. You can now unpack

Mac StuffIt files, un-ARC IBM files, or un-ZOO files created on the Atari.

Also included is SnowTerm, a shareware VT-52 and VT-100 Terminal Emulator. It allows those who need to connect to a DEC computer to do so very elegantly.

Agate is a telecommunications program that allows you to call IBM based BBS's and see online ANSI graphics. Although not a fully-featured program it is, nevertheless, the only Apple II program to allow the viewing of ANSI graphics.

Similarly GenericComm is not fully-featured but it is good when you just wish to quickly call a BBS service and browse.

Death Hunt-GS is the first IIGS specific game that can be played by two people via a modem. This shareware program is a colourful, 3 level maze game, for a fee of $US10 you will receive a maze editor to allow you to create your own maze.

GS95 - Font Disk 13

This is another of those disks jammed with fonts for all of those programs which use the standard GS Font format. These programs include Appleworks and Publish It for the IIe, of course you will have to convert the filetype for use with Publish It.

The fonts are:

Aguamondo.12,.24,
Alderney.9,.10,.12,.14,.18,.20,.24,.28,.36,.48, Alice.9,.12,.18,.24, Alison.24, Bangkok.12,.24, Chess.24, Hydraulic.12, Kathlita.12, Mike.24, Mode.12,
Palo.Alto.9,.12,.18,.24,.36, Rangers.18, Ravenna.12,.24, Rho.Semibold.12,.18,.24,.36, Riviera.12,.24, Rome.18,.36, Runes.12,.24, Russian.12, Salamis.12,.18,.24, San.Diego.18, San.Quentin.24, Santa.Monica.24, Santiago.12, Scan.48, Script.12,.36, Script.Math.12, Shadow.Box.2.36,

Shoppe.24, Sierra.12,.24, Sigma.12,.24, Sigma.Bold.18,.24, Signal.Flags.72, Silicon.Val.12, Slim.18,.24,.36, Speed.24, Square.Serif.24, St.Thomas.12,.24, Stencil.12,.24, Stencil2.24, Stiletto.14,.28, Stripe.24, Sunnyvale.12,.24, Swan.Song.12, Sydney.12,.24, Tabloiddeco.48, Taliesin.18, Tbilisi.19,.12, Tech.Deluxe.36, Tel.Aviv.9, Tiffany.12,.24, Tiny.2.12, Tiny.9, Tiny.Font.9 Title.18,.24, Toyko.14, Tombstone.24, Troyes.10,.12,.20,.24, Tucson.10, Uncial.18, Upsilon.24,.36, Vectors.9,.12, Walla.Walla.12, Wartburg.12,.24, Wells.48, White.Shadow.48, Whitehall.18, Williamsburg.12, Woodstock.12.

Macintosh Software Releases
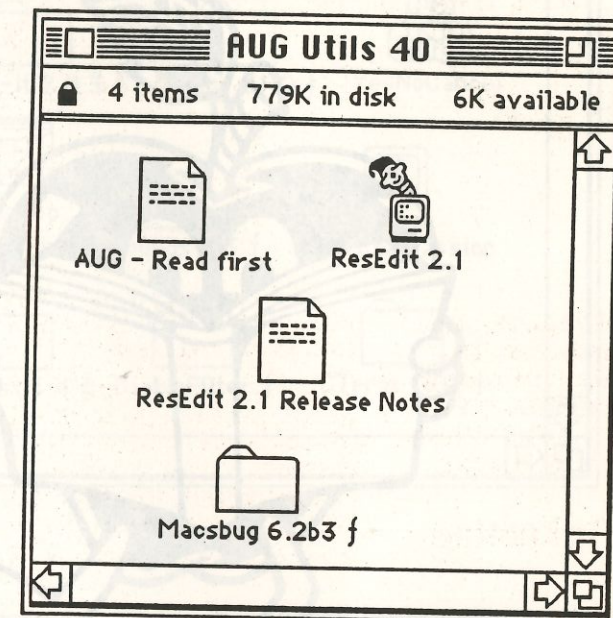
Applecations

More Beagle Bros
QuarkXPress 3.0

The Dark Heart of Uukrul

Review by Wayne Short

The Dark Heart of Uukrul is a fantasy role playing game for the Apple II line of computers. It is a game where you will explore an immense underground city, searching for the means to the incarnation of evil: Uukrul. The adventure leads you from the simple passages and markets in the west to the final confrontation in the palaces of Adron and the areas of chaos in the east.

The game has passing similarities to both Wizardry and Ultima but retains originality by developing its own unique world and gaming system. It offers more than the simple "bash and kill the monsters approach". The success of any game of this type is the ability to retain the interest of the "gamer". The fantasy must provide interest through its subtlety and depth.

Your party consists of four characters, one from each of the ancient disciplines: a Fighter skilled with weapon use, a Paladin who has the ability to lay on hands as well as skill with weapons, a Priest who can call on the gods and elementals to aid the party, and a Magician whose magical skills are vital to the party's success.

Eriosthe is a huge city and Uukrul has not corrupted the whole of it. In the west you will find a marketplace with a shop for the purchase and sale of weapons and other items, a Forge for the repair of broken weapons, a Hospice which will heal your wounds, a Mausoleum where your dead can be resurrected or laid to rest and a Guild where you can meet and recruit other party members. Temples and Magic Circle allow your Priest and Magician to advance in skills and powers.

Upon booting the game you are presented a title menu with three choices : Play the Game, Generate a New Party, or go to the Game Utilities. There is a default novice party on the disk if you wish to start playing the game immediately. If you would like to generate your own party you will be asked several questions about the characters, to shape their personalities.

The games' utilities are available for the following functions:

- You can change the name or sex of any characters in the party.

- You can restore your game from the last backed-up position. At each sanctuary you have the option to save a back-up image of the game at that point. If you later restore your game from that back-up with this utility, everything that happened since then will be forgotten.

- You can start the whole game again.

While playing the game, a summary of each character is presented in the status area. This is always shown in the order of fighter, paladin, priest and magician. Each line shows the characters name, armour class, health state and hit bar. More details about each character are available by examining the character Profile.

A character armor class indicates the probability of damage being taken from a hit. The higher the armour class the lower the probability of damage.

The various health states of a character are : HEALTHY, WEAK, HUNGRY, STARVING, STUNNED, POISONED, PLAGUED, CRITICAL and DEAD.

A dead character can only be resurrected in the Mausoleum, but the chance of resurrection succeeding declines as the corpse ages.

The hit bar reflects the amount of damage that the character is able to sustain before being slain.

The Character Profile screen for each individual show character attributes such as Strength, Intelligence, Piety, Dexterity and Vitality. (These, of course have similar usage to the other games of this type such as the Bard's Tale and Wizardry.) 'Encumbrance' reveals the weight of the items currently carried by a character. A weight limit is imposed and this increases as a character progresses through skill levels by gaining experience.

In addition the Character Profile shows other information which is specific to the different character classes. The Fighter and Paladin show their armor worn and weapons wielded, the Priest and Magician show their energy and rings.

The Inventory screen shows the items carried by a character. If the item can be worn as armor, or used as a weapon, it will be highlighted when it is actually being used.

Priests are able to invoke help from the gods through Prayers. The god's may answer such prayer, but their response is never certain.

A Priest's rings are ranked in order of metal - Iron(Fe), Copper(Cu), Silver (Ag), Gold(Au), Platinum(Pt) and finally Crystal(Xt). As your Priest progresses in experience he will be awarded more powerful rings from the Shrines within the Temples: these will give him greater success in his communion with the gods. The rings worn are shown in the Character Profile.

Every Prayer successful or not, demands a toll of your Priest's Virtue Points. These represent his spiritual energies, and regenerate slowly to a maximum.

A Magician's power lies in his wide range of magical spells. These come from the five disciplines of magic : FIRE, FROST, PROTECTION, HEALING, KNOWLEDGE.

In order to harness these Spells, your magician must make use of his rings of power. Each Spell requires a minimum ring to cast. The power of each ring is indicated by its metal, and they are ordered like the Priest's rings.

As your Magician's skills increase, more powerful rings will be awarded at the Circle of Magicians. Every spell demands a toll of your Magician's Psychic points and these points slowly regenerate to a maximum.

Food is required by your party to survive will in the maze. It must be purchased from the supply shop in the marketplace with any money you obtain while exploring Eriosthe. Money is important because it is required to buy an services or food in the marketplace.

Exploring the city Erisothe requires your careful powers of observation, as there things such as secret doors, grates, pits, roof openings and teleporters to reveal their true usefulness. The exploration commands along with the dungeon view are reminiscent of Wizardry (Hard of course to improve upon..).

Characters gain experience by meeting (and defeating) Uukrul's evil horde in combat. The combat screen itself is modelled upon Ultima's grid pattern with the option of you moving your characters adjacent to their adversaries. Your characters will gain experience from the combat from the combat depending on the amount of valuable work contributed by each individual.

Many inscriptions are found within the city... these will provide you with clues to aid you in your quest. Some will yields their meaning easily, other will require powerful magic to do so. The Magic Circle also contains the Archive of the great mystic. As your Magician progresses in power more chapters may be consulted to yield their secrets.

The Players Handbook is well written and comprehensive at 74 pages. Like other games of this type an introductory story and other hints are provided to start you in your quest. A summary of spells and prayers is provided.

The game is supplied on two double-sided 5.25 inch disks which are not copy-protected. Backups may be made with your own favorite copying program. If you wish to use multiple parties, just make more copies of the "scenario Disk" and Restart each new game from the beginning. Like WIZARDRY, the game has been written in Pascal and therefore is not transportable to a hard disk for continuous play.

It is immense in size considering the size of the game disks and will take some time to complete.

As for myself I have reached an impasse after the fifth sanctuary in Eriosthe'. There is a locked gate and I haven't yet located the keys....

This is recommended to anybody who likes fantasy role-playing games.

Game : The Dark Heart of Uukrul

Authors : Ian Boswell and Martin Buis

Publisher : Broderbund

Hardware : Apple IIe/IIc/IIGS, 128K of Ram

5.25 inch disk

Australian

Distributor : DataFlow

phone (02) 606-9343

Price $90

Every Good Boy Deserves Fruit
A Review of Pyware's Music Writer

By James Zappia

That timeless mnemonic, uttered over the years through the lips of many a young student of Music, takes on new meaning in our highly technological age, especially with the latest crop of computer hardware and software. Yes, "Every Good Boy Deserves Fruit!" In our case, the fruit is, of course, our favourite computer, the Apple //. And, these days, the Apple is playing a big part in bringing musical creativity to fruition.

Pyware Music Writer for the Apple //GS is at the forefront of state-of-the-art music software. This is a superb music-notation program packed with all the features you're likely to need to produce quality hardcopy of the music you create, and, because it is designed for the GS, Music Writer naturally uses the GS's Ensoniq sound chip to enable you to immediately hear your creations as well as see them on the screen.

The strength of Music Writer lies in its ability to produce good quality printouts of music. However, although it does have sequencing capabilities, I would hesitate to recommend it if all you really want is a MIDI sequencer. There are some minor weaknesses which make it less suited to that purpose.

The program comes in three levels. The differences between them are the number of staves (also called tracks) that can be worked on simultaneously and printed out as a score. There is Level 1 (Limited Edition) with 3 staves, Level 2 (Special Edition) with 6 staves, and Level 3 (Professional Edition), which I used for this review, which allows up to 32 staves. They are priced at $155.21, $365.81 and $724.79 respectively. While the Professional Edition may be priced out of the range of ordinary home use, the lower priced editions certainly present viable alternatives.

Music Writer is very easy to use. The work screen provides a WYSIWYG environment, similar in layout to typical paint and word processing applications, with the familiar menu bar across the top, and a palette down the lefthand side for the specialised music symbols. Your compositions can be put together directly on the screen using the keyboard and mouse, but you get even greater flexibility by connecting a MIDI synthesizer for both input and output. The program supports the Apple External MIDI Box, the Passport MIDI Interface, and the Audio Animator. I tried two of these - the Apple MIDI Box and the Audio Animator. Both worked equally well for MIDI connection. The Audio Animator has the added feature of allowing you to hook the GS up to your HiFi system for playback in true stereo.

Let's now look at Music Writer in terms of these four elements of the creative process: WRITING, EDITING, PLAYING and PRINTING.

WRITING:

When you first load Music Writer, the main screen displays two blank staves. Your first task would ordinarily be to add a clef, a key signature and a time signature before going ahead and entering music either from the keyboard or via MIDI. You'll find the necessary symbols in one of the eight "symbols palettes". There is a full range of symbols to cover the various clefs, key signatures and time signatures as well as the note values from whole note to sixtyforth note, accidentals, articulation markings, dynamics, ornaments and performance markings such as crescendo, tie and slur.

If you use the computer keyboard for input, as you continue to add music, you can manually add bar lines or use the Auto Bar feature which calculates the bars according to the chosen time signature. Other features include special facilities for placing text and lyrics in the work. Music Writer makes adding lyrics even easier by automatically matching each syllable to a note on the staff.

MIDI Input:

There are two types of MIDI input available - STEP record and REAL TIME record. In Step record, you select a note value from the symbol palette and press keys on the MIDI instrument to give the pitch. On the other hand, Real Time record involves actually playing the MIDI instrument in the normal way. In both cases, the program stores the recording in the Clipboard. It can then be pasted or merged anywhere in the file.

Real Time record has two particularly handy features. One, called Quantisation, automatically compensates for minute discrepancies of tempo in your playing - after all, no-one plays perfectly in time! Another feature is the ability to record on both the treble and bass clefs of a grand staff simultaneously. However, I found that to use this feature effectively, your playing has to be deadly accurate (which mine wasn't).

Memory seems to be a critical factor in the overall performance of the program. The minimum requirement to run Music Writer is 768K. However, this will only allow you to enter very short phrases with MIDI, and work on very small files. The recommended memory configuration is 1.25M

EDITING:

As you'd expect, Music Writer comes with a full range of editing features. Horizontal and vertical scroll bars let you find your way around the file quickly, but you can also place rehearsal markers throughout the composition and use the "Jump to" function. Present are the usual word processor-type functions such as Insert, Delete, Copy, Cut and Paste. Then there are the specialised music editing functions that allow you to perform such tasks as changing the stem direction of notes, increasing or reducing note values, beaming (joining eighth notes, etc), and transposing or shifting the pitch. In each case, you select the music to be edited by highlighting a range of notes. Selection can be narrowed right down to a particular voice on one staff. This ability to narrow or extend the selection range is useful for putting together composite instrumental parts on the one staff, eg. two trumpet or flute parts or even a drum part, each with its own notational style, stem direction and beaming.

Because of the inherent flexibility of Music Writer, you don't really have to make any major decisions at the start regarding the overall format of your composition. You can add or remove staves as necessary. Each staff can be given a label to identify the instrument for which it is written. The format also includes the song title as well as a header and footer. Any GS system font may be used for text, lyrics, titles and footers. Once you have established a format that suits you, it can be saved for later use with other songs.

PLAYING:

The real plus in Music Writer is the fact that you don't need to own a MIDI keyboard to hear the music you create. The program directly accesses the Ensoniq sound chip in the GS. You can control the tempo and select any range of music to be played. An instrument library lets you assign different timbres (sounds) to each track. There is a separate program by Pyware, called "Instrument Designer", that enables you to create your own collection of timbres. This program may even be a necessity because the instrument library that comes with Music Writer doesn't really offer the best sounds that the GS is capable of producing. In fact, when I first tried the program, I pulled out my old copy of The Music Studio, hoping to use its sound libraries with Music Writer. Unfortunately, they are not compatible.

MIDI Output:

A unique feature of MIDI, in general, is the ability to use different channels to send MIDI data along the connecting lines. In this way, one MIDI instrument can control a number of other MIDI instruments. There are usually 16 channels available to a MIDI system. By assigning it a different channel number, each instrument can be set to play a specific track with a specific timbre. Music Writer lets you assign any channel, 1-16, to any track in your composition, enabling you to send the output to any MIDI instrument.

Actually, I found the playback function of Music Writer a little disappointing, considering the wide-ranging scope of the program. For example, there is a minor, but curious, problem when playing back with MIDI. The very first note is somehow skipped, and playing starts from the second note in a song. I got over this by placing a dummy note (which must be a pitched note, not a rest) at the beginning of the composition. This can overcome the problem, as long as you remember to delete the note when you go to print out.

Another problem was that, when the song was finished, I could not get it to simultaneously play all the tracks right through. Playback would continue until a certain spot in the music, and then just die out. I had the recommended 1.25M of memory, but, since the problem did appear to be memory-related, I expected to rectify it by installing a borrowed 2M card. However, I got exactly the same result – the playback stopped at the same point as before. It would appear that Music Writer does not make effective use of all available memory, and suggests that, as more and more staves are added, this would increasingly limit the overall length of a composition (my arrangement of "O Pretty Woman" was about 80 bars long).

PRINTING:

Printing music is what Music Writer is all about. The program supports both the LaserWriter and ImageWriter printers. The quality of the printout that I got from my ImageWriter // was excellent, and certainly good enough to give to musician to read and play. By selecting the desired range of music, you can print anything from a few bars to the full score plus the individual parts of the composition.

Printing can be in draft or better text mode, with two sizes, normal and condensed (condensed is probably the more useful). The program formats pages automatically, but one very important function that is missing is the ability to manually force a new page when you want it.

Just a word of warning! Don't expect to be able to load up Music Writer, whip up an arrangement, feed it through the printer in a flash and, hey presto, start handing out the charts. Give yourself a lot of time to produce your hardcopy. Using condensed size and better text mode, the 4-page Piano part alone for "O Pretty Woman" took one hour to print. Each of the other 2-page, single-staff parts took half an hour. That all added up to 3 hours of printing at an average of 15 minutes per page!!

Music Writer has many capabilities that are not immediately apparent, and to really appreciate the power of the program you have to spend time simply toying with it. The user manual does not give much away except to list the various functions and features and point out how to select them. Music Writer Level 1 comes with a basic music theory guide, but what would really be useful for all the editions is some kind of tutorial on actually using the program.

On the whole, Music Writer's flexible environment, in-built sound capabilities and its ability to produce top-quality printed output make it a "must have" for both the professional and amateur musician.

O Pretty Woman
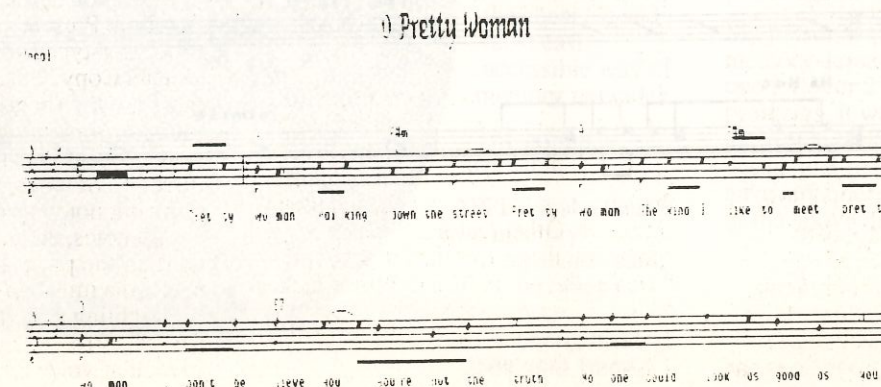
O Pretty Woman

(sheet music — Vocal, Piano, Bass, Guitar, Drums parts with lyrics: "Pret ty ... wo man wal king down the street Pret ty")

Memory – You Need It!

By Chris Nelligan.

Your computer has two different kinds of memory, ROM and RAM. ROM is Read Only Memory and contains your computers firmware, which is in fact the programs that are instantly available when you turn your computer on. RAM is Random Access Memory, this is where the programs you use and your own data is placed in the computer. RAM is classed as volatile, that is: when the computer loses power, you lose the contents of RAM. ROM is the opposite, it will not lose the information stored in it.

The first computers came out with 16k, and usually were expanded in 8k increments . When the Apple IIe came out, there was 64k of RAM already in the computer, now when you buy an Apple IIGS (ROM3) you get 1024k (1 megabyte) of RAM, and 256k of ROM! The ROM1 IIGS had 256k of RAM, and 128k of ROM.

As programs get bigger and work files become larger, there comes the time when your computer can not run programs or can not hold all of your data at once because of lack of memory. This can sometimes be fixed by adding more memory to your computer.

The Apple IIe can use the Apple II Memory Expansion Card which is capable of being expanded to 1 megabyte. Programmers usually now check to see if this extra memory is available, and if it is, support the use of it in their products.

The IIGS is now Apple's main Apple II platform, and most development of software is being done on this level. Just the operating system (GSOS) and Finder take up almost a 1 megabyte of RAM by themselves. Apple's recently announced Hypercard IIGS needs 1.75 megabytes but recommends 2 megabytes or more to use it properly.

What can I do to get more memory, I here you ask? Extra memory (RAM) for the Apple IIGS is placed in the slot which is on the right hand side at the front of the computer as you look at it. The Apple IIGS can be expanded to a maximum of 8 megabytes.

Many companies make products that enable you to put more memory into your computer, but first more on memory itself. RAM comes in two forms, Ramchips and SIMMs (Single Inline Memory Module). Different products use one or the other of these two kinds of memory, arguments can be taken from both sides as to which is the better/faster. I'll put my bit in, SIMMs I think will remain to be the cheapest and most easily accessible way of memory upgrades.

The products available.

APPLE make their own memory expansion card, it comes in two configurations 256k, and 1meg,

they are not expandable, they are also very expensive. The board which includes 1 megabyte of RAM costs $1002, and is available from Apple dealers.

SCARLAN (an Australian) company designed and market their own SIMM based memory board for the Apple IIGS. A board plus 2 megabytes costs $300, each addition megabyte costs $66. The board has a maximum memory capacity of 4 megabytes. Contact Armen at Scarlan on (02) 819 7032.

FIRMWARE DESIGN (an Australian) company also designed and market their own CHIP based memory board for the Apple IIGS. A board with 1 megabyte of memory costs $425, and each addition megabyte costs $190. The board also has a maximum memory capacity of 4 megabytes. Contact Darren Downes at AppleCentre Paramatta on (02) 893 8888.

TWO SERIES SOFTWARE also stock a variety of memory expansion boards, contact Jeff Schuurman on (02) 606 9343. Applied Engineering RamPlus with 1 megabyte expandable to 6 megabytes costs $385, each megabyte costs $100. Applied Engineering GSRAM II with 1 megabyte expandable to 4 megabytes costs $295, 2meg $395, 4meg $595. Chinook RAM4000 comes in 3 configurations, 1meg $285, 2meg $385 and 4meg $585. All these cards have a five year warranty.

These prices quoted are as at December 1990. Of course you can buy memory SIMMs and RAMchips at various locations probably at cheaper prices again.

My personal choice is the SCARLAN memory expansion board, I have had one for over 2 years, have never had problems, it works on all versions of the Apple IIGS and it is of Australian design and manufacture. Should you have any queries contact myself or any of the above distributors.
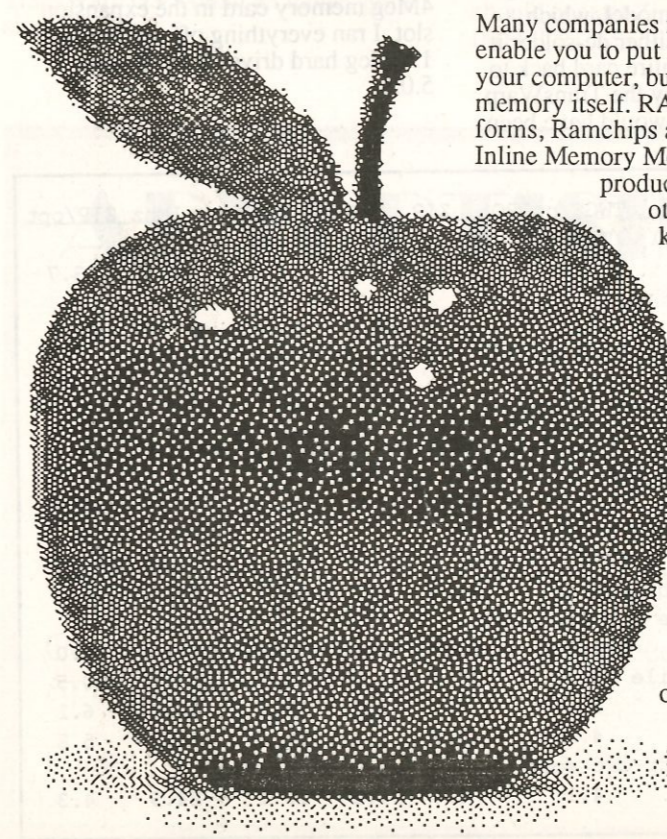
Zippedy Hoo Hah

By Richard Bennett

In a continuing search for speed on my IIgs, I again took the plunge and purchased Zip Technology's latest product, the Zip GS.

The Zip GS running at 8Mhz was finally released in October 1990, after two years of development by Zip Technology Inc. At the same time, it was announced that a 10Mhz upgrade would be available in March 1991, [Sub-Editor's note: now available as of February 1991 for US$100, and another US$100 for the 64k cache upgrade] and that a special deal was available if you ordered before the 31st of December 1990. Being a speed freak, and totally flipped out on the possibility of reaching the 10Mhz boundary, I took the plunge!

I rang Zip in early December, and tried to order a "Zip GS". How was I to know there were in fact three models:- the "ZipChipGS (model 1500) 8Mhz/8K cache" which is simply a CPU replacement, but doesn't support DMA, the "ZipChipGS (model 1525) 8Mhz/16K cache" which is also a CPU replacement, but DOES support DMA, and the top of the line "ZipGSX (model 1600) 8Mhz/16K cache". The ZipGSX is a CPU replacement, but also requires a slot, ala TransWarp GS. It is also the only one in the range that can be upgraded speed and cache wise. The model 1500 can be upgraded to DMA compatibility by purchasing the model 1501 upgrade option.

Ok, so I ordered the Zip GSX which runs at 8Mhz with 16K cache. They said I would have it within three weeks, which meant I could test it before my Christmas leave. I waited. On January 5th I rang and asked where it was, to which they told me it was "mailed" on the 27th of December. It arrived on the 10th, at which time I'd given up waiting for it to arrive, and didn't bother installing it until the next day. Sounds like the same old Zip Technology right?

The card was a complete surprise, as it hardly had any components on it. The TransWarp GS, by comparison, obviously helps to keep the entire U.S. chip industry afloat!

The most notable things about the card are the two L.E.Ds, the ASIC, the WDC 65C816, the sockets, the DIP switches, and the crystal. A red L.E.D simply indicates power to the card, which supposedly helps you tell whether the card is installed properly, and a green L.E.D indicates whether the Zip is accessing IIgs RAM (lit) or the onboard cache memory (unlit). The four sided, 128 pin, VLSI ASIC is the guts of the card, and Zip say it will go up to 10Mhz maximum. As with the TransWarp GS, Zip have used a 7Mhz WDC four sided 65C816, which they must have tested inhouse at 8Mhz, because that's what the card runs at. There are four RAM sockets for a maximum 64K of cache memory, with the default on the GSX being 16K. The other empty socket on the card is reserved for your original 65C816, which I will mention later. There are two 8 DIP switch blocks, which are used to select the MANY options on the GSX.

The crystal, which is soldered onto the card, is 32Mhz. A quick division by four, and we arrive at the 8Mhz which the card is said to run at. Although a 10Mhz upgrade is promised, this must obviously involve replacement of the crystal with a 40Mhz model, which means that you must either de-solder it yourself or send the entire card back to Zip Technology. Surely the TransWarp GS removable crystal would have been a better idea!

There is also a peripheral connector on the card, like on the TransWarp GS, however as we are yet to see anything available for it, I can't really see the point in having it there. Although there is rumour of a new version of the FPE (Floating Point Engine) maths co-processor) which would connect to the card instead of requiring a slot.

Well at least the install was simple. Remove your old 65C816, or TransWarp GS in my case, and plug in the cable from the Zip GSX. You can place your old 65C816 in the empty socket on the card if you wish, but is not necessary. Zip mention that the socket isn't even connected to the Zip, however I noticed that the notVP, RDY and notABORT pins ARE in fact wired into the card! Now plug the card into any free slot, and it behaves as a phantom card. Simple. Now power up!

The default settings are read from the DIPs on power up, and I used the recommended factory settings for the timing tests listed below. My ROM 01 IIgs had a High Speed SCSI card with DMA turned on in slot 7, and a Scarlan 4Meg memory card in the expansion slot. I ran everything off my Fujitsu 175Meg hard drive under System 5.0.4.

Test	TWGS/noIRQ	ZIP	TWGS	2.8Mhz	1Mhz	ZIP/opt
Load AppleWorks 3.0 w/Timeout						
	3.8	3.6	3.8	4.3	5.7	3.7
Load AppleWorks GS v1.1						
	14.7	45.1	16.0	25.8	57.3	47.0
Finder Verify /RAM5 at 800K						
	4.8	8.0	7.5	8.2	10.3	4.4
Merlin 16 assemble and link/P8						
	3m8.9	3m6.4	3m9.9	4m37.4	8m35.0	3m5.7
Boot GS/OS to trash can						
	23.6	26.0	25.8	35.9	63.6	22.9
Memory manager thrash						
	279.0	281.0	282.0	539.0	huge	279.0
Quickdraw II thrash	6.0	6.0	6.0	14.0	29.0	5.0
Merlin 16+ assemble and link/GSOS						
	21.0	20.0	22.0	37.0	37.0	20.0
TML Pascal II compile	20.6	20.8	21.2	42.7	103.5	20.5
TGE GIF custom	5.1	6.2	5.1	13.9	30.0	6.1
TGE 3200 custom	4.7	5.8	4.8	12.6	27.2	5.8
AppleWorks 3.0 multi-cat sort						
	4.1	4.4	4.2	10.1	24.9	4.3

On average, the standard ZIP is marginally slower than the TransWarp GS with it's IRQ mode set on. Where the TransWarp GS has only two modes (IRQ and noIRQ), the Zip has heaps! So the Zip/opt column is the speed after I had tweaked all the options for the fastest speed.

The one timing that does stand out, is the loading of AppleWorks GS (all modules), which with the Zip took a ridiculous 45 seconds consistently. I'm sure with the correct options set on the Zip you'd get it down to around the 15 second mark, but the 45 still seems to indicate a real problem with the chip. During the load, the Zip cache light went hard on for around 20 seconds, before even getting to the splash screen.

The Memory Manager thrash simply allocates hundreds of chunks of memory and purges them again, and the Quickdraw II thrash draws different coloured rectangles all over the screen. These are the same routines that Chris Nelligan used to demonstrate System 5.0 when it was released, and gives you a pretty good idea of how fast the machine is running. I also ran Chris' program which opens and closes 20 windows, side by side with Cameron Brawn's 7Mhz TransWarp GS, and the TransWarp GS won in all modes quite significantly.

I then changed the 16K cache down to 8K in the hope of stopping the cache from wasting time on memory which is only accessed once, but this hardly made a difference on the stopwatch. It didn't really slow the times down OR speed them up actually! However this is obviously dependent on the application, and it's obvious that none of the ones I tried were relevant.

I'm not going to describe each of the options the Zip GSX has, except to say that Zip have always liked confusing their customers with heaps of them! The list goes like this: Shadow memory cache on/off, Joystick delay on/off, AppleTalk delay on/off, Counter (VERTCNT-$E0/C02E) delay on/off, CPS ($E0/C036) Follow on/off, Zip on/off, Cache 8K/16K/32K/64K, Selective slot slowdown, and Speaker delay on/off. The Zip comes with a CDA, a CDEV, a GS/OS application, and an INIT for dynamically changing these settings as well, but there are NO ProDOS 8 utilities! Also, the manual is simply seven photocopied sheets of paper stapled together, and there is no programming information for changing the Zip options yourself!

The final cost for the ZIP GSX, including shipping and duty, came out at around AUS$400, which should have increased significantly by now considering the special deal is no longer available. In any case, you should contact Zip Technology on 0011-1-213-337-1313 for more details.

I know it's only the first release of the Zip GS, and even Applied Engineering had numerous upgrades before we arrived at the current model, but it is disappointing to find only a second rate card at least two years after the TransWarp GS was released. The TransWarp GS on average is a faster card. However if you prefer to fiddle with the various Zip options, I'm sure you could set the card up to be faster than I had it running.

Problems and complaints aside, I must hand it to Zip for actually responding to it's customers and finally releasing the Zip GS. Zip Technology's first release may not be as good as the TransWarp GS, but if their 10Mhz/64K cache announcement becomes reality in March, there will be a lot of people wishing they'd bought the Zip in December, as I'm sure the price is going to go straight up. Me, I'm now stuck with a TransWarp GS and a Zip GSX, and don't know which to keep. On one hand I have a chance to get up to 10Mhz, and on the other Applied Engineering say they are looking at a possible upgrade to the TransWarp GS, but nothing is yet planned. I asked them what they thought of the Zip, and their predictable reply was that the TransWarp GS has been a tried and proven product for the last two years, and Zip has only been promising theirs for the same two years.

Make me an offer on either card, as the

New Beagle Bros Products For Apple II

Reviewed by Wayne Short

The name BEAGLE BROS, is synonymous with the Apple II. For ten years the software company has been publishing innovative programs which push its envelope of uses outwards. In recent years, they have concentrated on productivity tools for Appleworks... making a good program greater.

APPLEWORKS 3.0 COMPANION

The Appleworks 3.0 companion consists of a series of patches for the various modules of Appleworks.

The installation program will install a default set of patches or you may opt to customise you working copy of Appleworks with whatever patches you like the most.

The following list is by no means exhaustive but illustrates some of the more "useful" patches available:

- Force IIGS to use "slinky" RAM for the desktop
- "yes" is now highlighted at Appleworks prompts
- change "->" to mousetext checkmark
- change "subdirectory" to mousetext file folder
- change "disk" to mousetext disk folder
- change cursor blink rate
- use GS system beep instead of Appleworks bell
- let program run on write-protected disk
- imported textfile name becomes Appleworks filename

Word Processor

- change <cr> symbol
- keep file unchanged after printing

Database

- tab from last category moves to next record
- restore cursor position when loading file

Spreadsheet

- change default column width
- change default label format
- change default value format
- restricts spreadsheet to 999 rows (increase speed)

As a bonus, several new Timeout Accessories are included on this disk. The most useful of these is 'TextLoader Plus'. Textloader allows you to load directly an ASCII text file into word processor via the same easy set of prompts currently only available to formatted Appleworks files (no longer will I have to remember those clumsy pathnames). You may load up to 12 text files in a single batch into the desktop.

OUTLINER

OUTLINER, by Randy Brandt, is a productivity tool which brings outline processing to AppleWorks 3.0. Outliner lets you organise information up to six levels deep. Use it to create a list, plan a project or write a project. Any information that you organise into different topics or levels can be processed with Outliner. It is compatible with Beagle Bros' Timeout series.

One of the main attractions of outlining software is that it allows you to examine information from various perspectives. This makes it easier to grasp both the "big picture" and specific details.

Outliner is installed as a patch of the Appleworks word processor. Supplied as part of the package is both 5.25 inch and 3.5 inch disks. As with all Beagle Bros' products, an installer program simplifies installation on an individual disk or Prodos pathname. It doesn't need to be reinstalled unless you wish to customise it.

Integration with the Word processor is seamless and just one keystroke away. When you press Open-Apple-+, you are taken from the normal edit mode of the word processor to outline mode. Outline topics can be inserted, edited, moved around, arranged alphabetically, hidden or expanded to reveal subtopics and body text. You can shift a topic up or down levels and the associated subtopics and body text will move along with it. You can choose how many levels deep the outline mode should display and you can even edit body text for specific topics while in Outliner.

Outlining is available up to six levels deep. Indentation of each level is preset but is a customisable feature. Labels are created according to the currently selected type by the user. It is possible to change label sets within a document or even use your custom label set.

To create its outlines in the word processor, Outliner uses the "set marker" command to create markers for formatting within the document. Several marker codes are used for this purpose.

Printing may be performed from within the OUTLINER, however, I found that with large documents form-feeding did not function correctly.

The supplied disk contains several example documents to illustrate the use of the outline processor. Bonus macros are also included for Timeout UltraMacros Users. This product is worth considering if you have a need to produce large documents on a regular basis.

The following two software products are both members of the Beagle Bros 'Timeout' series of AppleWorks enhancements. (A software patch of Appleworks allows you access to a menu of new utilities via the Open-Apple-Escape sequence).

TIMEOUT TEXTTOOLS

Timeout Texttools is a set of 10 enhancement tools for the Appleworks Word processor. They are compatible with AppleWorks 3.0 or later.

After installing timeout and these applications programs into the appropriate folder along with AppleWorks your Word Processor now has the following :

Timeout Glossary

Stop typing the same thing again and again... Glossary is a program designed for creating menus containing commonly used names, address, jargon or even whole paragraphs! Your glossary is created from a word processor file with special formatting commands. When you compile this file with Timeout Glossary a unique timeout application file is created.

Your compiled glossary when selected from the timeout menu presents you with a group of keywords which when selected inserts set text into the document. The ability to have multiple glossaries makes this a powerful writing tool!

Timeout MarkMerge

MarkMerge is replacement for Appleworks awkward mail merge facility.

It supports two different methods of mail merging. The first method, which is used for printing most form letters will actually reformat the text in the word processor file.

For example, if you're printing a letter that contains the name of a person or company in the middle of a paragraph, the paragraph will automatically be adjusted to allow for varying lengths in the name that will be inserted into the paragraph. The second method for merging is for filling out pre-made forms where the data must be printed in exact locations and formatting is not desired.

Timeout Multiprint

Prints up to 100 word processor files at once! Files are selected via the familiar appleworks "index card" interface. These files may even be linked together for continuous page numbering. (The only catch is you may only print from one subdirectory of your disk at a time.)

Timeout BlockCopy

An easy way to get multiple columns exactly the way you want them - and fast too! Any shape or size block of text can be superimposed over existing text. Great for adjusting tabbed columns.

Timeout QuickTabs

If you've ever used tab rulers within a document to precisely control formatting you will know how cumbersome they are to construct. Now you can quickly edit them with QuickTabs. You can even create a menu of pre-defined rulers that make your formatting consistent from page to page, document to document.

Timeout QuickStyles

QuickStyles lets you set any combination of printer options instantly. Margins, headers, underline and all other Open-Apple-O printer options can all be used. Keep all your common formats in a handy menu.

Like Glossary, your Stylesheet is created from a word processor file with special formatting commands. When you compile it with Timeout QuickStyles a unique timeout application file is created.

Timeout Superfind

Superfind used is to Find and Replace all printer options and embedded commands. This is something Appleworks cannot do! For example, automatically change every occurrence of boldface to underline.

Timeout Analyst

Analyst creates a list of all words in your processor documents and tells you how many times you used each one. A great way to check your writing style.

Analyst also includes an option to build a list for the Indexer. If you choose Yes to this option, Analyst only builds a list of words (no word count is included).

Timeout TOC

One of the most time-consuming word processing jobs is now the easiest. Timeout TOC generates a table of contents for you. Include chapters, sections, and paragraphs up to five levels deep with no typing!

TOC Generator uses the markers available in the word processor. To mark a line of text for use in the Table of Contents, you place a marker directly before the line.

Different marker numbers are used for different types of TOC entries:

- Chapter Number   151
- Chapter Title   152
- Section Heading   153
- Subsection   154
- Sub-Subsection   155
- Figure   156
- Table   157

Indentation of the generated Table of Contents is one of the configurable options.

Timeout Indexer

Generate an index for any document. First use "Timeout Analyst" to create the word list for you. Select the words you want indexed, and Indexer automates the entire process.

TimeOut Indexer now uses the clipboard to store its index. Because of this, any information put on the clipboard will be lost (just like when you copy to the Clipboard).

CR Stripper

CR Stripper is a handy utility that lets you add or remove carriage return markers from a block of text. Use it in conjunction with Copyblock to make multiple-column setup a snap, or use it to remove unwanted Return markers from imported text files.

TIMEOUT SUPERFORMS

Superforms is a form-generating and form-filling program. It allows you to design and edit forms on screen, then print then using the separate program, Timeout Superfonts. To run "Timeout Superforms" you will need Appleworks 3.0 and "Timeout Superfonts version 3.0" (or later).

Forms are designed within the framework of the word processor module... you access Timeout via Open-Apple-Escape and select Superforms. Open-Apple commands are used for quick design of invoices, order forms, answer sheets, grade cards and more. Custom logos can be added by importing Double Hires or Print Shop Graphics.

Superforms requires several fonts (in various sizes) to be available when it is being used. These are:

- Superforms.A
- Superforms.B
- Apple.II

The specialised fonts allow you to paint lines and boxes in a variety of styles and thicknesses. They are non proportional in style to allow all of the special symbols to line up correctly. Optional fonts may also be used and they may be proportional (eg. Times or Helvetica) providing they are not used on the same line as a non-proportional font.

Data from the Database, Spreadsheet

or another word processor file may be merged into the form after being copied to the clipboard. This is accomplished via marking the form via markers to delineate the start of each field.

The "formfill" option allows data to be added in tabular or line form. This data may be left or right justified within the field or truncated where necessary.

Although each form is limited to a single page in size, the actual number of forms printed is dependent on the number of records occupying each form and the number of records copied to the clipboard. For example, I designed an address list with 12 names per form. If I copy 20 records from my Rolodex database and print the resulting forms, I will get two pages of the address form.

Like all Beagle Bros products both 3.5 inch and 5.25 inch disks are provided. An installer utility is supplied to copy the timeout application onto your Appleworks disk. Excellent sample

files are provided on disk to show you the use of these Appleworks enhancements and a well written manual completes each offering.

Program : AppleWorks 3.0 Companion, Outliner,

Timeout TextTools, Timeout Superforms

Publisher : Beagle Bros, Inc.

Hardware : Apple IIe/IIc/IIGS, 128K of Ram, 5.25, 3.5 inch disk

Australian Distributor:

DataFlow (02) 606-9343

Price :

AW 3.0 Companion, (price unavailable)

Outliner, $99.95 Australian, Timeout Texttools, $84.95 Australian, Timeout Superforms, $99.95 Australian.

Questions and Answers

I'm still new to the Apple //GS (coming from the Mac and Unix world) and I am having trouble distinguishing the difference between GS/OS and file systems like ProDos 8 or 16.

- Technically, P8 and P16 support the same file system. P16 was the first version of ProDOS written specifically for the Apple IIgs. The 16 refers to the GS's 16-bit processor, P8 got the '8' stuck on afterwards to differentiate between it (for older Apple IIs) and the

IIgs-specific operating system. ProDOS 16 is now obsolete. GS/OS was a rewrite of P16 and is a significant improvement.

What does ProDos 8 or 16 do? Are these just file systems of different block sizes or what?

- P8 and P16 are disk operating systems. Their main job is to handle disk input and output (I/O).

- Both P8 and P16 use the same 512 bytes per block file system.

- GS/OS is the real operating system. It provides file-system-independent operating system functions, full character and block device driver support, and a few other goodies.

Does GS/OS have the Finder, Desktop, System, etc. files located in it?

- GS/OS is cleverly disguised as the "Apple IIgs System Disk". The system disk comes with the desktop application "Finder", but the Finder is not necessary for a program to use GS/OS.

What's a good source of overall GS descriptions and explanations?

Non Technical books:

Apple //GS Owner's Reference
A Touch of Applesoft BASIC
Getting Started With Your Apple //GS

Technical books:

Technical Introduction to the Apple //GS
Apple //GS Hardware Reference
Apple //GS Firmware Reference
Programmer's introduction to the Apple //GS
Apple //GS ToolBox Reference, Vols 1 - 3
Apple //GS GS/OS Reference

There are miscellaneous manuals from Apple available through AAPDA. There are many less technical books on the GS. Just go to your local Hotline or Dymocks bookstore.

Apple // Tips 'N Bits

By Grant Kwai

This is the first in a series on tips and bits that you can do on your Apple //. They have all come from what I have discovered, heard or read from either a book or a file on one of my disks. No doubt there will be some fairly obvious ones here, but hopefully by the end of all this, you would have learnt something of value.

• Control-Closed Apple-Reset on a //e or //gs does a self diagnostic RAM test. On a //c, it gives a ever changing hires picture.

• PR#7 on a //c will boot a disk in disk drive 2. (Disk must be under ProDOS).

• The Open-Apple key is the same as Button #0 on your joystick.

• The Closed-Apple key is the same as the Button #1 on your joystick.

• Underneath the right hand side of the keyboard on the //e is a small switch. What is does is change the hash sign to the pound sign and vice versa.

• To keep disks labels from peeling off your disks, you can make them more long term by heating the adhesive side with a hair dryer for a few seconds then applying the label to disk.

• Under Appleworks, you can return back to the main menu from anywhere by hitting Open-Apple-Q then ESCape key. You could even add this in a macro function.

• You can CATALOG ProDOS disks by filetype (ie BAS, BIN etc). To do so, simply type 'CATALOG,TXXX', where XXX is the file type (eg BAS,TXT etc) or the hexadecimal value.

• On a GS, sometimes older //+,//e,//c programs won't work. If so, try adjusting the speed to normal (using the control panel). If it still doesn't work, try the 40 column mode instead of 80 columns.

• <Control>-G gives a beep. You can insert this in your programs if you want. It even comes up in a LISTing.

• CALL -151 enters you into machine language.

• CALL -800 enters you into Assembler on a //e.

• F666G under Integer basic will get

you into the mini assembler.

• The best way to learn about your Apple is to read and to try things out by 'trial and error'. After all, you learn from your mistakes, right?

• Under ProDOS, you can only have up to 51 files in the root directory. Try and save more and you will get a DISK FULL error even though you may still have more room on the disk. Create a sub directory to get around this problem.

• You can use the '?' command instead of typing PRINT when entering BASIC programs.

• 'BYE' from ProDOS basic will exit you to the ProDOS pathname screen.

• On a //GS, when entering data, you often use the numerical keypad. However you had to move back to the main keyboard to enter commas(,). The period key(.) with the shift key gives a comma.

• While in 80 column mode, entering:

10 REM <control>-R <control>-L will clear the screen upon each LIST command.

• Under CP/M, type 'COPY' B:=A:/S' will copy the boot tracks of the CP/M disk in drive A (drive 1) to the disk in drive B (drive 2).

• Instead of typing IF.....GOTO when programming, use ON.....GOTO, You can now add more statements to a line.

eg 10 X=32

20 ON X=100 GOTO 200:ON X=32 GOTO 300 :ON X=45 GOTO 400

300 PRINT"SEE!":END

• You can delete whole slabs of your program by typing DEL X,Y , where X and Y are the beginning and end line numbers. Beats the heck out of typing 10 <return>,20 <return>.......

• SAVE your program before running it. You never know how your Apple is going to react to your programming.

• When you encounter an error in Low-res, hi-res or double hi-res, you can sometimes hear a beep but you can't see the error message. Type

TEXT to see what it was.

• There are three types of syntax errors:

••SYNTAX ERROR   Integer

?SYNTAX ERROR   Applesoft

SYNTAX ERROR   DOS and ProDOS

• If you are programming and get stuck on a line/s which always gives you an error but you can't figure out why, leave it for the day and start again the next day. More often than not, you will pick up the mistake straight away. (At least I do!)

• Use PRINT SPC(X) (where X is the number of spaces) instead of typing PRINT " ": REM (X spaces). It makes sense doesn't it?!

• Using STOP instead of END will give you the program line it stopped at. This can be helpful when debugging.

• HEXadecimal is a numbering system with a base of 16. The Hex digits are 0-1-2-3-4-5-6-7-8-9-A-B-C-D-E-F.

• When you are in 80 column mode, you will have a solid cursor. Pressing ESC-4 will change to the 40 column screen. Still with the solid cursor, hitting ESC-8 will change back to 80 column mode.

• Holding down <Ctrl>-S in a listing (eg program, catalog etc) will freeze the screen. Hitting any key (preferably not with a hammer) will get the screen scrolling again.

• Sometimes though, your last <Ctrl>-S may accidentally become the first character of the next command line. Since your Apple doesn't like control characters in its commands, it will give you an error. The simplest way to get around this is to just press <return> once after the listing.

• Don't hit <Ctrl>-<reset> when the disk drive is in operation, especially if it is writing something to disk. One day you may find that that program which took you all year to write suddenly doesn't work any more.

• Have you ever wondered what a disk looks like inside the cover? Why not pull one apart and see for yourself? Make sure that the disk has nothing

important on it and don't try to use the disk again.

• ProDOS only allows up to 15 characters for Disk volume, subdirectory and file names. That may be why you sometimes get an error message while trying to save a file.

• When you issue a disk command (eg DELETE, RENAME), and you have two of the same file names in a catalog, only the first one is affected by the command.

• You can POKE your way into RAM, but you can PEEK your way into both RAM and ROM. That is why you can modify DOS but not Applesoft.

• Extra colons are ignored by Applesoft. eg 10 IF X=3 THEN:::::PRINT "HELLO", is quite legal.

• You can resurrect a RAM disk which has 'crashed' by re-running your ram drive creator program. More often than not, whatever was on the RAM drive will still be there (unless you turn your machine off.)

• Put a radio on either side of your computer monitor. Whatever side gives you the most static is NOT the side to but your disks, and disk drive on.

• On a //GS, you can access the DVORAK keyboard layout by entering

the control panel and accessing options. Use the up/down arrows to highlight keyboard, then use he left-right arrow to step through the various foreign languages till you get to DVORAK. Press return to select it.

• Most copy programs can't copy whole disks a time to an unlike device. (eg 5.25" to 3.5" or /RAM drives) The best way to get around this is to simply copy the files over one by one. This has the advantage of eliminating the possibility of deleting files already on the second drive.

More tips 'n bits next month.......

Little Bits

By Andrew Roughan

• February 1991 saw the release of HyperCard GS and System Software 5.0.4 in the US. We here in Australia have been waiting for these releases since their announcement in November last year. The user group has special sets of these releases available through the bulk purchase section. System Software 5.0.4 (two 3.5" disks) $14, Hypercard GS (six 3.5" disks) $30. These of course are without manuals. The HyperCard manuals for the Macintosh will be ample or you could purchase the complete HyperCard GS pack available from Apple later in the year. HyperCard GS requires System Software 5.0.4 and 1.5 megabytes of RAM. Two megabytes of memory and a hard disk is also recommended.

• If you don't have enough memory to

run HyperCard GS the Jeff Schuurman at Two Series Software may be able to help. Jeff will accept a fully populated, working, Apple 1 megabyte card as a trade in on his stocks of larger capacity Applied Engineering and Chinook RAM cards. Jeff will also be supported by Apple in reselling the second hand Apple 1 megabyte cards for $125 with a 12 month warranty. See the article on memory cards elsewhere in this magazine for his prices on other cards.

• Cameron Brawn showed the gathered members at the Apple IIGS main meeting the Applied Engineering power supply. This supply puts out 6 amps of power which is twice the output of the Apple supply. At $192 from Two Series Software, this is a

good deal considering that an Apple replacement supply will set you back $100.

• Taito, the makers of Arkanoid, Arkanoid //, Rastan GS and Qix, has pulled out of the home computer software market to concentrate solely on the video games market. Their quality products will be sadly missed on the GS scene. Members who attend the Apple II GS main meetings may win one of Taito's packages in future raffles.

• Apple IIGS GS/OS Reference manuals are now available from your local Hotline or Dymocks store. If you are a student then make sure you flash your student card at a Hotline store to receive an extra 10% off.

New Apple II Meeting arrangements:

Since the first Meetings in February, the second meeting of the month is an Apple II GS meeting.

8-bit Apple II (Apple II Plus, Apple IIe, Apple IIc meetings will now be held on the first Monday of the month, in the Carslaw Building.

