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VOL. 1 NO. 2 - JULY/AUGUST 93
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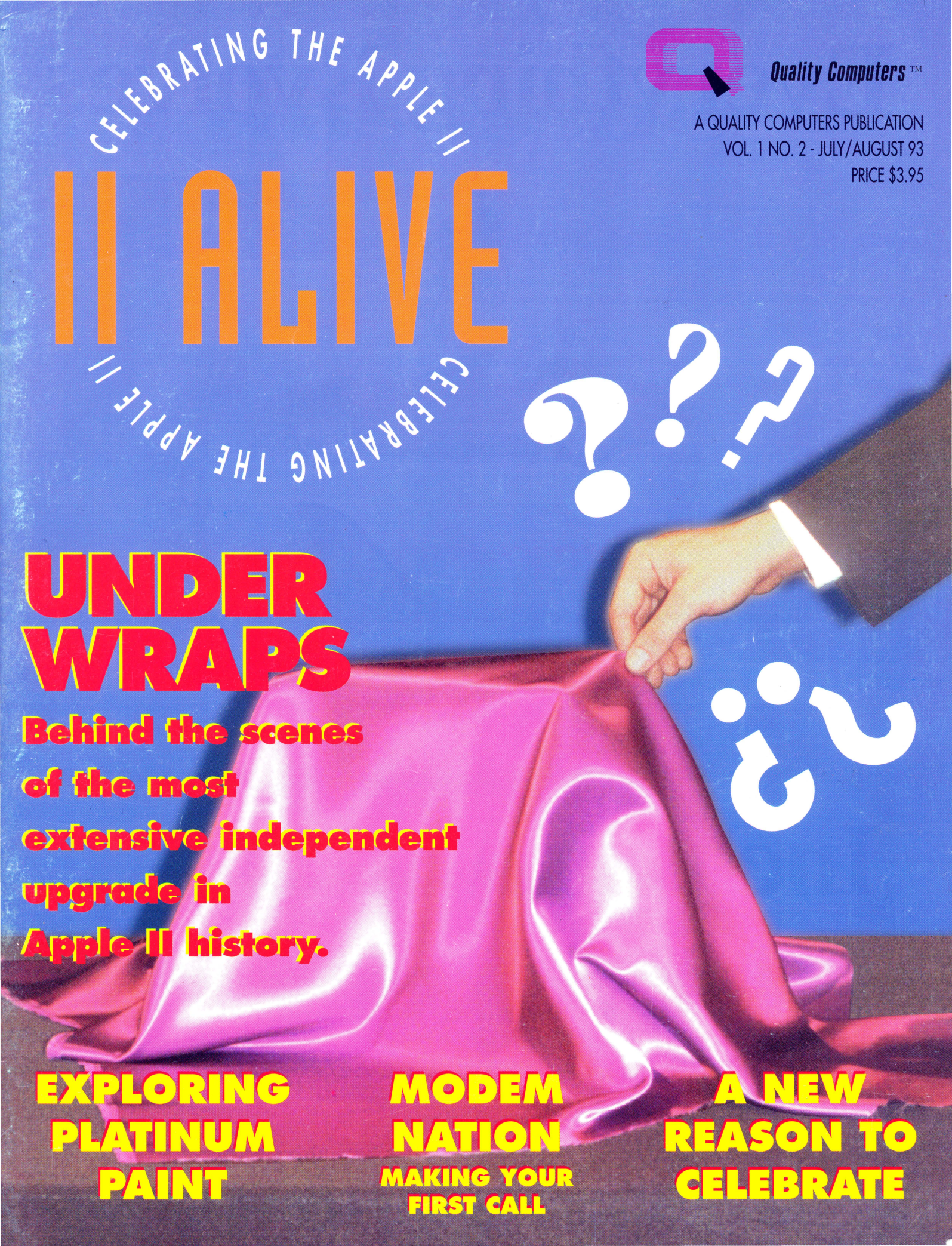
II ALIVE

CELEBRATING THE APPLE II



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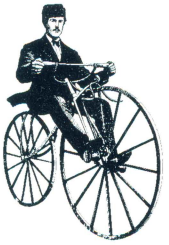

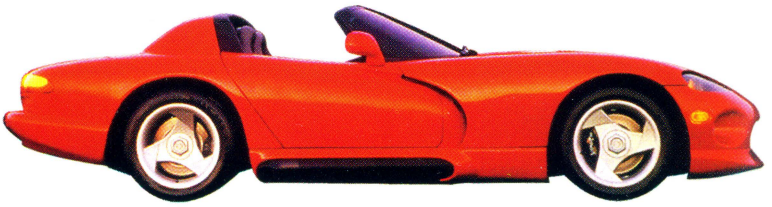

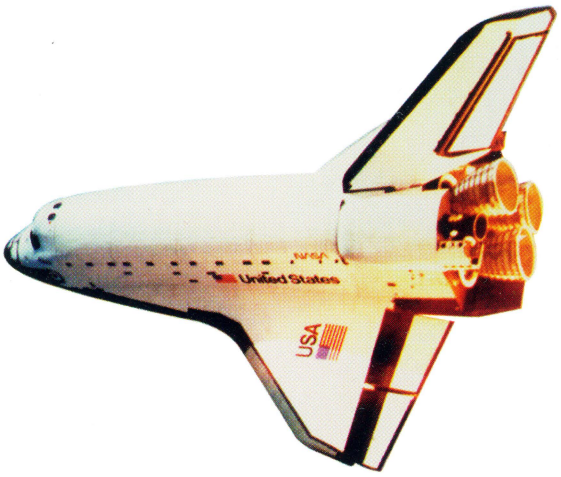

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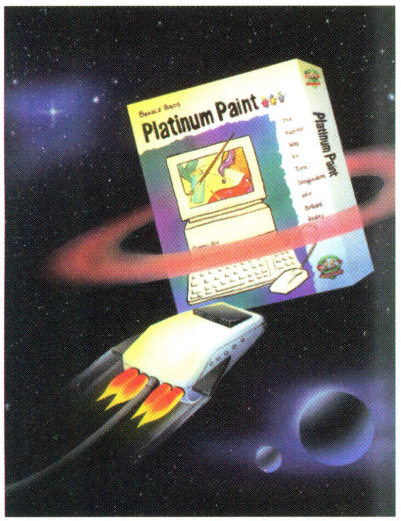

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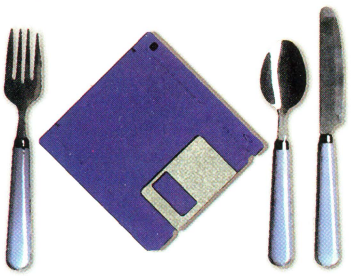

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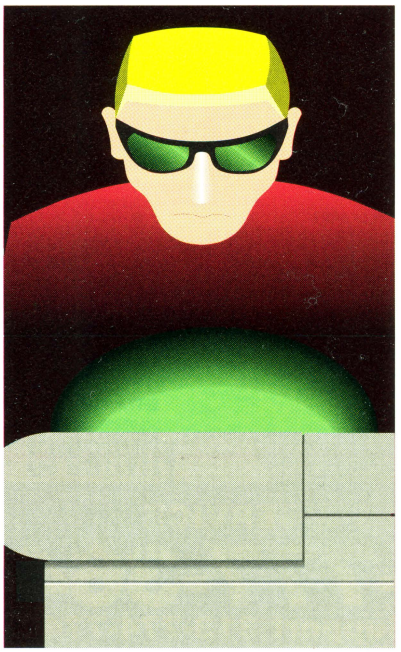

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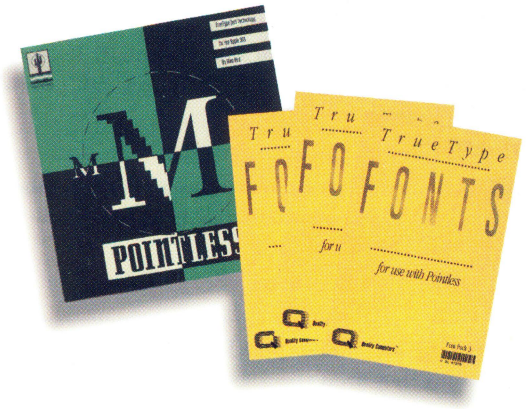

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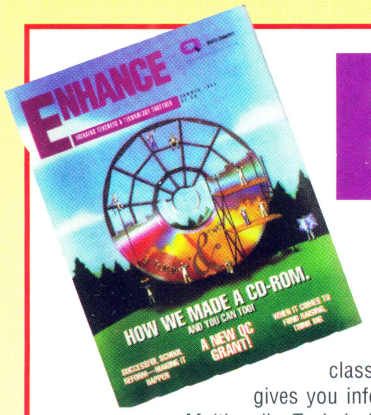

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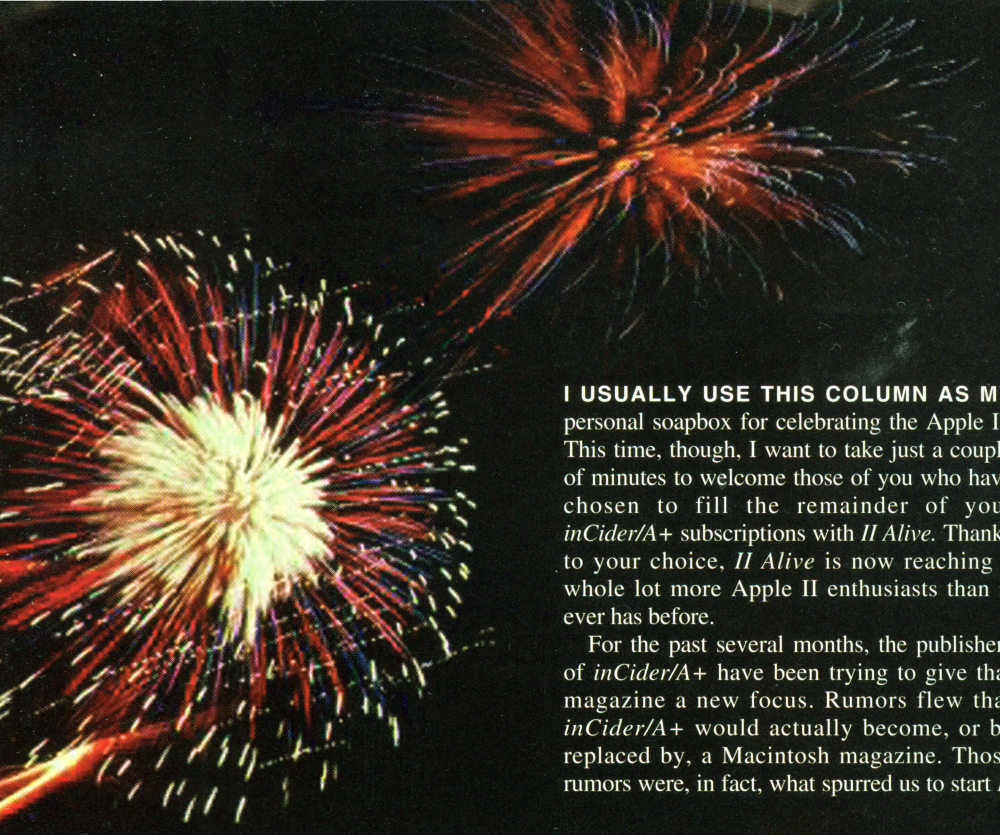

A NEW REASON TO CELEBRATE

JERRY KINDALL, EDITOR

I USUALLY USE THIS COLUMN AS MY personal soapbox for celebrating the Apple II. This time, though, I want to take just a couple of minutes to welcome those of you who have chosen to fill the remainder of your *inCider/A+* subscriptions with *II Alive.* Thanks to your choice, *II Alive* is now reaching a whole lot more Apple II enthusiasts than it ever has before.

For the past several months, the publishers of *inCider/A+* have been trying to give that magazine a new focus. Rumors flew that *inCider/A+* would actually become, or be replaced by, a Macintosh magazine. Those rumors were, in fact, what spurred us to start *II Alive.* The rumors of the impending changeover, whether fact or fiction, sparked a public uproar which (if you believe everything you hear) caused IDG Communications to rethink its plans and continue publishing *inCider/A+* as a split Apple II and Macintosh magazine.

But IDG still intended to produce a new Macintosh publication, a magazine addressing the new Mac home and school market segment which came into being when Apple introduced the Performa line. A test issue of that new publication, *Mac Computing,* hit the newsstands in April, and was successful enough to justify launching *Mac Computing* as a full-fledged magazine. The staff of *inCider/A+* were instrumental in the creation of *Mac Computing,* and are now working full-time on the new publication. *inCider/A+* is no more.

Although we're saddened that the Apple II community has lost an important information outlet, we're excited by the possibilities our deal with IDG opens up. We wish the staff of *Mac Computing* the best of luck with their new magazine. Meanwhile, we'll keep bringing the magic of Apple II computing directly to your mailbox, and continue striving to make *II Alive* more exciting and more informative with every issue.

It's been an uphill battle at times. There was the initial skepticism that a magazine published by a mail-order retailer could be completely unbiased or, in fact, could be any more than a glorified sales catalog. We decided the best way to dispel that notion was to simply begin publishing the magazine and let the articles speak for themselves. No amount of rhetoric would prove the point as well as actually delivering the goods. I took on the often-daunting task of making *II Alive* a magazine worthy of being taken seriously, and was given complete freedom to do so.

It's worked. The most convincing evidence that we're being taken seriously is that IDG Communications chose *II Alive* as the successor to *inCider/A+*. And in the short time we've been publishing *II Alive,* we've received literally hundreds of letters and phone calls from enthusiasts who truly appreciate our efforts with *II Alive,* offering constructive suggestions for improving the magazine. While we don't have time to answer every letter, we do read them all. Your support and input is greatly appreciated.

We have more good things planned for *II Alive.* We've added eight additional pages to the magazine for this issue. (We can't promise the extra pages with every issue, but we'll do our best.) We're working on newsstand distribution for this fall, and we'll be doing a special mailing to former *inCider/A+* readers to let them know that Apple II support is back. With these steps, we hope to bring even more Apple II owners out of the woodwork and into the active Apple II community. We're soliciting more advertisers (since many of you told us that half the fun of reading computer magazines was looking at the ads) and recruiting some of the best writers in the Apple II community to write for us.

As always, our pledge is to celebrate the Apple II. Now the Apple II party is bigger than ever. ■

READER SURVEY

Halfway through our first year of publication seems like a good time to stop and ask you, our readers, exactly what you think of *II Alive*. And just in case you need some incentive (other than helping us out) to take the time and fill out this survey, you could win a free *II Alive* T-Shirt for your trouble!

Yes, that's right, five lucky *II Alive* subscribers, chosen at random, will be sent fabulous *II Alive* t-shirts. These attractive high-quality tees feature the *II Alive* logo on the front and the slogan "Apple II—Sweet Sixteen" on the back. Color is orange and white printing on navy shirts. The XL size fits most normal people; we have XXLs too. To get in on the t-shirt giveaway, your survey must be postmarked by July 31, 1993. But even if you can't send in the survey by the end of July, we still want to hear from you!

Feel free to skip any comments which don't apply to you or which you don't feel comfortable answering. Thanks for your help in improving *II Alive!*

ABOUT YOU

Type of Apple IIs you own: II II+ IIe IIc IIc+ IIGS Mac LC w/ IIe card

Other computers you own or use regularly: Amiga Atari C64 Mac PC NeXT Unix (workstation)
Other _____

How long have you been using Apple IIs? < 1 year 1–3 years 3–5 years > 5 years

Was your first computer an Apple II? Yes No

What level of user would you consider yourself? Beginner Intermediate Advanced Power User

Do you program? Yes No

What computer do you plan to buy next? Apple Amiga Atari Mac PC NeXT Unix No plans

THE COLUMNS

The *II Alive* columns are: Head Of The Class (educational applications of the Apple II), AppleWorks at Large (AppleWorks and AppleWorks GS), Modem Nation (telecommunications), Weekend Hacker (programming tips), Homework (things you can do with your Apple II at home), Print To Publish (printers and desktop publishing), Media á la Mode (multimedia), Right Connections (networking, file exchange, and multi-platform computing), and Entertain Me (games).

What are your favorite columns? _____

What was your favorite article in this column so far? _____

Which columns can you live without? _____

Which columns do you not read? _____

Which columns do you actually dislike or find useless? _____

What could we do to make those columns more useful to you? _____

THE DEPARTMENTS

The *II Alive* departments are: Interview, Editorial, Letters, News, Test Drives, Ask Mr. Tech, Rumor Monger, Glossary, Computer Clubs, Shareware Spy, II Much Fun, and Scan Art.

What are your favorite departments? _____

Which departments can you live without? _____

Which departments do you not read? _____

Which departments do you actually dislike or find useless? _____

What could we do to make those departments more useful to you? _____

READER SURVEY CONTINUED

THE FEATURE ARTICLES

What is your favorite feature article, so far? _____

What two other articles have you enjoyed or found the most useful? _____

Which articles did you actually dislike or find useless? _____

What articles would you most like to see in the future? _____

GENERAL

Is there any topic you feel that we don't cover enough? _____

Is there any topic that you feel we cover too much? _____

How is the technical level of the magazine? Too basic Just right Too advanced

Does your copy of *II Alive* arrive in good condition and on time? _____

YOUR SYSTEM

What items do you have in your system? Hard Drive Additional RAM Accelerator 3.5" Drive 5.25" Drive Other _____

What items do you plan to buy next? _____

Is compatibility with other systems important to you when buying items for your Apple II? Explain _____

_____

COMMENTS

If you have additional comments about *II Alive*, please write them here, or use a separate sheet. _____

_____

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Introducing *The Manager*™

The only true MultiFinder® for your Apple IIGS®

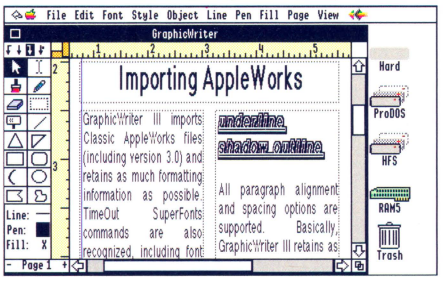
IIGS users can now benefit from the same technology that Macintosh users enjoy—*The Manager* is the first and only true MultiFinder for your Apple IIGS! Multiple applications can be open simultaneously and moving among them is as simple as clicking in a different window. This is a tremendous time saver because you don't have to quit one application to start using another, which is especially convenient when copying and pasting between applications.

Use *The Manager* to create your own integrated environment...just open your favorite IIGS-specific word processing, painting, DTP, telecom and other programs, then instantly move among them! It is fully compatible with AppleWorks GS, GraphicWriter III, Platinum Paint, Teach, and more. It even works with system extensions such as Express, Kangaroo, TransProg III, and others.

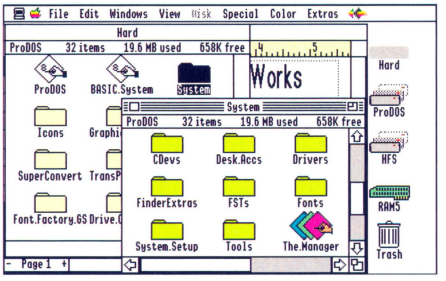
Don't settle for a limited "switcher"—the Macintosh started with this type of program but MultiFinder made it obsolete.

Click! You're painting...

Click! You're laying out pages...



Click! You're arranging files...



Macintosh users know from experience that a MultiFinder program gives you greater control, makes you more productive, and is more enjoyable because it's easier to use. The only true MultiFinder for the IIGS is *The Manager*...it even supports multi-tasking for compatible applications without requiring additional software.

The Manager is the result of a two year collaboration between Seven Hills Software (Express, GraphicWriter III, SuperConvert, others) and BrainStorm Software (Kangaroo, TransProg III, others). It requires System 6 and as little as 2MB memory (4MB recommended for greatest efficiency; required for some program combinations). A hard drive is not required but is recommended because you'll want a fast response from your disk drive when you instantly select programs on the screen.

The Manager is the perfect way to increase your productivity!

Suggested retail $69.95
QC's price only $49.95!

More great ways to boost your productivity...

TransProg III™

System 5.0.4 and System 6

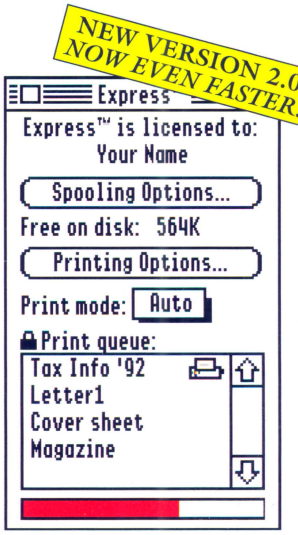
Don't quit to the Finder each time you want to start a different application! Instead, simply select the application from the TransProg III menu (appears in all standard desktop applications) and the application is launched immediately. If you're not using The Manager, the currently-running application is automatically quit first.

In addition to providing quick launching, options can be set for each application, including slot changes without having to restart the computer! The TransProg III menu is fully customizable, from the color and arrangement of the menu items to the creation of sub-menus in which you can group similar applications together.

Suggested retail $39.95 ..... *QC's price only $27.95*

Express™

System 5.0.4 and System 6



Stop waiting for your printer—use Express to quickly print your documents to disk, then continue working as your printer prints in the background. The longer or more complex the document, the more time you save!

Multiple files can be spooled, printed more than once, and deleted from the spool list. You can even switch between programs while the printer is working.

Express works with all standard IIGS desktop software (e.g. AppleWorks GS, GraphicWriter III). It requires an Apple IIGS, hard disk drive, and any direct-connect (non-networked) printer except the StyleWriter.

Suggested retail $49.95 ..... *QC's price only $32.95*

THE MACRO EXCHANGE

Send us your macros! No matter how simple (or complex) they are—if they can help someone else, we want them! This issue's macros are for Ultra-Macros 4.2, but we're interested in macros for all macro-driven programs, including telecommunications programs! We'll give you $10 for each macro we publish. The macros are public-domain and can be used in your own projects without further compensation. Send your contributions to: *II Alive* Macro Exchange, PO Box 349, St. Clair Shores, MI 48080

AUTOMATIC SPREADSHEET FORMULAS

This macro writes a total formula in the spreadsheet automatically. Place the cursor in the same column as the numbers you want to total, somewhere below the numbers, and press SA-T. The macro automatically finds the top and the bottom of the column of numbers, then returns to the original cell and enters the total formula.—*Robert M. Rowe, San Diego, CA*

```
labels
.Total.up.1.1
\sa-T     TOTAL formula

#ssrow = Peek $AE

start

T:<asp Homecell = #ssrow:                    // start; we'll return here
                                             // to write the formula
  begin : up : Type = peek #worktype :       // check for number
  if type < 128 then rpt : endif :           // if not number, go again
  $11 = .cellid :                            // first cell for formula

  onerr exit :                               // in case we encounter the
                                             // top of the worksheet
  begin : up : Type = peek #worktype :       // check if number
  if type > 127 then rpt :                   // if it is, go again
  else down : endif :                        // not a number, found top
  $12 = .cellid                              // second cell for formula
  $13 = "@sum(" + $12 + "." + $11 + ")" :    // this is the formula

  onerr off :
  R = #ssrow : Moved = Homecell - R :        // calc how far up we went
  (down) Moved :                             // move back down that many
  oa-B>E<print $13 : rtn>!                   // blank the cell & print formula
```

FAST ENVELOPE ADDRESSING

This macro addresses an envelope. Put the cursor on the first letter of the address line (anywhere in the word processor file) and press SA-E. The macro will highlight the four lines below the cursor; use the up and down arrows to adjust this selection if necessary and press Return. The highlighted address is copied to the end of the document, a new page is created containing the text of the address and proper formatting codes to put it in the proper place on a business envelope, and the page is printed. After that, the page is deleted.—*William C. Roemer, Andover, NJ*

```
start

E:<awp :                                     // address envelope
  oa-C>W<(down) 4 :                          // Copy four lines down
  bell :                                     // Alert user
  left input :                               // Allow adjustment of selection
  rtn : display 0 :                          // Display off
  oa-9 down rtn :                            // Move copied lines to end
  first :                                    // Move cursor to col 1
  oa-O>np<rtn>tm<rtn>0<rtn :                 // Format envelope
  >lm<rtn>3.5<rtn : esc :
  (rtn) 9 :                                  // Move down 9 lines
  oa-P>T<(rtn) 3 :                           // Print last page
  (up) 15 :                                  // Move up 15 lines
  oa-F>ONP<rtn>N<ba-Z :                      // Find last page & delete
  oa-1 : oa-q : go : Display 1 :             // Refresh screen
  (down) 13 : oa-left>!                      // Return to Desktop

<ba-Z>:<all :                                // Zap file macro
  oa-M>T<                                    // Move to the clipboard
  oa-9 : rtn : // Move to eof & delete
  left>!
```

Dear *II Alive*,

What happens to software that is no longer being sold or supported? In your first issue, a fellow mentioned *Word Handler;* I still use *SuperCalc 3a* and *Magna Charta.* There must be other people using orphaned software. Why not have a section in the magazine where people can get connected with others in the same boat?

Thomas Bailey
Houston, TX

Thomas: You're right, there are a lot of people still using older software. We've received several other letters like yours. To answer your question, when a company goes out of business or stops publishing a particular software title, the rights to the software usually revert to the author. If the software was programmed by a staff programmer, the copyright to the program can become an asset which can be sold off in bankruptcy proceedings. Copyright law still holds—for the record, it's just as illegal to copy old, out of print programs as it is to copy new programs that are still being published, even if you can't track down the owner of the copyright! Old software doesn't automatically become public-domain.

As for providing a section for people who are looking for help with old software, that's what the Letters are for. If you provide us with explicit permission to print your full address and/or phone number, we'll be glad to do so, and you may be surprised at the number of people who contact you offering to help. (If you don't give us permission to print your address or phone number, we will respect your right to privacy.)—Editor

Dear *II Alive*,

I subscribed to your magazine after finding out about it in *Enhance.* I used to buy *inCider/A+* every month rather than subscribing to it. They have been the best Apple II magazine for a long time, but they are beginning to disappoint me. How can you call it a magazine if it only has 48 pages? I was disgusted. When I got the premiere issue of *II Alive,* I wasn't really satisfied (I still wanted more!) but it was *much* better than *inCider/A+.* I hope you expand your shareware column; it's the most interesting thing in the magazine.

Richard Kuk
Milburn, NJ

Richard: Thanks for the praise. The shareware column has proven to be a popular one. We certainly will be expanding it . We're also looking into the possibility of providing disks with the programs mentioned in each issue. Stay tuned.—Editor

Dear *II Alive*,

So far I'm very impressed with *II Alive.* I own a IIGS and also use a IIGS and a IIe at work. Even though I've used them for years, I still feel like a beginner at times. Your magazine is starting at square one, which is exactly the right place for me. I've found GS+ to be way over my head and I feel abandoned by inCider/A+. One article, in particular, I'd really like to see is what all the error codes mean and what to do when you encounter one. Also, I hope to see more ads from companies other than Quality Computers.

John Hayman
Shutesbury, MA

John: Thanks for the comments. I'll add the error code article to the list—those codes can be rather perplexing even to old hands. We're working on getting more advertisers (and there are more issues involved in that task than you might think). In the meantime, check out the last page of Quality Computers' Resource Guide for a list of some of these vendors' phone numbers and call them to request their latest prices.—Editor

Dear *II Alive*,

Back in the glory days of the computer user as hobbyist, every computer magazine was full of hardware projects. I really hope you can publish some do-it-yourself projects for those of us who still enjoy the smell of solder. Perhaps you can seek out and reprint some of the articles that came out when the Apple II was still a novelty—many of them still are on-target and valuable.

I'd also like to remind you that the fact that the Apple II is considered "obsolete" is partially the fault of the press. When the IIe came out, hardware and software for the II and II+ largely disappeared. When the IIGS made its debut, the IIe was relegated to second-class citizenship, and the II and II+ were almost completely forgotten. These computers still do everything they could ever do, yet many potential readers have packed these "old, useless" computers away. There's a market for information here waiting to be tapped, and articles aimed at the II and II+ won't be lost on IIe and IIGS users.

Not everyone simply uses AppleWorks, Publish It!, and Print Shop. Let's get back some of that old spirit of exploration that made the Apple II great.

Leonard Lanigan
Browns Valley, CA

Leonard: If people send us high-caliber hardware articles, we'll certainly publish them. So consider this an official call for smell-of-solder articles.

The computer industry moves so quickly that most products are obsolete before they're introduced. Computer publica-

Continued on next page

Continued from page 7

tions are torn between keeping up with the pace of technology (most people do like to read about the newest developments, even if they can't afford them) and continuing to support the people who don't upgrade. Unfortunately (or luckily, depending on your viewpoint), the pace of technology shows no signs of slowing down, and about all you can do is resign yourself to the fact that, as an investment, a computer is even worse than a new car. You will always lose money when you upgrade your system, and some people just can't afford to upgrade.

That doesn't mean that older computers are useless, just that the things that you can do with them have already been explored rather exhaustively. Your suggestion about reprinting older articles is one we're looking into. And be on the lookout for a feature article on the things you can still do with an Apple II+.—Editor

Dear *II Alive*,

Thanks for pumping new life into the Apple II. I'd rather die than buy a Macintosh—the company will probably abandon it when something else comes along. Is it all right if I laugh when the price of Apple's stock goes down?

Dorothy Viets Schell
Moscow, ID

Dorothy: Laugh all you want—unless you own Apple stock. By the way, Apple appears to have learned its lesson about leaving its customers behind. Its next-generation computers (based on the PowerPC venture with IBM) will be fully Macintosh-compatible. In fact, Apple's first PowerPCs may even wear the Macintosh name. It's even possible that they'll use the PowerPC architecture to provide an upgrade path for Apple II users as well, thereby finally making good on the promise of "Apple II Forever."—Editor

Dear *II Alive*,

I was surprised to learn that Apple's StyleWriter has no built-in fonts, and therefore can't print AppleWorks Classic documents ("Super Printers," May/June 1993, page 31). But you didn't mention the possibility of using the printer with TimeOut SuperFonts. Will it work?

Bill Neef
Grass Lake, MI

Bill: No, SuperFonts doesn't talk to the StyleWriter. And if it did, it would only support ImageWriter quality anyway (SuperFonts is designed to work with 9-pin dot matrix printers). That's why we didn't mention it, in fact.—Editor

Dear *II Alive*,

Indeed, Apple IIs of all flavors continue to do important work in laboratories. I have first-hand knowledge of four labs at our research institute (which is associated with a large private university) which still use Apple IIs. In my lab we're currently using one II+, two IIes, and two IIGSs. I've even used my personal IIc and IIc+ to help develop new systems and software.

While I don't know of an IEEE-488 card for the Apple II, I do know that Kethley/Metrabyte/Asyst/Dac (508/880-3000) manufactures an IEEE-488 to RS-232 converter (Model 500-Serial). With this device, you should be able to connect an IEEE-488 device to any Apple II through its serial port or an interface card like the Super Serial Card.

John Graham
Kettering, OH

Dear *II Alive*,

There's plenty of techie data available about the IEEE-488 bus. I suggest calling National Instruments at 800/IEEE-488 and requesting their literature, which contains a complete technical description of the IEEE-488 bus. While most of their products are for the Macintosh, they also have a gadget called the GPIB-422CT/Mac which is a serial device and should work with the IIGS. Black Box (412/746-5565) sells a similar device. Other companies who may be able to help include DSP Development at 800/777-5151 and Capital Equipment at 800/234-4232.

Robert Benson
Toledo, OH

John & Robert: Thanks for the info!—Editor

Dear *II Alive*,

Please don't perpetuate the myth of "Compu$erve"! Mr. Tech's response to Chris Klemmer (May/June, page 12) implies that CompuServe is an elitist service, suitable only for those with money to burn. That's assuredly not the case.

CompuServe's new rates are very competitive. CompuServe has a basic monthly price ($8.95) which covers unlimited use of many general-purpose services. The pay areas, like MAUG®, the Micronetworked Apple User Group, are $8 an hour, 24 hours a day at 1200/2400 baud. There are plenty of just plain folks on CIS, asking good questions and receiving friendly (not necessarily power-user) advice. With its quick host response and 24-hour-a-day rates, CompuServe is a fine value for Apple users.

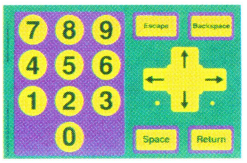
Emily Morgan
San Antonio, Texas

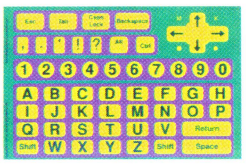
Emily: Thanks for setting us straight. We were, indeed, a little behind the times. Of course, there's still no single best online service for everyone—it depends on your needs. As we said in the last issue, all the services have their merits, and CompuServe is now far worthier of investigation than it was a few months ago. Check the News section for the complete lowdown on the recent CompuServe, America Online, and GEnie rate changes, and keep watching for an in-depth exploration of the major online services in an upcoming "Modem Nation" column.—Editor

Continued on page 62

AN INTELLIGENT KEYBOARD FOR KIDS

IntelliKeys, from IntelliTools, is an alternative computer keyboard that makes using the computer easier than ever for children. Instead of dozens of tiny keys which young children can find overwhelming, *IntelliKeys* has only a few large keys, which are easy to see, easy to touch, and easy to understand.





