



Quality Computers™

A QUALITY COMPUTERS PUBLICATION

VOL. 1 NO. 1 - MARCH/APRIL 93

PRICE \$3.95

CELEBRATING THE APPLE II

II ALIVE

CELEBRATING THE APPLE II

Premiere Issue

APPLEWORKS:

MAIL MERGE IT!

MODEM NATION:

THE ONLINE EXPERIENCE

RAM ON THE RUN

INTERVIEW WITH D. PRONI

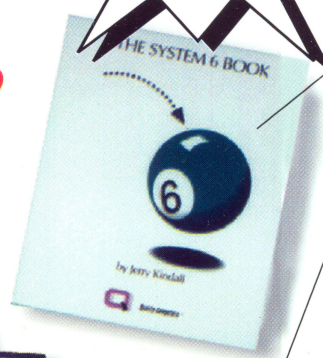
NO EXCUSE FOR...

Ugly Output

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



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.

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

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More tools for programmers to write great programs.

Simpler and faster hard drive installation.

Great documentation.

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.

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

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Icons. Over 50 fun, useful icons.

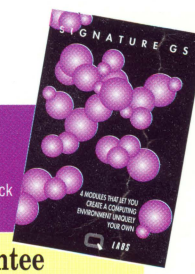


Desk Accessories. Just to give you more to choose from, we're giving you several handy desk accessories including: Enhanced Calculator, Scrapbook, Games, and more.

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.

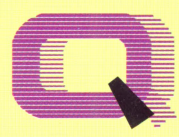
Get Signature for only **\$19.95** when you buy the System 6 Bonus Pack (Reg. \$29.95)



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

\$79.95

System 6 w/QC Manual.....	29.95
System 6 Manual only.....	12.95
System 6 Video only.....	29.95
Bonus Pack only.....	59.95



Quality Computers

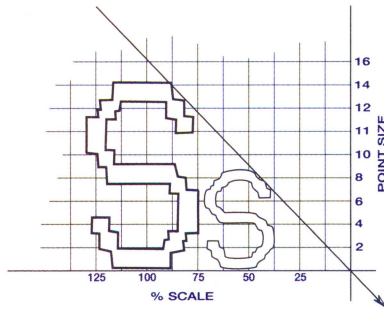
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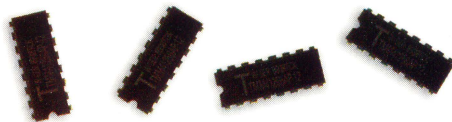
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IN April 1993, the Apple II turns sixteen years old (counting from its official 1977 introduction at the West Coast Computer Faire). Talk about your “mature platforms.”

But at sixteen, the Apple II is far from dead. In fact, the Apple II is experiencing a renaissance of sorts, made possible, in part, by IIGS *System 6*. The latest trend seems to be bringing Macintosh-like functionality to the IIGS via software.

IN THE DRIVER'S SEAT

JERRY KINDALL, EDITOR

High resolution printers? Try an affordable Hewlett-Packard DeskJet (or LaserJet) and driver software like *Harmonie* or *Independence*. Scalable fonts? *Pointless* fills the bill. Background printing? Give Express a try. Screen blanking? Look at *Twilight II* or *Signature*. “Transparent” data compression so you can store more on your hard drive? You’ve got not one but two choices: *AutoArk* and *HardPressed*. Optical Character Recognition? The answer is a hand-held scanner and *InWords* software. Want to run more than one program at a time? Again, you’ve got two programs to choose from: *SwitchIt* and *The Manager*. Programs like *Kangaroo* and *TransProg III* duplicate the functionality of Mac programs like *Boomerang* and *On Cue*.

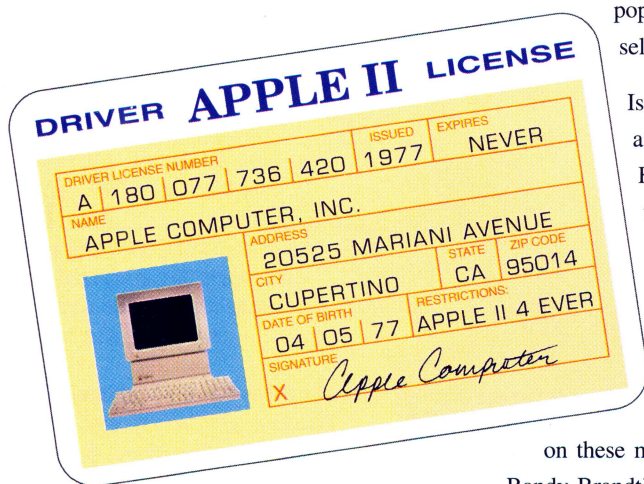
Taking their cue from Apple (who, with the release of *HyperCard GS* and *System 6*, signaled their intentions), companies like Seven Hills Software and WestCode are leading the way in bringing popular formerly-Macintosh-only features to the IIGS. Since these products seem to be selling well, that is evidently something a lot of IIGS owners are interested in.

Is it just a case of “Mac envy”? Are IIGS users merely trying to “delay the inevitable,” as some would put it, pushing back the day when they’ll finally buy a Macintosh? Hardly. The Macintosh’s graphical user interface isn’t called “the Macintosh Desktop.” It’s called “the Apple Desktop,” and the IIGS does it just as well as the Mac. These new programs really don’t make the IIGS “more Mac-like” any more than it already is. They just make it more useful. If you want to see Mac envy, take a look at the PC users who bought Microsoft Windows.