(For exact location, check the Stephen Roberts Auditorium).

AUG Book Library List

This is the revised list of the club's expansive library as of February 1991. As always, you can borrow these from our librarian in person at the meeting on the second Monday night of each month.

Members Handbook # 1.
Copies: 1.
Computer: Apple II.
Hi-Res Secrets.
by Don Fudge.

Members Handbook # 2.
Copies: 1.
Computer: Both.
Keyboarding for Information Processing.
by Robert Hanson & Sue Rigby.

Members Handbook # 3.
Copies: 1.
Computer: Apple II.
Continuing Basic.
by P.E.Gosling.

Members Handbook # 4.
Copies: 1.
Computer: Both.
The Computer Connection.
by Arnold Wolff.

Members Handbook # 5.
Copies: 1.
Computer: Apple II.
Apple][Reference Manual.
by Apple Computer Inc.
(17.08.90).

Members Handbook # 6.
Copies: 2.
Computer: Apple II.
Graphics Tablet Operation & Reference Manual.
by Apple Computer.

Members Handbook # 7.
Copies: 1.
Computer: Apple II.
The DOS Manual.
Disk Operating System.
by Apple Computer Inc. (17.08.90).

Members Handbook # 8.
Copies: 1.
Computer: Apple II.
The Applesoft Tutorial.
by Apple Computer Inc.
(17.08.90).

Members Handbook # 9.
Copies: 1.

Computer: Apple II.
The Vision-80 Video Card Owners Manual.
by Zofarry Pty. Ltd.
(17.08.90).

Members Handbook # 10.
Copies: 1.
Computer: Apple II.
][Applesoft Basic Programming Reference Manual.
by Apple Computer Inc.
(17.08.90).

Members Handbook # 11.
Copies: 1
Computer: Apple II.
Apple FORTRAN Language Reference Manual.
by Apple Computer Inc.

Members Handbook # 12.
Copies: 1.
Computer: Apple II.
Apple 5.25 Drive Owners Guide.
By Apple Computer.

Members Handbook # 13.
Copies: 2.
Computer: Apple II.
80 Column Text Card Manual.
by Apple Computer Inc.

Members Handbook # 14.
Copies: 1.
Computer: Apple II.
The Apple IIc Reference Manual Vol. 1.
by Apple Computer Inc.

Members Handbook # 15. (+49).
Copies: 2.
Computer: Apple II.
Prodos Users Manual.
by Apple Computer.

Members Handbook # 16.
Copies: 1.
Computer: Apple II.
Apple SuperPilot Language Reference Manual.
by Apple Computer.

Members Handbook # 17.
Copies: 1.
Computer: Apple II.
Apple IIGS Assembly Language Programming.
by Leo J. Scanlon.

Members Handbook # 18.

Copies: 1.
Computer: Both.
Discovering Computers.
by V.X.Glenhill.

Members Handbook # 19.
Copies: 1.
Computer: Apple II.
Apple II Technical Introduction to the Apple IIGS.
by Addison-Wesley Publishing Co. Inc.

Members Handbook # 20.
Copies: 1.
Computer: Apple II.
Apple //c Users Guide.
by Lon Poole

Members Library Book # 21. (24A)
Copies: 1.
Computer: Apple II.
9 Washington Apple Pi Magazines 1982/1983.
May, June, July, August, September, October, November, December 1982, January 1983.

Members Handbook # 22.
Copies: 1.
Computer: Apple II.
Apple Works Tutorial for Version 1.
Apple Computer.

Members Handbook # 23.
Copies: 1.
Computer: Apple II.
Apple Technical Notes Vol. 1.
by Apple Computer.

Members Handbook # 24.
Copies: 1.
Computer: Apple II.
Apple Technical Notes Vol. 2.
by Apple Computer

Members Library Book # 25.
Copies: 1.
Computer: Apple II.
7 Washington Apple Pi Magazines 1982/1983.
February 1982, March, April, May, June, September, October 1983.

Members Library Book # 26.
Copies: 1.
Computer: Both.
10 The Michigan Applegram Magazines.
June-July 1982, August 1982, September 1982, October 1982,

Vol.5.#1 1983, Vol.5.#2 1983,
Vol.5.#4 1983, Vol.5.#5 1983,
Vol.5.#6 1983, Vol.6.#1 1984.

Members Library Book # 27.
Copies: 1.
Computer: Apple II.
11 Cider Press Magazines 1981/1982.
April-May, June, July, August,
September-October, November,
December 1981, January,
February-March, May, June, July
1982.

Members Library Book # 28.
Copies: 1.
Computer: Both.
16 ACT Users Group Newsletters
1987/1988.
January, March, May, June, July,
August, October 1987, February,
March, April, June, July, August,
October, November, December 1988.

Members Library Book # 29.
Copies: 1.
Computer: Apple II.
12 Washington Apple Pi Magazines.
April, September 1982, August,
November, December 1983, January,
February, March, April, October,
November, December 1984.

Members Library Books # 30.
Copies: 1.
Computer: Apple II.
12 Apple User Magazines 1985
January through December. Volume 5.
Numbers 1-12.
(13/01/91).

Members Library Books # 31.
Copies: 1.
Computer: Apple II.
5 Apple Orchard Magazines 1983.
April, June, September, November,
December.

Members Library Book # 32.
Copies: 1.
Computer: Both.
9 A.U.S.O.M. News Magazines 1987.
January, February, March, April, May,
June, August, September, October.

Members Library Book # 33.
Copies: 1.
Computer: Both.
6 A.U.S.O.M. News Magazines 1988.
February, March, August, September,
October, December.

Members Library Book # 34.
Copies: 1.
Computer: Apple II.
6 Apple Orchard Magazines 1984.
January to July.

Members Library Book # 35.
Copies: 1.
Computer: Apple II.
8 Apple User Magazines 1984.
January, April, June, August,
September, October, November,
December. (13/01/91).

Members Library Book # 36.
Copies: 1.
Computer: Apple II.
10 Windfall Magazines 1983.
January, February, March, April, June,
July, September, October, November,
December. (13/01/91).

Members Library Book # 38.
Copies: 1.
Computer: Apple II.
4 Washington Apple Pi Magazines
1985/1986.
September, November, December
1985, January 1986.

Members Library Book # 40.
Copies: 1.
Computer: Apple II.
4 Apple Orchard Magazines
1980/1981/82.
Fall 1980, Spring, Fall 1981, Winter
1981/82.

Members Library Book # 42.
Copies: 1.
Computer: Apple II.
9 Call A.P.P.L.E. Magazines 1983.
January, February, March, April, May,
June, September, November,
December.

Members Library Book # 43.
Copies: 1.
Computer: Apple II.
6 Call A.P.P.L.E. Magazines 1984.
July, August, September, October,
November, December.

Members Library Book # 44.
Copies: 1.
Computer: Apple II.
9 Washington Apple Pi Magazines
1985.
January, February, March, April, May,
June, July, August, October.

Members Library Book # 45.
Copies: 1.
Computer: Apple II.
17 Open-Apple Magazines 1985/1987.
VOL. 1. January 1985 through January
1986.
VOL.2. July, September 1986.
VOL.3. April, May 1987.

Members Handbook # 48.
Copies: 1.

Computer: Apple II.
Apple //c Owners Manual.
by Apple Computer.

Members Library Book # 50.(+51).
Copies: 2.
Computer: Both.
10 Applecations Magazines 1986.
January/February, March, April, May,
June, July, August, September,
October, November.

Members Library Book # 51. (28A).
Copies: 1.
Computer: Both.
11 AUG Applications Magazines
1984.
January/February, March, April, May,
June, July, August, September,
October, November, December.

Members Library Book # 52. (+53).
Copies: 2.
Computer: Both.
11 AUG Applications Magazines
1987.
January/February, March, April, May,
June, July, August, September,
October, November, December.

Members Library Book # 53. (28B).
Copies: 1.
Computer: Both.
12 AUG Applications Magazines
1981/1982/1983.
August 1981, March, May,
November-December 1982,
January-February, March, May, June,
July, September, October, December
1983.

Members Library Book # 54.(+55).
Copies: 2.
Computer: Both.
10 Applecations Magazines 1988.
January/February, March, April, May,
June, July, August, September,
October, November/December.

Members Library Book # 56.
Copies: 1.
Computer: Apple II.
11 A+ Magazines 1988.
February, March, April, May, June,
July, August, September, October,
November, December. (07.04.90).

Members Library Book # 57.
Copies: 1.
Computer: Apple II.
9 InCider Magazines 1987/1988/1989.
July, October, December 1987,
January, February, August, September,
October 1988, April 1989.

Members Library Book # 58.
Copies: 1.

Computer: Apple II.
7 Call A.P.P.L.E. 1987.
January, February, March, April, May,
June, July.
9 Scarlett Magazines 1986/1987.
May, July, August, September,
October November.1986, February,
March, May 1987.
2 Harvest Magazines 1985 & 1987.
July 1985, December./January 1987.

Members Library Book # 59.
Copies: 1.
Computer: Apple II.
12 Washington Apple Pi Magazines
1986/1987.
August, September, October,
November, December 1986, January,
February, March, April, May, June,
July 1987.

Members Library Book # 60.
Copies: 1.
Computer: Apple II.
11 Incider Magazines 1985.
February, March, April, May, June,
July, August, September, October,
November, December. (07.06.90).

Members Library Book # 62.
Copies: 1.
Computer: Both.
4 Applecations Magazines 1981.
July, August, September, October.

Members Library Book # 63.
Copies: 1.
Computer: Both.
5 Applecations Magazines 1982.
March, May, September, October,
November/December.

Members Library Book # 64.
Copies: 1.
Computer: Both.
7 Applecations Magazines 1983.
January /February, March, May, June,
September, October, December.

Members Library Book # 65.
Copies: 1.
Computer: Both.
10 Applecations Magazines 1984.
January/February, March, April, May,
June, July, August, September,
October, November, December.

Members Library Book # 66.
Copies: 1.
Computer: Both.
9 Applecations Magazines 1985.
January/February, April, May, June,
July, August, September, October,
November.

Members Library Book # 71.
Copies: 1.

Computer: Apple II.
8 Call A.P.P.L.E. Magazines 1986 &
1989.
April, May, June, July, August,
November 1986. January, March 1989.

Members Handbook # 73.
Copies: 2.
Computer: Both.
Localtalk Cable System.
Owners Manual.
By Apple Computer.

Members Handbook # 74.
Copies: 2.
Computer: Both.
Apple SCSI Cable System.
By Apple Computer.

Members Handbook # 75.
Copies: 1.
Computer: Apple II.
A Touch of Applesoft Basic.
By Apple Computer.

Members Handbook # 76.
Copies: 1.
Computer: Apple II.
Apple IIGS System Disk User's Guide.
By Apple Computer.

Members Library Book # 77.
Copies: 1.
Computer: Apple II.
7 Nibble Magazines 1984.
January, February, April, May, June,
September, December. (07/06/90).

Members Library Book # 78.
Copies: 1.
Computer: Apple II.
7 Nibble Magazines 1983.
Vol. 4 Nos. 1, 2, 3, 4, 5, 6, 8.

Members Handbook # 79.
Copies: 2.
Computer: Apple II.
Apple Works Reference.
by Claris.

Members Handbook # 80.
Copies: 2.
Computer: Apple II.
Apple Works Tutorial for Version 2.
by Claris.

Members Library Book # 81.
Copies: 1.
Computer: Apple II.
12 Nibble Magazines 1/-
January, February, March, April, May,
June, July,
August, September, October,
November, December.

Members Library Book # 82.(+83).
Copies: 2.

Computer: Both.
10 Applecations Magazines 1989.
January/February, March, April, May,
June, July, August, September,
October, November/December.

Members Library Book # 85.
Copies: 1.
Computer: Apple II.
The Australian Apple Education
Software Directory 1987.
by Apple Computer Australia Pty. Ltd.

Members Library Book # 86.
Copies: 1.
Computer: Apple II.
The Apple IIgs Software Directory
1987.
by Apple Computer Australia Pty. Ltd.

Members Handbook # 93.
Copies: 1.
Computer: Apple II.
The Visicalc Book Apple Edition.
by Donald H Beil.

Members Library Book # 94.
Copies: 1.
Computer: Apple II.
IIGS and Music 1988.
by Apple Computer Australia.

Members Library Book # 99.
Copies: 1.
Computer: Both.
Hackers (Novel).
by Steven Levy.

Members Library Book # 100.
Copies: 1.
Computer:
The Book of Apple Software 1983.
by Jeffrey Stanton, Robert P Wells and
Sandra Rochowansky. (12.03.90).

Members Library Book # 101.
Copies: 1.
Computer: Apple II.
10 Nibble Magazines 1988.
February, April, May, June, July,
August, September, October,
November, December.

Members Library Book # 102.
Copies: 1.
Computer: Apple II.
18 The Australian Apple Review
Magazines 1984 /1985 /1986 /1987.
April, September, December 1984,
August/September, October,
November, December 1985, January
1986, February, March, May, June,
July/August, September, October,
December 1986, April, May 1987.
(12.03.90).

Members Library Book # 107.

Copies: 1.
Computer: Apple II.
10 Apple User Magazines 1986/1987/1988.
January, February, March, April, October 1986.
January, May, June, July 1987.February 1988 (13.04.90).

Members Library Book # 110.
Copies: 1.
Computer: Both.
6 Australian Personal Computer 1987/1988/1989/1990.
April, December 1987, April, September 1988, February 1989, January 1990.(13.04.90).

Members Library Book # 111.
Copies: 1.
Computer: Apple II.
11 Nibble Magazines 1986.
January, February, March, April, May, July, August, September, October, November, December. (07.06.90).

Members Library Book # 112.
Copies: 1.
Computer: Both.
7 Australian Personal Computer 1986.
January, February, March, May, July, September, October. (13.04.90).

Members Library Book # 115.
Copies: 1.
Computer: Apple II.
11 Incider Magazines 1984.
January, February, March, April, May, June, August, September, October, November, December. (07.06.90).

Members Library Book # 116.
Copies: 1.
Computer: Apple II.
11 Incider Magazines 1986.
January, February, March, April, May, July, August, September, October, November, December. (07.06.90).

Members Library Book # 117.
Copies: 1.
Computer: Apple II.
8 Nibble Magazines 1989/1990.
February, March, June, September, December 1989.
January, March, July. 1990. (07.06.90).

Members Library Book # 119.
Copies: 1.
Computer: Apple II.
9 A+ Magazines 1989/1990.
January, February, April, May, October, November, December 1989.
January, July 1990. (07.06.90).

Members Handbook # 122.
Copies: 1.
Computer: Apple II.
Programming the Apple IIGS in Assembly Language.
by Ron Lichty and David Eyes.
(11.8.90).

Members Handbook # 124.
Copies: 3
Computer: Both.
Apple Service Technical Procedures Peripheral Interface Guide.
by Apple Computer (04.12.90).

Members Library Book # 125.
Copies: 2
Computer: Both.
9 Applecations Magazines 1990.
January/February, March, April, May, June, July/August, September, October, November/December.
by Apple Users Group Sydney Inc. (04.12.90).

Members Library Book # 126.
Copies: 1
Computer: Apple II.
Hyper Studio Demonstration with 10 disks.
by Robert Warner Publishing. (04.12.90).

MACINTOSH SECTION.

Handbook # 300. (6).
Copies: 1.
Computer: Macintosh.
M6800 16/32 bit Microprocessor.
Programmers Reference Manual.
4th. Edition.
by Motorola.

Members Library Book # 301. (61).
Copies: 1.
Computer: Macintosh.
7 USA Macworld Magazines 1986.
January, February, March, April, May, October, Winter.

Members Library Book # 302. (67).
Copies: 1.
Computer: Macintosh.
11 Australian Macworld Magazines 1986.
February, March, April, May, June, July, August, September, October, November, December/January.

Members Library Book # 303. (68).
Copies: 1.
Computer: Macintosh.
3 MacUser Magazines 1988.
May, June, July.

Members Library Book # 304. (69).
Copies: 1.

Members Handbook # 122.
Copies: 1.
Computer: Macintosh.
3 MacUser Magazines 1988.
August, September, November.

Members Library Book # 305. (70).
Copies: 1.
Computer: Macintosh.
3 MacUser Magazines 1987 & 1989.
December 1987, February, March 1989.

Members Library Book # 306. (72).
Copies: 1.
Computer: Macintosh.
10 MACazine Magazines 1987/1988.
January, November, December 1987.
March, April, May, June, July, August, November 1988.

Members Library Book # 307. (84).
Copies: 1.
Computer: Macintosh.
Desktop Publishing on The Macintosh.
by Apple Computer Australia Pty. Ltd.

Members Library Book # 308. (87).
Copies: 1.
Computer: Macintosh.
dBase Mac In Business.
by Jim Heid.

Members Library Book # 309. (88).
Copies: 1.
Computer: Macintosh.
Macintosh Programming Secrets.
by Scott Knaster.

Members Library Book # 310. (89).
Copies: 1.
Computer: Macintosh.
Using dBase Mac.
by Paul Springer & Ralph De Franco.

Members Library Book # 311. (90).
Copies: 1.
Computer: Macintosh.
Understanding PostScript Programming.
by David a Holzgang.

Members Library Book # 312. (91).
Copies: 1.
Computer: Macintosh.
The Complete Guide to dBase Mac.
by Dan Shafer & Don Huntington.

Members Library Book # 313. (92).
Copies: 1.
Computer: Macintosh.
OverVUE Information manager for the Mac.
by OuerVUE Development Corp.

Members Library Book # 314. (95).
Copies: 1.
Computer: Macintosh.
Macintosh Utilities Users Guide.

by Apple Computer.

Members Library Book # 315. (96).
Copies: 1.
Computer: Macintosh.
Macintosh II Owners Guide.
by Apple Computer.

Members Library Book # 316. (97).
Copies: 1.
Computer: Macintosh.
Apple Hard Disk SC.
by Apple Computer.

Members Library Book # 317. (98).
Copies: 1.
Computer: Macintosh.
Macintosh AppleColor High-Resolution RGB Monitor.
by Apple Computer.

Members Library book # 318. (103).
Copies: 1.
Computer: Macintosh.
8 MACazine Magazines 1986.
January, February, March, May, June, October, September, December. (25.03.90)

Members Library Book # 319. (104).
Copies: 1.
Computer: Macintosh.
6 MacUser Magazines 1989.
January, February, March, April, May, June. (25.03.90).

Members Library Book # 320. (105).
Copies: 1.
Computer: Macintosh.
6 MacUser Magazines 1989.
July, August, September, October, November, December. (25.03.90)

Members Library Book # 321. (106).
Copies: 1.
Computer: Macintosh.
8 Macworld Magazines 1984/1985.
May/June, July/August 1984.
March, April, May, August, September, December 1985.
(13.04.90).

Members Library Book # 322. (108).
Copies: 1.
Computer: Macintosh.
7 Australian Macworld Magazines 1985/1986.
February/March, June/July, September, October/November 1985, February/March, April/May, August/September 1986.(13.04.90).

Members Library Book # 323. (109).
Copies: 1.
Computer: Macintosh.
11 Australian Macworld Magazines 1987/1988.

March, December/January, February, March, April, June, August, September, October, November, December/January1988. (13.04.90).

Members Library Book # 324. (113).
Copies: 1.
Computer: Macintosh.
3 MacUser Magazines 1988.
January, February, March. (13.01.91).

Members Library Book # 325. (114).
Copies: 1.
Computer: Macintosh.
4 Macworld Magazines 1989.
April, August, November, December. (13.01.91).

Members Library Book # 326. (118).
Copies: 1.
Computer: Macintosh.
3 Mac Guide Magazines 1988/1989.
Winter/Fall, Summer 1988.
May 1989.
(13.01.91).

Members Library Book # 327. (120).
Copies: 1.
Computer: Macintosh.
8 Desktop Publishing Magazines 1985/1986/1987.
1, 2 1985.
July, August, September, November 1986.
February, August 1987.
(13.01.91).

Members Library Book # 328. (121).
Copies: 1.
Computer: Macintosh.
11 Australian MacWorld Magazines 1989.
January, February, March, April, May, June, July, August, September, October, November.
(13.01.91).

Members Library Book # 329. (123).
Copies: 1.
Computer: Macintosh.
HyperCard Made Easy.
by William B. Sanders.
17.08.90).

Handbook # 330.
Copies: 1.
Computer: Macintosh.
The Complete HyperCard

Handbook.
by Danny Goodman.

Members Library Book # 331.
Copies: 1.
Computer: Macintosh.
3 MacUser Magazines 1988.
January, February, March.
(13.01.91).

Members Library Book # 332.
Copies: 1.
Computer: Macintosh.
4 Macworld Magazines 1989.
April, August, November, December.
(13.01.91).

Members Library book # 333.
Copies: 1.
Computer: Macintosh.
3 Mac Guide Magazines 1988/1989.
Winter/Fall, Summer 1988.
May 1989.
(13.01.91).

Members Library book # 334.
Copies: 1.
Computer: Macintosh.
7 MacUser Magazines 1987.
February, April, May, June, August, September, December.
(13.01.91).
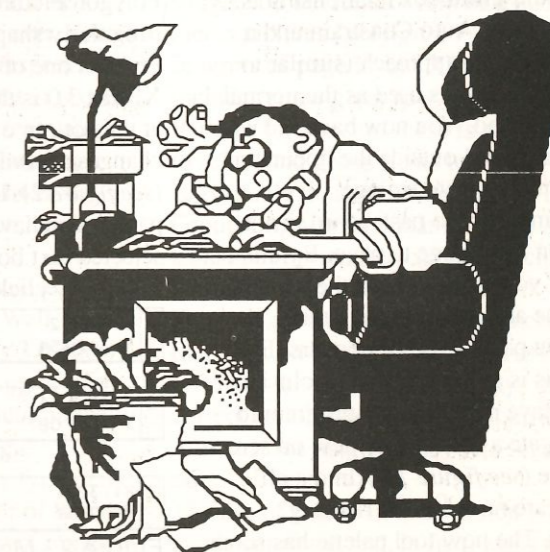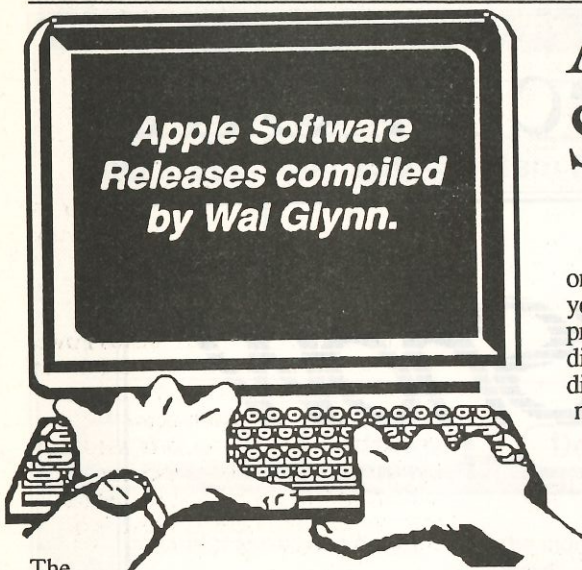
Apple II 8-bit Software Releases

Wal Glynn

The 16-bit (IIGS) software releases are now being prepared by Cameron Brawn and Richard Bennett on 3.5in disks, I will now be responsible for the 8-bit IIGS, IIe, IIc and II+ releases. While the majority of these will be on 5.25in disks there will also be some 3.5in disks in these releases.

As of this month (March) all of the 5.25in ProDOS disks will be released with ProDOS 1.9 and the latest version of the Basic.System, where this is feasible and appropriate. The disks will continue to be patched for those of you who have the No-Slot Clock.

It has been brought to my notice that there is a difficulty with "Wheel of Fortune"

on the side 2 of AUG 121 - when you go to enter your name the program indicates that there is a disk error - the error is that the disk was not notched, simply notch it or copy it to a notched disk and your problems are solved.

AUG 145 - Side 1 - Tetris 2

Written by a Soviet programmer, Tetris has become one of the most widely acclaimed computer games ever written. This game works on any Apple II with 128K and a 5.25in drive. It contains 10 more levels than the commercially released version of Tetris. A joystick is supported but is not required, because the program uses different coloured shapes it is best played on a colour monitor but this is not essential.

IIGS owners will need to reset their System Speed to Normal (1Mhz) prior to playing the game. The disk must be booted from Slot 6, Drive 1 and is not Hard Disk compatible.

Tetris 2 is a fast action strategy game where odd shaped blocks drop from the top of the screen. The player has to rotate, flip or shift the falling shapes to fit the blocks into a complete row. As rows are completed they disappear, if they are not completed the

screen starts to fill up with uncompleted rows, panic sets in and the game ends.

Side 2 - Qix (pronounced Kicks)

This game completes what must be the best games disks ever presented to AUG members. Qix is an arcade game which requires the use of a joystick, and again IIGS owners need to set their System Speed to Normal.

As the games is loaded you are asked to calibrate your joystick and then presented with the option to select a one

player, two player or practice game. Press the FIRE button to start the game.

The object of the game is to fill in the area of the computer's memory without being infected by the Qix Virus, or by being attacked by a Fuse, Sparx, or Spritz. Press and hold the FIRE button to begin a slow draw, which earns twice as many points as a fast draw - releasing the button starts a fast draw. Press Esc to stop and restart the play.

Each player has four lives and you proceed to level two when you have isolated 65 % of the screen. The percentage increases with each level and an extra life is awarded with each 50,000 points. A colour monitor is definitely of benefit with this one.

AUG 146 - Sides 1 and 2 -GIF System and Pictures

This particular disk has a series of GIF (Graphics Interchange Format) pictures and a system of presenting them which is different from the more commonly used IIGIF. The system is called GIF.System, and while it does not present pictures as well as IIGIF, it is a simpler program to operate. Simply accept the default values as they are presented and then choose one of the four different options for presenting the picture.

GIF.System is one of a number of programs that Grant Kwai has gathered together for placement in the

8-bit library, and I thank him for his efforts. Those of you who know Grant will be pleased to hear that he has successfully negotiated the hurdle of the HSC, and is looking forward to tertiary studies. He has been offered a place at Macquarie University.

A feature of this disk is the use of the patched ProDOS 1.9 and the new Basic.System. When you exit from the disk you are presented with options similar to Bird's Better Bye, rather than being dumped in suicide city.

The pictures on the disk are:

Side 1. Bell22, Chevy55, F15SE, Gunship, Garfield, TopGun, Kirk.

Side 2. BD16, Beatles, Beetle, Cop2, Fawn, Lovers, Venus, Apple, Calvin1.

As with all GIF files these are capable of being interchanged to standard binary format for use in your favourite program.

AUG 147 - Sides 1 and 2 - Easy Accountant

As the name suggests, this one is for the business and education community. The double-sided disk comprises a series of Appleworks spreadsheet templates that provide a complete accounting package for a cash-based business using the single entry journal system.

Side 1 contains the templates and full documentation in the form of Appleworks files; while Side 2 contains macro files for use with TimeOut Ultramacros. Easy Accountant is a shareware program.

AUG 148 - Sides 1 and 2 - Eamon Adventures

This disk continues the ProDOS series of disks packed with Eamon Adventures. The adventures this month are FutureQuestII and on side 2 is The Mines of Moria. Remember that to

play these adventures you need either of the master disks - AUG.124 or AUG.125.

AUG 149 - Sides 1 and 2 - Power Macros

This double-sided disk is full of surprising macros from Holland for use with AppleWorks 3.0 and Ultramacros 3.1. All of the macros are heavily commented, clearly explained and where applicable, provided with instructions for use. This makes Power Macros not only useful but educational and inspirational as well. There are over a dozen different macros including macros to perform automatic hyphenation, to make switching subdirectories easier, and to make it easy to print mousetext. There is a shareware fee of $US15.00.

AUG Third Party 01

🔒 5 items	765K in disk	15K available

AUG - Read first   SuperMac ƒ   Wingz Aid ƒ

Stuffit Deluxe Updater 2.0.1 ƒ   Suitcase II Updater 1.2.8 ƒ

AUG Third Party 02

🔒 5 items	764K in disk	15K available

AUG - Read first   QuicKeys 2.0.1 Updater ƒ

Quark Freebies 3.0   Quark ZAP2A Folder

QuarkTypesettingMarks
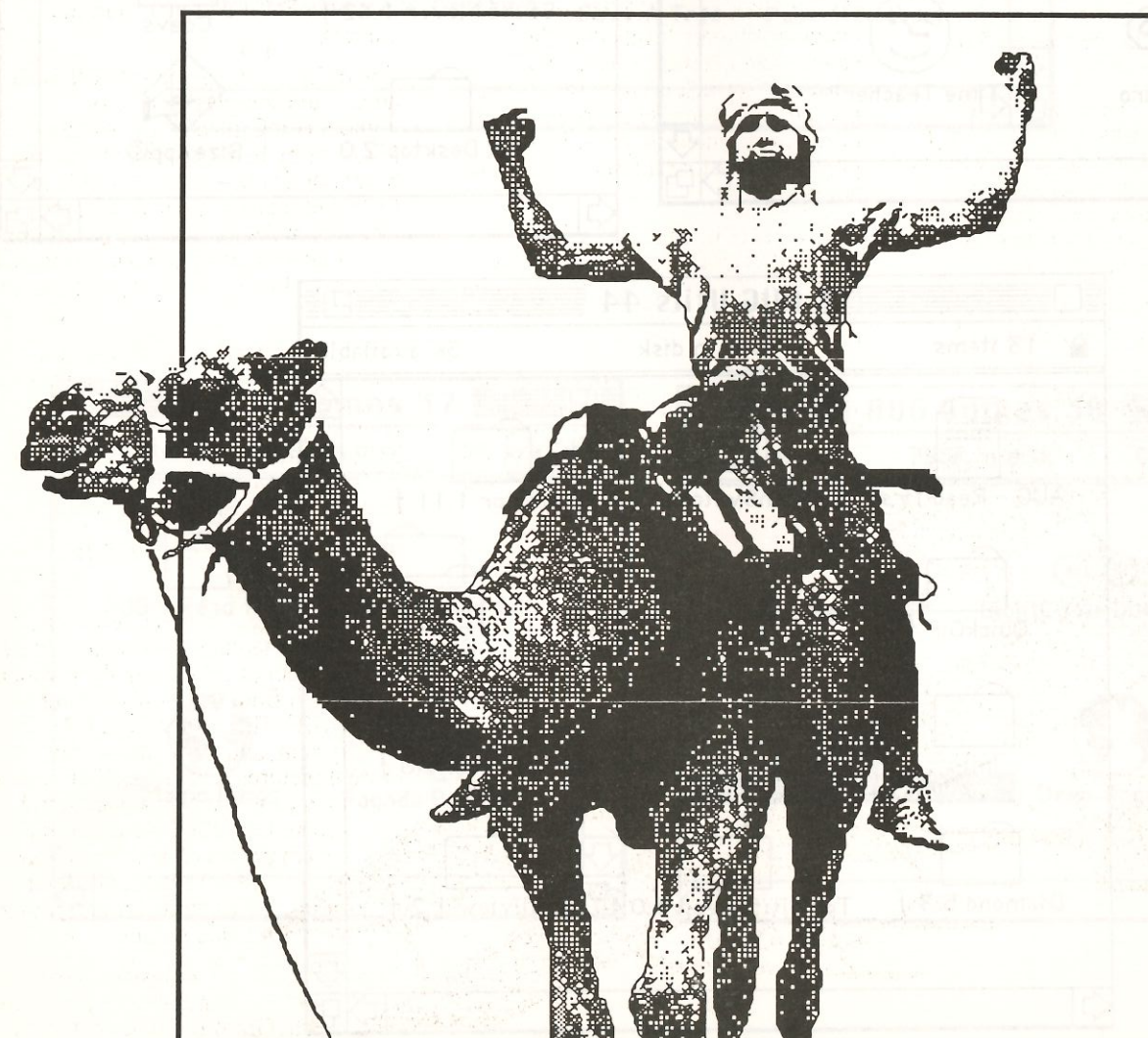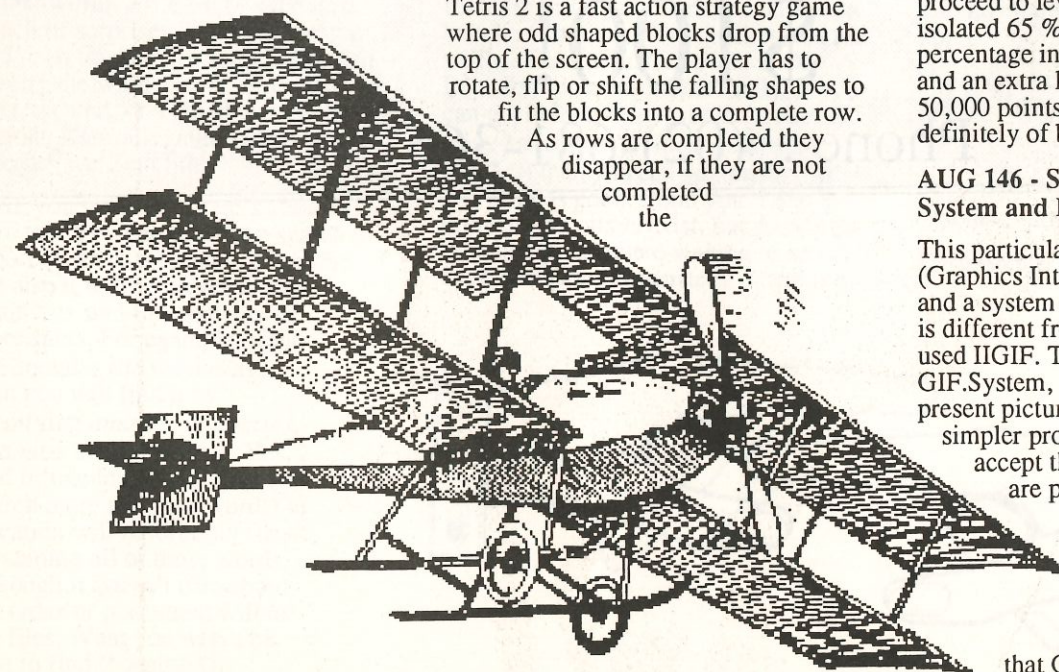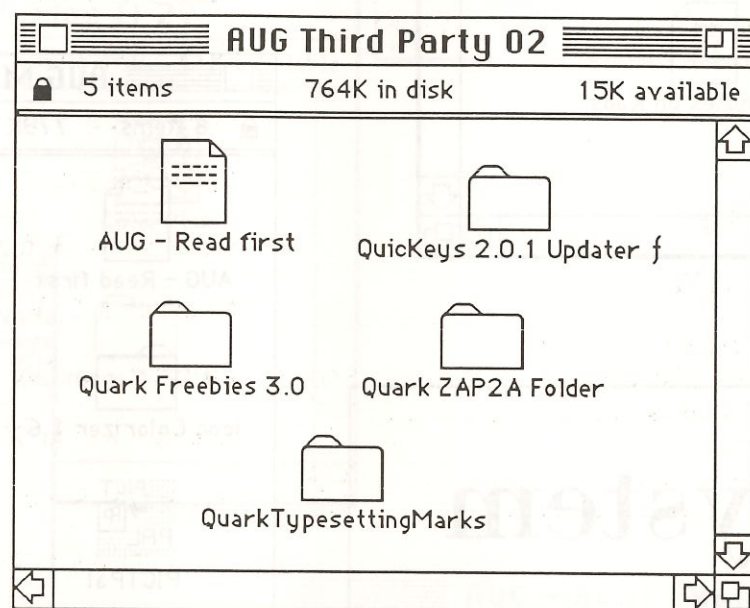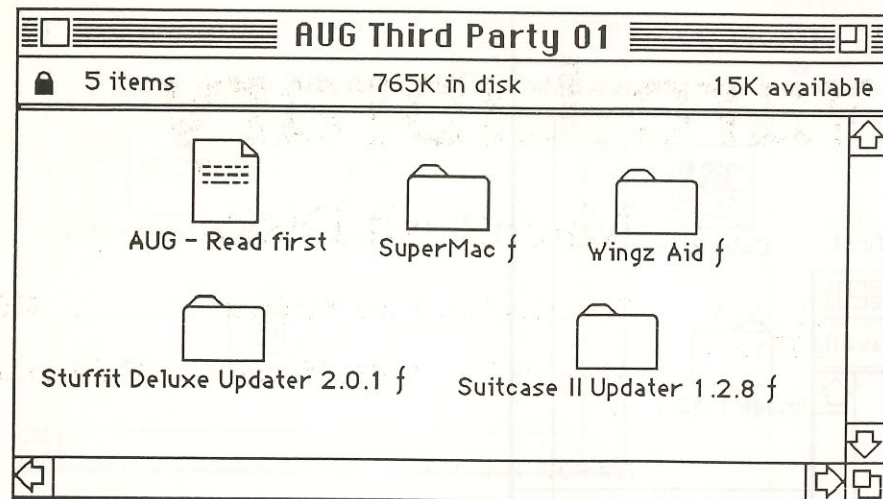
Software Library

Apple II Disks

Apple II 5.25" Disks .... $4 each
Apple II 3.5" Disks .... $7 each

PASCAL 1+3, 2+4, 5, 6a, 6b, 7

CP/M 1+2, 3 4 5 6

Apple II 5.25"
A-fst '82, PC85, AUG 1 to 4, 5+6+7, 09+10+11, 12+13, 14 to 144

Apple II 3.5"
A1, A2

Apple II GS (3.5")
Fonts 1 to 13
GS1A, GS2 to GS95

Public Domain Packs
Pack No. 1, 10 d/s disks $40
Pack No. 2, 4 d/s disks $16
Appleworks Data
Set No. 1, 6 disks $24
Set No. 2, 4 disks $16

Postage $4 per pack

Check Members Handbook 1990 and recent Applecations for information on PD Disks.

Macintosh Disks

Beginners Pack 1, 5x800k disks $30

AUG 1-6, 7-11, 12-16, 15, 17-19, 20-12, 23-25,26-27

Comms 1-3, 2, 4

Fonts 1-2, 2-4, 5-6, 7 to 9

Games 1-2, 3-4, 5-6, 7-10, 8,9,11 to 36

Laser 1-2, 3, 4, 5

Education 1-4, 5

Pictures 1-2, 3-4, 5 & Startup 1,6,7,8,9

Graphics 1, 2, 3

Program 1-2, 3 & BSIC 1, 4

Sound 1-2, 3 to 31

Hypercard Stacks 1 to 27

Starter Disks 1, 2, 3, 4

Utilities 1-2, 3-4, 5-6, 7 to 42

Mac II 1 to 26

AUG Anti-Viral Disk 1h

And Various Demo Disks

Applecations

Don't Miss the A.U.G Saturday Meeting April MAY 18th, Sydney University

The Publication of

Apple Users' Group (Sydney)

Incorporated in N.S.W.

Real World Interface for your Apple //

By Dominic Cioccarelli

In 1977, the Apple II was released on a large scale. One of the main reasons why it was successful where others had failed was because of its open architecture, both in hardware and firmware. This open architecture in respect to hardware enables anyone to develop peripherals to adapt their Apple to their own specific needs. Over the last five years, I have noticed a tendency among apple users to only use their machines for applications such as word processing, spreadsheets or games. While I do not condemn this, and I concede that this practice is far more prevalent in the IBM/ Macintosh/ Commodore worlds, I must say that by doing this, people are loosing some of the greatest features of the Apple //, its versatility. As a result of this, over the next few months I hope to present a number of add on cards which will work over the whole Apple // spectrum (except for the //c, sorry!), and expand these great machines to enable users to maximize the potential of their machines.

This month, the construction project is one of the most invaluable and versatile cards that can be constructed, an 8 bit input/output card (I/O card). This device can be used for anything from a computerized burglar alarm to controlling household appliances to watering the garden to controlling a bank of printers to programming the video. As you can see, the possibilities are limitless.

Picture this scenario. You are going to be late home, so you call your computer at home from your PC at work. Your auto answer modem answers the phone, and you are confronted with a menu on the screen of your PC. First you decide to check if your house has been broken into, nope. Now you check if there have been any phone calls, yes, 6 of them. It was a hot day, so you decide to turn your automatic watering system on for an hour, and you set your air conditioner to turn on half an hour before you get home so the house will be nice and cool. You remember that

you will miss your favorite TV program, so you set the video recorder to record it, and while you are at it, you set your oven to pre-heat to 230 C.

As you can see, virtually anything is possible with a properly configured I/O card. So what is an I/O card you ask? Simply speaking, it is a card which provides a number of computer controlled inputs, and outputs. The card described in this article can have from 0 to 32 inputs, and 0 to 32 outputs. This is plenty for most needs, though more can be added if necessary with a few modifications.

In my description of the construction of the project, I am going to be very brief. The reason for this is that I can not hope to cover the scope of electronic construction in the context of this article. For this reason, a medium knowledge of electronics will be needed to attempt this project. The circuit diagram for the card can be seen in figure 1. The circuit should be constructed on an Apple prototype card. These cards are available from Hi-Com Unitronics or Radiospares in Australia or at a cheaper price from Jameco electronics in the US. The addresses for these companies will be given at the end of the article.

As mentioned earlier, the card may have from 0 to 32 inputs, and the same goes for outputs. The card I am discussing here has 8 inputs and 8 outputs. If you wish to have a different

set up, you can configure this through use of more input circuits or more output circuits (figures 2 and 3). Each circuit has 8 inputs or 8 outputs respectively. For the first set of inputs the enable line should be connected to pin 14 of the 74LS138, the second set of inputs should be connected to pin 12 etc, i.e. IN 2, IN 3 IN 4. The output sets should be connected in a similar fashion, i.e. first set of outputs goes to pin 15, next to pin 13 etc.

Construction of 8 input/ 8 output card.

The 6 chips should be placed in IC sockets, and these should be soldered in first. They should be placed evenly around the board so that the wiring is not cluttered. The only other component on the board is the resistor, and it should be soldered in next. Now connect the chips together and to their respective connectors as shown in the circuit diagram (figure 1). The best wire to use for this is the type used in telephone switchboards. This can be obtained from Jaycar electronics (zCat no. WH-3027). The connections to the 25 pin D connector should be soldered to the far end of the board before being connected to the actual connector to reduce the chances of damaging a chip by an inadvertent pull on the 25 pin D connector. That is, they should be connected something like this:-

```
            Edge of card,
            solder here first
                   |
                   v
   From    _____X___|
   IC's    _____X___| 25 pin
           _____X___|D connector
           _____X___|
```

desired input or output device. I recommend constructing the circuits on either veroboard or matrix board. A power supply may be needed for some of the circuits, and if this option is adopted, the ground line of the power supply should be connected to the ground line of the I/O card.

Programming

Programming is relatively straightforward, and will only be discussed briefly. The addresses for the various inputs and outputs is shown in table?. e.g. To read an input from the first set of inputs when the card is in slot 4.

```
10 X=PEEK(49344)

20 PRINT X
```

X will be a number from 0 to 255, and will correspond to the binary input to the first set of inputs of the card in slot 4. You will have to convert this number to binary to make any sense of it. For example, if X was 128, this

would mean that its binary equivalent would be 10000000, which would in turn mean that the last input was on. Similarly 1 would be 00000001 which would mean that the first input was on, and 96 would be 01100000 which would mean that the 6th and 7th inputs were on.

To output a number,

```
10 X= number

20 POKE 49344,X
```

So, if you wanted to turn output 1 on, you would make X=1 (00000001). If you wanted to turn output 8 on, X would equal 128 (10000000), or to turn the 6th and 7th outputs on, you would make X equal to 96 (01100000).

Good luck with the circuit, and if you have any problems, feel free to contact me on (02) 634-6864. One other thing, I will not accept any responsibility for any damage which you may intentionally or inadvertently cause to your computer, for obvious reasons.

To enable DMA and INT access by other cards, pin 24 should be connected to pin 27 and pin 23 should be connected to pin 28 on the 50 pin edge connector.

The pins for the 50 pin Apple Bus should be printed on the protoboard, or at least pins 1, 25, 26, 50 should be marked and the others can be derived from these. If you have a card without any markings, you should be able to work out which pins are which from the diagram of the Apple Bus that I have provided. The IC's can now be placed in their respective sockets, and the card can be placed in an empty socket in the mother board. For the IIgs, I recommend using slot 4, as when using the card, the slot will have to be set as "your card". The reason for using slot 4 is that I find the mouse is the peripheral I can most easily do without whilst using the card. Of course, you can always disable the I/O card when using the mouse. The 25 pin D connector (by the way it should be a socket), should now be screwed in place in the rear panel of the computer. Note: II and II+ owners should either make a suitable mounting bracket for the connector, or can just leave it 'dangling', though if this option is taken, care must be taken that the socket is never pulled.

Now you should turn your computer on and test if everything is OK. If so, good for you. If not, turn the power off quickly, carefully remove the card, and re-check all the connections against the circuit diagram very carefully. Also look for possible bad solder connections.

Now that you have the card installed, it won't do much, nothing at all actually. You can see though, by looking at table 2, that the 25 pin D connector comprises of two power lines (+5v and GND), 8 inputs, and 8 outputs. These are not powerful enough to do anything much by themselves, so another device or devices are needed to control objects such as lights. At the moment these lines are only at logic level, but can be used to control TTL or CMOS circuits. I have included several circuits, the first two to test the interface, the others practical circuits to accomplish various tasks.

To use these circuits, you will need a male 25 pin D connector with a backshell to connect to the socket of the I/O card. A cable can then be soldered to this, and the other end of the cable to the circuit board of the

Applied Engineering GS Power

By Cameron Brawn

A heavy duty power supply for the Apple IIGS.

For some months, I had been having trouble with my GS. With the lid off, and the (noisy) fan on, I could only use the machine for about 20 minutes before I started getting the famous "Fatal System Error 911" messages. Inside the GS I had a Super Serial Card, Transwarp (7Mhz), Digitiser/stereo card, High Speed SCSI, and 4Mb of RAM.

The Apple power supply that comes with the GS is rated at 3.5 Amps. This is sufficient to supply enough power to the motherboard and a few cards. However, if you start adding some power hungry cards, such as the Transwarp and 4Mb, you will soon be requiring more power than the supply was designed for. This seemed to be the cause of the problem with my GS. A phone call to Jeff Shurrman at Two Series Software soon provided a fix for all my problems. Applied Engineering have a heavy duty supply rated at 7 Amps, almost double the Apple supply. Most of you will remember the

hot whether around Christmas, what a great time to test the supply. I put the supply in the GS, took the fan out, put the lid back on, and away we went. The GS was on for 4 days, actively being used about 80% of the time, in temperatures up to 47 degrees (on a cheap, inaccurate thermometer!). During that time, the GS never hinted of playing up. After this marathon run, the power supply was too hot to touch, but higher temperatures are to be expected with a more powerful supply. Since, then, I have swapped my High Speed SCSI card with a RAMFast SCSI, a card that would draw more power (I assume), and the supply is still functioning faultlessly. The supply looks exactly the same as the Original supply, takes about 30 seconds to install, and has the provision on the side for the standard GS cooling fan.

The only problem I can see with the supply is that it is possible to connect the motherboard connector back to front. I have no intention finding out what happens, if you do this, but I suspect a new motherboard would be required. The connector on the original

Apple supply has been designed so that you cannot connect it the wrong way. The AE supply doesn't have this safety feature. As long as you are careful during the once only installation, this shouldn't be a problem.

The supply comes with a 1 year warranty, and a useless, but unneeded American power cable.

My impressions of the supply? Great, I never sent the supply back, I sent a cheque instead.

Note: While the power supply fixed the problems I was having with my system, it may not fix any problems other people are having with machines.

An "exchange" Apple IIGS power supply is about $100 plus labor, the AE power supply is $190.00, and you keep the Apple supply as a backup. A worthwhile investment in my mind.

There is also a version for the Apple][[+ and //e

Review power supply from Two Series Software, (02) 606-9343
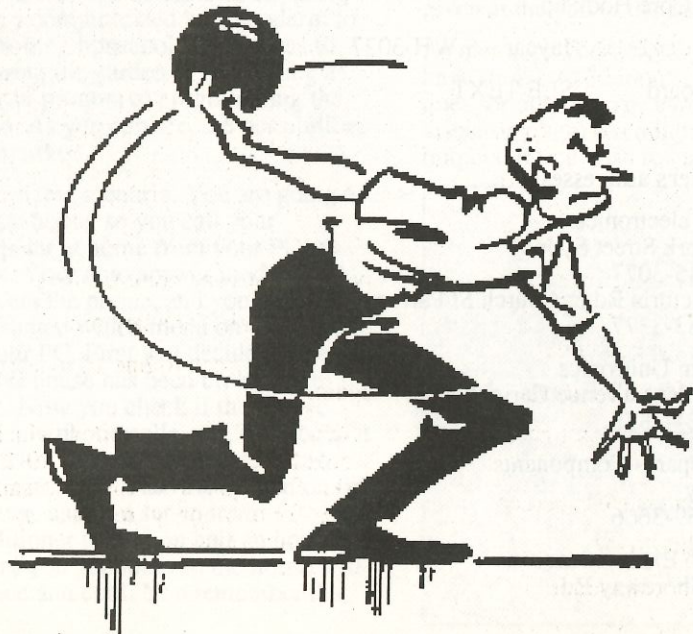
The Education Frontier

By Grant Kwai

This will be the first of a series of BASIC programs aimed at the primary and secondary school syllabus. Hopefully, programs will range from mathematics to economics with detailed analysis of how they function.

To start off this series, I will outline a topic in the 3 unit maths syllabus

called Permutations and Combinations. This subject deals with the determination of things such as: in how many ways can 4 people be chosen from 23 if all have a likely chance of success? (For those of you who are wondering, this is a combination and the answer is 8855). I am sure anyone

who is familiar with this topic will know what I am talking about.

Below is the short program which will work out both the permutation and combination of the users data.

```
Listing 1

]NEW

10 HOME
20 PRINT "PERMUTATIONS AND COMBINATIONS"
30 PRINT "        BY GRANT KWAI        ":PRINT
40 PRINT "TYPE '0' TO END.  "
50 PRINT: PRINT "ENTER TOTAL AMOUNT OF OBJECTS: ";:INPUT OBJ
60 IF OBJ = 0 THEN GOTO 1000
70 PRINT: PRINT "ENTER SIZE OF THE SUBGROUP ";: INPUT SUB
80 IF SUB < OBJ THEN PRINT "THE SUBGROUP MUST BE LESS THAN THE OBJECTS.": PRINT
"PRESS ANY KEY TO CONTINUE": CALL -756 : GOTO 10
100 P = 1: C = 1
110 FOR I = OBJ - SUB + 1 TO OBJ
120 IF 9.9E35 / I > P THEN GOTO 150
130 PRINT "MORE THAN 9.9E35 PERMUTATIONS."
140 GOTO 1000
150 P = P * I
160 NEXT I
170 FOR A = 2 TO SUB
180 B = B * A
190 NEXT A
200 PRINT P ;" PERMUTATIONS"
210 PRINT : PRINT P / C," COMBINATIONS"
220 PRINT : PRINT "PRESS ANY KEY TO CONTINUE"
230 CALL -756
240 GOTO 10
1000 PRINT: PRINT "RUN PROGRAM AGAIN?(Y/N)": GET RE$
1010 IF RE$="Y" OR RE$="y" THEN GOTO 10
1020 PRINT: PRINT" BYE!! "
1030 END
```

Explanation

Line

10-40 Clears screen, PRINTs message to screen.