IntelliKeys features interchangeable keyboard overlays, each of which is designed for a specific application. One includes only a set of large arrow keys and a few other keys which are often used in arrow-key-driven educational programs. Other overlays include alphabet, numbers, and basic writing. Just choose the overlay that matches the needs of the child and the software and slide it into *IntelliKeys.*

Each overlay has a bar code on the back that *IntelliKeys* instantly recognizes, and the overlays are kid-proof and washable. Best of all, *IntelliKeys* works with virtually any software. *IntelliKeys* is compatible with the Apple IIGS and IIe (IIe requires the IntelliKeys IIe Card).

RAINBOW-COLORED COMMUNICATIONS AND A FASTER SPOOLER

Seven Hills Software proudly announces its new graphics-based telecommunications program—*Spectrum. Spectrum* is written specifically for the Apple IIGS and uses the standard IIGS Desktop Interface, so it's easy to learn and use. And you don't need to sacrifice speed or features.

Spectrum supports baud rates from 50 to 38,400, and includes file transfer protocols ranging from CompuServe B+ to Zmodem. A powerful, easy to use scripting language allows *Spectrum* to be tailored specifically for individual use. Scripts can do almost anything, from emulating a bulletin board to daily automatic logging, sending, and retrieving of mail. A rich text editor is built in for convenience.

Seven Hills is also releasing a new, faster version of *Express,* the print spooling software for GS/OS. The new version improves speed for both parallel and serial printers, and you can "fine tune" *Express* to your hardware to get the best possible speed. A larger printing cache, the ability to move the spool files to another volume, and the ability to print multiple copies of a document round out the upgrade.

The suggested retail price for *Spectrum* is $129.95. The suggested retail price for *Express* is $49.95 (upgrades from any older version are $12.95). For more information, write to Seven Hills Software, 2510 Oxford Rd., Tallahassee, FL 32304, or call 904/575-0566.

BASIC PROGRAMMER'S WORKSHOP, PROLINE IMPROVEMENTS, AND MORE

The Morgan Davis Group announces the BASIC Programmer's Workshop, a software bundle consisting of three popular MDG products at a special price. The $99 collection of high-powered BASIC programming tools (*MD-BASIC, RADE,* and the *Object Module Manager*) offers IIGS users substantial savings, over $80 off the combined suggested retail prices of the products.

MD-BASIC is a professional Applesoft development environment including a Desktop editing environment and a "compiler" that creates highly optimized Applesoft code from your structured *MD-BASIC* source code. Among other things, *MD-BASIC* lifts the two-letter variable name restriction, adds named labels (no more line numbers!), modern constructions like IF-THEN-ELSE, WHILE-WEND, REPEAT-UNTIL, and DO-LOOP, plus C-style features like conditional code processing and #define macros.

RADE is a full-featured diagnostic tool that isolates errors in Applesoft programs in real-time without disturbing the BASIC environment. You can interrupt your program at any time to examine or change the contents of variables, set breakpoints, step through code a line at a time, or review the "history buffer" that records your entire debugging session.

The *Object Module Manager* (OMM), an extension manager for Applesoft programmers, makes it possible to add external commands to enhance BASIC programs. Machine-language modules are loaded and unloaded as needed, using memory efficiently. They can also communicate with each other, making integration effortless and reducing duplicated code.

Additionally, the Morgan Davis Group announced a major price decrease for the *ProLine* bulletin board system. Formerly $259.95, the product now retails for $159.95. A minor upgrade is also now available, which allows non-U.S. sysops to accommodate the wide variety of address formats used world-wide. This upgrade, an enhanced AddUser module, is available at no cost to all international registered ProLine owners. Finally, a low-cost ProLine-to-InterNet gateway, *µMDSS,* allows direct connection of ProLine sites to most Unix-running Internet sites. *µMDSS* costs $59.95 and can be mailed directly to a customer's electronic mailbox.

For further information, write to the Morgan Davis Group at 10079 Nuerto Lane, Rancho San Diego, CA 91977-7132, or call 619/670-0563. (E-Mail: mdavis@mdg.cts.com.)

NEW LOWER COMPUSERVE, AMERICA ONLINE, AND GENIE RATES

CompuServe recently revised its Standard Pricing Plan to bring users even better value. A monthly membership fee of $8.95 (waived during the first month) provides unlimited access to a wide variety of basic services at any time of the day. Most other areas (including MAUG, the Micronetworked Apple User Group) are available at $8.00 per hour (1200-2400 bps), 24 hours a day. (9600 bps is available at $16.00 per hour.) Rates do not include any applicable communications (network) surcharges or premium area surcharges. An Alternative Pricing Plan, which bills all services by the hour, is also available. For more information, write to CompuServe at P.O. Box 20212, Columbus, OH 43220, or call 800/848-8199.

America Online's $9.95 monthly membership fee now includes five hours of usage on the system. Effective July 1, additional hours (beyond the first five) will be billed at just $3.50 an hour. This new rate applies to all America Online services—even the popular Internet gateway and downloading—24 hours a day. For more information, write to America Online at 8619 Westwood Center Dr., Vienna, VA 22182, or call 800/827-6364.

Beginning July 1, GEnie's $6-per-hour off-hours rate will drop to $3 per hour. A monthly membership charge of $8.95 pays for your first four hours. As part of this rate restructure, GEnie's popular Basic Services plan (which provided access to many general interest areas for just $4.95 per month) is being eliminated—

all services will be charged at the hourly rate. The internet mail gateway will be available to all users, with no monthly fee and no additional surcharges. Remote communications and prime-time surcharges may apply; rates are slightly higher in Canada. For more information, write GEnie at 401 N. Washington St., Rockville, MD 20850 or call 1-800-638-9636.

NEW PRODUCT WATCH APPLE EXPO WEST UPDATE

AnsiTerm 2.0: SHIPPING
(Parkhurst Micro Products)
IIGS telecomm software w/ color ANSI

Focus Hard Card: SHIPPING
(Parsons Technology)
Hard drive on a card for Apple II

ProTERM 3.1: SHIPPING
(InTrec Software)
Updated version

SoundMeister: SHIPPING
SoundMeister Pro: SOON
(ECON Technologies)
Stereo & digitizing cards

Spectrum: SOON
(Seven Hills Software)
IIGS telecomm software; Manager-compatible

TurboRez: DELAYED 4 MO.
(RezTek)
Enhanced resolution & color for IIGS video

Twilight II v1.1: SHIPPING
(Digisoft Innovations)
Screen blanker update

UltraMacros 4.2: SHIPPING
(Beagle Bros)
New programming features for AppleWorks

APPLE II AT EASE AND MORE

Kitchen Sink Software announces *System II,* a new "desktop" program similar to Apple's *At Ease* for the Macintosh. Like *At Ease, System II* includes a simple program launching facility that makes it easy for students to find and run the programs they need to use. *System II* also includes a "Full Desktop" mode which allows users to copy files and perform other maintenance program (access to the Full Desktop is password-protected). With pull-down menus, dialog boxes, and other Mac-like features, *System II* makes using Apple IIs in the classroom easier than ever. Runs on any Apple II, in either standard hi-res or double hi-res graphics. Site licenses are available. *System II* will begin shipping August 1, 1993. The retail price is $39.95.

Kitchen Sink will also fix Apple mice with broken buttons for $29.95. (The mouse must be in working order except for the button.) The repair is warranted for a full year. Kitchen Sink is also now the publisher of *OmniPrint,* an AppleWorks enhancement which gives you unprecedented control of the ImageWriter II from inside the Word Processor. Foreign language characters, graphics, math symbols, two-column printing, and more, all at the full text speed of the ImageWriter II printer—no slowdown! *OmniPrint* retails for $49.95 (site licenses also available).

For further information, and a free issue of Kitchen Sink's newsletter *Creativity Update,* write to Kitchen Sink Software at 903 Knebworth Ct., Westerville, OH 43081, or call 800/235-5502 in the continental U.S. (call 614/891-2111 outside the continental U.S.). ■

Secrets of Bharas, ProTERM 3.1, OmniMac Keyboard

by Jeff Hurlburt

II ALIVE RATINGS

★★★★	Excellent
★★★	Very Good
★★	Good
★	Fair
☆	Poor

THE SECRETS OF BHARAS

★★

Ultima-style role-playing game
Victory Software, $69.95
Apple IIGS, 1 MB RAM, one 3.5" drive

Victory's back-of-the-box blurb explains, "You wake up one fine morning to find yourself in the land of goats and honey." The good news is that your party of six (user-created Warriors, Mages, and Healers) has landed on Surya, the least violent of the Bharasian continents. The bad news is that none of you have a stitch of armor; your best weapon is a puny knife; and the party is flat broke! Besides which, no one has the slightest notion of why you're here, and your food supply is running low too! (The "goats and honey" must be over on one of the other three continents.)

Featuring a IIGS Desktop 'look', *Bharas* is not one of those sword & sorcery adventures that grabs you from the start. On the contrary—even the seasoned quester is bound to wonder whether Victory Software really wants them to play the game. Your first hurdle is the System 5.02 boot diskette. It has a custom Start file, and, when you try to launch the game, it bombs! Victory no longer maintains a tech support line, so I had to figure this one out myself.

If you have a hard drive, no problem. Follow the in-manual hard drive directions but do not copy Victory's Start program. Launch the game program from the Finder as you would any other program.

If you have only floppy drives, just boot one of your own System diskettes—I've used both 5.04 and 6.00 versions with good results. Insert the program disk and launch Bharas from the Finder. From time to time, the game will ask for the "BharasSystem" disk. To reduce swapping, copy the "Bharas.Image" file and "Data1of2" folder from the BharasSystem disk rename your boot disk "BharasSystem." (If you have or 3 or 4 MB RAM and just one floppy drive, consider setting up a RAM Disk to hold the program.) Not a great deal of trouble, and you're over the first hurdle!

Things proceed more smoothly after that. You visit the "Guild" (to name and design your six characters) and start the game without a hitch. To your growing delight, you discover a large *Ultima*-style world; attractive, smooth-scrolling, large-map graphics; and several villages, towns, and palaces. Entering any of the latter locales produces a new, more detailed view revealing shops, signs, and numerous surprisingly verbose personages.

But by now, you're beginning to wonder about things like the game's ultimate objective. *Bharas'* 34-page manual does include all the information you need to play the game. It does not, however, provide the expected "scene-setter" wherein you traditionally get some idea of The Goal and a clue about where you should start. Instead, you encounter another hurdle: nine pages of remarkably boring, hard-to-read "History," crammed with names and places (but no pictures or maps) which mean almost nothing to you at this point. I accepted the manual's recommendation and read the whole dreadful thing, but it turns out that one can safely skip all but the last page, saving the rest for future reference.

In *Bharas,* the only way to find out what's going on is to go places, explore, and talk to people. For example, in one village, a traveler may warn of dangers in "lands to the southwest." Someone else may describe the "evil ways of the Jalmuki." And in a seaside town, a helpful citizen will note that the only way to really "get anywhere and see the world" is by boat. (True: once you purchase a ship, your party can sail to outlying islands and even leave Surya for any of three new continents!) Other personages will help you locate important items, steer you to sages who teach advanced spells, and launch the party on various quests. Considering that you've been

plopped without warning into a strange land of monsters and magic, your party faces a very real challenge!

As you travel the plains, forests, and mountains of Surya, you soon discover that some inhabitants don't care to discuss anything. Roving brigands, mages, rogue warriors, and assorted critters simply want to plant your limp, lifeless bodies six feet under! Combat, especially for a beginning party, can easily be fatal. (Perhaps a bit too easily. If "getting established" proves overly tedious, try the "bonus" described in the "Checkpoint" section.)

On the other hand, combat is a quick way to obtain weapons, armor, gold, and so forth, along the experience needed to advance in rank. Also, the battles are just plain fun! While *Bharas* does not include music, you can look forward to gratifying slash, bash, and bang sound effects along with zipping arrows, lightning bolts, and fireballs. Victory's flexible, easy-to-manage scheme for tactical encounters lets you get the most from each of your characters. Once you begin to mop up surface baddies on a regular basis, your party is ready—maybe—to explore the dungeons below the ground. These feature 3-D perspective views, self-mapping, and combats guaranteed to test your mettle to the max!

So, just how long has it been since you've gotten your teeth into a for-real major monster-bashing adventure? The "land of goats and honey" awaits; and, you won't know what you're missing until you reveal *The Secrets of Bharas!*

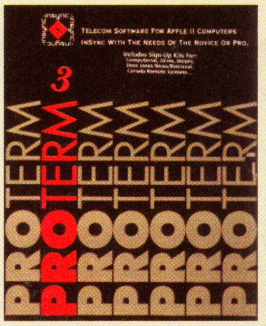
CHECKPOINT

A beginning party in Victory's *Secrets of Bharas* has neither armor nor gold. The resulting slow start is fine for non-*II Alive* types, but you deserve a break! Just use *Block Warden* or a similar disk editing utility to read the first block of GroupInfoData (in the Data2of2 folder) from your copy of the Lands diskette. The first two bytes are your party's gold. Starting with Byte $00, enter "DC 05" and save the changed block. The next time you play, your party will have 1500 ($5DC in hex) gold! Now you can buy everyone minimal (cloth) armor, and still have enough gold left over to purchase weapons a notch better than knives.

PROTERM 3.1

★★★★

Telecommunications software
InTrec Software, $129.95
Enhanced IIe, IIc, or IIGS, 1 MB RAM, modem, one disk drive
Reviewed by John Edwards



ProTERM has long been the most popular telecommunications program on the market. Not content to rest on their laurels, though, InTrec Software has released a new version of *ProTERM*—version 3.1. Featuring a few new capabilities and a new manual, the upgrade is more of an evolution than a revolution.

Like its predecessor, *ProTERM 3.1* features a Macintosh-style user interface and supports (but does not require) a mouse. However, unlike the Macintosh (and IIGS-specific programs), *ProTERM* uses the 80-column text screen, not the graphics screen, so the program's displays are rapid and clean. Keyboard commands allow quick navigation of the program's menus and dialog windows, so those who lack a mouse will certainly not feel at a disadvantage.

The program can use all available memory cards for scrollback, allowing you to keep a record of your entire online session and review it at any time. Unlike other programs' "capture" buffer, *ProTERM's* scrollback is always active, enabling you to scroll backward in time to re-read something that scrolled off too fast the first time. (*ProTERM* also has a separate capture buffer.) A new feature in version 3.1 is the ability to partition your memory card so that *ProTERM* doesn't take it all, leaving some room for a RAM Disk or other uses.

The *ProTERM* editor is as good as some stand-alone word processors, but its features have a telecommunications slant. For example, there's a "Quote" command that inserts greater-than symbols in front of a selected text block, a common BBS convention for quoting someone else's messages. Naturally, you can send text through the modem directly from the *ProTERM* editor, and *ProTERM* can be told to wait for a prompt before sending each line.

ProTERM's suite of telecommunications tools has no visible omissions. The program supports Zmodem file transfers (including autostart and resume)—plus the usual variations on Xmodem, Ymodem, and Kermit, and a few others besides. Terminal emulation is another *ProTERM* strong point—in addition to the usual terminals (including a recently beefed-up VT-100), *ProTERM* can emulate an IBM PC in ANSI display mode, and includes an emulation known as "*ProTERM* special" which allows a remote system to make full use of the Apple II 80-column capabilities. There's also a split-screen chat mode, a vital tool for conferences and chats. There's even a complete set of disk tools so you can copy, delete, view, and rename files, all without needing to quit *ProTERM*.

ProTERM also includes tools for automating your online activities. Three types of macros (all with the same syntax) are provided. One type (system macros) is a set of ten macros that are stored in *ProTERM*'s dialer, a different set for each system you call. You activate these macros by holding down the Open-Apple key and pressing a number key. Global macros are available regardless of what system you're connected to (or even when you're offline, or in the editor or scrollback) and are activated by holding down the Solid-Apple key and pressing a letter. Finally, you can write a procedure file, which is a very long macro procedure which is loaded from disk only when needed. While *ProTERM's* macros are powerful, they're also easy to use, thanks to the program's ability to watch what you do and turn it into a macro for you.

Setup and installation are, as before, a breeze. The first time you boot the *ProTERM* master disk, it will instruct you to make a backup copy as your work disk—and put you into a disk copy utility to do just that! After you've made your backup copy, configuring the program is as simple as selecting your modem, serial interface card, and printer from a list.

VENDOR INFORMATION

Victory Software
P.O. Box 821381
Houston, TX 77282
713/493-3232

InTrec Software
3035 E Topaz Cir.
Phoenix, AZ 85028
602/992-1345

Sun Remarketing
P.O. Box 4059
Logan, UT 84323-3360
800/821-3221

Then you can start entering phone numbers into *ProTERM's* "phone book" (the Dial menu) and get online. *ProTERM* is friendly enough to use immediately; you can get into the more advanced features and preferences later.

Seasoned *ProTERM* users may be asking, "What's new in version 3.1?" Mainly minor changes. For example, *ProTERM's* editor and scrollback both remember the cursor location between trips to those areas of the program. Support has been added for new modems which have recently appeared on the market. Also, *ProTERM* now supports an add-on program to allow visually impaired users to "hear" their online sessions (the manual is also available in electronic form for these users).

The new manual is quite nice, covering every aspect of the program and telecommunications in general in thorough yet readable detail. A "cheat sheet" gets you going if you're an impatient type, and reference cards make it easy to refresh your memory about an infrequently-used option without having to crack open the manual. The package also includes advertisements and/or trial offers for CompuServe, Canada Remote Systems, Delphi, GEnie, and Dow Jones News/Retrieval.

I made a few calls to InTrec's support BBS and found the service excellent. I received simple answers to what I had thought to be rather complex questions. InTrec also offers support on the major online services and, of course, by voice phone.

While telecommunicating isn't always easy, *ProTERM* makes the learning curve fun. Besides a modem, *ProTERM 3.1* is everything you need, whether you're just starting out or have been online for years. The new version proves that InTrec is committed to supporting and improving their product. If have a modem, you should have *ProTERM*—it really is that simple.

OMNIMAC EXTENDED KEYBOARD

★★★

117-key extended ADB keyboard
Sun Remarketing, $89
Apple IIGS
Reviewed by Bill Moore

Do you have a defective IIGS keyboard? Or are you just yearning for something a little more responsive to the touch? Or do you simply need more keys, perhaps for programming or macro purposes? If any of these situations applies to you, you may be interested in an extended keyboard. Not only do they have more keys (a full set of PC-style function and cursor keys, which, by the way, are compatible with the PC Transporter of you have one), they're bound to be better built than the IIGS's standard keyboard.

The OmniMac extended keyboard was originally manufactured by Northgate; however, Northgate has sold their remaining stock and the keyboard manufacturing rights to Sun Remarketing of Logan, Utah. Sun, in case you didn't know, is the Wal-Mart of the used computer world, specializing in refurbished Apple-brand equipment and other great, weird stuff.

The OmniMac is, physically, huge. Its 117 key layout that can seem plain overwhelming if you're used to the IIGS's petite standard keyboard. In addition to all the keys you'd expect on an extended keyboard (function keys F1-F12 across the top and a cursor keypad with page up, page down, insert, delete, and other control keys), there are also twelve SF keys on the left of the keyboard. No, it doesn't stand for Science Fiction or San Francisco—these keys produce shifted equivalents of the regular F-keys.

The OmniMac's keys are very responsive, with a crisp feel that's a delight to the fingertips. I won't put any secretaries out of work with my typing, but I do type quickly enough to detect a subtle tactile difference between the OmniMac and Apple's IIGS keyboard. I honestly think my speed has increased since I got the OmniMac.

However, there are a few layout differences to get used to. If you're really used to the IIGS keyboard, you'll be incredibly frustrated until you retrain yourself to the new key positions. The most annoying, to me, is the fact that the Control and Caps Lock keys have been swapped. You have to experience the frustration of trying to delete a line in AppleWorks with Control-Y, and accidentally activating all-caps instead, to fully appreciate it. The supposed justification for this change is that the Caps Lock key is back where it would be on a typewriter—right above the Shift key. The problem is, the IIGS isn't a typewriter; it's an Apple II, and Apple IIs have had the Control key above the Shift key since 1977. Besides which, typewriters don't have Caps Lock keys—they have Shift Lock keys.

Also plan on playing "hunt for the key" for a while if you frequently use the grave accent (`) or tilde (~) keys. In the OmniMac's defense, one important key that always seems to get moved on extended keyboards hasn't moved—Escape still sits in its proper place to the left of the "1" key.

The Reset key is also in an inconvenient place—on the back of the keyboard next to the ADB port. It took me several minutes to find it the first time I had to do a three-finger salute. Not that I should have bothered; the OmniMac does not pass the Apple-Control-Reset sequence to the computer properly. (An Apple-Control-Reset or Option-Control-Reset sequence is seen by the IIGS as a simple Control-Reset.) A few other extended keyboards I've tested also have this flaw, although of course Apple's doesn't.

For comparison purposes, a friend loaned me his Apple Extended Keyboard II (also known as the "Saratoga" keyboard, so named because, like most extended keyboards, it seems about the same size as an aircraft carrier). The Apple keyboard is just a bit softer and quieter, and, to be honest, I did like it a little more than the OmniMac. However, the OmniMac does have more keys and costs $150 less than the Apple keyboard, tipping the balance back in its favor.

What good are the extra keys? The IIGS System Software does not have built-in support for the function or cursor keys on an extended keyboard, so the keys will work in some programs and not in others. There are a number of INIT files available online and from user groups to enable the F1-F4 functions (Undo, Cut, Copy Paste) in IIGS Desktop programs, and a few other programs (including the *EGOed* NDA, *ProTERM 3.1,* Six Pack's *HotKeys,* and *MD-BASIC 2.0*) will use them. Roger Wagner Publishing's *MacroMate* will also allow you to assign keystroke sequences to these function keys (in combination with the Apple or Option key), as will Beagle Bros' *UltraMacros 4.*

The OmniMac's keyboard cable is several feet longer than the one that came with my IIGS, which can be handy. However, the keyboard included no manual—not even a simple instruction sheet. No big loss; what would it say? "1. Plug keyboard into computer. 2. Type. (Optional: Turn computer on.)" However, the keyboard does have a set of DIP switches on the back, and it would be nice to know whether the anomaly with Control-Reset was simply an incorrect configuration or a design flaw.

Overall, though, I really like the OmniMac keyboard. Its steel base assures longevity, and the feel is quite nice. Only the IIGS's lack of support for the extra keys and the Control-Reset problem keep me from giving the keyboard my highest praise. But at a price less than Apple's standard keyboard, the OmniMac is definitely the best extended keyboard value around. ■

Products for review should be sent to:
II Alive Test Drives
c/o Jeff Hurlburt
7814 Santa Elena
Houston, TX 77061

Q-RAMS

ADD REAL POWER TO YOUR COMPUTER!

The only IIGS RAM card that gives you the power of a RAM disk... *automatically!*

FOR VALUE AND POWER YOU CAN'T BEAT THE Q-RAM GS2

When we could no longer find reliable, affordable hard drives, we made our own—the Q Drive. The Q Drive made Apples faster and easier to use. In fact, it was such a success that we had to wonder why we'd waited so long. Now we've done it again.

The Q-RAM GS2 is an economical way to add 4 MEG of memory to your Apple IIGS. It's fully compatible with all Apple IIGS hardware and software—including the IIGS RAM Disk and DMA peripherals like the Apple II High Speed SCSI Card.

The 4 MEG Q-RAM GS2 is not only affordable, but comes with FlashBoot free! FlashBoot lets you create a super fast, super convenient RAM disk on your Apple IIGS.

When you install the Q-RAM GS, life becomes just a lot easier. Programs load completely into memory at startup, eliminating disk swapping. Out-of-memory error messages disappear. You'll have memory to spare—memory to load desk accessories, or to set up a convenient RAM disk.

The Q-RAM GS2 installs easily, replacing your original 1 MEG. Apple memory board, or any other underachieving memory card you may own. But don't worry about getting stuck with a left over board that you can't use. Ask your sales rep about a RAM card trade-in. It is a terrific way to recycle your old card and save money at the same time!

Of course, since you're dealing with Quality Computers, you get an unconditional 30-day money-back guarantee and a five-year warranty. And the price is the best news of all—a 4 MEG Q-RAM GS2 costs about the same or even less than other IIGS memory cards in a 1 MEG configuration!

4 MEG Only
$199.95

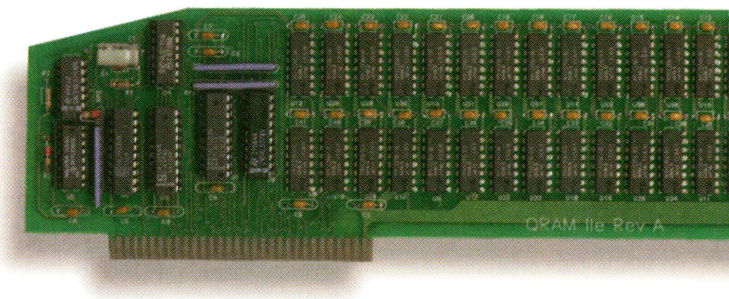
FLASHBOOT FREE WITH Q-RAM GS2

As an added bonus, when you buy a 4 MEG Q-RAM GS2, you get FlashBoot free. FlashBoot lets you quickly save and load the contents of a RAM Disk. What is a RAM Disk? Every Apple IIGS has a built-in RAM Disk capability that lets you reserve some of your computer's memory as a super-fast electronic disk drive. Set up your RAM Disk in the morning and you might not have to swap program disks all day! You can discover the speed and convenience of a RAM Disk with FlashBoot. FlashBoot offers several flexible options to boot the RAM Disk and the other drives attached to your computer, and makes loading your RAM disk easy.

Beef up your Apple IIe to 1 MEG for only $99.95 and get more from AppleWorks, too!

Snap the Q-RAM IIe into your Apple IIe, and you'll create a whole new computing experience. Programs load completely. A lot less disk swapping. A lot more productivity. All of AppleWorks, plus your TimeOut applications will completely load into RAM. That means you can concentrate on working—not waiting for disk drives. Plus with a huge 1 MEG treasure trove of RAM, you can create huge documents, and not run into a single "Out of Memory" message.

Imagine students in your school's IIe lab doing more learning and less waiting. Imagine the joy of starting AppleWorks, completing a project, and never having to go back to the disk drive. It can happen with the Q-RAM IIe.



Now imagine all of this convenience and productivity at a price 1/2 of what other 1 MEG cards for the IIe cost. It's true, the new Q-RAM IIe costs only $99.95. At this price, the savings can really add up. You can upgrade your IIe lab and save $100 per computer. Now you can afford more software.

The Q-RAM IIe replaces your IIe's 80 Column Card or Extended 80 Column Card, and is 100% software compatible. The Q-RAM IIe comes with diagnostic software that test the card for peace of mind, and expansion software to boost the performance of AppleWorks.

The Q-RAM IIe is 100% software compatible, and comes with a 5 year warranty. If you're not completely satisfied, return it within 30 days for a full refund.

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QUESTION: I understand that compact discs are becoming very popular in with computers these days. I see CD players attached to Macintosh, IBM, and other computers all the time, but I've never seen a CD player on an Apple II. Why not? Is there any reason why it won't work?

Eric Vage
Denville, NJ

ANSWER: Computer compact discs are called CD-ROM, meaning "Compact Disc, Read Only Memory." What this means is that you can read data from a CD-ROM, but you can't write anything to it. CD-ROM has a vast capacity—about 600 megabytes, or the equivalent of 750 3.5" disks. Its storage capacity is its main advantage. A computer-based encyclopedia would be ridiculously impractical if it came on 750 disks, but it's eminently useful on a CD-ROM.

Of course, you need a special CD player to read CDs on a computer—you can't just use an audio CD player like you'd buy at the local discount electronics store. Just as a device which reads 3.5" disks is called a 3.5" drive, a device which reads CD-ROMs is called a CD-ROM drive. Most CD-ROM drives are SCSI devices, which means that (theoretically) they'll work on the Apple II as long as you have a SCSI card installed in the computer. (This is the same card that you use to connect a SCSI hard drive to the computer, and if you already have a SCSI hard drive, you can probably chain the CD-ROM drive to it without needing another card.) Apple's CD-ROM drives work fine on the Apple II this way, as do many others. Some third-party CD-ROM drives, such as the ones made by NEC, need special driver software.

Once you connect a CD-ROM drive to your computer, what can you do with it? There are very few CD-ROMs available specifically for the Apple II. There's an educational disc called *YourWordBox,* and for a while, there was a collection of Apple II shareware and freeware called the GEM CD. Apple's developer CD-ROMs also contain Apple II data, and many programmers buy CD-ROM drives just to access those discs!

Moving past Apple II-specific CD-ROMs, IIGS System 6 lets you access Macintosh CD-ROMs. Most Macintosh CD-ROMs contain Macintosh programs, which naturally won't work on your Apple II, but there are also Macintosh CD-ROMs which contain data files which are useful to Apple II owners. For example, there are CD-ROMs with collections of TrueType fonts, MacPaint clip-art, and sounds. With appropriate software (like *Pointless* and *SuperConvert*), you can use these data files on your Apple II.

Many CD-ROMs are in a format called "High Sierra," a universal, internationally-approved standard that many computers—including the IIGS—can use. CD-ROMs in this format tend to contain simple data files in standard ASCII text, and possibly graphics in GIF format. The Apple II can handle either of those formats.

While there are plenty of CD-ROMs out there that can be used on the Apple II, they may take some hunting to track down. You may not find them useful enough to justify the purchase of a CD-ROM drive. Most commercial CD-ROMs, unfortunately, are designed for the Macintosh or MS-DOS. A dedicated hacker might be able to design an Apple II program to access the data on, say, an encyclopedia disc, but much of the data is compressed or encrypted and requires specialized retrieval software.

You may also have heard of some new CD formats being introduced recently. CD-I (Compact Disc Interactive) was developed by Philips. CD-I discs store graphics, sound, and animations, plus simple instructions to the CD-I player that allow the user of the disc to "participate" in the material. Most current CD-Is are games, but Todd Rundgren's new album, *No World Order,* is being released in CD-I format to allow listeners to rearrange the music in new ways. You don't need a CD-ROM drive (or a computer) to use a CD-I; you need a CD-I player.

Kodak also recently introduced Photo CD. When you develop a roll of film, you can have the developer put the pictures on Photo CD in addition to making a set of prints. You can even take the Photo CD back to the developer with your next roll of film to have more pictures added to it. Photo CDs can be viewed on your television with a Photo CD player, and the newer CD-ROM drives can also read them. This allows ordinary users to get professional-quality, high-resolution computer versions of their images without having to buy an expensive scanner. As yet, though, there are no Apple II programs which can read Photo CD discs.

QUESTION: I have both *Sensible Speller* and *AppleWorks 3.0* (which has a built-in spelling checker). I only use *Sensible Speller* for doing crossword puzzles, because of its "wildcard" feature which let you look up words when you don't know all the letters, but it's annoying to have to keep both program's dictionaries on my hard drive. Can the programs be made to use a single dictionary?

DeWayne Buck
Brooklyn, MI

ANSWER: Unfortunately, the answer to your question is "no." The AppleWorks spelling checker (which is essentially the same as *TimeOut QuickSpell*) and *Sensible Speller* were written by two different programmers, who were free to design their programs however they liked and did just that. The two programs keep their dictionaries in two completely different formats, and never the twain shall meet. Sorry.

QUESTION: I have a UniDisk 3.5 which won't boot. I took it to my local Apple dealer, who charged me $50 to tell me it would cost nearly $300 to fix the drive's alignment—more than the a new or reconditioned drive would cost! How can I align the drive myself? I have nothing to lose by attempting the procedure since the drive is useless to me in its current condition.

Edward Hoerner
Kenner, LA

ANSWER: Unfortunately, aligning a drive is a procedure which requires specialized test equipment. It's not just a matter of turning a few screws. Your dealer needs to do it, unless you have an oscilloscope and other expensive equipment in your workshop.

However, $300 sounds a little steep for a simple alignment. If the only problem with the drive is that it's not aligned properly, your dealer should be able to realign it for much less than that. If your dealer is planning to charge you $300, he probably intends to replace the drive's mechanism entirely, indicating some other, more major, problem with the drive. I highly recommend that you get a second opinion, and then, if the drive's innards do indeed need to be replaced, buy a reconditioned drive instead.

QUESTION: I bought a Laser 128 to introduce myself to the computer world. But I've discovered that some programs (*The New Print Shop,* for one) won't work on the computer. Why not? Isn't the Laser 128 compatible with the Apple IIe? I was going to get AppleWorks, but I'm afraid to order anything else for fear of spending money on something I can't use. Help!

Mary Carley
Richland Center, WI

ANSWER: The Laser 128 is Apple IIe compatible, but as you've discovered, "compatible" isn't always what it's cracked up to be. Due to Apple Computer's habit of suing anyone who tried to make a computer that works like an Apple, Laser had to tread very carefully to ensure that their computer did not infringe on any Apple patents or copyrights. (Apple earlier won a case against Franklin on this very issue.) As it turns out, Apple did sue Laser, but Laser had covered all the bases, and the Laser 128 was cleared.