This flood of new and useful programs looks great for IIGS users. IIE and IIC users aren’t seeing as many new products—the only one in the list above that will work on these machines is *InWords*—but there are still exciting new 8-bit programs coming out. Randy Brandt’s JEM Software is one of the leaders in this area, releasing *Ultra 4*, a completely revamped version of Brandt’s *TimeOut UltraMacros*, late in 1992. *AppleWorks* continues to be a thriving environment for personal problem-solving and programming.

Even Apple’s most recent Apple II-related action, the dropping of the IIGS from its dealer price list last December, can’t spoil the mood. Apple II owners know that the fate of the Apple II was in their hands, not Apple’s. Apple’s decision about the IIGS (they still sell the IIE, by the way) has little or no impact on the self-supporting Apple II community, which has depended on third-party companies and user groups for years.

The Apple II is the first microcomputer in history to be of legal driving age, thanks largely to its loyal user base, which keeps demanding—and discovering—more from their machines. If any computer can be said to be “in the driver’s seat” of the industry, well, the Apple II certainly is uniquely qualified for the position—or it will be, as soon as it gets its license. ■



Introducing *The Manager*TM

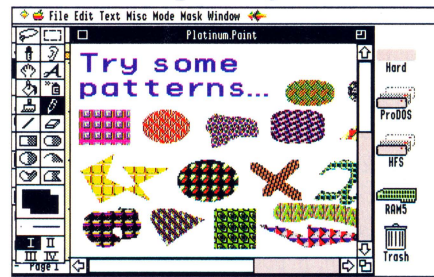
The only true MultiFinder[®] for your Apple IIGs[®]

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.

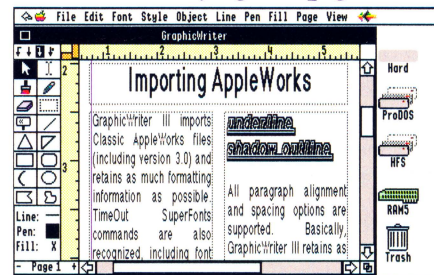
Use *The Manager* to create your own integrated environment...just open your favorite IIGs-specific word processing, painting, DTP, telecom and other programs, then instantly move among them! It is fully compatible with AppleWorks GS, GraphicWriter III, Platinum Paint, Teach, and more. It even works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

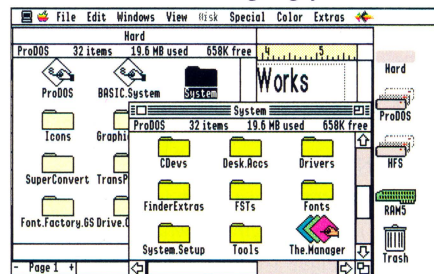
Click! You're painting...



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.

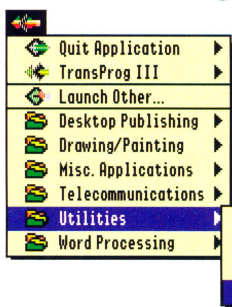
The Manager is the result of a two year collaboration between Seven Hills Software (Express, GraphicWriter III, SuperConvert, others) and BrainStorm Software (Kangaroo, TransProg III, others). It requires System 6 and as little as 2MB memory (4MB recommended for greatest efficiency; required for some 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 IIITM 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**

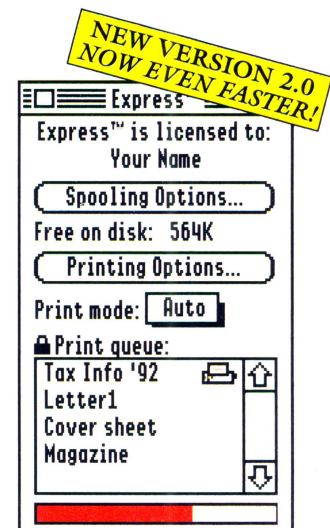
ExpressTM System 5.0.4 and System 6

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 pool 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**



Writers' Guidelines

GENERAL: *II Alive* welcomes article submissions from anyone, whether you're a professional writer or just an ordinary Apple II lover with some tips to share. We don't reject submissions purely on the basis of typos or grammar—if an article's *content* is unique, enthusiastic, creative, or otherwise grabs us by the lapels and screams "Publish Me," we're willing to overlook a few mistakes. On the other hand, the fewer mistakes a submission contains, the less work we have to do in order to get it ready for publication. And that means you might just get more money for the article.

STYLE: Write in a clear, simple style, free of confusion. If there is any doubt in your mind that a typical reader of your article will be able to understand something in your article, simplify it. It may be helpful to organize your thoughts with an outline first. If you're writing a fairly long article, you might want to break it down into sections, each focusing on one major point. Each paragraph should convey a complete thought, with one sentence that states the thought and additional sentences that support it. Use examples and explanations (even illustrations, tables, graphs, and so on) wherever necessary. If you don't have much writing experience and don't think you can pull off something like this, find a collaborator who can help you. You may want to base the general format of your article on other articles you read in this magazine. Books that you may find helpful include *The Elements of Style* and *The Lively Art of Writing*.

LENGTH: Your article should be however long a complete treatment of your subject requires. It's better to submit an article that's too long for us to use than one that's too short. We can remove material much more easily than we can add it—or we might just decide to run your article in two or more parts.

