

A journal and exchange of Apple II discoveries

Miscellanea

Apple has announced an incompatibility between some IIgs power supplies and the ROM 03 motherboard. The new motherboard may not draw enough power from the supply, which can cause some supplies to fail prematurely (that's right, the new motherboard may draw too *little* power for some supplies!).

The affected supplies are made by Dyna Comp (Apple also buys power supplies for the IIgs from Astec) and can be identified by a brushed metal case (Astec's case is shiny) and a power supply serial number beginning with "I..." (Astec's start with "M..."). Dyna Comp supplies that have already been adapted for the new IIgs motherboard have the red dot stuck on top to indicate they are ok.

Since the standard Apple warranty is only one year, Apple has extended replacement coverage of power supplies failing due to this problem to January 31, 1993. Note that even if you have one of the affected supplies, you probably won't have a problem unless you've never added any kind of card to your computer.

Updates to ProSel-16 are causing a change in the form of the product. The addition of new ProSel utilities (appointment calendar, text editor, calculator) and enhancements to the backup and disk optimizer utilities have crowded the documentation off the 3.5 disk, and manuals are being printed to replace the disk-based text files.

As of April 1, 1991, ProSel-16 will be sold as disk and printed manual at \$89.95. This package will be sold through mail-order channels.

Current ProSel-16 owners can update to the new disk and manual package for \$20; those who bought ProSel-16 after November 1, 1990, only pay \$10. ProSel-8 owners can update for \$30 until April 1; after April 1, the update price will be \$50. (Add \$5 shipping and handling to all the above prices.)

Vitesse has packaged several of its utilities together into Salvation-Supreme. Supreme includes Bakkup (disk backup utility), Deliverance (disk and file recovery), Exorciser (virus detection and elimination), Renaissance (disk optimization), and Wings (program selector and utilities). The suggested retail price is \$199.95.

You'd like a discount on the network version of Menu Master (normally \$169)? Until May 25th, Electronic Learning Systems will allow you to send in your original of an Apple Aristotle program disk for \$60 off the normal price of Menu Master. Shipping and handling is \$3. The network version is compatible with all Apple II networks including AppleShare, Corvus networks, ELAN, VELAN, and DigiCard.

IIgs System Software 5.0.3 and 5.0.4 changes. If you're curious about system software updates, you'll want to know about the changes mentioned in the Apple IIgs System Software Release Notes for version 5.0.4. (These notes also accompany the System Software packages sold through APDA.)

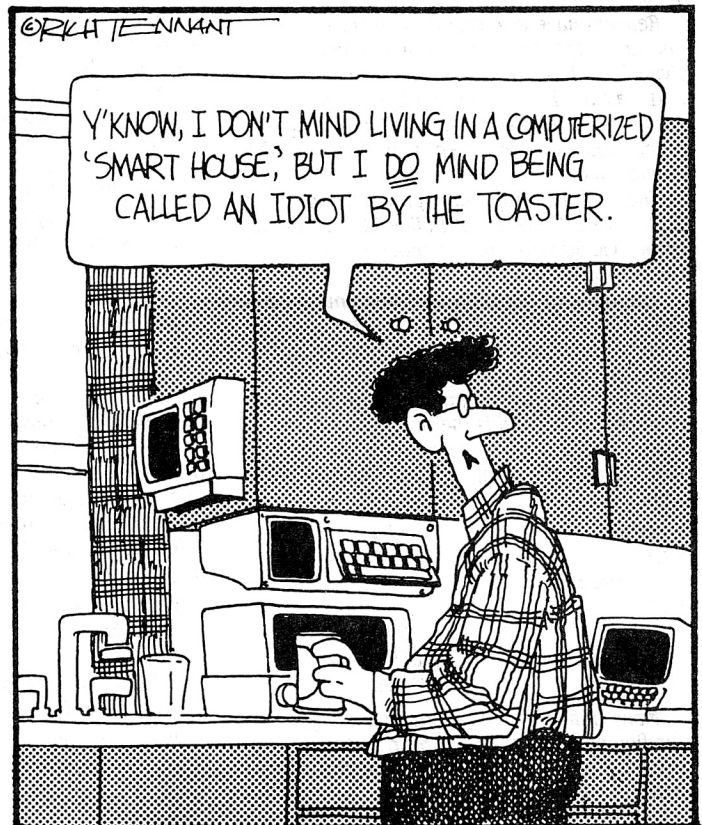
The two-disk installation process has undergone changes as the system software has grown. The ACE (Audio Compression and Expansion) toolset (TOOL029) has been moved to the /System.Tools disk, as has the Times.12 and Shaston.16 fonts. If you install the SCSI Hard Disk option, these fonts, as well as the contents of the "Tutorial" folder, will be deleted from the disk on which the SCSI drivers are installed (this is to prevent a "disk full" on an 800K disk). Scripts that install these fonts now copy them from the /System.Tools disk.

The release notes also cover several pages of technical descriptions of bug fixes and minor changes in the system software. Among

the changes: users of internal serial devices (including internal modems) that emulate the Super Serial Card should no longer see the "greater than 65535 unclaimed interrupts" warning (if such a problem occurs now, you'll see a message to visit your dealer), the printer and modem port drivers have been enhanced (they should now accept writes at rates up to 19.2 kilobaud), and the AppleTalk code has been modified so that setting your IIgs clock will no longer cause disconnection from the server.

There are remaining known bugs in the SCSI.Manager. The SCSI.Manager asks peripherals to return up to 256 bytes of status information into a buffer that turns out to be only 8 bytes in size. Most devices don't return more than 8 bytes of information, but if you are the lucky owner of a device that returns more status information, the extra bytes will wipe out the part of the Manager's code that follows the buffer. Such devices will cause a crash during boot. We know people who use most major brands of hard disk mechanisms (Seagate, Conner, Quantum, etc.) but if you have a less-than-mainstream SCSI device that is always crashing on startup, add this to the list of possible causes.

There are also two remaining known bugs in ProDOS 8 v1.9. First, ProDOS 8 doesn't handle seedling sparse files correctly (but such files don't normally occur). Second, if you issue an MLI SET_PREFIX call with a volume name of "/" followed by a SET_PREFIX call with a vol-



ume name not beginning with a slash (that is, an invalid volume name), the prefix will end up set to the first letter of the volume name supplied for the second call.

Users should note that the recommended system software versions for various "normal" minimum memory configurations are v3.2 for systems with at least 256K, v4.0 for systems with at least 512K, and 5.0.4 for systems with at least one megabyte of memory. You should be using the most recent version that you are able to run on your system.

If you have a non-Apple SCSI card, don't add Apple's SCSI.Manager to your boot disk. The SCSI.Manager installs an inter-

rupt driver when it is executed at boot up, but fails to remove it when it can't find an Apple SCSI card. This will cause problems later when some other program that's taken over the SCSI.Manager's memory gets an unexpected interrupt call.

Zip Technology has announced pricing for the 10 MHz upgrade to the Zip GSX. The 10 MHz 65816 upgrade is \$100; fast cache RAM for the upgrade is \$50 per 32K.

Version 3.3 of Talk is Cheap (communications software for the Apple IIgs, IIc, and 128K enhanced IIe) is shipping. Updates are available through Quality Computers (800-443-6697).