50 Waits for user's INPUT of numbers.

60 Checks to see if input was '0' to GO TO line 1000

70 Waits for user's INPUT on size of subgroup

80 Checks to make sure subgroup size is legal. If not, loop back to line 10

100 Initialise the counters.

110 Formula for calculations

120 Makes sure we don't get an overflow error

130 PRINTs message to screen

140 GO TO line 1000

150-190 Further calculations

200-210 Displays the number of

permutations and combinations.

220-230 Waits for a key press.

240 Loops back to line 10 to start again.

1000-1030 Catches overflow which would have occurred in line 110-130. Asks if we want to re-run program. Waits for a 'Y' or 'y' response to re-run, otherwise end.

Effective Written Communication

By Chris Birch

What sets your correspondence apart from the typical business letters you receive? For a start your letters are probably not as well written or designed. It's a question of skills that no amount of powerful word processing software can compensate for.

The ability to adjust a grey scale splash screen in increasing left to right intensity for the built-in power of your Personal LaserWriter SC is not much use if you cannot politely request payment, tactfully reject an application or softly sell your product.

A well stocked book store will have volumes of publications to choose from. They generally fall into two categories. One covering the basic wordsmithing skills and the other desktop publishing design techniques. Those attempting to cover all the necessary skills generally provide inadequate treatment of the basic letter writing and report writing skills. The sample documents generally emphasise placement at the expense of content.

My library includes "Contemporary Business Letters with Apple Writer II". Its 1984 vintage means its not likely to cover the use of multiple fonts, business logos or the incorporation of clip art yet its coverage of letter writing fundamentals is relatively timeless. Punctuation, salutations, addresses, beginnings and endings are covered in sufficient detail for every day use.

It's this attention to detail that's so important when conducting business or when tackling a government department. If you communicate regularly with the armed services, the diplomatic corps or members of parliament then a book of protocols and procedures might also be a good investment. Or you could do as I do. Get the recipient's secretary to do the addressing and salutations for you!

Any book should include sample letters for typical situations such as collection, rejection, goodwill, announcement and request letters. They need to be thoughtfully designed and adaptable with the rationale behind the use of certain words and paragraphs fully explained. "Contemporary Business Letters" also

includes alternative wordings to assist you in fine tuning your intentions.

There is nothing more distracting than receiving an important letter that does not follow the generally understood communication procedures. If you cared to examine the letter closely it may have been printed on a laser printer. For the sake of an outlay under $50 the writer has crueled any chances of creating a positive reception. Yet the letter was printed on a computer system costing in excess of 100 times that amount.

It is probably because "Contemporary Business Letters" preceded the Macintosh and laser printer boom that the authors have not lost sight of what really constitutes effective written communication. The emphasis on supporting a rudimentary monospaced 9 pin dot matrix reinforces this point. A book such as this would also be found in a second hand book store for around $10.

With the fundamentals of letter construction out of the way you are now ready to extract the best from your computer. Whether you are running QuarkXPress on a Mac II or AppleWorks on an Apple II a small additional investment is still required if you wish to realise the potential of your system. What you require now is a DTP design skills book that caters for your present and future printing requirements, computer and software.

I decided to get a book that concentrates entirely on design skills. There are many publications catering specifically to utilising the power of a certain printer or software. I recently spent an hour or two comparing DTP handbooks. I found the most thorough and useful treatment was one not machine or application specific.

At $39.95 the "Make-Over Book" was one of the cheapest. It's only deficiency is the absence of colour. This could be an important consideration to Apple II or Mac II owners with colour monitors and an ImageWriter. If you need application specificity then I would suggest a tutorial publication is a better investment. There are many Word, AppleWorks, etc. Handbooks to choose from.

"The Make-Over Book" is categorised into typical projects such as newsletters, business correspondence, reports and resumes. I cannot over emphasise the wealth of design tips contained in any of these sections. All the common traps are ingloriously included as "before" samples. With the application of appropriate design techniques the "after" sample then appears along side.

Simplicity of design is the general theme with this book. There is no attempt to turn out a graphic artist. Just effective communication of your ideas. Some examples include oblique rotations or molded headings which are only capable on the most expensive Mac DTP packages. Almost without exception there is no recourse to font styles beyond bold or italicisation. The font families are all standard with Helvetica relied upon.

You could be forgiven for thinking your grey scales and shadowed fonts are there to be used. They are so convenient to pull in from your Mac or Apple IIgs menu bar. I couldn't find one example of a shadowed font in one of the "after" samples. Time and again the "after" sample would use fewer "tools of emphasis" such as font families, font styles and ruled lines. White space was always used to maximum effect.

If you are presently preparing resumes or advertisements then the cost of "The Make-Over Book" is easily justified as an investment in your future or your business. You will pay much more for a professionally prepared resume or advertisement which will probably not suit your exact requirements.

Bibliography:

"Contemporary business letters with Apple Writer II" by Jane E. Robbins and Kate Lee Johnson, 1984, Van Nostrand Reinhold, Victoria. ISBN 0-930764-80-3. Try a secondhand bookstore or the library.

"The makeover book" by Roger C. Parker, 1989, Ventana Press, NC. ISBN 0-940087-20-0. $39.95 from Dymocks.

New Magazine Publications For The Apple II

By Wayne Short

The year 1990 should be seen very much as a 'watershed' year for magazine publications for the Apple II community. In addition to this club's own magazine the majority of the members obtain at least one U.S. magazine.

The demise of the "Call Apple" publication and the absorption of A+ plus magazine by Incider effectively reduced the number of choices we had available to obtain the latest information on new products for our machines.

However, during 1990 some new magazines emerged. I suppose the term magazine could be said of these to be a misnomer as in reality they consist of a collection text or word processing files on a 3.5 inch disk. As the subscription circulation for these is currently small great savings are made on the publishers part as printing costs for each unit are high. There also other advantages which I hope to clarify in this article.

Two new publications which are currently disk based only are STACK-CENTRAL and A2-CENTRAL. There are produced by the same publisher Tom Weishaar whose Kansas based company RESOURCE CENTRAL has had the vision to put up the capital to support them. Both publications are supplied on non-bootable disks.

STACK-CENTRAL is edited by Terry Baker revolves around HyperStudio and Multimedia for the Apple IIGS. It is currently bimonthly. With each issue you receive two disks. It also becomes clear upon viewing the "magazine" of the importance of a disk based publication - a paper based magazine on this subject would not be as effective.

To "read" the magazine most easily you will need to have a copy of HyperStudio by Roger Wagner Publishing (see the review in the November/December 1990 for a detailed description) issue of this magazine. However most recently the new "run time" only version of Hyperstudio has been made available on most Bulletin Boards (I believe there is a copy on this club's) as FreeWare. Either of these can be used to "read" however the full version the

program will be needed if you wish to put into practice any of the "hints" or clip art supplied.

What the magazine currently consists is a collection of stacks which provide insights into the use a Hypermedia on the IIgs. A typical mix would be :

- Several Reader Submitted Stacks (to provide insights into possible uses of HyperMedia). The November Issue has two large stacks ... one was about Whales and the other was about the Meserschmitt Airplanes of the Second World War.

- New clip art and sampled sounds for use with HyperStudio.

- Hints on Stack Design and use of XCMDS in stacks

- New HyperMedia Products

After a shaky start the last two issues have been very good. The stacks currently supplied are compatible with HyperStudio Version 2.1 or higher. The annual cost of a subscription is $42 USD worldwide.

To replace the "Call Apple" publication in the early part of 1990, Ariel Publishing of Washington State commenced a magazine called 8/16. It was designed to provide a source for 8-bit and 16-bit programmers (therefore including all machines in the Apple II family) to discuss their ideas on programming techniques and on what tools were available to improve productivity.

Ariel Publishing offered a mix of written magazine and/or disk based publications. The disks were most useful are the offered not only a tutorial on techniques but also provided source code for use with a compiler in addition to the compiled program. Development languages will C, Pascal, APW and Merlin assembly language enviromenment. However after only 8 months of existence Ariel

Publishing decided that it would be better to sell its magazine to Tom Weishaar's company.

The magazine was renamed 816-Central and has Jay Jennings as its Chief Editor. (He was a contributing editor to the old magazine). The new magazine began shipping in December

1990. Issues are monthly and each issue consists of a single 3.5 inch disk in prodos format. No printed magazine is envisaged at this stage.

816-Central is very professional in appearance. The magazine is readable on either 8-bit or 16-bit computers via the supplied software. The 16-bit version uses a licensed version of the "run-time" HyperStudio and has stacks to allows browsing. The sample programs on each disk may be run from this interface directly.

The magazine aims to provide regular columns in the following areas:

* ZBasic programming for Apple II computers

* HyperLab for the Apple IIgs which discusses creating XCMDs for HyperMedia in different development languages

* C technques for the Apple IIgs

* Questions & Answers about programming

* Reviews of development tools such NIFTYLIST

The magazine is useful for anyone who would like to learn about how to program their Apple IIe/IIgs computer.

For subscribers to the old '816' magazine their subscription was transferred to the new magazine and conversions applied to those who were receiving the magazine only publication. The changeover between publishers was clean with no break in continuity. The annual cost of a subscription is also $42 USD worldwide.

With each magazine you will receive a 4-page catalog in the envelope. As a mail order house the aim is to provide the Apple II community with quality software, hardware and books.

Back issues of these publications are available also.. but the individual month or packaged in quarterly sets (a cheaper alternative).

For more information you should contact RESOURCE-CENTRAL (or the magazine by name) at P.O. Box 11250, Overland Park, Kansas 66211.

Beagle Buddies

Wal Glynn

On January 15th of this year I officially became a Beagle Buddy, my wife cannot understand my enthusiasm for the title but I am firmly convinced that anything I can do to maintain the Apple II, and in particular those II's that are NOT GS, is worthwhile.

There are now some 377 Beagle Buddies world wide - sure most of them are in the USA, but there are many others outside America. For example, there are three in New Zealand and six in Australia. For those club members who live outside NSW i have included a list of the names and addresses of all six Australian Beagle Buddies. They are:

Wal Glynn,
P.O. Box 482,
Ingleburn, NSW 2565

Dwayne Bruce,
P.O. Box 345,
Caringbah, NSW, 2229

Christopher Griggs,
PO Box 1785
Townsville, Qld, 4810

Helen Kennet,
PO Box 617
Earlville, Qld, 4870

James Clough
10 Sunlight Crescent,
Brighton East, Vic, 3187

Lindsay Cook,
13 Doran St,
Paradise, SA, 5075

What is the Function of a Beagle Buddy?

As you are no doubt aware, Beagle Bros are strong supporters of the Apple II, and as a progressive company they are constantly introducing new programs and updating others. An example of their commitment to the users of their programs, is the release of the Beagle Oldies which are now available from our Bulletin Board or on disk. They were also heavily involved in the development of AppleWorks 3.0.

The Beagle Buddies assist the Beagle Bros to upgrade the TimeOut range of programs. If you are an owner of a Beagle Bros program you can upgrade your program to the latest version by sending your ORIGINAL disk to one of the Beagle Buddies, and they will copy the new version onto your disk and send it back - at no charge other than postage.

How do you know which versions you have? If you use the Utilities program that comes with all TimeOut programs, this will display the version numbers that you have.

The list of programs is too numerous to print here but basically if your utilities is not 3.0 then you are due for an upgrade. There is, of course, not much point in upgrading to the AppleWorks 3.0 versions if you do not have the AppleWorks upgrade.

Selecting one program from each disk should help - if you do not have this version there may be several programs on the disk which also need an upgrade. Here is a sample of the current list:

TimeOut

TextTools	Mark Merge	1.3
Desk Tools II	File Search	3.0
Thesaurus	Thesaurus	2.0
FileMaster	FileMaster	3.0
Graph	Graph	3.1
Telecomm	Telecomm	1.2
QuickSpell	QuickSpell	3.0
SuperFonts	SuperFonts	3.0
SuperForms	SuperForms	1.1
Power Pack	AWP to Txt	3.0
ReportWriter	ReportWriter	2.5
SideSpread	SideSpread	3.0
UltraMacros	Macro Compiler	3.1
MacroEase	DeBug	3.0

If you think that you are in need of an upgrade and you wish to send your original disk to me, please place it in a POSTPAK with a Money Order to cover the return postage. If you have any queries about the programs then you can ring on (02) 605 3199 between 6 and 8pm any weekday night, except Monday.
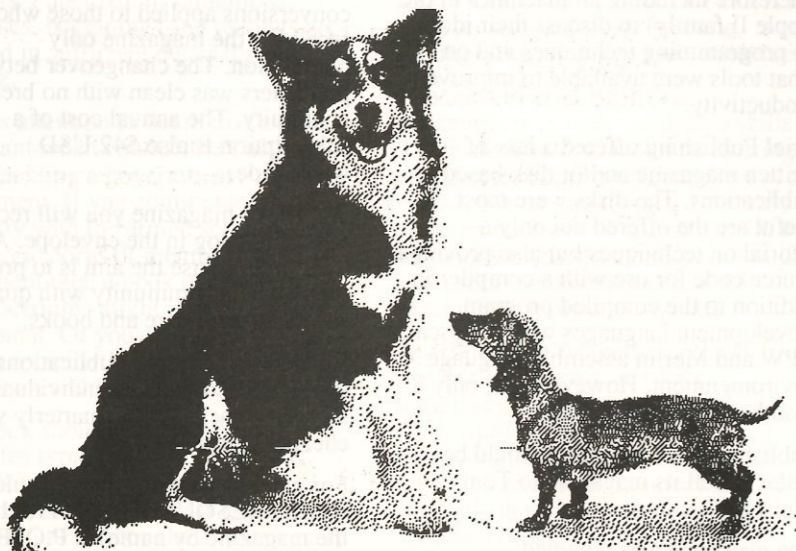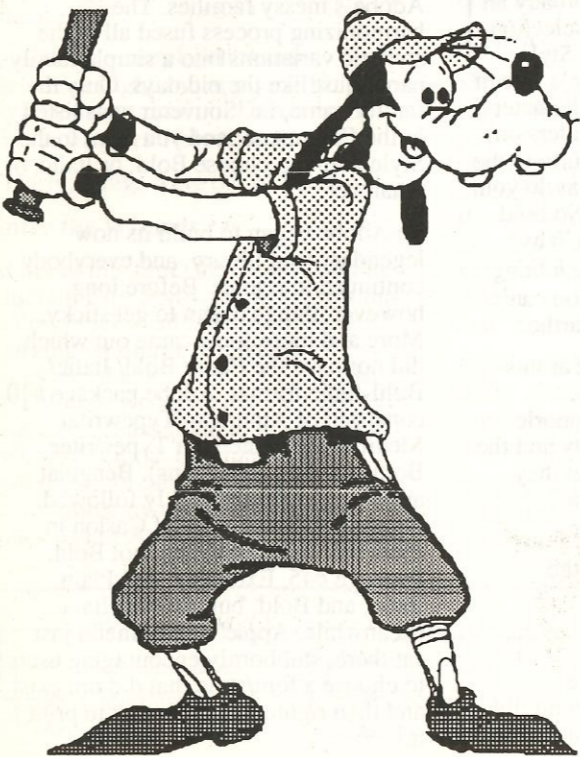
We goofed!

In last months magazine there was a review of Outliner, Timeout Text Tools, and Super Form, published by Beagle Brothers Inc.,

The Australin distributor for these products is Dataflow, but we inadvertantly gave an incorrect phone number for Dataflow.

The correct phone number for Dataflow is 02-331-6153.

Apologies to Dataflow

Mea Culpa.
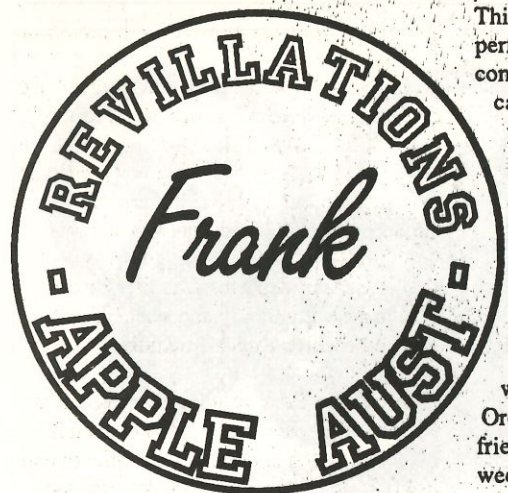
Transcribed by Graham Clarke

This column is a series of transcripts of talks given during or regular monthly meetings. It comprises comments and announcements from two men, Mr. Frank Revill and Mr. Godfrey Gamble, from Apple Australia. They are members of our club and attend most of our regular meetings. They speaks to the group on all manner of things. They pull no punches and are sometimes a little too frank.

This Month: Due to the absence of "our men from Apple" over the past few months I have selected an interesting talk given by Mr. Peter Phillips.

"I first bought an Apple II+ clone in 1981. I am a T.A.F.E. teacher. I teach electronics and anybody who has kept up with the times knows that we are pretty poor. And in 1980 they were even poorer. Hence the $400 clone, cassette player and converted TV. I became interested in the computer because I had a very special need for it. It's interesting that in 1980 I had the need but the technology had yet to come. It came in the Apple.

I'll just go back to 1976. I met a chap who had a passionate interest in a device called a 'Reproducing Piano'. These are mechanical instruments that play from a roll but have expression built into them. In other words in 1905 if Gershwin, Debussy, Grainger or some of the pianists of the past had played one of these rolls everything was recorded on it in digital form.

This chap had a keen desire to build a perfect reproducing piano. It needed contemporary technology and that's where I came in. The pair of us combined to produce the machine we called a "Duoarc Forzetza' Forzetza means 'sitter before' so it was a big black box that had fingers that played the piano. The ABC go wind of this and in 1978 we recorded with the Sydney Symphony Orchestra the Grieg Piano Concerto. That record actually went on to become an amazing seller, around the world, and put the Sydney Symphony Orchestra on the international map. My friend and I got paid $200 each. Within a week of having made the recording we performed at the Opera House. That was an event that was broadcast at the time and we went on to become celebrities in a limited sphere around Australia and New Zealand.

The purpose of telling that story is it leads into two things. It was my first encounter with journalism because I had decided that for $200 I could extend it and make another $100 writing about it and selling the article to a magazine Electronics Australia. So in 1978 that article appeared in September. So my entry into journalism goes back to 1978.

Parallel with that I had purchased an instrument, a reproducing piano, for $3000. I found out later that the chap I bought it from had paid $800 a week earlier. The luck of the game. I restored that instrument and there I was by 1978-9 with an instrument I had paid a lot of money for and spent a lot of time restoring but no means of playing it. The rolls were extremely rare and expensive so I thought I'll use technology and devise a cassette interface. It took a number of years to do. It wasn't an easy thing. In other words I built a machine that would take the rolls and put them onto the cassette and the cassette would play the instrument. It all worked quite well. I actually sold a few of my systems to people around Australia.

At about the same time I was teaching at TAFE and undertook a course in micro processors. Micro's were fairly new in 1979-80 so I did a weeks course at Newcastle University ending on a Friday and the following Monday I'd be in front of a class. The learning curve was vertical, the students were there and I was a day in front. By the end of 12 weeks I had the knowledge. There were three things now that came together The Apple, the technology and the need. I was going to make that piano, now playing from a

cassette, play from a computer. It was that simple.There I was with a 48k Apple and all these big ideas.

I wrote a fairly short machine language program using the Apple monitor. It wrote something like "Horay" on the screen when you pressed a button connected to the games port. I learnt then that the Apple monitor was not the way to write a program. So I got into the Apple 'Lisa'. It had an assembler. Now I had to learn two things, the assembler and the 6502. I knew the 8080. I suppose then I began to see just how great the Apple was. The 6502 compared to to 8080 was just so intelligent, so clever.

The years went on, and I'll say it was years, because I was trying to do some pretty peculiar things. I suppose by about the end of 1983-4 I had a scheme going where, on this machine, I had a piano roll feeding into the computer and storing the information in digital form. It was taking memory like you wouldn't believe so I purchased a 128k card. The problem now was that when recording in real time the bank switching had to be smooth, there could be no wait while I stuff around here switching a few hundred switches, the music was still going on. So that was a challenge.

It's interesting that I could pour the data in but who wanted a 48K Apple playing one minute of music when a cassette will play for half an hour. We had to devise an algorithm to take this music and squeeze it down. I'll never forget when selling one of my systems to a chap in Melbourne, he paid my airfare down, I packed up all my electronics into a suitcase, it was going to be cabin luggage, it weighed a ton, I got on the plane with my luggage all intact with this instrument and set off from Mascot. By the time hat arrived back in Sydney I had worked out the program to do the condensing. It was the quickest plane trip I had ever had. I remember a chap sitting next to me wondering. . . he said to me "Are you a Public Servant?"
I don't know what his perception of a Public Servant was. The end result was, as it is now, I can play something like ten minutes of music from a 48k Apple. I devised my own DOS and a great deal of software to make this whole thing work.

This system is now called Ampico Apple because Ampico is the reproducing piano. Ampico is an acronym for an American piano company, long since deceased. It has a basic loader with my software and this is what I would sell a customer. Now of all

Revillations continued

my money making enterprises this has to be the most brilliant. It's a pity there weren't more customers. The idea was I gave the program away but sold the data disks for $10 each. I sold to collectors. Collectors will buy anything so long as it is all together. I had 100 data disks. That meant $1000 per sale.

I created a sample disk for users and from this they got two options one to play the piano and the other to test the piano. The play option is very simple. It lists the tunes and you pick the piece. It will play the tunes in any order and turn off the piano after the selection. It operates from two drives and will play music for up to an hour. The test option is interesting because how do you test a piano. The computer displays every key on the keyboard, I can alter the mark space ration, I can move to any note and you can play a scale by holding down the arrow key and so on. There are a number of other tests.

The thing is I was doing this at a time when nobody else was. These days Yamaha has a system you can buy for $20,000 - $30,000 with a computer built into the piano. Another chap, who was doing something similar, was hired by a museum in California and was paid a million bucks to build an instrument that was all electronic, that someone could play, and it would play back. I was selling my system for a couple of grand. That chap has gone on to produce a system for Boesendorfer which sells for $70,000. I feel, in a sort of a way, that I was there first but being little old Peter Phillip from little old Australia who cared! But, it was fun, it was great.

When the Apple IIe came along I thought now will I or won't I? I never actually programmed this thing for the IIe. The memory is different from a 128k card so I never bothered. What I did do was sell to a prospective customer an Apple II+ but I had my programs in ROM so I had totally removed the computing capability of the Apple. An outcome of that, with my second foray into journalism, prior to the computer, I had this cassette system and as you know with cassettes you have trouble finding each piece. So I developed a little tape player called a 'tape search', that you could dial up a number and it would stop at the selected piece. It was a good little thing. I sold one of them and I had the other one.

I decided to flog this off to another magazine, there were two now, Electronics

Australia and Electronics Today. My first venture in 1978 had netted me $50, the Grieg Piano Concerto had netted me $250, so I decided to go to the other magazine ETI. They were good payers. I walked in to a very interesting time. As I walked in the editor was walking out. He was sacked. I showed my article to a brand new editor. He liked it. Being new and not knowing anyone it was like manor from heaven. He rang me two days later and offered me a job. The pay was worse than teaching so I said no thanks. He then asked me to write regularly for him. Sure, I now know what the rates were. I went on to write for ETI from that time on. My poor old Apple never worked harder. When it wasn't playing the piano it was receiving data input for ETI.

Now I had to scrap the Apple II. I couldn't fit any more 128k cards in it. When the IIgs came out it was the answer to a maidens prayer. There it was 256k of memory, contiguous, high speed processor, the whole bit. I bought one. I was pretty close to being the first to buy one. I had to get the ROMs updated and I got into the Apple IIgs. My plans were, primarily, to extend what I had done and to use the in-built synthesiser chip. This meant that my grand plans in 1981 were realised so now my plan was to make a Grand Piano. Why have an acoustic instrument when you have an electronic chip that according to me should be able to make great sounds. Just imagine being able to put my disk in to that instrument and it would play Rachmaninoff, Gershwin or even Liberace. Again I had to figure out how this computer worked. Most IIgs owners will realise the quantum leap from the Apple II to the IIgs. That was the time I decided to join A.A.P.D.A. (Australian Apple Programmers & Developers Association) and the IIgs Users Group. I bought every book I could find and plugged away.

Mid 1988, I received a telephone call. It was a time when TAFE was going through a particular trauma, one of its many, and I was fairly disenchanted with it. The call was from Jim Rowe. He was the guy I had originally written for. He, after being sacked had been re-hired, at a far higher rate, by the company which had long since regretted sacking him. This had come about after the entire staff of Electronics Australia had suddenly walked out and start their own magazine. This is a journalism game of creating competition. Jim was there on his own with the only original person being the secretary, and she was

going to have a baby. So where was he? He rang me because he was searching around for people. I said to him "Jim, you can't afford me." He said "Yes I can." He offered me quite a good deal. So, it was a big career move, I decided that was it, I was going to leave TAFE, I was going to be a journalist, and work for EA. TAFE said take leave without pay and see how you go. So I joined Electronics Australia.

A week later EA's building burnt down at Federal. We were crammed into a small office after that and during this time one of my first projects was a Midi card for the Apple II+. I even wrote some software for it. Someone else walked in and we did a Midi for the Macintosh. I tried to keep the Apple thing going. The IIgs, in the meantime, because of a change in career and I having to back off because of the software, was sitting at home.

Having now just redesigned my office using DrawPlus, a great thing, I could even colour coordinate, I was really impressed, I said to the editor, Jake Kennedy, I'll write an article. So I wrote it. He liked what I had written, and it was printed in April 1989.

This was about the time a gentleman by the name of Terry Cass was writing for Your Computer. I first met Terry through the Apple IIgs Users Group and he was about to go to Hawaii. So Jake said to me would I like to take up the column. I was a bit wary because Terry was the importer of Activision and I was taking his job. I wanted Activision products to review. So after the article on drawPlus appeared I rang Terry and pretended to be someone else, a customer. I said to him that I was interested in DrawPlus. He said to me "Oh! You've seen that stupid article in Your Computer."
I said "No!"
We talked about it and he informed me that I was totally out of touch and I should get my act together and come in and see him and he would sell me all the most wonderful stuff. I never followed through. That was how I came through the IIe IIgs thing and how I got into journalism.

I'll end up by talking about how I come up with a column each month and some of the thing that have happened along the way. The reason I do it, there's not a lot of money in journalism, but there's something about that thing Apple that makes me want to push it along even though I believe there's a problem now with the II line. Everything you read, from overseas, these

days seem to be saying the II's will be down played and the Mac up played. I don't owe Apple anything. I know I don't. But then perhaps I do. They give me a lot of fun. Those years of programming were the best years of my life. My wife doesn't think so but I do. I am sorry it is over. Somehow and another I feel that anything I can do that will push the Apple I will do. I never say anything derogatory in my articles even if I think it. I try to be extremely positive. There have been some terrible things happen over the years. One of the worst would be AppleWorks GS. I had great plans, AppleWorks GS will have to be the software that will sell hundreds of millions of IIgs's. It looked so good. When my copy kept crashing, hanging and doing all the worst things I thought "This is very strange."

What was interesting was that there was a conspiracy, I'm sure there was a conspiracy, and I'm sure it started at Apple and it went through all their dealerships
"Don't tell Peter Phillips there is anything wrong with AppleWorks GS"
Every review I read said "Wonderful". Rosemary at Dataflow said "No problem!" It wasn't until I saw a fax by Stewart Fist that said the same thing and I thought "It is crook!" It's not my computer! It's not me! Slowly but surely the story leaked out.

Each month I see a lot of software. A lot of

it comes from Dataflow. The GS User Group even sent me a fax threatening to take me to court. It was a really vicious fax. It said unless you tell the truth, might we remind you, and all that sort of stuff. I thought "What have I said, What have I done?" Apparently I had said a certain program wouldn't run from a hard disk, and a certain program wasn't available in Australia to the best of my knowledge. So I rang the group and eventually got through to Terry Cass who was immediately in defense mode. My method of handling this is to be on their side and be so nice they can't handle it. It worked! In the end he agreed to supply me with copious copies of software. I thought this was great. What I didn't realise was I would only get copies and I had to supply the disks. I didn't get manuals. That all ended when I rang the IIgs Users Group and was greeted by "Strippers Anonymous" or something like that. I found out that if Terry wasn't selling a IIgs he was running a strip show. He moved to Queensland and reminded him that he still owed me seven disks. I received three one of which wouldn't boot.

It was about that time that a group called Two Series Software, Jeff Schuurman, came on the scene. Jeff offered me a transporter card to try. Now, I had been trying to get one of those things for six

months. Jeff stood there and watched while I tried to install the card. Neither of us knew how to put it in. The video was in NTSC so that didn't work. The manual was complicated but tried to over-simplify the installation to the point that when you got from here to there you had undone one nut. The point was I got it all running and if you have the urge to get into an IBM but don't want to sell your IIgs the Transporter card is great. The IIgs colour screen is better than VGA and it's four times faster than a standard XT.

One of the problems with journalism particularly with magazines is the three month lead time. So it's not exactly 'hot off the press'. The other side to software is some of the Public Domain stuff. There is some amazing stuff out there. This is stuff these guys are giving away and if not giving it away only selling it for ten dollars. I know how long it took me to write my software and these guys are just incredible.

The future of the II series will be announced by Apple in a few months. I take a bit of what people say with a grain of salt because I believe that it's a great thing. I operate an IBM because I have to, I operate an Apple because I want to. Thank you.

APPLE USERS' GROUP (SYDNEY) INC.
NOTES TO AND FORMING PART OF THE ACCOUNTS
30TH JUNE 1990

NOTE 1   ACCOUNTING POLICIES

HISTORICAL COST CONVENTION

THE ACCOUNTS HAVE BEEN PREPARED IN ACCORDANCE WITH HISTORICAL COST PRINCIPLES.

DEPRECIATION

DEPRECIATION IS CALCULATED SO AS TO WRITE OFF FIXED ASSETS OVER THEIR ESTIMATED EFFECTIVE LIVES.

STOCK VALUATION

STOCK IS VALUED AT THE LOWER OF COST AND NET REALISABLE VALUE.

NOTE 2   INCOME TAX EXPENSE

THE ASSOCIATION IS ACCEPTED AS A NON-PROFIT ORGANISATION BY THE DEPUTY COMMISSIONER OF TAXATION. ACCORDINGLY, INCOME TAX IS ONLY APPLICABLE TO INCOME RECEIVED FROM OUTSIDE SOURCES, THAT IS, INCOME NOT FROM MEMBERS. IN THE CURRENT YEAR, INCOME TAX IS ONLY PAYABLE ON INTEREST RECEIVED.

(UNAUDITED)

APPLE USERS' GROUP (SYDNEY) INC.
BALANCE SHEET
30TH JUNE 1990

1989 $		$	$
	MEMBERS FUNDS		
62,678	BALANCE 1ST JULY 1989		60,697
1,981	LESS - DEFICIT OF INCOME OVER		21,901
	EXPENDITURE		
60,697			38,796
	REPRESENTED BY		
	FIXED ASSETS		
63,024	PLANT & EQUIPMENT - AT COST	72,756	
36,123	LESS - PROVISION FOR DEPRECIATION	48,113	
26,901			24,643
	CURRENT ASSETS		
30,114	CASH AT BANK AND ON HAND	6,531	
21,053	CASH ON DEPOSIT	23,701	
2,300	STOCK ON HAND (NOTE 1)	547	
53,467			30,779
80,368	TOTAL ASSETS		55,422
	LESS : CURRENT LIABILITIES		
18,800	SUNDRY CREDITORS & LEVIES IN ADVANCE	15,450	
871	PROVISION FOR INCOME TAX	1,176	
19,671			16,626
60,697			38,796

(UNAUDITED)

APPLE USERS' GROUP (SYDNEY) INC.
STATEMENT OF INCOME & EXPENDITURE
FOR THE YEAR ENDED 30TH JUNE 1990

1989 $		$	$
67,963	SALES TO MEMBERS		54,166
	LESS : COST OF GOODS SOLD		
3,551	OPENING STOCK	2,300	
46,130	PURCHASES	21,255	
49,681		23,555	
2,300	LESS : CLOSING STOCK	547	
47,381			23,008
20,582	EXCESS OF SALES OVER COGS		31,158
2,684	INTEREST RECEIVED		3,761
39,899	MEMBERSHIP SUBSCRIPTIONS		29,332
63,165			64,251
	LESS EXPENDITURE		
325	ACCOUNTANCY	550	
2,248	BANK & BANKCARD	1,510	
12,133	DEPRECIATION	11,990	
313	GENERAL EXPENCSES	220	
1,996	INSURANCE	1,077	
2,118	MAGAZINE CONTRIBUTIONS	1,439	
10,550	POSTAGE & PACKAGING	16,437	
25,526	PRINTING	34,229	
6,280	PROMOTIONAL EXHIBITIONS	8,699	
789	RENT	3,026	
58	REPAIRS & MAINTENANCE	354	
	SOFTWARE	3,072	
279	SUBSCRIPTIONS	854	
1,660	TELEPHONE	1,443	
64,275			84,900
1,110	DEFICIT OF INCOME OVER EXPENDITURE BEFORE INCOME TAX		20,649
871	INCOME TAX EXPENSE (NOTE 2)		1,252
1,981	DEFICIT TRANSFERRED TO MEMBERS FUNDS		21,901

THESE ACCOUNTS SHOULD BE READ IN CONJUNCTION WITH THE ACCOMPANYING NOTES

The Annual General Meeting is coming soon. Now's the time to start thinking about taking an active role in the running of the A.U.G. If you're interested, or just interested in finding out more, talk to any current Committee member

April 8-bit Software Releases

Apple Software Releases compiled by Wal Glynn.
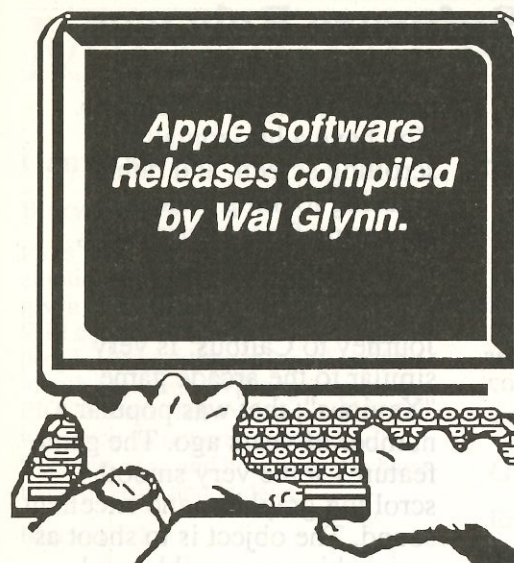
AUG 150 - Side 1 - MouseWrite Demo

This side of the disk is an educational utility , probably for young children, but also for those who have not used a mouse before. The disk uses an early version of Roger Wagner's Mouse- Write and leads the user in easy steps through the various uses of a mouse.

AUG 150 - Side 2 - Macro Library Integrator

Macro Library Integrator (MLI) is a complete set of nearly 120 macros for use with Appleworks 3.0 and UltraMacros 3.1. (For those of you who own an earlier version of UltraMacros, please note that there is a statement about Beagle Buddies in this issue and the ability to update original TimeOut programs for the cost of postage).

Included with MLI are macros that control Cursor Movement, Document Format, Find and Replace, Text Highlight, Delete and Undelete, Filer (using AW alone), Printing, SuperFonts and Macro Subroutines. Complete documentation is included with the files, and each macro has a purpose and comment area, describing the macro and how to use it. There is even an MLI spreadsheet reference guide included. A Macro Task File is also included, so you can get started with these macros immediately. All the macros are well documented so you can

modify them to suit your own purposes.

AUG 151 - Sides 1 and 2 - Scholastic Practice

This excellent and innovative program was written by a high school student (American) for use by other high school students. It provides a learning environment for more than a dozen subject areas, including literature, biology, history, government, chemistry, grammar, earth science, computer science, physics, maths, and a miscellaneous area that contains questions about art, religion and geography.

A total of 1420 questions are contained on this double-sided disk, and loaded into the computer in groups of 12 in a random order each time the program is run. If the user cannot respond with the correct answer, the program supplies it and in this manner reinforces the information. Many of the questions are difficult both for adults as well as teenagers. Requires 128K.

AUG 152 - Sides 1 and 2 - ProDOS Utilities

You can thank (or blame) Grant Kwai for these, by the way he accepted the offer from Macquarie University and is now in his first year of tertiary studies. Side 1 contains a number of text files (the collective wisdom of Grant) which hold useful information, particularly for those of you who have an interest in programming. I have tidied up 3 or 4 of the text files and converted them to AppleWorks, I cannot accept the blame for the others. I believe that one of the files "Protocol.Txt" has been downloaded from the Bulletin Board - it has carriage returns all over it. Don't blame this one on Grant though. The most useful utility on this side is "DBLDOS" which allows you to have both

DOS 3.3 and ProDOS on the one disk - interesting!

Side 2 has a large number of utilities, most are supported by text file documentation. Both sides of the disk lead to a "CAT" of the disk so it is relatively simply to view the files and make your own choice.

AUG 153 - Side 1 - AppleWorks Templates

This side contains a full set of templates for AppleWorks which are designed to assist and enable you to sell your house with the aid of a Real Estate Agent. Be warned however, they are written for the American market. All that aside they are still a useful aid for anyone who is selling their home - even with the aid of an estate agent. The disk contains a step-by-step procedure that should prepare an individual for all aspects of selling a home.

AUG 153 - Side 2 - ProDOS Utilities

No you cannot blame Grant for these! This disk contains a number of useful utilities for creating an exec file for example, or packing disks. The major program on the disk is DiskWorks, which is a ProDOS Sector Editing utility (shareware). It has documentation, as have some of the other programs. The Menu used on the disk is a little messy but I did not have room to change it. This menu lists every file on the disk - some are obviously not executable - you will need to sort the wheat from the chaff.

AUG 154 - Side 1 - Magellan Info Disk

This disk contains numerous files that describe NASA's Magellan Mission to radar map Venus. Included are "Fact Sheets" prepared by NASA's Jet Propulsion Lab that give an overview of the mission and describe how the radar mapping is

Apple 16-bit Software Releases

AUG GS Disk 96

The majority of this disk is taken up by the excellent game "COSMOCADE", by Brian Greenstone and Dave Triplet. This game is the next in the series of shareware games by these two authors. Previous titles from include Orbizone and Quadrinome. Cosmocade is really two games in one, "Naxos" and "Journey to Calibus".

Naxos is a very unusual game, something I have never seen before, and hard to describe. You have a horizontally scrolling screen, and rather amusing looking creatures appearing from everywhere, with the object being to "shoot-em-up".

Journey to Calibus: Is very similar to the arcade game "Xevious", that was popular a number of years ago. The game features some very smooth scrolling graphics, and excellent sound. The object is to shoot as many ships as possible, and collect bonus objects along the way.

Also on this disk is a small program "SHKalid". Shkalid displays colour changing patterns on the screen. Guarenteed to get rid of a headache, it is also good for showing off you GS to friends.

AUG GS Disk 97

This disk is a game by the French FTA team. It is a Grand Prix arcade game. The object is to control your car with the joystick to move around a race course. Once you have "qualified", you get a chance to race computer controlled cars driven by "Prost", "Senna", most of the other 1990 F1 drivers. Graphics and animation are excellent.

Richard Bennett and Cameron Brawn, GS Disk librarians, 2nd December, 1990.

(left column, top)

carried out. This information would be vital for any Science class and of interest to those of you who are interested in technical developments. The detailed information provided on this disk is simply not available from the mass media. The text files can be read from your favourite word processor or from the text file reader on the disk.

AUG 154 - Side 2 - Science Trivia

There is an excellent science trivia game on this side of the disk. The game includes diagrams and graphics, and you are able to add or edit existing questions. The disk also contains a simple version of the classic Lunar Lander.

Macintosh PD Mini-Reviews

Games 33

Biorythm II 4.1

Plots your mental, physical and emotional biorythms on and around a given date based on your birthdate. Will compare the biorythms of two people. Plots shown in month or three month segments. Will export plots in PICT format. Tells you what day of the week you were born (ie Monday, Tuesday, etc.) and how long you have lived in years and in days.

Blocker 1.2

Knock out the greeblies by moving blocks around and squashing them. Not very clever greeblies but they can still kill you. Make up your own game layouts with the editor. Mouse or keyboard control.

Columns

A must try for tetris fans. Patterned tiles drop down from above and you try to arrange them in groups of at least three (horizontally, vertically or diagonally). When a pattern run appears, those tiles disappear.

Euchre v3.1

Play euchre (a card game) with the computer. Set your partner's and opponents' personalities, from risky to conservative. See everybodies' hands if you so desire. Has fives scoring and Canadian rules options. Tutor mode suggests which card to play.

Glypha 2.0

You are inside a pyramid, on a winged steed and hold a lance. Kill the sphinxes on their steeds before they kill you. Nice animation. By John Calhoun who also wrote Glider.

Hex 1.1

Place hexagonal shaped pieces on a honeycomb board. Try to make your pieces go in a line from one side of the board to another whilst stopping your opponent (computer or human) doing the same.

MacCribbage 0.8

Cribbage game. Human vs Computer. No online help or 'tutor'. Automatic or manual pegging. You need to be able to play cribbage already or have some other source to tell you how to play.

Nuke Snake

Another snake game, only this one has two nuclear powered snakes (no power plants in sight though!) Object of the game appears to be to kill the other snake or just last longer than it does. Blast away your opponent and the walls. Human vs human or human vs computer.

My favourite : Columns.

Games 36

Empire Builder   B&W

demo (free) unrestricted ($25) students ($15)

I've not played this one, yet!

Conquer the world, expand your territory (the enemy military is building strength) , attack & wipe out the enemy military.

Very complex with hundreds of units (as displayed below) all moving every turn. Many automatic movement commands help to simplify moves & allow focus on the few crucial moves.

Fight on land, sea, lakes & in cities, some cities are neutral.

The registered version allows editing of rules & maps with saved game retrieval.

The size of the game map is limited by available memory, 512K just makes it, 2-4Mb is best.

MACTRIS B&W

Simple version of old tetris with programable keys. Keyboard control only.

Encountered a few problems here.

1. entered name & application quit.

2. On restart & clearing a line for the 1st time, the sound stayed hard on.

3. On second restart, after the screen filled, the sound returned again locked hard on.

Bird Race   B&W

by Staeve Halls

On start an error occurred : SpeechOn error=-43

2 players, bet on one of 6 birds from library of 24+. Simple, free. Able to use MacinTalk.

Zero Gravity 2.0 B&W

written by Duane Blaehm (deceased)

At parents request all features in these latest versions are unlocked. Previous offers to supply source code recinded.

Terrain and Units

		Friendly		Enemy	
☐	Land	⚓		🚂	Army
▨	Sea	✈		✈	Fighter
▦	Lake	⚓		🛩	Bomber
🏛	Neutral City	⚓		⛴	Destroyer
🏭	Enemy City	⛵		🚢	Submarine
🏛	Friendly City	⛵		⛴	Transport
				⛴	Carrier
				⛴	Battleship

applecations

MAY 1991

ARCHIVING
FILE
COMPRESSION
&
THE AUG BBS

by Richard Kempe

OUR
SYSOP
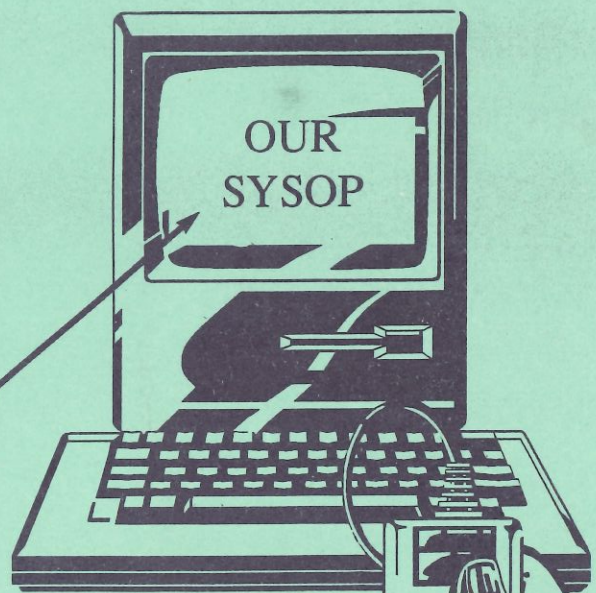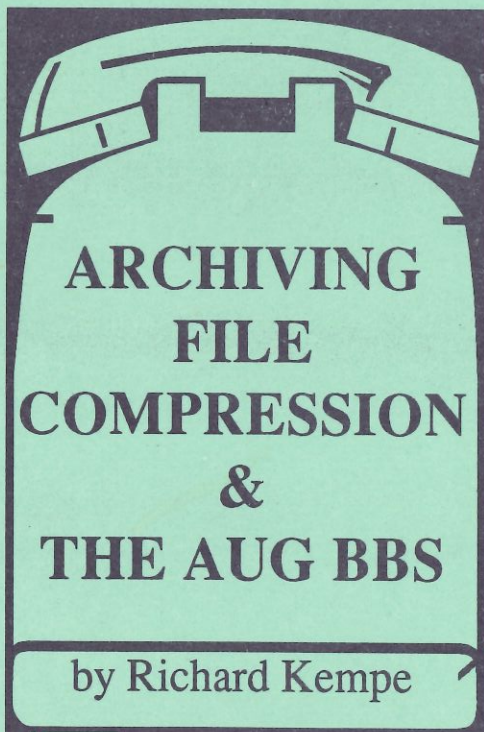
The Publication of the

Apple Users' Group (Sydney)

Incorporated in N.S.W.

Members Library Book # 77.
Copies: 1.
Computer: Apple II.
12 Nibble Magazines Vol 5. 1984.
January, February, March, April, May, June, July,
August, September, October, November,
December.
(07/06/90)(Added 5. 17.03.91).

Members Library Book # 78.
Copies: 1.
Computer: Apple II.
8 Nibble Magazines Vol 4. 1983.
Vol. 4 Nos. 1, 2, 3, 4, 5, 6, 7, 8.
(Added 1. 17.03.91).

Members Library Book # 335.
Copies: 1.
Computer: Macintosh.
6 Nibble Mac Magazines Vol 1. 1985/1986.
September/October, November/December 1985.
January/February, March/April, May/June,
September/October 1986.
(17.03.91).

Members Library Book # 336.
Copies: 1.
Computer: Macintosh.
8 Nibble Mac Magazines Vol 2. 1987.
January/February, March/April, May/June,
July/August, September, October, November,
December.
(17.03.91).

Members Library book # 337.
Copies: 1.
Computer: Macintosh.
6 Nibble Mac Magazines Vol 3. 1988.
Nos. 1, 2, 3, 4, 5, 6.
(17.03.91).

Member Handbook # 338.
Copies: 1.
Computer: Macintosh.
The Macintosh Bible 3rd Edition.
by Sharon Zardetto Aker et al.
(17.03.91).

HyperCard IIgs Tip

By Lorne Walton
Reprinted from Apples B.C. News, March 1991

Did somebody goof? When installing Hypercard GS on your hard drive the proper way, using the Installer program that comes on one of the 6 disks, you get to select the volume you would like to use for HyperCard, but the installer script is written to install only to your boot volume! If that's where you want HCGS to live, no problem. Otherwise, here are two simple solutions:

(1) Assuming that you have the luxury of a free 3.7MB on your boot volume, let the installer script do its thing, and then afterwards use a file copy program (Finder, ProSel 16's Utilities, or another program capable of copying resource forks) to

move the new HyperCard folder, along with all of its contents, to its new residence. Finally, delete the copy that's on your boot volume.

(2) Make a backup copy of the "Installer & Tour Disk" first. Load the script file (a text file named HyperCardIIGS, found in the SCRIPTS folder of the disk) into AppleWorks as an ASCII TXT file, then replace all occurrences of the two character sequence, "*:" with "nothing". Still lost? Okay: start at the top of the AWP file, press Apple-R for replace, *:<Return> for the search string, <return> for the replacement string, and "Replace All". Finally do an Apple-P and Print the File as an ASCII Text File (with option 3, carriage returns) back to the same SCRIPTS folder.
By removing the "*:" characters, you're allowing the installation to go to the current volume (the one that you chose) instead of the boot (*) volume. Now run the installer: it works like a charm!
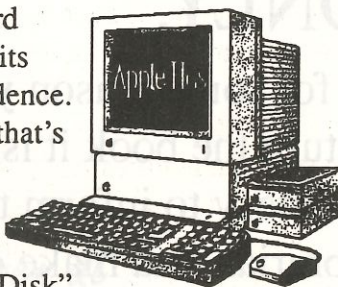
INWORDS Optical Character Recognition Software.... Review by Keith Jeeves

1. Purpose
The purpose of the Inwords package is to enable a file created by scanning a sheet of text with the 'Vitesse Quickie' scanner to be converted to a standard ASCII text file for use by other programs such as Word Processors, Page layout, Hyperstudio etc. The output file may be either text with Carriage Returns at the end of paragraphs, text with Carriage Returns at the end of each scanned line or an AppleWorks Word Processor file.
The package contains the Scanner Operating module, A Font training module, character analysis module and a full screen editor to fix up any errors which occur during the character analysis. The software is Prodos8 based and used Double Hires Graphics. It will run on a IIGS or an Enhanced IIe with at least 512K of memory but more is recommended to allow a reasonable scan length. A speed-up card is also highly recommended.

2. FEATURES
The program features AppleWorks type menu selection and is intuitive in its use. The manual is well presented and useful but the software can be operated easily without reference to the documentation.
There are three scan modes:
NORMAL...What is scanned is analysed
COLUMN...Recognises column spacing and only analyses the contents of the column
MERGE....Allows a scan of the left hand side of the page followed by the right hand side of the page. After analysis, the program will attempt to match them up into a full screen.
To allow the scanned characters on the graphics screen to be analysed, a Font Training module is included. It is simple to use, when the program reaches an unrecognised character during analysis, it will ask for the character to be typed from the

keyboard. It will add the pattern to its library and pretty soon will know about almost everything that it is going to be asked to sort out. Needless to say, the training should be done with good quality text otherwise the thing becomes proficient at recognising ink blots but poor at letters. There are options available during training to ignore poorly formed letters or non characters. When a font has been trained, it may be saved on disk for use in future. There is no limit to the amount of font libraries that may be produced. The software comes with a number of font files, samples...for use in the manual practical examples and various fonts for popular US magazines.
The resulting text file is saved as a text file and the scanning options include an 'append' function to add successive scan files to the end of the previous scan file, hence building up a single document from a number of scans. The limit of the text buffer is around 38K.
The editor provides only the barest of editing options; it does not have search and replace although it will search for and remove hyphens appearing at the end of lines. It will also find each occurrence of the 'unrecognised character' marker.

3. RESULTS OF THE MANUAL PRACTICAL EXAMPLES
The manual works the user through a set of practical examples to demonstrate the various scanning modes using demonstration text. The prelearned font files are provided on the disk and the process is as simple as loading the correct font and scanning the relevant page. The examples gave 100% results.

4. RESULTS OF A HIGH QUALITY TEXT SCAN
A book was chosen with high quality type on a semi-glossy paper. The pages consisted solely of
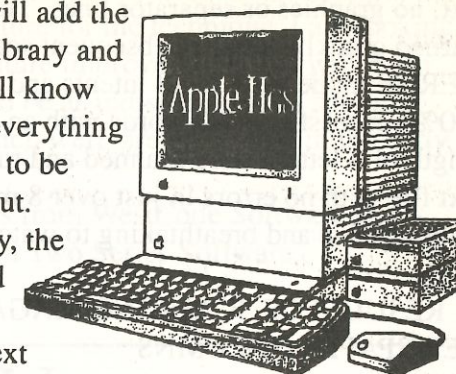
text, no graphics or separator lines. The font was learned quickly and the subsequent scans in MERGE mode were to all intents and purposes 100% successful. 4000 words with an average length of 4 letters were scanned and turned into a text file with no errors in just over 8 minutes. This is impressive and breathtaking to watch.