FORMAT: Submit your article to us on paper and on disk. The paper version should be double-spaced, and printed on only one side of

standard 8.5" x 11" paper. Make sure your name and the page number are on every page. Don't use fancy type styles; a monospaced (non-proportional) typeface at about ten characters per inch is best. Use the best print quality your printer is capable of, with a fresh ribbon, if possible. Use underlining to indicate words you would like italicized. The disk version can be in AppleWorks, AppleWorks GS, or standard ASCII text on a ProDOS 3.5" or 5.25" disk, or in Microsoft Word, MacWrite, or standard ASCII text format on a Macintosh disk. If your submission contains other materials (illustrations, program listings, and so on), include both disk and printed copies of these as well (illustrations can be in any standard Apple II, IIgs, or Macintosh format). Include a brief cover letter identifying yourself and your submission. Remember, these are just guidelines—we won't reject your article out-of-hand if you don't follow them—but they do make things much easier on us.

PAYMENT: We pay on acceptance. Once you hear from us that we want to use an article, you will receive payment within thirty days. Payment ranges from \$100 to \$500 depending on the length and quality of the submission, with most articles earning in the \$150-\$250 range.

RIGHTS: When we pay you for an article, we buy all rights to it. This means that we own the rights to print it in magazine form ("serial rights"), and to print your article in a "best-of" book or other compilation of *II Alive* material ("anthology rights"). Anyone else who wants to print your article will need permission from us to do so. You cannot sell the article (or a similar article, even if it's rewritten) to a competing magazine, though you could sell an article on the same subject with a different slant to a magazine in a different field. (Example: If we published your article on stamp-collecting with the Apple II, you could not sell an article on stamp-collecting with the Apple II to another computer magazine. But you could sell a similar article to a stamp-collecting or hobby magazine, with a

different slant.) Because we buy all rights, we cannot accept simultaneous submissions (articles which are submitted to more than one magazine at once). That would put us in a difficult position if both *II Alive* and another magazine both selected your article for publication.

QUERIES: If you're about to invest a lot of time and effort in writing an article for submission to *II Alive*, you may want to query us about the article first, especially if it seems likely to you that someone else could be writing a similar article. Write a one-page letter introducing yourself and your proposed article, outlining the article's major points. If you are proposing a lengthy article or a series, a more detailed outline could be included as well. We will let you know if anyone else is already working on a similar article for us, and possibly offer some additional suggestions to help you prepare the article. Our reply to your query is not a guarantee that we'll accept your article. It just says that we don't know of anyone else writing one like it.

REVIEWS: Since we're a magazine, manufacturers often send us products for review. We distribute these products to our staff writers and review editors. Therefore, you should definitely query us before sending us any reviews—chances are, we already have someone working on it. We also have stricter guidelines for reviews, which have to hit certain points and follow a certain form to be effective. (If you are interested in becoming a regular reviewer for *II Alive*, send us a letter with your qualifications.)

SUBMISSION: Send your submissions to: *II Alive*, Editorial Dept., 20200 Nine Mile Rd., St. Clair Shores, MI 48080, USA. As soon as we get your submission, we will send you a post card telling you that we received it, and letting you know when to expect a response. If you don't receive the post card within thirty days after submitting, send a follow-up letter; something may be lost in the mail.



Dear II Alive,

I'm a semi-retired patent attorney who, at the age of 67, acquired a used Apple IIc. Untrained in computer lingo and technology, I was interested and I wanted to learn, but how? I had no one I could turn to for advice, so I was forced to learn by myself.

Looking over the "In Future Issues" section of your Sneak Peek issue, I don't see much that will interest me or others like me. Remember, I only recently learned the basics about computers. Why not add an "Adult Beginner" or "Getting Started" column? Direct it at people fifty years of age and older—retirees like myself who are just getting started.

I've solved many problems for myself in the past year and would be happy to pass on my experiences to your readers. I would like to help this group of adult beginners become more active in the computer field and expand their knowledge.

Thomas T. Gordon
Vienna, VA

We received a surprising number of letters from people like you. One writer went so far as to call himself a "dinosaur!" I quite agree that beginner's information is important, and there certainly are many Apple IIs changing hands these days, leading to a whole new group of people discovering that the Apple II is a great first computer. While six issues a year is rather slow going for a beginner's column, we might indeed be interested in publishing articles like the ones you describe, and I hope you send us something. See our Writer's Guidelines in this issue.
—Editor

Dear II Alive,

I'm a professional comedy writer, and I've used Word Handler II for the past decade (on my Apple II+) to write over a hundred disks full of jokes, articles, and scripts. My program disk, though, is now kaput, and Silicon Valley Systems, the manufacturer, is out of business. Can you help me?

John Sidley
Cleveland, OH

John: I can't find a copy around here, either, but hopefully someone who has a spare copy will read this magazine, see your plea, and help us out. By the way, if you have any good computer-related humor, why not submit it to us?
—Editor

Dear II Alive,

I'm seventeen years old, and I use the IIGs for everything now. I got it for Christmas when I was twelve, but I didn't do anything with it until a friend brought over some old issues of *inCider* and *Nibble*. I subscribed to *inCider* but found they had (by then) discontinued one of my favorite

columns (on games) and added Macintosh coverage to the magazine. The first issue I got in the mail was much smaller than the older ones. Then you sent me the Sneak Peek issue of *II Alive*. Wow! I'm subscribing!

You said, "We won't promise that we'll never mention the Macintosh or other computers." Is that a typo? Shouldn't that be "We promise that we'll never mention the Macintosh or other computers?" It certainly sounds better that way!

I know there's a grammar checker for AppleWorks 3.0 (TimeOut Grammar), but is there one for AppleWorks GS?