Version 4.0 of GEnie Master (GEnie message processor) is



Ask (or tell) Uncle DOS

Apple II Product Manager Tim Swihart sent us some comments regarding the HyperCard IIgs article in last month's issue; one of the more illuminating was that there is a variation of the HyperTalk input command that will use a standard file dialog to get the name of a file for you:

ask file "My Prompt" with "myDefaultFile"

This is one of the enhancements on the IIgs version.

Readers have also reported an "Easter Egg". Pull down the Apple menu and select "About HyperCard IIgs...". Hold down the Option key and wait as the screens flip by; you'll see an additional screen of "Suspects", including the name you type in when you first run the "Hello" stack.

The second Applesoft program on page 7.10 does a "GOSUB 50" in line 30; that needs to be "GOSUB 60" for the program to do anything semi-useful.

The table in the reply to "New improved(?) drivers" (p. 7.15) lost its tabs somewhere in translation; here's a more readable form. All times are in seconds. Where there are two figures, the first is the time the IIgs was busy printing, the second is the time the printer was busy. Where there is one figure, the printer kept up with the computer and finished at the same time:

System/mode	Text	Graphics
5.0.2		
Better text	111	111
5.0.4		
Fast	15	36/43
Standard	28/36	151/172
Best	50	139/160

Many readers had alternative suggestions for finding a list of "GS/OS error codes", but the most practical seems to be the **Super Info NDA** by Jim Lazar. For \$12 you get an NDA which will display a listing of error codes and short descriptions as well as many other sys-

tem parameters and tables (current GS/OS prefixes, an ASCII chart, memory usage, and more). You can reach Jim at 1109 Niesen Road, Port Washington, Wisc. 53074, or online at "Winkie Jim" (America Online), "WINKIEJIM" (GEnie), or 70401,2677 (CompuServe).

In addition to the commercial U.S. and Canadian tax preparation software we mentioned last month, George C. Sherwood wanted us to mention that he has released a free-ware set of AppleWorks templates that he believes will meet the needs of many Canadian taxpayers. The template has been uploaded to GEnie as CANADATAX90.BXY (file #14801); it may be available on other services as well.

Finally, I absent-mindedly pared William Watson's address ("Roll out the Apple", p. 7.16) to the minimalist version; the full address is: William Watson, 24 High Street Wall Heath, West Midlands, England, DY6 0HB —DJD

IIgs solutions

I love my Apple IIc; I'll finally expand my RAM with an Applied Engineering RAM Express II. With all the time I spend trying to make my IIc work like a Mac, I should've invested in a IIgs.

The truth is, I really resented all the space given to the IIgs as it detracted from information on the IIc. Having used a friend's IIgs (with an older operating system), speed and how much RAM one has seem to be the limiting factors. Maybe a price decrease along the lines of the new Mac series is in order along with a new IIgs—a "IIgs Classic" that everyone can afford—I megabyte standard with hard drive. And runs Mac software.

Roger Cucci
Poughkeepsie, N.Y.

We continue to operate on the assumption that the several million Apple II users that bought IIe, IIc, and IIgs systems after the introduction of the Mac had reasons for staying with the II. IIgs buyers in particular had something in mind, since they obviously had some desire for the "Mac-like" features of the IIgs and yet didn't opt for the Mac.

We think the reasons for Apple II users selecting IIe and IIc (or Laser 128) systems might be:

- compatibility with existing software and peripherals
- multiple slots
- availability of "pure text" mode when graphics are not called for

We think IIgs purchases are due to the following additional reasons:

- up to 8 megabytes directly addressable RAM memory
- 2.8 MHz acceleration and 16-bit processor
- built-in expansion in addition to standard Apple II

slots

- RAM (currently 1.125 megabytes in ROM 03 machines)
- clock
- serial ports
- AppleTalk
- sound synthesizer
- super high-res graphics display
- Apple Desktop Bus
- the system is expandable with more current technology
- the system software includes enhancements supporting new features
- control panel allows changes to hardware such as repeat key speed, RAMdisk size, international character displays and keyboard layouts, sound volume and pitch, and default screen colors.

Although many Apple IIe and IIc users seem nonplussed when faced with the IIgs, add up the cost of the extra capabilities and see whether the IIgs (where the features are actually integrated into the design) doesn't look like the better long-range investment at this time.

There are other more select advantages to the Apple II; for example, the limited vertical resolution, which is seen as a limitation by some, allows NTSC compatibility; every Apple II has a "video out" connector (the composite signal used by non-RGB monitors) that can be hooked to a video tape recorder.—DJD

IIgs support

I have a few comments regarding recent topics.

Hypercard IIgs: I have always been utterly bewildered about what HyperCard is good for besides something that could be done much more nicely with a slide projector (do business people use it for anything?), but your article finally begins to shed a faint light on it and also the point of OOP. So thanks. My idea of a computer program has always been something with mathematical algorithms and a lot of data, so we'll see what kinds of program are intended for the "Applesoft of the '90s".

Laser printers: We have just purchased an Hewlett-Packard LaserJet IIP and are using it, so far, with AppleWorks, GraphicWriter III (with Independence), and with an MS-DOS laptop. It's pretty good, with the following comments.

Independence/GraphicWriter III have some bugs they promise to fix. In 300 d.p.i. (best) mode it takes something like 15 minutes per page to print.

I was hoping dearly that Independence would work with Pyware Music Writer, but no such luck. I'll be inquiring of both sides what can be done.

Something that no one mentioned is that AppleWorks will print quickly and flawlessly on

also now available, the new version is compatible with AppleWorks 3.0. You can download a "locked" version of the program from GEnie and send the author, Tom Hoover, \$20 for instructions to unlock it, or Tom will supply it on a 3.5 disk for \$25.

Updates from earlier versions are available from Tom at 3014 Teakwood Drive, Garland, Texas 75044 for \$10; you also need to return the original disk or a copy of the sales receipt as proof-of-purchase.

A2-Central's Jay Jennings has set up a BBS system. The software is *ProLine* from the Morgan Davis Group, 10079 Nuerto, Rancho San Diego, Calif. 91977-1736, 619-670-0563 (FAX 619-670-9643, or

BBS 619-670-5379). *ProLine* is capable of being woven into a network with other *ProLine* systems; Jay hasn't gotten to this stage yet, but *Pro-Central* is up at 913-642-5397 (300/1200/2400 baud) if you want to give it a try.

Eventually, we are hoping to have this available as an alternative method of communicating with our modem-using readers. However, some of us here are already finding it impossible to keep up with logging into several services and we've had to cut back our on-line time. Currently, *Pro-Central* is primarily a programmer's BBS (Jennings edits **8/16-Central**, our programmers' publication), and is not specifically limited to Apple II issues—DJJ

the IIP using no special hardware. So far I've done no tricks with it, but the output is beautiful.

Since people are probably interested, the actual cost to get into this printer was \$1080 (sans tax), summed up as follows:

Printer: \$730
 Toner: \$100
 1 meg upgrade: \$200
 (necessary for full page graphics)
 Independence: \$30
 Cable: \$20
 (serial port to 25-pin for printer)

If you hustle very hard you can probably shave ten percent off all of this, but it gives the idea. For text-based programs (AppleWorks) \$200 extra for some fonts would probably be desirable since the IIP has only one. This does not apply to graphics-based programs. For \$500 you can get *PostScript*, too.