5. RESULTS OF SCANNING MAGAZINE AND NEWSPAPER COLUMNS

A technical magazine was selected printed with average quality text in three columns on glossy paper, The text was interspersed with graphics, diagrams and separator lines.

The font training picked up ink specks, badly formed letters, smudged letters, a number of letters running together, ink bleed across letters an addition to the correct characters, It was impossible to get the training to the point where every letter was recognised every time; the program had continuous problems with i,I,l,1 and at no point has the text been read with more than about 50% accuracy. Fixups were made with AppleWorks in preference to the built in editor which has very little in the way of editing features. Newspaper columns had the same problem except worse. The ink specks were more prevalent, smudging was common and because of the paper texture, characters were much less likely to be well formed nor were they consistently poorly formed which the program may have been able to cope with. The best results obtained were about 20% of the characters being correctly formed.

In both the Magazine and Newspaper test, the program hung when it saw something that it could not recognise as a potential character (i.e. frequently). A Reset was required to take the program back to its main menu resulting in a voided scan. If the problem occurred during the right hand scan of a merged page, the whole thing was lost. Often, the hangs would mean that only 2 or 3 lines could be scanned at a time to avoid horizontal separator lines and the process became tedious.

6. RESULT OF TECHNICAL DOCUMENT SCAN

The document consisted of a clear laser printed specification on good quality paper in Courier 12 font. There were no graphics or separators on the page but there were multiple indented paragraphs and tabulated lists.

The font was learned quickly and reasonably accurately but the program found it impossible to cope with the indentation or sections in lists where the right hand scan had more printed lines than the left hand scan. The result was a hopeless mess which could not be used.

Curiously, the program hung consistently on underlined headings. As these were many, the only way of getting a scan was to use the whiteout machine to remove the underlines. Again, tedious and really not worth the trouble.

7. RESULT OF NIBBLE BASIC LISTING SCAN

The thought was that it should be possible to scan a Nibble Basic listing, produce a text file and EXEC it into applesoft as a working program. Frankly, it was easier to type and debug rather than scan and debug.

Although the listings are clearly printed on glossy paper, there is enough smudging and ink bleed to make recognition hit and miss - mainly miss with characters like * + #. Proof reading Basic listings is no fun and the exercise was not worth the trouble.

8. SUMMARY OF RESULTS

If there is a need to regularly scan pages of large clear type with minimal graphics, then Inwords will work well. If, like me, you need to extract sections of documents from a variety of sources, it quite simply is not worth the effort with the current (rev 1.0) software.

One of the annoying habits, which occurred in all the above tests except for the book tests was the occasional 'doubling up' of a line. This usually occurred at the first line of a paragraph but appeared to be random. Needless to say, the resulting merge was an impossible mess.

The program will not work with draft quality dot matrix printouts (although it will make a reasonable attempt at NLQ providing the ribbon is good and the paper is good quality). Nor will it

work with carbon copies, fax printouts or poor photocopies. The frustration of 20-30% recognition and frequent hangs do not make for efficient business use. In short, Inwords cannot be recommended at this stage for the serious business user and at a RRP of around $150 it is hard to justify for occasional hobby use.

Unfortunately, I have to say that the OCR software for the IBM PC range of machines works better and more consistently so there is obviously a promising future for the technique. I am looking forward to future improvements and will, I am sure, find it to be as indispensable as spelling checkers, which were pretty horrific in the early days.

INWORDS is from WestCode Software and is available from Two Series Software.

Exporting text from Newsroom

By Michael Hickey

Well 1990 is just a memory and the council has collected the remnants of our New Years Eve excesses (TWO bottles of Chateau Fizz), the relatives have been packed up and sent home so FINALLY I get to sit around my office (noting the bent joystick - I'll blame it on my brother) to contemplate the dilapidated state of my software library. Out of the corner of my eye I note a familiar looking blue and beige manual. Could it be... no it couldn't, I lost it during the last move didn't I? Closer inspection resolves my wildest thoughts, it is... The Newsroom!

Remember those late nights pushing a chubby mouse around to produce intricate doodles and enhancing the built-in clipart on the old but faithful Apple II? Before the Macintosh became a useful machine, before laser printers were commonplace, before Desktop Publishing had been conceived of as a great way for Apple to make money, there was... The Newsroom. This nifty little program wasn't intended to be a Desktop Publishing masterpiece, it attempted to simulate, rather well I thought, the activities necessary in creating a newspaper. Banner creation, photo production, copy writing, layout, wire service, and printing were all represented in this tiny, exquisitely written program. On 64k, 1 MHz Apple II's this program flew along despite being graphic based and produced a rather respectable printed copy.

The Newsroom set me free from the hassle of

trying to combine graphics and text by leaving blanks in my Appleworks Word Processed document and filling it with a Print Shop graphic. At last I could put together a nice-looking sheet which was informative to boot. I produced several of these education-type pamphlets for my Ward when I was working as a Registered Nurse back in Newcastle. Ward orientation for new staff, training for correct handling of Underwater Sealed Chest Drainage, pre-operative Prostatectomy education for patients and correct use of Nursing Diagnoses were just a few of the topics for which I produced pamphlets.

For all its initial usefulness The Newsroom has one major flaw, the artwork and text you create in it cannot be exported easily to other word processors. As time went on the Macintosh grew up and matured, the IIgs arrived on the scene and programs like Graphic Writer took over from The Newsroom. Yet despite this I still had to use The Newsroom to printout my old pamphlets. Graphic Writer couldn't read the files and no amount of fudging would let me load those Newsroom photos. In 1988 I bought The Graphic Exchange and was able to get my pics into super hi-res format for importing into Graphic Writer but the prospect of retyping all that copy back in really threw me. There HAD to be an easier way.

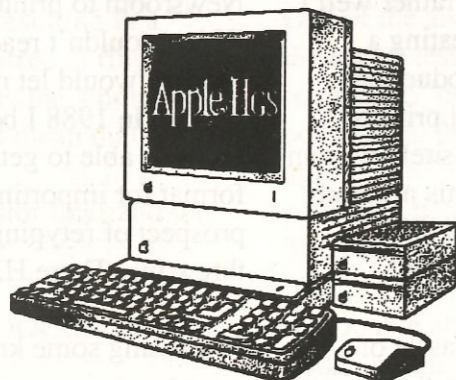Possessing some knowledge of computers, I

quickly discovered that all of The Newsroom panels were saved as binary files.

So I copied a few Newsroom panels into ProDOS, and exited to BASIC. Then I cleared hi-res page 1 with a quick HGR and BLOADed the nearest Newsroom panel. I didn't expect to be able to read it on the hi-res screen so I entered the monitor with a CALL -151 and proceeded to disassemble (in 80 columns) locations $2000 onwards. To my surprise and relief there was the text I'd typed in some time ago, safe and sound. I exited back to BASIC with a hearty 3D0G and CREATEd a TXT file. I then BSAVEd filename,A$2000,L820.

When I eventually got back to ProDOS and entered AppleWorks I was able to create a new word processor document from the BSAVED text file. The rest is history. I wrote a small Applesoft

BASIC program to do all the hard work for me and I was able to convert all of my Newsroom panels into text. Graphic Writer let me combine the text with graphics in much the same way as the Newsroom but with a lot less hassle.

I outgrew Graphic Writer eventually and sold it to an acquaintance. These days I use Publish It! 3 and print directly to disk for later laser printing from a Macintosh system. Publish It! is superior to Graphic Writer (and AppleWorks GS) in that it can read The Newsroom text panels as if they were (ProDOS) Bank St Writer files so importing is easier for text and Newsroom photos can be read directly from DOS 3.3 disks. If I only had Publish It! from the start!

Here is the (modified) code I used to convert my Newsroom files, I hope you use it in one of your programs.

```
100 REM PROGRAM TO CONVERT A BINARY NEWSROOM FILE INTO A STANDARD ASCII
FILE
101 REM 1988 - 1991 Michael Hickey
102 REM Canberra ACT (06) 231 3787
110 ONERR  GOTO 210        : REM UNEXPECTED ERROR - SHUTDOWN
120 D$ =  CHR$ (4)         : REM PRODOS COMMAND CODE
121 PRINT D$;"PR#3"        : REM ACTIVATE 80 COLUMN FIRMWARE
130 PRINT D$;"CATALOG,TBIN" : REM ONLY DISPLAY BINARY FILES
140 PRINT "Which NEWSROOM file to CONVERT?": INPUT FILE$
150 IF LEN (FILE$) < 1 THEN  PRINT "Filename in ERROR, RUN this program again!": END
160 REM INITIALISE PAGE 1 OF HI-RES DISPLAY
170 HGR : TEXT
180 PRINT D$;"BLOAD ";FILE$;",A$2000"
200 PRINT D$;"CREATE";FILE$;"2,TTXT"
210 PRINT D$;"BSAVE ";FILE$;"2,A$2000,L1000"
220 PRINT D$;"CLOSE ";FILE$;"2"
```

"Putting stuff in the border"

By Richard Bennett

Since I wrote the program ILTS, in 1988, various people have asked after the display technique I'd used. But alas, I was just beaten to publication, two years later, by David Kopper in the October 1990 issue of 8/16. It seems however that Mr. Kopper is a little ill-informed in regard to technique, as his article, titled "Overscan", simply missed the point. It is obvious that the technique of "putting stuff in the border" (I've never heard the term "overscan" before) is still misunderstood by most, and is actually part of a more general technique called "watching the VBL counters alot". It has also since been described in IIgs Tech Note #39, and a follow up article in 8/16 describing how to put simple scrolling text in the border.

When I saw the first FTA demo, I also asked myself "How?". So I dug out my beta Firmware Reference and checked all the locations in the hardware page. Sure enough, I found the answer in the form of the locations $E0/C02E (VERTCNT) and $E0/C02F (HORIZCNT). By polling these locations for the current address of the electron beam, you could theoretically change anything you wished, at any location on the screen, at any time during the screen re-trace.

As you can see from Tech Note #39, VERTCNT supplies bit1 through bit8 of the current line address, and HORIZCNT bit0 supplies bit0. Together, these nine bits describe the current line address. However if you read from just VERTCNT, the value ranges from $7D to $FF, with each increment representing two scan lines, and the value $80 representing the top line of the screen. Thus with one location read, you are able to get accuracy down to two scan lines, which on the text screen is more than enough, considering that each character is eight lines high.

My first attempt, was in the ILTS program. ILTS is

used to save your battery RAM parameters to the boot blocks of any disk, which can then be restored whenever you wish. However at that stage, I was going to use super hi-res to get multiple coloured text on the screen. If you launch ILTS, you will see that not only is there different coloured text, but also 40 columns and 80 columns, and different colours in the border. The program sets the border, text and background colours to black, draws the text on the screen, and then enters the following loop to display the screen:

```
KEY LDX  #0*4+$80+1 ;Wait for scan line 1 to start (top is line 0)
    CPX  $C02E
    BNE  *-3
    LDY  #2        ;Delay for accelerators
    DEY
    BNE  *-1
    LDA  #$8        ;Brown background, black (no) text
    STA  $C022
    LDA  #$48       ;Brown border- Line across entire screen
    STA  $C034
    LDX  #1*4+$80-2 ;Wait for scan line 4 to start
    CPX  $C02E
    BNE  *-3
    LDY  #2
    DEY
    BNE  *-1
    LDA  #SD0 ;Yellow text, black background- Normal screen
    STA  $C022
    LDA  #$40       ;Black border- Nothing in the border area
    STA  $C034
    LDX  #3*4+$80+2 ;Wait for scan line 28 to start

    CPX  $C02E
    BNE  *-3
    LDY  #2
    DEY
    BNE  *-1
    LDA  #$8        ;Brown background, black (no) text
    STA  $C022
    LDA  #$48       ;Brown border- The line is drawn yet again
    STA  $C034
    LDX  #4*4+$80-1 ;Wait for scan line 30 to start
    CPX  $C02E      ; which is just before text line 4
    BNE  *-3
    LDY  #2
    DEY
    BNE  *-1
    LDA  #$10       ;Red text, black background
    STA  $C022
    LDA  #$40       ;Black (no) border- Back to normal red text
    STA  $C034
    LDX  #$20*4+$80+1 ;Wait for scan line 162 to start
    CPX  $C02E      ; which is just after text line 20
    BNE  *-3
    LDY  #2
    DEY
    BNE  *-1
    LDA  #$8        ;Brown background, black (no) text
```

```
STA $C022
LDA #$48      ;Brown border- Drawing the line again!
STA $C034
LDX #$21*4+$80-2 ;Wait for scan line 164 to start
CPX $C02E
BNE *-3
LDY #2
DEY
BNE *-1
LDA #$30      ;Puple text, black background
STA $C022
LDA #$40      ;Black (no) border- Get ready for 80 cols
STA $C034
STA $C00D     ;80 columns on
LDX #$23*4+$80 ;Wait for scan line 184 to start
CPX $C02E
BNE *-3
LDA #$40      ;Dark green text, black background
STA $C022
STA $C00C     ;40 columns again
LDA $C000     ;Did they press a key on this trace cycle
BPL :GOTIT
JMP KEY
:GOTIT LDX #$10   ;Reset the screen first!
STX $C022     ; to Deep red text, black background,
STA $C010     ;Clear keyboard latch and return with keypress
RTS
```

As you can see, the processor is permanently busy cycling through the various scan lines. To reflect the counter's change of address immediately, the X-register is loaded with the required scan line number, and a small spin wait is entered until the IIgs video has caught up to the processor. Since the alignment of various monitors can be out slightly, and that the address in VERTCNT is reflected slightly before the beam reaches that actual line, another timer delay of 16 cycles is used, in the form of a decrementing Y-register. Normally this delay is not required, however if you have an accelerator currently active, then the subsequent store instructions may execute before the beam has caught up. Hence the delay is commented in the above source as "Delays for accelerators".

Ok, so you can do neat tricks with the text screen. Now how about graphics?

It is obvious from the above code that if something can be done quickly via a couple of instructions, then it can be used within the loop. As we all know, the following instructions turn on the standard super hi-res mode:

```
LDAL $E0C029
ORA #%1100_0000
STAL $E0C029
```

Yes, you can mix super hi-res and text in any combination on the screen. However there are some problems, in regard to the screen addressing and size. Try the following program:

```
START LDA #$C1     ;First turn on SHR
STA $C029
LDA #$A0      ;Wait for line $A0/2 = $50 = 80
CMP $C02E
BNE *-3
LDA #$41      ;Now switch to text mode (SHR off)
STA $C029
LDA #$C0
CMP $C02E     ;Wait for line $C0/2 = $60 = 96
BNE *-3
BRA START     ;Loop back and turn SHR on
```

As you can see, there is a three to four text line display change time. So mixed text and graphics start to place restrictions on our displays. However if you are using graphics anyway, why bother using the text screen right?!

With graphics, lines can be triggered using the scan line interrupt of the hardware, which pretty much negates the necessity for VERTCNT monitoring code. However from a coding time point of view, VERTCNT could be a solution.

In a GS/OS application, when interrupts are being flung around the system at a great rate, however invisible they appear, or don't appear, to the user, the VERTCNT monitoring code needs a few modifications. In the time it takes for the beam to pass two complete scan lines, which in our previous examples is only a one value change in VERTCNT, the processor only gets to execute a limited number of cycles. If you take the 127usec period mentioned in the Tech Note, and the processor running at an effective system speed of 2.6Mhz, theoretically you should get around 330 clock cycles between each VERTCNT value change. My timing tests could only get about 227 cycles however, and I couldn't find any other reference to the change delay in any of the other

manuals, except the 127usec quoted in the Tech Note. However a 227 to 330 cycle window could become restrictive when you start to consider interrupt overheads. So, your VERTCNT monitoring code should disable interrupts while active.

```
START PHP      ;Save current interrupt flag
      SEI      ;Disable them
      LDA #$A0 ;Do our VERTCNT stuff
      CMPL $E0C02E  ;(GS/OS application, don't assume I/O shadowing)
      BCC *-3
      PLP      ;Restore original interrupt flag
```

The only problem here, is that interrupts could be disabled for a maximum of one complete screen re-trace, which at 60 Hertz is a sixtieth of a second. (However as long as you don't mention it to Apple Tech Support, you shouldn't have a problem!)

I've purposely only covered the basics of "overscan", for with this knowledge you should be able to work out how all of the FTA demonstrations were coded, as well as having a few more "tricks" in your programming kitbag. I'd also like to apologise to MG for taking so long to get an article written. But then again, 30 months isn't really that long is it?

It would be nice if we could blame this on the Gulf War, but we can't so we say SORRY - we left out the tables etc of an article in last months Applecations. They now appear on pages 13 • 16 • 19 (It really was the war not us)
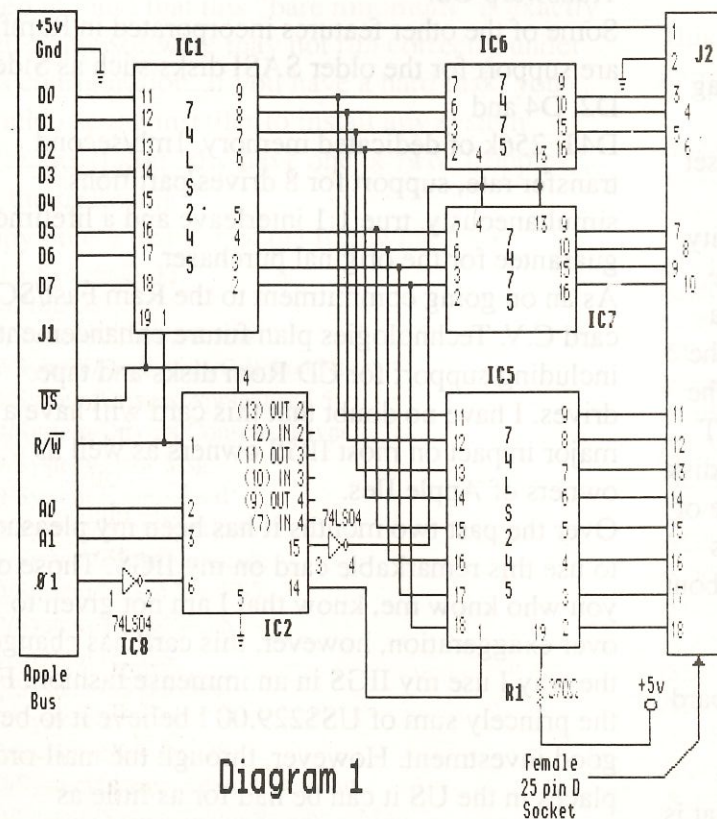
Diagram 1
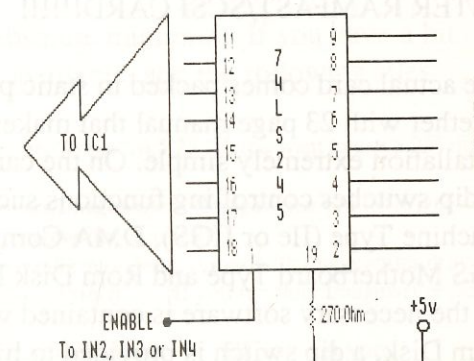
Diagram 2
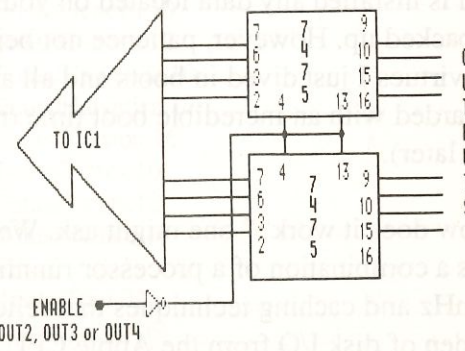
Diagram 3

RAMFAST SCSI. A REVOLUTION IN HARD DISK OPERATION.

Review by John Paske

For quite some time now one of the major banes of the IIGS has been its slowness to load programs from a hard disk. With comments such as "Poorer cousin to the Mac" and "slower than running treacle." the IIGS was not exactly going to set the world on fire.

Well folks, the wait for a faster loading IIGS is finally over as C.V. Technologies have released a SCSI card that is not only faster that Apple's Hi Speed SCSI but positively runs rings around anything else on the market.
ENTER RAMFAST/SCSI CARD!!!!!!

The actual card comes packed in static proof bag together with 23 page manual that makes installation extremely simple. On the card is a set of dip switches controlling functions such as: Machine Type (IIe or IIGS), DMA Compatibility, IIGS Motherboard Type and Rom Disk Disable. As the necessary software is contained within a Rom Disk, a dip switch is provided to bypass the startup configuration each time you boot-up. The manual recommends that before the RAMFAST card is installed any data located on your hard disk be backed up. However, patience not being one of my virtues I just dived in boots and all and was rewarded with an incredible boot time (more about that later).

"How does it work?" one might ask. Well the card uses a combination of a processor running at 10mHz and caching techniques that relieve the burden of disk I/O from the Apple CPU. All that is necessary is for the code on the Apple to tell the

Ramfast what data it wants and where it wants it put and the Ramfast completes the task. In addition to this the most recently acquired data is held in its cache memory, from where it is accessible almost immediately.

It is all very well to speak in technical terms, but what it boils down to in the nitty gritty is how long that favourite game takes to load or that vital information to be arranged. Below are some figures obtained from a non-Transwarped ROM 01 IIGS with a Chinook Ram 4000 populated with 2 meg of ram and a 40 meg Apple hard disk.

Cold boot to finder:	14.7 sec.
Finder to Appleworks 3.0 (with 53 timeout modules)	9.6 sec.
Load Appleworks Data Base file (135k - 716 entries.)	5.5 sec.

When you consider that in using an Apple SCSI card (non hi-speed) booting to finder from a cold start used to take 48 seconds this is one infinite improvement. Further improvements to the above times in the order of 25% could be obtained using Transwarp GS.
Some of the other features incorporated in Ramfast are support for the older SASI disks such as Sider D2, D4 and
D4T. 256k of dedicated memory, 1mb/second transfer rate, support for 8 drives/partitions simultaneously, true 1:1 interleave and a lifetime guarantee for the original purchaser.
As an on going commitment to the Ram Fast/SCSI card C.V. Technologies plan future enhancements including support for CD Rom disks and tape drives. I have no doubt that this card will have a major impact on most IIGS owners as well as owners of Apple IIes.
Over the past two months it has been my pleasure to use this remarkable card on my IIGS. Those of you who know me, know that I am not given to over exaggeration, however, this card has changed the way I use my IIGS in an immense fashion. For the princely sum of US$229.00 I believe it to be a good investment. However, through the mail-order places in the US it can be had for as little as US$179.95 a truly great bargain.

System 5.0.4: How to make the smallest system disk possible.

By Cameron Brawn

With the coming of the latest system software for the GS, it is becoming harder and harder to run "Finder" off a 800k disk. There are many files that make up the system disk, not all of them are needed.

I will explain how to make the smallest system disk possible for a GS to operate. You will loose a few "niceties", but you will probably have to do less disk swapping.

Keep in mind that this "bare minimum" is exactly that. Some software may not run correctly under this configuration. If you have a hard disk, you should use the installer to install any system software. If you only have one or two "floppies", try the following.
Copy onto a blank disk the following files:
(SD = System.Disk)
/SD/ProDOS
/SD/System/CDEVS/RAM
/SD/System/Desk.Accs/CtlPanel.NDA
/SD/System/Drivers/AppleDisk3.5
/SD/System/Drivers/Console.Driver
/SD/System/Error.Msg
/SD/System/Expressload
/SD/System/Fonts/Fastfont
/SD/System/Fonts/Font.List
/SD/System/FSTs/Char.FST
/SD/System/FSTs/Pro.FST
/SD/System/GS.OS
/SD/System/GS.OS.Dev
/SD/System/Start
/SD/System/Start.GS.OS
/SD/System/System.Setup/CDev.Init
/SD/System/System.Setup/Resource.Mgr
/SD/System/System.Setup/Sys.Resources
/SD/System/System.Setup/Tool.Setup
/SD/System/System.Setup/TS2 (only if you have a ROM 01 GS)
/SD/System/System.Setup/TS3 (only if you have a ROM 03 GS)
/SD/System/Tools/Tool014
/SD/System/Tools/Tool015
/SD/System/Tools/Tool016
/SD/System/Tools/Tool018
/SD/System/Tools/Tool019
/SD/System/Tools/Tool020
/SD/System/Tools/Tool021
/SD/System/Tools/Tool022
/SD/System/Tools/Tool023
/SD/System/Tools/Tool027
/SD/System/Tools/Tool028
/SD/System/Tools/Tool034
/SD/Icons/Finder.Icons
/SD/Icons/Finder.Icons.X
/SD/Icons/Ftype.Main
/SD/Icons/Ftype.Aux

This will give you a bootable system disk, with 229k available on disk for Programs or data. If you have a specific program that you wish to boot into, you can replace /SD/System/Start with your application. This would give you a total of 333k for the Application.

This is an absolute minimum. If you have a bit more space available, add the following files:

/SD/System/Drivers/Appledisk5.25 (If you want to use 5.25" disk drives)
/SD/System/Drivers/Imagewriter (Imagewriter printer driver - only if you have an Imagewriter (I or II))
/SD/System/Drivers/Printer.Setup (Goes with Imagewriter driver)
/SD/System/Drivers/Printer (If you run your Imagewriter from the Printer port)
/SD/System/Drivers/Modem (If you run your Imagewriter from the Modem port)
/SD/System/Fonts/Courier.10
/SD/System/Fonts/Courier.12
/SD/System/Fonts/Geneva.10
/SD/System/Fonts/Geneva.12
/SD/System/Fonts/Helvetica.10
/SD/System/Fonts/Helvetica.12
/SD/System/Fonts/Shaston.16
/SD/System/Fonts/Times.10
/SD/System/Fonts/Times.12
/SD/System/Fonts/Venice.14
/SD/System/P8
/SD/System/Tools/Tool.025
/SD/System/Tools/Tool.026
/SD/BASIC.System
/SD/BASIC.Launcher

The addition of these files will make your system disk much more robust, but will only leave you with 116k free. Still room for data or your favourite Desk Accessories.

There are more files on the System Tools disk that you might need, but the number of combinations possible are endless. If your application does not run, you may have to resort to having a system disk created with the installer. If you have a hard disk, sacrifice the small amount of disk space the System requires and have a "proper" system directory.

TABLE 1: Apple // Bus

Pin No.	Description
2	Adress line 0 (A0)
3	Adress line 1 (A1)
18	Read/write (R/W)
38	Phi 1, cycle 1 (∅)
25	+5v
26	Gnd (⏚)
49	Data line 0 (D0)
48	Data line 1 (D1)
47	Data line 2 (D2)
46	Data line 3 (D3)
45	Data line 4 (D4)
44	Data line 5 (D5)
43	Data line 6 (D6)
42	Data line 7 (D7)

TABLE 2: DB 25 Connector

Pin No.	Description
1	+5v
2	Gnd (⏚)
3	Output 1
4	Output 2
5	Output 3
6	Output 4
7	Output 5
8	Output 6
9	Output 7
10	Output 8
11	Input 1
12	Input 2
13	Input 3
14	Input 4
15	Input 5
16	Input 6
17	Input 7
18	Input 8

Table 3. Memory Addresses

	Set 1	Set 2	Set 3	Set 4
Slot 1	49297	49297	49298	49299
Slot 2	49312	49313	49314	49315
Slot 3	49328	49329	49330	49331
Slot 4	49344	49345	49346	49347
Slot 5	49360	49361	49362	49363
Slot 6	49376	49377	49378	49379
Slot 7	49392	49393	49394	49395

Apple // Tips 'N Bits

By Grant Kwai

* To avoid wasting disk space under DOS 3.3, if you are saving a smaller file on top of an existing, larger file (i.e. of the same filename), then DOS does not free up the extra sectors. To fix this up, delete the old file first. ProDOS is more professional and fixes this problem up itself.

* Instead of typing something like VTAB 20: HTAB 1, use VTAB 18:PRINT:PRINT. It will save you one byte.

* You can not delete a ProDOS subdirectory without first deleting all the files held within it.

* Keep your disks away from magnetic interference as this can erase your data on your disk.

* Try and keep a few spare formatted DOS 3.3 and ProDOS disks handy. One day you might need it in a program to save your data but the program has no option to format a disk.

* Cover your computer to keep dust out of it. Dust is a major cause of computer failure. You can buy special dust covers for your Apple and printer. (I have both)

* Look after your Apple // and clean it every month or so with special cleaning sprays. Good computer supply shops should sell such a product.

You will be surprised how new your computer looks minus all the dirt and grime.

* If you have many cards inside your Apple, do your computer a favour and buy it a cooling fan. Large ram cards and hard drives produce quite a bit of heat.

* If you are removing cards from inside your computer, or inserting one in, ALWAYS make sure the computer and monitor are turned off first, then ground yourself by touching the computer's power supply with your fingers. Pulling plugs, inserting/removing cards is the easiest way of forking out money to pay for the repair bills.

* If you haven't run any programs since quiting the Dos 3.3 FID program, you can re-enter it without loading the program again from disk by either entering the monitor (CALL -151) then typing 803G. Alternatively, type CALL 2051.

* Under ProDOS, you can see where a file starts in memory and the file length in bytes from the 80 column CATALOG command. This is handy for BSAVEing a particular file.

* You can start any executable program under PRODOS by using the "-filename" command. i.e. type a hyphen then the filename. This works for basic, binary, text, system files etc.

* In Appleworks, if you want to incorporate an Appleworks menu screen on a printed article, insert a page pause in the word processor article. Print out the document then when the pause command is reached by the printer, hit ESCape, get to the menu required then press Open-Apple-H(ardcopy). Then resume the printout start at page number (#) command. Alternatively, buy a program like macrotools (from Beagle Bros) which can do screen shots.

*To implement mousetext characters, make sure the 80 column firmware is active (the cursor is an inverse block), and type 'PRINT CHR$(15);CHR$(27) to turn them on, and 'PRINT

Apple // Tips 'N Bits

CHR$(14);CHR$(27) to turn it back off. [Note: you need to have an enhanced //e, //c or a IIgs to display mousetext characters.]

* If your mouse still doesn't function as it used to after doing the normal cleaning routines, take the mouseball out, and with your fingernails, remove any grime from the three mouse cavities. Put the mouseball back in and see if things have improved.

* On a IIgs, you can change the cursor type by typing at the DOS prompt "<Ctrl>-^" The next key that you press will be the new cursor.

* Under ProDOS, typing BSAVE filename, will save the filename under the same address and length as the original file.

* On a //c, toggle the button with a pen on the top of the machine to switch the keyboard from the QWERTY style to DVORAK. On a IIgs, use the Control Panel ("Options" on ROM-01, "Keyboard" on ROM-03) to select the DVORAK keyboard.

* You can make your computer pause by using, FOR X =1 TO 1000:NEXT X This will make your computer count to 1000, approximately 1 second. This is good if you want to freeze the screen for a while.

* SAVE your files with progressive filenames. e.g. GAME1,GAME2 etc. That way, if you make a fatal mistake in your latest rewrite, you can always go back to a previous version.

* Did you know that Integer Basic is slightly faster than Applesoft? Why not test it out for yourself by making your apple count to some reasonably high number (e.g. 30000) and time it with a stop watch.

* If you are using a specific, hard to remember number (e.g. -16363) in a program frequently, set a variable to that number, say X. That way, you will only have to type PEEK X, POKE X+1 etc.

* You can double the storage space on your 5.25" disks by buying a disk doubler and notching the other side of your disk. If you are really desperate, you could possibly use a hole punch, but I don't recommend this. By doubling the disk, you know can use both sides of the disk.

* Did you know that ProDOS never uses a two block file? It either uses 1 block or 3 blocks or greater. The only exception is directories.

* The smallest DOS 3.3 file is 2 sectors long. As always, there is an exception. An empty text file can be 1 sector long.

* If you type PR#1 with no printer attached (or it is not on), your Apple II, II+ or //e will hang (i.e. freeze). You will need to press <Ctrl>-<reset> to get back into DOS. This doesn't happen on a //c (at least when there is no printer attached anyway), as the built in firmware default with accept anything that gets sent to it.

* For some GS super hi-res desktop application programs you can access the first item of the first pull-down menu (upper-left) without using the mouse simply by pressing <Open Apple> + <Ctrl>-2.

* When one of those new super-hi-res-graphics programs for the GS crashes, type <Ctrl>-T and press Return. Doing so usually causes the text screen to be displayed. You will see the address of the crash, the last instruction executed, and the contents of all the 65816 microprocessor's registers.

* You can access any slot in your computer by typing PR#n, where 'n' is the slot number required.

* If your IIgs screen is all squashed up on the top, try this:
Use <Option>-<Ctrl>-<reset>.
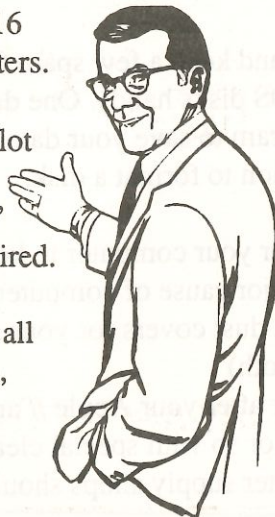
When you get into the machine reset menu, select '2' for a 60 hertz screen (Australian standard). Option '3' sets the system to 50 hertz which most likely caused the problem.

* Use <Ctrl>-<Open Apple>-<reset> if you want to reboot your Apple //. Switching the power supply on and off extensively can wear out the switch.
* If you do turn your machine off at the switch and end up wanting to use the machine again, wait several seconds first before turning the machine back on. This makes sure than any fragments of current heading out of your computer are not suddenly bombarded with current going in, causing a head-on collision which can cause damage.
* You can use the GOSUB command as a direct keyboard command. This is an easy way to try out your subroutines.
* Never write on a disk label with a pencil or ball point pen. This can damage the disk. Use a soft felt tip pen.

Stay tuned for even more tips next month........

Figure 4 — Circuit to test outputs. (220 Ω)

Figure 5 — Circuit to test inputs. Note: The push button can be replaced by any digital sensor for a practical input device. (+5v, 2.2k, 330 Ω)

Figure 6 — Practical relay driver circuit. Relay must have a contact rating of at least 10 amps at 240v AC to be suitable for use in controlling mains appliances. (+12v, 1N4002, 1.5k, BC338, N/O, N/C, COM)

Figure 7 — SCR output driver. (330 Ω, MOC 3021, 100 Ω, 560 Ω, SC141D, 22nF 250VAC, SUPPLY, OUTPUT)

Apple // bus. (Top, 26, 25, 50, 1, Bottom)

SORRY ABOUT THAT FELLAS - IT REALLY WAS THE WAR YOU KNOW!

AppleIIGS DISKS May 1991

AUG Disk 98

This disk contains a selection of programs and utilities for the GS.

STAR AXE: A Superhires "shoot-em-up" game along the lines of the famous Sneakers on the Apple // series. This game has excellent Graphics and is very addictive.

BATTLESHIP GS: A modern day version of the old board game, where the object is to sink your opponents ships before he sinks yours. Two players.

FTYPES.CDA: Written by one of the AUG's members, This is a handy list of the most common ProDOS file types, accessible from anywhere by a few keypresses.

WRITEIT: A New Desk Accessory that is a must for all GS users. How many times do you need to run a word processor to read a file or jot down a few notes? Writeit is accessible from anywhere that you have access to the CDA menu. It includes search and replace functions, and you can change fonts and styles. You cannot, however, print from this program.

TRANSWARP: A "CDEV" (Control panel device) for users with TransWarp accelerator cards in their GS. You can change the speed of the Transwarp at any time by accessing the graphic version of the control panel.

TWILIGHT: Another CDEV, similar to "After Dark" on the Macintosh. This is a Screen saver that will blank the screen after a given number of minutes if the computer is not used. Any mouse movements or keypresses restore the screen. Included is documentation for people to write their own modules. Included are: Blank Screen, an Excellent bouncing Apple, Two different rotating/bouncing earths, a meltdown, and an amusing face of John Scully that gets shot every time it hits the edge of the screen, complete with sound effects!
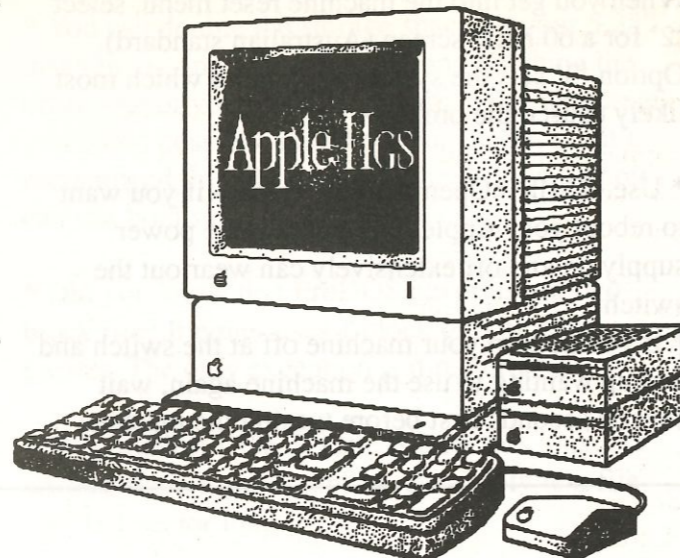
Finally, ZL01, or Z-Launch. Z-launch is a very impressive graphic program launcher, at 9k it is VERY small, and handy for people without a hard disk, or a GS with memory restrictions. Just use it instead of the Finder, and you will have a considerable amount more of free memory to run programs.

AUG Disk 99

This disk contains a selection of programs and utilities for the GS.

GRAY.NDA An NDA that changes the desktop colour to gray. Downgrade your GS to a Mac!

ZLAUNCH.030. Z-launch is a very impressive graphic program launcher, at 18k it is VERY small, and handy for people without a hard disk, or a GS with memory restrictions. Just use it instead of the Finder, and you will have a considerable amount more of free memory to run programs.

A later version of the program that appeared on a previous PD disk.

TWILIGHT.COMP. A screen blanker to supplement Twilight (Disk 98). This screen blanker will blank the screen when Twilight cannot. (Prodos 8, GSOS text screens etc)

Super Info II. An NDA that allows you to: View memory (Free/used/usage/handles), free unused memory, view tool and self test error codes, current prefixes, system info, toolset info and online volume info. Very handy for looking up fatal system errors etc.

ShowPic v5.4. Allow you to view almost any type if graphic and save in a number of formats. You can view Unpacked, packbytes, Printshop GS, 3200 Colour Pictures, and GIF Pictures.

MIDI Monitor: For MIDI people, this application will display MIDI Information as it comes through the modem port

HFSLINK vB5: A beta version of a program that reads Mac HFS disks and converts files to ProDOS

GSHK: Shrinkit for the Apple IIGS. BBS Users will be well aware of this program, it archives files, folders and disks into one file, compressing at the same time. The standard for Apple II modem users throughout the world. This is version 1.0.4

Demo 3D: In interesting and impressive demo if 2 cubes rotating in 3 dimensions.

Carpet Bag: An NDA that can load CDA's or NDA's at any time, similar to the Mac program "Suitcase"

AUG Disk 100

This disk contains a selection of fonts, Pictures, and other goodies for the GS.

For font addicts, there are two fonts on this disk, GS Chicago, and GS Geneva.
5 high quality 320 mode super hires pictures. Not Modulae, a demo of 3D graphics, similar to the Modulae demo, with source code for some of the routines.
In the NDA Directory, there is GSCII, an NDA that unpacks programs packed in the BINSCII format. PACMAN, a pacman will wander across the screen, munching anything in the way, and MENUTIME, an NDA that will display the time in the menubar.

GSXEdit is a text editor/word processor that allows you to display, edit, and print text, source, and "teach" files.

DG DEMO 3 is a demo of the 3200 mode paint program "Dreamgrafix". Very impressive.
Lastly, a song for Soundsmith, "Closer" and the instruments needed to play this song.

AUG Disk 101

This disk contains a selection of Soundsmith Songs and a Soundsmith Utility.
The Songs are:
Limelight - Rush's second song.
Fractured III - Ace Frehley.
Far East Classical music:
Mei Hwa - "Plum flowers"
Rokudan no Shirabe - "A study of Six Levels"
Haya Rokudan no Shirabe - The same as Rokudan but in a different tempo.
Godan - "5 Levels"
Lastly, there is Sound Editor, a Soundsmith song editor.

AUG Disk 102

This disk holds the 'XMAS' demonstration which is another amazing showoff of the graphics ability of the GS by the French Alliance group. This demonstration specifically deals with effects using the GS screen border - an area not usually available for use. There are five mini-demos.

Richard Bennett and
Cameron Brawn,
GS Disk librarians, April
1991.
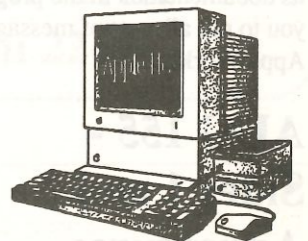
A3 - A2-Central Programs

This is the first 3.5in disk to be released for some time. It contains 3 different programs, Photomatrix, AW.Msg.Mangler, and the main program, Guadalcanal. People wishing to read the documentation for the simulation "Guadalcanal" will probably need extra RAM, as the userguide.doc is a 90K AWP file. For this reason I have broken the file into 3 parts - those of you who have limited desktop space will still be able to load the userguide and print it - but you will have to do it 3 times.

The programs on the disk come from the January and February copies of A2-Central on Disk and as a club we would wish to thank A2-Central and wish them continuing success. I have mentioned before how you can join A2-Central - your support will ensure the continuation of this organisation that is dedicated to the support of the Apple II. In addition to the programs above, the disk also uses Windows by Karl Bunker as the menu program.

The great thing about Windows is that it uses Dogpaw to read all Txt and AWP files without having to resort to another program. The difficulty with it is that it displays ALL of the files on the disk. To make the selection easier I have unlocked the 3 startup programs.

Both Guadalcanal and Photomatrix are well documented, although there was nothing in the Photomatrix documentation to tell me how to overcome the problem of printing with line feeds in the output. AW.Msg.Mangler has its documentation in the program, and is designed to allow you to put all sorts of messages on your COPY of AppleWorks..

AUG 155 -
Sides 1 and 2 - Eamon Adventures

This disk continues the ProDOS series of disks packed with Eamon Adventures. The adventures this month are Thor's Ring and on side 2 is The Orb of Life. Remember that to play these adventures you need either of the master disks - AUG.124 or AUG.125.

AUG 156 -
Sides 1 and 2 - GIF Pictures

From the secret storehouse of Grant Kwai comes this disk full of GIF pictures. The pictures are called: About, Enterprise, Legends, Moebius, PlanetX, Train, Tron.Tan, BatGIF09, DC2, DC3, Druidess, Flame, and Pic2010, but as I discovered the names do not mean a great deal. I assumed that DC 2 and 3 might be pictures of aircraft - I was nowhere near it! The disk comes with a GIF viewer and pressing escape after ProDOS has loaded will take you straight into the viewer - or you can view our Club advertising.

AUG 157 -
Sides 1 and 2 - Fonts

It has been some time since we presented fonts for the Apple II. These are fonts that can be used with TimeOut Superfonts or Publish It! The program to change the font type is included on the disk. The fonts are: Akashi.12, Apple.1.18, Andover.12, Amslan.18, Alice.12, Art.Deco.9, .12,.18,.24, Ascii.12, Asl.Fingers.14,.18, .24,.36,.48, Austin.Econ.9,.10,.12,.18,.20,.24, Athens.18, Avant.Garde.10,.12,.14,.18,.24, Basel.48, Babylon.18, Berkeley.18 and Bookman.10.

AUG 158 -
Side 1 - Golden Oldies

I recently had a call from the mother of a young child who was interested in finding public domain programs that would be useful for helping her child. I suggested that the programs in the AUG library were generally thrust at an adult level and that she should contact the departmental computer centre. This disk is an indication that I changed my mind. Here is a group of programs that are suitable for use by parents and children, and which will help in not only school work, but also an understanding of the uses of a computer other than playing games. The programs have been around a long time but if you are new to the Apple you may have missed them.

Two of the programs "Crackaword" and "How a computer works" were produced by Bruce McAndrew. Anything that Bruce does he does well and the graphics in these two programs are outstanding, (I tried to find his

"Boggle" program also but could not locate it). Crackaword is a hangman type game (with reward) where one tries to spell a word when presented with a number of blanks. The words are chosen from lists that can be created with "Crackaword-Create Word Sets", and by using these teachers and parents can reinforce weekly spelling lists in a game situation.

"How a computer works" is a self-running graphics program that shows how a computer works and needs no further explanation.

There are two Junior Writer programs that can be used on the II Plus or the IIe. They are simple text writers that allow the children to write, store, print and retrieve stories. The final program on the disk is "Wonder Word". This program creates a puzzle from a set of words that are typed into the program. The result is similar to the WonderWord puzzle that appears in the Woman's Day. It is a useful device again for parents and teachers who want to reinforce facts by hiding them inside a puzzle. While none of the programs require a printer - it helps if you have one!

AUG 158 -
Side 2 - Create a Test

This program is probably more useful for teachers and parents of secondary school age children, and as the name suggests it allows to create tests in any subject area where textual answers can be used. This is a program that was created in the USA and while I have spent several hours making sure that it works properly. It was bought from Cristella Enterprise - they modified it and I have had to make further modifications to overcome theirs'. There are files on the disk which can be run and which indicate the type of tests that can be created. The tests can be multiple-choice, Fill in the Blanks, Matching Word, and True/False. Make sure that you add the file prefix when trying to load a file, and that your CAPS LOCK is down as this is a DOS 3.3 program. There are also instructions that can be printed or read from the screen. It is probably a useful addition to any concerned parents' or teachers' library.

AUG 159 -
Sides 1 and 2 - Spreadez

While I have the attention of the teachers in the group, here is another one for you. This ProDOS program is a double-sided disk with the program on side 1 and very comprehensive documention on side 2 in the form of AWP files. Make sure you print and read the documentation first!

The program is shareware and requires an enhanced 128K machine to run it, (or IIc, IIGS) and it uses the familiar Appleworks menu presentation. As described in the documentation, SPREADEZ provides a convenient environment for generating various reports from a gradebook template. The reports generated can be for individual students, individual assignments, and students with missing assignments. Teachers can also create a report detailing statistics (score frequency, mean, median, mode, and standard deviation) for any or all assignments in the template. I trust that you will find this one useful.

Wal Glynn

TECH TIDBITS

TECH SUPPORT'S MOST COMMONLY ASKED QUESTIONS
Modified by the Technical Support Group, Apple Computer Australia, January, 1990.

Macintosh SIMM Speed Compatibility

Q

I have three Macintosh 1MB SIMMs rated at 120ns and one 1MB SIMM rated at 80ns. Can I mix SIMMs of different speeds in the same bank of a Macintosh?

A

Yes SIMMs of different speeds can be mixed within one bank because the RAM is clocked by the machine, and the only requirement is that the RAM be able to run fast enough to keep up with the machine. For example, the Macintosh SE/30 and the Macintosh II family the SIMM must be equal to or faster than 120ns, i.e. 100ns or 80ns.

If you are using non-Apple SIMMS you need to consider the following:

• Check with your vendor to make sure their SIMMS are compatible with Macintosh CPUs.

• In certain Macintosh CPUs, there are SIMM height constraints which may make high profile SIMMS unusable.

APPLE 3.5 DISK DRIVE COMPARISONS

We are often asked to describe the differences between the Apple 3.5 Drive and the UniDisk 3.5 Drive. Both read and write double-sided, 3.5" diskettes at a formatted capacity of 800K, but the way they perform this task differs. Below is a short description of each drive.

• The UniDisk 3.5 is an intelligent drive, meaning that it has a microprocessor-based controller inside the drive enclosure that communicates with the host computer in an intelligent fashion through the IWM port. The host sends commands to the intelligent controller in the drive and the controller manipulates the drive hardware to read or write, and sends the data back to the host in a "packet" format.

• The Apple 3.5 Drive depends on the host computer to manipulate the drive hardware to read and write data to and from the drive.
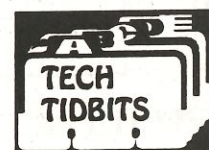
Resetting Parameter RAM

Q

I've been told that zapping my Mac's PRAM will cure some erratic system behaviour – how do I do that?

A

To zap the PRAM (Parameter RAM) on any Macintosh SE or Macintosh II Family CPU, simply hold down the COMMAND, OPTION and SHIFT keys simultaneously while accessing the Control Panel from the Apple menu. You will be presented with a dialog box asking you to confirm this action, answer YES. Wait a moment for the Control Panel to appear, close it and restart your machine. The PRAM will then be cleared.

Remember that you will have to reset your mouse tracking speed and some other system parameters after this procedure.

If you have Suitcase™ installed, you will need to hold the mouse DOWN over the Apple icon in the Apple menu prior to holding down the COMMAND, OPTION and SHIFT keys and accessing the Control Panel.

Apple Scanner Logic Board Modification

Q

I have an Apple Scanner connected to a Macintosh IIcx that sometimes bombs or fails to mount the internal hard drive. The Scanner works fine on a Macintosh II. What's wrong?

A

A number of Macintosh 68030 microprocessor-based CPUs have experienced hard disk boot problems with Apple Scanners. This situation can be remedied by removing three capacitors on the Scanner main logic board. Apple Authorised Service Providers can find these instructions in Apple Technical Procedures.

Two new Trojan Horse programs have been discovered in some Macintosh installations in Canada. Fortunately, a Trojan Horse does not spread itself on the insertion of disks such as a virus does. Two known strains of Trojan Horses are being spread in the applications "Mosaic" and "FontFinder".

The program called "Mosaic", identified by type=APPL and Creator=????, has the first identified strain of a Trojan Horse-type code embedded within it. When launched, it immediately destroys the directories of all available physically unlocked hard and floppy disks, including the one it resides on. The attacked disks are renamed 'Gotcha!'.

The Public Domain program called "FontFinder", identified by Type=APPL and Creator=BNBW has the second strain embedded within it. It had a trigger date of 10 Feb. 90. Before that date, the application simply displayed a list of fonts and point sizes in the System file. On or after that date, the results of the Trojan Horse are similar to the first strain.

The "Mosaic" and "FontFinder" applications were deliberately designed to harbour resources that destroy hard disk directories.

MAKE SURE YOU HAVE A CURRENT BACKUP AND DO NOT USE EITHER OF THESE TWO APPLICATIONS

The good news is that the anti-viral application SAM™ v1.5 will detect these IF THE PROTECTION LEVEL IS SET TO ANY PROTECTION BEYOND BASIC (STANDARD, ADVANCED or CUSTOM).