Jason Myrick
Sheffield, AL

It would be nice for some people if we never mentioned the Macintosh at all, but the world's not that simple. Rest assured that when we do, we'll only do it in passing. The focus of the magazine will remain on the Apple II. The IIGs and the Macintosh do have a lot in common (I seem to remember that one magazine even called the IIGs "a cheap color Mac clone that also runs Apple II programs" when it came out). This month's editorial mentions a bunch of IIGs programs that act like popular Mac programs—there sure do seem to be a lot of them these days!

There's no grammar checker for the IIGs yet, but Beagle Bros is planning to release one sometime in 1993, according to our "inside" sources.—Editor

Dear II Alive,

I hope you don't get too wrapped up in advertising and pushing your own products and services, as *Nibble* magazine did toward the end of their run. As their advertising base dried up, so did their readership, or so it seemed to me. We Apple II users have very few sources of information on new and existing products, and the ads are often as important as the articles.

I'm a self-trained Apple II mechanic and do repairs as a hobby. You mentioned in your article on "ImageWriter Innards" that if you notice thin white lines in your printouts, you may have a stuck pin. To this I'd add: if you notice thin white scratches on your paper, or have difficulty loading your paper, check the paper guide. Older ImageWriters had a heavy metal foil in front of the print head, and eventually, an edge of this foil works loose and bends, causing trouble. The newer model has a brown plastic insert, which may crack, but does not bend.

By the way, you can purchase the paper guides from Contemporary Concepts (3605 NE Loop 286, Suite 1800, Paris, TX 75462, Phone 903/784-7348). They cost me \$9 each. These people are very reliable and affordable for many Apple parts.

David Fancy
Lunenburg, MA

Continued on next page

*Thanks for the parts tip. We've had inquiries about places to get paper guides, and this solves the problem! This kind of information exchange is exactly what we want to provide here in *II Alive's* letters column.*

*As we mentioned in our last issue, we're very conscious of the tightrope we're walking, since *II Alive* is published by a major mail-order retailer. I think that if we continue focusing on the information, everything else will take care of itself. It's my job to insure that that information is of Grade A quality. —Editor*

Dear *II Alive*,

Wow! I just received my Sneak Peak issue. I've already ordered your magazine, but I'm even more anxious to receive my first real one now. One question, though. Why not print *II Alive* on the same kind of paper *Enhance* is printed on (a newsprint-type paper)? It's more environment-friendly!

Ruth Padilla
Amarillo, TX

*Newsprint, unfortunately, doesn't take color printing very well due to bleeding—compare the brilliant colors in this issue of *II Alive* to the colors in any issue of *Enhance*. We wanted to put more color into *II Alive*, and that meant glossy paper.*

*Furthermore, we're hoping people will find *II Alive* enough of a resource that they'll want to keep it around for a while. If people don't throw it out, it doesn't create a trash problem. We're looking into using recycled paper, which is now better in quality than it was just a few years ago, but the coated variety remains more expensive. —Editor*

Dear *II Alive*,

If you watched science shows on PBS ten years ago, Apples were everywhere, and they're no less capable today, though their glamour seems faded. I have two IIs and a IIcs; one of the IIs is used primarily for "laboratory control" applications. It monitors and controls temperatures for repairing specialized refrigeration systems. It monitors and controls rate and load life tests for various types of batteries. And it does both of these tasks with less than 100 lines of Applesoft and assembly code.

Are there any other engineers or tinkerers around who still use Apple IIs? Are you interested in an article on temperature measurement and control with the IIe game port? Finally, does anyone know where I can find an Apple IEEE-488 card?

Ben Barnett
Dayton, OH

Yes, we'd definitely be interested in an article on the scientific applications of the Apple III! We plan to have an occasional column called "Real World II" featuring real people who use Apple IIs for unusual things. You'd probably fit right in there, along with the guy who builds egg grading machines from a IIcs and the guy who runs a knitting factory from his IIcs. A how-to article would also be great for our "Weekend Hacker" column. As for the IEEE-488 card, well, I don't even know what that is, but maybe someone who will read this knows where to find one. —Editor

Dear *II Alive*,

The Sneak Peek issue of *II Alive* was in my mailbox today. The AppleWorks mail merge article was very good. This is, as Don Hoyt says, one of those things that you may not always think of, even though you "always knew" it. There are some things you can do to combat page drift, though.

Epson printers let you set the line spacing in increments of 1/72" or 1/216", and then you can define the page size as any integral number of lines. ImageWriters can independently set line spacing and page size in units of 1/144". If you're printing a number of reports on the same size form, it would be convenient to define a new printer which uses paper of that size. You can include the appropriate printer commands in the printer initialization string (in the "interface cards" option). Then AppleWorks will tell the printer how long the page is. You can even leave "Accepts top-of-page commands" set to Yes.

Burt McKeon
Fairport, NY

Great idea! (If you do that, don't forget to add the codes for normal-length forms to your usual printer, or remember to always turn the printer off and on after using the custom setup.) AppleWorks 3.0 also lets you define eight "user" printer codes per printer; you could use those to define seven different form lengths (using the leftover one to select normal-length forms).

For the record, the appropriate ImageWriter codes are as follows. Use Escape T nn to select the spacing between lines (for example, four lines per inch is 36/144" so you'd enter Escape T 36). Use Escape H nnnn to set the form length (a three-inch form is 432/144" long, so you'd use Escape H 0432). All spaces are for legibility only; you should not actually enter any spaces into the printer initialization string. We don't have an Epson manual handy, so we'll have to leave those codes as an exercise for the reader. Similar tricks should be possible for most other printers too. —Editor

Send comments, questions, and other missives to: *II Alive* - Letters, P.O. Box 665, St. Clair Shores, MI 48080. All letters become the property of *II Alive* and are subject to editing for publication.