The Laser, then, is not an exact copy of the Apple. There are some minor differences in the way the two machines work. If a programmer relies on an Apple II characteristic that isn't part of the Laser, the resulting program can have difficulties. That's the case with *The New Print Shop,* which is one of the few programs from a major publisher to have such problems. (Broderbund is a well-respected software publisher and it's a mystery that they have allowed this problem to continue to exist.)

Well over 95% of Apple IIe programs will run on the Laser 128. Virtually all the popular ones work fine—and that includes AppleWorks. Nevertheless, when buying software, it's wise to ask the vendor to guarantee that the software will work on your computer and to let you return it if it doesn't. (Most companies will make such an exception to their return policy for incompatible software.) This applies no matter what computer you have, because you never know what might prove incompatible.

Incidentally, the Laser 128 is not the only computer to have this problem. Genuine Apple computers have had it too! When the Apple IIe came out, some older Apple II+ software wouldn't work (or had minor cosmetic problems). When the IIc and enhanced IIe came out, some software that worked fine on the unenhanced IIe didn't work right on the new machines. When the IIGS came out, it had problems with some IIe and IIc software. And the Mac LC Apple IIe card also exhibits incompatibilities here and there.

Apple (and Laser) do their best to make sure they don't "break" software when they introduce a new machine, but sometimes the improvements made in a new model demand other changes that can cause glitches with existing software. That's a fact of life in the fast-paced computer world.

TELL MR. TECH

MR. TECH: To get the Applied Engineering 3.5" High-Density drive to work with IIGS System 6, place the AEHD driver in the System 6 Drivers folder (inside the System folder). Remove the Apple 3.5 driver. Make sure that if you have any 800K 3.5" drives that they are first on the chain. The 5.25" drives, if any, should be last, as always. On my system, this allows the previously inoperable AEHD driver to work under System 6 (and saves me a $149.95 charge to modify the drive itself to work with System 6).

Ira Garvin
Oakdale, NY

Ira: Thanks for the tip!—Mr. Tech

MR. TECH: In the May/June issue, you discussed the merits of leaving the computer on continuously vs. turning it off between uses. One thing you didn't mention is dust. Leaving the power on causes fans (if you have any in the system) to continuously circulate room dust through the system. Turning the power off when you're not intending to use the machine soon does reduce the dust problem.

Bill Neef
Grass Lake, MI

Bill: Good point. A blanket of dust over chips is a good heat insulator, so dusty chips get warmer. Warm chips fail faster. Whether you have a fan or not, it's a good idea to periodically clean the dust out of your machine. Use canned air (available at most photography stores) to blow the dust out—vacuum cleaners can generate static charges in the air, which you definitely don't need anywhere near the computer's delicate chips.—Mr. Tech.

STICKY KEYS

GLENN FERRERI
GUEST TECH

IIGS System 6 has a feature called Sticky Keys, which allows handicapped users to type complicated key sequences (like Apple-Control-Escape) separately instead of typing them all together. But I recently encountered a case of really sticky keys. I hit the Return key and suddenly, my document disappeared up the screen. A glance at my keyboard told me the real story—after years of use and neglect, my Return key had developed a case of the stickies. Time to really clean up!

A word of warning. Don't try this if you don't know the difference between a Phillips and a flatblade screwdriver. There will be some prying of parts, and if you don't know your own strength you may damage them. If you have artificial nails, you may even need to make a trip to the salon afterward.

Before you start, make sure you have a pencil (or pen) and paper; a small Phillips screwdriver, a small flatblade screwdriver, a stiff artist's brush, an old toothbrush or nailbrush, access to a sink, and a mild detergent or dish soap.

First, turn off the power to the computer and unplug the wires from both sides of the keyboard. Write down the keyboard layout so you'll have an easier time putting it back together. (If you have access to a photocopier, just photocopy the keyboard!)

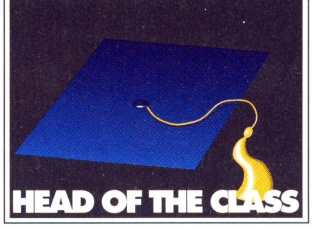
Now flip the keyboard over. On the bottom, above the Apple label, are three Phillips screws. Remove them, being careful not to lose the washers. The keyboard comes apart into three pieces: the bottom case, a small top case around the Reset key, and the keyboard itself. Now you can see all the junk your keyboard has collected.

Set the keyboard on a flat surface with the keys facing upward. Starting with the edges, gently pry off each of the key caps. You may need to use a slight side-to-side motion on some keys to loosen them up. The larger keys have C-shaped wires attached to them to keep them from tilting when you type; some of these wires will come off with the key caps and some will stay on the keyboard. With the exception of the Reset key, which has its wire firmly attached, remove the wires from the key caps and set them aside.

Collect all your key caps—you should have 81 of them—and put them in the sink with warm water and dish soap to soak. While they're soaking, remove any of the C-shaped wires still attached to the keyboard—they should just lift out of the U-shaped clips. Use the artist's brush to brush out the dirt and lint from around the keys. Set the keyboard on its edge and tap it gently to get the trapped dirt to fall off the board.

Remove the divider between the main keyboard and the numeric keypad. Turn the keyboard upside down. With your flatblade screwdriver, move one of the tabs holding

continued on page 43



A "No Homework" Coupon

by Ira M. Garvin

In New York State, we have one Regents Competency Examination in Social Studies that students must pass at the end of 10th grade, and another at the end of 11th grade. Although these are minimal competency examinations, they require students to do that which they have the most difficulty with, namely retention of content. In an effort to meet this demand, my homework assignments include a text reading and content-specific vocabulary. To drive home the importance of the vocabulary, there is a homework quiz the day each assignment is due.

I constantly am looking for ways to get disinterested students to care about their performance in my class enough to put forth the necessary effort to succeed. The problem reminded me of a suggestion I'd read years ago in a teaching journal—why not give out a valuable coupon (for a free 100 on a homework assignment, or 5 points extra credit) every time a student aces the homework quiz? Of course, teachers have been doing this sort of thing for years. The question was, would it work with 11th graders who were reading two or more years behind their grade level and who have, for the most part, lost any motivation they ever had to learn?

As I found out, it works very well. Students who rarely got positive reinforcement were overjoyed, at 16 and 17 years of age, to "get a coupon!" Many changed their attitude about Social Studies and became real achievers.

As it turns out, a computer is a very useful tool for this project, because it allows you to make custom, yet professional-looking coupons. Here, then, are the two coupons that I designed—one for my IIGS at home (using *AppleWorks GS 1.1*) and the other for the IIe at school (using *Publish It! 4*).

APPLEWORKS GS

The first rule of desktop publishing (especially with *AppleWorks GS*) is to save early and save often. Resist the urge to "do one more thing" first! Many times I've lost a lot of work because I was so intent on doing "one more thing" that I hadn't saved at all when the computer crashed. I suggest saving at least every third step.

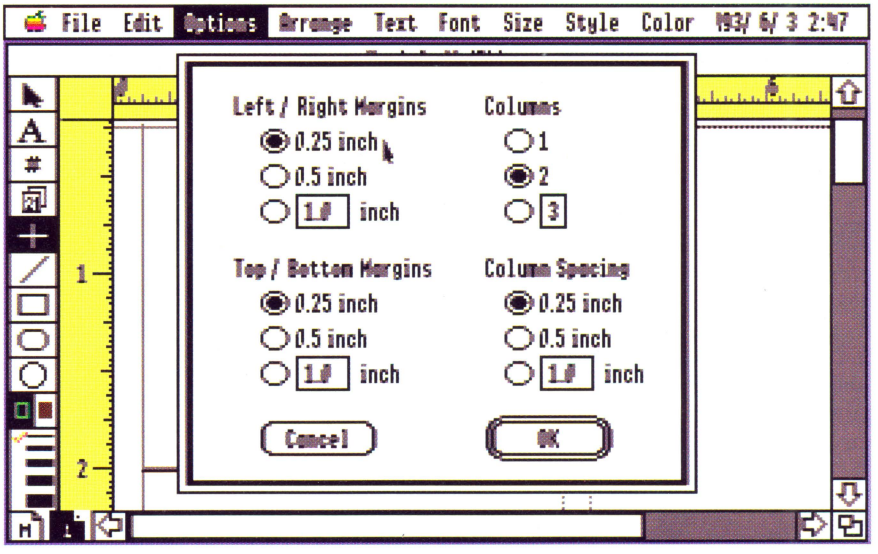


Figure 1

We begin with a new Page Layout document. In the Page Setup dialog, we've selected "vertical condensed" printing. Now, we set up our guides using the Options menu. As shown in Figure 1, we select "Lock guides" and "Magnetic Guides." Once this is done, we choose the hollow rectangle tool and draw a 4"

Table 1
Square Specifications

Height	3.397
Width	2.350

Note: Height and width are the same for all squares. All squares are white.

Square	Left Start	Top Start
1.	0.500	0.490
2.	0.500	3.000
3.	0.500	5.565
4.	0.500	7.981
5.	4.104	0.490
6.	4.104	3.000
7.	4.104	5.565
8.	4.104	7.981

Table 2
Text Box Specifications

Height	3.344
Width	1.381

Note: Height and width are the same for all text boxes. All text boxes are transparent.

Text Box	Left Start	Top Start
1.	0.544	1.461
2.	0.544	3.969
3.	0.544	6.554
4.	0.544	8.972
5.	4.140	1.461
6.	4.140	3.969
7.	4.140	6.554
8.	4.140	8.972

x 2" rectangle (using the thin line) at the top of column one.

Choose the "I-Beam" tool by clicking on the A in the toolbox and drag out a text box the same size as the rectangle. Click the I-beam in this text box, pull down the Text menu, and choose "Centered" text and 1 1/2" spacing. We'll adjust the spacing later, depending upon the font, style and size that you choose. I've used Greeting and Geneva, both TrueType fonts. (These require *Pointless*. Don't worry if you don't have the exact same font, though; just choose one you like.) Type the text shown in Figure 2. Once you are ready to type the word "Name," go back to the text menu and select "Left" justification. At this point, the only item left on our first coupon is the line for the student's name. Select the line tool (+) from the toolbox and draw a line from the word "Name" to the edge of the text box.

Now we're ready to make the other nine coupons. The entire sheet will become our master and will be used for duplication. Press OA-W to fit the document into the window, and, using the arrow tool, "rubberband" the entire coupon so that all three items (box, text, and line) are selected. Press OA-C to copy, then use OA-V to paste nine of these into their approximate locations (see Figure 3). Finally, use OA-W again to return to the full size view and "fine tune" each coupon so that it is 1/8" below the one on top of it. Your master sheet of ten "Free Homework" coupons is done! Print up a sheet, copy twenty or so, and cut them apart on a paper cutter.

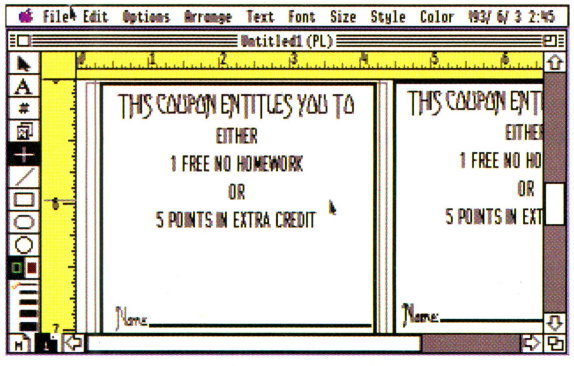


Figure 2

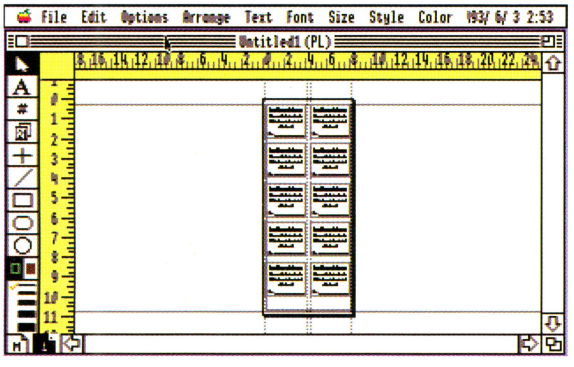


Figure 3

Table 3
Graphic Box Specifications

Width	2.666
Height	1.502

Note: Height and width are the same for all graphic boxes.

Graphic Box	Left Start	Top Start
1.	0.612	0.537
2.	0.612	3.063
3.	0.612	5.611
4.	0.612	8.036
5.	4.216	0.537
6.	4.216	3.063
7.	4.216	5.611
8.	4.216	8.036

Table 4
Line Specifications

Width 2.260

Note: Width is the same for all lines

Line	Left Start	Top Start
1.	1.184	2.651
2.	1.184	5.159
3.	1.184	7.725
4.	1.184	10.141
5.	4.788	2.651
6.	4.788	5.159
7.	4.788	7.725
8.	4.788	10.141

PUBLISH IT! 4

Select the square tool and draw the first square. It doesn't really matter what size you make it, since we're going to resize it anyway. Use the arrow tool to click the square, type OA-M for the object specifications dialog, and set the specs according to Table 1. Be sure that you have selected "White" in the fill section of the specifications dialog.

Choose the "T" from the toolbox and click and drag a text box on top of square number one. Once again, select the text box with the arrow tool, type OA-M, and enter the object specifications from Table 2. Be sure to click on the "Transparent" radio button as well.

Now choose the I-Beam tool and click it in the text box you just created. Open the Page Justification dialog and click "Center", then pull down the Format menu and choose "Use page standard." Now choose your font. I have used Ravina 18 Plain. Type in the text of your coupon, being sure to select "Left justify" from the format menu when you are ready to type in "Name."

Finally, get the line tool and draw in the "name line." Again, using OA-M and Table 4, set the length and start point of the line.

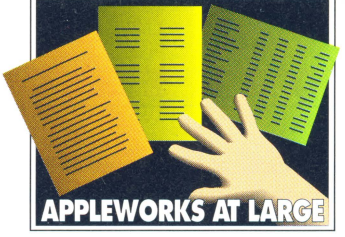
Let's create a graphics box and bring in some clip art. (I didn't do this in the AppleWorks GS version because I didn't have any appropriate clip art handy.) Choose the Graphic tool and drag out a graphic box. Click on it with the arrow tool, press OA-M, and use Table 3 to set the specifications for the box. With the graphic box still selected, pull down the File menu and select "Import a ProDOS picture." I chose the "Win Flag" from the *Publish It! 4* Education graphic disk—it's in the Awards folder.

Press OA-4 for "fit in window." Get your arrow tool and rubber-band the entire coupon (the square, text box, graphic box and line). Once they are all simultaneously selected, use OA-C and OA-V to copy and paste seven more coupons onto the page. With the arrow tool, rubber-band them one at a time and place them on the page in their approximate positions. Use OA-1 to return to the full size view, then click on each of the elements and adjust them (using OA-M) to the appropriate locations using the tables. When we make our adjustments, we want to work first on the square, then the text box, then the line, then the graphic box, to keep them "stacked" properly.

Use OA-K to preview your work to see how your coupons will look for "for real." Finally, print out your master sheet, copy twenty or so, and cut them apart.

CONCLUSION

I hope you'll achieve the same educational success with your coupons that I've had with mine. I think you'll discover that they're real motivators! ■



Designing Successful Databases

by Steve Miller

I have three kids in school, and my wife and I have helped to manage a number of different fund-raising drives over the years. AppleWorks' data base has, in each case, helped us to not only survive the project, but to make it a success.

Our most successful fund-raiser is the school lunch program. Since our boys' school doesn't have a cafeteria, we decided to supply pizza to the students once a week. The lunches were pre-sold at the beginning of each semester, and AppleWorks proved more than capable of tracking the whole project. We used AppleWorks to generate pizza delivery schedules and to keep a running total of funds raised. This program was so successful that a second (hamburger) lunch day was later added. Enough money was raised in two years to buy an Apple II and a printer for every classroom in the school!

With the AppleWorks data base, it's easy to customize screen layouts, search for specific records and groups of records, and print specialized reports for a number of purposes. That's what this article is all about. We'll assume that you know how to create a data base and do basic data entry, and use this as a springboard to learn about some of the more advanced data base features. Although the project being discussed is specific, the same principles and procedures apply to any AppleWorks data base.

THE PROJECT

Our latest school fund-raising project was a dinner featuring entertainment by the faculty. We needed to keep track of pledges, checks received, the contributor list (to be listed in the program), the guest list, seating, VIPs, and about a dozen other minutae. We found we could even use AppleWorks to generate deposit slips. Most banks will accept computer-generated deposit slips, as long as they follow the bank's standard format. This can save plenty of work and eliminate mistakes—check with your bank for details.

CREATING FIELDS AND EXTRA FIELDS

Here are the fields I created in the data base:

Last Name	
First Name	
List as	where special credit was requested
Phone	
Paid	amount of the check received
ABA	the bank number from the check, for the deposit slip
Dep#	the deposit number, starting with #1
Paid prev	for money received and banked earlier
Pledged	funds pledged but not yet received
Tickets	number of tickets purchased
Table	table assignment
VIP	yes/no field; affords preferential treatment
Count	always "1"; used to generate various counts
Addendum	to credit donations received after the program has gone to the printer
Date entered	
Comment	

We didn't need addresses for this particular project, but many applications would also require Address, City, and ZIP Code fields.

I also created five "spare" fields, called X1, X2, X3, X4, and X5. (The names are arbitrary.) You probably won't think of every kind of information you need to gather when you're first creating your data base—when you start using it, you'll probably start wishing you'd included an extra field or two. But if you add fields, AppleWorks will erase any customized screen layouts and report formats you've created. The "spare" fields, however, can be

renamed at any time and meaningfully incorporated into your data base, and you won't lose screen layouts and report formats because you're not really adding anything.

CUSTOMIZING THE DATA ENTRY SCREEN

You could start entering data into your new data base immediately, but you'll find life much easier if you first customize the data entry screen. Arrange the fields on the screen to create a visually pleasing, easy-to-use layout. You can do this at any time, starting from a single-record screen (the one that says "Record ___ of __" on the third line) and pressing OA-L. (If you're not on a single-record screen, you're on a multiple-record screen. Press OA-Z to go back and forth.)

To move a category on the screen, place the cursor on the first letter of the category name, hold down the OA key, and press an appropriate arrow key. Related fields should be grouped together, with a blank line separating them from other groups of fields. Although you can't insert a blank line, you can create one by moving items down. You can also place short data items on a line together. You'll find this operation immeasurably simpler with mouse control if you have UltraMacros.

After you've created a customized screen, try pressing OA-T to highlight the field names. This visually separates them from the actual entries. I don't care for this option, because I find that the contrast is hard on my eyes, but you may find it helps. Press OA-T again to turn it off.

To save your entry screen, press Escape. AppleWorks will ask you which way you would like the cursor to move when you press Return: in the order in which the categories were originally defined; or left to right, top to bottom. Unless you are a masochist, you'll want the latter option. (If you are a masochist, AppleWorks' flexibility will accomodate you.)

SETTING STANDARD VALUES

Don't start entering data yet, because it's quite likely that some of your fields will need the same entry in most or all of the records (today's date, for example). To set standard values, press OA-V. Then enter those values which you'll need for the current session. The Count field should be set to 1, and never changed. (We'll use this field later with group totals when we just want to know how many records conform to a particular rule.)

The current date should be entered, and if you're going to be creating a bank deposit slip, set Dep# to 1. The date, deposit number, and any other standard values should be checked and updated at the start of every session. After entering the standard values, press ESC.

A word of warning: If you go to the Set Standard Values screen in the middle of entering data in a record, AppleWorks may lose some of the data in that record. If you use OA-V after making entries, go back to the last record you were working on and make sure that the entries or changes are still there. It's another good argument for only updating the standard values only at the start of each session.

ENTERING DATA

Now, you're finally ready to enter information into your data base. Be consistent, and you'll save editing time (and confusion) later. Items like "VIP," which are essentially "yes or no" categories, can be treated in a number of ways. You could enter an "X" when the category is true and leave it blank when it's not, or enter a "Y" or "N" for yes and no, or even use "0" and "1." Just be consistent. Using a number is my favorite way to go, because it makes it easy to generate a count when you need one.

DEPOSIT SLIPS

Let's say that you've entered a bunch of checks, and you're ready to make a bank deposit. First, save your file (OA-S). Next, press OA-P to get to the Report Menu, and choose option 2, Create a new "tables" format"

Any fields which are not needed for this report can be deleted by putting the cursor on them and pressing OA-D. (This does not permanently delete the category from the data base; it only keeps it from being printed on the report.) If you accidentally delete a category you need, you can bring it back by pressing OA-I for Insert. To move a field to a different position, place the cursor on the field, hold down the OA key, and use the < or > key to swap it with the field immediately to the left or right. To change the width of a field, again hold down the OA key and press the left or right arrow key.

Of course you'll want a total amount for the deposit. Put the cursor on the field to be totalled—Paid—and press OA-T. You'll see a lot of 9's, but these are just place-holders to show you what the column of figures will look like. Be sure you make it wide enough for your eventual total—your entries may all be in the hundreds, but your total might be in the tens of thousands. And be sure the ABA field is at least eight spaces wide—the size of these numbers varies considerably.

The bank will want to know how many checks are in your deposit. To generate this figure, total the "count" column, just like you did with the "Paid" column, using OA-T.

Now enter a heading for your report. To do this, press OA-N. Unless you want to change the name of the report, press RETURN, and the cursor will move to a blank line just above the report format. You can enter your account information here.

RECORD SELECTION RULES

You may not want every record printed on this report. For example, people who have made pledges but have not yet paid them should not be listed. To narrow down the group of records which will be included, press OA-R.

The record selection feature is sophisticated, but easy to use. In this case, we want records which are part of deposit slip number 1. Move the cursor to "Dep#" and press Return, then choose "EQUALS," press Return, type "1", and press Return again. The word "and" will be highlighted, but since we don't need any further narrowing of the selection, you can press Escape to complete the process. (This is one of the very few situations where using the Escape key completes a process, rather than canceling it! Actually, what you are canceling is the *continuation* of the rule, which can be made much longer by adding the "and" and "or" options.) The rules which you have created will appear at the top of the screen, and will remain part of this report format until you change them by pressing OA-R again.

There are a couple more things you can do to make your report format a little more readable. First, change the left margin (which defaults to zero) to one inch. Press OA-O (for options). All of the available options will be listed at the top of the screen. Left Margin is LM, just like in the word processor, so type LM, then Return, then 1, then Return, then Escape. You might also want to double-space the report by entering DS while you're at the Options Menu.

If you want to arrange your report in some way, do it now. For example, you might want to alphabetize the contributors by last name, or group the checks in ascending order by amount. Whatever you choose, place the cursor on the column to be arranged, and press OA-A, then choose from the available options, such as ascending or descending order.

A reminder: Arranging the data base's records from this or any other screen, rearranges the entire file—even the records which are not part of a particular report. The newly-arranged order of the records will only be saved if you save the file to disk. The records will not be arranged automatically each time you print a report, even if you arranged them when you printed it before, and new records are not automatically added in sequence. So it pays to use OA-A just before you print any report.

At this point, you're probably ready to print the report. Press OA-P and choose your print-

er. You may want to print to the screen first to see what it will look like. AppleWorks lets you enter a date to be printed on the report. Actually, you can type almost anything you want there, like "First Draft," or "Prepared by Joe," although the number of characters you can type is limited. Press Return, and you're on your way to printing a deposit slip.

OTHER HANDY REPORT OPTIONS

Grouping: The AppleWorks data base allows you to group similar items together in a report. For example, suppose you wanted a report listing how many people are seated at each table. Take a look at Figure 6. This report will print a list of only those contributors who have ordered tickets, because of the Record Selection (OA-R), in which I've chosen "Tickets is greater than 0" as my rule. I arranged the data base by table number and turned on group totals for the Tickets field. The number of tickets assigned to each table will be subtotaled, and a grand total will also be printed at the bottom of the report.

A little explanation is in order. To group similar items together (almost always for the purpose of counting something), put the cursor on the column to be grouped, and press OA-G. AppleWorks will ask you if you want to "Print group totals only," to which you would say Yes if you only needed totals, but not individual names. If will also offer you the opportunity to "Go to a new page after each total?," which would be handy if you needed the seating list for each table printed on a separate page.

The key to making a group report work is that the item to be grouped must be arranged in some meaningful way. If you do not arrange the field, either alphabetically or numerically, the report will be meaningless. It's a good idea to print the report to the screen first, to avoid wasting valuable paper on useless output. Remember, arrangement of records is not done automatically when a report is printed.

Addition: An AppleWorks data base report can also do some limited arithmetic on your data, including addition, subtraction, multiplication, and division. To use this feature, create what's called a "calculated column" in your report format. In my case, the charity event, I needed to know the total of money pledged, money received, and money collected earlier. Take a look at Figure 8, and be sure to look at the bottom line.

To create a calculated column, put the cursor where you want the new column to appear, and press OA-K. First you name the column, then create the arithmetic formula for it. Use * for multiplication, and / for division. Calculations are done from left to right, and must be based on columns to the left of the calculated column. Parentheses are permitted, but be sure check the results of anything complex to make sure that AppleWorks is doing the math the way you want it done. A calculated column can be edited by using OA-K once again, and you can also use group totals on it. You can define as many calculated columns as you need.

MAKING IT FIT

If your report consists of a lot of fields (i.e., columns), and some of them are fairly wide, the report will probably not fit horizontally on the page without some fiddling. To remedy this, go to the Options screen (OA-O), and choose a narrower font. The default is 10 characters-per-inch (CPI); try 12, 17, or even 20. If you have entered a left margin greater than zero, change it back to zero. You may also want to abbreviate your field names, by going back to the main body of the data base; pressing OA-N, Return, and Return; and editing any field name which is wider than the data contained in the field. Press Escape to exit the process.

AppleWorks has plenty of printer options listed right there on the Print Format screen. I suggest you experiment with all of them, because they're all useful in one situation or another.

BACK IT UP

Compiling a data base is a lot of work, and losing it—for any reason—is no fun. Be sure to make a backup copy of your entire data base file on a separate disk. It's a good idea to date your backups so you can go back and see what your data base looked like at a specific point in time, if this should become necessary. Just change the data base's name slightly before saving it to the backup disk. For example, you might name it "Dinner Mar12" if that's the date on which you're backing it up. To change the file name, press OA-N. Databases can take up a significant amount of disk space, so it may be necessary to delete older versions of the file from time to time to make room for the new backup, or to use multiple backup disks. Just make sure you always know version of the file is the most current!

CONCLUSION

AppleWorks' data base has plenty of powerful features, some of which may seem obscure if you don't understand what they do. In reality, these features are designed to make your work easier. With a better understanding of AppleWorks' data base, you're well on your way to organizing your home, your life, and the whole world. ■

APPLEWORKS DATA BASE TERMS:

OA: The Open-Apple key, also known as the Command key on some Apple II models.

SA: The Solid-Apple key, also known as the Option key on some Apple II models.

Record: All the data that goes together about one person or thing. For example, in a customer address data base, each customer would have one record.

Field: The individual categories that make up every record: name, address, phone number, and so forth.

Sort: To arrange a data base based on the value of one or more fields (for example, alphabetically by last name).

Group totals: Used on a sorted data base to generate subtotals of records belonging to particular groups. For example, if you arrange a seating data base by table number, and each record has a field containing the number of tickets purchased by each guest, you can use the Group Total feature to count the number of people sitting at each table.

Count field: A count field should always contain the value 1. It can be used with the Group Total feature to count how many records are in each group (as opposed to counting some other value, like the number of tickets that guest has purchased).

Calculated column: A field which isn't a part of the actual data base but is calculated for report printing from the values of other fields. An example is a dollar total of the amount pledged and the amount actually paid. You can use totals and group totals on calculated fields as well.

Tables format: A report which lists one record on each line, with the fields arranged in columns. Labels format, in contrast, allows you to use more than one line for a record.

Standard values: The default value for each of the fields in your data base. If you have fields which always (or almost always) contain the same value, AppleWorks can fill them in for you automatically.


Beagle Bros
Platinum Paint
The Fastest Way to Turn Imagination into Brilliant Reality
Platinum Paint
Apple IIGS

EXPLORING PLATINUM PAINT

BY JERRY KINDALL

Platinum Paint is probably the most powerful Apple IIGS paint program ever designed. Few of us even begin to tap the program's full potential. This article is your first step to becoming a true *Platinum Paint* power user—even if you can't draw!

Two-Fisted Painting

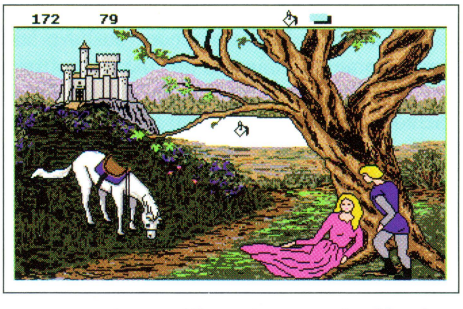
When you start up *Platinum Paint,* it displays its tool palette, its menu bar, and a blank, untitled document. This is a pretty "user-friendly" way to lay out the screen, but it's definitely not the most efficient, since painting on the whole document requires lots of screen scrolling. A faster way to work is to hide the tool palette and use the info bar instead.

To do this, first press OA-Space. This "explodes" your paint document to full-screen. Now press OA-Escape to turn off the menu bar (don't worry, it's easy to get back). Finally, press the letter "I" to activate the Info Bar. The Info Bar appears at the top of the screen, displaying the icon of the tool you're using along with the current background, border, and fill colors. The Info Bar can also display the coordinates of the *Platinum Paint* cursor—press the "#" key (Shift-3) to turn this feature on and off.

When painting in this configuration, you'll be using both hands. Assuming you're right-handed, you'll paint (move the mouse) with your right hand, and change tools and issue commands (using the keyboard) with your left hand. (If you're left-handed, this arrangement will obviously be reversed.) This is what we mean by "two-fisted painting." Staring at a wide-open, palette-less *Platinum Paint* screen may throw you into a state of confusion at first, but you'll soon find it second nature.

The Info Bar contains pull-down menus for tools and colors. Just click and hold the mouse button while pointing at the tool icon on the info bar for tools, or while pointing at the appropriate color (background, border, or fill) in the color sample "swatch." To access *Platinum Paint's* other commands, simply press OA-Escape to turn the menu bar back on, select the desired command, then press OA-Escape again. You can think of OA-Escape as a toggle between the info bar and the menu bar.

Since the scroll bars aren't available in full



screen mode, you'll need to use the Hand to paint other parts of your document. But since you can see more of your document at once, you probably won't need to scroll as often. Just press H to activate the Hand (or select it from the tool menu on the Info Bar).

Platinum Paint has keyboard equivalents for every tool and command, and once you master them, your painting speed will increase by a factor of ten. But you don't have to learn them all, and you certainly don't need to learn them all at once. Consult the "Key Command Reference" in the back of your *Platinum Paint* manual and begin by learning the keys for the tools themselves.

Notice that some keys represent the tool's name (E for Eraser, H for Hand, F for Fill), others represent the way the tool icon looks (/ for line, A for text, ! for dropper), and others represent what the tool does (U for curve—the letter "U" is curved, . for pencil—the pencil draws a one-dot-wide line on the screen). Also notice that the six shape tools (box, oval, etc.) use the Shift key to select filled-in versions of the shape and unshifted keys to select empty (hollow) shapes.

If you're familiar with other IIGS applications, you already know the standard key equivalents for New (OA-N), Open (OA-O), Close (OA-W), Save (OA-S), Quit (OA-Q), Undo (OA-Z), Cut (OA-X), Copy (OA-C), and Paste (OA-V). When you're working with multiple documents, you'll quickly get used to using OA-1 through OA-4 to choose the desired picture.

Other key commands you'll want to memorize right away include OA-F for Fatbits, OA-A for text attributes, and OA-D for Dither Lock (if you work in 640 mode). Also check out the keys which call up frequently-used dialogs; these can save you trips to the menu bar. Particularly useful are OA-; (select brush), OA-E (edit palette), OA-% (edit patterns), and

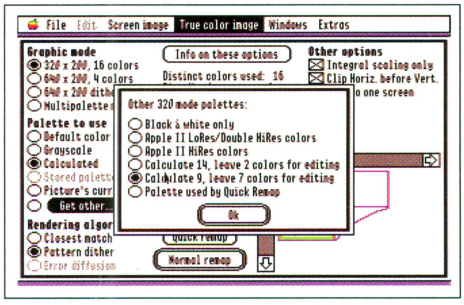
Shift-F (Fill/Range dialog).

Some of those keys may be a bit of a stretch one-handed if your hands are small; the Easy Access program, included with System 6, provides a "Sticky Keys" capability which may help. (The "Sticky Keys" feature is also built into all ROM 03 IIGSs.) Press the Shift key five times to activate Sticky Keys. Thereafter, all the modifier keys (Shift, Control, Option, and OA) "latch" on, so you can type OA-; as OA followed by ";" instead of having to hit both keys together.

Use the keyboard when it saves you time. If you don't use a particular tool very frequently, you won't remember its key, and it'd take more time to look it up than to simply select the desired function from the menu. On the other hand, if you find yourself using a particular function frequently, look up its key equivalent in the manual or on the menu and make a mental note of it. After a while, you'll naturally learn the key equivalents of the functions you use the most.