AUG (SYDNEY) BULK PURCHASE NOTES

PHONE ANSWERING SERVICE FOR BP/LIBRARY PHONE: (02) 681 3661

Appleworks DATA DISKS
Two collections of
Appleworks templates on
double-sided 5.25 inch disks.
Details in Oct 86/Aug 87. $24/$16

Apple // -
Special Public Domain Disks
Two collections of a variety of
Public Domain software -
well documented and tested
(no games) on double-sided 5.25 inch
disks. Details Nov 86/Aug 87. $40/$16

G.E.O.S. for Apple //c, //3,
IIGS
Macintosh-like Graphic Disk Operating
System with Word Processor, Spelling
Checker and Paint program - P.O.A.
Call for availability

G.E.O.S. Publish for
Apple //c, //3, IIGS
DeskTop Publishing on Apples, with or
without GEOS.
Compatible with Printshop and Apple-
Works files
New Release   **$173**
Call for availability

TERMINAPPLE
Terminal software to provide *all*
Apple //s with communic's
(incl. 1200/75). Menu-driven, easy to
understand. Needs one drive and Serial
card. **$100**

VIATERM
Software for Apple //, GS to access
VIATEL using all 1200/75 modems.
Easy use, auto Log-On. **$100**

MODEMS
Netcomm 3+12 modem **$210**
Maestro 2400 ZXR
(300, 1200/75, 2400, Hayes Comp.
and auto everything   **$Call**
cables extra   **$30**

MODEM Packages
using Netcomm 3+12 modem
(300 & 1200/75 baud)
Modem & Terminapple **$295**
Modem & VIATERM **$295**
Modem & Terminapple & VIATERM
                              $395
Postage per package $5.00

MAESTRO MODEM
Model 2400 ZXR (300-2400 baud
& 1200/75 for VIATEL)
Full duplex, Hayes compatible, and
auto everything (Cables for all apple
computers available).
Call for availability and
SPECIAL Member's prices

Joysticks
For][+, //e (16pin plug) & //c, //c,
IIGS (9 pin plug)
Specify your computer **$32**

No-Slot Clock
Original US product, gives time & date
with ProDOS and DOS 3.3 programs
incl. AppleWorks.
Suits Apple //c, e **$99**

Disk Drive Adapter
Connects Apple][or compatible to
UniDisk 5.25, //c, IIGS type with 19 pin
connectors **$49**

Record Holder Plus
(new version 3.1!)
A powerful database for the Mac. Not
copy-protected, Text file/MS. Word
compatible. Suit home/shop excellent
documentation. **$100**

TurboMouse
Mouse replacements for:
Apple //c, Mac 512, MacPlus

OR:

Apple IIGS, Mac SE, Mac II (specify
model)
SPECIAL Member's price **$110**
Call for Availability

QuickKeys
Programmable Command keys and
Macros A MUST for power users.
SPECIAL Member's price   **$110**
Call for Availability

Disk Drive Extension Cable
Extends cable and allows removal with-
out opening computer. Can also be used
for Epson printers   **$26**

WARNING:

Because of taxation restraints,
orders can only be placed by
current members.
Please enclose you latest mail-
ing label, or quote number.

POSTAGE & PACKING CHARGES:

Members are requested to add
these charges to their orders. If not,
the orders will be returned for
addition of these costs.

Due to the low margins of profit, we
are unable to provide free postage!

GET IT FASTER

(02) 681-3661

USE THE ANSWERING SER-
VICE AND PAY BY
BANKCARD OR
MASTERCARD AND GET
FASTER
DELIERY OF YOUR
ORDERS.
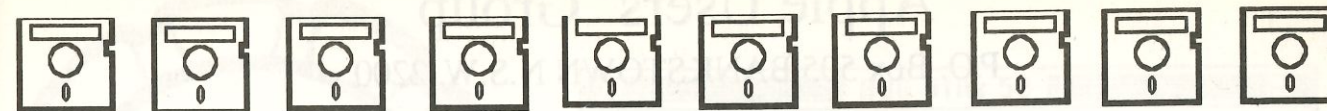
SOFTWARE LIBRARY

APPLE// DISKS

PASCAL 1+3 • 2+4 • 5 • 6a • 6b • 7

CP/M 1+2 • 3 • 4 • 5 • 6

APPLE 5.25" DISKS ....$4 each
APPLE 3.5" DISKS ....$7 each

Apple// (5.25")
A-FST '82 • PC'85 • AUG 1 to 4 • 5+6+7 • 9+10+11 • 12+13
14 to 144

Apple// (3.5")
A1 • A2

Apple IIGS (3.5")
Fonts 1 to 13
GS1A • GS2 to GS95

PUBLIC DOMAIN DISKS

PACK NO. 1 10 D/S DISKS.........................$40
PACK NO. 2 4 D/S DISKS..........................$16
APPLEWORKS DATA
SET NO. 1 6 D/S DISKS.............................$24
APPLEWORKS DATA
SET NO. 2 4 D/S DISKS.............................$16
POSTAGE $4 PER PACKAGE

Check the Members Handbook 1990 and recent
Applications for information on PD disks.

MACINTOSH DISKS

BEGINNERS PACK NO. 1
5 X 800k DISKS $30

AUG 1-6 • 7-11 • 12-16 • 15 • 17-19 • 20-22 •
23-25 • 26-27
COMMS 1-3 • 2 • 4
EDUCATION 1-4 • 5
FONTS 1-2 • 2-4 • 5-6 • 7-9
GAMES 1-2 • 3-4 • 5-6 • 7-10 • 8 • 9 • 11-36
GRAPHICS 1 • 2 • 3
HYPERCARD STACKS 1 TO 27
LASER 1-2 • 3 • 4 • 5
PICTURES 1-2 • 3-4 • 5 &
STARTUP 1 • 6 • 7 • 8 • 9
PROGRAM 1-2 • 3 & BSIC 1 • 4
SOUND 1-2 • 3 to 29
STARTER DISKS 1 • 2 • 3 • 4
UTILITIES 1-2 • 3-4 • 5-6 • 7 to 42
MACII 1 to 26
AUG ANTI VIRAL DISK 1h
(check recent magazines for details)

DEMO DISKS: VARIOUS
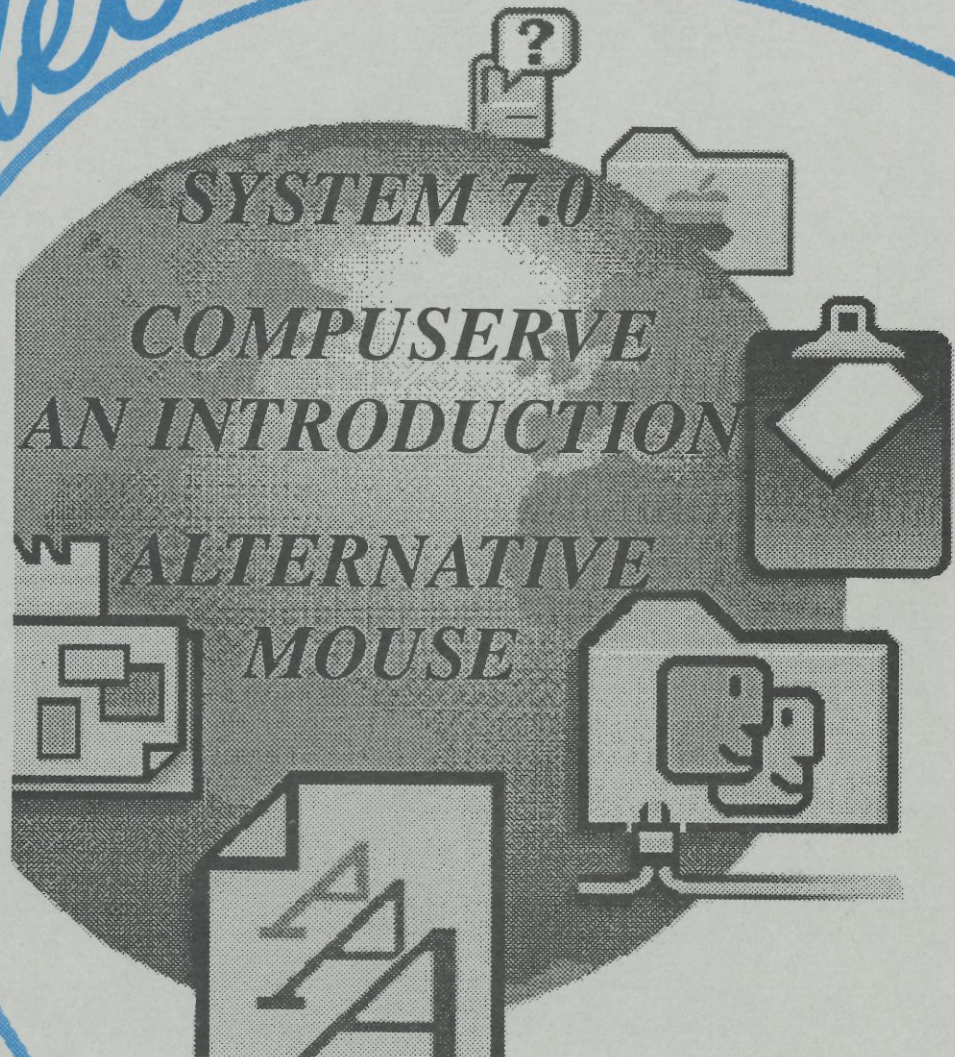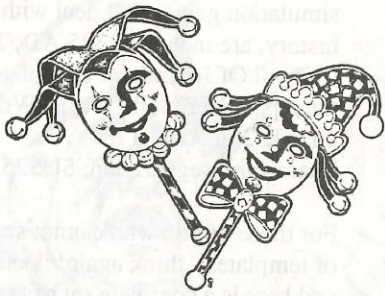
GET IT FASTER
USE THE ANSWERING SERVICE AND PAY BY BANKCARD OR MASTERCARD
AND GET *FASTER* DELIVERY OF YOUR ORDERS.
(02) 681-3661

Applecations

SYSTEM 7.0

COMPUSERVE
AN INTRODUCTION

ALTERNATIVE
MOUSE

SEPTEMBER 1991

Apple II Good News and Bad

The following information was extracted from a recent copy of Scarlett - a publication of the Big Red Computer Club. The opinions are those of the BRCC and not AUG. First the:

GOOD NEWS

Apple Leaks Rumours About New IIGS
by John Wrenholt

Just when we all thought that every-one had completely given up on the Apple IIGS, it appears that Apple is willing to make one more attempt to keep the computer alive and well.

Since Apple has yet to make an official announcement on their plans, everything in this article is based strictly on rumours. However, I have been able to confirm most of the rumours with two Apple insiders who should know what is going on.

The insiders confirmed that Apple is planning on releasing a new CPU for the Apple IIGS. It will be called the Apple IIGS+. This new machine will come standard with 2 Megabytes of RAM and a 40 Megabyte hard disk drive. The machine will be bundled with HyperCard GS and AppleWorks GS.

I have also been able to confirm that the new IIGS won't be available through Apple dealers. A special sales division within Apple will be set up to handle all IIGS+ sales. Consumers will have to call an 800 number to order the machine.

There are several other rumours that I have heard concerning the new GS+. However, I have been unable to confirm any of the following items and you should consider them to be just rumours.

A New 640 X 400 Video Mode:

One of the major limitations of the IIGS is the lack of a high-resolution mode for graphics. If the GS+ had a new 640 X 400 mode, it would solve this limitation. However,

it would also require users to have a new monitor and it would be uncertain how to handle upgrades for current IIGS owners. To use this new mode, users may have to purchase a Video Overlay Card

No Built-In Accelerator Card:

Although both Applied Engineering and Zip Technologies are both selling Products which push the speed of the CPU to 7 or 8 MegaHertz, Apple apparently has no plans to include such an accelerator in the GS+.

Support for a SuperDrive:

All new Macintoshes are currently being sold with a SuperDrive 3.5" disk drive. This drive uses special high-density disks and is capable of storing twice as much data as a standard 3.5" disk drive. It would make sense for Apple to completely eliminate the standard 3.5" disk drives and switch all their units to the SuperDrive. This would allow users to run HyperCard without purchasing a hard disk drive.

All indications are that Apple will announce their plans to the development community at the KansasFest show in July. The actual ship date for the GS+ is rumoured to be November. Apple is also expected to announce System 6.0 for the GS at Applefest. This new System should offer increased support for networking and several new enhancements. After such a long absence, it's good to be hearing such positive rumours about the Apple II family. and now for the:

BAD NEWS

Broderbund

Broderbund has quietly discontinued all of their games for the Apple II and Apple IIGS including Ancient Land of Ys, Centari Alliance and Wings of Fury.

Electronic Arts

Electronic Arts Drops Apple Products:

Electronic Arts has followed the lead of several other software publishers and has discontinued their entire line of software products for the Apple II and Apple IIGS. Most of the discontinued products are games such as The Immortal, ChessMaster 2100 and Zany Golf. and now the:
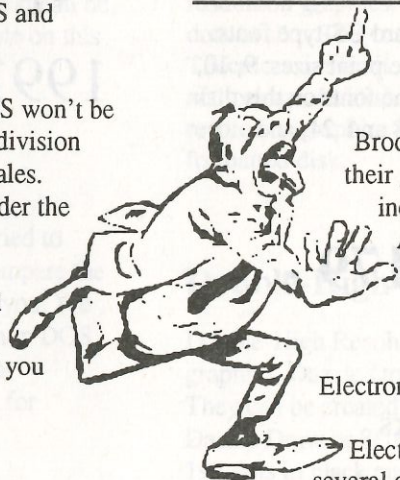
That is if you own Publish-It! 3 and you are expecting DataFlow to announce an upgrade. I have checked with DataFlow, they have the upgrade but because the product was previously handled by Edsoft, they do not know your name. They will upgrade you for $A79.95, provided that you give them proof of ownership.

Their address is:

Dataflow Computer
Services Pty Ltd
134 Barcom Ave
Rushcutters Bay,
NSW 2011
(02) 331 6153

TimeWorks

TimeWorks Updates Publish-It!:

TimeWorks has released an updated version of their popular IIe/IIc desktop publishing program, Publish-It!. The new version is called Publish-It! 4. Current owners of Publish-It! can update to the new version for only $US30 by contacting the publisher directly. The updated version has many new features including the ability to import graphics from The New Print Shop, automatic hyphenation of text, the ability to export text to other programs, the ability to format disks from within the program and the ability to find fonts in the System/Fonts directory on a IIGS. The update also adds support for two more printers: the HP DeskJet and LaserJet.

Of Mice and Men...

A review of two mouse alternatives
with Tony Szabo

I have been a devout advocate of the mouse ever since the first time I used one on my Apple //c way back when. Over the past few years alternatives have been scare in their appearance. Probably because of the Kensington Turbo mouse and its monopoly on the trackball market. But That is all changing with several new releases of late. I'll look at two of those in this review.

The Silhouette Trackball

The Silhouette Trackball is radical in its ergonomic design. The trackball is manufactured by EMAC, the Macintosh division of Everex Systems in the US. For those who haven't seen it I am afraid it would be hard to describe without pictures.

Setup is simple
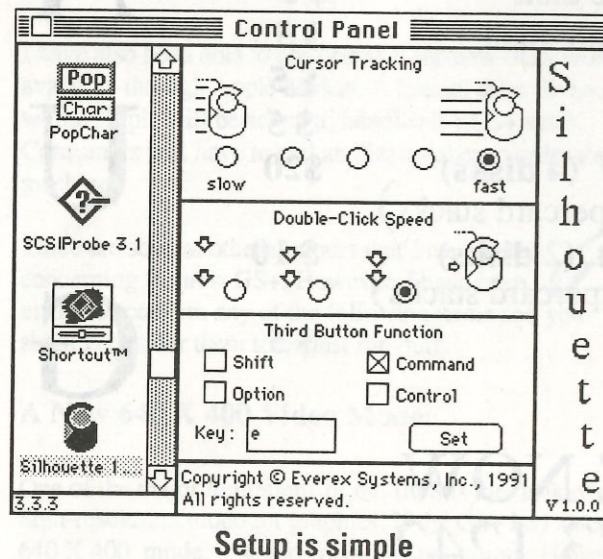
Unlike the Turbo Mouse the Silhouette is of a bulkier design. That's not to say its worse. In fact after a little time to get used to it you can actually feel more at home. The unit comes with no less than 4 coloured trackballs. Each of the balls is supposedly of a different weight. You the user decides which of these best suits your use. However, When I weighed them they all came up at 115g. Strange hey. That anomaly aside the only thing you have to decide is which colour goes best with your decor. The colours are yellow, green, red and purple.

The Silhouette has a resolution of 200 dpi and only works with the ADB capable Macs. The ball is located well to the front of the assembly in a well which has the front right area cut away so that you can get a good hold on the trackball by putting the fingers into the cutaway. This design does show a distinct bias towards the right handed user. I don't know if a left handed version is available. A quick test left handed showed it was difficult to comfortably work with the thumb in the cut away area. My two sons, both left handers, found it uncomfortable.

The buttons are also placed for use by right handers being under the thumb of the right handed user. I must say I prefer the setup of the Silhouette buttons to the Turbo Mouse but then I'm right handed. The rearmost button is very large and sits just under the fleshy area to the rear of your thumb. This allows quick selection by either the thumb or the rear of the hand. With the button being so large its hard to miss.

Forward of this button and at 9 o'clock to the trackball is a small illuminating button which acts as a click lock for click and drag operations. When you select the button it lights up with a red light. This I really like because it gives you a visual signal as to its state. Much better than the Turbo Mouse offering. There, one button is set as the click lock button and if you hit it during normal operation then you have no way of knowing until try to use it. It can get messy.

The last of the three buttons is a programmable button which you can assign a single function. I used it to eject floppies from the drive. It is limited because it will only allow one modifier key to be selected in the Silhouette cdev (see "Setup is simple"). To use the button for keystrokes which require the use of multiple modifiers will require the use of a macro package such as MacroMaker or QuicKeys 2. Only then will you be able to use the ⌘-Option-E to eject your floppies and remove the disk image (pre System 7.0 only).

Setup of the trackball is simple and simply gives you the opportunity to set the usual tracking and click speeds. The programmable button is also set in the cdev. The trackball has a resolu-

tion of 200 dpi and as I said I found it quite easy to use in everyday operations. The only fault I did find with it is this. Because you can grip it you do have a tendency to slide the ball sideways, crossing the internal rollers at right angles. This doesn't move the internal rollers at all and the cursor seems to freeze dead. You may be

The MousePen Professional

bothered by this anomaly but you soon get used to it.

In all I found the Silhouette to be much better than the Turbo Mouse because you can actually get a better grip, and thereby, a greater degree of control over your cursor.

The MousePen Professional

The MousePen Professional is a direct replacement for the mouse. By that I mean it comes with no special software. You simply set it up for use via the Mouse cdev. That means that it is ideal for *any Apple* computer which uses the ADB system.

The MousePen is also ideal for those who suffer a disability which prevents the use of the normal mouse. It being a pen type system you can easily use it anywhere there is enough space to fit its 2cm square head. Great for those in a wheel chair with limited space.

However, the MousePen does have features that set it apart from the generic

mouse we've all come to use. The unit comes with a small pad which includes a storage point. I found this pad to be the best surface for reliable movement. The pad is made of that old favourite - cloth covered foam. If you need a bigger surface than the one supplied many of the available mouse pads will also suffice but they won't have the handy storage point. I found the pants leg to be a good pad when playing games as you can easily sit back and relax in a more comfortable position. Try it with Crystal Quest or Sky Shadow its great.

Once you have it plugged in the manual suggests setting you mouse cdev to tablet - the slowest setting. I personally found this frustrating to start with until I reread the manual. The MousePen has two buttons. No, we're not regressing to IBM standards. The bottom button acts as the normal mouse button. The top button controls the resolution of the pen. The pen has both a linear and dynamic gain mode. In the linear mode the cursor will move in a constant 150 counts per inch (*dunno if this is the same as dpi*) regardless of the speed with which you move you pen.

The second resolution, dynamic gain, varies the cursor response in relation to you pen speed. The range is from 100 cpi to 1000 cpi. This mode takes some getting used to. When you first begin using it you may think your cursor has developed a mind of its own. But it's only using a bit of intelligence to help with cursor movement. Move slowly and the cursor will follow with fine movements. Move the cursor quickly and the cursor will fly across your screen. Once you master the use of the top button and recognise when to use each mode you will find the MousePen a fine desktop companion. For those people looking for a fine cursor control drawing instrument don't buy the MousePen. Even though it is good for the odd graphics object it will

not give the same highly accurate response. For this you will require the more expensive graphics tablet and pressure sensitive stylus combinations. Wacom is a good example here.

If you want a cursor control device which can also be used by the kids to draw in KidsPiks then this one is for you. In fact your kids may, at first, take more kindly to drawing with this little gem than the mouse. Its just like using crayons to them.

In the time I was using it the MousePen worked without a hitch. There were times when it did some strange things. At times when I was trying to do fine selection work the cursor would take on a mind of its own and spear off at high speed to the left or right edge of the screen. It didn't do it all the time and you couldn't really pick the times it would happen with any certainty but it happened enough to become an annoyance.

Pricing

Its when you see the prices that you wonder how they work out product pricing. The Silhouette with its much larger size, included software disk and selection of trackballs has a recommended retail of $195. The MousePen Professional with its pen and pad only has a recommended retail of $199. The equipment I used for this review was supplied by MAST in Buckland Street, Broadway. Brian Hinder of MAST assures me that members of AUG will receive a discount on these prices. So, if they look good to you then give Brian a call on 281-7411. And they're open all weekend too. You can also catch up with Brian at our meetings. Happy Mac...

Do you want to see something in print about certain software?

Do you have a question on a software package?

Let us know so we can put it in an upcoming issue of *Applecations.*

QUINTESSENTIAL QUANTIFICATIONS
FOR QUAQUAVERSAL QUERULOUSNESS

By Chris Birch

Of the articles that have appeared under my name in Applecations, none has generated more response than my "Quantum Quips, Quirks and Quiditty" article. Most respondents are Apple Mac owners who are about to purchase their first hard disk. For owners of later model Macs with an internal hard disk this is necessarily an external hard disk.

I am invariably asked whether the Quantum brand hard disks are really as good as the impressive performance statistics I quoted. From the point of view of accuracy of the manufacturers claims I believe the access times, reliability, etc to be spot on, if a little conservative. The latest or larger capacity Quantum hard disks are even better, according to the manufacturer's claims.

The article did not directly compare the Quantum hard disk performance data with those of other manufacturers. Seagate mechanisms for instance are used extensively by Apple Inc. for the internal Apple Mac hard disks here in Australia (as well as elsewhere). Rodime and MiniScribe mechanisms are also found in many Macs. Apple II users will be familiar with the Seagate mechanisms.

The point of the article was to describe the essential nature of hard disks or their quiddity by referring back to the technology of yesteryear - the venerable 5.25" or 3.5" floppy - it's the technology we can all relate to. We can touch and feel the storage media and even see the drive in operation if we care to peek inside or remove the cover. But some comparisons with other mechanisms may be in order.

The Emulex label internal hard disks for the Vax 3300 through to Vax 9000 range of DEC mini computers are, according to the distributor's claims, directly connectable to a stand-alone or cluster Vax system with "the only true SDI native interface". Capacities range from 663Mb to 1950Mb per spindle. The above personal computer hard disks have just the one spindle. A floppy drive has one spindle. The Mean Time Between Failure (MTBF) is 100,000 hours, the maximum transfer rate is 2.75Mb to 3.0Mb/sec and the average access time is 15ms.

MacinStor badged units are popular Apple Macintosh external hard disks. The 345HCV and 630HCV models are high end devices offering 345 and 632 megabytes of storage. The average access time is 14 and 16.5 ms respectively. They both offer 30,000 hours MTBF and 1.88Mb/sec transfer rates. The manufacturer of the MacinStor is Storage Dimensions who are owned by

Maxtor. The mechanism inside the case is of course a Maxtor.

Similarly, Cobra labelled hard disks have a Rodime mechanism. Rodime are famous as the inventors of the 3.5" Winchester hard disk technology as far back as 1983. The Cobra range, from the 45e (45Mb) up to the 215e all offer an average access time of 18ms and 30,000 hours MTBF. The data transfer rate is 1.25Mb/sec except for the 215e that offers a maximum of 1.5Mb/sec.

The new Apple Macintosh LC has the latest generation "1/3rd height" hard disk. It's the Quantum LPS or Low Power Series model and although they use only 4.5 watts when idling or 5.5W when doing a "typical 30% seek" (compared with 8W and 9W for the Quantum 105S or 12W and 12.6W for the 210S) their performance is nonetheless impressive. The raw 17msec average seek time is better than the 19msec of the 105S and coupled with the DisCach RAM buffer the effective seek should be below 12msec. The other seek and head switch times are also slightly better than the 105S. MTBF is an excellent 60,000 hours (50,000 for the 105S) and the data transfer rates are marginally better than the 105S. All in a third height drive!

Toshiba is not so well known as a hard disk manufacturer yet several of their models include a SCSI interface. The MK234FB is a 106Mb drive with 30,000 hours MTBF, 25ms average seek time and 1.25Mb/sec transfer rate. At the high end the MK358FB has 676Mb, 30,000 hours MTBF, 9ms average seek time and 2.46Mb/sec transfer rate.

The same vendor also has models for other interfaces but the SCSI interface is standard for all Apple computers. The ST506 (or 412) interface is the standard for IBM PC AT like computers. There is also the newer AT interface that offers faster transfer and the ESDI interface that is better again. In short, if the interface (or the way in which the hard disk communicates with your computer) is not a SCSI interface then don't consider connecting it to your Apple computer.

Needless to say the ST506 interface is the slower of the above interfaces. You would be doing very well to achieve 0.6Mb/sec transfer rates and because the drive's read/write heads are in very close proximity to the media for longer the reliability is also much lower. An ST506 conversant hard disk will have an average access time of 30 to 40ms at best.

The previous article (November/December Applecations) described the Quantum hard disks as having a "rotary positioning actuator" known as a "voice coil". This just describes the way the read/write heads are moved around the hard disk. The alternative technology is the older "stepper motor". Most ST506 hard disks use a stepper motor. It's the same technology as found in a floppy disk drive and average access times of 60ms or above are common.

Most hard disks with earlier mechanical technology suffer frequent head crashes and media failure. This is a very important consideration if the hard disk will not be kept in the same place or if it is kept near excessive vibrations. You should not throw out any of the older Seagate drives in your ruck sack and jump aboard a bus or "red rattler" train as I do with confidence with my Quantum hard disk.

It is possible to connect a non-SCSI hard disk to your computer but buyer beware! Apple Mac and Apple IIgs owners would probably need to add some special system files with their Installer utility (part of the system software). Hopefully these will be upwards compatible with any newer system software or the company will not be bankrupt and update the drivers when the system software does get updated.

The Inner Drive hard disk is a case in point. It was designed specifically for the slotted Apple II models as a plug ready internal hard disk. The manufacturer explained away the ST506 interface by saying that investing in a SCSI interface drive is a waste of money because the computer cannot receive or send the data much faster than the maximum ST506 rate anyway. This is because the computers (any Apple) lack a feature known as Direct Memory Access (DMA). In fact the Apple Mac IIfx and Apple IIgs have DMA capability with the DMA functional only in the IIgs.

It remains that a hard disk with the superior SCSI technology is usually itself superior in terms of mechanical performance. Additionally, just as DMA SCSI was added to the Apple IIgs, DMA may eventually be implemented in the Macintosh family. Certainly not with System 7.0 although the IIfx is hardware ready for DMA SCSI. Scope for expansion is crucial in planning an investment as important as a hard disk.

Owners of slotted Apple II computers prior to the IIgs (most likely an Apple IIe enhanced) should note that the maximum transfer rate with the new Apple II High Speed SCSI card is 511Kb/sec. An ST506 based hard disk will be adequate for your current requirements but again I stress you should look several years ahead to possible future requirements. Consider that the resale value of a late model hard disk is much greater than the depreciated value of an old stepper motor drive with an ST506 interface.

When considering the purchase of a hard disk you should always opt for an external hard disk as opposed to an internal. This is because the internal hard disk will only be compatible for certain Apple models yet the external (SCSI) hard disk is compatible across the entire product range. This is especially important in an environment with several cpu platforms such as a school. The common SCSI interface blurs the distinction between the Apple IIgs, Mac LC, Apple IIe, Mac SE, et al. You also have the scope to take your hard disk with you if you upgrade to another Apple computer, even one that is yet to be invented.

The second most important feature is of course the technology. The above data and the previous article will give you an indication of what to expect. Reject any claims that are vastly superior or inferior to any specifications that appear here. The Inner Drive claimed 170,000 hours MTBF and that exceeds even the performance of a mini or main frame computer's hard disks. Remember that today's hard disk technology must work in with tomorrow's computer technology as your hard disk could outlast your computer.

Thirdly, what size to get? My answer is simple: As much as your budget will allow for. This is especially true if you are a typical enthusiast why likes to collect any program or data that comes your way. Educators or students should note that HyperCard stacks (IIgs or Mac) take up a lot of space. If you like graphics then each file will consume around 32K if it's a IIgs screen and lots more if you have a 32 bit Quickdraw application. Several minutes of sound could quite easily consume several megabytes of memory. The AUG bulletin boards and Public Domain Libraries contain many megabytes of excellent graphics, stacks and sounds.

More and more magazines are disk based. You'll want to transfer the programs, data and stacks from these disks to your hard disk. Mac and Apple IIgs owners will want to install all the latest desk accessories (DAs - Mac, CDA and NDA - IIgs), Control Panel add-ons (CDEVs) and fonts. All these system software add ons are invariably Public Domain, certainly not "trashy" and impossible to install on a floppy based system. Control your CD player from your computer. Play Solitaire while searching for a file while in turn editing a document while you're painting a picture. Let your computer shut down the monitor automatically if you walk away or remind you of an important appointment. All available from the AUG Public Domain library and only possible with a hard disk. You'll not believe the possibilities until you get a hard disk.

The price of hard disks is forever coming down. The technology is evolving fast enough for this to occur. You could wait years for the price of hard disks to stabilise as you would wait years for DRAM (computer memory integrated circuits or "chips") prices to stabilise. The only rule of thumb is that the cost per megabyte is cheaper as the

capacity of the hard disk increases. The hard disk might be $100 cheaper in 4 months time but no matter what it will certainly get cheaper after you do decide to purchase one. What is apparent is that the price reductions are more apparent with the higher capacity drives. I suspect the smaller capacity drives (less than 40Mb) have almost levelled out. Until the next advance in hard disk technology.

With ample scope for expansion you will not have to be too meticulous in how you manage your data and programs. Although file moving is a trivial procedure under Finder it is nevertheless time consuming if you are trying to manage a hard disk with less than 5% free space per partition. Few people have the spare time to devote an entire evening to juggling their files, compressing and deleting them to gain space on a crowded hard disk.

The price you pay for your hard disk is the bottom line. The market is very competitive. Nobody pays "suggested retail price" anymore and you should be ruthless in negotiating a bargain. You would be very unlucky to purchase a lemon if you stick to the latest technology hard disks. Just make sure there is an official servicing agent here in Australia. Allaw Technology distribute and repair Quantum hard disks. The person who sold you the Quantum mechanism will forward the hard disk to Allaw for any servicing. Allaw are responsible for honouring any warranty.

As well as playing the retailers off against each other with your own spurious reduced prices I have found the best approach is to be vague and let the sales person talk you into being interested in purchasing the hard disk (or whatever). They are more likely to substantially reduce the price on a second or subsequent phone call if they feel you are not already committed to buying a hard disk. They need to sell the concept to you and a lower price is the most effective way of achieving their goal. If you just ring up and ask for their lowest price on a certain hard disk then they will give you a lower price but not necessarily the best price.

Another aspect to consider is the software that comes bundled with the hard disk and this is especially true if all other considerations are equal. The UniMac hard disk comes with the excellent StorWare hard disk management package. Chinook include the latest system software, a host of SCSI utilities as well as the Vitesse Guardian backup program and a range of shareware and a demonstration version of programs such as HyperStudio, DB Master and Tutor-Tech. La Cie bundles the Peter Norton Utilities. Your Cobra hard disk will include all the necessary partitioning software as well as the Fastback archiving utility.

Probably the best deal of all is the 105Mb Quantum drive with a Resource Central badge available from the same. Suitable for slotted Apple II owners only, the US$599

package includes "every issue of Open-Apple/A2-Central ever published, a complete set of Apple technical notes in text files, the most complete collection of Apple IIgs icons ever assembled, sample issues of 8/16-Central, Stack-Central, TimeOut Central and Hyperbole, and a year's worth of A2-Central On Disk". By my estimation there is at least 17Mb of data, magazines, stacks, icons and utilities already on the hard disk.

You will notice that some vendors make a distinction between SCSI hard disks and Macintosh SCSI hard disks as though there is a difference. The essential difference is the question of whether or not the external hard disk supplies its own terminator power or whether the termination must be provided by, say, the computer. There will be other differences such as price and the software bundled with the drive.

There is no definitive single source of information as to which Apple computers provide their own terminator power but early Macs such as the Mac Plus, the Mac Portable, the Apple II family and the Mac IIfx do not supply terminator power. Yet it remains that a hard disk that doesn't supply terminator power will sometimes work with one of these computers if the cable is very short.

On many hard disks it is also possible to vary whether the hard disk correctly terminates by adjusting a switch or some resistors. This would be a necessary feature in a multiple cpu or hard disk environment or where there are other SCSI devices such as the Apple Personal LaserWriter SC or a CD-ROM drive.

Apple II owners do not have the SCSI interface built in. This means the addition of the official Apple II High Speed SCSI Card or a third party card. The CIRTECH SCSI card is the only one that allows DOS 3.3, Pascal and CP/M file systems to work from the hard disk. The CVTech RAMFast SCSI card is by far the fastest. Both third party cards allow ProDOS 8 to access extra partitions. This is important with larger hard disks. The Apple brand card is compatible with more SCSI devices and does not require customisations to the system software.

Apple III owners can also use most SCSI hard disks if they have the appropriate driver software. A suitable interface card and software for Quantum hard disks can be purchased from On-Three in the USA. Once configured for the Apple III, the same hard disk can be used with other Apple II family computers.

For all Apple users and owners, check the Weekly Trading Post for new and second hand drives if you are prepared to bargain and barter your way to hard disk quietude!

Chris Birch

CompuServe Pacific

A look at this long awaited service with Tony Szabo

For several years now we in the antipodes have been forced to watch as our US Mac colleagues have had the use of CompuServe. That doesn't include those among us who have paid dearly for the luxury of CompuServe accounts via ISD phone lines. But now with Fujitsu's CompuServe Pacific (CP) service we can all have a bite of the communal forums pie.

The human face of CompuServe

CompuServe started in earnest in early July but the Mac service in Sydney was slightly delayed. The service is now in full swing and you too can now ring the US via the Fujitsu network and rub shoulders with the best in the Mac world. In my first log on I rubbed shoulders with the likes of Bill Goodman (of Compact Pro fame) in the Mac Developers Forum.

I have been a heavy user of the AUG*MAC*BBS for some years now and have been looking forward to logging on to CompuServe and its multitude of download areas and forums. In this article I'll quickly cover some of the things I've learnt during the first two weeks of its use.
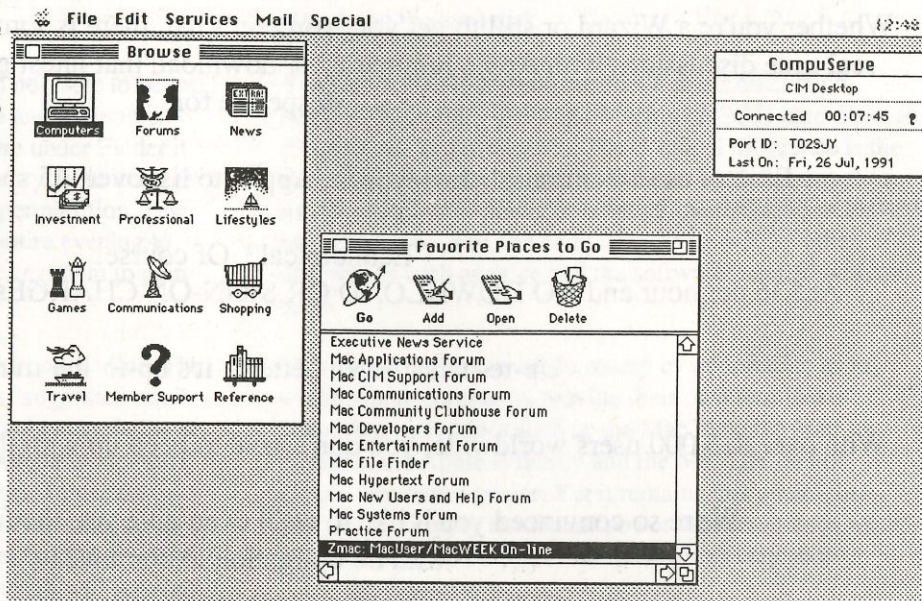
The first thing you have to decide is how to join. I took the relatively easy way of ringing the 008 number, listed in the ad on the inside back cover of last months magazine, where I spoke with John Rotenstein by chance, and ordered the CompuServe Information Manager (CIM) software package. The Pacific version costs $70 (postage included) and has a $40 ($50 NZ) usage credit in the price. That means a good deal of information at your finger tips for a mere $30 delivered.

The manual is essentially the US version with a small supplement for the Pacific region which lists things like phone numbers, logging on and billing methods. The easiest and cheapest way to pay is via your handy credit card. Other methods are available but they incur extra account keeping charges and force a longer wait while credit approval is sought.

The CIM disk includes an application for automated sign up but this does not work with CP. To sign on for the first time you select Session Settings (see "Easy Setup") and enter the temporary User ID and password included with your package. Simply complete the other options and select your network and baud rate and you are done.

To log on for the first time you have to revert to the old style (IBM) command line interface of the Terminal Emulator. Simply by clicking the connect button the program will automatically connect you to the selected service via the number you gave. Note that you should use the number of the closest city when ringing STD to keep your charges to an absolute minimum. Once the connection is established you must follow the prompts entering you User ID and billing information. You must acknowledge the terms of use by typing AGREE to complete your sign up. Your temporary User ID and password will then be replaced by your online User ID and another temporary password. This will be replaced by you full access password which you will receive in the mail within 10 days.

Easy Setup

If you selected a billing method other than credit card you will have limited access to many of the home shopping areas until your credit is cleared. After the log on you can enter the CompuServe system but you are still in Terminal Emulator mode. I suggest you disconnect by selecting disconnect from the File menu and logging back on again using the CIM /HMI which provides the window and icon driven interface we are all used to (see "The human face of CompuServe")

The initial windows which appear include the Browse window and the Favourite Places window. Between them they contain most of the areas you will want to visit initially. Once you have outgrown the learning stage you can expand your favourite places to your hearts content (see "My favourite places..."). Up in the top right hand corner of the screen is a small clock which serves many purposes. On the first line is the current location you are visiting, next the current connect time and lastly (when you click the small toggle) the port ID to which you are connected. The port ID is good for reporting errors to Fujitsu should encounter problems with the system.

You can log on again by simply double clicking any of the icons in the Browse window. I suggest the Computer icon for obvious reasons. You can also log in direct to a favourite forum or area by double clicking the item in your Favourite Places window. As you move around between forums numerous other windows (see "Browsing services") will appear listing available areas.

While I think of it remember these two keyboard shortcuts - ⌘G and ⌘L. The ⌘G brings up a dialog box into which you can type an address to jump to directly (see "Shortcutting the system..."). The ⌘L stands for leave. This takes you out of the current forum and back to the CIM desktop.

I have found it best to put my most used places into the Favourite Places window. I now only use the ⌘G for places I don't usually visit. All of the addresses for each area of CompuServe are listed by topic of interest in the back of the manual. Just reading it makes your mouth water with anticipation. The greatest use I find with CP is the ability to keep in touch with software and hardware manufacturers and to be able to ask questions of them directly. I have had good responses to all the questions I've placed so far. Even from Microsoft.

The next greatest use is for keeping up to date on the PD software front. CompuServe is the recognised leader in this area and all of the latest titles are uploaded daily. Each forum has its own upload and download areas. One of the best all round services is ZMAC

My Favourite Places...
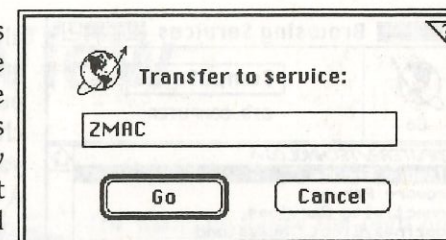
Shortcutting the System

(MacUser) where you can get your hands on the latest programming examples from the current issue and also browse up to date Mac news. As a matter of fact you can also browse MacWeek here also.

The number of areas you can go to is enormous and you probably will run out of money before seeing everything. But don't worry it's not all that dear. For a normal credit card user the charge is $36 an hour. This is split between an $18/hour CompuServe charge and an $18/hour Fujitsu connect surcharge. The connect surcharge is as sure as death and taxes but the CompuServe charges depend on which areas you visit. Many areas, such as the Electronic Mall, where you can home shop are free of CompuServe charges while you are in there. All of these areas are clearly marked both in the manual and on screen when you enter them.

While we're talking charges don't blow you're first $40 browsing the system. Go straight to the Practice Forum where there are no CompuServe charges and read the helpful information located there. Also download the help files for later reading as well as an up to date listing of all addresses. Once you have spent some learning time here your online time will prove more productive and less expensive.

File downloads are a snap. When you enter a forum for the first time you must join or visit. Join, as it gives you better privileges and carries no extra penalties. Once you enter a forum a number of new windows appear (see "The Forum in use..."). The top left window is the Forum Status. Here you can launch off into discussions, if they are in progress, or read new messages in the message area. You can also open a window to watch who leaves and
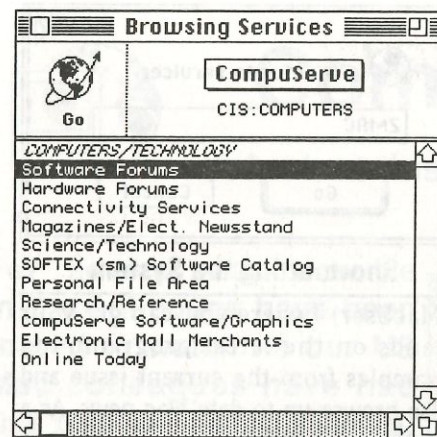
Browsing Services
CompuServe
CIS:COMPUTERS

COMPUTERS/TECHNOLOGY
Software Forums
Hardware Forums
Connectivity Services
Magazines/Elect. Newsstand
Science/Technology
SOFTEX (sm) Software Catalog
Personal File Area
Research/Reference
CompuServe Software/Graphics
Electronic Mail Merchants
Online Today

enters the forum. This is where you can keep an eye out for the Mac community notables. If you are a download freak like me head for the Library where a Library Sections window shows all available download areas. It is a true wealth of riches. But don't forget to contribute as well. Even if it is only a small token (virus free) effort. Selecting an area brings up a list of files showing name, size etc. Before each is a checkbox so you can select it for download. You can download individual files or simply select a file and mark it for future download. Once you've marked all the files you want simply select Retrieve Marked from the Libraries menu and a dialogue appears listing all marked files so you can check the list. In the top of the dialogue is a check box which when selected will automatically log you out after the downloads. This lets you finish each session on CP with downloads knowing you will be disconnected at the end.

If you get stuck at any time during your journey around CP a very comprehensive help system is available at every turn.

How much more is there that I haven't covered? HEAPS... Suffice to say that the service is well worth any money you spend on it. As you can see by the list in *my* favourite places dialogue there are many more places other than the computer area. There is news, views and reviews of every kind. Even Soapie freaks are catered for with a transcript of each episode. As I said earlier the CIM manual lists

all of the available services and discusses the major areas (such as computers, finance and news) in specific chapters. If you have a travel bent then you can do all of your bookings there. A full reference library is also available including an up to date news service.

I could go on forever and a day and still miss something. My only suggestion is if it sounds good to you give it a try. You can close you membership at any time. If you don't use your membership for some time there is still a monthly $3 fee. Should you cancel and then rejoin a $14 reactivation fee is charged.

Well, I've run out of space but not words but I'll end by restating these points.

1. Read the CIM manual through **before** your first log on.
2. Use your $40 credit to practice things in the Practice Forum so you don't waste your money.
3. Download the SECTNS.ARC file in that forum which gives an up to date list of services.
4. Setup your Favourite Places dialogue offline so you can jump around quickly when online.
5. **REMEMBER** the ⌘G and ⌘L short-

cuts for those areas that you don't normally visit. It saves that little extra online time and charges.

6. Compose you messages and notes offline and place them into your Filing Cabinet folder for transmission online. Your notes can be composed in CIM by selecting Open from the File menu.

I know I didn't cover notes because it is **impossible** for me to even scratch the surface on this service in one article. So, look for more in coming issues. If any long term users of CompuServe have any tips or ideas or if you want to contribute an article let me know. My ID is listed at the end of this article. Or ring me. I can also be contacted on AUG*MAC*BBS. Maybe a user of CompuServe Navigator can draft an article covering this software. Please contribute in the spirit of CompuServe as is has the potential to be great.

In parting don't forget that if you download PD stuff from CompuServe then keep it handy and upload it to AUG*MAC*BBS at regular log ons. This will keep the board up to date and those members who can't afford the CP advantage can still benefit. I hope to see you on the service. Happy Mac...

Tony Szabo - 100026,10
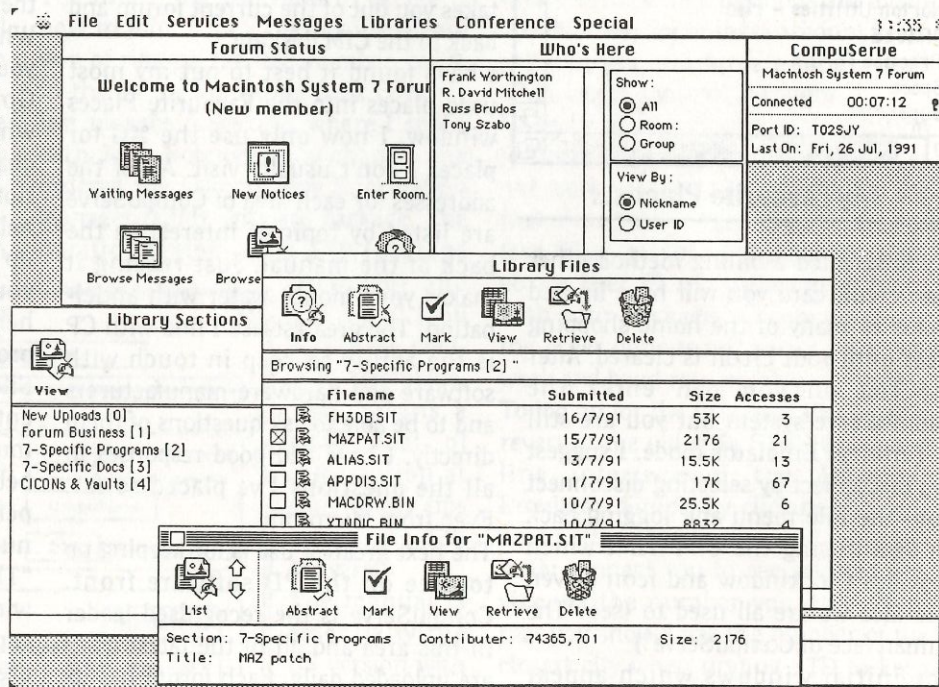
The Forum in use...

A System 7.0 View

with Tony Szabo
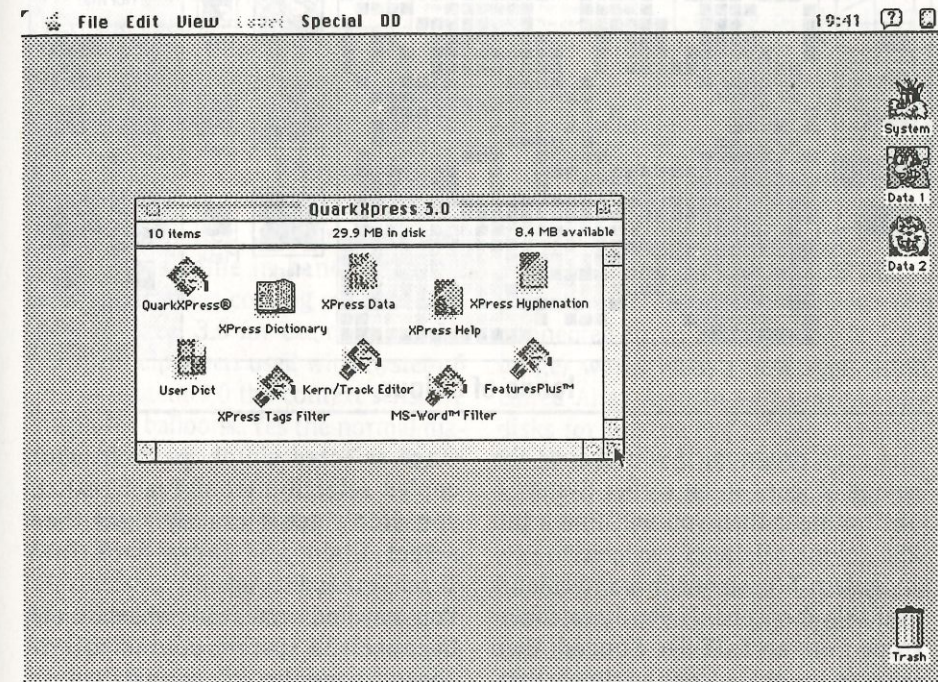
The 7.0 Desktop

System 7.0 has been available for two months now and it's still hard to get from your local dealer. It seems that Apple underestimated its demand (like they did with the low cost Macs) and they are having trouble meeting demand worldwide.

If you don't want or need the documentation then buy our offering from the disk library. This should placate most experienced Mac users. Those new to the Mac world of computing (the new Classic or LC owner) should take advantage of the Personal Upgrade Kit if only for the manuals.

I've been using System 7.0 ever since it became available in the US date format. I then downloaded the Australian (international) version from the AUG*MAC*BBS. I found no real need to buy the kit. Then I began to get an increasing number of calls from club members about System 7.0. I hate cuffing any answers to members so I went out and purchased the Upgrade Kit for $140. So, what do you get for your dollars?

The kit, packaged in Corke, Ireland, is truly international, as shown by its multilingual 800K disk labels. All 12 of them. In the package you get the 7 disk install set, a System 6.07 boot Disk Tools (no System 7.0 won't fit on an 800K floppy) as well as a two disk (*very*) basic HyperCard set. Also included is the Before You Install disk as well as the Networking Basic Tour disk.

The manuals follow the high Apple standard. First reading includes the manual What's New in System 7.0 followed by How to Install. You get two reference manuals. The first is the large 400+ page general reference manual. And the last is a reference for networking. This manual discusses all aspects of the new file sharing system. The final manual is a *thin* 30 page HyperCard manual. The HyperCard novice should go out and purchase The Complete HyperCard Handbook (3rd Ed.) by Danny Goodman before attempting any serious HyperCard project. You could also shell out $100 for the full HyperCard set from Apple. I shouldn't forget that you also get your own personal copy of Apples legal documentation complete with its own heavy card wallet. Yes, a license agreement in 21 different languages.

The information in these manuals as I said is well up to the Apple standard we've come to expect. Explanations are concise and diagrams are clearly drawn. I suggest the novice reads them cover to cover over the first few weeks of Mac use. Even the old timers will find interesting new insights. I'll show you a few in the next few paragraphs. Also some nice little things to enhance your System 7.0. Only a few add ons
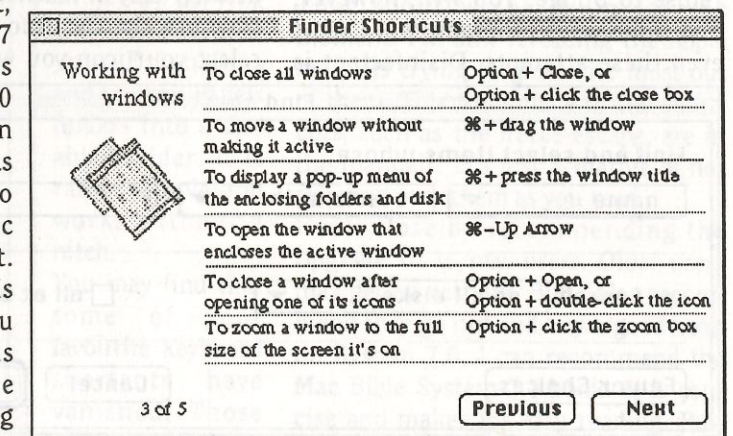
Finder Shorts

Applecations

in this issue ..... Reviews Unlimited!