WHAT MISTAKES?

Sneak Peek, Page 9: "Drift Dodgers" sub-head, fourth paragraph: A page length of 2.1" does not mean 2 inches and one line (at 1/6" or 1/8" depending on the lines per inch setting) as implied in this article. AppleWorks instead takes your request of 2.1" and uses the closest page length your printer supports with the current lines per inch setting. (Actually, AppleWorks keeps track of the total length of the lines you have printed, and goes to the next page as soon as that length exceeds the page length length you entered.) This correction was submitted by Bruce Barick of Danbury, CT, who provides a complete table of "lines per form" settings that, according to his tests, can be printed on standard 11" paper without drift:

Number of forms per 11" page	Lines per form		Page Length Setting
	6 LPI	8 LPI	
1	66	88	11.0
2	33	44	5.5
3	22	—	3.7
4	—	22	2.7
6	11	—	1.8
8	—	11	1.4
11	6	8	1.0
22	3	4	.5
33	3	—	.3
44	—	2	.2

Mr. Barick also points out that, if you're careful, you can mix lines per inch settings in such forms. If you're making a form at 6 LPI, you can trade groups of three lines at 6 LPI for groups of four lines at 4 LPI. If you're making a form at 8 LPI, you can trade groups of four lines at 8 LPI for groups of three lines at 6 LPI. Thus, to make a 3-per-page form at 8 LPI (not supported by the chart), you'd trade seven groups of three lines at 6 LPI (21 lines) for seven groups of four lines at 8 LPI (28 lines). You'd have one line of 6 LPI left over (subtract the 21 you traded from the 22 which are allowed). This leftover line must be present on the form to prevent drift. You don't have to trade all the lines—you could have four lines at 8 LPI and 19 lines at 6 LPI in our example—and you don't have to group together all the lines with the same spacing.

If you use non-standard, but regular, spacing, you can also place 9, 12, 16, 24, or 32 forms on a page. Non-standard line spacing in AppleWorks can create more problems than it solves, though, so this is left as an exercise for the reader. See Burt McKeon's letter, on the previous page, for information on adjusting the line spacing.

Sneak Peek, Page 6: Beagle Bros author Randy Brandt (now owner and operator of JEM Software) tells us that the Beagle Bros logo was not, in fact, "swiped" from a Smith Bros. cough drop box. We're not sure where we read that, but we're certain we did. Somewhere. Your editor's mind is an information sponge which accumulates large quantities of factoids without attribution. Nevertheless, when we actually checked a Smith Bros. box, the logo was, in fact, different from the Beagle Bros logo. Let's just say that the Beagle logo was "heavily influenced" by the Smith Bros logo and many similar logos, just as the overall style of the company's advertising was influenced by other old-time advertising. Just remember, there's no period in "Beagle Bros"!

info

WHAT ABOUT THE VIDEO?

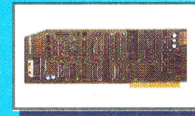
Paid *II Alive* subscribers will be receiving the *II Alive* video late in May, 1993. We apologize for the delay; however, we're sure you'll agree, once you see it, that it was worth the wait. We decided to add coverage of Apple Expo West, which isn't until April 23-24, to the video. For the first time you'll be able to get the feel of an Apple Expo even if you can't attend—you'll even get an up-close look at one of Roger Wagner's infamous ties! As far as we know, this is the first video coverage of any Apple II expo in history. Another first!

AUTOARK AND HARDPRESSED HEAD-TO-HEAD

We had to postpone our head-to-head review of Econ Technologies' *AutoArk* and WestCode's *HardPressed* until the next issue because, at press time, WestCode had not yet released their product. The author of *HardPressed*, Andy McFadden, offered to let us test a pre-release version, but both Westcode and *II Alive* agreed that your needs would be served better by a comparison of two finished products. We hope to print this review in the next issue (along with another head-to-head review, this one of Procyon's *SwitchIt* and Seven Hills' *The Manager*, two new "MultiFinder" programs for the IIGS).

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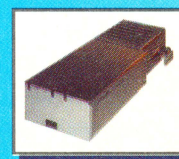
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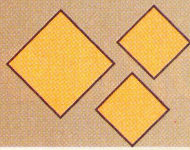
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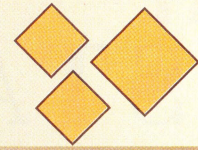
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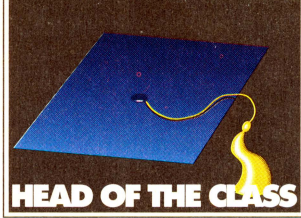
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A Classroom Test Shell

by Don Grout

Computer software exists for almost every educational application. There is software for science simulations, math drills, word processing, accounting simulations, history tests, geography, music, art, and foreign languages. But is there something inexpensive (or free) that an ordinary classroom teacher, with minimum computer skills, can use for one-on-one computer study or review in virtually any subject area? Absolutely—if you can enter data and have a little familiarity with the computer language BASIC, you can use the Classroom Test Shell.

The Classroom Test Shell, written in AppleSoft BASIC, provides even inexperienced programmers with a framework for creating individualized student software. The shell has a four-section multiple choice base and was developed to simulate a driver-education test; however, with a little skill—and imagination—it can be adapted for many other uses.

As its name implies, the program provides a “shell” into which your questions and answers can be inserted. In other words, the Classroom Test Shell contains all the programming you need; you can just change the data to change what the program does. The shell contains other parameters which may be altered at your discretion, although the basic outline of the program should be kept intact to minimize confusion.