Working With Scanned Images

If you have a scanner or video digitizer, you may have tried to colorize your grayscale



images using *Platinum Paint's* "Wash" brush method and been somewhat disappointed with the results. Since a *Platinum Paint* document can only have sixteen colors, and since you started out with sixteen shades of gray in the scanned image, you had to throw away some of those shades of gray before you could begin to colorize the image. (Instructions for doing this can be found in the *Platinum Paint 2.0* manual on page 23.) This procedure, however, can reduce the detail of the image and result in some "posterization."

Actually, depending on your needs and the source of the image, you may not need to reduce the number of grays in the scanned image at all. The *Quickie* hand-held scanner outputs only eleven shades of gray (thirteen with the version 3.0 software), leaving five (or three) "spare" colors you can redefine and use elsewhere in the image. To find these colors, call up the Palette dialog (OA-E), then hold down the Option key while you point at each color in the document's palette. Those which don't cause part of the image to flash are not used in the document and can be reused for other purposes. (Be sure to check the entire image before deciding that a color isn't used.)

If you need more colors, or if you're starting with an image that really does use 16 shades of gray, try Seven Hills Software's *SuperConvert.* Among the hundreds of graphics conversions it does, *SuperConvert* can change a sixteen-color image to use only nine or fourteen colors, leaving seven or two colors for your own use. During a remap operation, *Platinum Paint* merely "throws away" the deleted colors and "repaints" the pixels in the closest remaining color. But *SuperConvert* will dither the image so that adjacent pairs of pixels yield approximately the same level of gray. The end result is reduced-palette grayscale images that look almost as good as the original 16-gray image. If you need *lots* of spare colors, *SuperConvert* can even reduce the picture to a dithered black and white image—rather severe, but occasionally useful, especially as a special effect.

Here's the procedure. First, load the original image into *SuperConvert.* Then select "Remap Image" from the True Color Image menu. The image remapping dialog will appear. Under Graphic Mode, make sure that "320 x 200, 16 colors" is selected. Under Palette To Use, click the "Get other" button and select either "Calculate 14," "Calculate 9," or "Black and white only," depending on the number of colors you need to have available. Under Rendering Algorithm, choose "Error Diffusion" if that option is available; otherwise, choose "Pattern Dither." Finally, click "Normal Remap" to begin the remapping process.

If you plan to use one or two spot colors (for text or highlights) in the grayscale image, convert the picture to 14 grays. If you plan to actually colorize parts of the image, convert it to nine grays. The seven "left over" colors can be used to create one, two, or even three ranges of colors appropriate for a wash.

Home On The Range

We've mentioned ranges in connection with the Wash feature, but since ranges are one of the most useful yet least understood features of *Platinum Paint,* we thought we'd step back and take a more generic look at them.

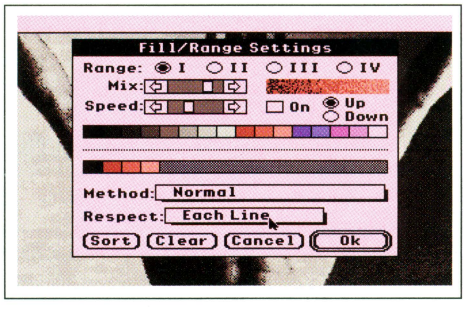
A range is a subset of the document palette—a sub-palette. For example, if you had three shades of red in a document and wanted to create a gradient fill using these three colors, you would put those three colors into a range. *Platinum Paint* documents can contain four ranges at once; however, once you have laid down some paint involving the colors in a range (for example, using the "Wash" brush method or creating a gradient fill), that paint is there permanently. Changing the range after performing one of these operations won't change what you already painted. The only exception to this rule is *Platinum Paint's* color cycling animation feature, which we won't discuss here.

To create a range, you tell *Platinum Paint* which colors from the main palette you want to use in the sub-palette. This is done from the Fill/Range dialog (Shift-F). Select the range you want to edit with the radio buttons at the top of the dialog. Click the Clear button to erase any colors that may already be in the range (assuming they're colors you don't want anymore), then simply click the colors you want to place in the range. *Platinum Paint* copies the colors from the main palette (the top color bar) to the range (the bottom color bar). You may find the "Sort" button useful; it arranges the range in order from darkest to lightest. You can also arrange the range manually by dragging colors around within the bottom color bar, and remove colors from the range by dragging them off the bar. (See page 76 of the *Platinum Paint 2.0* manual for more information on the other options in the Fill/Range dialog.)

Platinum Paint is quite happy to let you put the colors into a range in any order, and you can even put the same color into more than one range, or into a single range more than once. The latter approach is useful for making one color wider than the others in a gradient fill, or for creating a gradient that goes from one color, to a second, and then back to the first. However, for the task at hand (colorizing a grayscale image using the "Wash" brush method), the range should go from darker colors to lighter colors.

So, with this information at hand, we decide to colorize one of our gray-scale scans. We've already run it through *SuperConvert,* so we know it has only nine gray levels, leaving us seven colors. We decide to break these seven colors into three ranges, one (brown) with three colors and the other two (pink and light green) with two colors. (We'll be using them basically as "spot" or highlight colors, leaving the overall image gray. In this case, we'll color in the hair, eyes, and mouth of a hypothetical scan of the author.)

We'll use a trick to add another color to these ranges. Since any really dark color looks black, we won't bother creating dark shades of any of these colors. Instead, using the Palette dialog (OA-E) we'll create a medium-dark value of each color, then create additional colors with increasing brightness. When we create



our range, we'll start with the black we already have in the palette, thereby "stretching" the colors in each of our ranges by one.

The "Wash" brush mode works by taking the color of each pixel the brush passes over, ignoring the color information (retaining only the brightness), and choosing a color from the current range that has approximately the same brightness, in effect replacing one color with another without affecting the underlying image. Simply select the appropriate range (from the Range/Fill dialog or from the tool palette), then the paintbrush tool, then begin

painting. You can also wash an area by selecting it with the marquee or lasso tools and selecting "Wash" from the Color Effects submenu of the Edit menu.

You can make your washes look more realistic by varying the hue of the colors in the range slightly. After washing the colors over the desired areas of the picture, go into the Palette dialog and tweak those colors, making darker colors more intense (increasing their saturation) or giving one of the colors a slightly "off" (warmer or cooler) hue. Light colors used for highlights should tend toward white regardless of their original color. There's also no reason why all the colors in a range should be simply different shades of one color; try using completely different colors for psychedelic effects!

Don't underestimate the artistic impact of colorizing the grays by adjusting the palette after you're all done—drop one unit of red from each of the gray shades for an aqua cast, drop a unit of green for a magenta cast, or drop a unit of blue for a yellow cast. Or drop a unit from red and green for a blue cast, a unit from red and blue for a green cast, or a unit from blue and green for a pink (almost sepia) cast.

With a little experimentation, you'll discover exactly your own personal tricks to give your image a real personality instead of looking like just another colorized scan.

Painting in 640 Mode

As you may be aware, the Apple IIGS has two "super high resolution" graphics modes, referred to as "320 mode" and "640 mode." (Although the IIGS hardware permits you to mix the two modes on the same screen, *Platinum Paint* doesn't support this capability—your entire document is either a 320-mode document or a 640-mode document.) 640 mode is the mode that *AppleWorks GS,* the *Finder, HyperCard,* and other Desktop programs run in. In fact, one of the main reasons you'd want to create a 640-mode picture is for use in *HyperCard* or *HyperStudio* (the latter also accepts 320-mode graphics, but prefers 640 mode for best results).

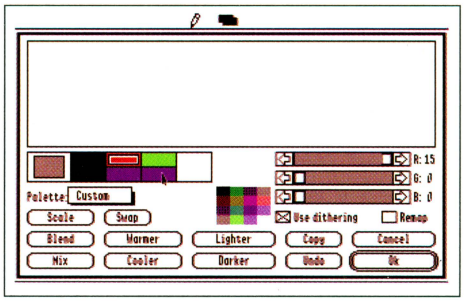
Platinum Paint starts up in 320 mode, so this mode may be more familiar to you. In 320 mode, you have sixteen colors in your palette. Each of these sixteen colors may be assigned any of the 4,096 colors the IIGS can display. In other words, the IIGS can display 4,096 distinct colors, but you can use only sixteen of these colors in a *Platinum Paint* document. Any of the 16 colors you have chosen can be used anywhere in the document.

640 mode doubles the horizontal resolution by splitting each 320-mode pixel in half. Since there are twice the usual number of pixels, you might expect that a 640-mode document requires twice the amount of memory as a 320-mode document.But while 640 mode has twice the number of pixels, it has half the color depth—it supports only four colors, instead of sixteen. Thus, 640 mode has the reputation of being "less colorful" than 320 mode.

But all is not quite as it seems. Due to the way the Apple's video circuitry works (combined with some characteristics of video monitors and the human optical system), the 640 mode also supports "dithered" colors. That is, two different-colored pixels right next to each other will seem to "blend." A red pixel next to a blue pixel, for example, will appear to be magenta or purple. Since there are four colors, there are 4 x 4 (or 16) possible color combinations. So, while you can only directly specify four colors, the IIGS creates additional colors, which are dependent on the original colors, via this dithering scheme—for a total of sixteen. (A discussion of dithering as it relates to the palette is on pages 92-93 of the v2.0 manual.)

Remember that computer colors (including *Platinum Paint's*) are additive, like light—not subtractive like paints. Putting a red pixel next to a green one will yield a yellow color, not a muddy brown as it would if you were mixing pigments.

To further complicate things, 640 mode actually uses two separate "mini-palettes" of four colors, one for even pixels and one for odd pixels. The result is that if you have a color—say, red—in the even mini-palette but not in the odd mini-palette, you can't draw a true red on the screen. It will necessarily be dithered with some color from the odd palette. If there's not a color close to red (or a shade of



gray) in the odd palette, you may not even see a color that looks even a little like a true red in the main palette.

Because the dithered colors are mixes of two other colors instead of being pure colors, they usually don't look as "clean" as the pure colors. For example, if you have a purple that's a dithered mixture of red and blue, single-pixel-wide vertical lines will come out either red or blue—you must paint two pixels wide to get the purple. Similarly, the edges of shapes you draw may display a red or blue fringe.

There's a partial remedy for this. Decide what the most single most important color in your document is, and set up that color in both the even and odd palettes. This will allow you to use that color on any pixel in the document, even or odd, and will give you a "pure" version of the color in the main palette (since the color is present in both the even and odd palettes). While it does reduce the number of colors in the overall palette (since you now have dithered versions of the two identical colors with both black and white), it can greatly improve the picture's appearance.

For example, suppose you decide that blue is the most important color in your image. Leaving black and white alone (since you'll need them for shading), enter the Palette dialog (OA-E) and copy the blue color to the yellow square (click the yellow square, then the "Copy" button, then the blue square). Now check the dithered palette—you now have not only a *true* shade of blue, which looks just like the one you created in the mini-palette, but also dark (mixed with black) and light (mixed with white) shades of this blue. Of course, you also have mixtures of green with blue (aquamarine), red with blue (magenta), and red with green (yellow), along with light and dark shades of red and green, plus a couple of grays. All in all a much more useful selection of colors for actually creating *art* than what we started with.

If you're feeling adventurous, try changing one of the blue squares to a darker shade—say half its current value. While the two shades of blue dithered together are no longer a "true" color, they're close enough for most purposes, and you now have two additional shades of blue generated by dithering black and white with this darker blue hue.

While you can change the black and white squares to different colors, *Platinum Paint* automatically changes those two colors in both the even and odd mini-palettes at once. It works that way primarily for the benefit of displaying text, which is usually black on white and therefore requires black and white in both mini-palettes to avoid weird color fringing. In most cases, you'll want to leave black and white alone, since the shades created by mixing them with the other colors in the palette are useful.

Platinum Paint's Dither Lock feature (OA-D) is useful for making sure that your dithered colors always turn out right. When Dither Lock is on, *Platinum Paint* forces the tools to always draw lines that are a multiple of two pixels wide. While this eliminates the fringing effect we mentioned earlier, it also reduces your document's horizontal resolution to an effective 320 pixels. Thus, when painting in black, white, or your "pure color," you should turn Dither Lock off to use the mode's full resolution. Turn Dither Lock on when painting with a dithered color, or when using the Fatbits or Fill tools. (When Dither Lock is off, the Fill tool will see any color with white in it as having lots of holes in it and will fill right "through" a line or an area drawn in such a color.)

In Conclusion

This article doesn't have a real end—it's only the beginning of what you can do with *Platinum Paint.* Send us your *Platinum Paint* creations (or even those created with other paint programs) on a disk—starting with the next issue, we'll run an "Art Gallery" featuring your best Apple II art! ■

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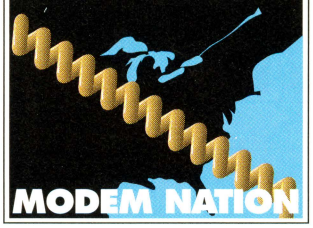


Making Your First Call

by Jerry Kindall

Okay, now you have a modem and telecommunications software. You've got it all hooked up, you've configured the software and the serial card or port, and you've snagged the number of a BBS you can call. It's just about time for your first online session. Before we get to that, though, there are a few other knowledge nuggets we should impart. Remember, it's better to be forewarned than four-armed. Or something like that.

LOCALLY SPEAKING

The first piece of the puzzle is your telecommunications software, also known as terminal software, telecomm software, or simply comm software. Your telecommunications software's main job is displaying the information that arrives at the computer's serial port on the screen and sending whatever you type back out through the serial port. A program which performs only this task is called a dumb terminal, because it provides only the bare minimum functionality. (There's actually a dumb terminal program built into the firmware of the IIc, the IIGS, and the Super Serial card, which technically will allow you to get online even if you don't have telecommunications software, although it isn't very much fun.)

Your telecommunications software, like any computer program, has its own set of commands and options. Most telecomm programs use the Open-Apple key in conjunction with a letter or a number to activate the program's various features (some also permit the use of a mouse, if you have one). This scheme allows the program to distinguish between commands you are issuing to the telecomm software itself and keystrokes that should be sent to your modem.

For now, you can ignore virtually all your telcomm software's features except for the ones which allow you to set the serial port's communication parameters (baud rate, data bits, parity, stop bits, etc.), along with the software's "dial a phone number" and "hang up the phone" features. Most telecomm software has a "phone book" feature which keeps track of the phone number and serial parameters of each BBS you call.

You may be worried about baud rate, parity, data bits, duplex, and other arcana. All you really need to know, however, is the baud rate of the modem you're calling and the magic incantation 8-N-1. Set your telecomm program's baud rate to the highest baud rate that your modem and the modem you are calling have in common. For example, if you have a 2400 BPS modem but are calling a 1200 BPS modem, you'll connect at 1200 baud.

8-N-1 means 8 data bits, no parity, and one stop bit. Those are the most common data bit, parity, and stop bit settings in the world of telecommunications, and not coincidentally, they're also the default settings for these parameters in most telecomm programs. For 99.44% of your calls you won't need to worry about parity, data bits, or stop bits, and when you do encounter a BBS which requires different settings, the proper settings will be made abundantly clear—for example, 7-E-1, which means seven data bits, even parity, and one stop bit.

Duplex is equally simple. About 90% of the systems you will call require full duplex. (The major exception to this rule is the GEnie information service.) Therefore, when you're not sure what duplex to use, simply use full duplex—90% of the time you'll be right. If, when you get online, the keys you press are not visible on your screen, switch to half duplex. Some programs offer one or more additional duplex modes, but you'll probably never use them. (Full duplex is also sometimes called "host echo" or "local echo off." Half duplex is sometimes called "local echo" or "local echo on"—local means *your* computer. The computer you're calling is known as the remote machine, or the host.)

The final item which may cause you some consternation is which terminal emulation you should use. For now, select "None" or "Teletype" or "TTY." This tells your telecommunications software to simply put everything that comes in over the modem onto the screen,

Enter A System:

System Name: Pro-Quality
System Number: 1-313-774-2652
Baud Rate: 2400 Connect Time: 45
Save System As: QUALITY

Edit System Parms:

Name: Pro-Quality
Number: 1-313-774-2652
Baud Rate: 2400 Data Format: 8N1 Duplex: Full
Break Time: 50/100 Flow Off: Flow On:
Emulate: No Emulation Answerback:
Delete Key: Emulate Backspace: Emulate Status Bar: Yes
Connect Time: 45 Filename: PTD.QUALITY

Note: You only need to enter the system name (Pro-Quality) and phone number in the original Enter A System dialog. ProTERM's defaults (shown above) are OK for calling the Pro-Quality BBS. Simply click the Save button to accept them.

Figure 1

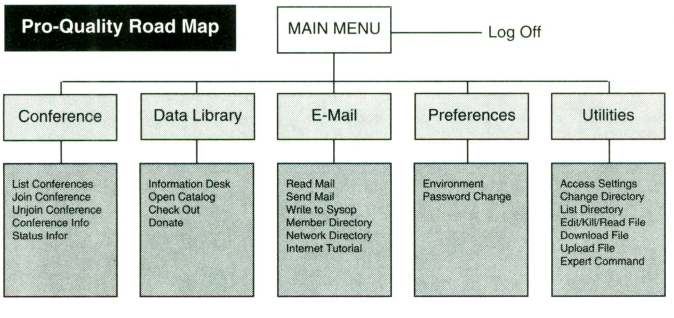


Figure 2

without interpreting any of the data as commands. While terminal emulations have their uses, we'll leave a complete discussion of their applications for another day. See Figure 1 for a sample of how the ProTERM 3.0 dialer entry for calling the Quality Computers BBS looks.

GENERAL HAYES

In between your computer and the computer you're calling are two modems. You don't have any control over the other computer's modem, but you do have quite a bit of control over your own. As we mentioned in the last installment of this column, Hayes-compatible modems speak a language in which every word begins with the letters AT, short for "attention." (Talking to a modem is very much like talking to someone with a very short attention span, who won't pay attention to anything you say unless you preface every sentence with "Achtung, baby!")

Usually, your telecommunications software will take care of talking Hayesian to your modem. However, it's smart to learn a little Hayesian yourself so you understand what's going on. The most frequently used modem command is, without a doubt, ATD. The "AT" is of course for "attention," and the D means "dial." Follow this with a phone number and a press of the Return key, and your modem will dial the specified number and wait for a modem to answer. You can put a P between ATD and the number to force pulse (rotary) dialing, or T to force Touch Tone® dialing)

If a connection is successfully negotiated, you'll get a CONNECT message followed by the baud rate of the connection, as in CONNECT 2400. (CONNECT by itself means 300 baud—a message you're not too likely to see these days.) If the line is busy, you'll get a BUSY message. If your modem doesn't detect another modem within thirty seconds, you'll get a NO CARRIER message.

How do you send such a command to your modem? Simply put your communications software into a state where everything you type is sent directly to the modem. Some telecomm software is always in this state; others, like ProTERM, require you to specifically instruct the program to make this connection. To enter the direct mode with ProTERM, press Option-T or Solid-Apple-T. Then, assuming your modem isn't already online with another modem, just type the command and press Return. In case you hadn't guessed, this is exactly what your communications software does for you when you tell it to dial a number.

Once you have connected with another modem, your modem stops listening to commands entirely and begins passing everything you type through the phone line. This presents a small dilemma: how do you send your modem a command when you're online? (Why would you want to? To tell the modem to hang up, for one thing!) The answer is to make sure you've waited at least a second since you've last typed something, type three plus signs (+++) very quickly, then wait another second. Your modem says OK and is ready to accept a command, but is still connected to the other modem.

The command to hang up your modem is ATH (Attention, Hang up). If you type ATH and press Return, you'll end the connection with the other modem. This is considered rather rude, generally, and is only used when you can't end the call cleanly using the BBS's "Hang Up" command. If you decide, after hitting +++, that you want to stay online, enter ATO (Attention, Online) and press Return, and you will be returned to your connection, already in progress. (The three plus signs you hit, by the way, do get transmitted through the phone line, and may show up on your screen when you go back online.)

When your modem is ready to receive commands, it is said to be in the "command state." When your modem is connected to another modem and is transmitting everything you send it, it is said to be in the "online state." You use ATD or ATO to go from the command state to the online state, and you use +++ to go from the online state to the command state.

While modern telecommunications software virtually eliminates the need to memorize Hayes commands, a basic knowledge of how your modem works leads to a greater understanding of what is going on "behind the scenes" when you're online, and that will help you immeasurably in the long run. Your modem probably came with a reference manual which explains all the AT commands in great detail; it makes great light reading for those summer beach outings. (Admittedly, my idea of light reading is a little bizarre.) When you come across something you don't understand, just skip it for now, and just try to get a feel for the ways in which your modem can be configured and operated via AT commands.

REMOTE CONTROL

Okay, you've configured your communications software, set up an entry in its phone book for the BBS you're going to dial (or steeled yourself to enter an ATD command if necessary). You've mind-melded with your modem. You are now ready to go online—more than that, you're psyched.

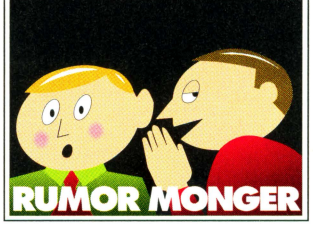
While your communications software and your modem are pretty easy to get your mind around, BBS software can be considerably more difficult. The reason is simple. You're probably always going to be using the same telecomm software and modem, but you may find yourself dealing with different BBS software every time you call a new system. And sysops are extremely fond of modifying their systems, so even if a new BBS is running software you've used before, that's no guarantee you'll find the landscape at all familiar.

Nevertheless, there are some things you can expect when calling a BBS for the first time. After the CONNECT message, you'll probably see a message announcing the name of the BBS along with some brief instructions for logging on. Read these instructions carefully. Usually they will tell you what a new user of the BBS, like you, needs to do to get an account on the system—normally typing "new" or "register" at the User ID prompt.

When you request a new account, the system will proceed to ask you for your name, along with (usually) your address and phone number. Don't worry; the sysop will keep this information private. The information is needed to ensure that you are applying for an account for legitimate reasons. (Sysops are occasionally plagued with annoying, abusive, and sometimes downright evil people, and he naturally wants to keep them off the system.) Some BBSs will also ask you what kind of computer you use, how old you are (to determine whether to allow you into any adult areas on the system), how wide and tall your screen is (answer 80 and 23, respectively), and a few other questions.

You may also be asked to choose an alias. Some sysops prefer that callers use their real names; others allow users to use an assumed name. I was well known as "Pink Freud" on several Columbus, Ohio BBSs for a while. Unless you like confusion, choose one alias and stick with it. You'll also need a password—choose one that's easy to remember, but not easy to guess, and try to use a different one for each BBS you call. (That seems like a pain now, but most telecomm programs can automate your login, so you won't need to worry yourself with mundane concerns like passwords.) If someone else finds out your password, they can log on and read your private mail, and, worse, make you seem to say all sorts of embarrassing things. So keep your passwords secret.

continued on page 62



► *Keeping our ear to the wall (and keeping a fresh supply of batteries for our hearing aid on hand), we print only the freshest gossip. If there's not enough gossip, we make some up! As always, the Rumormonger reserves the right to be dead wrong. Like Scientology, this column is for entertainment purposes only. If you take it seriously, you deserve the spectre of L. Ron Hubbard that haunts you!*

ASTRONOMY DOMINE

Robert Gage of Alamagordo, NM called to let us know we'd made a mistake in our last Rumormonger column when we said that "The Rumormonger reserves the right to be dead wrong, like those 900 astronomy numbers." Gage is an amateur astronomer and rightly pointed out that we should have said "astrology" (which, in fact, we did in the first issue). Astronomy is a science; astrology is not. However, what Gage didn't know is that the Rumormonger had made a $20 bet with a coworker that nobody ever reads those little introductory things we put with all our columns, and had sneaked in the "astronomy" reference to prove the point. Looks like the Rumormonger was "dead wrong"—and is out twenty bucks.

SYSTEM 6.01 ON THE WAY

According to our Radio Shack Executive Decision Maker (see previous issue), IIGS System 6.01 should be released late this fall, give or take a few months. System 6.01 will contain keyboard navigation for the Finder, an MS-DOS read-only File System Translator, and a driver for the new Apple II Ethernet card. Don't get too excited about the MS-DOS; you'll need special disk drives (either a high-density drive connected to an Apple FDHD Controller or a "floptical" drive connected to a SCSI card) to read MS-DOS disks. Standard Apple 3.5 drives are physically incapable of reading the MFM encoding of MS-DOS. One also hopes that a driver for the StyleWriter II is forthcoming, but our sources haven't said anything about it. There will also be a host of bug fixes. There are only two major bugs that directly affect the user in the current System 6—one in the Find File NDA and one in the Shutdown sound event; the rest will affect mainly programmers.

This may be the last System Software update to be released for the IIGS, although rumors of a version 6.1 are also making themselves heard. How many companies would continue releasing new System Software for a machine they recently discontinued? For this, at least, Apple deserves some credit.

APPLE TECH SUPPORT

Apple is considering an Apple II repair center, much like their current PowerBook repair center, for mail-in service of Apple II computers and peripherals. They already have technical support via telephone for all of their products, including the Apple II. When the Rumormonger called and told them my dealer didn't even know there was an Apple II without the word Mac in it, they were glad to help, and their answer was even correct! If you have a question about an Apple product, call 1-800-SOS-APPLE.

A VERITABLE RENAISSANCE

La Puente, CA is shaking and quaking with rumors of a new combination *Deliverance/-Renaissance* program. Combining the programs will allow *Renaissance* to run integrity checks and perform any necessary repairs before attempting to optimize your drive. (Corrupted directories and other "soft errors" can really mess up an optimizer.) Furthermore, the new version will be faster and will allow you to interrupt the optimization process and continue it later. Vitesse has hired a new programmer to accelerate the release of the better, stronger, and faster program. Look for it sometime before 1994.

CV TECH MOVES ON

CV Technologies (manufacturer of the RamFAST/SCSI card and the GS Memory card) is no longer offering technical support on their Apple II products. Their tech support phone number is connected to an answering machine which tells callers to contact their dealer for technical support. They will still repair Apple II products, but if you send it in when nothing's wrong with the card, you'll be charged a $25 bench fee. So what are they doing now? Evidently working on peripherals for MS-DOS machines.

APPLE EXPO

Apple Expo West was a humble success, with the emphasis on "humble." While there were plenty of Apple II exhibitors, attendance was a little thin ("over 5,000," according to Event Specialists, but most exhibitors were expecting closer to 15,000). Some attendees told the Rumormonger that downtown San Francisco was a bad place to have such an Expo these days for various reasons—another Bay Area site may have been better. A radio report we overheard warning people to "stay away from Downtown" on Sunday (a parade was scheduled) may have also dampened the proceedings. Apple had planned to have a booth but did not, though several Apple employees did show upon their own time.

Apple Expo East returns to Boston's Park Plaza Castle on October 1 for another three-day run. (This is the site of the very first AppleFest all those years ago.) Traditionally, Boston shows have had fewer exhibitors than San Francisco shows, but have drawn more attendees. While there will be no Apple Expo Central in Kansas City this summer, there's talk of an Apple Expo in Austin, TX sometime in the future. ■

SYSTEM 6 BONUS

"Quality Computers' System 6 Bonus Pack...the most cost-effective way to add value and fun to your Apple IIGS."

—The AppleWorks Educator

#1 BEST SELLER

Bonus Pack

FlashBoot. What is faster than a speeding disk drive? A RAM disk. FlashBoot lets you automatically set up a super-fast, super-convenient RAM disk.

The Apple II Enhancement Guide. This handy little book is packed with information to help you upgrade your Apple II. It covers RAM, hard drives, accelerators, the Finder, and more.

Clip Art. We're throwing in over 100 beautiful clip art images, perfect for desktop publishing or hypermedia applications.

Clip Sounds. Because the IIGS's sound capacity is so great, we're also including over 50 digitized sound files. Some are classics while some are the newest on the market. They go great in HyperStudio and other sound programs, or you can have music playing in the background while you work.

Icons. Over 50 fun, useful icons.

Desk Accessories. Just to give you more to choose from, we're giving you several handy desk accessories including: Enhanced Calculator, Scrapbook, Games, and more.

Fonts. Using the same font for everything is very un-cool, so our Bonus Pack includes over 30 display and text fonts.

VIDEO. Our 1-hour video takes you from installation of System 6 to moving through the Finder with speed and agility.

System 6

StyleWriter printer support.

Macintosh, Apple DOS 3.3, and Apple Pascal disk support.

A completely redesigned Finder—faster, friendlier, and more powerful than ever before.

The Finder can be set to avoid grinding your 5.25" drives.

When the computer asks you to insert a disk it needs, you no longer have to hit Return—the computer detects it automatically.

The screen no longer switches to text mode and back to graphics when launching some Desktop programs.

New music tools and applications to allow new programs to sound even better.

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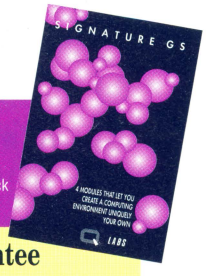
Universal Access features for physically handicapped users.

More tools for programmers to write great programs.

Simpler and faster hard drive installation.

Great documentation.

Get Signature for only **$19.95** when you buy the System 6 Bonus Pack (Reg. $29.95)



You get System 6, The QC Bonus Pack, FlashBoot, The Apple II Enhancement Guide, the video and complete documentation for only

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System 6 Video only.....29.95
Bonus Pack only.....59.95

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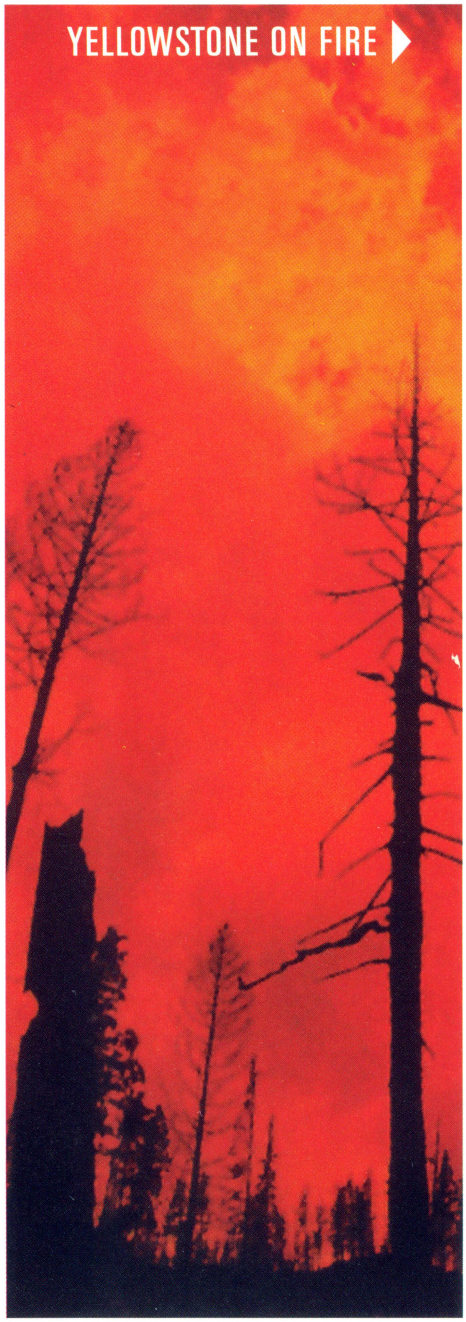
Playing With Fire

by Mike Westerfield



In the summer of 1988, Yellowstone National Park burned. This wasn't your average forest fire, a few dozen of which spring up throughout the American West every year—this was the forest fire equivalent of a big California earthquake.

Forest fires have, in recent years, been fought aggressively and largely successfully. But forest fires do a lot of useful things, like clearing brush and promoting some kinds or growth, and the fires had a lot of work to catch up on. Realizing this, the powers-that-be decided to let naturally occurring fires burn naturally, as long as they didn't endanger certain things. So when Yellowstone finally burned, it was quite a blaze.

I remember watching the TV news reports, listening to the inevitable fruitcakes on either end of the issue. "Never put out a fire," some harped, while others thought it was a travesty to allow one tree to burn, not realizing that some of those trees literally can't get started without a fire to open the pine cones or clear an open space. I guess any issue draws its share of fanatics.

The interesting arguments came from the middle, though, just like they usually do. Some of these people pointed out that fires as big as the Yellowstone fire, while uncommon, do occur naturally. These folks even pointed to strong evidence that Yellowstone had actually seen several fires as big as the 1988 fire, some relatively recently.

HOW FIRES BURN

TV news channels get criticized a lot for trying to simplify every issue to sound bites, but I saw something that really impressed me in a TV report on the Yellowstone blaze.

Most pictures of forest fires show walls of fire sweeping through the forest or dense smoke rolling across the landscape. I've seen charred stretches from small forest fires from up close, too, and the blackened remains are pretty awe-inspiring. This particular picture, though, sprang from the arguments about how bad the fire really was. It was a map of the burned area, showing what had really burned. I expected big, solid swaths of scorched earth. Instead, I saw a delicate lacework of unburned areas peppered through the burned area.

I was surprised by that image, but I was even more surprised when I saw the same sort of thing in a book—especially since the book was *The Mathematical Tourist.* Here I was, innocently reading about cellular automata, when I stumbled across a small picture of a forest fire. It turns out that a very simple computer simulation shows the same lacework pattern of a real forest fire.

THE FOREST FIRE SIMULATION

Imagine the world as a giant checkerboard. Each square is filled with trees, brush, and perhaps a squirrel or two. Then a fire starts in one of the squares. How does it spread?