Dealers' ignorance of the Apple II: the most infuriating thing about Apple II marketing these days seems to be not what Apple is doing but what all the dealers are doing. When shopping for the above printer the stores (not Apple dealers) told me matter-of-factly "the IIP will not work with the IIGs" or "it requires an AppleTalk interface (\$250)" or "it requires *PostScript*". They couldn't even tell me that an ordinary word processor will drive it with a plain serial cable.

Regarding *Music Writer*: I've used it a lot although I haven't used the major update much yet. The printed output is superb, and every musical symbol you can think of is available, and lyrics do work. Its ability to play back is a little weak, but then its only purpose to me is to check for mistakes. It doesn't seem to access the Ensoniq chip. MIDI input is effective as long as you avoid "real time" input (this may be better on the update).

Martin D. Paquette
 Bellevue, Wash.

If you thought you were alone in your confusion about *HyperCard*, consider this quote that Scott Alfter reminded us about:

If I were going to give an award for Most Questionable Over-Exaltation of a new computer product in the last five years, it would have to go to Apple's aptly named *HyperCard*. Not that the product isn't important, mind you, but the sight of the Macintosh community falling all over itself in reaction to software that was, at heart, an advanced version of Beagle Bros' perennial worst-seller, *Frame-Up* (written by yours truly), seemed a bit overdone to me.

—Tom Weishaar, **A2-Central**, June 1989, p.5.35

Scott of course wonders what changed in our attitude to result in last month's lead article. The answer is that everything Tom and I had seen about *HyperCard* emphasized its **multimedia** aspects, when the real power is in the *HyperTalk* programming language. Maybe Apple wanted to shy away from talking about programming to Mac audiences.

We want to continue to emphasize that we think the uniquely advantageous capability provided by *HyperCard IIGs* is its ability to manipulate data, including its own objects, under script control. As a hypermedia product for manipulating mostly text (with graphics and sounds thrown in), *Nexus* has significant advantages over its competition. For hypermedia broadly encompassing the capabilities of the IIGs, *HyperStudio* has the edge. If you're confused, look at all of them; comparison shopping is encouraged.—DJJ

Software construction kit

Do you know of a good invoice/database program I can use for a small business?

We have been using *pfs:File* to enter and print relevant information (bill to address, mail to address, items ordered, print terms, our address, status of payment, etc.) on two screens (one page). The printout serves as invoice and bill; the on-screen data serves as a method to track sales, status of payment, etc. It is not very flexible, but it is simple to use and has been reliable over the past five years. The program, however, is copy-protected and requires a 5.25 "key disk" in slot 6, drive 1, that is getting to be a real drag and liability. (Sooner or later, the disk will malfunction and then where will we be?) We also could use more flexibility, better looking printouts, and easier search capability.

AppleWorks Classic would be ideal as we are all familiar with its commands and use it frequently, but it doesn't have enough fields per record for our purpose.

I tried creating an *AppleWorks* GS template, but after a couple of hours it hung when I tried to save the template. It was rather discouraging and time-consuming so I didn't try it again.

The shareware version of *DB Master* looked powerful, but the thought of learning a new set of commands weakens me (the same for *Pro-Filer* v4.0).

I thought *HyperCard IIGs* might serve the bill (no pun intended), but know little about it other than the information presented in *A+InCider* and what I can expect from having some familiarity with the Mac's version of *HyperCard*. I'm especially interested in scripting, XCMDs, and voice digitizing.

Rich Katz
 Sunset Software
 Scottsdale, Ariz.

My IIGs system has what it takes to run Apple's new *HyperCard IIGs*, and I'm going to buy this software package for at least a couple of reasons. First, I'm intrigued by its impressive power and the possibilities it brings to IIGs users. The other reason is admittedly questionable; it just seems like a good thing to do when I think about the big picture and where the IIGs fits in.

Undoubtedly, most of us who are interested in this software will be *HyperCard IIGs* stack users rather than stack writers. My hard disk came with a neat *HyperStudio* demo installed, and *HyperStudio* isn't needed to run this particular software. Will IIGs users have to own *HyperCard IIGs* to make use of *HyperCard IIGs* programs?

I guess what I'm fumbling to ask is this: Who should consider buying *HyperCard IIGs*?

Stephen Gant
 Manteca, Calif.

If you are an Apple II user (even if you aren't a IIGs owner yet), you should find a IIGs system running *HyperCard* and experiment with it. Given that the IIGs version is firmly based on a very recent Mac version of *HyperCard*, and seeing that the IIGs version has some enhancements, it should be possible to do about anything with the IIGs version that has been done with the Mac version. And, as with the addition of color, sometimes more.

One "weakness" of *HyperCard IIGs* is that it is new, and ready-made applications are scarce. Apple has a set of utilities being supplied to developers called *HyperMover* that will aid in conversion of Mac *HyperCard* stacks to *HyperCard IIGs*. What users need to concentrate on is to finding Mac *HyperCard* applications that do what they want, and then asking the company to do a IIGs version. Some companies won't want to bother, but some will. Those who do bother, we should try to make rich.

If you have a programming aptitude, you should get *HyperCard IIGs* as a programming environment and try to write your own applications. For those of you who have wanted a programmable database language, *HyperTalk's* ability to use "chunk" expressions ("put the third word of line three of background field 10 into ProductName") to manipulate lines, words, or characters in larger amounts of text is close enough to get a lot done.

I'm currently working on a set of linked stacks that I hope will serve to handle my phone, electronic, and paper mail at work as well as keep information I need to manage these at hand. Five stacks (a *Worksheet* for generating mail, a *stack of Addresses*, a *stack*

of Sources for products and other information, a stack for processing Orders, and a stack for PhoneSupport) will be linked so that information needed in one stack can be imported from another stack. For example, if I enter a name on the outgoing address on the Worksheet but don't complete the rest of the address, before trying to print the item (to the printer or to disk) a script will detect the address is incomplete (only one line) and try to use the name to look the address up in the Addresses stack and import it. If it isn't found, a prompt can be generated requesting the complete address be entered (which can be saved to the Addresses stack). With time at a premium here I don't know when or if this project will be completed, but I have yet to run into anything in HyperCard that indicates to me that it can't be done.

A similar project could be attempted in any conventional language from Applesoft to C, but using those languages is too intimidating since a good portion of the work involves designing the user interface, file handling, creating a command language, and so on; each part of the project could take days or weeks to develop and debug. HyperCard's objects let you build the user interface rather painlessly (a first cut at the "master" cards for the five stacks was done in a couple of hours, including some linkages); and HyperTalk is robust enough to simulate the command language to control the interaction of the various elements (after all, controlling the interaction of objects is the purpose of HyperCard scripts).

You can print cards, one per page or in arrays of full (two per page), half, or quarter-size images. If you split your form into two cards (upper and lower "halves"), you could fill it out on two screens and have it print as a "single" page. There's no comprehensive "report generator" built in, but you do have the ability to redirect output to a slot (similar to Applesoft's "PR#" and "PRINT" commands). For filling out many types of forms and other reports, this should be enough.