The shell design lets students start with any question they want to. Students may quit before the end of the program by typing “Q” followed by the “RETURN” key, and they receive a score based upon the results of the session when they quit or when they answer the last question. The software doesn’t keep savvy students from stopping the program and listing it to discover the answers, but then, this program is intended for study and review purposes—even if they do break in, they’ll still learn the material.

EASY RUNNING

The program was designed and written on an Apple IIe running DOS 3.3, but the program will work on virtually any Apple model, and

under ProDOS. To enter the program, first get into BASIC (either boot your System Master disk or some other disk with an option to “exit to BASIC,” or run BASIC.System from your hard drive). At the “J” prompt, type the program *exactly* as shown all the way down to line 620, the beginning of the DATA statements. If you are using an unenhanced IIe, you should keep the Caps Lock key down when entering the program (newer computers, including the enhanced IIe, don’t care whether BASIC programs are typed in in upper or lower case.)

From line 620 on, you should *accurately* enter your own questions and answers into DATA statements. (The ones we’ve included are just samples and probably won’t be particularly useful to you.) *Be careful*—the format is critical, so follow the examples! First, type the line number followed by the word DATA. Next, type the question followed by a comma. Then type the multiple choice answers each separated by a comma. Finally, type the answer. Make sure that each DATA statement has the same number of parts: a question, four choices, and an answer, with each part separated by a comma. Try to avoid using commas and colons as part of the question or answer; if you must use a comma or colon, enclose the entire part of the statement that contains the comma or colon in quotes (“”). The comma that separates the parts of the statement goes *outside* the quotes.

You can enter as many questions as you want. Each question should be on a separate program line, and line numbers should start with 620 and increase by ten. That way, if you want to add a question in the middle of the sequence later, you can enter a line with a number that falls between two existing lines. The computer will automatically insert your new question in the appropriate place. The very last line you type should be: 10000 DATA END OF TEST. This tells the program that it has reached the end of your questions when it is reading your questions.

When you’re done, use the SAVE command followed by a brief name (DRIVER.TEST or whatever) to save the program on disk.

Remember, if you’re using ProDOS, you can use a maximum of fifteen letters, numbers, and periods in the name, which must start with a letter. Under DOS 3.3, your name must also start with a letter, but can be up to 30 characters long and can include anything but a comma. When you want to create a new test, load any existing test you’ve already created and type DEL 620,9999 to delete the questions. Now type in your new questions and answers, then save the new test under a new name.

To actually use a test, use the RUN command followed by the name you saved the test under. Once you load a test into the computer’s memory using the RUN command, you can just type RUN by itself at the “J” prompt to restart the program after it’s done.

That’s all there is to it!

BELLS AND WHISTLES

Here’s a line-by-line explanation of the Classroom Test Shell, for those of you who feel comfortable in BASIC and want to enhance the program. The REM statements, lines 100 through 250, introduce the program and state the variables for easy identification throughout the program. (REM is short for REMark and indicates that the line is a comment to be read by people, not by the computer. When typing in programs, you can usually leave out the REMs without affecting the operation of the program.)

Line 260 sets the screen to 80 columns from the normal 40 column mode. Line 270 completes the housekeeping. Lines 290 through 330 provide instructions for running the program. Line 340 gives the student the opportunity of starting with any question number. The score counters are set to zero by line 350.

The core program begins with line 370, which reads the question. If the question is “END OF TEST,” we know we’re at the end of our data (we’ve either finished the test, or the student has specified a question number that’s too high). Line 380 reads the the multiple choices; the questions are printed in lines 400-440. The student answers the question at line 450. We check for invalid answers and for a “Q” keypress in 460-470. If the answer is cor-

rect, line 480 advances the correct answer counter and sends the student on to the next question by way of line 510. If the student's answer is incorrect, line 490 gives the student two more chances to answer the question (by checking for $X < 3$, X being the number of times the student has already tried) before the answer is disclosed at line 500. Lines 510 and 520 are housekeeping lines and take care of advancing the question counter. The core program continues until the last question is answered or until the student types "Q". Line 540 works in conjunction with the question start (lines 340 and 380) and comes into play if the student asks to start at a question number higher than data has been provided for. Lines 550 through 580 summarize the results and provide a percentage student score.

Customization can take place in a number of areas. First, the wording of the PRINT statements in lines 290 through 330, 480 through 500, and 560 through 580 may be changed, but be careful not to change anything outside the quote marks. In line 490, " $X < 3$ " controls the number of times the question is repeated before the answer is given and can be increased or decreased as desired. The timer in line 510, FOR T = 1 to 1000, can be adjusted by varying the number 1000. Finally, experienced BASIC programmers can add additional "bells and whistles" to make the program suit their individual needs.

TAKE CARE

The READ statements in lines 370 and 380 must contain six variables in total: the question (A\$), four multiple choices (B\$-E\$), and the answer (F\$). As mentioned above, each DATA sequence *must* contain the same parts: the question, four multiple choices, and the answer; each of the parts must also be separated by a comma. If you use any other commas (or colons) in the question or answers, you must place quotes around the part of the DATA statement that contains the comma or colon. If your tests don't seem to be displaying properly, check your data statements for misplaced commas and colons.

The shell program is set up for a four-option multiple-choice test. It can be changed to other formats by modifying lines 370 and 380, 420 through 440, 480 (the F\$ variable), 500 (also the F\$ variable), and the DATA statements, line 620 on. This is a task for someone fairly familiar with BASIC. Make sure you change *everything* so that the READ, DATA, and PRINT statements have the same number of elements, and so that the correct variables are being printed and checked!