One simple way to model the fire is to pick a probability, say .51, that the fire will burn the square to the north. You do the same thing with the squares to the east, south and west. We'll assume for now that the fire will burn for one unit of time, whatever that happens to be. Once a square is burned, it can't burn again, and only a burning square can ignite another square. We'll also ignore the fact that a real forest fire can leap from place to place via burning debris carried aloft by the thermals from the fire. We'll sweep all the streams, hills, wind and variation in the kinds of growth under the rug for now, too. Our forest is a very simple one, with no messy outside influences. It's an idealized, laboratory version of a forest.

I used the 320 mode screen from the Apple IIGS to show my simulation, so I picked a forest size of 320 x 200 squares. That turned out to work pretty well, although the arrays used in the program are rather large. The simulation starts with all of the squares green with forest growth, except for the central square, which is red with fire. On each iteration, the program starts by making a copy of the array, then sweeps through the copy looking for

burning cells. When it finds one, it looks at the cell to the top, left, right and bottom of the burning cell. If any of them have not been burned, a random number between 0.0 and 1.0 is generated, and if the result is less than a constant called spread, the cell is lit on fire. The last step is to change the cell that was burning to gray, and record it as scorched earth, so it won't burn again. You can see the program in Listing 1.

Pick values for the random number seed and for spread, then run the program, and you get a very good simulation of a forest fire. If the value for spread is high, pretty much everything burns, and you get a classic "wall of fire." If spread is too low, the fire goes out quickly. In one of those surprising quirks of mathematics, the critical probability seems to be 0.5—anything less, and the fire generally goes out, while anything higher generally creates a fire that spreads indefinitely.

Figure 1 shows a pretty dense fire. I used ORCA/Pascal 2.0, a probability of 0.55, and a random number seed of $A5C3. You see the fire after 140 iterations. It's still burning very nicely, and looks like it will keep on burning until it runs out of forest.

But look in the middle. Even in this dense fire, there are patches of unburned forest all over the place. Those areas aren't going to burn, either—they are surrounded by a natural buffer of burned ground that keeps the fire at bay. In a real forest, these areas will be a major source of seeds for regrowth.

Drop the probability to 0.50, and use the same seed, and you get Figure 2. This fire was still burning after 150 iterations, but it moved a lot slower, and only a few sites are burning actively.

The pictures are interesting, and maybe even pretty in an abstract way. Running the program gives you a whole different view, though. You can see the actual dynamics of the fire, which are even more interesting than the result depicted here.

Those classic walls of fire really do sweep across the landscape, even in this simple simulation. When you run the program, you'll see lines of four or five cells suddenly light afire, and sweep across several cells before the wall breaks up into smaller fires. Imagine being on the ground in front of a wall of fire like that!

I also watched relatively small pockets of fire surround a large area of forest, with only a cell or two inside the pocket left burning. Then, completely surrounded, the entire region would would catch fire, devastating anything trapped in the pocket. It reminded me of stories I've heard of trapped firefighters struggling to find a safe area until they could be rescued.

FIGURE 1

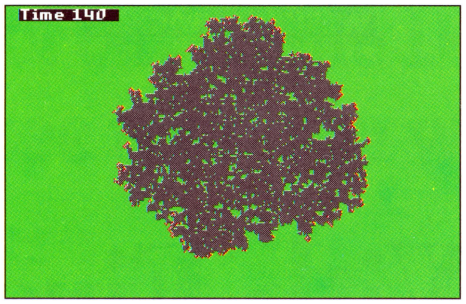


FIGURE 2

LISTING 1

```
{$keep 'ff'}
{$optimize 1}
{$memorymodel 1}

program ForestFire (input, output);

uses Common, QuickDrawII;

label 1;

const
   screenWidth = 320;
   screenHeight = 200;
   iterations = 150;

   livingColor = 10;
   burningColor = 7;
   deadColor = 1;

   spread = 0.54;

type
   states = (living, dead, burning);

var
   cell, lastCell: packed array [1..screenWidth, 1..screenHeight] of states;
   allDead: boolean;
   time: 0..iterations;

procedure Plot (x, y: integer; c: states);

{ plot a colored point }

begin
case c of
   living: SetSolidPenPat(livingColor);
   burning: SetSolidPenPat(burningColor);
   dead: SetSolidPenPat(deadColor);
   end; {case}
MoveTo(x, y);
LineTo(x, y);
end;

procedure Setup;

{ set up the initial forest }

var
   x, y: integer;
   r: rect;

begin
for x := 1 to screenWidth do
   for y := 1 to screenHeight do
      cell[x, y] := living;
GetPortRect(r);
SetSolidPenPat(livingColor);
PaintRect(r);
end;

procedure StartFire;

{ start the fire }

var
   x, y: integer;

begin
```

ACCURACY VS. USEFULNESS

OK, so it's a pretty picture. But I ignored all sorts of things. The simulation doesn't deal with wind, temperature drops at night, firefighters, streams, hills... what good can it be?

But stop and think about how scientists really work. Biologists, in particular, work very hard to find ways to take a complicated system and find out what the effect of one factor is. We've done that. We've shown that the delicate lacework of burned and unburned areas in a real forest fire doesn't depend on wind, rain, streams, firefighters, or anything else. Simple chance explains it all.

Of course, that doesn't mean that all of these other things aren't important, but this simple model can be beefed up. Make the probability of lighting a cell to the right higher, and the probability of lighting one to the left lower, and you have wind. Let the fire burn longer in a particular cell, and lower the probability that it will light an adjacent cell, and you have smoldering fire. In fact, all of the factors we ignored could be put back into the simulation. The result would be a system almost as complex as the real forest, though, and you would never know what the effect of one factor is on the whole system.

Sure, you can't use something like this to plan a specific campaign against a forest fire. But there's a lot to be learned even from this simple simulation. Or you can just make pretty pictures. That's fun, too.

```
x := screenWidth div 2;
y := screenHeight div 2;
cell[x, y] := burning;
Plot(x, y, burning);
allDead := false;

Seed($5AC3);
end;

procedure Burn;

{ burn for one unit of time }

var
   x, y: integer;

begin
allDead := true;
lastCell := cell;
for x := 2 to screenWidth-1 do
   for y := 2 to screenHeight-1 do
      if lastCell[x, y] >= burning then begin
         allDead := false;
         if lastCell[x, y-1] = living then
            if abs(Random) < spread then begin
               cell[x, y-1] := burning;
               Plot(x, y-1, burning);
               end; {if}
         if lastCell[x+1, y] = living then
            if abs(Random) < spread then begin
               cell[x+1, y] := burning;
               Plot(x+1, y, burning);
               end; {if}
         if lastCell[x, y+1] = living then
            if abs(Random) < spread then begin
               cell[x, y+1] := burning;
               Plot(x, y+1, burning);
               end; {if}
         if lastCell[x-1, y] = living then
            if abs(Random) < spread then begin
               cell[x-1, y] := burning;
               Plot(x-1, y, burning);
               end; {if}
         cell[x, y] := dead;
         Plot(x, y, dead);
         end; {if}
end;


begin
Startgraph(320);
PenNormal;

Setup;
StartFire;
for time := 1 to iterations do begin
   MoveTo(10, 10);
   writeln('Time ', time:1, '  ');
   Burn;
   if allDead then
      goto 1;
   end;

1:
MoveTo(10, 20);
writeln('Press RETURN to exit.');
readln;

EndGraph;
end.
```

USING OTHER LANGUAGES

The program in Listing 1 runs under ORCA/Pascal 2.0 on an Apple IIGS. The program uses two arrays, and each array gobbles up 128,000 bytes of memory. You could move this program to other computers, even to an 8-bit Apple II, but converting the program won't be as simple as typing it in.

If you're going to work with a computer with less memory, start by combining the two arrays into a single array. You'll need more states, but it will work. Instead of just living, dead, and burning, you'll need something like wasLiving, wasDead, wasBurning, nowLiving, nowDead and nowBurning. Each cell will have to do double-duty, holding both the original state at the start of the iteration and the new state that you are working on. Another tactic is to actually read the color of a point on the screen to get the original state. In any case, it will take a little work, and run slower, but you can cram this simulation into a lot less space if you need to.

FOR MORE INFORMATION...

This simulation comes from a field of mathematics called cellular automata. It's an amazingly diverse field, and it's also an area where computers can be used by amateurs to play with and even solve some very interesting problems. It's tempting to think that this simulation is somehow unique, and that you'll never run across cellular automation again, but you probably already have. John Conway's classic game of Life—those little spots that spread across your computer screen—is the most famous example of cellular automation in personal computing circles. But once you start digging, there are plenty more.

If you'd like to learn more about this simulation, Life, or any of their interesting cousins, I'd suggest starting with the book I found this simulation in. It's *The Mathematical Tourist: Snapshots of Modern Mathematics,* Ivars Peterson, W. H. Freeman and Company, 1988. One chapter is devoted to forest fire simulations, and gives even more references if you find something specific you're interested in. ■

AN INTERVIEW WITH MORGAN DAVIS

by Jerry Kindall

You can't compare the Apple II to past computers to gauge its direction because there's never been anything like the Apple II before. No machine has lasted this long. The Apple II has an active group of hobbyists and small developers to keep the innovations coming, yet there's still a commercial market.

With a suite of high-quality telecommunications and development tools, the Morgan Davis Group has been quietly building a reputation as a class act. If the name Morgan Davis isn't exactly a household word yet, it's probably because of the company's "niche" approach to product development and its reliance on word of mouth and direct mail to promote its wares. Yet the company continues to prosper, and its customers hold Davis' name synonymous with support.

II ALIVE: How did you get involved with computers in general and the Apple II in particular?

DAVIS: I was introduced to the Apple II+ in 1982. A senior in high school, not very math-minded, I really didn't think I would get along with computers. After playing a few adventure games and fiddling with BASIC, however, I was hooked. I spent the next year saving money from odd jobs. By the time I had enough to get my own computer, Apple had released the Apple IIe, and I bought one.

Throughout my years in college, it was a struggle to concentrate on my school work. I was torn between finishing inane COBOL and Pascal assignments, and working on my own Apple II projects, which were typically more complex, not to mention more interesting, than what we were doing in class.

Meanwhile, I had a job with a local computer book publisher, CompuSoft. My job was to research the BASIC for various personal computers and rewrite a manuscript about learning BASIC for that particular computer. I got exposed to plenty of computers, and I was one of the first to get my hands on the original Macintosh in 1984, at a time when they were very difficult to find because of demand. That was the best experience I could ask for.

I decided not to return to SDSU for what would have been my final year. Instead, I went to work for Optimum Management Systems for my first real programming job. Our $6,000 product ran on an Apple IIe and had the potential to be a fixture in every McDonald's in the world. Plans were made to tailor the software for other major chain stores, like 7-11. But I wasn't savvy in the ways of big business, and the head of our company wasn't either. A year or two later, the company folded.

A friend who'd worked with me at OMS and I started a little company producing shareware,

a revolutionary concept at the time. We named the company Living Legends Software. The name was a kind of joke. We were hoping to make a living; we'd settle for becoming legendary later. The most successful titles, it turned out, were my *ModemWorks* and *ProLine* products.

I spent the next few years moonlighting for various companies such as United Software Industries and FTL Games. I also co-authored two books on programming the Apple IIGS toolbox for Compute! Publications, an astronomical project that took a year and a half and weighed in at over 1,000 pages.

In 1988, my lifelong dream to work for Beagle Bros came true. The company had embarked on an extremely ambitious Macintosh product, code-named Cheetah, to dethrone Microsoft *Works*. The Cheetah team consisted of Beagle's Apple II programmers, none of whom had even worked on a Macintosh, let alone programmed one. Yet we forged ahead in hopes of completing the *Works*-killer within the projected eight-month development time. It's a long, sad, tortuous story that, as we all know, doesn't have a happy ending. I was one of the last Cheetah team members left when I was cut in 1990.

II ALIVE: How long has MDG been in operation? What made you decide it was time to start your own business? Who, exactly, besides yourself, comprises the "group" of the company's name?

DAVIS: Interest in Living Legends Software was plumetting, and I needed my own platform from which to better support and market my *ModemWorks* and *ProLine* packages. So I started MDG on Valentine's Day, 1989. The "group" initially was my wife, Dawn, and I, but today it's really just me, myself, and I. MDG has a couple of products that we publish for other programmers, though, so there is a group of sorts behind the name.

After Beagle Bros, I decided to really get serious and make MDG my focus of attention. Dawn and I decided to give it a try for a few months to see if it would keep us alive. If it did, great. If not, I'd look for work elsewhere. It hasn't been easy, but we made it work.

II ALIVE: Your best-known product is *ProLine,* a BBS which recently received high marks both in this publication and in inCider/A+. Can you tell us a little about the evolution and current capabilities of *ProLine*?

DAVIS: I began work on *ProLine* in 1984 because there weren't any BBS packages that supported the modem I had, the Novation Apple Cat II. ProLine was patterned after *Online,* a BBS written by Bill Blue for Southwestern Data Systems (today known as Roger Wagner Publishing). Bill also wrote the original *ASCII Express* terminal program. It was called *ProLine* because it was essentially an Online-like BBS that ran under ProDOS.

After a year of fiddling, *ProLine* looked nothing like *Online* and had assumed its current UNIX-like design. It enjoyed rudimentary networking with a UNIX computer run by Bill Blue. *ProLine,* known today for its Internet networking, was, in fact the first microcomputer BBS ever to actually connect to a UNIX computer. Now *ProLine* BBSs connect to a vast information network that spans the world, making it perhaps the single most valuable software product you can run on an Apple IIe or IIGS.

II ALIVE: *ProLine* is written largely in Applesoft BASIC, and most of your development utilities are designed to extend the capabilities of Applesoft or make Applesoft development easier. A lot of programmers look down their noses at Applesoft, and at BASIC in general — what are they not seeing?

DAVIS: Applesoft was a respectable language when I started *ProLine.* The alternatives at the time were 6502 assembly language or Apple's UCSD Pascal. Pascal was never accepted as a standard working environment, and 6502 involved gruelling work to create even the most minor features, and also made end-user customization impractical.

The fact that I've virtually built a company on an Applesoft-based product is a statement on Applesoft's viability. Like any programming language, what you produce with it decides whether or not it is viable.

Applesoft is not respected today simply because of the innovations we've seen in programming languages. It's not so much what programmers don't see in Applesoft, it's more like what they see in other languages that they don't see in Applesoft. Ten years ago, there wasn't much of a choice. Today, if you have a IIGS, you have a number of languages to choose from.

II ALIVE: I understand that *ProLine* has grown so large that many of the programming tools published by MDG were created specifically to help you cope with the continued development of *ProLine*!

DAVIS: Yes, *MD-BASIC* (our structured Applesoft source code translator), *ModemWorks* (our communications toolbox), and *RADE* (the Real-time Applesoft Debugging Environment) all were created to help with *ProLine.* Like all of our products, they filled a personal need which later evolved into professional, commercial software. All of our products began as real, useful solutions — not something dreamed up in a boardroom to generate profit.

II ALIVE: Plenty of larger companies have abandoned the Apple II because they thought there was no longer money to be made in the market. Why is MDG still developing Apple II products when so many other companies have stopped?

DAVIS: I'm hopelessly addicted to the Apple II. But I'm open minded enough to have an interest and appreciation for other machines, too. As long as I can support my family by selling Apple II software, I'll keep doing it.

What differentiates MDG from larger corporations is that I'm doing what I do because, first, I enjoy it, and second, it's sustenance. Big companies do what they do because of their need to expand, to grow. Enjoyment and sustenance are not in the MBA vocabulary.

Also, the people who use Apple II computers are just plain friendly, and I enjoy supplying them with products and service that makes using their computers fun, exciting, and productive.

II ALIVE: What other programs does MDG produce?

DAVIS: Our *Object Module Manager* (OMM) makes it easy to add new commands to Applesoft. It also lets you manage multiple modules in memory, and the modules can integrate and communicate with each other. I also developed *VirusMD,* a fast, reliable virus scanning and repair utility for the entire Apple II series.

II ALIVE: Do you have any products for non-Apple II machines?

DAVIS: We have a few products for Macintosh and UNIX computers, too. *MiniScreen* effectively reduces the size of a big monitor to mimic a Mac with a smaller monitor. *Powerless,* a shutdown scheduling utility, lets you schedule your Mac to turn itself (and its monitor) off at a particular time. Our *µMDSS* gateway software allows Unix machines to become hosts for personal computers, like the Apple II running ProLine, in order to exchange e-mail and Internet news groups.

I still feel like I'm cutting my teeth on the Mac, so I'm intentionally focusing on small projects. That was Beagle's big mistake. They should have been trying to create *Utility City*-sized programs for the Mac.

II ALIVE: Do you have any new products in the works?

DAVIS: We just recently released *MD-BASIC* 2.0 for the IIGS, a project that consumed about nine months of my time, a couple of months ago. I don't have any new Apple II projects going right now. There will be an upgrade for both *ProLine* and *ModemWorks* later this year, with a number of enhancements that I'm not prepared to announce at this time.

II ALIVE: What is your impression of the state of the Apple II market right now?

DAVIS: It's in a state of suspended animation—like a coma. It's neither dead nor alive, yet it exists. It's been like this for the last four years or so. Really, that's neither bad nor good. The view of the Apple II market held by some medium-to-large companies is rather dismal, because it doesn't compare to the wildly lucrative Mac and PC markets. My perspective is more optimistic, because I still derive pleasure and sustenance from developing Apple II software.

The future is tough to predict. You can't compare the Apple II to past computers to gauge its direction because there's never been anything like the Apple II before. No machine has lasted this long. The Apple II has an active group of hobbyists and small developers to keep the innovations coming, yet there's still a commercial market.

II ALIVE: A lot of your products seem to be aimed at a very small audience. In fact, a traditional publisher might say that the market you're selling to simply doesn't exist. What makes these products profitable for MDG? Is it difficult to market these products? How do you let the people who might be interested in such products know about them?

DAVIS: It exists, all right. I'm realistic about our resources and what we can do with them. It would be foolish for MDG to attempt a mass-market product like a word processor. Not only is there the cost in bringing one to market, you also have the competition with other companies which are already well-entrenched. MDG has adopted a sharpshooter's approach. Instead of hitting a broad target with a shotgun, we service many vertical niche markets with unique, professional solutions that satisfy a precise need.

Our flagship product is a telecommunication product, so what better marketing tools than a modem and accounts on information services? Or access to the Internet? My presence online keeps me in touch with our customers, which is more important now than ever before. It's inexpensive, highly responsive to customer needs, and very successful. Our service is as much a part of the total product as the software. I'm proud to say that we have a lot of very happy and satisfied customers.

More traditional marketing approaches are required as we add other types of products to our lineup. We've started *Groupnews,* a newsletter we publish year-round to reach customers who aren't online. We've had a good relationship with the Apple II press and feed our contacts with new product announcements for coverage in magazines.

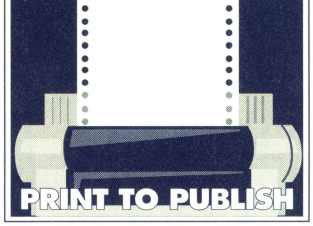
II ALIVE: When you look back at MDG's history, are there any moments that stand out as being the most difficult? What accomplishment or moment are you most proud of? Would you change anything?

DAVIS: Since I have so many hats to wear, scheduling my time is a major exercise in self-management. It's frustrating to decide where I need to invest my energies. The software development part of the business is my favorite part, but I can't do that all the time!

Before MDG, the thing that bothered me most was having to go from one company to another after they fell apart. When Beagle collapsed, it affected me so deeply that I vowed to never put myself in the hands of anyone who has such complete control over my future. I've turned down a number of job offers, some even from Apple, for this very reason.

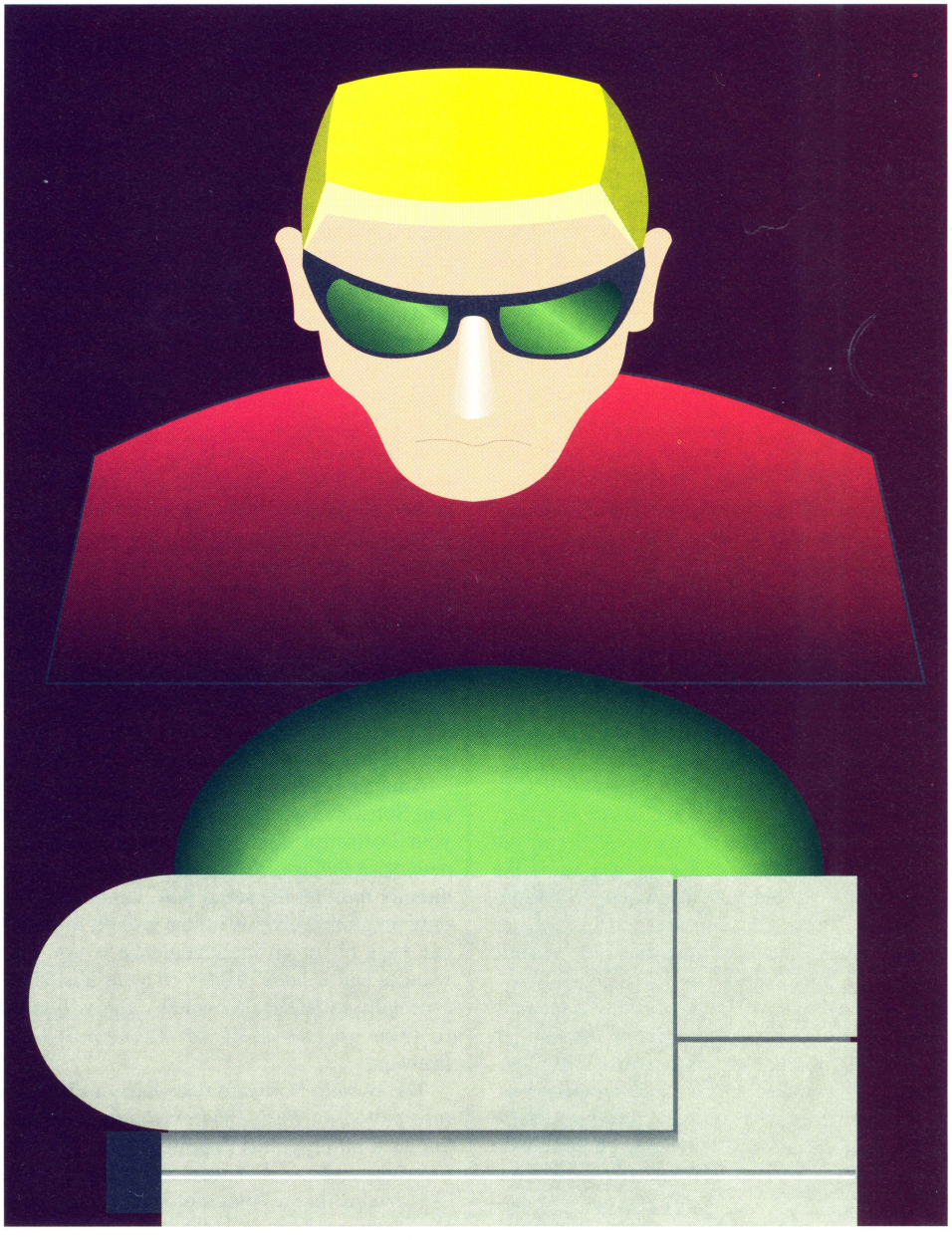
If I could change anything, I would have started MDG much earlier, when I was in a better financial position to risk it. I often wonder where I would be today had I started MDG five years earlier, when the Apple II market was still bustling.

What am I proud of? I always draw a blank on that question. I've already mentioned the support, but really there's nothing in MDG that I regard with total satisfaction, because I keep thinking of the stuff that still needs to be done or that could be improved. I say to myself, "When I finish this next product, then I'll have something to relish." But when that time comes, there's always another milestone to be reached. ■



Printing with Coherent Light

by Bill Carver



When someone starts talking about "the ultimate printer," laser printers always come to mind. Traditionally, these printers have been out of the financial reach of most home users, but recent price reductions and technological improvements have made laser printers more attractive in the Apple II market.

The main advantages of laser printers are high resolution and speed. But with inkjets on the scene, laser printers are no longer alone in their resolution advantage, and that leaves speed as the laser printer's primary advantage. Is it worth several hundred dollars for faster printouts? We'll present the facts and leave the decision to you.

HOW A LASER PRINTER WORKS

Laser printers use xerographic technology—the same technology used in most photocopiers. The process, surprisingly, relies largely on static electricity to do its job. The print drum is given an overall negative charge by a "corona wire." Using a system of lenses and mirrors, a laser beam is directed across the drum, creating positively-charged regions. These regions pick up negatively-charged toner, a mixture of carbon black and small plastic particles. The drum then comes in contact with the paper, which has been given a stronger positive charge than the drum, and the toner is transferred to the paper. Finally, the paper is pressed between heated pressure rollers, which melt the plastic in the toner and fuse it permanently to the page.

Most of the printing elements are inside the toner cartridge—the part of the laser printer which you replace when the print starts to get light. Only the laser (and its associated mirrors and lenses) and the paper rollers are outside the cartridge. Since most of the print elements are replaced with the toner cartridge, you don't have to worry as much about parts breaking down. For all of the seemingly complex theory behind the scenes, modern laser printers are actually rather simple and reliable.

POSTSCRIPT, I LOVE YOU

Laser printers come in two main flavors: Postscript and non-Postscript. (There are various types of non-Postscript laser printers, but we'll save those for later.) As a rule, Postscript printers are $200-$500 more expensive than non-Postscript printers. What's the difference?

Laser printers are, in essence, smart printers. They have their own microprocessors, their own memory, and sometimes their own hard drives. Postscript is a programming language that is specifically designed for creating print-

ed output on a laser printer. When you print a document on a Postscript laser printer, the computer first converts your document to a Postscript program. This program is downloaded to the laser printer and executed by the printer's microprocessor, resulting in a printed page. You can also write your own Postscript programs if you care to—laser printer guru Don Lancaster is very fond of this approach, and still uses AppleWriter on an Apple IIe to do the job—but most people prefer to design their documents using a word processor or page layout program and let the computer do the dirty work.

Postscript supports font scaling, which means that when you're printing with Postscript fonts, you can print at virtually any type size and the resulting text will be smooth. (See "Font Frenzy" in the March/April issue for more details on the advantages of scalable fonts.) Graphics can be made equally scalable if they're created as objects using a draw program. (Paint programs create bitmap images, which cannot be enlarged smoothly; draw programs create complicated designs built from simple shapes, such as boxes, circles, lines, and curves.)

Furthermore, Postscript printers are all compatible. The same Postscript file that can be printed on a 300-DPI LaserWriter can be printed on an Linotype imagesetter with four times the laser printer's resolution and it will look essentially the same. (Better, of course, because of the imagesetter's higher resolution, but the document will remain unchanged.)

The final Postscript advantage, of course, is speed. The computer can send a page to the printer and let the printer's microprocessor deal with it, freeing the computer for other tasks. You can also upgrade a Postscript laser printer to make it faster—the Xante Accel-A-Writer board increases the speed of an Apple LaserWriter II while doubling its resolution.

I mentioned above that there are also non-Postscript laser printers. Some of Apple's laser printers don't contain a Postscript brain, but instead rely on your main computer to do the work of converting your document to a laser-printable form. These printers are known as QuickDraw printers, because that's the graphic "language" the computer uses internally.

Hewlett-Packard laser printers also have their own page-description language, though it's not as popular (or as powerful) as Postscript. (HP printers can also include Postscript, or have it added as a separate cartridge.) These printers, too, demand that your computer do most of the work before anything can be printed. However, they're ideal for printing text—like a regular line printer—and are very quick in that application. Several other manufacturers also make HP-compatible laser printers.

THE POSTSCRIPT ADVANTAGE?

It might seem that Postscript laser printers have so many advantages over other laser printers that you should go ahead and drop the extra bucks for a Postscript printer. Not so fast. While Postscript is a fine thing to have in a heavy-duty desktop publishing studio, its power may be wasted when the printer is connected to your trusty Apple II. The reason is the frankly lousy support Apple's printer drivers give Postscript printers.

Drivers, as you may recall, are the System Software's way of interfacing between application programs like AppleWorks GS and the printer itself. When you print an AppleWorks GS document to a Postscript laser printer, Apple's LaserWriter driver, included with the System Software, does the job of translating the document into Postscript. And this driver is the weak link.

The biggest problem is that the driver doesn't automatically download fonts to the printer. (The printer contains several built-in fonts, including the well-known Times, Helvetica, and Courier.) On the Mac, if you print a document that contains a font that's not in the printer, the driver looks for a Postscript version of the font in your System Folder and downloads it to the printer automatically. (If a Postscript version is not found, the Mac looks for a TrueType version and, finally, downloads a bitmap version if nothing else is available.)

The IIGS driver does not do this. It only uses the printer's built-in fonts, period. Furthermore, the IIGS driver does not know which screen fonts correspond to which Postscript fonts, so even if you download fonts to the printer's hard drive using a Macintosh utility, the IIGS still won't use them. Instead, the IIGS downloads a bitmap version of the font (at standard ImageWriter resolution) or simply tells the printer to use the default font, Courier. As you can imagine, this leaves you staring at your printouts saying, "How much did I pay for this printer again?"

Another blow is the fact that the IIGS System Software, at least, requires you to connect your Postscript laser printer to an AppleTalk network. (*Publish It!* will talk to a laser printer directly through the serial port, though it's the only program we know of that will do so.) This can be a bit of an inconvenience if you just want to put a laser printer on your system—especially to ROM 01 owners, who will need to take up two slots for the AppleTalk firmware.

The System Software does have a nice feature called an *ImageWriter emulator* which allows 8-bit programs to print to a laser printer on a network as if it were an ImageWriter. This means that a Postscript laser printer is at least compatible with older existing software, although it won't give you significantly better print quality than an ImageWriter. But for IIGS-specific programs, a Postscript laser printer is almost a complete waste of time—unless, of course, you plan to use the printer on a Macintosh, too.

QuickDraw laser printers (basically any laser printer made by Apple that doesn't have Postscript) are not supported on the Apple IIGS by any drivers that we know of, either from Apple or a third party. So scratch them off the list.

Hewlett-Packard and HP-compatible laser printers are the only viable choice. These printers can be connected to the Apple II using basically the same interfacing and software we discussed in the previous installment of this column for HP inkjet printers (a serial or parallel card—parallel preferred on the IIGS—along with *Harmonie* and *Pointless* for IIGS programs and *SuperPatch* if you use AppleWorks).

However, with the HP-compatible laser printers, we're back to relying on the computer to do the imaging. This means that the higher speed of the laser printer will be bottlenecked by the speed at which the computer can prepare the data and pump it to the printer. Accelerators, buffers, and parallel cards can help alleviate this problem, but it still narrows the speed margin between inkjet and laser printers considerably. You may find that an inkjet printer meets your needs better.

Hewlett-Packard's "resolution enhancement" feature can, however, make your printouts look better than they might have on an inkjet printer, so for the combination of increased speed and slightly better resolution, you may elect to connect a Hewlett-Packard LaserJet (or compatible) printer to your IIGS.

THE RIGHT PRINTER

There is, of course, no "right printer" for everyone. If you print a lot of mailing labels, a pin-feed dot-matrix printer is probably the most cost-effective solution both in terms of initial outlay and operating costs. A multi-user network featuring both Macintosh and Apple II machines may choose a Postscript laser printer. A heavy-duty desktop publishing studio, like the one we have here at *II Alive*, may choose something like the LaserMaster Unity 1200XL, a top-of-the-line laser printer with 1200 DPI resolution, Hewlett-Packard and Postscript support, 20 MB RAM, and a quick RISC processor. The trick is in evaluating your needs and your budget and choosing a printer you can afford that does most of the things you want it to do.

In the next installment of this series we'll start taking a look at what you can do to make your documents look better right at the source—before they even reach the printer. After all, as they say: Garbage in, garbage out. ■

ADVERTISER INDEX

STICKY KEYS

continued from page 20

the divider in place while pulling the divider off the front.

Take the divider and the top and bottom cases to the sink and toss them in. Wash the key caps, cases and divider using the toothbrush or nailbrush. Rinse them thoroughly, then let them dry face up. (The back of the key caps are a great place for water to collect.) When they're dry, you're ready to reassemble the keyboard.

Get your C-shaped wires. There are three sizes: one long one for the spacebar, five medium-size ones for the Shift, Return, Enter, and Zero keys, and two small ones for the Control and Apple keys. Attach the wires to the key caps; they just slide into two small slots on the underside of the key cap. Press those key caps back into place, making sure that both of the U-shaped clamps on the keyboard grab the C-shaped wire. You may need to use your flatblade screwdriver to help. Test the keys; they should move freely and return to a full upright position. If not, pull off the cap and try again. Replace the Reset key following the same procedure.

Now put the rest of the key caps back on. Don't force them; they go on much more easily than they come off, and only fit two ways—right side up and upside down. They won't fit sideways. The number keys on the keypad don't have punctuation marks on them. The letter "I" doesn't have a serif, while the 1 key does. Examine the curvature of the key caps; this should help you tell the difference between the left and right arrow keys from the up and down arrow keys.