The design of HyperCard IIgs does not allow for a "runtime" form of the program. If your intention is to develop stacks for distribution, you can license the HyperCard IIgs program itself for a modest fee to include on your disks (contact Apple Software Licensing, 408-974-4667 for details). Given the relatively low cost of HyperCard IIgs, you might also expect users to buy a copy of HyperCard IIgs if your stack is very useful, as they might buy AppleWorks to use spreadsheet templates.

If you want to write a billing system (boring, true, but computers were originally designed to take over tasks of drudgery), especially one that can be easily modified without hiring a programmer, HyperCard IIgs may be the tool of choice for now.

HyperCard does not do everything that **HyperStudio** does and vice versa; for example, sound recording capability is not built into HyperCard IIgs. If your stack design requirements fit into **HyperStudio's** capabilities (**HyperStudio** also supports its own versions of XCMDs and scripting), I'm sure Roger Wagner would be more than happy to see you use **HyperStudio** for that purpose. Roger apparently feels that the availability of the runtime version of **HyperStudio** will trigger sales as users see what **HyperStudio** can do. (Roger convinces people to buy whole IIgs systems to run **HyperStudio**.) Above all, if **HyperStudio**

will do the stack better **use it instead of HyperCard**. Use the proper tool for the job.—DJJ

Bad RAM karma

This is one of those bizarre things I'd attribute to a virus, except that my IIgs has never been fed anything but out of the box software.

I recently upgraded AppleWorks 3.0 to AppleWorks GS, just to have it. I've also recently added a Vulcan 40 megabyte hard drive and I've got a TransWarp GS card, to give you the whole picture. The first step in the AppleWorks GS directions is to do a test of the RAM chips, which my fairly old IIgs flunked (we're talking an AST one megabyte RAM board). This came as no surprise, since I've had IIgs programs crash on me off and on during the years, and maybe this has been the problem. In any case, I ordered some more memory, but installed AppleWorks GS anyhow before the new RAM arrived. The program ran as well as anything else ever has (except AppleWorks Classic, which ran perfectly and never crashed when booted from a floppy under ProDOS, but does crash in GS/OS—come to think of it, I can't remember anything ever crashing on my old II Plus, but that's another story entirely).

So here's where things go kablooie. We're in AppleWorks GS trying to print an AppleWorks GS SoftDisk magazine picture on the ImageWriter, and we get told that there's not enough memory. Then the system hangs. We reboot. And suddenly there's a dozen or so corrupted files in my separate AppleWorks directory that contains both versions of the program (the corrupted files included AppleWorks GS itself, some AppleWorks 3.0 files, even some directories/folders). Some of the corrupted files still have their original names, but most of them have new names made up of MouseText characters so they look like swear words in a Beetle Bailey cartoon. AppleWorks 3.0 can see some of these files, AppleWorks GS can see some of them, GS/OS can see some of them, but none of the three seems to be able to see all of them. Okay, so I figure that the whole thing is blamable on those defective RAM chips, and it's no big deal (the damage is only in the directory that was active at the time, and luckily my data was recently backed up). All I have to do is erase the files.

Right.

You cannot delete these files within either version of AppleWorks (the files you can see, that is, since both versions see different files). If, on the desktop, you drag one of these corrupted files to the trash can, they pop back out the minute you drag in the next one. They cannot be moved to another directory. You cannot re-size the window in which they appear or move them within that window (the next time you reboot the window is back to the old size with the files in their old positions). You cannot move the whole directory to the next hard disk partition. I keep getting messages like system error #61, system error #51, and sometimes no messages at all, just anomalies. Validating the files simply says they're defective. Since all I have in the way of utilities is GS/OS, which refuses to delete these files, I decided to boot up the old system disk with the old System Utilities program on it, just in case a model T can venture where a Taurus is not allowed. Here I get pretty much the same results, error mes-

sages telling me I have defective subdirectory names and the like. I get everything but deleted files.

So two things. Any idea what the problem is—does it sound like defective RAM or something else? And, is there any way short of reformatting the hard disk (ugh) to get rid of them?

Jim Menick
Peekskill, N.Y.

First, if the memory does not test "good", that can indeed explain all the problems. You need to track down if your memory expansion card has the wrong type of memory (non-CAS-before RAS memory is a common problem), or if something else in the hardware that is causing a problem. (There was a bug in the IIgs System Software 5.0.3 ImageWriter drivers affecting printouts under low memory conditions, but if your card failed the memory test that's a moot point.)

As far as eliminating the munged files, ProSel's directory sort command will let you delete them; select the directory containing the bad files, sort the directory so a bad file is at the end of the list, then hit the "Delete" key to remove it. Continue this until all the damaged files are removed.

You then need to run ProSel's Volume Repair utility to remove the blocks assigned to the files you forcibly deleted, and also to verify the remaining file structure on the disk. This won't guarantee that everything is "intact" within the files, since if data is scrambled within the file ProSel has no way to detect it. But it's as much recovery as you can do short of reformatting and restoring from a recent backup.—DJJ

Backup out of range?

I am having problems backing up my ProFile hard drive to my 3.5 drive using a copy of Backup II. I have an Apple IIe (enhanced) computer, an AMR 3.5 drive connected to a Central Point Universal Disk Controller card in slot 5, two Disk II drives in slot 6 and a Profile 5 megabyte hard drive in slot 7. The AMR 3.5 drive is supposed to be functionally identical to an Apple 3.5 drive.

When I try to back up my Profile to the 3.5 disks using Backup II, I can format a blank disk and the program operates properly constructing a table of contents and writing information to the disk, but the program doesn't seem to know when the disk is full. Instead of stopping and verifying the disk (as it does with 5.25 disks) it sends an error message of "Write error, remove bad disk and replace with another disk". If I replace the disk the program starts over again from the beginning and gives me the same error when the disk becomes full again. If I verify the disk using another utility program (*Copy II Plus*), I get no errors.

Has this happened to anyone else? Is it my non-Apple equipment?

Gary DiPalma
Fairport, N.Y.

Steve Cunningham ran the problem down and posted a message about it on GENie. According to Steve, Backup II depends on getting a \$27 (I/O error) error return when the disk is full. Some Universal Disk Controllers, for whatever reason, returns a \$2D error instead. Since the error doesn't match what Backup II expects, it assumes the disk is bad.

(A UDC we tried at the office didn't exhibit this problem.)

Steve also posted a patch. We've had a user confirm that it works with the most current version of Backup II (v2.0):

POKE 32768,234
BSAVE BACKUPII,AS8000,L1,B\$28C5,TSYS

(All together now) Only apply this patch to a backup copy of your Backup II program, and check the patched program with some expendable data before using it on a valuable disk.—DJD

SCSI MS-DOS floppy

I have heard of a SCSI device known as the Turbo Floppy 1.4 from Peripheral Land, Inc., that can read and write 1.44 megabyte MS-DOS and Mac disks. Can this be used with the Apple High Speed SCSI card in an Apple IIe and IIgs to read and write ProDOS disks also?

Kenny Wong Che Yung
Tuen Mun, Hong Kong

We'd suspect so, but we haven't tried it. If someone out there has tried it, we'd be interested in getting details to confirm it. We have heard a confirmation that Peripheral Land's CD-ROM drive will work on Apple's card with the current IIgs System Software drivers. Their address is 47421 Bayside Parkway, Fremont, Calif. 94538.—DJD

CDEV in space warp?