WordPerfect Office 3.0
WordPerfect 2.0
FontStudio
PhotoShop 2.0
GreatWorks
Canvas 3.0
M.Y.O.B.
and more!

Controlling the 3.5 Drive Hardware on the Apple IIGS

By Neil Parker

First, the standard Dire Warnings:
The following article is based on information found in several publications (listed at the end of this article), my own disassemblies of the relevant Apple IIGS ROM routines, and on some experimentation. I can make no guarantees as to the accuracy of this information—it should probably be considered as a starting point for your own explorations rather than as an authoritative source. Remember that when you use this information you're dealing directly with the Naked Hardware, and the myriad protective features of the firmware and operating system are not available. Should you be so foolish as to try out this information with a non-expendable disk in the drive, I won't be held responsible for any lost data.
(End of Dire Warnings.)

A note about machine code: All the sample routines in this article assume the the processor is in emulation mode or 8-bit native mode. All I/O locations mentioned are in bank $E0 or $E1, and also in bank 0 or 1 if I/O shadowing is enabled.

Controlling the Apple 3.5 Drive hardware directly requires a knowledge of two separate pieces of hardware—the drive itself, and the IWM interface chip.
The IWM chip in the Apple IIGS is configured to reside in internal slot 6. Its I/O locations are the same as the original Disk][interface in slot 6:

```
CA0    EQU $C0E0   ;stepper phase 0 / control line 0
CA1    EQU $C0E2   ;stepper phase 1 / control line 1
CA2    EQU $C0E4   ;stepper phase 2 / control line 2
LSTRB  EQU $C0E6   ;stepper phase 3 / control strobe
ENABLE EQU $C0E8   ;disk drive off/on
SELECT EQU $C0EA   ;select drive 1/2
Q6     EQU $C0EC
Q7     EQU $C0EE
```

Each of these locations represents a two-way switch—accessing location X turns off the switch; accessing location X+1 turns it on.

For the 5.25-inch drive, the switches CA0...LSTRB control the stepper motor which positions the read/write head over the desired track. For the 3.5-inch drive, these switches have become general-purpose control lines—more on this later.
The ENABLE switch is used to turn the drive off and on. This switch turns on the red "in use" light, holds the disk in the drive, and prepares the drive to receive further commands. Unlike the 5.25-inch drive, it does not start the spindle motor spinning—a special command is needed for that (again, more on this later).
The SELECT switch still fully retains its original function—if it is off, drive 1 will be accessed; turning it on selects drive 2.
The switches Q6 and Q7 together form a single four-way switch. The function of this switch is somewhat complex, and will be covered in detail later.
The following additional memory locations are also important when dealing with the 3.5-inch drive:

```
SLTROMSEL EQU $C02D   ;Clear bit 6 to enable
internal slot 6 hardware
DISKREG   EQU $C031   ;Additional disk drive control
register
CYAREG    EQU $C036   ;System speed and motor-on
detect bits
```

Bit 6 of SLTROMSEL controls whether the internal hardware and firmware for slot 6 is available, or whether an external card in slot 6 is available. Before any access to the disk drive is possible, the internal hardware for slot 6 must be selected by turning off bit 6. Before modifying this register, its original contents should be saved somewhere so that your routine can restore the original system state when it's through with the drive.
The 3.5-inch drive does its I/O twice as fast as the 5.25-inch drive, so it is necessary to set the system speed to fast when reading or writing data in order to avoid getting out of step with the drive. This isn't as simple as turning on bit 7 of CYAREG—it's possible (certain, in fact, if you have a 5.25-inch drive) that the slot 6 motor-on detect bit will be on, which causes the system speed to go back to slow as soon as the drive is turned on (this is done for compatibility with 8-bit operating systems which don't know about the system speed bit). Thus you must also turn off bit 2 of CYAREG—this disables the motor-on detect. As with SLTROMSEL, the original contents of CYAREG should be saved by your routine and restored when it's through with the drive.
DISKREG contains two bits of interest to the 3.5-inch drive. Bit 7 (called the SEL line) is a general-purpose control line which works in conjunction with the CA0...LSTRB switches (note that the Hardware Reference and the Firmware Reference both state that this bit selects between the upper and lower heads of the drive—this is INCORRECT). Bit6 enables the 3.5-inch drive—if this bit is off, the 5.25-inch drive and the smartport devices are

available, and if it is on, the 3.5-inch drive is available. The other bits are reserved and should not be modified. One of the first things a 3.5-inch drive routine should do is turn on bit 6 of DISKREG (otherwise the wrong device will be accessed), and when it's done it should turn this bit back off (to prevent other programs from becoming hopelessly confused).
The IWM chip has several internal registers available to programs. Access to these registers is controlled by the Q6 and Q7 switches.

Q6 Q7 Register

```
off off Read data register
off on  Read handshake register
on  off Read status register
on  on  Write mode register (if drive is off)
on  on  Data register (if drive is on)
```

The mode register is a write-only register containing several flag bits which control various features if the IWM. To access it, turn off the drive (by accessing ENABLE), turn on Q6 and Q7, and write to any odd-numbered address in the $C0E0...$C0EF range.
Note that the drive may remain active for a second or two after the ENABLE access, and that the write to the mode register will fail unless the drive is fully deactivated. Therefore, it is necessary to write to the mode register repeatedly until the status register (see below) indicates that the desired changes have taken effect. The IIGS ROM uses a routine like the following to accomplish this (enter with the desired mode in the Y-register):

```
SELIWM LDA ENABLE   ;turn drive off
       LDA Q6+1     ;prepare to access mode & status regs
       BRA SELIWM1
SELIWM2 TYA
       STA Q7+1     ;try writing to mode reg
SELIWM1 TYA
       EOR Q7       ;check status reg
       AND #$1F     ;(only bits 0-4 matter)
       BNE SELIWM2  ;if different, try writing again
       RTS
```

The bits of the mode register are as follows:

Bit Function

7-5 Reserved
4 Clock speed. 0=7 MHz, 1=8 MHz. Should always be 0.
3 Bit cell time. 0=4 usec/bit (for 5.25), 1=2 usec/bit (for 3.5).
2 Motor-off timer. 0=leave drive on for 1 sec after program turns it off, 1=don't delay. Should be 0 for 5.25 and 1 for 3.5.
1 Handshake protocol. 0=synchronous (software must supply proper timing for writing data), 1=asynchronous (IWM supplies timing). Should be 0 for 5.25 and 1 for 3.5.
0 Latch mode. 0=read-data stays valid for about 7 usec, 1=read-data stays valid for full byte time. Should be 0 for 5.25 and 1 for 3.5.

Before doing I/O to the 3.5-inch drive, the mode register should be set to $0F. When your routine is done, it should be sure to set the mode register back to $00.
The status register is a read-only register which contains information about the current status of the drive and the IWM. To access it, turn Q7 off and Q6 on, and read from any even-numbered address in the $C0E0...$C0EF range. The bits of the status register are as follows:

Bit Function

7 Sense input. This is the write-protect indicator for the 5.25-inch drive, and a general status line for the 3.5-inch drive.
6 Reserved.
5 Drive enabled. If this bit is 1, a disk drive is on.
4-0 Same as bit 4-0 of the mode register.

The handshake register is a read-only register used when writing to the disk in asynchronous mode (when bit 1 of the mode register is on). It indicates whether the IWM is ready to receive the next data byte. To read the handshake register, turn switches Q6 off and Q7 on, and read from any even-numbered address in the $C0E0...$C0EF range. The bits of the mode register are as follows:

Bit Function

7 Register ready. 0=IWM is busy, 1=IWM is ready for data.
6 Underrun. 0=write underrun has occurred (the program took too long to write the next byte), 1=no underrun.
5-0 Reserved.

The data register is the register that you read to get the actual data from the disk and write to store data on the disk. To read it, turn Q6 and Q7 off and read from any even-numbered address in the $C0E0...$C0EF range. To write it, turn Q6 and Q7 on and write to any odd-numbered address in the $C0E0...$C0EF range. When reading, the high bit of the data register becomes 1 when the data is valid (this is due to the structure of data on the disk - all valid disk bytes have the high bit set). Writing is a bit tricky - see the example below.
Once the disk is properly configured, reading data is quite simple - the following code illustrates the technique:

```
    LDA Q7       ;insure read mode
R1  LDA Q6       ;ready yet?
    BPL R1       ;if not, try again
    STA DATA1    ;got a valid byte, so save it
R2  LDA Q6       ;repeat ad nauseam...
    BPL R2
    STA DATA2
R3  LDA Q6
    BPL R3
    STA DATA3
etc...
```

Writing data is somewhat more difficult, but mercifully it

is not necessary for the user's program to count out precise 32-cycle intervals as it was with the 5.25-inch drive - turning on asynchronous mode causes the IWM to take care of the details of the counting. The following code illustrates the technique:

```
        BIT Q6+1    ;prepare for writing
        LDA DATA1   ;get first data
        STA Q7+1    ;set write mode and write data
        LDA DATA2   ;get second data
W1      BIT Q6      ;ready yet?
        BPL W1      ;if not, try again
        STA Q6+1    ;write second data
        LDA DATA3   ;do it again...
W2      BIT Q6
        BPL W2
        STA Q6+1
        LDA DATA4   ;and again...
W3      BIT Q6
        BPL W3
        STA Q6+1
        etc...
WLAST   BIT Q6      ;wait until last data underruns
        BVS WLAST
        BIT Q7      ;be VERY SURE to turn off write mode!
        RTS
```

Note that in the write routine, the first byte is written differently than the rest - the STA Q7+1 activates write mode and writes the byte all in one step. In actual practice, you would probably want to use a loop to read and store (or load and write) the data.

In addition to programming the IWM, it is also necessary to program the drive itself, which is somewhat "smarter" than the 5.25-inch drive (even though it's a "dumb" device).

The 3.5-inch drive contains several internal status bits which the user's program can examine, and several internal control switches which the user's program can use to control various functions of the drive. These status and control bits are accessed by the CA0...LSTRB switches mentioned above and by the SEL line (bit 7 of DISKREG). CA0...CA2 and SEL form a 16-way switch which selects the desired controller status function, and the LSTRB switch signals the drive to perform a control function. The IIGS ROM uses the following routine to select a status or control function (enter with desired function in A-reg):

```
SEL35   BIT CA0     ;set switches to known state
        BIT CA1+1
        BIT LSTRB
        BIT CA2
        LSR
        BCC SEL35A
        BIT CA2+1   ;if bit 0 on, turn on CA2
SEL35A  LSR
```

```
        PHA
        LDA DISKREG
        AND #$7F    ;if bit 1 off, turn off SEL
        BCC SEL35B
        ORA #$80    ;else turn on SEL
SEL35B  STA DISKREG
        PLA
        LSR
        BCC SEL35C
        BIT CA0+1   ;if bit 2 on, turn on CA0
SEL35C  LSR
        BCS SEL35D
        BIT CA1     ;if bit 3 off, turn off CA1
SEL35D  RTS
```

To read a status bit, turn Q6 off, Q7 on, and ENABLE on, configure CA0...CA2 and SEL for the desired function, and read the status bit from bit 7 of the IWM status register. The IIGS ROM uses the following code to accomplish this:

```
STAT35  JSR SEL35   ;select desired status bit
        BIT Q6+1
        BIT Q7      ;test status register
        RTS         ;(returns result in processor N-flag)
```

The status bits are as follows:

Param for
CA2 CA1 CA0 SEL STAT35 Function

off off off off $00   Step direction. 0=head set to step inward (toward higher-numbered tracks), 1=head set to step outward (toward lower-numbered tracks).

off off off on $02   Disk in place. 0=disk in drive, 1=drive is empty.

off off on off $04   Disk is stepping. 0=head is stepping between tracks, 1=head is not stepping.

off off on on $06   Disk locked. 0=disk is write protected, 1=disk is write-enabled.

off on off off $08   Motor on. 0=spindle motor is spinning, 1=motor is off.

off on off on $0A   Track 0. 0=head is at track 0, 1=head is at some other track. This bit becomes valid beginning 12 msec after the step that places the head at track 0.

off on on off $0C   *Disk switched? 0=user ejected disk by pressing the eject button, 1=disk not ejected.

off on on on $0E   Tachometer. 60 pulses per disk revolution

on off off off $01   Instantaneous data from lower head. Reading this bit configures the drive to do I/O with the lower head.

on off off on $03   Instantaneous data from upper head. Reading this bit configures the drive to do I/O with the upper head.

on on off off $09   Number of sides. 0=single-sided drive, 1=double-sided drive.

on on off on $0B   *Disk ready for reading? 0=ready, 1=not ready. I'm not too sure about this bit - the firmware waits for this

bit to go low before trying to read a sector address field.

on on on on $0F   Drive installed. 0=drive is connected, 1=no drive is connected.

* Functions marked with an asterisk are used by the IIGS ROM but not documented in any publication available to me. I'm fairly sure about the function of status bit $0C (used by the firmware to test for disk-switched errors), but I'm rather uncertain about status bit $0B (if my programs neglect to test for it, the drive displays an annoying tendency to start reading while the head is still stepping). Note the settings of most of these bits are "backwards" - 0 means yes and 1 means no.

To perform a control function, turn off LSTRB, configure CA0, CA1, and SEL for the desired function, set CA2 to the desired value (all control functions can be turned on or off), and then turn LSTRB on and back off. The IIGS ROM uses the following code to accomplish this:

```
CONT35  JSR SEL35   ;select desired function
        BIT LSTRB+1 ;strobe on
        BIT LSTRB   ;strobe off
        RTS
```

The control functions are as follows:

Param for
CA1 CA0 SEL CA2 CONT35 Function

off off off off $00   Set step direction inward (toward higher-numbered tracks.)

off off off on $01   Set step direction outward (toward lower-numbered tracks.

off off on on $03   *Reset disk-switched flag? (The firmware uses this to clear disk-switched errors.)

off on off off $04   Step one track in current direction (takes about 12 msec).

on off off off $08   Turn spindle motor on.

on off off on $09   Turn spindle motor off.

on on off on $0D   Eject the disk. This takes about 1/2 sec to complete. The drive may not recognize further control commands until this operation is complete.

* The asterisk marks a function used by the ROM but not documented in any publication available to me.

The following is a greatly simplified description of the steps that a simple program might take to I/O with the 3.5-inch drive.

```
Save SLTROMSEL and CYAREG
Switch in internal slot 6 and set fast speed
Turn off disk I/O switches (to insure a "safe" state)
Select the 3.5-inch drive (turn on bit 6 of DISKREG)
Set IWM mode register to $0F
Select drive 1 or 2 (access SELECT or SELECT+1)
Turn on drive (access ENABLE+1)
Turn on spindle motor (LDA #$08; JSR CONT35)
IF we don't know what track we're currently on
```

```
THEN Set step direction=out (LDA #$01; JSR CONT35)
  WHILE Not at track 0 (LDA #$0A; JSR STAT35; BPL ...)
  DO Step one track (LDA #$04; JSR CONT35)
    WHILE still stepping (LDA #$04; JSR STAT35; BPL ...)
    DO nothing
    END WHILE
  END WHILE
  Set current track=0
END IF
IF current track < desired track
THEN Set step direction=in
  Set number of steps= desired track - current track
ELSE IF current track > desired track
THEN Set step direction=out
  Set number of steps= current track - desired track
ELSE Set number of steps=0
END IF
WHILE number of steps > 0
DO Step one track
  WHILE still stepping
  DO nothing
  END WHILE
  number of steps -= 1
END WHILE
Set current track= desired track
Select desired side (LDA #$01 or LDA #$03; JSR STAT35)
WHILE not ready to read (LDA #$0B; JSR STAT35; BMI ...)
DO nothing
END WHILE
Read or write your data (this is the FUN part!)
Turn off spindle motor (LDA #$09; JSR CONT35)
Turn off drive (LDA ENABLE)
Turn off CA0...LSTRB
Set IWM mode register to $00
Deselect 3.5 drive (turn off bit 6 of DISKREG)
Restore slot and speed configuration
Return to caller
```

REFERENCES:

Apple Computer, Inc., _Apple_IIGS_Firmware_Reference_. This contains a lengthy description of the SmartPort firmware, which includes some clues as to the functioning of the 3.5 Drive hardware and a diagram of the layout of an individual block of data. You will also need Apple IIGS Technical Note 25, which contains some error corrections.

Apple Computer, Inc., _Apple_IIGS_Hardware_Reference_. This contains a description of the disk interface register (DISKREG, $C031) and the internal registers of the IWM chip. You will also need Apple IIGS Technical Note 30, which corrects numerous errors in the IWM descriptions.

Apple Computer, Inc., _Inside_Macintosh,_Volume_III_. This contains a description of most of the 3.5 Drive status and control bits.

Apple Computer, Inc., _Macintosh_Family_Hardware_Reference_. The 3.5 Drive information from Inside Macintosh is also reprinted in this book (in several different locations).

Don Worth and Pieter Lechner, _Beneath_Apple_DOS_,

Quality Software, Reseda, CA, 1981. This is THE classic reference for anything and everything having to do with DOS 3.3 and the 5.25 Drive hardware. Although the 3.5 Drive is a much more complex and powerful device, and uses a slightly different data format, much of the low-level information in this book is still quite relevant.

Don Worth and Pieter Lechner, _Beneath_Apple_ProDOS_, Reston Publishing Company, Reston, VA, 1984. This does for ProDOS what _Beneath_Apple_DOS_ did for DOS 3.3. It contains a somewhat abbreviated version of the previous volume's description of low-level formatting, and in addition offers some valuable information on the functioning of the disk interface hardware.

You will probably notice that I glossed over the most important part - the "read or write your data" part. The basic method is to use routines like those listed above under the description of the IWM data register.

New Concepts GS/DSP board

The following information is to be considered extremely preliminary. It was graciously provided by the developer of the GS/DSP board, Mr. Pete Snowberg.

Preliminary info on the NEW CONCEPTS GS/DSP — KansasFest (7-21-91)

A little background...

When I first became aware of the Motorola DSP56001, it became obvious to me that a card for the GS utilizing on just HAD to be made. The two main reasons for creating the were:

1. To pay the rent
2. To put an unheard of amount of processing power in the hands of as many people as possible for as little as possible.
Our goal is to make the GS/DSP board available for a street price of under $300.

Unfortunately, the data must undergo considerable preparation before writing and after reading. Those of you who are lucky enough to own a copy of _Beneath_Apple_DOS_ will understand the kind of work that is necessary. For those not so lucky, I must plead that a proper discussion would require another article every bit as long as this one.

Rather than try to tackle that subject here, I will content myself with providing a sample program (with commented source code) which shows one way the above information can be put together to make a working program. It is essentially a 3.5-inch version of the DUMP program by Don Worth which was printed in _Beneath_Apple_DOS. It will read a track from a 3.5-inch disk into your Apple's memory, in its raw, encoded form.

[Sub-editor's note: The sample program and source code is on the GS Programming PD disk, which is available from bulk purchasing, and on the Apple // Bulletin Board.]

What is a DSP anyway?
The DSP, or Digital Signal Processor is a fairly new class of processor that is optimized for performing extremely complex high-speed numeric processing. Just picture a very high-speed CPU coupled with a conventional math co-processor such as the 68882, or the 80387 gone totally mad!
I chose the Motorola DSP65001 for the card because it is packed with power and powerful features, has a VERY nice assembly language, and is quite low in cost.

Features of the Motorola DSP56001...
Speed: 10.25 million instructions per second (mips) at a clock speed of 20.5 Mhz; 27 and 33.33 mhz versions will be available in the near future for ratings of 13.5 and 16.65 mips, respectively. By contrast, a Macintosh IIfx is generally rated at 6 mips, while a stock GS is rated at .35 mips.

Busses: The 56001 architecture is divided into three independent 16 bit address spaces, one for program storage and two separate data spaces. Data buses are all 24 bits wide.

Parallelism: The data arithmetic logic units (ALU's), address ALU's, and program controller operate in parallel so that an instruction prefetch, a 24 x 24 bit multiplication, a 56 bit addition, two data moves, and two address pointer updates using one of three types of arithmetic (linear, modulo, or reverse carry) can be executed in a single instruction cycle. This parallelism allows a four coefficient Infinite Impulse Response (IIR) filter section to be executed in only four cycles — the theoretical minimum for a single multiplier architecture.

Precision: The 24 bit data paths allow for signal processing with 144dB of dynamic range; intermediate results held in the 56 bit accumulators can range over 336dB.

Integration: In addition to the three independent execution units, the DSP56001 has six on-board memories (512 bytes by 24 bits of program RAM, 256 bytes each of 24 bit X and Y data RAM, 24 bit sine/cosine table, positive Mu-law and A-law expansion tables, and bootstrap ROM), three on-chip MCU style peripherals (serial communication interface), a clock generator, and seven buses (four data and three address), making the overall system very compact, low power, and inexpensive.

Instruction set: The 62 instruction mnemonics are MCU-like, making programming the 56001 VERY easy. The orthogonal syntax supports control of the parallel execution units. The no-overhead DO instruction and the REP (repeat) instruction make writing straightline code a thing of the past.

Chip fabrication: HCMOS for low power consumption.

FEATURES of the GS/DSP card
The GS/DSP is a fairly small piggyback mounted board that plugs into the 65C816 socket on the GS motherboard extending forward and to the left (under the power supply). The '816 or cable from an accelerator then plugs into a socket on the GS/DSP. The board does not interfere with the operation of an accelerator in any way. Plugging the board directly into the processor socket has a couple of major advantages over using a slot-card based design:

1. The board does not take up a slot.
2. Because the DSP has direct access the buses and control signals, it will be capable of transferring data to and from the GS's RAM using processor-direct DMA at 2.6 mhz (slot-based DMA products have a maximum speed of 1.023 mhz). This also means that the DSP can perform DMA to and from ALL 8 megs in a GS regardless of whether or not your RAM card supports DMA.
3. Another benefit of having direct access to the buses is that you can do full VIRTUAL MEMORY on your GS. The card will be capable of 14 megs of virtual memory using dynamically sized swap pages starting at and in any increment of 512 bytes, provided you have the hard disk space. The virtual memory manager will also provide memory protection for multitasking operating systems

such as UNIX.

But wait! There's more! Other features include...

—> 256k of 1 wait state, 24 bit wide DRAM addressable from both the '816 and DSP.
—> 8k of 0 wait state static RAM mapped as 4k for program and 2k for each of the two data spaces as well as contiguously, the same static RAM configuration found in the NeXT line of workstations.
—> 32k of battery backed-up RAM for driver storage.
—> Built-in 8 bit A/D and D/A converters (37khz maximum sample rate) for digitizing, playback, live manipulation of sound.
—> NeXT compatible DSP port for connection of ANY serial device that operates at less than 2.5 mbps such as digital microphones, CD players, DAT players, scanners, etc.
—> 17 piece set of Ginsu knives (not a solid feature, yet!:))
—> Optional external sound interface box that contains 16 bit, 44.1 khz, stereo Sigma/Delta A/D converters and their D/A counterparts for CD quality sound manipulation, sampling, and playback. An additional option of a phone line interface will be available that will allow people to WRITE 9600 bps V.32 modems, FAX modems (transmit and receive), and voice mail machines in SOFTWARE on the DSP. This box will plug into the NeXT compatible DSP port.
—> High-speed asynchronous Zbus connector allows you to connect other cards to the DSP for ultra high-speed data transfer (up to about 10mbytes/second). As an example, you could connect a graphics card (VGA, etc.) to the Zbus and use the DSP for acceleration of QuickDraw. The DSP would intercept the tool calls, perform the calculations at blinding speed, and blit the data to a graphics card without bothering the GS.
—> Complete developers package that holds back no secrets. This will allow developers to include DSP utilizing features in their code with greatest possible ease.

DSP Software Applications...
Turning to the software end, there will be a large amount of software included with the board (sample source, object code, utilities — such as a virtual memory manager, tools, and applications). And included tool patch, InSANE, will accelerate anything that uses the Standard Apple Numerics Environment (SANE) to levels far beyond anything that you could get with a conventional FPU such as a 68881 or 68882.
Here are just a couple of other possibilities for adventurous programmers. Thanks to the speed of the DSP, this list only scratches the surface.

- Disk caching
- DMA RAM disks

- Tool acceleration
- Modems (300-2400, V.32, FAX, ultra high-speed modems - up to 18,000 bits/sec actual transfer rate before data compression)
- Real time audio special effects (flanging, phasing, chorus, delay, echo, reverb, harmonizer, EQ, etc.)
- Audio manipulation and editing
- High-speed data compression
- Ultra high-speed data transfers for graphics acceleration, etc.
- 8088, 80286, 80386 emulation
- Image enhancement
- Dolby surround sound decoder
- SAP (second audio program) stereo TV sound decoder
- Digital filter research: Fast Fourier Transforms, Discrete-Time Fourier Transforms, Radix-2 Decimation-in-Time / Decimation-in-frequency FFT's, Cascadeable

Adaptive Finite Impulse Response Filters
- Sound and Music Synthesis
- Proportional-integral-derivative controllers
- and the list goes on and on.

Product availability and information...
The GS/DSP board is expected to be completed by the end of fall '91. Every attempt is being made to make it available for a street price of under $300. If you would like more info on the board, please write or call:

NEW CONCEPTS
ATTN: GS/DSP project
665 West Jackson Street
Woodstock, IL 60098
815-338-4227
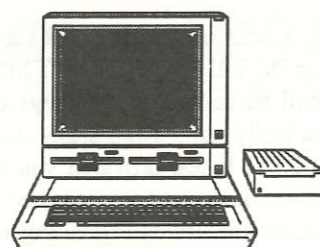
have used any of these, you will pick up how to use the outline editing and drawing tools straightaway without having to use the manual. Of course there are some differences, mainly provision for greater accuracy.

The toolboxes in all the windows have a neat little pushpin feature which can be toggled on/off, allowing the toolbox to be pinned where desired to the window. Also, in Preferences, the toolbox can be flipped if necessary, to make more room on the screen.

There is a memory usage indicator on the toolboxes which is necessary to let you know if too many windows are open at once, slowing down your operations.

Some of the tools which are exclusive to FontStudio are

Tape measure tool
A very useful device for measuring anywhere on the window. It also displays special characteristics when used for measuring point-to-point on a character.

Template hand tool
Used for moving the MacPaint/PICT or B & W TIFF imported template where needed in the character window. Templates can also be resized if necessary. The template can either be hand traced or autotraced once imported.

The Hinting tool
This allows you to manually 'hint' fonts or change the hinting when the fonts have been autohinted. Hinting is a way of adding information to outline characters to improve their rendering into bitmaps by eliminating unwanted stray pixels on curves and uneven stroke weight. This is especially important for type printed out on low resolution (300dpi) printers.

Paintbucket
This allows you to temporarily fill in an character with black so you can assess how your design is shaping up. It gives you a good idea of the finished product.

Parts Library Window
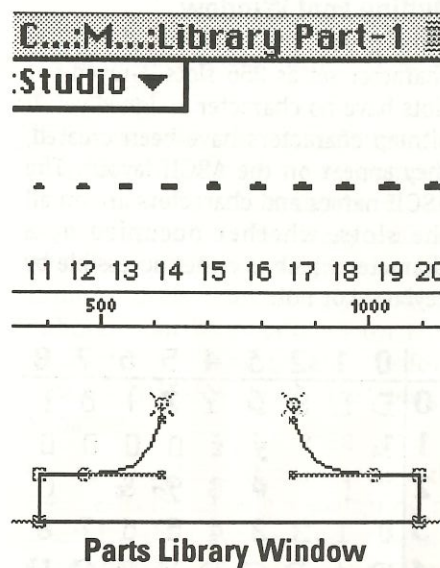
Parts Library
This is well thought out and a very necessary feature needed in a type design program such as this. As many components, such as serifs, stems and other components of a typeface are similar. Copy the necessary part, paste it in the library, and it can be made to join up exactly where required on your new character by means of a 'sticky point'. It is pasted down exactly in the same position where it was copied from, and can be moved as a composite path. It can also be broken down into its segments if any editing is needed.

Old hands at using rub-down Letraset sheets know this all too well, remember using bits of unused lettering to make up other letters when we couldn't afford to buy a new sheet.

Readouts
A little readout box is provided, similar to the floating toolbox with its pushpin function. It gives accurate readouts of absolutely everything you do in the character window. Its accuracy and information let me say, are fabulous.

Some of its readouts are – character width, number of endpoints and guidepoints in the character.

Horizontal and vertical co-ordinates from origin and anchor point. (The anchor point in FontStudio is the

movable point about which character transformations take place – usually positioned on the left hand side and the baseline of most characters).

Horizontal and vertical distances from guidepoint (bezier control) to end point (anchor point in drawing programs).

Both these boxes can be put away by clicking in the closebox if you wish and then reaccessed by scrolling down the windows box.

Bitmap Character Window
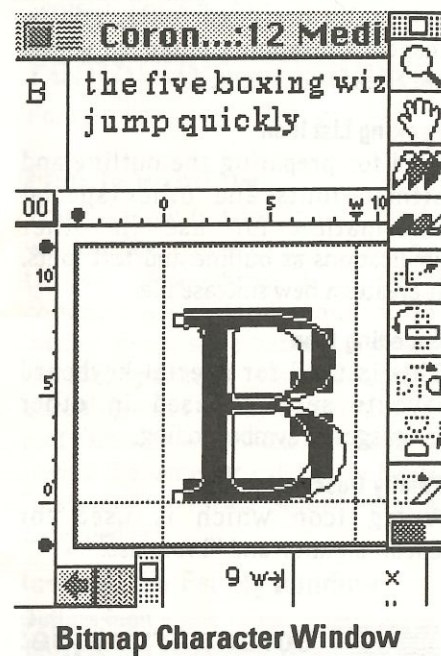
Bitmap Character Windows
The Bitmap Character Windows are accessed in the same way as those of the Outline Characters.

Bitmap Characters appear with a grid of pixels relative to the point size of the selected font. In a Bitmap Character Window at 100% each pixel is shown about 8x the actual screen size pixel.

The Bitmap Character Window is also provided with a sample character area. The sample character area can be closed as in the Outline Character Window. The letter being edited is shown in its actual point size in the left hand corner of the sample area, and some sample text (editable) in actual point size is placed in the rest of the sample area. The default text is

Apple Presents

AT LAST...
A TRUE PORTABLE!

MONDAY 21st October, 1991

Cupertino, CA, USA - Apple Computer Inc. released six new systems. This much rumoured release has introduced three new notebook computers named PowerBooks. The very popular Mac Classic now has a brother in the Classic II, complete with 68030 processor, and the top end machines, the Quadras, sport the 68040. At press time no pricing was available but we have all the facts for your edification. Unfortunately, we only have limited space in this bumper Macworld issue and have been holding the print date just for this information. So hold your hats here we go for a quick tour...

accept either 1Mb or 4Mb SIMMs. This gives a maximum RAM of 10Mb. The SuperDrive is now obligatory in all new releases, once again except for the PowerBook 100, and you have the option of a 40Mb or 80Mb internal hard disk.

Other than the new processor which promises better speed and better
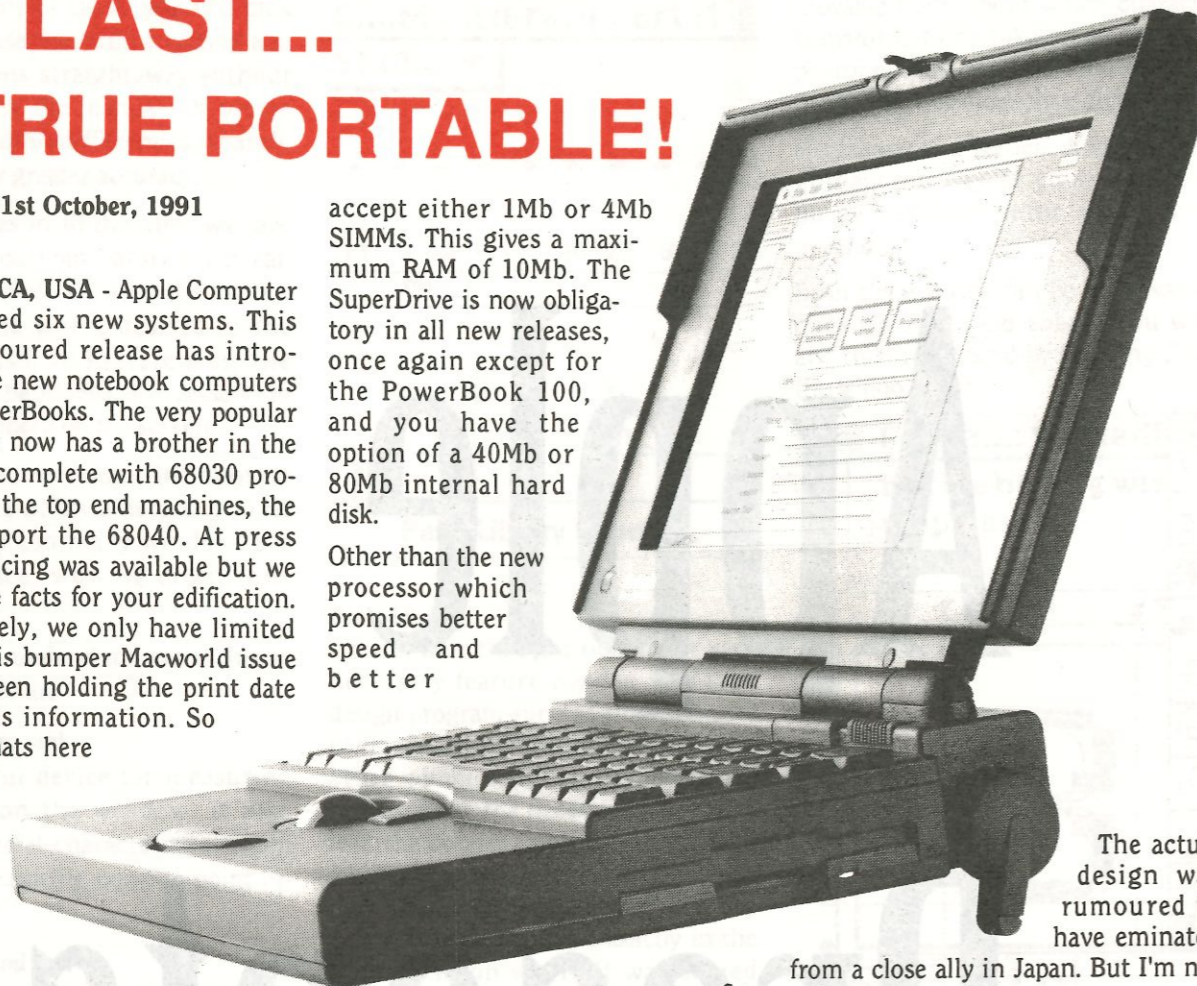
The actual design was rumoured to have eminated from a close ally in Japan. But I'm not telling - you work it out.

The Macintosh Classic II

Many people derided the introduction last year of the Classic with only a 68000 processor. But the masses just loved it. This year Apple have seen fit to reorder their lineup and in the process the SE/30 has gone. In its place we have the Classic II complete with a 68030 processor running at 16 Mhz. There is little to distinguish this new Mac with the original Classic. In fact you have to look at the rear to see the sound input jack to pick any difference at all.

Apple has continued its push to include sound input capabilities with these new releases Now all models, with the exception of the PowerBook 100, have the microphone and sound input capability included. The Classic II has a basic RAM configuration of 2Mb mounted on the motherboard. You can add extra RAM SIMMs via the two sockets as is the case with the original Classic but the Classic II will

memory configurations this can be seen as a standard replacement for the SE/30. No new stuff here but Classic owners take note that you will have an upgarde path to the Classic II at a reasonable cost.

The Macintosh PowerBook 100

We are all more than familiar with the original Macintosh Portable. Excellent technology flawed by its overall size. Sure it sold well but I know of many people who really wanted a Mac Portable but because of its ungainly size bought Toshibas instead.

Well, the rematch is about to begin. The new Macintosh PowerBook line of notebook computers will kill all speculation of Apples lightweight computer strategy just as the low cost Macs quashed cheap Mac arguments last year. The PowerBook is available in three models.

Like the Macintosh Portable before it the low end Macintosh PowerBook 100 sports a 68000 processor running at 16 Mhz. The same speed as the Portable which these new notebooks will inevitably replace. Communal sigh of relief. This notebook, being the smallest, has suffered by its size requirement and does not have a floppy drive built in. The 100 has an internal 20Mb hard disk and a SuperDrive is an optional extra which you can connect to the external floppy port at the rear. You also have the option of a SCSI disk adaptor and system cable which allows direct access of the 100s hard disk from another Mac. The PowerBook 100 measures 21.6 by 27.9 by 4.6 cm and weighs 2.3 Kg.

The 100 comes with 2Mb standard RAM and can be expanded with an internal 2Mb, 4Mb or 6Mb (third party only) memory board. This gives up to 8Mb which is more than sufficient for

working on the road. As well as the RAM expansion a second slot is available for an internal modem. A SCSI port is also included for external device addition. The 100 only sports one serial port though this shouldn't cause any difficulties as a modem can be installed internally which has its own port.

The display of the 100 is a built in 25 cm diagonal (full page width) screen which is a backlit supertwist Liquid Crystal Display with 640 by 400 pixels. Black on white as usual.

The power supply on the road is provided by a lead acid battery the same as the original Macintosh Portable. Stated average life is 2.5 to 4 hours. This depends entirely on how much you use the internal drive etc. You can expect the same excellent power management software that we've come to know and love from Apple.

The Macintosh PowerBook 140

We now enter the brave new world of notebook Apple computing. The 140 is a 68030 based notebook running at 16 Mhz. This time a SuperDrive is included in the case, at a space cost, as well as a 40Mb internal hard disk. RAM configuration is the same as the 100. The screen is also the same but larger third party displays are also supported.

The 140 has two serial ports, two expansion slots (RAM and modem), a sound output port and the sound input port with microphone. Power for this little beasty comes from a nickel-cadmium battery with a stated life of 2.5 to 3 hours. The unit measures 23.6 by 28.6 by 5.7 cm and weighs 3.1 Kg.

The Macintosh PowerBook 170

Here we have the workhorse 80386 equivalent portable. AT LAST! The 170 is also a 68030 based machine but this one runs at 25 MHz and includes a 68882 math coprocessor for those sticky math problems. RAM starts at 4Mb and is expandable to 8Mb. The SuperDrive and a 40Mb hard drive are also standard. Curiously, no 80Mb drive is available as an option. No doubt a niche market in the making for third party hardware makers.

Essentially, all other aspects are identical to the 140. Even the size and the weight are the same.

The PowerBooks in Close Up

The design of the PowerBook series is a radical change from the old Portable. They are small and lightweight. The smallest of them is easily carried in the palm of your hand. Even the 170 should fit most briefcases. The top of the gray case (should I say Toshiba gray?) folds up to reveal a layout which may seem strange at first glance but should make prolonged typing much easier.

The keyboard is set to the rear of the lower half with a centre mounted trackball in front of it. Dual buttons, one in front and one behind the ball, will make it easier to work without your hands leaving the keyboard. On either side of the trackball is a flat area which will aid your typing and act as a wrist rest. To give you the correct typing angle a set of fold down feet are mounted on the rear of the case.

Don't think for one minute that just because they're small that means Apple have cut down on real estate where it counts. The keyboard keys are exactly the same size as other Mac keyboards. Of course, no keypad is included but the cursor keys are in a similar layout to the older Mac keyboards to the right of the space bar.

The rear of the PowerBook shows some neat design. The SCSI port is now square to save space. You have a single ADB port for connection of extra input devices if you wish. The reset and interrupt buttons are also on the back of the machine. Activation of these is done through small holes about the same size as the manual disk eject holes on the front of all Macs. All of these ports are on the right rear (as you look at it) and the left side is the private property of the battery. A small power port allows the connection of the battery charger.

There is little else to say about the PowerBook series but great. They are finally down to a notebook size. If they operate half as well as they look the IBM Knockers will shortly be eating humble pie with these.

The Power Macs

First there was the power walk, then the power lunch but now we have the power Mac. Or Macs. Apple has, as its final release for this year, produced two high end, high power, 25 MHz 68040 machines in the Quadra series. These two machines replace the IIfx as the big boy on the block. The features are MANY and the power options unending (or so it seems).

Lets have a quick look.

The Macintosh Quadra 700

The baby of the two this machine looks vaguely like a IIcx/ci in shape but that's where similarities end. Here comes the first dissapointment. The upgrade path for these machines is believed to be only for those owners of the IIcx.ci. The former power users with the IIfx machines seem to be left out in the cold with nowhere to go. This has yet to be confirmed.

First thing you notice about the 700 is that the name and badge are placed at right angles to the floppy drive port. So, yes this one stands sideways on your desk or on the floor. The 25 MHz 68040 includes the math coprocessor, PMMU (paged memory management unit) and an 8Kb memory cache on the chip. Even though the IIfx runs at 40Mhz Apple sources quote a doubling of speed on the 040 Quadras

Basic RAM starts at 4Mb on the board with another 4 vacant SIMM slots which will accept either 1Mb or 4Mb SIMMs for a maximum of 20Mb. Also available are four SIMM slots for video RAM. This is expandable up to 2Mb for lightning fast screens.

The 700 comes with a SuperDrive and you have the option of either an 80Mb or 160Mb internal hard disk. As with the earlier small sized Mac IIs only two NuBus slots are available. This is not a real problem though as 24 bit colour (yes 24 bit colour) is built in on the board which frees up one of your slots. And rumour has it that performance is close to the 8•24GC but don't quote me. Of course the size of the monitor you choose may cut you back to just 8 bit colour. The new 21 inch Apple display will surely be in this category. Apple says anything up to 16 inches will support 24 bit colour (16.7 million colours).

BUT the really big news with the Quadra machines is the fact that you have Ethernet right there on the board in your machine and all you need is the Ethernet cable which will connect the port on the back of your Mac to the drop lead and you're away. The inbuilt Ethernet supports all current standards (thin, thick and 10Base-T). If you don't want or need the megabit speed of Ethernet then LocalTalk is still readily available from the printer port.

Speaking of ports the back of the machine is crammed full. Two serial, two ADB, sound input, sound output, Ethernet, SCSI and video are all easily connected.

The overall motherboard design is clean and dominated by the extra large 040 chip. The Quadra 700 sports the familiar SIMM mounted ROMs.

Not wanting to leave anything out Apple have also included a single 68040 processor direct slot for connection of special cards to work at break neck speed.

Speaking of speed the NuBus slots use the newer standards and are rated by Apple at double the performance of the IIfx. If that's not enough there is also a faster SCSI available at 4Mb per second. Things are looking good eh!
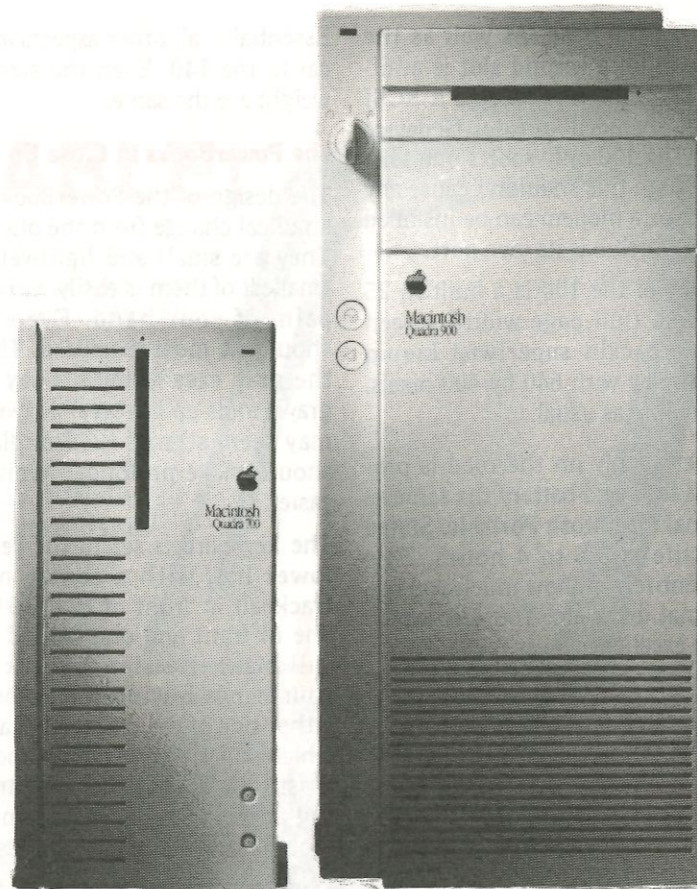
The Macintosh Quadra 900

The new top of the range is the Quadra 900 and it stands tall in a tower case which is one third the size again over the Quadra 700. The reset and interrupt buttons are mounted, one might say dangerously, on the front of the case. The on/off switch also front mounted and key operated. It can also be locked in the on position which is ideal for a server environment. It uses an identical 25 MHz 68040 chip as the Quadra 700. Starting RAM is also the same at 4Mb but this time it is all SIMM mounted. This leaves a staggering 12 empty SIMM slots (Yes 16 all up) which will accept 1Mb or 4Mb SIMMs for a maximum (with current chip densities) of 64Mb.

Once again the SuperDrive is included with the option of a 160Mb internal hard disk. This drive slots into one of the three (Yes three) available slots for half height 5.25 inch drives. This makes the options for internal storage limitless (I'll probably have to eat those words - next release). One of those positions has a cover which allows external access. This would make the installation of either a CD ROM, Optical (the 3.5 inch kind though) or SyQuest drive a real advantage.

The other input/output options are almost identical to the Quadra 700 with the exception of the availability of five NuBus slots instead of two. For such a high end machine as this five may not be enough.

You are probably asking yourself why all the power. This machine is the obvious choice for that high end graphics station - rendering, video output and the like. It is also the best option for a network server yet to be released from Apple. Whether it can take sales from other server style systems we will have to wait and see. I believe it can.
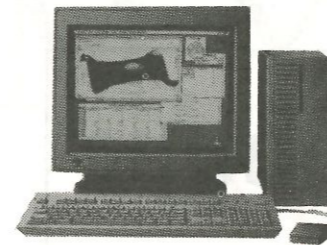
What Will It Cost?
Unfortunately, pricing of these new products was not available as we went to press. I can't even give you an estimate of the prices you can expect to pay. I would be foolish to try. All I can say is see your dealer.
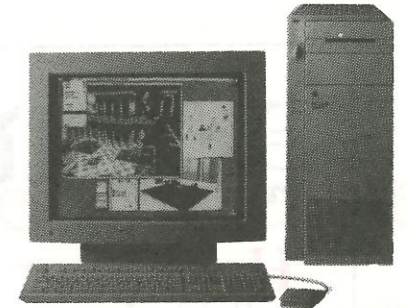
Where Will You See It First?

Macworld? NOOOO. Our next meeting will be THE first public showing of the new Macintosh range anywhere in Australia. I cannot tell you which ones will be there but I can tell you it will be well worth the visit. So, if the pictures in these pages whet your appetite come along to the November 4th meeting and drool with the rest of us.

AUG (Sydney) Bulk Purchase

Applecations

Happy
new
Year

in this issue .....

QuarkXPress v3.1
NOW Utilities v3.01
T/Maker Clip Art
Publish It Easy!

and more!

RRP $3.00

Avtek
Modem Madness

Special Prices to AUG Members

Mega 24
(RRP $425) AUG Price $355

(1200-2400)

Mega 1234
(RRP $499) AUG Price $399

(300-1200-1200/75-2400)

Mega Plus 1234
(RRP $595) AUG Price $499

(300-1200-1200/75-2400-with MNP)

Mega Plus V32
(RRP $995) AUG Price $799

(300-1200-1200/75-2400-4800-9600-with MNP)

Serial cable NOT supplied but can be purchased for $15.

All Modems come with 12 months warranty and include Tax.

Printshop Companion GS

Printshop Companion GS is a software package that has slipped onto the market quite recently without any advanced publicity or fanfare, but it really should be loudly acclaimed, as I regard it as the best "value for money" program that I have ever purchased. Even though this program can greatly enhance the usefulness of the original Printshop GS program, it could also be accepted as a full stand-alone program because of its diversity and flexibility. A brief resume of its functions would include:

o Spare data disk for Printshop GS
o A calendar maker
o A label maker
o An envelope maker
o An editor for all the various Printshop elements
o A cataloguer for any Printshop elements
o A program to produce a single page involving graphics, fonts and paint elements
o A "fun with graphics" application in the "Goodies" section of the program

To elaborate more on each of these functions:
o The program has 20 high quality full colour small graphics, 20 borders, 11 panel patterns (mono & coloured), 5 letterhead panels, 6 full greeting card panels, 8 envelope panels and 10 fonts; all of which can be used in the Printshop GS program or as data for the various parts of the Companion program.
o Printshop Companion GS can produce daily (one hour divisions), weekly, monthly or yearly calendar layouts. The grids are produced and the dates are assigned automatically. Text and graphics can be included in the separate entries. The calendars can have both top and bottom display panels with a wide variety of layout possibilities using 1 or 2 graphics and text.
o Labels can be produced in 3 sizes - 88mm (3.5") by 25mm (1") mailing labels or labels suitable for both 3.5" and 5.25" disks. In all cases there is the ability to mix graphics and text in a variety of layouts.
o The envelope maker is a feature which is new to the Printshop family. Within this program, full envelopes can be printed with all flaps necessary, or labels 99mm by 132mm can be printed which includes the name and address of the receiver, the return address, an all round border, 1 or 2 graphics and a trim linking the address and the graphics. All these elements can be arranged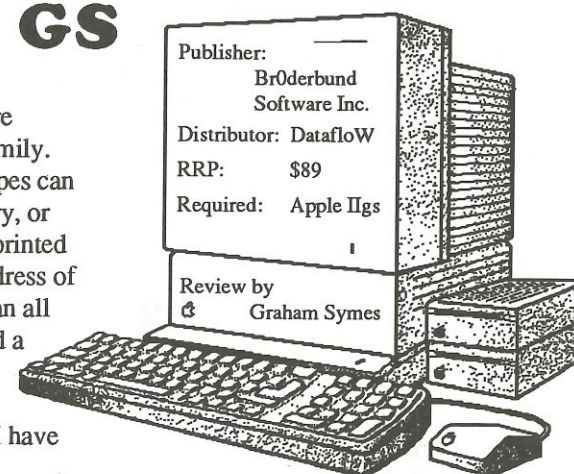 in any of 8 layouts. I have used these to great effect on parcels I have mailed, and they have provoked quite a deal of comment.
o The editor can handle all of the Printshop elements. Graphics of all different types may be imported, and a full set of paint tools is available for the editing. The font editor accepts fonts from other Printshop programs as well as all the GS fonts. There is a facility to globally alter and resize all the characters as well as to work on individual symbols. When saving any products of the editors the user is given the choice of saving it in the Printshop GS or New Printshop format. Also whenever any saving is to be done, the user has the ability to delete other files, format a new 3.5" data disk or open a new folder.
o The cataloguer is a most useful application for avid Printshop users, as it can catalogue any Printshop elements from any disk, including the old DOS 3.3 versions. The user may choose to do a full catalogue, and in this case it gives the user the option of doing so in a continuous manner or may allocate separate pages for the different element types.
o The "Quick Pages" option alone is worth the total purchase price. Within this area the user has a full paint program at their disposal, together with the ability to load in any Printshop graphic as well as other graphics from a variety of sources. These can be resized, flipped etc. and can be positioned anywhere on the page. Fonts can be loaded in and different styles are possible, and also, the text can inserted using any of left, centre or right justification. The results of your efforts can be viewed in 0.5, 1, 2 or 4 times the actual size. The final page can be printed at full size or at any percentage reduction in either Draft or Final mode.
o The "Goodies" section contains a tile maker and a creature constructor. Both allow anything that is produced to be captured, edited and saved to be used in other areas of the Printshop program.