Now put the divider back into the keyboard; it just snaps into place and only fits one way. Put the keyboard back into the bottom case, front edge first, making sure that the four tabs along the front edge of the keyboard fit into the slots in the case. The back edge of the keyboard should fit snugly when it is lowered into the case. Replace the top case over the Reset key.

While holding everything together, turn the keyboard over and replace the three Phillips screws. Don't forget the washers—they distribute the pressure of the screws and prevent the case from cracking.

Congratulations! Your keyboard should look, feel, and work like new. Turn on the power and test it out!


PREVIEW ONLY
Works 4.0

TAKING OFF THE WRAPS

BY JOSEPH SELUR

AppleWorks owns the Apple II integrated software market—so much so that no publisher would be so foolish as to introduce a new integrated package that competes head-to-head with it. AppleWorks 3.0, commissioned in 1988 by Claris and programmed by Beagle Bros associates Alan Bird, Randy Brandt, and Rob Renstrom seemed to be the ultimate incarnation of AppleWorks—literally. After all, the 3.0 upgrade had added every major new feature AppleWorks users had been clamoring for. At the time, it seemed impossible to add any more new features because everything, including the kitchen sink, had already been added!

But times change. Not only were bugs found in AppleWorks 3.0, but users of the program, always pushing the envelope, continued to demand improvements. Brandt and others continued to innovate new AppleWorks add-ons, most of which were published by Beagle Bros or Brandt's own company, JEM Software. Inevitably, Brandt began to have ideas about what he could do if he could just get Claris to let him at AppleWorks one more time. Visions of AppleWorks 4.0 danced in his head, but without the resources of a major backer, it remained a dream.

After developing a new version of *UltraMacros* and moving it back under the Beagle Bros umbrella, Brandt approached the new owner of Beagle Bros' Apple II division, Quality Computers president Joe Gleason, with his ideas for AppleWorks 4.0. Since every new product needs a cool code name, Brandt coined the working title "Quadriga." (A quadriga is a four-horse Roman chariot of the style seen in Ben Hur.) Gleason immediately grasped the project's potential to revitalize the Apple II market. After much discussion about the exact feature set of the upgrade, Brandt and Gleason agreed the time was right for action, and programming work began.

> AppleWorks veteran Randy Brandt is spearheading the most extensive AppleWorks upgrade ever. The release of this product, code named Quadriga, is scheduled for this fall.

What about Claris? "We've decided to publish Quadriga as an independent upgrade, without Claris support," says Gleason. "Obviously, we can't call it AppleWorks 4.0. We're still playing with alternative names. But there's definitely no legal conflict in publishing a massive enhancement disk—like a TimeOut application on steroids—which adds tons of new features to a customer's existing AppleWorks 3.0 disk. It will literally be like getting a whole new program from a user standpoint."

That includes not just new software, but also a new manual and a videotape demonstrating Quadriga's new features. "A videotape is the next best thing to having an expert right beside you," says Gleason, who opened QVISION, Quality's video production facility, specifically for projects like this one.

The new features themselves are so numerous that it takes a separate sidebar to hold them all (see "Quadriga Specifications.") And that's not the complete list. New features are being added almost daily—sometimes being removed just as quickly if they don't work out. While the exact feature set is currently in a state of flux—Brandt expects to "freeze" the program's new features at the end of June and start concentrating on fixing bugs reported by testers—upgraders can expect not just the kitchen sink this time, but several other household plumbing fixtures as well.

If Quadriga can be described in one word, that word would probably be "bigger." The program features three Desktops, allowing a

total of 36 files to be loaded at once (compared to twelve with AppleWorks 3.0's single Desktop). Five printers can be defined (increased from three). The Data Base supports 60 categories instead of 30, and 30 reports instead of 20. The Spreadsheet has more formulas. And that just scratches the surface.

Yet Quadriga will remain true to the Appleworks spirit conceived by the program's original author, Robert Lissner. Menus will remain easy to navigate; commands will continue to be simple-to-remember Apple-key combinations; help will still be available with a single keypress. Integration, always the program's strong suit, will become tighter than ever with new features to allow the word processor to access data base files, the spreadsheet to access other spreadsheet files, and the data base to access word processor, data base, and spreadsheet files.

For example, Quadriga will allow users to create a data base of names and addresses, then "link" the data base with a word processor file. Using the glossary function, Quadriga can look up and import an address directly into the current word processing document. While AppleWorks 3.0 can do this now, after a fashion, it requires actually switching to the data base and copying the desired record to the clipboard, then reformatting the text in the word processor. With Quadriga, the step of switching to the data base is unnecessary (since the Word Processor can access it directly), and a user-specified template determines how the incoming information should be formatted. Similar enhancements allow the data base to import categories from other data bases (and cells from spreadsheets) and to export information to other data bases, providing the data base module with relational capabilities. Spreadsheets can refer to cells in other spreadsheets.

For example, Quadriga will allow users to create a data base of names and addresses, then "link" the data base with a word processor file.

Increasing the program's friendliness is also a prime concern—one requiring careful thinking to make sure each change really makes the already-friendly program easier to use. "Some of the things we're doing are things that should have been part of AppleWorks from the very beginning," says Brandt. "For example, ever since the first version of AppleWorks, you've had to remember to sort your data base before printing a report. If you don't, your group totals can come out wrong. Now the program can remember what order you used for each of your reports and will automatically sort the data base for you. It's the way people expect it to work, and now it works that way."

That's only one way that Quadriga will improve Appleworks' ease of use. The Spreadsheet, for example, now features a pop-up list of functions so users don't have to remember arcane codes like "@SUM" when entering formulas. The Word Processor uses distinctive symbols for formatting codes (instead of just carets) so boldface and underline can be recognized at a glance, instead of requiring the cursor to be on the formatting code to read it. The "Change Disk" menu allows users to display disk names by pressing OA-? instead of requiring them to know what slot and drive their data disk is in. "Add Files" displays text files and automatically loads them as word processor files instead of requiring users to go to a separate "New File" menu. The Word Processor lets you see and edit tab rulers right in the document. "More 'what-you-see-is-what-you-get' is a big priority," states Brandt.

The program is also more expandable than ever. Alan Bird's TimeOut and Brandt's Init Manager are integral parts of Quadriga, making installing new patches and accessories easier than ever.

Other major features planned for the Quadriga upgrade include built-in support for Hewlett-Packard's popular Deskjet printers, faster display and finds in the data base, split-screen capability in the word processor, and date math functions in the spreadsheet. The data base will have improved import and export facilities for exchanging data with other computers, and will feature spreadsheet-style formulas in calculated fields. A global auto-save feature, available in all AppleWorks modules, will protect users' work from power failures; and a QuickPath menu will let users set up a menu of their most frequently-used directories.

While AppleWorks power users may recognize some of these features from various existing AppleWorks enhancements—*Total Control, Triple Desktop,* and *CelLink,* to name just a few—Brandt stresses that all of the features gleaned from such programs have been significantly improved for Quadriga. "*Total Control* has an import feature for the data base, but it doesn't has an export feature for posting results back to other files. That's new. And the three Desktops in Quadriga are significantly more integrated than *Triple Desktop.* With Quadriga, the three Desktops are really more like three file folders on a single Desktop—the relational features work between two files, even if they're on different Desktops. Even if you already have every AppleWorks enhancement under the sun, Quadriga has new features you will appreciate."

The program is also more expandable than ever. Alan Bird's TimeOut and Brandt's Init Manager are integral parts of Quadriga, making installing new patches and accessories easier than ever. In fact, there's a new option in the "Other Activities" menu which will allow users to install most such enhancements without even leaving AppleWorks. Quadriga also includes a playback-only version of Brandt's *UltraMacros*, allowing everyone to use pre-programmed macro sets. Such sets will be available directly from the TimeOut menu. "You'll still need *UltraMacros* to record and compile your own macros, though," Brandt notes.

This expandability throws the door wide open for third-party AppleWorks enhancements. To write TimeOut applications or AppleWorks Inits, programmers must use assembly language. But with *UltraMacros*, developers (and users, too) can, in a fraction of the time required for assembly programming, create all kinds of applications that use AppleWorks as a platform to do their work. That's always been possible, but in the past, developers had to license a run-time version of *UltraMacros* (or assume their users would have their own copy). Now, with Quadriga, every AppleWorks user can run third-party *UltraMacros* programs (also known as TAPL—short for "The AppleWorks Programming Language"—programs).

Only two programmers are involved in the Quadriga project—Brandt himself and his longtime associate Dan Verkade, author of TimeOut ReportWriter and TimeOut Grammar. After his work on AppleWorks 3.0 and enhancements such as Outliner, Total Control, and *UltraMacros 4,* Brandt feels comfortable tackling the project with a minimal team. "It's a big project," admits Brandt, "and I think of something new I want to add every day. But

Dan and I have been working with AppleWorks for so long we can practically recite the source code. I've had plenty of time to think about the features I wanted to add and how they could be added. I think the biggest problem is going to be resisting the temptation to keep adding more features at the last minute!"

The "small team" concept is nothing new—AppleWorks 3.0 was completed with only three programmers, and the original AppleWorks was programmed primarily by one person. "The more people you have working on a project, the more effort it takes just to keep things organized," explains Brandt. "Nobody knows what anyone else is doing, everything has to be approved from the top, and there's no potential for brainstorming. Everything takes forever." Gleason concurs, and adds, "Randy's one of the best. I'd rather have two experts—like him and Dan—working on the project than a team of twenty programmers who were only moderately familiar with AppleWorks."

Support of Quadriga will be handled by Quality Computers, which is in the process of expanding its technical support department in anticipation of the upgrade's release. "One of the things that really bothered me about AppleWorks 3.0," says Brandt, "is that it never really got the support it deserved. There are well-documented bugs in that program even after all this time. It's inevitable that in a project of that size, some bugs will slip through the testing procedures, but they should have been fixed as soon as they were discovered." Brandt has beefed up the Quadriga testing team to help prevent a recurrence of this problem, and intends to keep on top of anomalies reported in the release version. "That was never possible with AppleWorks 3.0. Once we'd delivered the product, that was that. Our contract with Claris was over. Mark Munz, who wasn't even directly involved with the project, felt so badly about it that he talked Beagle Bros into releasing a free patch disk to fix some of the problems, although it wasn't really Beagle's responsibility to fix them." That won't be necessary with Quadriga, Brandt says—users can count on regular updates to fix any unexpected problems they discover.

Asked about the possibility of upgrades past Quadriga, Gleason was optimistic. "If Quadriga is a hit, I can definitely see another such upgrade at some time in the future." Brandt agrees. "I'm open to the possibility. I've already got a list of AppleWorks 5.0 ideas, so I hope we have a good response to this project so I can justify another upgrade down the road. But for now, I'm concentrating on Quadriga."

Gleason and Brandt promise an October 1 release. "We're on track," says Brandt, who is confident that the deadline is well within the reach of the Quadriga team. Gleason agrees. "Quadriga will set the new standard for Apple II integrated software and will bring AppleWorks solidly into the '90s." ■

QUADRIGA SPECIFICATIONS

"Solid Feature" list—other features subject to change
Compiled by Randy Brandt, May, 1993

System
- Compatible with 128K RAM 6502-based IIe or better (IIc, IIc+, IIGS)
- 256K RAM and 65C02 recommended (required for use of macro player)
- TimeOut, Init Manager, and UltraMacros player built in
- 3.5" and 5.25" versions

Desktop
- Three desktops allow loading up to 36 files
- "Add files to Desktop" lists up to 255 files instead of 170
- "Add files" lists text files and automatically converts them to word processor files
- "Add to clipboard" option allows you to append material to the clipboard
- Independent clipboards for Word Processor, Database, and Spreadsheet modules
- Disk and file copying included in Other Activities
- Auto-save feature saves files after a preset number of minutes
- Five printers may be defined instead of three
- Support for Hewlett-Packard DeskJet printers built-in
- QuickPath feature allows you to choose from a pre-defined list of pathnames
- "Change disk" menu shows volume names when OA-? is pressed

Data Base
- 60 categories per record instead of 30
- 30 reports per file instead of 20
- Selection rules can be imported from a report format
- Faster display on large files when selection rules are active
- Lightning-fast finds in sorted categories (binary search)
- Reports automatically sorted before printing
- Date categories support years from 1000 AD to 9999 AD
- Export/import character-delimited text files for transfer to other programs
- Formulas allow spreadsheet-style calculations in data base files
- Categories can be imported from other data base and spreadsheet files and exported to other data base files

Word Processor
- Split-screen lets you view one part of a file while working elsewhere
- Improved mail-merge & find options
- Distinct symbols for formatting options (instead of all carets)
- New glossary feature allows easy entry of addresses and other info from data bases

Spreadsheet
- Spreadsheet formulas can refer to cells in other spreadsheets
- Date math features make it easier to calculate the number of days between two dates
- Titles can be defined to be printed at the top of each page
- New find option allows searches for numbers and formulas by rows or columns
- Pop-up list allows choosing functions from a menu
- New functions include ALERT, DATE, FIND, JOIN, LC, LEN, MID, TEXT, UC, VAL

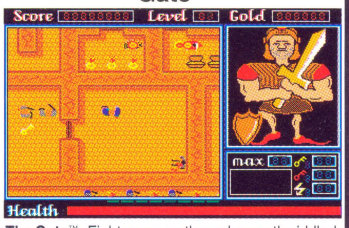
UltraMacros
- UltraMacros run-time (playback-only) features built in
- UltraMacros programs selectable from TimeOut menu
- Full-featured Checkbook application included as sample program

Exclusive Source for the Best IIGS Programs

Out of This World™

Out of this World™: HIGHEST RATED GAME EVER by Computer Game Review! Using the new technology of polygonal graphics, *Out of this World* is a masterpiece in action/adventure games. Hurtled through space and time by a nuclear experiment gone wrong you must blend logic and skill to survive the alien land. **Order product number IP60 for only $49.95.**

Gate™

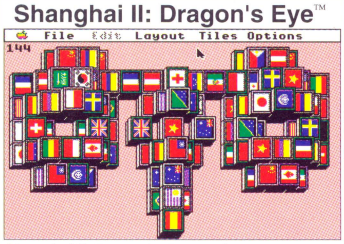


The Gate™: Fight your way through a castle riddled with mazes to save a bewitched kingdom. Battle against ghosts, magicians, snakes and other evil monsters. You'll need to use your head to solve the puzzles and your agility to conquer the action. Nintendo type action for the IIGS. It earned InCider's Editors' Choice award. **Order product number SV71 for only $30.**

Dungeon Master™

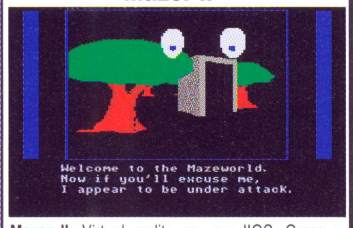
Dungeon Master™: Step into the world of Dungeon Master and see fantasy come to life. This game puts you inside the most detailed dungeon ever created. You see a 3-D view of the dungeon. Monsters appear in the distance and are hard to see until they approach the light provided by your torch. There are lots of riddles to solve and monsters to defeat. **Product number FT50 for $25.**

Shanghai II: Dragon's Eye™



Shanghai II: Dragon's Eye™: Shanghai II gives you 8 beautifully detailed tile sets, over a dozen different layouts, animated tilesets and over 100 sound effects. Several ways to play - Solitaire, Challenge & Tournament. Beyond all this there is the interactive version of the Dragon's Eye, a special challenge for superior Shanghai players. **Order product number BR92 for $49.95.**

Mazer II™



Mazer II: Virtual reality on your IIGS. Cross a fantasy adventure with a flight simulator, then add a great deal more of something unexpected, and you have Mazer II. Enter a world of continuous movement with real-time point-of-view graphics for arcade action plus adventure. Requires 1.25 Megs and System 5.0 or higher. **Order FF50 for $25**

Other Great Apple IIGS Programs

Title	Price	Title	Price	Title	Price
Mindscape		*Micro Revelations*		*Econ Technologies*	
Balance of Power 1990	$20	Xenocide	$23	Auto Ark	$28
Captain Blood	$20	*JaDa Graphics*		*DreamWorld Software*	
Deja Vu I	$15	Basic Paint	$45	DreamGrafix	$59
Shadowgate	$15	*Activision*		*Westcode Software*	
Electronic Arts		GBA Basketball	$20	Pointless	$42
Bard's Tale I	$20	Hacker II	$20	InWords	$78
Bard's Tale II	$20	The Last Ninja	$20	*Lawrence Productions*	
Cartooners	$15	PaintWorks Gold	$39	The Lost Tribe	$39
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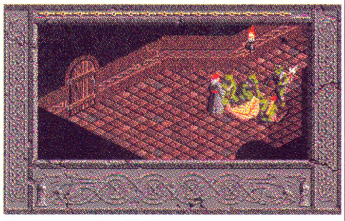

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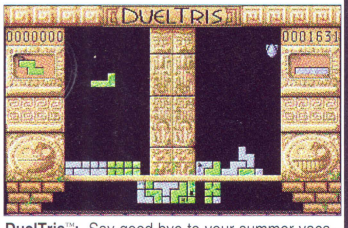

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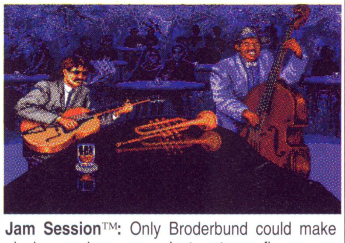

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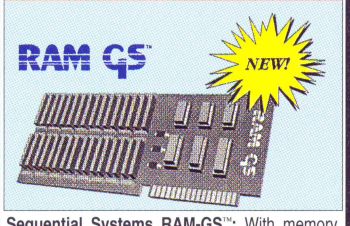

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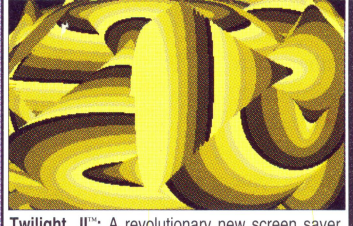

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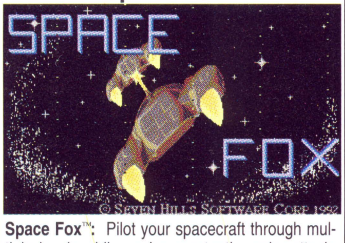

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Switched-On HyperStudio

by Bill Lynn

Most of us take our computers for granted. We've become adept at using the mouse and we've mastered the art of typing. Few of us really stop to think how complex these skills really are—so try these simple experiments. Close both of your hands into tight fists with your thumbs on the inside and type your name. Next, using only the side of your head, use the mouse to pull down a menu in the menu bar. Finally, launch a program by puffing your cheeks.

You've just experienced a little of the frustration that people with severe physical disabilities face in controlling a computer. The keyboard and mouse are virtually useless if you lack the motor control and coordination necessary to operate them. Fortunately, the benefits of computers for people with physical disabilities were recognized more than a decade ago. Today, a number of adaptive peripheral devices exist to provide computer access for individuals with severe physical limitations. One of the simplest and least expensive of these devices is the switch interface.

Switches are available in a wide variety of shapes and sizes. In the field of assistive technology, switches play an important role in providing an interface between someone with severely limited motor skills and the devices that individual wishes to control, including a computer.

Regardless of how little controlled movement an individual exhibits, it's likely that a switch can be fabricated to provide control of the computer. Switches can be mounted at any angle so that a variety of body parts and movements can be used to operate them. Other switches can be operated by sipping or puffing on a small plastic tube. Still others can be operated by raising an eyebrow, blinking an eye, or flexing a muscle. Any of these types of switches can be used to control specialized software.

THE SWITCH INTERFACE

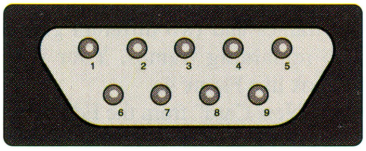
The Apple II Switch Interface is available from Don Johnston Developmental Equipment, Inc. and many other companies which specialize in adaptive computer access. The device is also very simple to make yourself, if you're handy with a soldering iron. Here are the parts you'll need.

Qty.	Description	Radio Shack Catalog No.
1	DB-9 cable with male connectors	
2	1/8" female open-frame headphone jacks	274-251
1	470 ohm resistor	271-019
1	Plastic box w/aluminum cover	270-230
1	Strips of SuperLock fasteners	64-2336

Tools required include a soldering iron and solder, wire cutters, Phillips screwdriver, masking tape, drill with 1/4" bit, and a continuity tester or ohmmeter.

Start with the standard DB-9 cable. You can purchase one at your local electronics or computer supply outlet (ask for a CGA monitor cable) or cannibalize the cord from an old joystick. Make sure the 9-pin connector is of the male type, with pins rather than sockets. Cut the cable 12" from the connector end and strip the insulation back about 4" to expose the nine individual wires inside. You'll need to strip 1/2" of insulation from each of the nine wires as well. Use a continuity tester or ohmmeter to locate the wires that connect to pins 1, 2, 3 and 7. Use small pieces of tape to label these wires for later reference, and clip off the five remaining wires. Save one of these spare wires; we'll need it later in the project. The prepared cable should look like the one in Figure 1, with a DB-9 male connector at one end and the four labeled wires at the other.

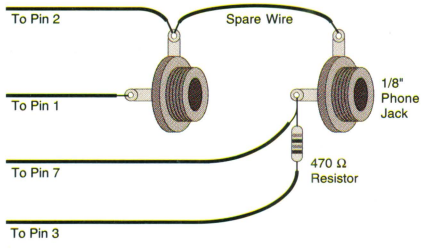
FIGURE 1



MALE DB-9 CONNECTOR
Note locations of pins 1, 2, 3, and 7

Drill a 1/4" hole into one end of the plastic box and pass the end of the cable through the hole from the outside. Tie a knot in the cable about 1" from the end of the insulation to prevent the cable from pulling out of the box. Connect the spare piece of wire between common terminals on each of the 1/8" phone jacks and connect the appropriate wires from the cable to the two jacks, following figure 2. Make sure to connect the 470-ohm resistor between the phone jack and wire 3, as indicated. Solder all connections and trim away excess wire strands.

FIGURE 2



Drill two 1/4" holes into the top of the plastic box and mount the 1/8" phone jacks. Add the aluminum cover to the plastic box and secure it with the four screws. Secure the box to the side of your computer using strips of SuperLock fasteners. Plug the 9-pin connector into the joystick port on the back of your IIGS.

The switch interface will accommodate any two single-throw switches with 1/8" phone plugs—generally regarded as the standard type of connector for this application. Switches with larger or smaller plugs, or different connector types, will require an adapter to match them to the 1/8" phone jacks. Plug adapters can be found at most electronics supply outlets, including the ubiquitous Radio Shack.

SWITCH-DRIVEN SOFTWARE

Over the past decade, an impressive collection of specialized software has been developed around the Apple II Switch Interface. In addition, multimedia programs like *HyperStudio* and *HyperCard GS* have made it possible for non-programmers to construct software

FIGURE 3

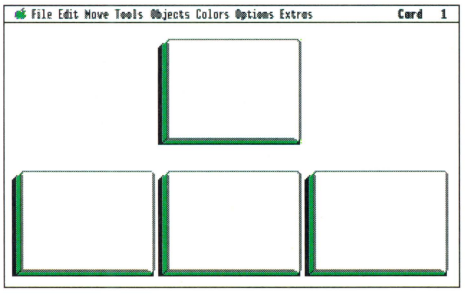


FIGURE 4

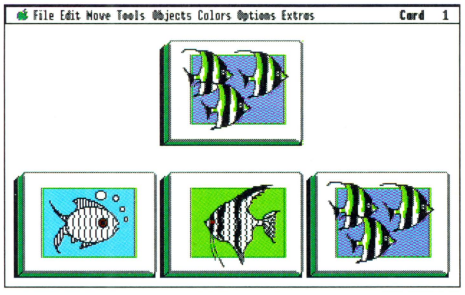


FIGURE 5

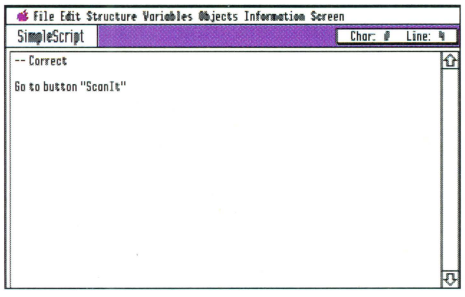
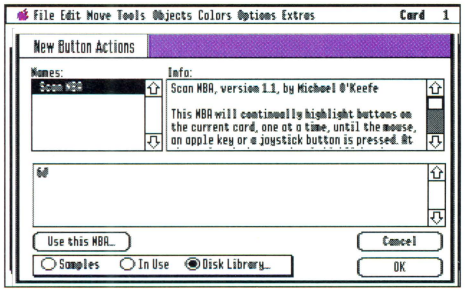


FIGURE 6



that is not only switch-accessible, but custom-tailored to the needs of individual users. Let's look at one of these products, *HyperStudio,* and see how easy it is to design and create a switch-accessible program.

Sequential linear scanning is a skill that involves visual tracking, visual recognition and switch activation. It is just one of the many skills that children with severe physical disabilities must master to benefit from assistive technology. Training in linear scanning can be paired with an activity like picture matching. Our sample stack will demonstrate how it works.

We'll assume that you're familiar with the basic operation of *HyperStudio 3.1* and that you've had an opportunity to create at least one stack before now. If you haven't, try working your way through the tutorial that comes with *HyperStudio,* then meet us back here.

The basic idea for this stack is to have one picture on the top half of each card and three pictures in a row on the bottom half of each card. The goal of the activity will be to match one of the pictures at the bottom of the screen with the picture at the top. The switch user must watch the scanning indicator (a black square) move from one choice to another, in sequence, and activate the switch when the correct picture is highlighted.

CREATING THE STACK

Launch *HyperStudio* and select "New Stack" from the File menu. Select "Preferences" from the Apple menu and make sure that "Advanced user", "Add new cards to group," and "Show card position in menu bar" are checked. All other options should be unchecked. Draw a background similar to the one in Figure 3, with one frame on the top half of the card and three frames lined up on the bottom half of the card. This will be the common background for each of the cards in this activity.

You'll need at least a dozen pieces of clip art small enough to fit into the background frames. Clip art suitable for this stack can be found on most commercial information services, such as America Online, Compuserve, and GEnie. In addition, your local user group may have a library of clip art, and clip art is also available from a number of commercial sources.

Create graphic objects with your clip art and place a target graphic in the top frame. Place a duplicate of the target graphic in one of the bottom frames and two different graphics in the two remaining frames. Your first card should look like Figure 4.

Select "New Card" from the Edit menu. The new card will appear with the background frames already drawn. Make more graphic objects and place them into the frames as you did on the first card. Pick a different target graphic and make sure the matching graphic is placed in a different position in the row of bottom frames. Add two different graphics to the remaining frames. Continue creating new cards and adding graphic objects to them in this manner until you have at least ten such cards completed.

Move to the first card. Create an invisible button, name it "Correct," and size it to fit over the graphic in the bottom row that matches the target picture at the top of the card. Add a "praise" sound to the button that will let the user know that the correct answer has been chosen (for example, "Great!", "You did it!", "All right!", etc.). Set the transition to "Next Card" and select a transition method (a simple dissolve will do). Copy the button to each of the remaining cards in the stack and move it so it's over the matching picture on each card.

Now let's test our work so far. Move to the first card and click the matching graphic at the bottom of the screen. You should hear the "praise" sound, and the next card should appear. Continue clicking the matching graphics to make sure each of the buttons works properly.

Move to the first card again, create another invisible button, name it "Incorrect," and size it to fit over one of the non-matching graphics in the bottom row. Add a "warning" sound to tell the user of the incorrect response (for example, "Whoops! Try again."). Click on "Scripting language..." to bring up the SimpleScript editor, shown in Figure 5, and enter the following line:

```
Go to button "ScanIt"
```

Select "Save & quit editor" from the File menu. Do not add a transition to this button. Copy and paste this button over each of the non-matching graphics in the bottom row of each card. Now each card contains three invisible buttons: the "Correct" button covering the matching graphic, and two "Incorrect" buttons covering the non-matching graphics. Try clicking on the non-matching pictures on each card to make sure the warning sounds play.

THE SCAN NBA

At this stage, the stack is mouse-driven, and anyone who is physically capable of using the mouse can run the activity. Since the point of the activity is to teach sequential scanning skills, we'll need to provide access to the card buttons through the switch interface. This requires the Scan NBA (New Button Action) from Roger Wagner Publishing. The Scan NBA will highlight each button on a card, in sequence, for a specified period of time. A button may be activated by pressing the remote switch while the desired button is highlighted.

Move to the first card once again and create another invisible button. Name this button "ScanIt" (leave out the quotes), click on "Features..." to display the Item Features window, and click in the "Group Item" box before

clicking "OK." Make this button fairly small and move it to the upper left corner of the card, then select "New Button Actions..." from the Button Actions window. Click on "Disk Library..." in the NBA window, insert the disk containing the Scan NBA and select it in the NBA file dialog window. Click on "Use this NBA..." to attach the NBA to the stack. The only parameter required for the Scan NBA is the number of ticks (sixtieths of a second) to wait before moving to the next button. Delete the contents of the text field and enter "60" (without the quotes), as shown in Figure 6. This will give the switch user one second in which to select each button before the next button is selected. Click "OK" to finish adding the NBA. When the Button Actions window reappears, click on "Activate after delay" with a delay time of 0 seconds. Click "Done" to complete the button. Save your stack before you test the scanning function.

Select "Preferences" from the Apple menu and click in the box next to "Auto activate buttons on." Click "OK" to return to your stack. When the scanning begins, you may notice that the sequence is incorrect—the highlight may be jumping around instead of moving sequentially from left to right. This happens because the Scan NBA highlights buttons according to the order in which they were added to the card. The last button added to the card will be the first one highlighted, while the first button added will be the last one highlighted. The Scan NBA will not affect grouped buttons, auto-activating buttons, or buttons that contain the Scan NBA. This is why our auto-activating button in the upper left corner of the card is not part of the scanning sequence—that button meets all three of those criteria!

To correct the button sequence in our stack, first select "Preferences" from the Apple menu and click next to "Auto activate buttons on" so the check mark disappears. Click "OK" to return to the stack. Select the button tool from the Tools menu and click on the third button in the bottom row to select it. Select "Cut button" (Apple-x) from the Edit menu. The button should disappear. Now select "Paste button" (Apple-v) from the Edit menu. The button should reappear in precisely the same position. Repeat this procedure of cutting and pasting for the remaining two buttons in the reverse order of the desired scanning sequence (right to left in this case). Reset the auto-activate buttons to "on" in the "Preferences" window. Now our three buttons should scan in sequence from left to right. You may need to repeat this procedure on each of the remaining cards.

If you have an Apple II Switch Interface, plug it into the joystick port and plug a remote switch into one of the phone jacks. If you do not have a switch interface, you can test your stack by pressing the Option or Apple keys. Watch the scanning highlight, and press the switch when the highlight reaches the matching picture. You should hear the "praise" sound and go to the next card. If you select one of the incorrect responses, you should hear the "warning" sound and the scanning will resume on the same card. When you reach the last card, a correct response will bring you back to the beginning. To end the activity, press the Escape key until the scanning stops. Now you can select "Quit HyperStudio" (Apple-Q) from the File menu or select "Home" from the Move menu.

The scanning speed can be adjusted to suit individual switch users by editing the group button named "ScanIt." Press Escape to kill the scanning, select the button tool from the Tools menu, hold the Apple key down and double click the "ScanIt" button. This will bring up the Button Actions menu. Now click twice in the box next to "New Button Actions..." to bring up the NBA window. Delete the old value and enter a new value. Remember, 60 is equal to 1 second. The scanning speed may be varied from impossibly fast (try a value of 1 or 2!) to incredibly slow (several minutes, if necessary).

The Scan NBA can be used to create new stacks like our Scan & Match activity or it can be used to adapt existing stacks for switch input. Virtually any button that an able-bodied user can click on can be made switch-accessible using Scan NBA.

Today, the main focus of adaptive computer use is to make "off the shelf" software accessible to people who have a disabilities of all types. But designing simple switch accessible stacks using HyperStudio and the Scan NBA can provide a valuable and inexpensive introduction to the computer for kids who have severe physical limitations. More importantly, these first successful experiences in the use of adaptive computer technology can make the path to independent living an easier one for kids who will likely rely on technology throughout their adult lives.