In the January 1991 **A2-Central** you stated "Herb Hrowal has written a Control Panel Device utility (available on GENie) for the TransWarp GS that allows setup and control through the IIgs Control Panel New Desk Accessory." I searched for this in the main GENie library and Library #8, which covers desk accessories, but was unable to find it. Was it pulled because of some bug or am I not looking in the right place?

George C. Sherwood
Sidney, B.C.

It's still there. Currently, it's file #9012. Since the file numbers occasionally change, the name is "TWGS.CDEV.BXY V1.4". It may also be available on other on-line services under this or a similar name.

Specifically on GENie, make sure you are a member of all libraries before searching for a file. In some cases, users have disabled access to some or all libraries (such as all IIgs libraries, if they don't own a IIgs when they first log on to GENie) and forget to re-enable them when they later become interested in the contents.—DJD

A better Paint

Several months ago a one-byte patch issued forth from the mind of Jason Harper to clear up a memory problem in *DeluxePaint II*. This patch solved a lot of problems with *DeluxePaint II* and later versions of GS/OS. I have been trying to locate this patch again to no avail.

Lawrence Krupp
Collinsville, Ill.

Try this from BASIC:

POKE 768,1
BSAVE DELUXEPAINI,T\$B3,AS\$300,L\$1,B\$19C12

Jason has so far saved us from memory contingency problems of *PaintWorks Gold* and *DeluxePaint*. Our own recommendation, since neither of these programs is being active-

ly updated to our knowledge, is to look into Beagle Bros' **Platinum Paint** at your earliest opportunity. Not only is it a superior paint program, it comes from a company that we trust for support.

The IIgs super high-resolution (SHR) graphics display supports two modes: one where the screen supports plotting 320 distinct dots ("pixels" or "picture elements") across the screen in each of the 200 horizontal display lines, and one where 640 pixels can be displayed in each line. The choice of colors normally available in each mode is augmented by the support of "dithering" (interspersing multiple colors to give the impression of an intermediate color, such as interweaving dark green dots with white dots to give the impression of a light green color). **Platinum Paint** supports both the 320 and 640 modes, and has a "dither lock" option to keep dithered colors aligned properly while drawing.

Platinum Paint gives you most of the common paint tools (geometric shapes, brushes, spraycan, eraser, and so on), but it puts some extra spin on some of the features. For example, you can make a brush out of any portion of your graphic; an included example lets you make a brush out of a drawing of a cactus so you can draw multiple cacti by dabbing the brush on your electronic canvas. You have nine modes for the brushes so you can use them to wash the color over existing graphics, use the brush to smear as it draws, and so on. You can map a brush image into the boundaries of another shape, such as contorting a square image to fill a circle (like turning a map into a globe).

There are several gradient options where the intensity of the colors being used to "fill" the interior of an object (or the screen) can be varied as the fill progresses across, up, down, radially outward, and so on. Objects can be flipped, rotated, mirrored, shadowed...there are so many options the "Edit" menu scrolls about two screen lengths.

Our biggest complaint is that we've not become accustomed to the fact that **Platinum Paint** usually only operates within your current field of view. For example, if you try to fill the background, only the portion of the background within the viewable window will be filled. **Platinum Paint** does allow you to toggle to "full screen" and "full page" views, but we haven't gotten the hang of remembering to do this to check whether everything has been covered.—DJD

Apple RGB connections

In the March 1991 issue Huw Price asked about using a IIgs RGB monitor with a IIc and IIe. I bought an adapter for this purpose about three years ago from a company called TeleMax, Inc., 780 Lorraine Drive, P.O. Box 339, Warrington, Pa. 18976, 215-343-3000. The adapter they made is called the Peacock, model CM2C. It is a small unit that installs in series between the IIc's 15-pin video output port and the RGB monitor. When ordering it I told them what monitor I would be using it with and they supplied the properly configured cable.

Roger Maltz
Evanston, Ill.

If you have the Apple IIe, Applied Engineering's *ColorLink* option for the *RamWorks* expansion board works very well to drive the Apple IIgs RGB monitor. The combination works with

almost all software but some programs, notably Tetris, come out in gray scale.

Vern L. Mastel
Mandan, N.D.

More on IIgs monitor fading

I've just received my **A2-Central** for March and I read your item about the Apple RGB monitor. I also read last month's item.

As well as being a computer technician, I am also a TV technician of some 32 years experience. (I'm not old, I just started young!). I have had two of these monitors fail in this way here in New Zealand and I definitely know what the problem is.

First a little history. The monitors are made by Mitsubishi for Apple. I surmise this because all the parts are Mitsubishi and the printed circuit board bears Mitsubishi markings. (I'm also a great detective!)

The problem does not lie in the yoke (I've never come across a yoke that moved—ever). It is actually a problem from within the line output transformer. This is the device that produces the high voltage to feed the final anode of the cathode ray tube. Another thing that it does is produce a high voltage (about 5,000 volts) to feed the focus control. This is where the problem is. These days, manufacturers mold the focus control and the A1 control (you don't need to know what that is) onto the body of the transformer. Within that molding there is a resistor that is etched onto a ceramic base, in series with the focus control. This changes in value as the monitor heats up and produces drifting focus. The only cure is to replace the transformer.

In New Zealand, the Mitsubishi agent is less than helpful—in fact, next to useless—so I have not been able to secure replacements. This is where you guys may be able to help. The body of this transformer bears two numbers: (1) CP345P00901 and (2) GB275. The longer number is likely to be the one in question. If anyone in the U.S. is able to locate this part, I for one would be interested—Magnavox monitors are US\$465 here!

I'd also like to correspond with any computer technicians out there. I am also president of the Auckland Apple User Group which is 95 per cent Apple II. I believe in free information interchange, so if anyone has any problems I will be more than happy to help in any way that I can.

Desmond R. F. Foulger
Electronic Enterprises
177 Sandringham Road
Sandringham
P.O. Box 10-220
Auckland 1030
New Zealand

To be clear, Roger only supplied his technique for coercing the monitor; any conjecture was mine. If the problem indeed can be fixed by replacing a relatively inexpensive component, so much the better.—DJD

Cheap network limits

In looking over the November 1990 issue of **A2-Central**, I noticed a letter asking for information about the SyQuest removable hard disk system. I have been considering such a drive, for the same reasons as Mr. Dafoe: essentially unlimited data capacity, and the possibility of using one drive with several machines. After reading your reply, I still have a couple of ques-

tions.

First, is it possible to cable several machines to one drive simultaneously? Could several Apple IIs use one drive simply by connecting via SCSI (do the necessary protocols exist in the SCSI system to avoid collisions)?

Second, have you had occasion to find a source for the required Mac-to-SyQuest driver, or can you suggest where it might be found?

On another topic, is it possible to transfer data from one computer to another via modem without a telephone line? I would like to interconnect several computers via telephone wiring using two conductors, but without the need for actual telephone-to-telephone connection. It would seem that this would allow use of any type of computer, with BBS software, to be accessed by any other kind of computer with appropriate communications software (*Time-Out Telecomm* comes to mind) providing common access to files and peripherals. One could use an old C64, CP/M machine, or II+ running the "BBS LAN", and access with anything else handy. I seem to remember something about an AC Line modem (using the AC powerline to carry data) in *Byte* several years ago, probably by Ciarcia, but I can't find it.