Printshop Companion GS is a versatile and indepth program, yet it is still extremely easy to use. At any stage the user is no more than a mouse click away from the main menu.
The unique system for handling various volumes allows one to switch from 3.5" to 5.25" disks and deal with sub-directories with absolutely no difficulties. With all the Load commands, the user can have a preview of the element under construction, and as well the overall Preview command is readily available to check what has been created.
When any layout is chosen it can be customised to produce a distinctly different appearance. There is support for 58 different printers and 10 interfaces, and any settings can be saved permanently or used just for one session.
All Apple II people should be thankful that Br0derbund has shown faith in the II line, and has continued to produce programs of this calibre. Their programmers should be highly commended for the efforts that have

produced the likes of Bannermania, New Printshop, Printshop Companion GS, The Playroom and the Carmen Sandiego series. Each program has significantly expanded the horizons of the Apple II users..

🍎

Questions

Why did the HyperCardIIGS team go with pascal as the language for writing the program? Was C considered but lost out? Was Assembly also avoided? Just for trivia's sake, I'd like to know some of the thought behind the designing of HyperCardIIGS.

Answers

HyperCardIIGS is actually written in combination of Pascal and assembly language. I tend to do just about all projects in some combination of high-and-low level, because you really can utilize each language for its strengths and weaknesses. The programming model we chose is a completely Pascal-based program, with all code structure, flow of control, and variable declarations in the Pascal section. Assembly is used only for individual

speed-sensitive routines which always use Pascal calling sequences and rarely call other assembly routines.

We structured the program this way for two reasons. First, a good rule of thumb is that a program will spend 90% of its time in 10% of the code. Writing the entire program in a difficult-but-fast language is a waste of time. Better to write the whole thing in a high-level easy to read and write language and then, once the bugs are worked out from the basic design, go back, MEASURE performance, identify critical sections, and rewrite or redesign. This leads to the second reason, which is that you can easily move a Pascal routine into assembly by rewriting it, commenting out the original source, and changing the FORWARD declaration to EXTERNAL. No other code needs to be modified, and you can debug the new subroutine in a fairly isolated fashion.

Now, why did we choose Pascal instead of C? For a number of reasons....

1. The original program was written in Pascal for the Macintosh. It was enough work just moving it to the new platform. By using the same language we could move entire sections (especially calculation and manipulations of internal data structures) with cut-and-paste. If we used C we'd have had to literally rewrite every single line.

2. We used the MPW IIGS programming environment to create this program. I'm not as familiar with the compilers available for APW & ORCA, but in the MPW world, we have two: A not-so-great, non-standard C compiler, and an extremely good very standardized Pascal compiler. The MPW IIGS Pascal compiler is the same front end used for the MPW (Mac) Pascal compiler - which gave us better
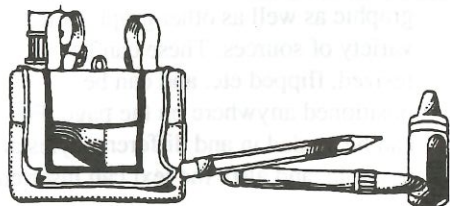
compatibility with the Mac HyperCard source code - and an all-new code generator which is the best I've ever seen for the 65816. There are of course speed and space problems using any compiler, but we felt the MPW IIGS Pascal compiler was about the best we could get.

An example of the differences: I compiled a sample XCMD with the Pascal and C compilers under MPW. Measuring the compiled code only (not anything linked in from the libraries) the C object code was TWICE as large. This is a very distorted example, and I'm sure a longer XCMD would show less of a difference (having much more actual compiled code and less boilerplate header-type code), but nonetheless there's a significant advantage to the Pascal compiler.

To summarize, there were pragmatic reasons for choosing Pascal, mostly the superior compiler, and the language of the original program. However at this point I should mention that I've always preferred Pascal and given a situation with all other factors equal, I'd probably choose it anyway.

And I'd like to reiterate the concept of MEASURE, then OPTIMIZE. Experience shows you CANNOT predict the bottlenecks in your program. ANY sort of hard-ware or software timing tool which can be used to measure your program's performance will add greatly to your ability to CHOOSE which sections to optimize. Believe me, you will get some surprises.

Andy Stadler,
HyperCardIIGS Team,
Apple Computer, Inc

★

AAPDA -
An Overview

By Chris Nelligan

What is AAPDA?

AAPDA stands for The Australasian Apple Programmers and Developers Association. Like our own User Group it is owned by its members. It is incorporated, it also has an executive committee and paid employees. AAPDA was formed about 5 years ago to be the South Pacific avenue for any third party developers of software or hardware for Apple computers that require help. The product could be for the Apple II, Macintosh, or both platforms.

What does AAPDA offer?

AAPDA offers Technical reference materials, development environments, developer meetings, a bulletin board service and a contact list of other developers.

Often books are available in BETA form, this is a draft version of a book before it is published, hence allowing access to information much earlier. For example the Apple IIgs Toolbox manuals.
Developer books and magazines, which often come with a CD Rom disk, containing beta and release programs, sample codes, and tutorials, are also available as a subscription or for seperate purchase.
Development software which allows you
to write your own programs can be purchased. These could be programs written by Apple Computer or commercial software companies. For example APW (Apple Programmers Workshop) is available for Assembler, C and Pascal for the Apple II and MPW (Macintosh Programmers Workshop) is available for just about any programming language. Bundles of books and software are often available.

Meetings for interested parties are held monthly at our offices at Apple Computer, and a major developer conference is held each year (unfortunately only for Mac developers at the moment).
A bulletin board service is available to

any members with an Apple II or Macintosh and a modem. This allows each member to place or answer questions, and to upload or download material from the service.
When a member has a problem, they can contact AAPDA requesting to speak to another member with knowledge in a particular area. AAPDA can look up their database and place you in touch with somebody that may be able to help.
AAPDA does not attempt to provide online phone support. Apple Australia does however have some manpower in this area.

More information?

This is a simple overview of AAPDA, if you would like to join or would like any further information, please contact us. Monday to Friday on **(02)452-8245.**
Our postal address is:
AAPDA,
16 Rodborough Rd,
Frenchs Forest,
NSW 2086 .

DreamWorld

Software Press Release

Product:	DreamGrafix (tm)
Retail Price:	US$99.95
Publisher:	DreamWorld Software
	P.O. Box 830
	Iowa City, IA
	52244-0830
Computer:	Apple IIGS
Release date:	September 21, 1991

DreamWorld Software is a new company which is dedicated to

developing and marketing productivity and entertainment software for the Apple IIGS and are proud to announce the release of its first product, DreamGrafix.

DreamGrafix is the first GS/OS based, full-featured 3200 color paint program for the Apple IIGS.
Unlike other paint programs, DreamGrafix introduces the Apple IIGS user to the exciting possibility of working with Super Hires pictures which display more than the standard limit of 16 colors on the screen. DreamGrafix allows the user to work with Super Hires pictures which can display up to an amazing 3200 colors on the screen.
Using the Super Hires 3200 color

mode on the Apple IIGS, it is possible to display color pictures of photographic quality. Not only does DreamGrafix allow the user to load in and display 3200 color pictures, DreamGrafix also allows the user to edit and save the picture using several editing modes. Now it is possible for every Apple IIGS user to exploit the amazing graphics capabilities of the Apple IIGS using DreamGrafix.

List of Features

o Load, display, edit, and save 640, 16 color, 256 color, AND 3200 color Super Hires pictures in 320 mode and 16 dithered colors in 640 mode.
o Support for ALL recognized Super Hires graphics formats on the Apple IIGS including PaintWorks (tm) format, Apple Preferred format, French 3200, and DreamWorld proprietary format with LZW compression.
o Support for PaintWorks (tm) animation files, and animation through color cycling.
o Multiple graphics editing modes:
- Standard 16 color editing mode in 320 and 640 mode
- 256 color editing mode
- Partial 3200 color, fast editing mode
- Full Screen, full 3200 color editing mode
- Mini 3200 color editing mode with integrated palette and fatbits editor
o Powerful editing and drawing tools for all display modes:
- Standard drawing tool set found in most paint programs such as pencil, line, rectangle, arc etc.
- Comprehensive brush manipulation tools
- Flexible fill tool with different color modes and fill modes
- Full Screen fatbits with four magnification sizes
- Palette manipulation tools such as color swapping tool, intensity sort tool, and dispose color tool.
- Extensive palette editor with support
for multiple palettes in 256 color mode
o Supports all system print drivers, including support for 256 color printing on the ImageWriter II(R).
o Revolutionary User interface:
- Standard Apple desktop user

interface with pull-down menus and dialog boxes
- Additional tool bar with three dimensional tool buttons
- User configurable scrolling tool bar and an extra user configurable fixed tool bar
- Intuitive keyboard equivalent for most commands
- Visually appealing design with colorful icons for each tool button
o Configurable user preferences
o User expandable through programmable external commands for custom tools, commands, features etc.
o Online help for all tools
o GS/OS based for compatibility with all Desk Accessories, current and future printer drivers, device drivers and FSTs
o Compatible with all system accelerators
o Supports Apple Extended Keyboard function keys.
o Written in assembly language for speed and efficiency
o Comprehensive manual
o Bundled with DreamVoir(tm), a 16/256/3200 color picture slideshow program with integrated background SoundSmith(tm) songplayer
o No copy protection. Hard drive installable and much more...

DreamWorld Software consists of IIGS users who are dedicated to producing quality software for the Apple IIGS. We are always working on enhancements, additions and extensions to DreamGrafix, and these will be available to registered users as soon as possible.

System Requirements

The minimum equipment configuration required to use DreamGrafix is as follows:
- Apple IIGS w/ 1.125 Mbyte of memory (Rom 01 or Rom 03)
- System Disk v5.04 or higher
- One 3.5 inch disk drive
- RGB color monitor (recommended)

Apple IIGS and ImageWriter II are registered trademarks of Apple Computer Inc.
DreamGrafix and DreamVoir are trademarks of DreamWorld Software.

PaintWorks is a trademark of Mediagenic.
SoundSmith is a trademark of F.U.N.

Little Bits

By Andrew Roughan

♠ Early reports of the GS/DSP card (see Applecations Nov/Dec 1991 for the press release) mentioned Virtual Memory and Memory Protection. New Concepts, the developers of the card, now indicate that this will be a separate project known as VM/MMU. Apparently the VM/MMU will be effectively no-slot by fitting under any expansion card.

♣ A new offering has just arrived from the French development group FTA. Noisetracker is their reply to Soundsmith which was developed by FUN, another French group. Noisetracker plays Soundsmith songs and Amiga MOD format sound files. The program looks great and the Amiga files sound brilliant on my GS. Noisetracker is available from the Apple // BBS and will shortly be available on a Public Domain disk.
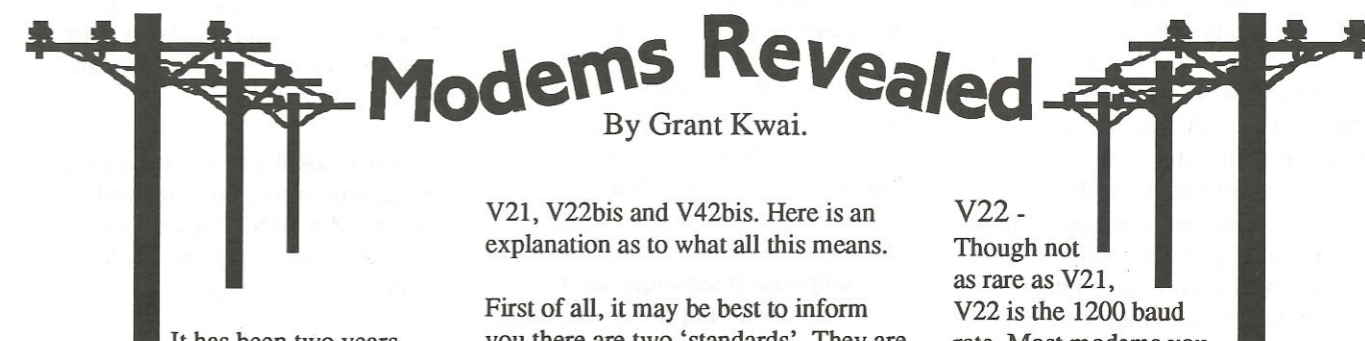
♦ Alan Sanders, the sysop of The BeeHive BeeBS, came to our November meeting to remind us all that CP/M is still alive and kicking. CP/M is an operating system available to Apple // users with a Z80 co-processor card.
The BeeHive BeeBS has an extensive amount of CP/M software available for

downloading. A list of this software recently made its way to the Apple // BBS. Here are the details:

The BeeHive BeeBS
Phone: (02)975-4982
Sysop: Alan Sanders
300, 1200, 1200/75 and 2400 Baud.
Hours: 24 Hours, 7 Days a week.
Postal Address: P.O. BOX 496
Forestville NSW 2087

♥ A blast from the past has been resurrected. The Complex, an online game similar in many respects to Wizardry, has been extensively re-written and developed. Its latest decendent, The Complex II, is now operational. This game requires PFP 1.1 emulation. A terminal emulator for the Apple // series is available for X-modem downloading when you call. Here are the details:

The Complex II
Phone: (02)417-2729
Sysop: Sean Craig
Baud Rates: Everything up to 9600 Baud.
Hours: 24 Hours, 7 Days a week.

Modems Revealed
By Grant Kwai.

It has been two years since my last article explaining modems. As with the rest of the computer related industry, much has changed in that time. I hope to bring you up to date with current trends in this telecommunication field.
The term 'modem' is short for MODulator/DEModulator. A modem is a device which allows you to transfer programs or messages from one computer to another using your standard telephone line.

Speed

Like all else in our society, the ability to go faster and faster has been carried onto all walks of life. Modems have also been along for this ride.
Way back many, many years ago (in the early 80's) a modem operated at 300 baud. This basically meant that it could transmit and receive data at about 30 characters per second. A few years later, 1200 baud arrived on the scene. This later rose to 2400 baud. Today, 9600 baud is about to become the 'norm'.
If you had ever looked at a modem or perhaps inquired about one to a salesperson, they might give you some mumbo-jumbo about such things as

V21, V22bis and V42bis. Here is an explanation as to what all this means.

First of all, it may be best to inform you there are two 'standards'. They are the CCITT (Consultative Committee on International Telegraphy and Telephony) and BELL. The latter plays little part these days. The Bell standard is an American system and only relates to 300 and 1200 speeds.

CCITT is now the recognised standard for high speed telecommunications. This means we can now 'speak' to other computers in any country in the world.
Like car engines, things are normally categorised into things like V6, or V8 engines, twin cam etc. For modems, similar naming applies.

The CCITT standard can be recognised on modems by their Vxx designation (where xx represents a number). Sometimes at the end of these numbers is the word BIS. It is easiest to think of this as yet another protocol.

V21 - You will rarely find a need for this protocol. V21 refers to the 300 baud speed. Only a handful of institutions and bulletin board have this as their maximum speed. Unless you want a collectors item, you are wasting your money buying a 300 baud maximum speed modem.

V22 - Though not as rare as V21, V22 is the 1200 baud rate. Most modems you will find have this transmission protocol. If 1200 baud is the maximum baud rate of the modem, you would be wise to buy one which is faster.

V22bis - The most popular protocol in use today. It is represents 2400 baud, and is currently the 'standard' baud rate of the majority of bulletin board systems around today. However, no doubt in a couple of years time, it too will become outdated. If you want to enter the world of modems, this is still the cheapest and best entry level to start

V23 - Though you may think this is faster again, it is actually slower. V23 is 1200/75 baud. That is, it has a split board rate. Very few places use this and is just about defunct.

To understand the following protocol it might be useful to give you this piece of information. The modulating technique employed by 2400 baud modems is to transmit at four bits per baud, at 600 baud, or bits per second (4 x 600 = 2400).

V32 - Is a data transmission protocol. It is a 4800 baud and 9600 baud

standard using a method called TCQAM (Trellis Coded Quadrature Amplitude Modulation). To achieve such a high baud rate, TCQAM encodes two or four bits per baud, at 2400 baud (hence 4800 and 9600 baud). This was the standard for high speed transmission before V32bis.

V32bis

V32bis - This is the latest transmission protocol from CCITT. V32bis is a 14400 baud full duplex protocol, using six bits per baud, at 2400 baud. The main drawback with going so fast over a standard phone line is that line noise can cause severe problems. I'm sure that many times you have had a 'crossed line' while talking on the phone. Imagine what this could do with a modem transmission. V32bis is more intelligent than other protocols. If line noise is a problem at its maximum speed, it has the ability to slow down its transmission rate to achieve the optimum rate of transferral. It should be noted that Australia is regarded as having one of the 'cleanest' phone lines in the world.

Error Correction and Compression

The remaining protocols seemed to have cause much confusion amongst those who own modems, let alone those who are thinking of purchasing one. I hope to clear some of this confusion below.
Most modem owners will generally think that Vxx implies the speed of a modem. This WAS true for the above protocols, however it is no longer the case. V42 and V42bis are not related to an actual speed, but rather the way it can speed one of the preceding protocols up.

V42

V42 - This is an ERROR CORRECTION protocol. It uses a technique called LAP-M (Link Access Protocol for Modems). As stated above, this protocol relates to the data being correctly received and sent, not to the actual speed of the transmission.

Nevertheless, a speed increase is possible.
A 2400 baud modem can theoretically transmit at 240 characters per second(cps). Practically though, this figure is more like 232 cps. When a modem sends these characters, each consists of an 8 bit character, plus a start and stop bit. Hence, a total of 10 bits per character is sent. What the V42 correction protocol does is strip off these start and stop bits, effectively reducing the transmission size by 20%. Thus in theory a 20% increase in speed is possible, but in reality it is more like 15%. Therefore a speed of about 270 cps at 2400 baud is achievable.

V42bis - This is a data COMPRESSION standard. As this suggests, it 'squeezes' the packet of data into a smaller one via a compression algorithm. By doing so, an increase in speed is naturally achieved. The compression technique used by V42bis is called Limpel-Ziv encoding. A compression ratio of 4:1 is claimed on an uncompressed ASCII text file (a normal text file, which doesn't contain any formatting commands for programs). However in reality (e.g with program files) it is more like 2 or 3 to 1. Assuming a 4:1 compression ratio, this, in theory means a V32 or 9600 baud modem can effectively transmit at a staggering 19200 baud.

The one thing they fail to mention with V42bis (and MNP 5 -see below) is that most files on BBS systems are already compressed. Long before these new standards were around, the best and quickest way of transmitting a file was to compress whatever you want to send as much as possible before you actually sent it.
These compressed files are normally smaller than what V42bis could achieve anyway. The reason for this is V42bis must compress the data 'on the fly', hence a fast algorithm is required. External compression programs on the other hand aim at creating the smallest file possible.
It should be noted however that V42bis is intelligent in some ways. It can sense if a file is already compressed and turn

itself 'off'. What this basically means is if you are transferring a compressed file, V42bis will have no effect. Hence, the only real advantage of V42bis is in transferring straight text (e.g. if your main interest lies in message writing and/or reading) or uncompressed files.

Other Protocols

The only other common protocols for modems are developed by a company called Microcom Inc. Their standards have the identity of MNP (Microcom Network Protocol) followed by a number between 2 and 5 inclusive. You will most likely find that most high speed modems offer MNP and CCITT protocols.

We can break the MNP protocols into two groups, error correcting and compression. MNP 2-4 are error correcting protocols, whereas MNP 5 is a compression protocol.

A modem with MNP level 4 also has MNP 2-3 protocols built in. Being error correction protocols, they operate much in the same way as V42.
You will find modems that offer V42 and V42bis also offer MNP. MNP is used as a fall-back in case one of the CCITT protocols is not present on both modems. By doing so, at least some decrease in transferral time is attained. MNP level 5 on the other hand is a compression protocol like V42bis. It uses an encoding technique called Run Length Encoding. It is not quite as good as V42bis, and quoted as having a compression ration of about 2:1. Again, this is a theoretical result. MNP is used as a fall-back for the V42bis protocol.
It should be noted that MNP level 5 is 'dumb' That is, it will try to compress everything it sends. Thus it would be good if you are transmitting uncompressed files. On the other hand, if the file you are transmitting is already compressed, then it can take longer than normal.
Modems which offer MNP level 5 will also offer MNP 2-4. Hence you will have a modem which has both error correction and compression qualities.

Software Protocols

All of the above protocols have to do with the actual hardware of the modem. Before the advent of these protocols, people came up with ways of checking for errors using software.
You will hear the terms Xmodem, Ymodem, Zmodem, Kermit plus a host of others. Zmodem is by far the best of these, with Kermit mainly being used on mainframes and networks.
Each of these offers some sort of error correction. They use a CRC (Cyclical Redundancy Check).

XMODEM

was the first file transfer protocol introduced in 1977 by Ward Christensen.(under the CP/M environment). It used a 1 byte checksum.

YMODEM

was Xmodem-CRC(improvement on Xmodem by offering 2 byte CRC) with batch ability. That is, it was capable of sending several files in secession without user input.

ZMODEM

uses a 16 or 32 bit CRC, giving better

error correction. An additional features is automatic 'crash recovery'. This means if you are suddenly disconnected midway through transferring a file, you can continue where you left off when you try and download (receive) that file again. This was not possible under earlier protocols.

That just about sums up all you will need to know (plus more!) about modems. I hope that at least next time you see these terms in some advertisement or article, you will have an understanding of what it means.

RamFAST revision D.

CV Technologies is now shipping the revision D RamFAST-SCSI. The rev D has four major improvements over the rev C board.

1. It's smaller, we've reduced the size from 10"x3" to 5"x3".
2. It consumes less power, rev C pulled 0.7 amps, the rev D pulls 0.15 amps.
3. The rev D board can DMA into non-DMA compatible memory products.
4. The rev D has expandable cache, 256k or a 1meg.

The revision D RamFAST board uses surface mount CMOS chips to dramatically reduce the power consumption and the size of the board. We have also developed a new DMA circuit that can DMA above the 4 meg limit and it can DMA into memory products that are not normally DMA compatible, such as a RamKeeper with 2 cards or a RamPak-4GS. This new DMA circuit uses a new technique to handle memory products that violate the Apple Technotes on bank latching. If the memory product uses bank latching then it would normally be non-

DMA compatible due the fact that the bank latch contains an invalid value when DMA occurs. The new DMA circuit puts a valid value into the memory product's bank latch before doing DMA.

This new technique will allow DMA to every memory card that I have encountered. The only bump in the road is the Transwarp GS which was not designed in strict accordance with the processor that it replaces and one of the discrepancies prohibits the new DMA circuit from putting valid bank latch data into the memory expansion product. Therefore if you have a TWGS you will not be able to DMA above 4 meg nor will you be able to DMA into non-DMA compatible memory products. The Zip-GS does not have this design defect nor does the processor that comes in the motherboard. I have also developed a replacement DMA control pal for the rev C board that will allow a rev C board to use this new technique. If you are interested then contact CV Technologies.

We have also changed the memory circuit such that it uses 256kx4 drams instead of the 256kx1 chips we used to use. We can also expand the memory on board from 256k to 1 meg. The memory expansion is user installable and will be available directly from CV Tech. A 256k rev C board will have the

same performance characteristics of a 256k rev D board. Bumping the cache size to a meg improves the performance a fair amount depending on the application. I can reboot Gs/OS completely from cache in under 4 seconds using a 1meg rev D board. One other visible performance boost is that you cannot fill the cache with writes on a 1meg board because the board will write the data to the disk fast enough to keep some of the 1meg free for additional writes.

Due to the low current ratings of the CMOS chips we do not suggest that customers that are using a rev C RamFAST in a IIe upgrade to the rev D.
The bus loading that is typical in a loaded IIe may be too "heavy" for the CMOS parts on the rev D board. Bus loading is not a problem in the GS due to the segregated bus architecture of the GS.

List price for the rev D board 256k
US$199.00
List price for the rev D board 1meg
US$279.00
Upgrade cost from rev C to rev D
(256k) **US$ 69.00**
Upgrade cost from rev C to rev D
(1meg) **US$139.00**

Drew, CV Tech

PRINTERS THAT WORK WITH MACS

Three types of printers are commonly used with Macs - dot-matrix, laser, and ink-jet. You can also output from a Mac directly to an image-setter.

Dot-matrix printers form characters out of a pattern of dots the way the Mac forms images on the screen.

Typically, each dot is made by a separate pin pushing a ribbon against the paper, although there are other ways of producing the image. ImageWriter is the name Apple gives to its line of dot-matrix printers.

Laser printers create images by drawing them on a metal drum with a beam of laser light. The images is then made visible by electrostatically attracting dry ink powder to it, as in a photocopying machine. LaserWriter is the name Apple gives to its line of laser printers.

Like dot-matrix printers, ink-jet printers form characters out of little dots, but because the dots are formed by tiny jets of ink, they're more like splotches. They blend together much more than the dots produced by dot-matrix printers.

Hewlett-Packard's DeskWriter is compatible with the Mac. StyleWriter is the name Apple gives to its ink-jet printer.

Image setters are digital typesetters that can produce graphics as well as text. These high-end machines output onto film like the kind used for photostats, rather than onto paper.

Relative Resolutions of Various Printers

n a normal ImageWriter text printout (from a word processing program, say), there are 80 dots per inch across and 72 down (5760 dots per square inch). If you choose Tall Adjusted, there are 72 dots per inch in both directions (5184 dpsi).

The LaserWriter's resolution is 300 dpi, which amounts to 90,000 dpsi - about 16 to 17 times the ImageWriter's. But 90,000 dpsi is nothing compared to what an imagesetter can do. for example, the 1270-dpi Linotronic 100 can produce 1.6 million dpsi - about 18 times the resolution of a LaserWriter and almost 300 times that of an ImageWriter.

The 1690-dpi Linotronic 500 can produce 2.85 million dpsi - almost 32 times the LaserWriter's and about 520 times the ImageWriter's. The 2540-dpi Linotronic 300 can produce 6.45 million dpsi - more than 70 times the LaserWriter's and well over 1000 times the ImageWriter's. Mind-boggling isn't it. Of course the prices of the imagesetters match the above stats.

Letter-Quality

Letter-quality was a name commonly given to formed-character printers and their output back in the Dark Ages of the early 1980s. Now it's more often used to refer to the output of high-resolution dot-matrix printers like the ImageWriter LQ.

What, you ask, is a formed-character printer? It's one that produces images the same way typewriters do - by pushing something the shape of a character against an inked ribbon and then into the paper. The something they push is a daisywheel or thimble containing all the available characters - sort of like the type ball used by IBM's Selectric typewriters.

Because formed-character printers work like typewriters, they're able to produce pages that look like they were typed on a typewriter. The question is: *why would any computer user want to imitate a machine as primitive as a typewriter?*

If you ever hear someone say that only a (formed-character) letter-quality printer will do for their work, imagine you're back in the 1800s. You've just suggested to the president of your company that he invest in a typewriter. His response: "What? Send out a letter that isn't hand-written? Never!"

In fairness, early dot-matrix printouts did look crummy. But today, even a regular ImageWriter can produce documents that are much more pleasant to look at than those from a typewriter or formed-character printer; laser printers, ink-jet printers, bubble-jet printers and high-resolution dot-matrix printers simply leave typewriters and form-character printers in the dust. fortunately, most people have by now come to realise this. In fact, thanks mostly to the Mac, expectations about the visual quality of documents have risen markedly.

ImageWriter Models

The first model of the ImageWriter spelled its name with a lowercase w and was never called "the ImageWriter I," but by now that's the name everyone uses, so we'll use it too. It's easy to tell an ImageWriter I from the ImageWriter II; the I is beige and rectangular while the II is light gray - what Apple calls "platinum" - and looks sort of like a flattened version of R2D2 doing pushups.

(When the MacPlus and the ImageWriter II first came out they were both the beige colour rather than the platinum. The change to the colour of platinum for all Apple products happened when the SE first came out. Therefore anything that is beige is at least 6 years old!)

The ImageWriter II has fewer problems with paper feed than the I, and it also prints more clearly (the same number of dots are used, but since the II's pins are smaller, so are the dots they create). The II prints faster than the I and has a slot for a card that lets you use it on a network (i.e., hooked up to more than one Mac).

It's hard to find any ImageWriter I's around anymore, but some people swear by them. They're very cheap and very rugged. If you're on a limited budget and want low-tech reliability, it may make sense to look for one. but you'd probably be better off with one of the ImageWriter substitutes described in the next entry.

In this series of articles, when I refer to the ImageWriter, I mean the ImageWriter II, unless I specifically say otherwise. Of course, many of the tips in the ImageWriter section of this chapter apply to both models.

There's also a 27-pin version of the ImageWriter called the LQ, for "letter-quality" (the ImageWriter I and II are 9-pin printers). There've been a lot of problems with the LQ, and I don't know of anyone who uses one. For the price, you're much better off with a non-PostScript laser printer or an ink-jet/bubble-jet printer. And for a third the price (or less), you can get a printer that's functionally superior.

One important note to remember when talking about the LQ though - this printer has a wide carriage. That is, it can print A3 sized paper (continuous or cut-sheet), while all the other printers mentioned so far can only print A4 or smaller sized paper.

PostScript and non-PostScript Printers

There are two basic kinds of laser printers - those that use PostScript (Adobe's page-description programming language) and those that don't. PostScript devices let more than one machine share the printer, give you access to PostScript outline fonts (described in the font chapter) and let you print PostScript-encoded graphics like the ones that Illustrator and Freehand produce.

Most Macintosh laser printers that don't use PostScript, like General Computer's Personal Laser Printer and Apple's LaserWriter IISC & LS, rely on QuickDraw, the Mac's built-in imaging software, to scale bit-mapped fonts like those used on the Mac's screen.

The output looks great but there are two problems: because they can't connect to LocalTalk, only one Mac at a time can use these non-PostScript printers, and because they use the Mac to do their calculations, they're usually much slower than PostScript printers. (They also sometimes run out of memory in the Mac for doing their calculations, and require you to jump through some hoops to print.)

As mentioned above, there are also PostScript imagesetters that print at high resolution on film rather than paper, like the Varityper and the Linotronic.

The LaserWriter I's

The first laser printers Apple sold were the LaserWriter and the LaserWriter Plus. Although neither was ever called the "LaserWriter I," that's the name commonly given them, to distinguish them from the models described in the next entry.

Both LaserWriter I's were built around the Canon's CS marking engine (the part of the printer that actually makes the image). The CS works fine for most things but, unlike the more advanced marking engine used in the LaserWriter II line, it can't produce a solid black area (it ends up gray or streaked).

The main difference between the original LaserWriter and the LaserWriter Plus is the number of built-in fonts. The original LaserWriter had Helvetica, Times, Courier and Symbol.

The LaserWriter Plus came with:

Avant Garde Gothic (regular, demi, oblique and demi oblique)
Bookman Light (light, light italic, demi and demi italic)
Courier (regular, bold, oblique and bold oblique)
Helvetica (plain, bold, oblique and bold oblique)
Helvetica Narrow (plain, bold, oblique and bold oblique)
New Century Schoolbook (roman, bold, italic and bold italic)
Palatino (roman, bold, italic and bold italic)

Symbol
Times (roman, bold, italic and bold italic)
Zapf Chancery (medium italic)
Zapf Dingbats

There were actually two models of the LaserWriter Plus, but the second, which had a ROM upgrade to version 47 of PostScript, wasn't given a separate name.

All LaserWriter I models were hamstrung by just 1.5 megabytes of RAM, which greatly (and very annoyingly) limited the number of fonts you could use in a document.

The Printer with Three Brains

The LaserWriter II comes in four models. All are built around Canon's second-generation marking engine, the LS, which produces much solider and darker blacks (in fact, sometimes they're too dark), but each has a different logic board (or brain, in my tortured analogy).

The lowest-priced LaserWriter II is the LS (list price $2295). This connects to the Mac's printer port, and has no in-built processor or memory, but instead uses the Mac's processor and memory. Therefore if the laser is connected to a slow Mac, the printer will be slow - if connected to a fast Mac the printer will be fast. The printer is non-PostScript and is based on QuickDraw. Also the printer cannot be connected to more that one Mac at a time. This is the second of a new generation of "Personal" laser printers produced by Apple. The LS prints at four pages per minute.

The next lowest-priced LaserWriter II is the SC (list price $2,995), so called because it connects to the Mac through the SCSI port, like a hard disk. The SC's brain is built around a 68000 chip like the one in the SE, the Plus and earlier Macs. The SC can be accessed by only one Mac; it's not a PostScript

device and uses bit-mapped fonts (although the look great on a laser printer). It has only one meg of RAM, but since it isn't using PostScript fonts, this isn't much of a disadvantage. This was the first of a the "Personal" laser printers produced by Apple, and prints at 4 pages per minute.

The intermediate model in the LaserWriter II line is the NT (for new technology). Like the SC, the NT's brain (also known as a controller card) is built around a 68000 chip, but one that runs at 12 MHz (as opposed to the SC's 7.45 MHz). The NT is a PostScript device, so it can be shared by several Macs, and it comes with the same eleven built-in Adobe font families as the LaserWriter Plus (see the previous entry). The current list price si $4,495, and the printer produces pages at a rate of 4 per minute.

The high-end LaserWriter II (over $6,500) is the NTX (the X stands for expandable). Its brain is built around the 68020 and like the NT, it comes with two megs of RAM standard (as opposed to the SC's one meg). But the NTX also lets you expand RAM up to twelve megs just by popping in some SIMMs.

The NTX comes with the same eleven built-in Adobe font families as the NT. You can connect a SCSI hard disk (for storing additional fonts) directly to an NTX, but if you do, make sure you get one that's compatible with this use (some won't work).

You can upgrade and SC to an NT or an NTX, and an NT to an NTX. You just buy new brains.

Telling LaserWriters Apart

It's easy to distinguish LaserWriter I's and II's, because the styling of the machines is so different (that's the II on the right).
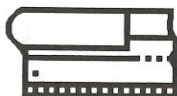
But if you're shopping in the "previously-owned" category, how can you tell the difference between the original LaserWriter and the two versions of the LaserWriter Plus (which weren't given separate names)? Here's how: print a startup sheet. (If someone has turned the startup page off, see the LaserWriter tips section below for how to turn it back on.) If the name of the printer hasn't been changed, the startup sheet will say LaserWriter or LaserWriter Plus.

Of course this won't work if the printer has been renamed, and it won't distinguish the two different LaserWriter Pluses. To do that, look at the number on the line graph that appears on the startup sheet. It will be either 1.0 (original LaserWriter), 2.0 (first version of the LaserWriter Plus) or 3.0 (second version of the LaserWriter Plus).

From the outside, all LaserWriter II's look alike; again, it's the test sheet that identifies just which printer you have. You can also use a utility like LaserStatus to check what's in the printer - which fonts and how much memory - and figure out from there which printer you've got, but the startup sheet is usually easier.

Buying Used LaserWriters

One of the first things you do when buying a used car is check the odometer. So one of the first things you should do when buying a used LaserWriter is check out the startup page to see how many copies it's printed. I have a friend who found a used LaserWriter with only 6000 pages on it; another one she looked at had over 90,000!

The DeskWriter Ink-Jet Printer

Hewlett-Packard's DeskWriter is small, quiet, well designed, sturdy, light and reliable. Because it prints at 300 dpi (with 50 jets of ink!), output is similar

to a laser printer's; in fact, some people think it's superior (me included), because of the blacks are blacker. Yet the DeskWriter is commonly available for less the $1,500. I've seen specials recently offering the printer for $1,395!

The DeskWriter doesn't use PostScript outline fonts, but comes with its own set of outline fonts (Helvetica, Courier, Times and Symbol). For about $200, you can get a disk that contains an equivalent font set to the one included with a LaserWriter IINT or NTX. You can also use Adobe's Type Manager (ATM) to print PostScript fonts. About the only programs the DeskWriter can't print from are those that use PostScript directly, like Illustrator or Freehand.

A number of well-designed features make the DeskWriter very space-efficient. for one thing, it only takes up about two square feet on your desk, so you don't need another table to put it on. To clear even more space, there's a recessed well for cables in the back, so you can slide the DeskWriter all the way up against a wall. You can put both letter and legal paper in its paper tray, and there's a small slot for feeding business-size envelopes.

Because the DeskWriter uses and ink jet, it's slower than most laser printers, typically producing two to four pages a minute (depending on the number of fonts on the page, and the complexity of any graphics). But the ink jet has other advantages - it's so quiet you can barely hear it, and replacement cartridges are inexpensive (approximately $35), you can even get them re-filled from between $10 to $20 each. You can even get the re-filled with different colour inks! One minor problem is that the current ink is water-soluble, and thus prone to smearing if the page gets wet. but HP has announced that an indelible ink cartridge will be available soon.

Although the DeskWriter's manual recommends printing on higher-quality paper, ordinary photocopying paper has worked fine for me. I have run into a problem printing on label paper that

seems to be too thick and stiff to wrap around the roller without slipping. I don't recommend printing a lot of labels on the DeskWriter, although the envelop feature is superb.

Until recently, you had to disconnect from AppleTalk to use the DeskWriter. But now there's and AppleTalk version of the DeskWriter, so several Macintoshes can share it. It cost the same as the original DeskWriter, and current DeskWriter owners can get upgraded to the new version fairly cheaply. This is an example of HP's good support.

Apple's StyleWriter Printer

First things first - I don't know much about this printer, and what little I do know about it forces me to recommend to anyone considering the purchase of this unit to get the HP DeskWriter instead.

The price is this unit is about $1,100. It is a personal printer, and cannot be used on a network and just like the HP DeskWriter it is a non-PostScript printer.
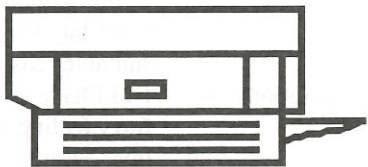
When purchasing three Macs recently for the company I worked for, I considered 3 printers (we were not networking them, had no need to network them ever, and we didn't need PostScript). So I tested out three printers which were in the correct price range; the HP DeskWriter, the LS Laser, and the StyleWriter.

We took one page of type and graphics that we would normally produce as a sample, and test printed this page on each of the above printers using the same Mac that we were purchasing

(SE/30). The results you ask?

- The DeskWriter: 1 minute to print the page, 1 minute to print the 2nd copy, quality was excellent, Price $1395
- The LaserWriter LS: 1.05 mins to print the page, 10 seconds to print the 2nd copy, quality was excellent, Price $2295
- The StyleWriter: 3 minutes to print the page, 3 minutes to print the 2nd copy, quality was less than I expected, Price $1200.

Needless to say, we did not purchase the StyleWriter, but instead bought two HP DeskWriter's and one Laser LS.

PostScript or Not to PostScript

The question now is which printer to buy. Do you need a Laser, and if so, do you need a PostScript or a non-Postscript laser. Buying PostScript can add over $1,500 to the price of a laser.

Before you buy any printer, the following question MUST be asked: do I need PostScript?

In order to answer this question intelligibly, you need to ask yourself "what do I print the most?" If the answer is "graphics", then yes you do need PostScript. If the answer is "text", then do you really need a Laser? As you can see above, the HP DeskWriter is an admirable alternative to a non-PostScript laser, have a look at the table below for the pro's and con's:

DeskWriter

Speed (1st copy)	1.00
Speed (2nd copy)	1.00
Blacks	Superb
Streaking	None
Cost:	
purchase	$1395
per cartridge	$35
re-fill	$20
Graphics	Reasonable

Peronal LaserLS

Speed (1st copy)	1.05

but this unit depends on the speed of the Mac, unlike the DeskWriter, i.e.: if you put this printer on a plus, it will print slower than the DeskWriter on the same Mac)

Speed (2nd copy)	10 seconds
Blacks	Excellent
Streaking	None
Cost:	
purchase	$2295
per cartridge	$120
re-fill	$70
Graphics	Reasonable

Which Printer to Buy?

Before you purchase any printer, whether dot-matrix, ink-jet, bubble-jet, or laser (PostScript or non-PostScript) you must be aware of the following criteria, this listing is not in any priority order, you must do that yourself based on what is more important to your needs, and remember before you actually part with your hard earned cash - Test the printer first before you buy!

In real life, the speed of the printers do not match the advertised rating, for example, the Personal LaserWriter LS, is rated at 4 pages per minute, but in my testing, I found it doing the first copy at 1 page per minute. It is not just Apple that does this, but ALL printer manufacturers do this. The rating is based on using one of the inbuilt fonts, and is just straight text, i.e. no bold, italics, underlining, etc and no graphics.

So the criteria I use for any purchase (by the way, I used this exact criteria before parting with my money just three months ago - I hocked my soul and bought me a PostScript Laser):

- • Speed: How fast is it really?
- • Cost: Purchase (initial cost)?
- • Cost: Running - the hidden costs. How much does the toner cost, print drum, are there any other consumables. Then work out these costs to the price per page of print.
- • Blacks: Were the really black?
- • Streaks: Were the blacks & grey scales streaky?
- • Print Area: How much of an A4 page can I print on?
- • Support: Is it a one-off print manufacturer, not likely to last? How long is the warranty?
- • Service: Can I get it repaired quickly, can I buy the consumables easily?
- • Emotions: Did I have a warm furry feeling about this laser? After

all my entire business would depend on this one unit.

I set up a table, and picked 6 manufacturers of laser printers based on the purchase cost, and then tested each and everyone, giving them a rating out of 10. Totalled up the points, and the one that scored the highest got my money.

I created a two files: one using Page-Maker, and the other using DesignStudio, as these are my two major applications. Each of the files used exactly the same layout, fonts and graphics. I used the following:

- • Standard Fonts - Helvetica & Times (these are in-built in all lasers)
- • Non-Standard Font - Regency Script (downloadable font)
- • Each of the fonts used three styles (plain, bold, italic)
- • Each of the fonts used four sizes (6pt, 12pt, 18pt, 72pt)
- • One grey-scale scanned image (tif)
- • One bit-mapped picture (MacPaint line art)
- • One PostScript picture (eps)
- • grey-scale (10%) background from edge to edge of the paper to test the print area.

2The important thing to remember about a test page, is that it must use your major application, and it must use all possibilities of your printing needs. By the way, if a dealer won't let you test the printer, find another dealer.

Educational Games

reviewed by Jessica Staton.

SMILE

This program explores reflection and patterns. Lots of options.

AB SPEAKS

Needs Apple MacinTalk speech driver. Teaches recognition of alphbet. You point to the letters and the computer says them.
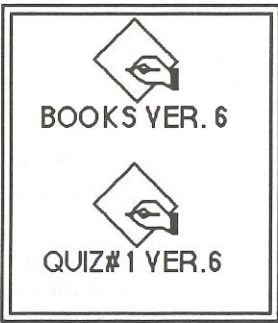
KID PIX

Very simple paint program. Fun effects including magnification and reflection of specific areas. Good basic graphics.

SPIN & SPELL DEMO
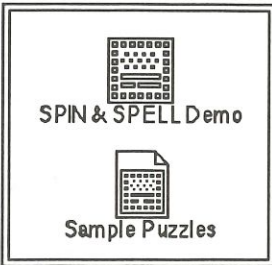
Spin the wheel and spell the word or phrase. Score points and win the game. Up to four players. Fun for school years 5 and up.

BIBLE BOOKS

Quiz on books of the bible and basic teachings.

NATALIA'S DOTS

Join the dots in sequence. Choice of letters or numbers. Forms cute pictures.

ALPHA TALK

Says the letters and displays them on the screen. Three options are available Say • Type n' talk • Type it.

TRUCHET TILES

Draws patterns of tiles. You can control size and randomness.

This review by Jessica is based on some of the Primary Ed.Games available from our Mac PD library that are currently available on our Educational disks BUT will be given a new disk number etc by the time you get this magazine - confusing, huh!?   Ed.
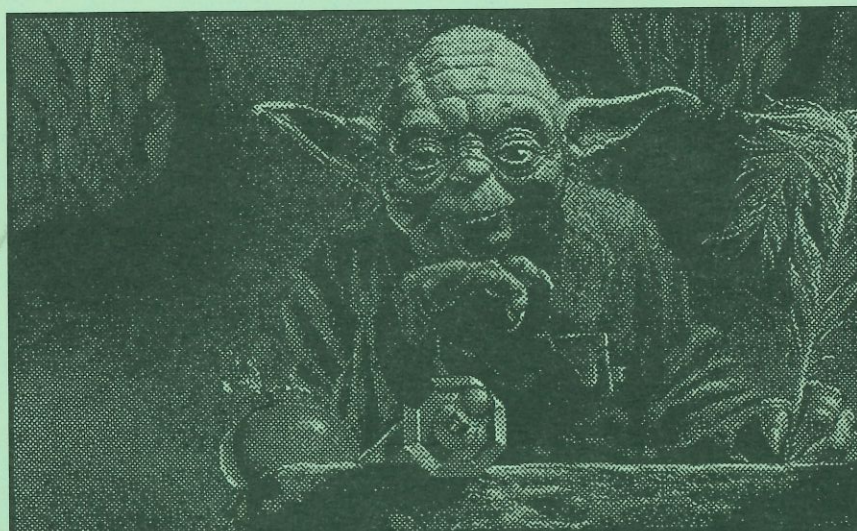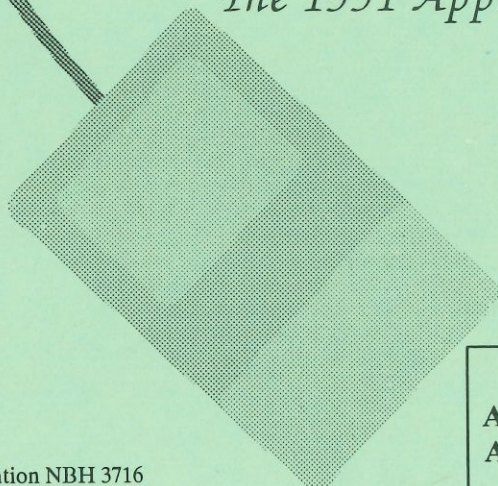
Applecations

News, Views and Howdya -Do's

Lotus 123

Painter v1.2

SoftPC v2.5

HyperCard IIGS

AppleIIGS System 6.0

The 1991 Apple// Acheivement Awards

Apple Introduces New System Software & HyperCard IIGS Upgrade For The Apple IIGS

CUPERTINO, California— March 24, 1992—

Apple Computer, Inc. today introduced new system software and an upgraded version of HyperCardIIGS for the Apple IIGS personal computer. Apple IIGS System 6 software offers an enhanced user interface, greater speed and performance, and data exchange capabilities not available on current Apple IIGS operating systems. HyperCard IIGS version 1.1 has been upgraded to include a Media Control stack for operating CD ROMs and videodisk players, and new HyperTalk scripting capabilities.

"Apple IIGS System 6 encompasses the most robust and feature-rich system software offered since the introduction of the Apple IIGS in 1986, bringing Apple II customers much of the same ease-of-use and functionality now available on the System 7 Finder for the Macintosh," said John Santoro, Apple II product manager. "The extensive development of System 6 and HyperCard IIGS version 1.1 underline Apple's continuing support of the Apple II line."

Features and Benefits of Apple IIGS System 6

Apple IIGS System 6 features three new File System Translators that provide easy access to Macintosh disks, Pascal disks, Apple II DOS 3.3 disks.

In addition, Apple IIGS System 6 offers users significant feature enhancements to control panel and desk accessory functionality, providing an enhanced new "look and feel" to the Apple IIGS. Control panels can be opened directly from the desktop and Find File and Calculator desk accessories have been incorporated.

Finder Help on Apple IIGS System 6 can be accessed through pop-up menus and kept on screen while users step through procedures. Window handling and window appearance have also been enhanced, making it easier to move between and manage multiple windows on a singlescreen.

Apple IIGS System 6 offers two new applications—Teach and Archiver. Teach is a desktop text processor that enables the user to jot down notes, read disk files and create formatted or unformatted text documents. Teach also provides file import capability from ASCII, AppleWorks version 3.0, AppleWorks GS, MacWrite version 5.0 formats and AppleWriter. Archiver offers flexible hard disk backup functions to save and restore either individual files or entire volumes.

The Apple IIGS System 6 Media Control toolset is a new tool/driver/control panel/desk accessory combination that allows users to integrate, configure and manage highly sophisticated multimedia effects. The performance of this toolset is optimizedwhen used in conjunction with HyperCard IIGS version 1.1. The Universal Access suite (also available on Macintosh System 7 software) opens the Apple IIGS to disabled users via Video Keyboard, Easy Access and Closeview programs, simplifying system use for thevisually or physically impaired. As with the System 5 series, Apple IIGS System 6 users can network their Apple IIGS computers with each other and with Apple IIe, Macintosh and MS-DOS computers. However, System 6 improves networking functionality via EasyMount, a new feature which allows users to mount a network server with a simple double-click command.

Apple IIGS System 6 replaces Apple IIGS System 5.0.4 for the stand-alone Apple IIGS, providing a consistent graphical interface and high performance for both the individual and networked user.

Speed and Feature Enhancements for HyperCard IIGS

HyperCard IIGS version 1.1 features a Media Control Stack for the control of external media devices such as Laserdisk players and CD-ROM drives from within the stack. Control is provided to the user through a common interface to two

external devices by using standard "Play", "Fast Fwd", etc., buttons or floating control panels.
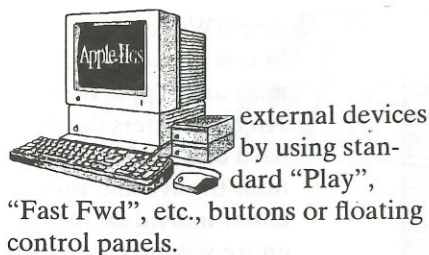
A Tune Builder stack allows the user to create short original tunes by simply clicking the mouse on the stack's music staff. Notes can be played in variable time and with the voices of a large collection of instruments. These tunes can then be used as enhancements to other original stacks by cutting and pasting. HyperCard IIGS version 1.1 has incorporated features from Macintosh HyperCard version 2.0 and 2.1, such as HyperTalk extensions and X Windows. As with original HyperCard IIGS, version 1.1 is also in color.

The Apple IIGS SuperDrive Controller card is also available for the enhanced Apple IIE and Apple IIGS, allowing users to utilize Apple's SuperDrive which permits the use of 1.4MB floppy disks. The SuperDrive card also operates all other Apple II 3.5 disk drives.

System Requirements

Stand-alone Apple IIGS System 6 software requires an Apple IIGS personal computer with at least 1MB of RAM, ROM version 01 or 03 and one 3.5-inch disk drive, although configurations of 2MB of RAM and a hard drive is recommended for optimal performance. Networked systems require Apple IIGS computers with at least 768K RAM, ROM version 01 or 03 and appropriate LocalTalk cables. HyperCard IIGS version 1.1 requires an Apple IIGS personal computer with 1.5MB RAM, one 800K disk drive and hard disk or connection to a networked environment, and system software 5.0.3 or subsequent version.

Price and Availability

The Apple IIGS System 6 package includes six 3.5-inch disks containing system and set-up software and sys-

tem tools, as well as the Apple IIGS System Software User's Guide. The package will be available in early April from authorized Apple dealers, Apple Educations Sales Consultants, and Resource Central, Inc. (913) 469-6502) for a suggested retail price of $39 in the United States.
Apple is also making Apple IIGS System 6 software available from licensed user groups and licensed on-line services.
HyperCard IIGS version 1.1 will be available in early April from authorized Apple Dealers and Resource Central, Inc. for a suggested retail price of $69. HyperCard IIGS 1.0 owners can purchase an upgrade to version 1.1 from Resource Central, Inc.