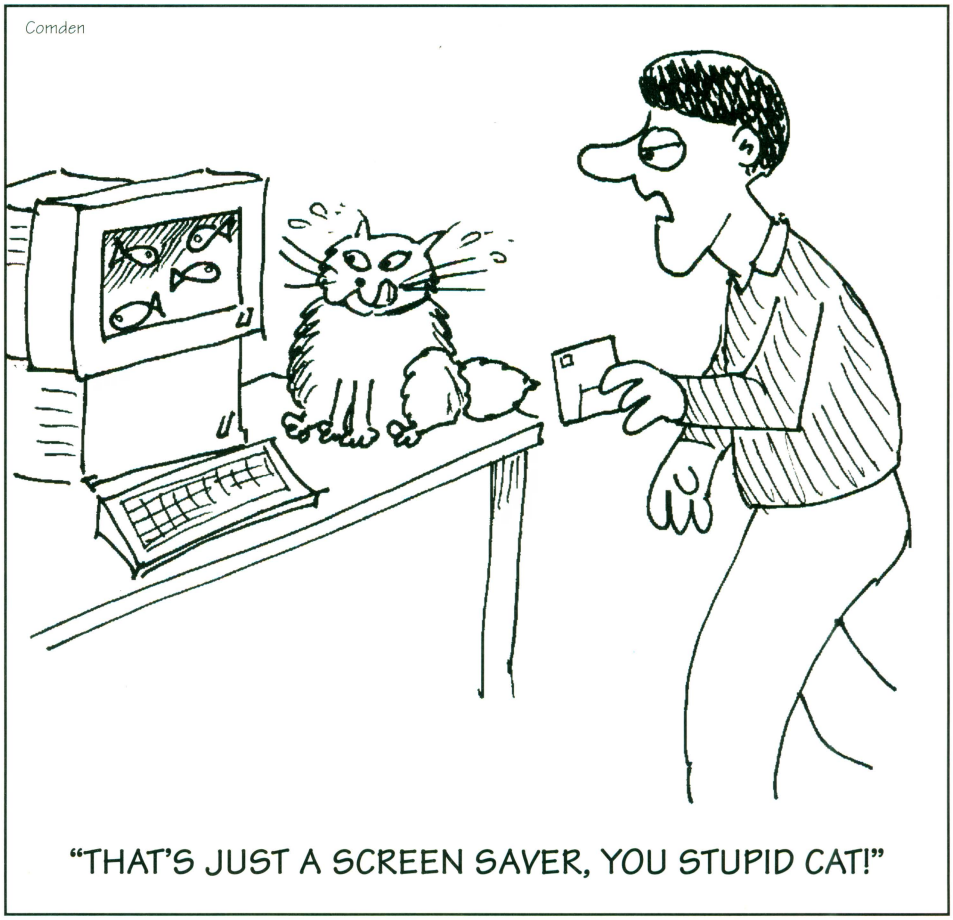
FOR FURTHER INFORMATION

The Scan NBA is available for downloading from most commercial information services, including America Online, GEnie and Compuserve. It is also available from Roger Wagner Publishing, Inc., 1050 Pioneer Way, Suite P, El Cajon, CA 92020 and from Bill Lynn through Simtech Publications.

The sea life clip art used in the sample scanning stack was designed by Mary Ann Trzyna, 208 Glenshire Drive, Frankfort, IL 60423.

Simtech Publications has a line of switch accessible shareware disks created by the author. Write to Bill Lynn, Simtech Publications, 587 Northfield Rd., Northfield, CT 06778 for a current product list.

The Apple II Switch Interface and a variety of adaptive switches are available from Don Johnston Developmental Equipment, Inc., 1000 N. Rand Rd., Bldg. 115, Wauconda, IL 60084-0639. ■



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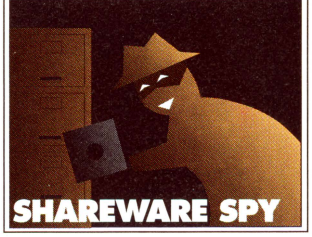


Proboot
by Eric Shepherd
Shareware; $15

Proboot is a utility written especially for IIGS users with hard drives. It allows you to boot another disk device without a trip to the Control Panel. (Normally, when you want to boot from your 3.5" drive, you would need to change the startup slot to 5 first. If you wanted to boot a 5.25" disk, you'd change the startup slot to 6.) *Proboot* can even boot a device that is "switched out." For instance, on my system, slot 6 is set to "Your card" so my system won't go on a grinding journey every time the system needs a disk, but *Proboot* still lets me boot it with a single keypress. If you have a PC transporter, *Proboot* can even boot from its drives as well.

SANE Fix
by Seven Hills Software
Freeware

The Apple IIGS' SANE (Standard Apple Numerics Environment) toolkit has a bug in it that's been plaguing IIGS users for, literally, years, and now there's a fix. The bug is most evident when you start a new AppleWorks GS spreadsheet right after using a ProDOS 8 program—AppleWorks GS locks up or crashes. (A few other programs also exhibit similar problems, but they're more obscure.) It's particularly obnoxious if you boot into an 8-bit program, like EasyDrive or even Switch Hitter, since there's no way to avoid going to ProDOS 8 in such cases. This small INIT, dropped into the System.Setup folder on your hard drive or AppleWorks GS boot disk, solves the problem once and for all.

Quadronome
by Pangea Software
Freeware

Quadronome is an addicting 3D racquetball type arcade game for your IIGS. At the beginning of the game, each player starts with 21 Quads. Each time a player misses the ball, he loses a Quad. The player to run out of Quads first loses. When in one player mode, the ball will be lost when you miss, and the next ball is served by clicking the mouse. In two player mode, the ball will continue to bounce even when a player misses the ball, but he will still lose a Quad.

Although this game has been kicking around for a long time, it's still one of my favorites—and well worth the download time. Be on the lookout for other games by the Pangea folks (aka Greenstone & Triplett); most of them are free, and just as good.

ShadowWrite
by Bright Software U.S.A.
Freeware

ShadowWrite is yet another "word processor" New Desk Accessory in a long line of such NDAs. What's the difference? *ShadowWrite* lets you work with up to 8 Teach, text or SRC ("source") documents at the same time within any Desktop application. In the Finder, you can open *ShadowWrite* by double-clicking the documents. It even automatically opens and prints documents if you select "Print" from the File menu instead of double-clicking. I had trouble printing multiple documents this way, though.

The basic editing tools are all there in *ShadowWrite,* including a full ruler with centering, left, right, and full justification. Naturally, it works fine with *Pointless* and TrueType fonts. *ShadowWrite* is small and pops up quickly, and the price is certainly right. I can't imagine anyone not finding this one useful.

SoniqTracker
by Tim Meekins
Freeware

SoniqTracker is a program that plays Amiga MOD files on the IIGS—with flair. (MOD files contain sampled sounds and a sound all in one bundle, or "module.") It works in stereo, if you have a stereo card, and features a graphic player with your choice of dancing lights or an oscilloscope. The program even has an alarm clock mode—I've been waking up to Reggae for at least a week!

Bowl GS
by Terry Burdett
Freeware

Bowl GS is one-player bowling game for your Apple IIGS. Bowling is reduced to a point-and-click interface. I found the ball really liked to head toward the gutter—much like real bowling at my skill level. The game also makes an attempt at sound, although it would have been better if the sounds had been recorded at a bowling alley. Hitting the pins reminded me more of a pin dropping than bowling pins flying around. The game also makes you enter your initials via the mouse (much like an arcade game) despite the fact that the IIGS has a fully functional keyboard attached. It's not bad for the first try, especially if you really like to bowl, but it could use some improvement.

Bulla
by FTA
Freeware

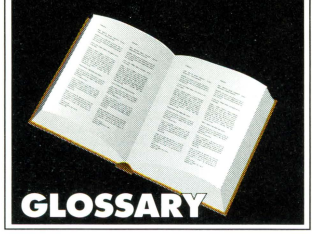
This previously-unreleased Free Tools Association disk contains numerous examples of graphics and sound from the late and lamented masters of IIGS bare-metal programming. Although the FTA never seemed to finish anything useful (even a complete, functional game), they inspired many young programmers and proved that the IIGS could hold its own against the Amiga, which inspired FTA-like groups to write cool-looking "demos" long before the FTA came into being. This disk doesn't contain anything earth-shattering, although it's nice to look at, and the semi-complete "Scrolling Bulla Game" (a game somewhat like *Super Mario World*) has potential, if someone finishes it.

Bille Art
by Brutal Deluxe
Freeware

This FTA-style demo disk contains a half-finished game and a couple of pictures of skimpily clad (and unclad) ladies. Brutal Deluxe is a French programming group hoping to follow in the footsteps of the FTA. The graphics are top-notch and from that standpoint, they seem to have succeeded. They also have a sense of humor, as shown by the "exploding thermometer" used in the "Slowly-Boot" load routine, and by the bizarre way in which you must boot the disk—when the "Unable to load ProDOS" message appears, you must press the Clear key to complete the loading process. (Must be an IQ test to make sure you can read instructions.) There's also a segment which seems to be either praising or poking fun at Brainstorm Software, the French programmers of *The Manager,* though the text is in French so we can't tell for sure. Check it out for yourself—if you liked the FTA stuff, you'll probably enjoy this as well. ■

WHERE TO FIND IT

If you have a modem, check your local bulletin boards and the national services like America Online, CompuServe, and GEnie. Your local user group may also have some of these programs—check our Computer Clubs listing in this issue. Many of these programs are also available from national user groups like the Big Red Computer Club (402/379-4680)



Telecommunication Terminology

Address: How you can be reached on a particular system—usually your user ID, but some systems (such as GEnie) use an e-mail address that is different from your user ID. If you're on a network, your user ID will often be followed by site and domain names (for example, "jerry@pro-quality.cts.com") so that the mail can reach you from other systems on the same network.

AT: Two letters that tell your Hayes-compatible modem that a command is coming. Every command begins with "AT," meaning "attention." Common commands include ATD (dial), ATH (hang up), ATO (resume online connection), and ATZ (initialize modem).

Baud: The transmission rate of a modem in "symbols per second," also used as a noun meaning a symbol sent over a telephone line. "Baud" is different from "bits per second" or BPS. A 2400 BPS modem operates at 600 baud, but sends four bits per baud for a total of 1200 BPS.

BBS: A computer system dedicated to answering calls from other modem users. On BBSs you'll find discussions on every imaginable topic, hundreds of files and programs for your computer, and lots of other fun things. Best of all, most BBSs are run by private citizens and are free.

Commercial Service: A nationwide (or worldwide) pay-as-you-use-it service run for profit. Popular commercial services include America Online, CompuServe, Delphi, and GEnie, although there are dozens of more specialized services. Many of these services are worthwhile due to their global scope.

Data Bits: How many bits are to be transmitted in each byte of data. Usually, this number will be 8, but some systems require 7 data bits. Systems which use 7 data bits are usually limited to text communications and require special protocols (such as Kermit) to transfer 8-bit binary data.

Data Compression: A modem feature which allows you to transmit data at an effectively higher speed than normally possible. All the redundancy is removed from the data stream (English text and many other types of data are highly redundant) before transmission. Modems with this feature are advertised as being "MNP 5" or "v.42bis" compatible. It is also possible to use a separate data compression program—such as ShrinkIt—to compress files before sending them even if you don't have a modem with this feature.

Duplex: Full duplex means that the remote computer (the system you're connected to) "echoes back" each character you type to display it on your screen. (In other words, whenever you press a key, it is sent over the phone line and back before it appears on your screen.) Half duplex means that your computer displays your typing on the screen as soon as you press a key. Most connections use full duplex.

E-Mail: Electronic mail—private messages which can only be read by the intended recipient, as opposed to publicly posted messages.

Emoticon: (From "emotion" and "icon.") A small symbol or sequence of symbols that you can type on your keyboard to convey an emotion. Since messages posted on a BBS do not carry facial expressions or tone of voice, you may need to use these symbols to make sure a reader knows how the message was intended and does not take it the wrong way. The most common emoticon is the smiley :-), which looks like a "smiley face" if you rotate your head ninety degrees counterclockwise.

Escape Sequence: The "+++" code used to return to the command state from the online state. The escape sequence actually includes the guard time—a mandatory one-second delay before and after the "+++" code to prevent the modem from going into the command state when transmitting a file which contains these codes.

FIDONet: A group of independent BBSs, mostly run on MS-DOS machines, which can exchange mail and bulletin boards (known as "echoes"). Somewhat like Internet, but using different software and protocols.

GIF: Graphics Interchange Format, invented by CompuServe. A GIF file can be viewed on any computer with appropriate software. For some reason, it's pronounced "Jif," like the peanut butter. You'll find plenty of interesting GIF files online.

Handshaking: A protocol that allows two devices to agree on something or to control each other. For example, when you connect to another modem, a standard handshaking sequence occurs to allow the modems to determine the highest transmission rate they have in common. Handshaking is a generic concept and has many applications in the world of telecommunications.

Hardware Handshaking: A technique which allows a v.42bis or MNP 5 modem to tell the computer to stop sending data for a second. Since different kinds of data compress at different ratios, the modem can't always send data at its maximum effective speed, and so the computer isn't guaranteed that a 2400 BPS v.42bis connection can always handle 9600 BPS. Yet, to take advantage of the compression at all, the computer must talk to the modem at 9600 BPS, otherwise the data would not arrive fast enough at the modem and defeat the purpose of the data compression. With hardware handshaking, the modem can tell the computer to stop sending data so quickly when the data isn't very compressible.

Hayes: A prominent manufacturer of modems. Most current modems are compatible with Hayes' standards.

HST: A High Speed Transfer modem, sold by US Robotics (USR), with a capability of 9600 BPS. These modems were very popular before the advent of v.32 and v.32bis because of their low cost compared to other 9600 BPS modems. They were not, however, true 9600

BPS modems; actually, they transmitted data at 9600 BPS in only one direction (the other direction was a 300 BPS connection). The modem automatically switched between 9600 and 300 BPS depending on which modem was sending more data—a clever and effective scheme at the time, but unnecessary now.

Internet: An informal network of independent but cooperating computer systems that exchange mail and bulletin board messages (called "newsgroups"). Most of these systems run the Unix operating system. Actually, there are several networks (including Bitnet and Usenet) which are connected in such ways—the term "Internet" refers to the largest conglomeration, or to all of it, or to any such network, depending on who you ask. To get on the Internet, you just call any system which participates—there are thousands, many of which are public-access.

Kermit: A file transfer protocol designed for use with certain types of computers which cannot support Xmodem or other protocols. If you attend a university, your school's mainframe may only talk Kermit. It's slow compared to every other protocol but sometimes may be the only protocol available.

MNP: The Microcom Networking Protocol, created to make modems more reliable and faster. MNP offers several "levels," the most important of which are MNP 4, which guarantees that line noise won't garble your data, and MNP 5, which can double your modem's effective speed through data compression.

Modem: A device for translating digital signals (computer data) into analog signals (sound) and back. Short for modulator/demodulator.

Negotiation: The process whereby two modems determine the maximum BPS rate they have in common and which, if any, levels of MNP or v.42 they support.

Password: A secret word that only you know. When logging into your BBS, you give your password to prove that you are who you say you are. This prevents others from pretending to be you and leaving offensive messages under your name. Naturally, a password should be easy to remember but hard to guess, and should be guarded carefully and changed often.

Parity: An error-checking bit sent with each byte. For example, "even parity" means that an extra bit is added to each byte to make the number of "one" bits in the byte even. This allows the receiving modem to detect possible transmission errors or line noise. Most connections, however, use no parity; today, error checking is performed by protocols like MNP.

Protocol: A standard way of doing something, or a "language" that allows two devices to talk to each other. For example, to transfer a file from one computer to another, you might use the Xmodem file transfer protocol. To connect a computer to a modem with data compression, you must use a hardware handshaking cable—the signals that the modem uses to control the flow of data are also a protocol. The idea of a protocol is a generic concept with many applications in the world of telecommunications.

RS-232: A standard serial protocol which allows virtually any computer to speak to any serial-controllable device. Most modems are RS-232 compatible.

ShrinkIt: An Apple II program designed to remove redundant data from files, making them smaller so they take less time to transmit via modem. On the receiving end, you must unshrink the file before you can use it. Similar utilities are available on nearly all computers—popular ones include ZIP, ARC, ZOO, LHA, and StuffIt.

Sysop: Pronounced "SISS-op," stands for "system operator"—the person who owns or operates a BBS. On some BBSs, you will see the term "sysadmin" instead, for "system administrator."

Teletype: An actual teletype is an old type of terminal with a printer and a keyboard, used to communicate with mainframes over the phone line. Today, "teletype" refers to your communication program's simplest terminal emulation—in which each character that arrives through the modem is placed on the screen, without special interpretation.

Terminal Emulation: A feature of most telecomm software which enables your Apple to respond as if it were a specific brand of terminal (for example, DEC VT-100). With terminal emulation, the remote computer can clear your screen, print at specific locations on the screen, and even activate your printer.

Terminal Program: A program designed to turn your Apple II into a terminal. (Once upon a time there were devices with keyboards and screens—but no computer inside—designed specifically to communicate with other computers via modem. These devices were called terminals.) You need a terminal program to communicate with another computer via modem.

User ID: A code which uniquely identifies you on a BBS. Some use your name; others use an account name (usually an abbreviation of your name—if your name were Robert Hughes, your account name might be "rhughes" on an Internet system); still others use a user ID number (CompuServe is notorious for its lengthy user numbers). Each user on a BBS must have a different user ID. You enter your user ID and password at logon to tell the system who you are, so it can retrieve your private mail and other information unique to you.

v.32: An internationally-approved standard for 9600 BPS transmission. Before v.32, different manufacturers had their own (incompatible) standards, ensuring that Hayes 9600 BPS modems couldn't talk to USR 9600 BPS modems at 9600 BPS (they could still talk at 2400 BPS).

v.32bis: An internationally-approved standard for 14,400 BPS transmission; an enhancement of v.32.

v.42: An internationally-approved error-correction standard. It offers the same functionality as (and is compatible with) MNP 4, ensuring that static on the phone line will not corrupt data transmissions.

v.42bis: An internationally-approved data-compression standard. While v.42bis is backward-compatible with MNP 5, it can compress data up to twice as efficiently as MNP 5 (effectively quadrupling your modem's speed). It also has the "smarts" to avoid compressing files which are already compressed, whereas MNP 5 can actually reduce your effective speed when sending pre-compressed data such as ShrinkIt files.

Xmodem: Although it contains the word "modem," Xmodem is not a kind of modem. It's a protocol for transferring files from one computer to another. The sending computer sends a piece of the file (a "packet" or "block") along with a special code called a checksum, which enables the receiving computer to make sure it was received correctly. Then the receiving computer either acknowledges the packet (telling the sender to send the next packet) or declines it (indicating that there was a transmission error and that the sender should try again). Simple, but slow compared to newer protocols. Xmodem has several variants, including ProDOS Xmodem, Xmodem CRC, Windowed Xmodem, and Xmodem 1K.

Ymodem: A packet-based protocol like Xmodem, Ymodem increases the file transfer speed (using larger packets), improves reliability (using a more complex check code called CRC), and provides batch capabilities (the name of each file is sent with the file so the receiver doesn't have to type filenames, and more than one file can be sent at a time). One variant is called Ymodem-G or Streaming Ymodem.

Zmodem: A "streaming" modern protocol which sends data almost continuously. Instead of waiting for an acknowledgement after each packet, Zmodem simply sends the next, assuming that each packet was received correctly unless the receiver specifically says otherwise. Zmodem also has the batch features of Ymodem, and can automatically tell the receiving computer to begin the transfer without user intervention. This is the preferred protocol today. ■

computer clubs

To get more information about the Apple User Group nearest yo

If you want your computer club to be mentioned in II Alive, send a letter describing your club to:

Quality Computers
c/o Bob DeMaggio
P.O. Box 665
St. Clair Shores, MI 48080

ALASKA

Anchorage Apple Users Group
P.O. Box 110753
Anchorage, AK 99511-0753
Contact: Timothy Odell 373-7459

Apple Mousse User Group
P.O. Box 80176
Fairbanks, AK 99708
Contact: Jesse Atencio (907) 456-1333
$15 per year

ARIZONA

Tuscon Apple Core
P.O. Box 43176
Tuscon, AZ 85733-3176
Contact: Clay Evitts (602) 296-5491 days
$20 per year
BBS: (602) 882-2945

ARKANSAS

Apple Tree of the Ozarks
HC 62 Box 540
Flippen, AR 76234
$20 per yr; $15 initiation

CALIFORNIA

Apple Corps of San Diego
P.O. Box 87964
San Diego, CA 92138-7964
Contact: Tom Kasner (619) 693-0331

Appleholics Anonymous
Apple II User Group
3875 Telegraph Rd. Suite A202
Ventura, CA 93003
Contact: Tony Pizza (805) 482-3453
$12 per year

AppleJacks of Inland Empire
Contact: Larry (909) 864-2309
BBS: (909) 369-6637

Fresno Apple II Computer Users Group
P.O. Box 1682
Clovis, CA 93613

GravenStein Apple IIGS Users Group
P.O. Box 964
Petaluma, CA 94953-0964
$25 per year per family
BBS: (707) 585-0865

Newton's Fruit Users Group
14639 Cashew St.
Hesperia, CA 92345-2702
BBS: (619) 956-2631

Orange Apple Computer Club
25422 Trabuco Rd., Bldg 105, Ste-251
El Toro, CA 92630
(714) 770-1865
$25 per yr

Original Apple Corps
P.O. Box 90065
Los Angeles, CA 90009
Contact: Fred Duffy (310) 475-8400
BBS: (310) 454-4660

Peninsula Apple User Group
Redwood City, CA
Contact: Roger Lakner 367-8657

Tri-City Apple User Group
P.O. Box 93123
Pasadena, CA 91109
(213) 258-0281
$20 per year
BBS: (818) 288-5640

Tri Valley Apple II User Group (TVAIIUG)
P.O. Box 2096
Dublin, CA 94568
Contact: Jerry Carleton (510) 828-0959

Valley Apple Computer Club
12978 Crowley St.
Arleta, CA 91331
Contact: William Trent (818) 988-1752
$24
BBS: (818) 782-6471

COLORADO

Computer C.A.C.H.E. (Colorado Apple & Compatable Home Enthusiasts)
P.O. Box 37313
Denver, CO 80237-7313
$18 per year
BBS: (303) 745-4960

Denver Apple Pi
P.O. Box 280668
Lakewood, CO 80228-0668
$18 plus $7 new member application fee
BBS: (303) 421-8605

CONNECTICUT

Applelist Computer Club
P.O. Box 6053
Hamden, CT 06517

Appleshare
P.O. Box 200
Greens Farms, CT 06436
Contact: Joan Hoffman (203) 259-8513
$20 per year family membership

Hartford User Group Exchange (H.U.G.E.)
P.O. Box 380027
East Hartford, CT 06138-0027
Contact: Edward Sposito (203) 635-0557
$24
BBS: Bit Bucket (203) 257-9588

DELAWARE

Delaware Valley
Apple IIGS Computer Club
P.O. Box 5956
Wilmington, DE 19808-0956
Contact: Curt Wilson (215) 473-6199
$20

FLORIDA

Apple Computer Enjoyment Society (A.C.E.S.)
P.O. Box 291557
Fort Lauderdale, FL 33329-1557
$30 1st year; $20 renewal

Fort Lauderdale Chapter (A.C.E.S.)
see above
BBS: (305) 431-5189

M.A.U.G. Chapter (A.C.E.S.)
see above
BBS: (305) 621-4350

North Dade Chapter (A.C.E.S.)
see above
BBS: (305) 431-5189

South Broward Chapter (A.C.E.S.)
see above
BBS: (305) 431-5189

West Palm Beach Chapter (A.C.E.S.)
see above
BBS: (407) 483-8426

Apple Tree of Central Florida
2810 Nela Ave.
Orlando, FL 32809
$35 annually
BBS: 366-0156

Spring Hill Apple Computer Enthusiasts (SPACE)
11418 Long Hill Court
Spring Hill, FL 34609
$20
(904) 686-7069

SunCoast Apple Tree
P.O. Box 7488
Clearwater, FL 34618
$25 per year
BBS: (813) 347-5104

SWACKS Apple Computer Club
c/o L.E. McLaughlin
384 Lancaster Ave.
Port Charlotte, FL 33952
$20 per year; $12 for Newsletter only

GEORGIA

Computer User Group (Any Type)
110 Peachtree Rd.
Rockmart, GA 30153
Contact: Donald Sullivan
(404) 684-5909
$15 per year

HAWAII

Hawaii Macintosh & Apple Users' Society
P.O. Box 29554
Honolulu, HI 96820-1954
Contact: Eugene Villaluz (808) 735-3750
$24 per year

ILLINOIS

Apple Tree Computer Club
P.O. Box 823
Homewood, IL 60430-0823
Contact: Mary Ann Trzyna
(815) 469-1961
$28 family, $14 auxiliary per year
BBS: (708) 597-6942

Aurora Area Apple Core
P.O. Box 2901
Aurora, IL 60507-2901
Contact: George Murphy (708) 357-0759
$20

Northern Illinois Computer Society
P.O. Box 547
Arlington Heights, IL 60006
New $30, Renewal $24,
includes entire family
BBS: (312) 351-4374

Northshore Apple Users Group
c/o Babette Simon
5331 Carol
Skokie, IL 60077
Contact: Babette Simon (708) 967-7483
Family $20 per year

INDIANA

Apple Pickers
P.O. Box 20136
Indianapolis, IN 46220
Contact: Steve McGuirk 257-3366
New $25, $30 per family per yr;
Renewal $20
BBS: 897-1989

Apple Users Group of Michiana
P.O. Box 11398
South Bend, IN 46634-1398
$15 per year

Fort Wayne
Apple Computer Users' Group
P.O. Box 10004
Ft. Wayne, IN 46850-0004
$15 per yr

Northwest Indiana Apple Users Group
7526 Independence St.
Merrillville, IN 46410
Contact: Nate Gaglilardi 762-6818
$14 per yr

IOWA

Applebyter Computer Club
P.O. Box 2092
Davenport, IA 52809
Contact: Shawn Beattie
BBS: 788-0314

Roland Story Apple User's Group
P.O. Box 407
Roland, IA 50236-0407
Contact: Dave Graham (515) 388-4700
$10 per year

KANSAS

Apple Bits Users Group (ABUG)
P.O. Box 368
Shawnee Mission, KS 66201
Contact: Sandy Brockman
(816) 523-1007
$30 first year; $25 renewal

Apple Tree User Group, Inc.
306 West 5th Street
Larned, KS 67550
Contact: Shane Blanchett
$15 Initiation Fee; $20 Individual,
$25 Family

Parsons Apple Users Group
P.O. Box 1081
Parsons, KS 67357

Plane Apple User's Group
P.O. Box 47396
Wichita, KS 67201
Contact: Jay Herder (316) 733-2574
$24 per yr
OMEGA PRO (316) 721-7735

Topeka Area Apple Group
5419 SW 28th St.
Topeka, KS 66614-1713
Contact: Ron Hurd (913) 272-5033
$15 family

KENTUCKY

Louisville Computer Society
P.O. Box 9021
Louisville, KY 40209-9021
$26

MAINE

Northwoods IIGS User Group
P.O. Box 550
Milford, ME 04461-0550
$15 per year

MARYLAND

Maryland Apple Corp.
Contact: Dave Smythe (410) 882-9234

Washington Apple Pi, Ltd.
7910 Woodmont Ave., Suite 910
Bethesda, MD 20814
(301) 654-8060

MASSACHUSETTS

Cape Cod Apple Users Group
P.O. Box 48
South Dennis, MA 02660
Contact: Ron Church (508) 540-2517
$20 per yr

MICHIGAN

Apple P.I.E.
P.O. Box 5055
Warren, MI 48090-5055
$25/yr

Apples for the Teachers
161 Cass Ave.
Mt. Clemens, MI 48043
Contact: Jim Wenzloff (313) 469-7206

Flint Apple Club
P.O. Box 460
Flint MI 48501
$20 per year
BBS: (313) 230-7754

Grand Rapids Apple II Users Group
P.O. Box 1811
Grand Rapids, MI 49501

groups specializing in a certain subject, or how to start a new group, call Apple Computer 1-800-538-9696, ext. 500. or write to: The Apple User Group Connection • Apple Computer, Inc. • 20525 Mariani Ave., M/S 36AA • Cupertino, CA 95014

Lansing Users Group
P.O. Box 27144
Lansing, MI 48909-7144
$18

Michigan Apple Computer User Group
P.O. Box 567
Warren, MI 48090-0567
$25 to start, $20 renewal per year

Midland Apple Club
1710 West St. Andrews
Midland, MI 48640

MINNESOTA

Lake Superior Apple Users Group
Duluth, MN
Contact: Don Jacobson (218) 723-4349

Minnesota Apple Computer Users Group
P.O. Box 796
Hopkins, MN 55343
Contact: Rand Sibet (612) 566-8571
$25 per year, $15 student

MISSOURI

American Public Domain Club
5821 Kerth Rd.
St. Louis, MO 63128
Contact: Michael Young
$12

Apple Squires of the Ozarks
P.O. Box 3986
Ozark, MO 65808-3986
Contact: Doug Kahler 833-4362
$15 initiation fee; $20 individual, $25 family

MONTANA

Billings Apple Users Group
P.O. Box 23005
Billings, MT 59104-3005
Students $15, Individual $20, Family $25, Corp $50
BBS: 256-3454

NEBRASKA

Apple-Link
5509 South 31st, #8
Lincoln, NE 68516
$10 per year

NEVADA

Southern Nevada Apple Family User Group
P.O. Box 12715
Las Vegas, NV 89112-1715
Contact: George Lewis (702) 364-9093
BBS: Apples Only (702) 646-7007

NEW JERSEY

Bergen Apple Special Interest Club (B.A.S.I.C.)
The BASIC FACTS; 26-31A Warren Rd.
Fair Lawn, NJ 07410
Contact: Nancy Alexander 652-5632
$15 per year
SSA-BBS: 472-8312

North Jersey Mac Apple User Group
P.O. Box 215 (WOB)
West Orange, NJ 07052-0215
Contact: Pete Crosta (201) 667-6369
$25 per year

Ocean County Apple Users Group
25 Long Road
Freehold, NJ 07728
Contact: Matt Weiss (908) 431-2339
$15 per year

Ocean/Monmouth Apple Users Group
55 Meadowbrook Road
Brick, NJ 08723-7848
Contact: Bill Scratchley (908) 920-3833
$15 per year

Princeton Apple II Users Group
100 Sixth Ave.
Trenton, NJ 08619-3223
$12/yr

South Jersey Apple User's Group
P.O. Box 4273
Cherry Hill, NJ 08003-4273
Contact: Jack Bullion 767-4913
$20 single/family, $10 student
SJAUG APPLELINE 424-1382

NEW MEXICO

Applequerque Computer Club
P.O. Box 35508
Albuquerque, NM 87176-5508

NEW YORK

CRAB-Apple
(County of Rockland Apple Branch)
P.O. Box 268
W. Nyack, NY 10994-0268
$10 per year, free 1/2 yr membership for new members

Guilderland Apple Byters
George Johnsen, Editor
RD 2 Box 1
Altamont, NY 12009
Contact: Karen Andersen 371-3115
$10 per year, $5 initiation fee
BBS: Plain Vanilla (518) 462-5953

Mixed Burnt Hills Apple Group
171 Birch Lane
Scotia, NY 12302
$8 per year
BBS: Plain Vanilla 462-5953

Putnam Valley
Educators Apple Users Group
142 Peekskill Hollow Rd.
Putnam Valley, NY 10579
Contact: Frank Reale (914) 528-8101

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Carolina Apple Core
P.O. Box 31424
Raleigh, NC 27622
$18/yr
CAC 783-9010; NIEHS 541-0041

Charlotte Apple Computer Club
P.O. Box 221913
Charlotte, NC 28222
BBS: 563-6233

Eamon Adventurer's Guild
7625 Hawkhaven Dr.
Clemmons, NC 27012
Contact: Tom Zuchowski (919) 766-7490
$7 per year
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Triad Apple Core
c/o GTCC Small Business ASST. Center
2007 Yancyville St., Suite 220
Greensboro, NC 27405

OHIO

Apple-Dayton, Inc.
P.O. Box 3240
Dayton, OH 45401-3240
$25/year

Apple GS Columbus
P.O. Box 27072
Columbus, OH 43227-0072
Contact: John Ledford (614) 855-0937
BBS: (614) 475-9791

COACH
(Central Ohio Apple Computer Hobbyists)
P.O. Box 09028
Bexley, OH 43209
Contact: Mike Goodrich (614) 866-4860
BBS: (614) 262-4946

NEO Apple Corps
c/o Nancy Abbott
1935 Mattingly Rd.
Hinckley, OH 44233

OREGON

Appleeugene
907 River Road #289
Eugene, OR 97404
Contact: Larry Badten 895-2605
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Portland Apple II User Group
P.O. Box 1608
Beaverton, OR 97075-1608
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Willamette Apple Connection
P.O. Box 7252
Salem, OR 97303-0053
$15 per yr
WAC BBS (503) 363-0861

PENNSYLVANIA

Apple Butler Users Group
P.O. Box 39 Meridian Station
Butler, PA 16001-0039
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Columbia Apple Pi
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P.O. Box 710
Millville, PA 17846
$6 per yr

Delaware Valley Apple Branch
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Wayne, PA 19087
Contact: Sam Lieberman

Erie Apple Crunchers, Inc.
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Erie, PA 16507
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E.A.C. Express (814) 838-8510

Hershey Apple Core
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Hershey, PA 17033
HAC Hotline: (717) 531-1300
The Library BBS: (717) 566-1699

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Music City Apple Core
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1085 Woodcock Hollow Road
Kingston Springs, TN 37082
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Everett Hertenstein 262-4778

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McAllen, TX 78504
Contact: Tony Rodriguez 682-9625
$10/yr

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Corpus Christi, TX 78468-8391
$12 per year per household
STIX (512) 992-4855

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San Antonio, TX 78280-1428
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Virginia Beach, VA 23455
Contact: Kevin Mitchell (804) 468-9914

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Apple Users Group of Charleston
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South Charleston, WV 25303
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Club Apple User Group
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Elkview, WV 25071
$10

WISCONSIN

Milwaukee Apple Users Symposium
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Milwaukee, WI 53225
Contact: Helmut Wittbecker

Wisconsin Apple Users Club, Inc.
P.O. Box 20998
Milwaukee, WI 53220-0998
Contact: Bruce Kosbab (414) 771-6086

CANADA

Kelowna Apple Users Group
1622 West Kelowna Rd.
Kelowna, B.C., Canada V1Z3B7
Contact: Robert Ashton
(604) 769-3140 6 to 9 pm
$2 per month

Winnipeg Apple Users' Group
P.O. Box 1798
Winnipeg, MB R3C 3R1
Contact: Don Soutter 256-0095
$20 indiv, $25 family;
$5 initiation fee
Applebox BBS: 224-0683

GERMANY

Kaiserslautern Apple Users Group
PSC 1 Box 8851
APO AE 09012

Ramstein Apple Club
PSC 2 Box 18
APO AE 09012

Rhein-Neckar Apple Users Group (RNAUG)
P.O. Box 525,
APO New York, NY 09063
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Apple II Survivor Club Italy
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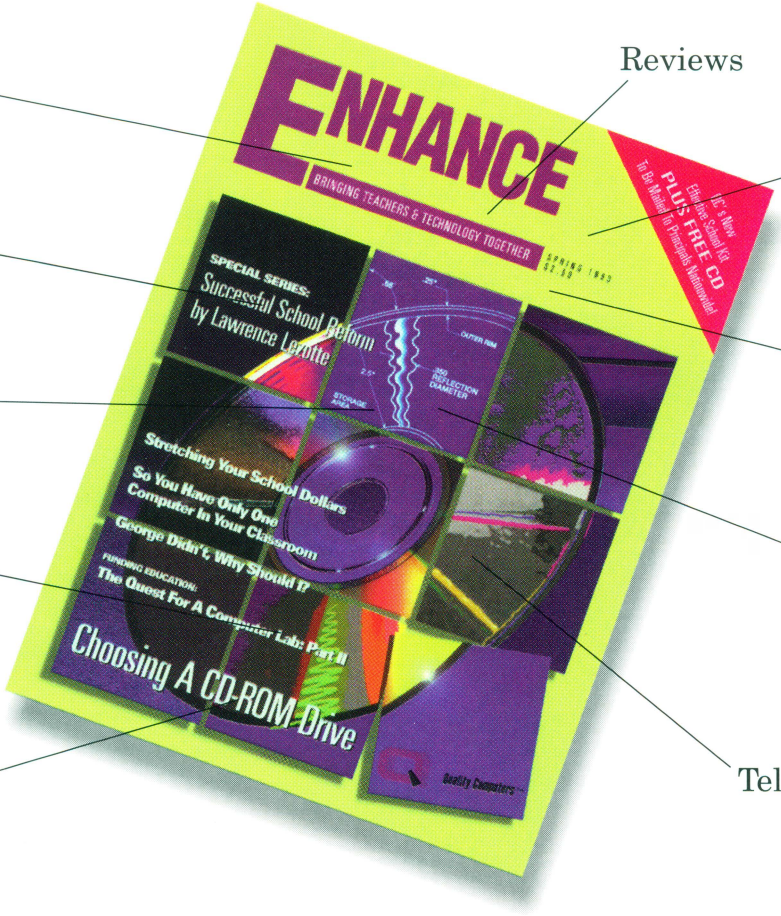

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The Wide World of Eamon

by Tom Zuchowski

A HISTORY OF EAMON

Crowther and Woods' original *Adventure,* a text-only game program originally written for the DEC PDP-10 in the 1970s, has been widely imitated. Microsoft released a version of *Adventure* for the Apple II in 1979, and many similar games followed from Scott Adams, Infocom, and other publishers. (See "Classic Adventuring" in the last issue of *II Alive.*) In the early 1980s, Don Brown, spurred by the success of these games and intrigued by the possibility of creating his own, developed the Eamon adventure system. Now ordinary Applesoft BASIC programmers could make their own adventure games, using the Eamon software Brown had developed as a building block.