This BBS structure should prevent problems of simultaneous access of resources, and most BBS software has security features to protect the integrity of the system data against error or mischief. Compared with other LAN alternatives, cost can hardly be a problem (you wouldn't even have to buy a Macintosh!) and it would allow all the E-mail and other services common to BBS software.

This would not eliminate the need for disk drives and software on the "workstations", but I don't think that restricting individual control over each machine is a valid reason for using a LAN—others will surely disagree. This idea must be too simple to work? It would be great for schools and small businesses.

Leonard Lanigan
Browns Valley, Calif.

We continue to get many letters from users trying to find a cheap way to implement a full-function LAN. To which we can only quote Heinlein: "There ain't no such thing as a free lunch". In your case, you seem to have identified distinct purposes: sharing a hard disk for program storage and transferring files, transferring messages, and so on.

LAN technology probably will become less expensive just as computers have. But the overriding problem is the complexity of providing a protocol to insure that two users can't modify the same data at the same time. If you sit down and try to come up with a foolproof method of allowing two people to access (for example) the same file on the same disk drive at the same time without either knowing the other person is there, you'll see it gets very complicated in a hurry. The cost of a LAN is directed toward solving that problem.

It's important to realize that AppleShare is not simply a hard disk, a Mac, and some special cables. There is also an entire set of consistent software protocols that have to be implemented for each device on the network. The workhorse portion of those protocols is currently handled by the server software for the Macintosh, which spends all of its time monitoring network requests and arbitrating them. Dispensing with the Macintosh forces those protocols to reside elsewhere.

With SCSI hard disks, there are protocols to allow two computers to access the same hard disk. The problem is that implementing LAN-like support through these protocols on a system affordable to an end user is not practical in most cases. The simplest solution is to force each user to "log onto" the drive and partition needed and only allow one user the ability to write to the drive. Cirtech and CMS support a simple technique like this with their SCSI interfaces. But it is not a LAN in the sense that AppleShare is.

Removable media is obviously not going to work well at all in this environment; you can't take the chance on the network going into "infinite hold" if the needed volume is taken offline while one of the users is working with it.

*A BBS is not a "LAN", either. BBS systems allow the transfer of files and messages to and from the BBS, and also usually run some type of "host" program that supervises these transfers. But BBS's don't "transparently" allow files of different systems to be transferred to and from their hard disk as if it was attached directly to the computer you are using. Instead, there is usually some type of file processing required (such as using **Binary II** on the Apple II or **MacBinary** on the Mac to preserve file attributes), a transfer protocol in employed to "copy" the file to and from the BBS, and the file cannot be executed from your computer while residing on the BBS. And, in fact, you neglect that dedicating a computer to a BBS requires you to invest a significant fraction of the cost of AppleShare for somewhat less flexible capabilities.*

It may be possible that all you need is some method of sending files from one computer to another; it's conceivable that some implementation of a multi-user BBS would handle that, assuming the distances involved are small, serial cables would suffice in place of modems. (Power line modems are not a less expensive alternative to a LAN; the cost per unit is several hundred dollars, and a few would exceed the cost of a Mac Classic configured as an AppleShare server.)

Sharing a hard disk, transferring files, sending and receiving messages; all of these things are possible. Doing them all at once as if the shared hard disk was attached directly to each system and constantly available for your use is much harder, and that's why LAN software (currently) is relatively expensive.

(Speaking of expense, we finally bought a Macintosh driver for the SyQuest from a local hard disk supplier for \$100. Can you say "Ouch!?"—DJJ)

Users gathering in France

Mémoire Vive is a French Apple User Group in existence since 1987. We support both Apple II and Macintosh machines. We started our own internal publication four years ago.

We are organizing for June 15, 1991, the Apple II National Convention in Beauvais and would like to invite your readers to join us. Please make our address available to anyone willing to send us copies of their application development and creations.

Club Mémoire Vive
An affiliated Apple User Group
c/o Jean Claude Andrieux
65 Résidence Jeanne Hachette
60000 Beauvais
France

Tastes great vs. less filling

I have been a subscriber since the first issue and have them all filed—but I'm a "user" (vs. a "hacker") and still use IIs with AppleWorks and (occasionally) AppleWriter or other programs. **A2-Central** has become a IIs hacker journal. Diminished returns force me to give it up. Thanks for past favors.

Fred H. Olin
San Antonio, Texas

I've been an 8-bit Apple user since 1980, and now I have two II Pluses and a IIe. The IIe has an 8 MHz *Zip Chip*, one megabyte of auxiliary slot RAM, a 40 megabyte *Vulcan* hard disk, modem, mouse, 3.5 drives, 5.25 drives, *Quickie*, MIDI, you name it. I use it to run AppleWorks for home word processing, databases, taxes, etc., but mostly I use it for enjoyment—recreational programming.

You would call me a power user, but I'm an Apple hobbyist at heart. I've built hardware and software for the Apple and enjoyed it immensely. I've even sold some of my efforts, but I've done it for love, not money. I sense the same in you, although you have made a business of it, too.

With each new generation of hardware, the Apple has become less friendly to experimenters. The II-Plus was all "Radio Shack" parts—you could observe every signal. The IIe went to a higher level of integration and became somewhat less accessible to the hardware hacker. (Still much better than other machines, though.) The IIc was a "sealed box" obviously designed for "end users" who want it to work, but don't care how. All of the 8-bit line, though, was relatively accessible for software experimentation.

The genius of the Apple II was that it was a hacker's machine. Not like the Mac, which is just as clearly a user's machine. The problem is that there are so many more users than there are hackers! Where's a cowboy to go when the countryside is filled with sobbusters?

The latest step in the Apple II evolution, the IIs, is very difficult to play with. The toolbox is great for mass-marketed end user applications, but it really ups the ante for those who want to write simple, elegant code that makes your Apple do something really neat! (I don't consider emulating a Mac to be a neat Apple trick.)

So I would like to make a modest proposal: let the users go to the user's side of the room, and let the hackers/hobbyists go to the other.

Users are concerned about the future of the Apple II line, just as Chrysler owners are concerned about theirs—they don't want to own a "lemon". Users depend on others to (profitably) produce the applications they live on, and so must see that the line extends into the future.

Hackers, on the other hand (side?), don't care much whether their machine is an orphan. In 1980, hackers had to write their own programs and share them to make their machines fun. If Apple drops the Apple II, then hackers will be right back in that position. You probably remember that it was lots of fun before AppleWorks, even before *VisiCalc* (in fact, before we developed the maddening propensity to capitalize inside words!). It will be plenty of fun again, if only we can get those whining "end users" upstairs and out of the basement!

If I want to use a computer, I have what already exists on the Apple, plus everything that will exist on PCs and unix workstations—all of this will be Mac-priced in the next couple of

years. But if I want to play with a computer, the last ten years hasn't improved on the II Plus and I no longer expect it to. (This attitude, by the way, makes me unwilling to shell out \$300 for a package I only intend to fool around with. Maybe software companies could sell more cheaply to those who promised not to do anything "useful" with their software!) Someday I may lust after fancier toys, but so far the permutations and combinations of II Plus and IIe behavior are plenty—and the complete documentation won't crack my bookcase.