BASIC provides an excellent vehicle for creating individualized student software with a minimum of computing skills. The Classroom Test Shell program is a framework within which you can design one-on-one computer tests and exercises for your students. The programs can be used as-is with the addition of

subject-specific DATA, or the you can embellish the program to suit your individual and classroom needs. Either way, with a little work and a lot of imagination, the test shell can be a helpful classroom tool. ■

```

100 REM ***** CLASSROOM TEST SHELL *****
110 REM ===== WRITTEN BY DON H. GROUT =====
120 REM
130 REM VARIABLES
140 REM A$      QUESTION
150 REM B$ - E$  MULTIPLE CHOICES
160 REM F$      CORRECT ANSWER
170 REM G$      STUDENT ANSWER
180 REM S       DETERMINES STARTING QUESTION
190 REM Q       USED TO COUNT QUESTIONS WHEN STARTING
200 REM T       TIMER VARIABLE
210 REM W       QUESTION COUNTER
220 REM X       QUESTION REPEAT COUNTER
230 REM Y       CORRECT ANSWER COUNTER
240 REM Z       PERCENT CORRECT
250 REM
260 NORMAL: TEXT: SPEED=255: PRINT CHR$(4);"PR#3": PRINT
270 HOME : PRINT : PRINT
280 PRINT : RESTORE
290 PRINT "INSTRUCTIONS: SELECT THE BEST ANSWER FOR EACH QUESTION."
300 PRINT "AFTER READING THE QUESTION, TYPE THE LETTER (A, B, C, OR D)"
310 PRINT "WHICH REPRESENTS YOUR ANSWER THEN PRESS THE 'RETURN' KEY."
320 PRINT : PRINT "YOU MAY LEAVE THE PROGRAM AT ANY TIME AFTER YOU BEGIN"
330 PRINT "BY TYPING 'Q' FOLLOWED BY THE 'RETURN' KEY."
340 PRINT : INPUT "AT WHAT QUESTION WOULD YOU LIKE TO BEGIN? ";S
350 Q = 0:U = 0:W = 0:X = 0:Y = 0
360 HOME : PRINT : PRINT
370 READ A$: IF LEFT$(A$,11) = "END OF TEST" THEN GOTO 540
380 READ B$, C$, D$, E$, F$: F$ = LEFT$(F$,1)
390 Q=Q+1:IF Q < S THEN GOTO 370
400 PRINT "QUESTION ";Q
410 PRINT : PRINT
420 PRINT A$: PRINT
430 PRINT SPC(10) "A) " B$: PRINT SPC(10) "B) " C$
440 PRINT SPC(10) "C) " D$: PRINT SPC(10) "D) " E$: PRINT
450 INPUT "ANSWER? ";G$: G$ = LEFT$(G$,1): IF G$>"Z" THEN G$ = CHR$(ASC(G$)-32)
460 IF G$ = "Q" THEN GOTO 540
470 IF G$ < "A" AND G$ > "D" THEN PRINT "PLEASE ENTER A-D.": GOTO 450
480 IF G$ = F$ THEN Y = Y + 1: PRINT: PRINT "THAT'S CORRECT!": GOTO 510
490 PRINT: X = X + 1: IF X < 3 THEN PRINT "SORRY, TRY AGAIN.": GOTO 450
500 PRINT "THE ANSWER IS ";F$: INPUT "PRESS RETURN ";G$
510 FOR T = 1 TO 1000: NEXT T
520 X = 0: W = W + 1
530 GOTO 360
540 IF W = 0 THEN PRINT "QUESTION NUMBER TOO HIGH. TRY AGAIN.": GOTO 280
550 Z = INT (Y / W * 100 + 0.5)
560 PRINT: PRINT: PRINT "THAT IS ALL. YOU WERE ASKED ";U;" QUESTIONS."
570 PRINT: PRINT "YOU ANSWERED ";Y;" QUESTIONS CORRECTLY."
580 PRINT: PRINT "YOUR SCORE IS ";Z;"%"
590 END
620 DATA DRIVING IS A, PRIVILEGE, NATURAL RIGHT, CONSTITUTIONAL RIGHT, BIRTH RIGHT, A
630 DATA THE POINT SYSTEM HAS BEEN ADOPTED IN ORDER TO, BE ABLE TO HIRE MORE PEOPLE,
    LIMIT THE NUMBER OF LICENSES ISSUED, IDENTIFY PEOPLE WHO BREAK LAWS REPEATEDLY,
    KEEP THE POLICE ALERT, C
640 DATA YOU MAY LOSE YOUR PRIVILEGE TO DRIVE BY, GETTING 10 POINTS WITHIN 2 YEARS,
    LENDING YOUR LICENSE TO SOMEONE, BEING CONVICTED OF DWI, ALL OF THE ABOVE, D
10000 DATA END OF TEST
    
```




QUESTION: I'm trying to use a genealogical program with earlier Apple models (II+, IIe, and IIc) using DOS 3.3. In order to adapt this program to the IIGs, the program requires that each disk be processed through an "Advanced Configuration Routine." This routine asks for ASCII Decimal codes for the printer. I've listed the codes that I need for my IIGs and ImageWriter II. Can you explain what these codes are and what they do?

ANSWER: As verbal creatures, we humans often forget the true nature of computers as number crunching machines. It's easy to anthropomorphize our computers when we see a prompt like "Are you sure you want to do this?" We want to believe that somewhere, deep in the machine, is *something* that understands what this sentence means and that truly cares about whether we accidentally overwrite our precious data. In reality, the letters, numerals, and punctuation that form the verbal communications of any particular program are nothing more than strings of numbers arranged in a pattern by the computer.