Apple, the Apple logo, HyperCard, Apple IIGS, HyperTalk, AppleTalk, Macintosh and LocalTalk are registered trademarks of Apple Computer, Inc.
System 7, Finder, SuperDrive, and AppleWriter are trademarks of Apple Computer, Inc.
AppleWorks is a registered trademark of Apple Computer, Inc., licensed to Claris Corporation.

Solutions to Common 6.0 Problems!

David A. Lyons, Apple Computer, Inc. Apple II System Software Engineer

- Problems launching or returning from ProDOS 8 applications. Many users are finding that it's a bad idea to have both ProDOS 8 2.0.1 and their RamFAST cards *both* remapping extra devices to unused slots and drives. Solution: Configure the RamFAST to not remap extra devices. Problems installing to a Vulcan—the Installer asks you to insert your hard drive. We don't know why this happens, but if you put the optional Vulcan driver in the system, it works fine. For example, put the driver on a copy of System.Disk, boot from System.Disk, and launch the Installer from the Install disk. (Alternatively, you can try making room for the driver on a copy of Install by removing unneeded scripts from the Scripts folder.)

- Easy Update installs the Finder only if it recognizes a file called Start or Finder. If you've installed ProSel 16, you should rename Start to Start.ProSel and Old.Start back to Start before installing System 6. (Then you can use the SetStart con-

trol panel to makeProSel 16 your startup application, if you want.)

- Check out the Shortcuts file on SystemTools2 (you can read them with Teach).

- If the mouse cursor wipes out everything it moves over, that application does not get along with CloseView. Remove CloseView from System.Setup, or inactivate it using Icon Info. (Leaving CloseView off is not enough; just having it in the system is enough to cause incompatibilities.) Information for developers on CloseView compatibility can be found in Apple IIgs Technical Note #91, The Wonderful World of Universal Access.

- EasyAccess, in System.Setup, is incompatible with some applications, especially on ROM 1. Easy Access pre-processes keyboard input, so the keyboard is dead if an application locks out interrupts or if the system hangs (even Command-Control-Reset doesn't work). Easy Access provides sticky keys and mouse keys (you can read about it in Shortcuts). If it's causing you problems, Remove EasyAccess from System.Setup, or mark it Inactive

using Icon Info.

- If you used Easy Update and did not try clicking Customize, you may not be aware of some System 6 features. Run the Installer again and browse around—you'll find Calculator, Find File, the HFS FST, and more.

- If you don't like yellow folders in the Finder you can change the byte at offset +65 in the Finder resource with type $C001 and ID 1. Change the $E0 to whatever you want (the first digit is the default folder foreground color, and the low nibble is for the outline color). Only folders that do *not* already have a color recorded in a Finder.Datafile get the default color. So $F0 would be white background / black outline.

- Finder icons that match by name and have a leading wildcard require uppercase letters. For example, a name like "*.txt" never matches, but "*.TXT" works fine (it matches regardless of a file's actual capitalization). (This was accidental; the 5.0.4 Finder did not care about capitalization in icon files.)
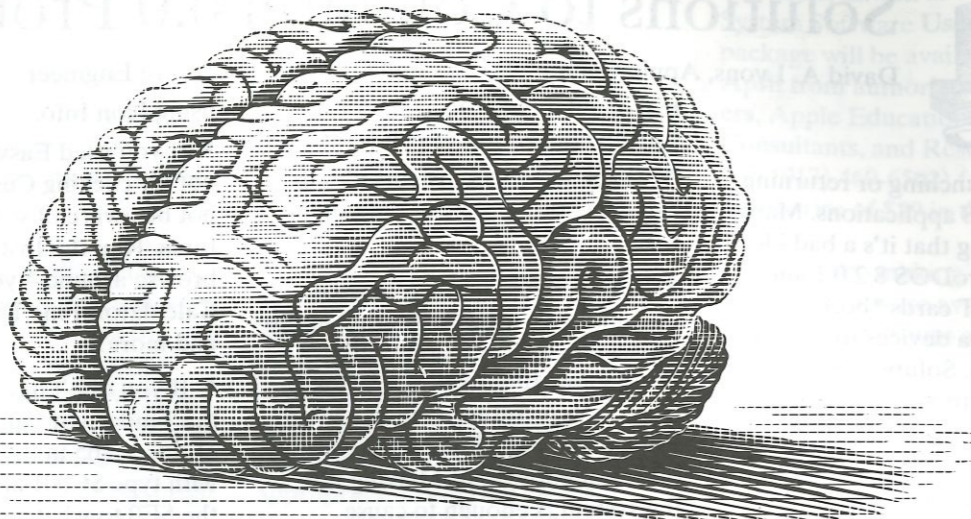
Microsoft's most valuable program is designed to support the world's most powerful computer.

Surprisingly, Microsoft's most valuable program isn't a software package.

It's the link we establish with the minds of our users through our customer support program, Communiqué.

Already, over 35,000 Communiqué Members enjoy a range of benefits that make their jobs easier.

Each month through the Communiqué magazine they receive valuable hints on how to get more out of their Microsoft software. Plus the very latest news on product developments.

They also go straight to the front of the queue when they dial our toll free Customer Service and Product Support hotlines.

What's more, they receive a special $30 discount on every Microsoft product upgrade.

Put simply, if you're not working with Communiqué, you're working too hard.

And it doesn't take the world's most

powerful computer to figure that out.

To join Communiqué for just $25, simply complete the coupon below.

*Offer valid in Australia only

THE 1991 ACHIEVEMENT AWARDS

The 1991 Apple II Achievement Awards are presented for significant achievement in the Apple II community. A prestigious panel of Apple II industry watchers, including representatives from A+/inCider, A2-Central, Apple Computer, America Online, CompuServe, GEnie, GS Plus Magazine and Nibble, recently nominated awards in a number of categories designed to recognize excellence in products for the Apple II family of computers during the period from November 1, 1990 through the present. Those products recognized as the best by the panel were nominated for Awards.

A panel of over 100 Apple II community members was entrusted with selecting the best of the best during balloting between March 3rd and March 27th, 1992. Those selected recieve the 1991 Apple II

Achievement Award, a lead crystal disk engraved with "1991 Apple II Excellence" and an Apple logo on a crystal base.

In addition to the awards listed below, the Apple II Individual Achievement Award and Apple II Group Achievement Award will be presented to those selected for these honors by the nominators. The Individual Achievement Award will be presented to the individual whose efforts, alone or as part of a team, have made the most significant positive impact for Apple II computer users and owners during the awards period. The Group Achievement Award goes to the group of people whose efforts have made the most significant positive impact for Apple II computer users and owners during the awards period.

The 1991 Apple II Achievement Awards, sponsored by Resource Central and A+/inCider Magazine with cooperation from Apple Computer, Inc., were presented Friday, April 3rd, in a national online conference on America Online, winner of the 1990 Achievement Award for Best Online Service.

THE NOMINEES

Best Freeware/Shareware program :- to be awarded to the best program released for free or as shareware during the awards period.
The nominees are:
Milestones 2000 (Dr. Ken Franklin, ReliefWare), Nifty List 3.3 (Dave Lyons, DAL Systems), ShrinkIt GS 1.0.4 (Andy Nicholas), SuperView 2.2 (Chris McKinsey), UtilityWorks GS (George Wilde, GRW Systems).

Best Educational program :- to be awarded to the outstanding program designed to teach or reinforce concepts in school students of any age.

The nominees are:
GeoQuiz (PC Globe, Inc.), HyperCard IIgs (Apple Computer, Inc.), HyperStudio 3.0 (Roger Wagner Publishing, Inc.), McGee at the Fun Fair (Lawrence Productions, distributed by Broderbund).

Best 8-bit Application :- to be awarded to the outstanding application program for eight-bit Apple II computers released during the awards period. The nominees are: Delta Drawing Today (Power Industries LP), InWords (Westcode Software), ProTERM 3.0 (inSync Software), PublishIt! 4 (TimeWorks), Total Control (JEM Software).

Best 16-bit Application :- to be awarded to the outstanding application program for Apple IIgs computers released during the awards period. Apple IIgs-specific applications running under an 8-bit operating system are not eligible. The nominees are:
DreamGrafix (DreamWorld Software), GraphicWriter III 1.1 (Seven Hills Software), HyperCard IIgs (Apple Computer, Inc.), HyperStudio 3.0 (Roger Wagner Publishing, Inc.), SuperConvert (Seven Hills Software).

Best Innovation :- to be awarded to the product that, in the voters' opinions, best exemplifies innovation and creativity for the benefit of the Apple II community. The nominees are:
DreamGrafix (DreamWorld Software), HyperCard IIgs (Apple Computer, Inc.), inWords (Westcode Software), Pointless (Westcode Software), System Software 6.0 (Apple Computer, Inc.).

Best Multimedia Achievement :- to be awarded to the product that, in the voters' opinions, represents the best achievement in bringing different media together in traditional or non-traditional ways to benefit

Apple II computer users and owners. The nominees are: HyperBole (Resource Central, Inc.), HyperCard IIgs (Apple Computer, Inc.), HyperStudio 3.0 (Roger Wagner Publishing, Inc.), Media Control Tool (Apple Computer, Inc.), Script-Central (Resource Central, Inc.).

Best Utility :- to be awarded to the oustanding utility program for any Apple II computer released during the awards period. Utility programs are programs that help Apple II computer owners manage their computer's resources more effectively and productively. The nominees are: Finder 6.0 (Apple Computer, Inc.), Prosel 16 (Glen Bredon), Salvation series (Vitesse, Inc.), ShrinkIt GS (Andy Nicholas), SuperConvert (Seven Hills Software).

Outstanding Developer Aid :- to be awarded to the best developer tool, development aid, debugging utility

or developer service (online, in person or programmatic). The nominees are: GSBug 1.6 (Apple Computer, Inc.), GNO/ME (Procyon, Inc.), Nifty List 3.3 (DAL Systems), ORCA/M 2.0 (The Byte Works, Inc.), Talking Tools (The Byte Works, Inc.).

Best Apple II Periodical :- to be awarded to the outstanding regularly published book, magazine, disk or other form of communication that best served the Apple II community during the awards period. The nominees are: A2-Central (Resource Central, Inc.), A+/inCider (IDG Communications), GS+ Magazine (EGO Systems), Nibble Magazine (MindCraft Publishing), Script-Central (Resource Central, Inc.).

Best Apple II Online Service :- to be awarded to the outstanding electronic information service that provided outstanding support and ser-

vice to the Apple II community during the awards period. The nominees are: America Online, CompuServe, Delphi, GEnie, The Internet (including all Apple II newsgroups and mailing lists).

Software of the Year :- to be awarded to the most outstanding piece of software of any variety for any Apple II computer released during the awards period. The nominees are: DreamGrafix (DreamWorld Software), HyperCard IIgs (Apple Computer, Inc.), HyperStudio 3.0 (Roger Wagner Publishing), Pointless (Westcode Software), ProTERM 3.0 (inSync Software), System Software 6.0 (Apple Computer, Inc.).

🍎

AND THE WINNER IS

Best Freeware or Shareware:	ShrinkIt for the Apple IIgs (Andy Nicholas).
Best Educational Software:	HyperStudio 3.1 (Roger Wagner Publishing).
Best 8-bit Application:	ProTERM 3.0 (InSync Software).
Best 16-bit Application:	HyperCard IIgs (Apple Computer, Inc.)
Best Innovation:	Pointless (Westcode Software).
Best Multimedia Achievement:	HyperStudio 3.1 (Roger Wagner Publishing).
Best Utility:	Prosel 16 (Glen Bredon)
Oustanding Developer Aid:	GSBug v1.6 (Apple Computer, Inc.).
Best Apple II Periodical:	A2-Central (Resource Central, Inc.).
Best Online Service: TIE:	America Online (America Online, Inc.)
	GEnie (General Electric/Resource Central)
Software of the Year:	Apple IIgs System Software 6.0 (Apple Computer, Inc.).

Apple II Individual Recognition
(for service of distinction to the Apple II community): Alan Bird and Tom Weishaar.

Apple II Individual Achievement
(for making the most positive impact for Apple II computer owners during the awards period): Andy Nicholas.

Apple II Group Achievement
(for making the most positive impact for Apple II computer owners during the awards period): Apple II System Software team.

System 6.0 Snippets

There are now TWO ways to represent icons in System 6. The old way of having them in icon files in the system folder still exists, but there is now the new way of storing the icons in the Finder's resource fork. These are known as rIcons, and all the old finder icons and finder icons.x icons have been represented in this manner.
Currently only Genesys can modify rIcon files, and it has next to nill support of converting icons from icon files into rIcons.

The Finder's icons are given lowest priority, that is, they are searched LAST after searching through all

the icons from all the online volumes.
To replace the trash can icon with one you like better, you must place it in the icons folder on the boot volume.

Andy Nicholas

The 5.0.x and 6.0 Control Panels are supposed to automatically rebuild your CDev.Data file when necessary. In 5.0.x, I believe the decision to rebuild is based only on the file-names of your CDevs—so if you install a new version of an existing CDev, the system may not rebuild CDev.Data, so you'd be stuck with an out-of-date icon for that CDev (and some other out-of-date information about it, which could make it not work right).

So some installer scripts for 3rd-party CDevs delete CDev.Data. This is fine.
In 6.0, the Control Panels NDA decides to rebuild CDev.Data based on the names *and* create dates of your CDevs. That should cover the above case.
The problem in 6.0 is that even though the Control Panels NDA correctly decides to rebuild CDev.Data, it fails to overwrite the old file, if it was created with no Write access, as the 5.0.x Control Panel does.
So in 6.0, you can have a "stable" situation where CDev.Data gets rebuilt every time you open Control Panels—it's using up-to-date data (in RAM), but it never gets written to disk. (My fault.)

David A. Lyons,
Apple Computer, Inc.
Apple II System Software Engineer

Hal Bouma

MDG UNVEILS NEW PRODUCT LINE

SAN DIEGO, California — April 1,1992

The Morgan Davis Group today unveiled its latest product line with eight new and updated Apple II titles: ModemWorks 3.0, ModemWorks Lite 3.0, ModemWorks Technical Reference, ProLine 2.0, ProLine Reference Manual, Object Module Manager 1.3, VirusMD 2.1, and the MD-BASIC 1.5 Interface Update.

"These products are the result of years of development, and we're enormously excited about the power our new software will finally bring to customers," said Morgan Davis,

company president. "While improving our products to maximize performance and value, our work underscores our dedication to the Apple II series of computers."

The eight new products include: ModemWorks 3.0. This communications toolbox for programmers now features Object Module Manager compatibility, full support for 40 standard and high-speed modems, emulation for 20 terminals (including ANSI, VT-220 and VT-100), all new XMODEM, YMODEM and ZMODEM protocols. Fully compatible with BASIC programs written for earlier versions of ModemWorks. US$89.95 (US$30 upgrade). Available in May, 1992.

ModemWorks Lite 3.0. For shareware BBS owners that need

ModemWorks, but do not program with it, ModemWorks Lite 3.0 includes only the ModemWorks 3.0 software. US$39.95 (US$15 upgrade). Available in May, 1992.

ModemWorks Technical Reference. For developers interested in creating modules for use with ModemWorks. US$14.95. Available in May, 1992.

Object Module Manager 1.3. This BASIC enhancement allows creation and management of Applesoft extensions. It features efficient memory management, intermodule communication, built-in ampersand command servicing, and related utilities. Includes AmperWorks, an indispensable set of tools for BASIC programming. New 70-page manual. US$39.95 (US$20 upgrade). Available now.

ProLine 2.0. This is the big update ProLine fans have been waiting for. ProLine 2.0 is better, faster, and easier to use. New features: high-speed

ProLine Reference Manual. A hands-on tutorial for getting the most from ProLine, plus the entire printed version of the online manual in a convenient three-ring binder for easy updating. US$19.95. Available in late May, 1992.

VirusMD 2.1. Updated to take advantage of Apple IIGS System 6.0's newest features, this fast, reliable virus detection utility disinfects disks plagued by all currently known viruses. US$19.95 (US$10 upgrade). Available immediately.

MD-BASIC 1.5 Interface Update. For MD-BASIC 1.5 owners, this disk includes a complete set of updated interface files, required in order to take advantage of new features in the OMM, ModemWorks, and ProLine. US$5.95. Available now.
Priority orders and upgrades for all products are being accepted now.

Contact:
Morgan Davis Group
10079 Nuerto Lane
Rancho San Diego
California 91977-7132
619/670-0563
619/670-9643 (fax)
619/670-5379 (bbs)
GEnie: mdavis.42
Internet: mdavis@mdg.cts.com

---

c't-Eprop Apple edition Eprommer for the Apple // family of microcomputers Adapted from a design by c't

The AUGE crew Munich proudly presents "c't Eprop Apple edition", an eprommer that can work with any Apple // that has slots.

ADAPTED?

The original design is for the IBM-PC series of microcomputers. The host-adapter was changed to work with an Apple //, the rest was left unchanged. This means that you may use the eprommer on an IBM when you get the host-adapter for it. You don't have to have an eprommer for both machines.
The design was found in c't, a computer magazine.

TECHNICAL DATA

The eprommer consists of 2 pieces: A host adapter and the eprommer itself. The host adapter will go in any slot (yes, even 3, but I wouldn't recommend that :), the eprommer is connected via cable.

This thing can burn at the moment all Eproms on the market, including the yet-to-come 8MBit(!) pieces. The software upgrade that was released recently and is being built in to the Apple //GS software you can burn EEProms and FlashProms, too. With a hardware adapter you could burn micro controllers. Two Textool sockets for 8-bit and 16-bit Eproms.

SOFTWARE

Software currently runs on a //GS and needs ORCA shell or GNO. Well structured C source is included. Software for the older Apple //s is a bit off right now, but there are people who said they'd like to work on it. Besides, you _do_ get the source with the thing :)

Hardware enhancements
"If customer demand warrants it" (that is, at least one person asks me to do it _and_ is willing to pay the price), I will do an adapter for burning microcontrollers. Be aware that this is not cheap: A board costs ~$20 at these low production rates, and the additional Textool socket is not had for nothing too.

Price, how to get one
This is the tough one. This is, though professionally layouted and manufactured (gold connectors), a phreak product. That means: I have only my prototype at the moment. If at least 10 people want the thing, I can do a mini series.
Else all I can do is give you boards done with "hobby equipment" and you have to get along with them (drill, solder) yourselves. Of course, that "hobby boards" will be below the price of a mini series. But so will be the quality, too.
Because of the low production rates the price will be $170.

A MOMENT OF SILENCE

Three totally innocent 0.8mm HSS drills had to give their lives during prototype building. One resistor array will never again feel the joy of voltage pulsing through it. One Elko went up in flames. RIP. Several hollow rivets lie splattered, limb and useless on the ground, the foul odor of corrosion wavering up from them.

CONCLUDING COMMENTS

Let's show those IBM people that an "obsolete" Apple // is as good a development platform as their high-powered computers. With your help, Apple // community, this board can be turned into a platform for developing micro controller applications. Think of all the possibilities!

Decide wether this thing is worth the money for you, and tell me so. If not, alas, one more vaporware for the Apple // that died.

Soenke Behrens
Muenchner Str.9
8039 Puchheim FRG
Phone: ++49-89-8002640
Internet:
behrenss@informatik.tu-muenchen.de
GEnie: S.BEHRENS2
FIDO: Soenke Behrens
2:246/13.0
CompuServe: 100034,2556

Questions and Answers

???????????????????????????

Answers provided by:
David A. Lyons,
Apple II System Software Engineer,
Apple Computer, Inc. (David);
Matt Deatherage,
Developer Technical Support,
Apple Computer, Inc. (Matt);
Marc Sira, Internet user (Marc)

Q

Hi! Would you mind letting me in on how you got to where you are at Apple? Also what courses someone might want to take in college. Thanks!

A

Apple's a big place, and it's changed since I started working here (so has the economy). If my comments are good for anything, it's the engineering areas of the company—I have no clue about getting a marketing job (and I don't want to).

Take whatever courses are relevant to what you want to do. If you want to be a software engineer, I vote for computer science classes. Go for as much theory as you can handle. Stay a little *ahead* of your classes, not behind. Concentrate on developing a good solid approach to solving problems and organizing your designs.

I wouldn't spend time taking courses that concentrate too much on a particular environment or machine—general skills are much more important. The cool environment of the day keeps changing anyway.

That said, your educational background is not what will get you in the door. You need to be the right person for some job at the right time. A good approach is to make a name for yourself by doing high-quality software for the company's hardware...commercial, shareware, or whatever; and also to hang around your favorite online services getting a reputation for having good technical knowledge of a platform, and being reasonably civilized.

In my case, I worked part-time at a third-party software developer during high school and college. I corresponded with Developer Technical Support alot. I reported a lot of GS system software bugs and offered my mostly-reasonable suggestions. I also hung out here on comp.sys.apple2 (and on America Online and GEnie and CompuServe). And I wrote Nifty List and DIcEd, which several DTSers found useful.
Later, when they found out I was about to graduate, they offered to fly me out for an interview (between my interview and my start date, I waited through a traditional Apple hiring freeze). The rest is history (DTS from 4/89 to 8/90, then Green System Software from 8/90 to the present).
David

Q

A friend who has been using a fairly early copy of System Software 6 found that when using the DOS 3.3 FST it displays a "volume number" with the following form (roughly):
:DOS 3.3 vXXXX

The numbers he has seen for the volume numbers include v0273 and v1814. These don't seem to have any relation to the "real" DOS 3.3 volume numbers which ranged from 0-254 (single byte representation). Is there any explanation for this, or has is it a "feature" that has changed in later development? Just curious.

A

It's working as intended—the "vXXXX" is a hash value computed from the directory contents of the disk, so that (hopefully) you'll never have two different DOS 3.3 disks that show up with the same volume name. — There is no relation to the 0..254 volume numbers you see when running DOS 3.3.
David

Q

The System 6.0 install process seems to have deleted the basic.launcher program. How do I now run basic programs from the finder? Should I just copy the program from my System 5.0.4 disk?

A

Just double-click them! The Finder contains an icon that maps them to "*/BASIC.System".
BASIC.Launcher is gone on purpose. It's no longer needed.
If you have an older icon in your system that matches BASIC programs, either take it out, or change the application pathname to */BASIC.System.
David

Q

Is it possible to print to the Stylewriter from Appleworks Classic?

A

No, sorry. The StyleWriter has no "raw text" mode, so there would have to be some conversion from a text stream to a graphics image along the way.
I know of no piece of hardware that

---

will do that. I don't know of anyone working on a software solution, either. For ROM 1 GSs, it would have to be application-specific (patch AW 3.0). For ROM 3, serial output goes through a RAM vector, so it's theoretically do-able.

David

Q:

Does the mli online call ($c5) with a drive/slot number of 0 return volume names in smartport id ascending order except for those devices returning 'no device connected' errors?

A:

No, there's no guarantee about the order. The best thing to do, if you need the SmartPort number of a particular volume in ProDOS 8, is to go through all the SmartPort devices (on all SmartPort chains) in sequence looking for the one you want (reading block 2).

David

Q:

My question is is this [255-point limitation] a System software or Apple IIGS hardware limitation? If it's a System software problem, I take it that there's no simple solution; the Font Manager, for example, couldn't just be patched so that there is no longer a 255 point font size limitation. If it's a hardware problem, it looks like we're stuck. Is there any way around this 63 point font size limitation?

Would the only viable solution be for Pointless to directly communicate with the Print Manager, and somehow directly send it the image of the outline font, in the highest possible resolution, rather than giving it a tremendously-oversized bitmap that must then be scaled down?

A:

This is getting asked fairly often, so let's try to lay it to rest. Your cooperation in stamping out other's misunderstandings will be appreciated.

There is a 255-point limitation on fonts because the Font Manager uses a four-byte data structure known as a "font ID" to describe a font. The data structure consists of two bytes for the font family number, one byte for the QuickDraw style (bits for bold, underline, shadow, outline, italic, etc.), and one byte for the size. Since there is only one byte for the size, and since zero is invalid, this results in a maximum of 255 points.

Changing this data type now is almost completely impossible due to compatibility risks. Even if Dave [Lyons] were to add a lot of new Font Manager calls to accept a word-sized "size" field, none of the existing programs that use the Font Manager would take advantage of it — they'd all have to be revised. It would cause problems for people trying to get the font information out of the Font Manager.

Matt

Q:

Would the only viable solution be for Pointless to directly communicate with the Print Manager, and somehow directly send it the image of the outline font, in the highest possible resolution, rather than giving it a tremendously oversized bitmap that must then be scaled down?

A:

This would work IF AND ONLY IF the printer driver in question supported this (remember, the "Print Manager" doesn't do any printing or imaging on its own; it just manages the printer and pr drivers). As of

this writing, no such printer drivers exist.

Oh, and by the way, the printer driver doesn't "scale down a huge bitmap." If your printer's resolution is four times the screen resolution, the printer driver asks for a font 4X the size of the one on the screen.

The outline font renderer (Pointless) makes a better 4X font than scaling up the 1X font, and when it's printed at the higher resolution, it looks better but comes out the same size.

Matt

Q:

It is really a shame that there is no new [LaserWriter] driver [in System Software 6.0], as I have a [LaserWriter] IIf and I can't get the printer to print some colors. It seems the new printers (IIf & IIg) don't like the way the driver renders grey scaling.

A:

Funny you should mention that; we identified this problem just last week or so. As it turns out, most PostScript level 2 printers automatically do the equivalent of a "sethalftone" or "setscreen" with a halftone dictionary on power-up, even though this isn't part of the level 2 language. The IIgs LaserWriter driver tries to pre-process the input to the spot function for halftone screens to help simulate different patterns. What happens on these printers is that since someone's used a halftone dictionary, 'currentscreen' no longer returns the spot function the driver was expecting. If you try to print with certain patterns or colors, the driver tries to execute a dictionary and the whole job craps out with a typecheck error.

We know how to fix it, but obviously it won't make it for 6.0. Until then, if you just avoid colors, everything

prints fine (yeah, not totally reassuring, but true). This was fun to track down.

Matt

Q:

I want to find out about the auxtype significance for applications in System 6.0. The Auxtype was supposed to be $DB00 for a smooth launch. When I looked at GSHK v1.05, I noticed it's auxtype is $DB07.

Matt

A:

$DB is a signature byte that validates the lower byte (ie. the finder will disregard the bit flags unless the $DB is present as the high byte). Bit 0 is GSOS Aware (long pathnames), bit 1 is Desktop program (ie. expect the screen with the usual tools active, in 640 SHR mode), bit 2 is

Message Centre #1 Aware. I think. So, $0002 just means the finder is ignoring the bits...if it were $DB02 it should hopefully launch the program without ever switching out the screen/menu bar. This also causes the finder to use the cute little desktop application icon for that S16 program.

Marc

🍎

Epson™ LQ-2500 Emulation Options

Country: U.S.A

☐ Auto Line-Feed (LF) Page Length: 11.0 in.
☐ Condensed Left Margin: 0 cols
Pitch: Pica Right Margin: 80 cols

Mono Spaced Font: LQ2500 Font Size: 11
Proportional Font: LQ2500 Font Size: 11

Cancel OK

Setting printer emulation options

well on SoftPC as my 386 Toshiba 5200 at work. Albeit a little slower.

SoftPC will even run Windows 3.0 *(see Windows in a window)* fast enough for you to do most textual tasks like word processing. Launch into graphics applications though and you start to stretch the envelope. You will begin to get strange messages about there being too many SoftPC users and that SoftPC is about to quit. This is a bug within SoftPC which can be fixed by running a small bugfix application supplied by Insignia Solutions.

In all I found using SoftPC to be a very good alternative to lugging home a heavy laptop every night just to complete work at home. To be sure it is not fast but it does allow you to quickly cut and paste between Mac and PC applications with great ease. All you need to do is get used to the arcane command line interface and the interminable pathnames to get around and set things up.

I must say that the manual, even though it's slim at 120 pages, does cover every aspect of the install and setup process in detail. The appendices explain many of the finer points and also list some of the more common DOS commands you will need to know. The SoftPC application comes installed with DOS 3.3 but you will have to buy the manuals for this product as they are not provided in the box. However, you may want to upgrade your SoftPC setup to DOS 5.0. Tough I did not try

using DOS 5.0 for this review. SoftNODE is an addition to the SoftPC family of applications. It allows you to add the functionality of DOS network operations to your Mac when running under Universal SoftPC or SoftAT. You require an ethernet or LocalTalk ethernet gateway to access the Novell file services.

Installation of the software into your SoftPC or AT setup is a simple as running a DOS Batch file. All relevant files are copied to the correct directories ready to go. Once again that's the easy part.

Next you need to configure SoftNODE for your particular network setup. This requires the updating of the NET.CFG file which specifies the frame type to use with Novell for Macs with direct connections via an ethernet card. If you will be running through a LocalTalk ethernet gateway then you will need to specify the frame type in

the IPX gateway dialogue. Here you will also specify numbers for your ethernet and LocalTalk networks. Once again the application shields you from much of the messy stuff. And if you're in doubt you can always call your network administrator.

Once you have done these steps all you need do is run the supplied batch file each time you wish to connect to the server. If you will log on every time you use SoftPC then you can easily append the commands to your autoexec.bat.

There is little else to say about this application. It is easy to set up. The greatest heartache is with the setup of the gateway or router. Unfortunately, I did not have an ethernet card in my Mac II so I could not connect to our network at work to test this part of the application. I leave the hard work of testing to you.

As a complete package SoftPC would be a very good choice for those Mac users who, like me, can't justify the outlay for an IBM PC at home. I have yet to find a Mac application that does not run, albeit slowly, under this environment. I can recommend it highly. Thanks to CoNeXuS for the evaluation software used for this review. Check with your local dealer for pricing. Happy Mac...

Windows within a window

Mac On The Wire
An update on the rumblings inside the Mac community
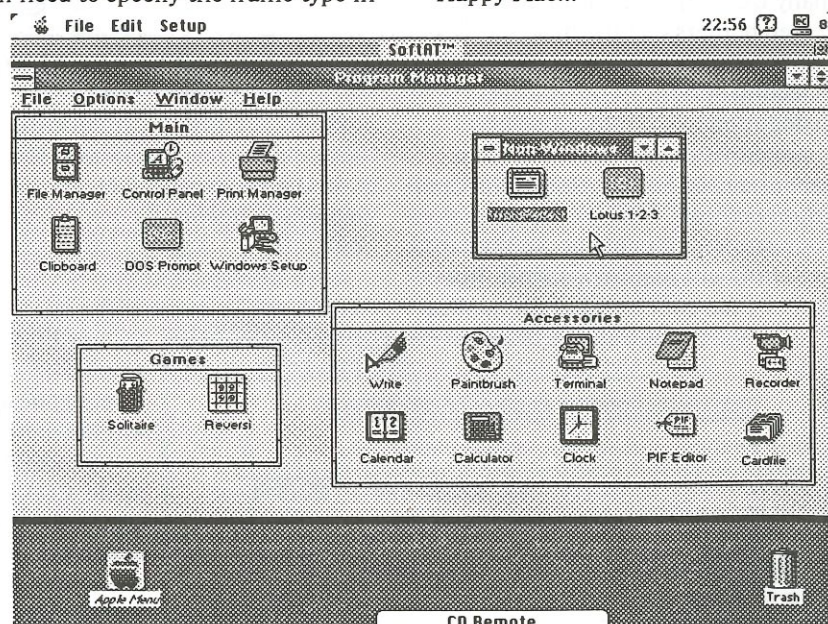
We begin this month with the news from Apple on pricing and some new machines. Also some update to products as well as an update on GEnie.

Apple lowers prices

Even before the PayPacket promotion had come to an end Apple had announced a new machine and dropped the prices of Macintosh equipment between 5% and 25%.

The new computer, the LC II, is the much rumoured 030 replacement for the old 020 LC. Hence the great PayPacket deals on LC's to clear existing stock before the release. New 020 LC owners can be comforted by the fact that Apple will provide an upgrade path to the 030 version.

The LC II has two configurations:
LC II 4MB 40HD
LC II 4MB 80HD

Apple have reduced prices across the entire range of Macintosh computers by varying percentages:

New pricing (drop in $)-

Classic 2MB 40HD - $2,195 ($300)
Classic II 4MB 40HD - $2,795 ($200)
   " II 4MB 80HD - $2,995 ($1000)
LC II 4MB 40HD - $3,195 ($300)
LC II 4MB 80HD - $3,495 ($500)
IIsi 3MB 40HD - $4,495 ($500)
IIsi 5MB 80HD - $4995 ($1000)
IIci 5MB Floppy - $6495 ($1000)
IIci 5MB 80HD - $6,995 ($1500)
Q 700 4MB Floppy - $9,995 ($500)
Q 700 4MB 80HD - $10,495 ($1000)
Q 700 4MB 160HD - $10,995 ($1500)
Q 900 4MB Floppy - $12,495 ($1000)
Q 900 4MB 160HD - $14,495 ($1000)
Q 900 4MB 400HD - $15,495 (None)
Pbk 140 2MB 40HD - $4,495 ($500)

UPS for Macintosh released

Australia Data Sphere have announced the release of five uninterruptible power supplies (UPS) for the Macintosh range of computers. The LOTUS MacAline series of UPS are specifically designed for the Mac.

A UPS is a must if you use your system for work which requires clean, continuous power. Our BBS is a good example of a system which needs a UPS both to protect the system against spikes and voltage fluctuations as well as power outages.

The MacAline series provides clean power to your Mac during normal operation and a backup power source for up to 10 to 15 minutes when power fails. This gives sufficient time to do a normal close down of all open files and applications.

The MacAline UPS are available for almost the entire Mac family from the Plus through to the IIfx. The only machines not covered are the Quadras.

To find your local dealer you can contact Australia Data Sphere on (02)906 6288 or fax (02)906 1370. Dealer enquiries are welcome.

Now you're Up-to-Date

Now Software, developers of Now Utilities, has announced Up-to-Date a personal information manager (PIM) for the Macintosh. It allows users and groups to organise their time. You can create and update calendars, set alarms and schedule meetings with ease. The calendars allow view by day, week and month.

Up-to-Date provides powerful printing options which allow output of your schedule in several formats. For more information contact Trio Technology on (03)585 0566.

GEnie update

Last month I reported that GEnie had begun local services through numbers in Sydney and Melbourne. Since then I have received more information from GE Information Services. If you want to sign up use the following information:

Sydney numbers:
922 8151 - Up to 2400 bps
925 3933 - Up to 2400 bps
925 3922 - 1200/2400 w/MNP

Melbourne numbers:
520 0511 - Up to 2400 bps
529 6155 - Up to 2400 bps
525 1887 - 1200/2400 w/MNP

Others, outside these areas need an AUSTPAC NUI which can be obtained by ringing AUSTPAC on 008 077 222.

Communication settings are:

data bits - 7
parity - even
stop bits - 1

To logon for the first time ring one of the numbers listed above. When the line is established type a series of h's (3 to 4). The system will respond with a U# prompt. At this prompt type XTX99407,GENIE and press return.

You will then go through the validation procedure. You must have a credit card handy (MasterCard or VISA only) for billing purposes. Once this is complete you must then wait 1 to 2 days for validation.

If you have any problems with this procedure then contact Mike Burbury at GEis on (02)957 9111. To obtain a manual you must also ring this number. The cost is $30.00. On-line charges are $US25 per hour so you need to convert to OZ dollars.

Need Apple Spares?

If you own an old Mac or Apple // and have great difficulty finding spares then a US company may be able to help. Pre-Owned Electronics of Bedford, MA carry an entire line of both Apple // and Mac parts.

They offer items for both sale and exchange. Models covered even include early Apple][models. An example of prices ($US):

Apple // 5.25" drive - $119 (buy) or $79 (exchange)

//e logic board - $299 (buy) or $129 (exchange)

//c+ logic board - $179 (buy only) (this enhanced //c was never released in Australia)

Pre-Owned Electronics can be contacted on 0011 1 617 275 4600 or fax on 0015 1 617 275 4848. They can fax a price list to you upon request.

New from CoNeXuS

CoNeXuS, distributor of network hardware and productivity software have announced some new releases from the US.

First comes SuperOffice which is a business information and contact management package. It is a single or multi user system which allows users to track commitments, contacts and opportunities.

The application, which is available for both Macintosh and Windows 3.0 platforms, incorporates a client contact directory, schedule planner, follow up tracking and correspondence templates. A remote capacity is available for Powerbook users.

A number of comprehensive management reports allows the user to track performance. The suggested retail for SuperOffice is $495 for a single user, $1595 for up to five users and $2395 for up to ten users. Site licenses are also available for a user base larger than ten.

Next comes MOSAIC a NetWare network print server from Insight Development Corporation. MOSAIC provides comprehensive services for font, forms, printer and job management. It also provides complete resource accounting within the system.

With MOSAIC users can let the print server find the best printer for each job instead of having to do it themselves. For example if the user requires PostScript printing MOSAIC will only send the job to a PostScript capable printer.

MOSAIC requires an IBM server of at least AT standard. It is capable of controlling printers from all major printer manufacturers. The MOSAIC print server software is $2599 for 20 printer services and includes the resource accounting package.

The Macintosh MOSAIC software is $515 for three users and $779 for ten users.

Lastly, from Ceres Software, comes Inspiration 3.0 which is billed as a brainstorming tool.

Basically, Inspiration is an outliner which incorporates a visual diagramming capability. It will transform your outline into diagrams, mind maps, tree charts, presentation slides, proposals and reports.

I have used the earlier version of Inspiration and found it very easy to use and quite intuitive. Inspiration 3.0 is $395.

For information on any of these products or for the name of your local dealer contact CoNeXuS on (02)975 2799 or fax (02)975 2966.

WordPerfect releases 2.1 FREE

Late last year I reported on the release of WordPerfect 2.0 with great favour. I intimated then that a System 7.0 compatible upgrade was on the way. Well, it has arrived, albeit later than expected, but the great part about it that it is absolutely FREE to registered users. All you need do is return your original disks to them and they will ship you a COMPLETE new package of disks and manuals. Yes you read it right.

After getting stung for an upgrade to Word 5.0 it is encouraging to see that there is still a software house which gives GOOD service for its equally good product.

The manual set has be combined so that you only have a Getting Started and Reference manual (which includes the previously supplied Draw manual). The Macro manual is no longer shipped and you must purchase it direct from WordPerfect but that is a very minor problem as you still have the 2.0 manual.

Once you have installed the disks and run up the application you will see a few changes. Full System 7.0 support is now provided and this includes the new QuickTime extensions. In fact, it even comes with a demo movie for you to test out.

I don't know whether it is my imagination but it seems to run a little faster than the old version. But maybe it just seems faster after using Word 5.0 which runs like a dog.

If you have WordPerfect 2.0 then I highly recommend this upgrade to you. If for no other reason than it is free you should get this upgrade. The full feature set will be covered next month because I can't fit it in here and also I have only just received it in the mail. So, you'll have to wait for the next issue.

If you want the upgrade simply pop your disks in an envelope and mail them with registration details to:

WordPerfect Pacific
Attn: Upgrades Department
Unit 2/25 Sirius Road
LANE COVE   NSW   2066

It should take around 7-10 days turn-around depending on the backlog of orders. Full marks to WordPerfect for their great customer support.

The Ultimate Means of Expression
Fractal Painter 1.2
Reviewed by Tony Szabo

The Macintosh has come a long way since the first 128 saw the light of day. In those far off days 128Kb of RAM seemed oh so much. Now we are looking at Macs capable of a staggering 256Mb (a Quadra 900 with 16Mb simms).

The Painter interface

The same is true with our ever growing selection of software. In the beginning everybody got a copy of MacWrite and MacPaint with their Mac. Now the choice (and cost) is yours. The myriad of applications is still increasing as software designers think of new ways to use a Mac.

One of the most innovative applications currently available, Painter, shows how far we have come from those infant MacPaint days. From black and white, with the occasional pattern, to full blown colour paint capabilities incorporating some very sophisticated features.

Setting your sizes
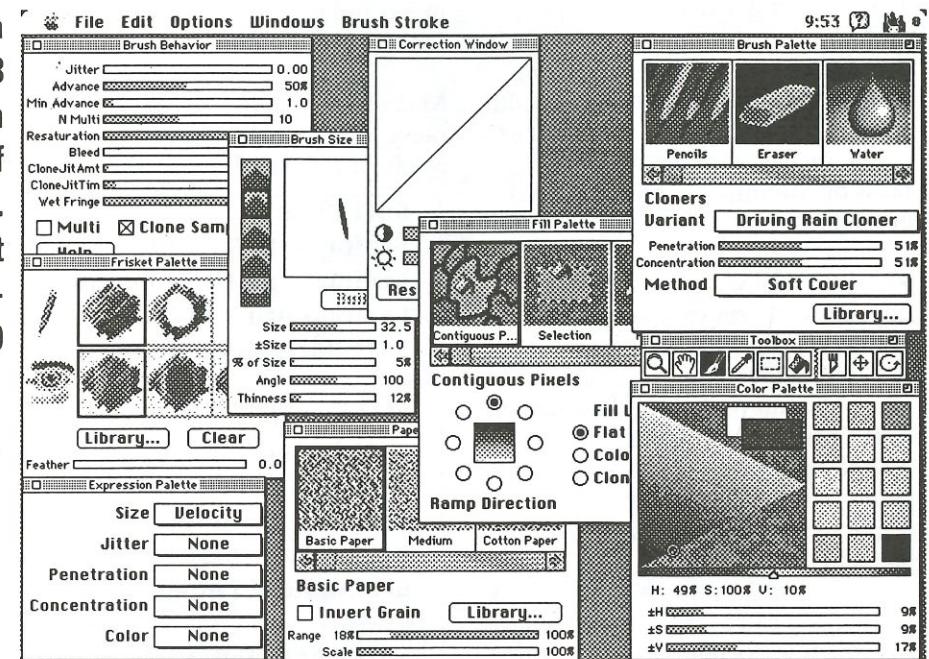
Painter is the brain child of Fractal Design who also masterminded other great packages like ColorStudio which is marketed here by Letraset. Painter will catch the eye of most software buyers simply because of its packaging. The complete application is packaged in a paint tin.

While this is a novel approach it also enforces some compromises. The most notable being that everything must fit inside the tin. To this end the 122 page manual is about 115 x 200mm. But don't worry the size hasn't limited the amount of information. In fact its spiral binding and overall size make it a great desktop companion.

Requirements for Painter are basically what you would expect for a colour application these days. You must have a Mac II series or LC computer with a minimum of 2.5Mb of RAM (4Mb recommended), a hard disk, colour or greyscale monitor and System 6.0.5 or higher. If you do not use System 7.0 then you also must have the 32 bit QuickDraw INIT in your System.

For the true professional a 24 bit colour card is also a necessity. Other users may find an 8 bit card and 32 bit QuickDraw dithers will suffice. Also professionals will surely love the support Painter gives for the Wacom series of pressure sensitive tablets.

The application is contained on two 800Kb disks and installation is done via an Installer application on disk one. The first time you run the application you must enter your serial number from the install disk. This is the only copy protection used.
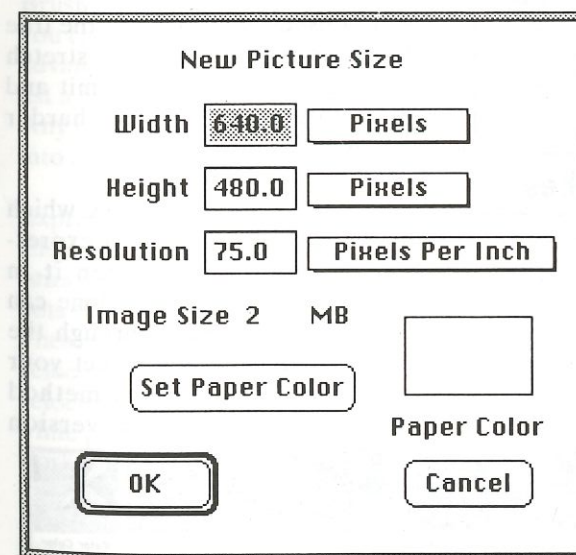
keyboard is used to indicate whether the cursor pad or the numeric pad mode is on. The home, end, page up, page down keys will also work, as will the delete right (del) key. One level of undo is supported. You can launch Edit II by double clicking old Edit files (since Edit II uses the same creator signature as Edit, that is, EDIT). It is also 32-bit clean and runs fine under System 7. As I use various editors nearly every day, this I would say is one of the better ones around.

GIFwatcher v2.0.3

GIFwatcher is a Macintosh desk accessory for viewing GIF files. It is especially designed for viewing GIF files during download. Using GIFwatcher, you can see what you're getting before your download has been completed. You not only get something to watch during downloading, but you get the opportunity to cancel a download if you don't like what you see — saving time and dollars.Features include the ability for fast decompression and viewing of complete GIF files, the ability to save images as PICT files and start-up screens (PICT ID=0 resource files), magnified monochrome dithering, color dithering, and full display viewing. For images that may have originally been scanned sideways, an image rotation feature is provided. GIFwatcher can be used simply as a means to display complete GIF files. If you don't have color, GIFwatcher can display GIF images in monochrome by dithering. Two versions of the program are provided, a 68020 optimized version for the faster Macs and a version that will run on all Macs.

UTILS 92.17

DeskPat v1.8b

DeskPat is a desk accessory that physically alters the pattern, in the System file, that the Mac II series uses to redraw the desktop. It

requires 32bit Quickdraw, meaning either the Quickdraw INIT and system 6.x or System 7.x. It will support full millions of colour support. You can pass PICT images to it via the Clipboard and have them used as your desktop pattern. Read the documentation thoroughly, as when you switch back to using the standard desktop pattern via the General CDEV there are some things which may look out of place but are not. As an added bonus, not that it is really necessary with System 7, there is a facility to display the current System heap value and to alter it. This was previously achieved using such programs as Heap Fixer.

MacLibrarian v1.1.2

MacLibrarian is a disk management program. It can be used to find a particular file on a disk (including the ones that have been sitting around in your desk or filing cabinet). It is also ideal for recovering wasted space taken up by duplicate files and old versions of files. It searches and sorts on file name, date created or modified, file type, file creator, file size, application memory size, version, disk number, disk name ....

In addition to this it also recognises Stuffit and Compactor files and optionally expands the contents of these. Then to top the whole lot off, it even has the capability to print some labels for the disks. This is unbelievable value in a PD program.

StretchINIT v1.0

This is a system 7.0 INIT that changes the way standard windows look and behave. For all windows that have a grow box, this Init adds a border around the entire window that may be used as handles for stretching the window. This allows the user to stretch any window in any direction instead of just downward and to the right.

For those of you juggling lots of windows on your screen this should be a great help. No longer do you need to move the window upward or to the right so that you can stretch the window from the bottom left corner.

Because this patches WDEF 0, all applications benifit from this new window behavior. The new windows use the same color scheme as system 7.0 windows and windows that do not have grow boxes look and behave exactly the same. Another feature of this package is that you are able to move a window by option-dragging it anywhere in the border. This feature is important to remember if you ever stretch the title bar underneath the menu bar.

miniWriter v1.72

miniWRITER is a text editing desk accessory. It supports the standard Mac features, including undo. You can, select fonts, send a file to the Laserwriter as Postscript commands, automatically use "smart quotes", see how many lines, words and characters are in your document, open and save TEXT files compatible with any word processor.

There are no real features added to this new version. It is slightly smaller in size and slightly faster. The main reason for this release is System 7 compatability and Quadra cache compatability.

UUTool v2.0.8

UUTool is an implementation of the uuencode and uudecode binary to text utilities for the Macintosh. Its purpose is to translate binary files into text for transmission over some electronic medium (eg. email). It is compatible with many UNIX implementations, with extra coding to support the two file fork Macintosh architecture. One very nice feature is the multiple text file decode support on open of application.

SOFTWARE LIBRARY

APPLE// DISKS

APPLE 5.25" DISKS ....$4 each
APPLE 3.5" DISKS ....$7 each

Apple// (5.25") A-FST '82 • PC'85 • AUG 1 to 4 • 5+6+7 • 9+10+11 • 12+13 • 14 to 194

Apple// (3.5") A1 • A2 •A3 • A4

Begal Brothers Disks 1-13

PUBLIC DOMAIN DISKS
PACK NO. 1 10 D/S DISKS.........................$40
PACK NO. 2 4 D/S DISKS...........................$16
APPLEWORKS DATA
SET NO. 1 6 D/S DISKS $24
APPLEWORKS DATA
SET NO. 2 4 D/S DISKS $16
POSTAGE $4 PER PACKAGE

APPLE IIGS (3.5") $7.00ea
FONTS 1 to 13
GS1A • GS2 to 112
GS HyperCard 1 • 2 • 3 • 4• 5

MACINTOSH DISKS - $7ea

AUG 1 to 6 • 7 to 11 • 12 to 16 • 15 • 17 to 19 20 to 22 • 23 to 25 • 26 to 27
COMMS 1 + 3 • 2 • 4 to 5
EDUCATION 1 to 6
FONTS 1+2 • 3+4 • 5+6 • 7 to 9
GAMES 1+2 • 3+4 • 5+6 • 7+10 • 8 • 9 • 11 to 74 • 92-01 to 92-08
GRAPHICS 1 • 2 • 3
HYPERCARD STACKS 1 TO 29
LASER 1+2 • 3 • 4 • 5
PICTURES 1+2 • 3+4 • 5 to 9
PROGRAM 1+2 • 3+4 •5
SOUND 1+2 • 3 to 35 • 92-01 to 92-02
UTILITIES 1+2 • 3+4 • 5+6 • 7 to 69 92-01 to 92-10
MAC II 1 to 40
AUG ANTI VIRAL DISK $5
LATEST AVAILABLE 92.1L (March 1992)
THIRD PARTY: 1,2,3,4,5A,6, 92-01 TO 92-03

> * Mac disks prfixed 92-01 etc are disks issued after 1/1/1992
> Check the Members Handbook 1990 and recent Applecations for information on PD disks.

GET IT FASTER
USE THE ANSWERING SERVICE AND PAY BY BANKCARD,MASTERCARD OR VISA AND GET *FASTER* DELIVERY OF YOUR ORDERS.
(02) 873-1242

Apple Users' Group

P.O. BOX 1077 DEE WHY N.S.W. 2099

SOFTWARE AND BULK

PURCHASE ORDER

NOTE OUR NEW PHONE NUMBER - (02) 873-1242

Order Date ..../............./..........

TYPE		TYPE	
1	....	6	....
2	....	7	....
3	....	8	....
4	....	9	....
5	....	10	....

TYPE:-

Apple//e 5.25" = A   ....@....................x   = $.

IIGS 3.5" = G   ....@....................x   = $.

Mac 3. 5" = M   ....@....................x   = $.

Warning: Because of Taxation restraints, orders can ONLY be placed by current members. Please enclose your latest mailing label or quote the number,

Due to our low profit margins we are unable to provide free postage

No. of 5.25" Disks @ $4.00ea x   = $.

No. of 3.5" Disks @ $7.00ea x   = $.

No. of 3.25" Disks @ $4.00ea x   = $.

Other Post & Packaging @ $5.00   = $

       $ _____

Graphics   Reasonable

Name ....

Address ....

....

Postcode ....

Phone: (H) ....

Phone: (W) ....

Membership No. ....

I will pay by :-

☐ Cheque $ ....

☐ Bankcard   ☐ Mastercard   ☐ Visa

Account Name ....

Credit Card No   [___] [___] [___] [___]

Expiry Date   ..../........./.........

Signature ....