Now for the finale: **A2-Central** is part of that corpus of 8-bit documentation that I plan to take to my grave(!). Yet it seems that an increasing fraction of it is consumed by "user" worries and instructions on how to type "Ctrl-I". I guess I'd like to know whether you'd like to serve the hackers or the users? Experience has shown that you can't do both—there are too many of them and too few of us. If the answer is users, then you can enjoy a large circulation for a while, followed by an exponential tail off as they move on to more "useful" machines (which there certainly are). If the answer is hackers, then you can look forward to a much smaller but more stable circulation made up of creative, playful crazies who like to show off a lot as long as it doesn't cost (or make) too much money.

It is a fateful decision. Perhaps the better part of valor is to go both ways: **A2-User** and **A2-Hacker**. I could live with that! (By the way, I sampled **8/16** both before and after your acquisition, and I find it tipped very strongly toward the IIgs—it should be called **16/8!**).

Now you know how I see the Apple II world. I would love to pay for 8 pages of mind-bending programming and wire-bending hacking, and I know I'm not alone. But the 5,000 hacker voices are lost in the 5,000,000 user's voices.

P.S. I've got some simple but interesting code for a shift register pseudorandom number generator that's both fast and well-behaved. Hackers love that kind of stuff! Interested?

Michael J. Mahon
San Jose, Calif.

During very busy days, we sometimes joke that business would be a lot easier if it weren't for all these customers. Of course, that's not really the case.

If I had my choice, I'd be writing the hacker stuff all the time, but probably with an eye toward including a good amount of "practical" information (a random number routine definitely has practical applications). I bought my II Plus back in 1979 and spent the first several months in the monitor and miniassembler. My job at that time (operating and maintaining instrumentation for chemical analysis) involved working at the lower level of the software spectrum. I bought the Apple II to figure out how this stuff worked. I've been through two upgrades (a IIe and a IIgs) trying to keep pace.

A2-Central has been perceived both as a "hacker" newsletter and as a "user" newsletter. In truth, Tom Weishaar actually designed it as a forum for the exchange of ideas so Apple II owners could empower each other with knowledge about their systems. In the early days, that meant a lot of programming discussion, and tricks and tips regarding software like AppleWorks. It still does, except the number of tricks and tips we receive seems to be getting more esoteric. With our primary driving force being reader mail, our emphasis areas have tended to shift as the direction of our sub-

scriber base shifted.

Since we're not sure the mail tells the whole story, we did something drastic late last year and included a survey page in the 24-page catalog we mailed out. We've counted up 500 of the returned surveys, and here's some of the results.

About two-thirds of those responding use a IIgs as their primary computer. A little under a fourth use 8-bit Apple II or compatible systems as their primary computer (Laser systems were about 2 per cent of the respondents), with the remainder using non-Apple II systems (the largest category being "other").

In terms of all computers used, the IIgs and 8-bit systems came out even at about a third of the total each. The remaining third was divided among non-Apple II systems (MS-DOS narrowly beat out Mac systems at 12 per cent versus 10 per cent)

In terms of programming, the numbers break down something like this:

8-bit programming	
Assembly	6%
Applesoft	31%
Ultramacros	12%
Other 8-bit	3%
IIgs programming	
Assembly	6%
BASIC	9%
Pascal	7%
C	5%

The survey was sent out before HyperCard IIgs was announced, or HyperTalk would have been on our list. We expect to see a following build there on the IIgs side.

With regard to applications, the breakdown is like this:

8-bit programs	
AppleWorks	66%
Ultramacros	29%
Other TimeOut	37%
Print Shop	59%
Publish-It!	20%
Other DTP	13%
16-bit programs	
AWGS	37%
HyperStudio	17%

We didn't exclude IIgs users from writing down their 8-bit preferences, and we really didn't track the results that well (don't assume there is anything scientific about this survey). But looking at our overall numbers, those interested in programming appear to be a minority.

We will try to continue to serve as an exchange point for those who want to send us information. Users continue to complain that we have too much "hacker" information; hackers continue to complain we have too much "user" information. All we can do is keep on typing.

*Incidentally, many readers wildly overestimate the number of subscribers we have. The total for **A2-Central** (including both hackers and users) is currently just under 7,000 and the total for all of our publications put together is well under 10,000.—DJD*

SuperWriter 924 interface

I have noticed that there have been several questions on how to connect 9 and 24 pin parallel printers to Laser 128, Apple IIgs, IIc, IIc+ and all Mac systems. One of the solutions that we have successfully used is the SuperWriter

924 (however, other options are available) intelligent serial to parallel converter cable made by Xetec, 2804 Arnold Road, Salina, Ks. 67401, 913-827-0685. The interface first of all converts serial format information that is sent out of the earlier mentioned computers into parallel format information that many 9 and 24 pin printers require. The connector on one end of the "cable" is a mini DIN 8, and an included adapter turns this end into a DIN 5 connector for the Laser 128 or IIc (an adapter for DB-9 connectors for older Macs is also available from Xetec). On the other end of the "cable" is a standard Centronics connector.

However, the conversion from serial to parallel information often is not the compatibility problem many users run into. The problem usually is a lack of software support from software vendors for a particular printer, and by printer manufacturers that have come up with so many different standards. The second function that the SuperWriter 924 can perform is the ability to convert Apple ImageWriter, ImageWriter II, and ImageWriter LQ code that is widely supported in Apple software into code that a particular 9 or 24 pin parallel printer may require. The SuperWriter 924 therefore addresses the two major reasons for printer incompatibility. An incomplete list of printers that the SuperWriter 924 supports is: Blue Chip, C-Itoh 8510, 8510S and ProWriter Jr. Plus, Epson MX, RX, FX, JX, and LQ-1500, Fujitsu DL and DX, NEC 8023, Okidata 192 and 292, Panasonic KXP-1124, 1524, 1624, 1180, 1191, 1192, 1080, 1091, and 1092, Prowriter, Star Micronics (old), NB24-10/15, NX1000, NX1000R, XB2410-2415, and XR1000/1500.

I have tested the Panasonic KX-P1124 24-pin printer and SuperWriter 924 with IIgs System Software 5.0.2 and AppleWorks GS v1.1, AppleWorks v3.0 and v2.1, Print Shop, Print Shop GS, and haven't incurred any difficulties. Xetec, the manufacturers of this product, are considering discontinuing the product so it may be a good decision to purchase your SuperWriter 924 and printer soon. Depending on the printer, CPU, and software you are using, there are several other printer related products that we also offer from Applied Engineering, Apricorn, Cirtech, GDT Softworks, Orange Micro, Practical Peripherals, Sequential Systems, Thirdware, Vitesse, and others that may meet your needs. However, some of the features of the Superwriter 924 are unique and not available elsewhere. As for laser printing, the Panasonic PX-P4455 PostScript laser printer is our favorite and the printer we use to print the text for our catalog along with AppleWorks GS. I am most familiar with the Panasonic line of printers because we offer this line of printers and others to our customers.