The Eamon system was immediately and enthusiastically embraced by a small band of players in the Des Moines area, where Brown lived. But Brown himself soon moved on to commercial programming, creating the *SwordThrust* adventure series. John Nelson, another Des Moines resident, saved Eamon from oblivion, founding the National Eamon User's Club and bringing the program through five major revisions.

While Nelson later moved on to the IBM PC, the Eamon Adventurer's Guild, which was the eventual replacement for the National Eamon User's Club, is still going strong today—as is Eamon itself. Eamon version 7.0 incorporates new commands, an improved player interface, and assembly-language additions for enhanced performance. Today, there are over 220 Eamon adventures available that run under DOS 3.3 (requiring a 5.25" disk drive to run). The best 100-odd Eamons have been converted to ProDOS, and nearly 40 of the very best were further modernized, converting them to 80-column display and adding upper and lower case text.

INSIDE EAMON GAMING

Eamon is not a role-playing system, like *Wizardry* or *Might and Magic.* There are no experience points to earn, no levels to attain. There are no special abilities bestowed by race or good/evil alignment. There are also no graphics—the player reads descriptions of what he "sees" and types commands in response; descriptions of the results are printed on the screen.

Armed combat is a staple of such adventuring. Often there are puzzles to be solved. Many Eamons are simple "kill & loot" scenarios ("Monty Haul" adventures, in gaming parlance), with the simple goal of killing everything in sight and hauling out every treasure that isn't nailed down. More complex Eamons may feature a quest or even several nested quests to fulfill. The very best Eamons are intricate, with perhaps hundreds of rooms, scores of special effects, and dozens of complex puzzles to solve.

The Eamon gaming system consists of a central program that tracks four specific types of data: Rooms, Artifacts, Monsters, and Effects. Rooms make up the map of the dungeon; each room includes a description and a list of exits, and may contain hints about hidden artifacts or doors. Artifacts include every inanimate item in the dungeon: weapons, treasures, doors, containers, potions, and more. Monsters include every animate denizen of the dungeon: friends, companions, dragons, trolls, shopkeepers, etc. Effects are used for special events that are specific to a particular Eamon game.

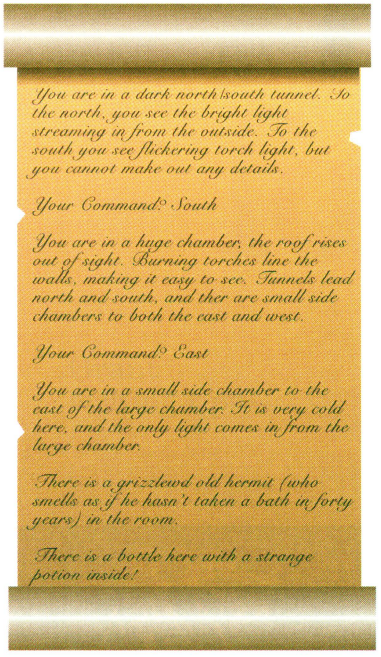
There are five different types of weapons: clubs, axes, bows, spears, and swords. The player's character gains weapon expertise as he uses a weapon type, raising his ability to make effective "hits" in battle. Basic Eamon is not very magical. There are four basic spells: Heal heals the player's injuries; Blast makes an attack on an enemy; Speed doubles the player's agility; and Power has unpredictable effects. Some advanced Eamons include many more spells and weapons, but they are programmed by the adventure's author and are unique to that adventure.

Your character has three primary attributes. Hardiness is the character's strength and resistance to injury. The greater this number, the more loot can be carried and the more combat hits can be taken. Agility directly affects fighting ability. The higher this number, the better the character stands to do in combat. And Charisma affects a neutral monster's likelihood of becoming friendly. Characters with high Charisma tend to pick up more companions, a big plus in combat.

PLAYING EAMON

Eamon adventures are begun from the Eamon.Master disk or folder. Here is located the Eamon Main Hall, where your character "sleeps" between forays. While in the Main Hall, your character can buy and sell weapons and armor, learn magic spells, visit the bank, and take advanced training in weapons and magic. All adventures are launched from the Main Hall, and all adventures return here when completed.

Once into the game, navigation is simple. NORTH exits the present room, traveling north.



Similar commands exist for the other directions, including up and down. LOOK redisplays the room description and may discover hidden exits or artifacts. EXAMINE will print the description of an object (e.g., EXAMINE BOX). This command will also reveal certain types of artifacts hidden in the room.

GET and DROP are used for inventory management. Your character can pick up objects that might be useful on your quest, and drop items when the load gets too heavy.

READY is used to prepare a weapon for combat (e.g., READY SWORD). If you are carrying more than one weapon, this is how you specify which weapon to attack with. To attack, simply use the ATTACK verb (e.g., ATTACK TROLL). If you mistakenly attack a friendly character, you can also HEAL them.

You can also use longer, more complex commands, such as GIVE SWORD TO TROLL and PUT SWORD IN BOX. More recent Eamons permit the player to truncate the commands—for example, "AT UG" for "ATTACK UGLY TROLL". (The two words "Ugly Troll" are considered to be a single noun by the Eamon interpreter.) Usually, the command's object can be truncated from either end; eg: "AT UG" or "AT LL" for "ATTACK UGLY TROLL". The truncation feature was added haphazardly over time, but the new version 7.0 incorporates uniform abbreviation syntax for all commands.

WHERE DO EAMONS COME FROM?

The Eamon gaming system is written in Applesoft, so anyone can write their own Eamon adventures. The quality of Eamon adventures, being directly dependent on the abilities and perseverance of each adventure's author, varies widely; some really stink, while others rival anything Infocom ever did. Don't worry, though—the ProDOS list consists of the best 100 Eamons from the DOS 3.3 list. If you're just looking to play, you can't go wrong with any of those.

With the exception of "Redemption" (the Eamon adventure published in Softdisk 137), every single Eamon adventure is in the public domain. Eamons can be obtained from nearly every vendor of public-domain Apple software and most user groups. The ProDOS Eamons are also readily available on the commercial on-line services—the Eamon Adventurer's Guild uploads them directly to GEnie, and provides them to others for uploading to CompuServe, America Online, and Delphi. They eventually make their way to many other bulletin board systems and Internet file servers.

Most Eamons were written by experienced Eamon players for advanced characters. There is no particular adventure you should start with, and you can play them in any order. For most enjoyment, though, you would do well to use the character editor on the Eamon.Master disk to set these player attributes: Hardiness, Agility, and Charisma = 22; all weapon abilities = 50; chain or plate armor and shield; Shield Expertise = 25; all spell abilities = 100; one 3D8 weapon. This will enable you to at least survive in the more difficult Eamons.

Since the development tools for designing Eamon adventures are readily available, so the real answer to "Where do Eamons come from" is "You." Those who have designed their own adventures know that the real allure of Eamon is designing and writing them. Getting to actually play the game is just gravy. Eamon authors commonly agree that they have never done anything with a computer that was as satisfying as writing their Eamon adventures.

Eamon adventures typically take 30 minutes to 2 hours to play, and cost about a dollar or two to purchase or download. That's a great value for any kind of entertainment these days. And if you get involved in writing your own Eamon adventure, you'll undoubtedly spend dozens or even hundreds of hours on it. Now there's a real entertainment bargain!

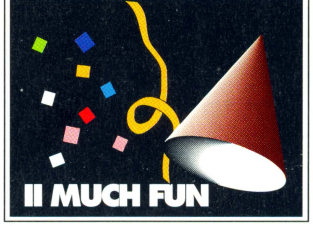
For more information sources of Eamon adventures, send a long (business) Self Addressed Stamped Envelope to: Eamon Adventurer's Guild, 7625 Hawkhaven Dr., Clemmons, NC 27012-9408

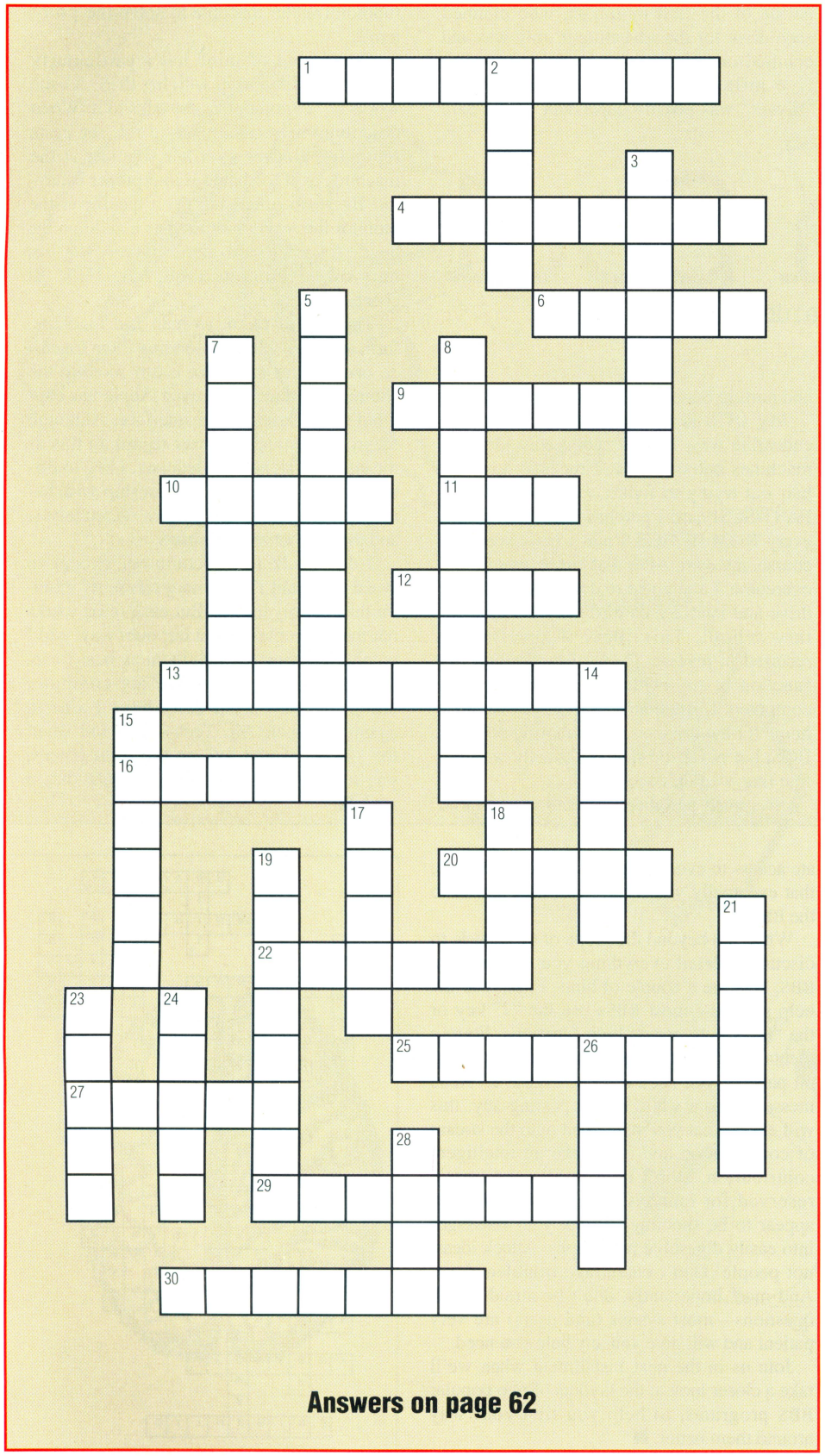
The EAG is a non-profit organization and does not sell Eamon adventures. Instead, you'll get an up-to-date list of Eamon sources, a complete list of Eamon adventures complete with notes and ratings on a 1-10 scale, and information about the club and newsletter. ■

TOP 20 EAMON ADVENTURES

As determined by the Eamon Adventurer's Guild

Eamon No.	Title	EAG Rating
N/A	Redemption (Softdisk 137)	9.5
124	Assault on Dolni Keep	9.2
114	Thror's Ring	9.0
78	The Prince's Tavern	9.0
194	Attack of the Kretons	9.0
120	Orb of My Life	9.0
204	Sanctuary	9.0
161	Operation Endgame	8.9
150	Walled City of Darkness	8.8
147	The Dark Brotherhood	8.7
129	Return to Moria	8.6
166	Storm Breaker	8.5
145	Buccaneer!	8.3
108	The Mines of Moria	8.2
148	Journey to Jotunheim	8.2
121	Wrenhold's Secret Vigil	8.2
169	The Black Phoenix	8.1
91	FutureQuest II	8.0
117	Dungeon of Doom	8.0
118	Pittfall	8.0





Answers on page 62

CROSSWORD PUZZLER

ACROSS

1 Scheme used in 640 mode to create 16 colors
4 All responses must be in the form of a question
6 Keyboard repair may require a trip here if you have long nails
9 Helps motiviate students to achieve
10 Compact Disc—Read-Only Memory
11 Teletype
12 Makes HyperStudio stacks switch-accessible (____ NBA)
13 AppleWorks data base module can easily accomodate these folks
16 Platinum Paint sub-palette, or popular location for home
20 Modem manufacturer that set the standard
22 The main way people with severe disabilities control computers
25 Todd
27 A hypermedia document or LIFO data structure
29 Apple II program designed to remove redundant data from files
30 Horseless carriage

DOWN

2 Adventure game development system
3 Highly-rated BBS software from Morgan Davis
5 1988 saw a massive fire in this national park
7 Code name for independent AppleWorks upgrade
8 Universal printer programming language
14 How we find out about our readers
15 Interface between application programs and printers
17 Not a major part of most Eamon adventures
18 Ted Turner would like this Platinum Paint feature
19 We never, ever make these—oh, no
21 Quadriga instigator and head programmer
23 Coherent light
24 A good place to read your modem's reference manual
26 Quadrupeds populating Bharas
28 John Conway's classic cellular automation game

Silicon Soul

a counterpoint by Jeffrey Frankel

The pseudonymous Mr. Tech cautions us not to anthropomorphize our computers. "The letters, numerals, and punctuation that form the verbal communications of any particular program," he flatly states in the March/April 1993 issue of *II Alive*, "are nothing more than strings of numbers arranged in a pattern by the computer."

I'm not about to tangle with technological truth. But the world reveals its mysteries in different ways to different folks. Common experience lends itself to any number of analytical perspectives, each of which may be legitimate in its own right. Truth is not only where one finds it, as the saying goes; it also depends on where one looks for it. The relationship between computer and user is far more complex than a stream of binary digits can encode.

What reader of this column has not glazed his eyeballs staring at a monitor for hours on end, oblivious to the passage of time and just about everything else, trying to get some program to work the way it's supposed to? Personal computers are notorious for bedeviling their owners, and in fact, the challenge of bending the machine's will to your own represents much of the computer's allure. Let's face it: if using a computer was as easy and predictable as using a toaster, most of us would be doing something else with our time.

In accepting the myth of technological sophistication, we fall victims to our own vanity. In reality, we're merely a later incarnation of the first motorists, who planned each drive for the adventure it truly was and counted on changing a tire every seventy-five miles or so. The behavior of the "flivver" was heavily dependent on the care and nurture bestowed upon it by its owner.

My IIGS is no less quirky in its own endearing way. Not all supposedly identical machines behave alike. I recently tore my hair out trying to figure out why the RamFAST/SCSI card I purchased worked fine in every ROM 03 IIGS I put it in—except, of course, my own. After that hurdle was finally overcome, I attempted to donate my old hard drive and interface card to the local elementary school. This time, the weirdness recurred in reverse: the hardware would not function in any of the four ROM 03 IIGS computers I installed it in. I finally found a home for the drive on a neighboring school's IIGS, but never did find out exactly why the first four wouldn't accept it.

Swapping peripherals wasn't meant to be as complex as an organ transplant. You shouldn't need to worry about "donor rejection." Of course, the technician's response to inexplicable hardware incompatibility is to replace the motherboard. But if my IIGS is pining for its old hard drive, why should I lobotomize the machine to solve the problem?

One friend of mine has a particularly symbiotic relationship with her IIGS. As she works at her computer, she talks to it. When describing its recalcitrance to me, she casts reproving glances over her shoulder at the machine, as if to shame it into proper behavior. Every so often she flits a hand over the monitor the way a mother pats a child on the head. An avid card-game player, she has only one complaint about her IIGS: "It cheats at solitaire."

The two of them, woman and machine, form a remarkable dyad. Seeing them together, one realizes that there is lots more to the "human interface" than even Apple has captured in its Desktop user interface. Although the cynics among you may regard all this as meaningless right-brain baloney, I beg to differ. My friend's unique relationship with her machine helps her use it more effectively—and that's what really matters.

I don't talk to my computer except to swear at it, and I'd no more caress its monitor than pat my toaster. But each of us works out these complexities in our own way, and I bumble my way through them as best I can. And if I anthropomorphize my computer along the way, what deity have I sinned against? C'mon, Mr. Tech—stop and smell the silicon. If you look in the right places, you too may find that your computer has a soul. ■

Making Your First Call

continued from page 32

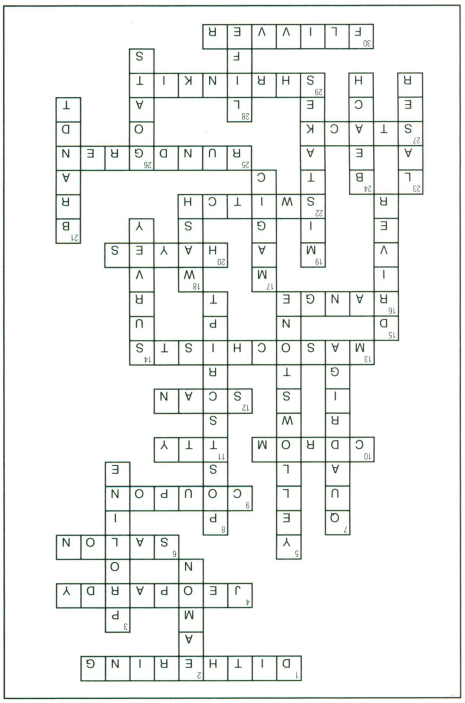
When you're through with the registration process, the BBS will remind you of your account ID and password and suggest that you write them down. Do so. The next time you call, you will need to enter this information to log in. At this point, the registration period is over.

Some BBSs will end the call now and instruct you to wait for "validation" (or to call back in a couple of days). Many sysops actually attempt to contact you at the phone number you supplied and verify that you were at least honest. Others will simply look over your information and, if it looks OK, grant you access to the system.

Some systems completely bar you from logging in until you're validated. Some let you log in but only give you a limited amount of time to look around, and some block your access to the more interesting features of the system until you're validated. Still others skip the validation process and allow you immediate access to everything. Rest assured, though, that eventually you'll have full user access to the BBS.

While it's beyond the scope of this article to discuss in detail everything you can do on a BBS, here are a couple of hints. First, read the help screens—most BBSs use the "?" key or the "H" key to access help functions. Form a mental image of the BBS's layout (draw a map on paper if you need to—see Figure 2.) Read messages for a while before posting any; this will ensure that you've latched onto the stream of conversation and can make an intelligent contribution. Don't type in all caps (that's reserved for emphasis and will make you appear to be shouting). Break your messages into easily digestible paragraphs. Attack ideas, not people. Don't encourage troublemakers. And most importantly, don't be afraid to ask questions—most sysops (and users) are very patient and will give you any help you need.

Join us in the next installment when we'll take a closer look at the layouts of two popular BBS programs, to help you find your way around them better. ■



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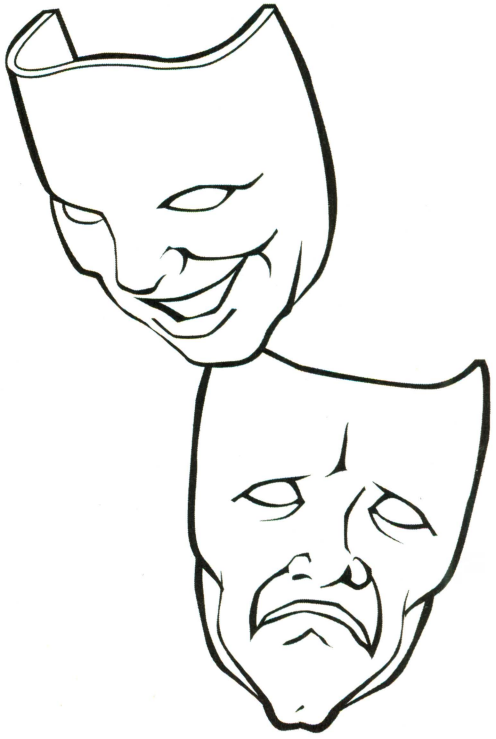

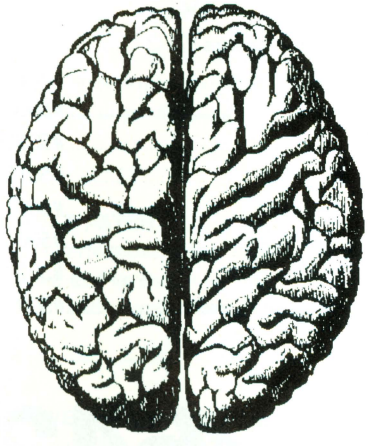

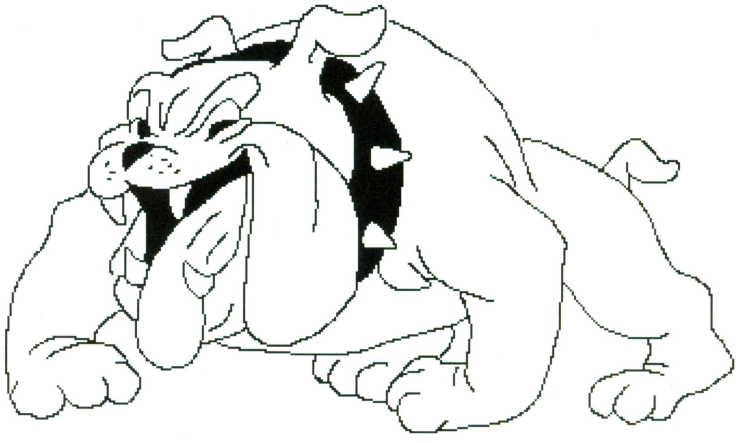

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WHAT MISTAKES?

WHAT A HACK: There are not one, but two, errors in not one, but both of the Applesoft BASIC listings presented with Mike Westerfield's *Weekend Hacker* column on chaos (March/April 1993, page 39). The most obvious blunder is the fact that Listing 1 has *two* line 50s! We distinctly remember finding and correcting all the errors before going to press, but for some reason the corrected versions did not make it into the magazine. (For the record, the Applesoft versions were prepared by the *II Alive* staff, translated from the ORCA/Pascal versions, and are not Mike Westerfield's work.) Here are the corrected listings:

LISTING 1

```
 10 S = 1:   REM Same as "start" in Pascal version
 20 F = 100: REM Same as "finish"
 30 R = 2.5
 40 X = 0.5
 50 FOR I = 1 TO F
 55 IF I < S THEN GOTO 100
 60 :: Y = INT (X * 10000 + 0.5)
 70 :: PRINT SPC(2);
 80 :: PRINT CHR$(48 * (Y<1));
 90 :: PRINT LEFT$(STR$(X + .000001), 6 - (Y<1));
100 :: X = R * X * (1 - X)
110 NEXT I
120 PRINT
130 END
```

LISTING 2

```
 10 LF = 0.5: REM Same as "left" in Pascal version
 20 RT = 4.0: REM Same as "right"
 30 TP = 1.0: REM Same as "top"
 40 BT = 0.0: REM Same as "bottom"
 50 H1 = 0: V1 = 0: H2 = 279: V2 = 159: C = 3
 60 DM = 50:  REM Same as "dump"
 70 PL = 50:  REM Same as "plot"
 80 HGR: HOME: VTAB 22: HCOLOR = C
 90 FOR H = H1 TO H2
100 :: X = 0.5
110 :: R = RT - (H2 - H) * (RT - LF) / (H2 - H1)
120 :: FOR I = 1 TO DM - 1
130 ::::: X = R * X * (1 - X)
140 :: NEXT I
150 :: FOR I = 1 TO PL
160 ::::: X = R * X * (1 - X)
170 ::::: V = INT ((TP - X) * (V2 - V1) / (TP - BT) + .5)
180 ::::: HPLOT H, V
190 :: NEXT I
200 NEXT H
210 INPUT "Press Return to exit ";X$
220 TEXT: END
```

If you have already typed in and saved the old listings, the lines that changed are Lines 50, 55 and 90 in Listing 1, and Lines 50 and 200 in Listing 2. Re-type those lines from the new listings and you should be all set (barring any typos in the rest of the program). Thanks to Phil Pontious of Worthington, Ohio for alerting us to the problem, and our apologies to those who were unable to get the programs to work.

DESKJET PATCH: Bill Carver's *Print to Publish* column on Super Printers (May/June 1993, page 31) erroneously states that *SuperPatch* will allow AppleWorks to print fully-justified proportional text on the Hewlett-Packard DeskJet. It does not. Thanks to Marvin Delplane of Dayton, OH (and several others) for catching us on this one.

REVIEWER REVIEWED: In our announcement of our new review editor, Jeff Hurlburt, (*Info,* May/June 1993, page 6) we stated that Hurlburt published his own newsletter. In reality, "The Product Monitor" is the name of *Computist's* review column, not Hurlburt's own publication.

LETTERS

(Continued from page 6)

Dear *II Alive*,

In looking through your magazine, I don't see many articles that pertain to the IIc. What can I do with my IIc with 1 megabyte RAM, besides AppleWorks?

Albert Finley
Baltimore, MD

Albert: We didn't exactly make it clear, but most of the time, when we say "IIe," we mean "IIe or later." So when we say that an article or a piece of software is for the IIe, we really mean that it is for the IIe, IIc, IIc+, and IIGS (since all those later machines are compatible with the IIe). If we're talking about an interface card that goes into a slot, you know we really mean IIe, but mostly we really mean all 8-bit Apples. The only exception is in the reviews, where we will explicitly spell out which computers each product can be used with. There are several programs which will take advantage of your IIc's expanded memory, too—all the ones which use IIe extended memory will work, including Publish It! 4 and ProTERM 3. Another reader asked a similar question about the Laser 128, and the answer is exactly the same, except that the Laser does have a IIe-compatible expansion slot which the IIc lacks. ■

info

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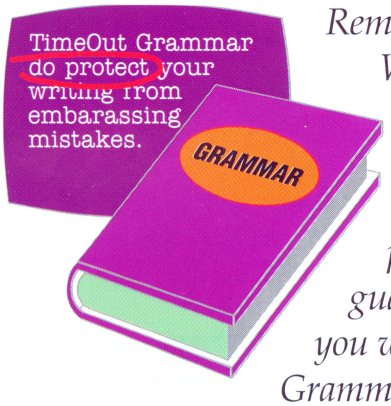

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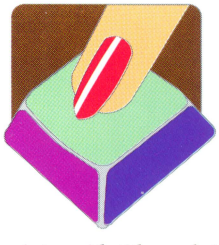

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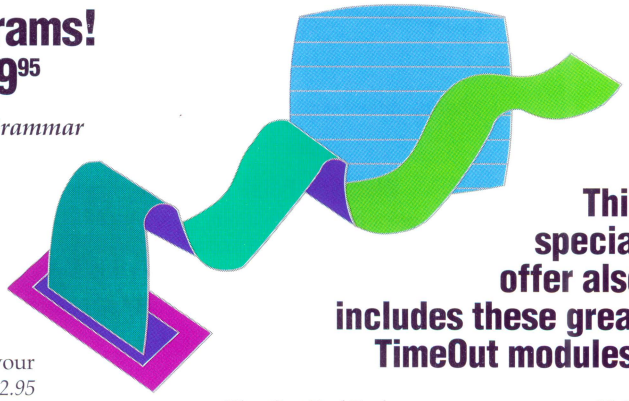

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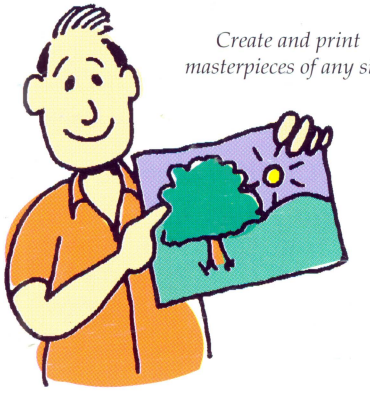

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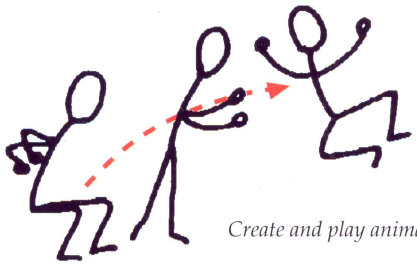

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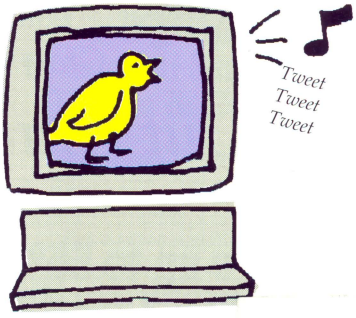

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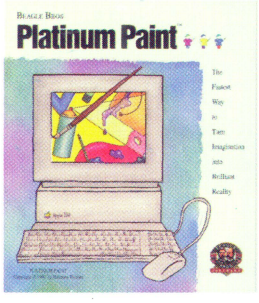

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