Alan Hansen, President
Standard Peripherals
P.O. Box 65187
West Des Moines, Iowa 50265-0187
515-225-7033

WP-2 revisited

This letter is in response to the letter from Bob Varettoni regarding the use of the Tandy WP-2 portable word processor. I have found the WP-2 to be invaluable; there is no need for an Apple notebook computer. I can take notes in a meeting and then transfer them to my Apple

computers for formatting and printing.

I upload to a Ile, a Ilgs, and a Macintosh SE/30 using the following settings on both the Tandy and the Apple: baud rate 9600, data size 8 bits, one stop bit, no parity, and XON/XOFF enabled. On the WP-2, the other settings under F2-T are device = RS232C, printer echo off, half duplex, (shift-PgDn) transfer = CRC-XMODEM, incoming = CR, outgoing = CR, mode = originate. On the Apple, receive the file as "XMODEM".

Attached to the RS232C port is a null modem, then a size changer, and then a modem cable plugged into the modem port on whichever Apple computer you are using. I use MouseTalk on the Ilc and Ilgs and Microsoft Works on the Mac.

On the Tandy, go to "Files", highlight the file you want, and press F1-A to make it into an ASCII file (do not select it again or it will change back). Then choose F1-U ("Upload"), select "From memory", and type in the actual name of the file with ".DA" at the end. When you are finished, select "Exit".

There is one line of garbage at the end of the file, but other than that, all is well.

Hope this helps.

Andrew Barlow
Toronto, Ont.

We received several letters on this; thanks to all.

Null modem and other cable adapters are usually available at most stores that sell computers, including Radio Shack.—DJJ

Too many characters

My problem is that I can't find a control character finder program for ProDOS. I have not seen one in years in the magazines, but I did find one for DOS 3.3 in Tom Weishaar's and Bert Kersey's book, *The DOSTalk Scrapbook*, on page 69. It runs only in 40 columns on my Apple IIc.

Joseph A. Homsher
Cerritos, Calif.

ProDOS Inside and Out has a program on page 70 that shows how to use BASIC.System's enhanced "PR#" command to redirect output to your own routine. You could use this command to add an output filter to detect and display control characters.

This won't work for the purpose of a classic Apple DOS 3.3 "control character finder" program: to locate invisible control characters that DOS 3.3 would allow you to enter in filenames. BASIC. Control characters were sometimes added on purpose as a way of "formatting" the display (for example, inserting backspaces to overprint the filetype and size information at the beginning of a DOS CATALOG entry) or as a way to "protect" the program from being indiscriminantly LOAded or DELETED (you had to type the exact filename, including control characters, to use DOS commands on it). But sometimes they were generated by a finger fumble on the keyboard when typing a filename, and then it required some detective work to find out what you really entered as the name of the file.

BASIC.System (and ProDOS itself) doesn't let you enter control characters (or spaces, or special characters other than the period) within ProDOS filenames used in its commands; try it and you'll see "SYNTAX ERROR" spit back at you. So the only way we know of to end up with control characters in a ProDOS filename is to either "zap" them into a directory block on disk directly on purpose, or for the directory data to somehow become (usually accidentally) corrupted. In the former case, we'd normally assume you'd know how to "unzap" the filename; in the latter, we hope you realize that the damage may not be solely to the directory entry (that is, fixing the filename may be the least of your problems).

This is all just as well, because it's harder to make BASIC.System's input and output routines relinquish control characters in the data stream to us than it is in DOS 3.3. I couldn't make a routine similar to that in *ProDOS Inside and Out* (modified to "mark" control characters) work because BASIC.System kept grabbing some of the characters from me. But BASIC.System does have another feature that helps us; you can OPEN and READ the directory contents as a text file. So I took that alternative approach, electing to display control characters found in the filenames as inverse characters.

The following program prompts you for the name of a directory to read, opens it as a text file (notice the ",TDIR" in line 1010; this tells BASIC.System we wish to OPEN a directory file rather than a text file).

```
1000 INPUT "What path?": P$
1010 PRINT CHR$(4); "OPEN "; P$; ",TDIR"
1020 PRINT CHR$(4); "READ "; P$
1030 INPUT "": AS$: GOSUB 2000: IF AS$ < > "" THEN
      GOTO 1030
1040 INPUT "": AS$: GOSUB 2000: IF AS$ < > "" THEN
```

```
GOTO 1040
1050 INPUT "": AS$: GOSUB 2000
1060 PRINT CHR$(4); "CLOSE"
1099 END

2000 IF AS$ = "" THEN GOTO 2070
2010 FOR I = 1 TO LEN (AS$)
2020 : C = ASC ( MID$( AS$, I, 1) ): CC = 0
2025 : IF (C < 32) OR ((C > 127) AND (C < 160))
      THEN CC = 1
2030 : IF CC THEN INVERSE
2040 : PRINT CHR$( C + (CC * 64) );
2050 : IF CC THEN NORMAL
2060 : NEXT I
2070 PRINT
2099 RETURN
```

Line 1030 reads the header lines up until the first blank line (the line following the directory header); line 1040 reads the body of the directory (the filename entries); and line 1050 reads the statistics line displayed at the end of a CATALOG. Each of these lines sends the input line to a subroutine beginning at line 2000 for parsing.

The subroutine first checks to see if the input line is empty; if so, it just skips down to line 2070 to PRINT and return.

If the line isn't empty, we start a FOR-NEXT loop to scan all the characters in the line. Each character is converted to its ASCII equivalent in line 2020, and we set a flag (CC) to "0" indicating that we haven't identified it a control character yet. Line 2030 takes care of the identification; if the character's ASCII value is in the control-character ranges (0-31 or 128-159), CC is set to "1".

Lines 2030-2050 print the character. If it's been identified as a control character, it's printed in INVERSE and shifted to its upper-case equivalent (Control-D becomes inverse "D", for example). Otherwise, it gets printed as-is.

This program should get you by. The only glitch is if you try it on /RAM (the 64K RAM disk created on 128K system by ProDOS); something in /RAM's directory causes an "OUT OF DATA" error before it reads the status line. You could use an ONERR routine to get around this; that's left as an exercise.—DJJ

Connoisseur

Excellent choice of glue! A fine accompaniment to paper or stamps. A heady body with robust aroma yet delicate enough to have only a lingering aftertaste. Flinty yet not too "hoofy". It has an unctuous texture with a deep intense spicy note; a delicate layering with a subtle finish that seems to stick with you. Such exquisite glue is generally only found in the rare and famous vintages of Early Mustang and Olde Clydesdale.

Roy Hershey
Scheneectady, N.Y.

Gee, and Tom's only comment when he originally designed the self-mailer's glue marking with "YUM!" at the end was "I just hope the stuff doesn't taste too bad..."—DJJ

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Publisher:
Tom Weishaar

Editor:
Dennis Doms

with help from:

Sally Dwyer	Dean Esmay	Joyce Hammond
Jay Jennings	Jeff Neuer	Denise Shaffer
Tom Vanderpool	Jean Weishaar	

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The full text of each issue of *A2-Central* is available on 3.5 disks, along with a selection of the best new public domain and shareware files and programs, for \$84 a year (newsletter and disk combined). Single disks are \$10.

Please send all correspondence to:

A2-Central
P.O. Box 11250
Overland Park, Kansas 66207 U.S.A.

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