The most widely used code to assign numbers to characters for computers is called ASCII (American Standard Code for Information Interchange, pronounced *ASK-ee*). One byte of computer information can range in value from 0 to 255. If we assign one number to each of the 26 letters of our alphabet, it would seem that we have a lot of room left over for other symbols. Actually, ASCII assigns 26 codes for the upper-case alphabet, plus 26 more codes for their lower-case equivalents, plus ten codes for the numerals, plus thirty-two codes for punctuation and symbols, and one number for the space bar. Even this list only accounts for 95 of the possible numbers in the ASCII code. As it turns out, the first 32 numbers of the ASCII code are reserved for standard control codes (more on this later), and the number 127 is reserved for a delete code.



Still, this only accounts for 128 of the 255 possible ASCII codes. The upper 128 codes are where ASCII becomes non-standard. Unfortunately, different computer manufacturers have chosen to interpret these codes in different ways. The IBM computers reserve this space

for special display characters and symbols to allow creating graphics on the text screen. (Telecommunications users will know these as "ANSI graphics.") Apple computers, on the other hand, just duplicate the first 127 ASCII codes but interpret them in different ways—as flashing or inverse, for example. Newer Apple II computers allow for a mode to display MouseText characters for some of these "alternate" ASCII codes. A chart of the ASCII codes and the corresponding characters is available in Appendix C of your ImageWriter II Owners Guide.

Some peripherals, such as printers, use sequences of certain ASCII codes to allow them to shift into special modes. Actions such as turning bold on or off happen because a program sends the proper sequence of ASCII codes to the printer. Usually, the so-called "control codes" are used for these commands. Since these control codes don't correspond to any printable character, computers, printers, and other devices use them for other purposes. For example, ASCII 13 (Control-M) is a carriage return—the same as pressing the Return key (try it). ASCII 12 (Control-L) is a form feed, and will cause a printer to advance to the top of the next sheet of paper. ASCII 19 (Control-S) and ASCII 17 (Control-Q) mean "Stop sending data" and "Continue sending data" and are often used with modems.

Most printers are designed to watch for a particular control code that will tell them that a command is about to be sent. This control code is called a "lead-in" character and is usually represented by ASCII code number 27, ESC (the equivalent of the Escape key). The printer will print all of the characters sent to it on the paper, unless it encounters an Escape code, in which case it will interpret the following characters as a command to do something special instead of printing them.

Escape codes for the ImageWriter II printer are listed in Appendix B of the Owner's Guide. The codes that you are looking for to set up your program are:

Compressed printing on (17 cpi):	27 81 (Escape Q)
Compressed printing off:	27 78 (Escape N)
Elite printing on (12 cpi):	27 69 (Escape E)
Elite printing off:	27 78 (Escape N)
Bold printing on:	27 33 (Escape !)
Bold printing off:	27 34 (Escape ")

Your genealogy program is not the only program that can use ASCII codes. AppleWorks also has the capability of customizing your printer configuration to take advantage of ASCII command sequences that your printer recognizes. With a manual of almost any printers escape codes you can set up a "Custom Printer" to take advantage of that printer's special features.



QUESTION: I have a functional Apple II (not II+). I would like to upgrade it to a II+ or a IIe so that it will be more compatible with today's add-ons. Is this technically feasible? If it isn't feasible, can you suggest an upgrade path?

ANSWER: Many of us here at *II Alive* remember our first experiences with the Apple II fondly as our introduction to computing. I still have my Apple II+, along with many great memories of late nights trying to figure out how something worked or trying to better my score on a new game. Nothing beats these machines for accessibility of both hardware and software.

I also remember buying my first calculator. It cost me \$40 for a 4 function machine with no memory and a bright red LED readout. After I had owned it for four months, it broke. The price of similar calculators had dropped radically (to the \$12–\$18 range). I remember my surprise when a service rep told me it would be cheaper to buy a new calculator than it would be to get the broken one fixed.

I'm afraid this is the case with the original Apple II computer as well. There is no direct upgrade path to IIe compatibility. You can get pretty close by adding an Applesoft firmware card, a 16k memory expansion card, an 80 column card, and a patch program to let AppleWorks run on a II+. However, doing so will cost you far more than the machine is currently worth, and probably almost as much as it would cost to purchase a IIe. You can currently purchase an entire II+ CPU for \$49 from Sun Remarketing, or a IIe CPU for \$349 (including a floppy drive). An Apple IIc can be had for \$245.

Despite that, those older IIs can be quite useful for other projects. I'd love to build mine into the dashboard of my car and make an excellent trip computer out of it. Or perhaps use the motherboard to build a robot dog (or housekeeper!) that could navigate through my apartment. Unfortunately I haven't had the time to make these projects happen.

Continued on next page



QUESTION: I'm a member of a local user group. Most of our members own Apple IIGs or IIe computers, but I own a Laser 128EX. I'm very happy with this computer with the exception of one minor problem. I am having problems using 5.25" disks written by the other Apple II computers in our club. They can use the disks that I produce on my Laser computer, and I can read the disks that they produce. However, as soon as I try to write to one of their disks it gets corrupted. What is going on here? My drive doesn't seem to be defective in any other ways.

ANSWER: There are many factors that can affect the way that diskettes (5.25" format especially) work in different drives. We might start with a little theory about how computers store information on diskettes.

A disk drive stores information on the diskette by rotating the disk media at a specific speed and pulsing a signal through the drive's read/write head. The media on the diskette "remembers" this signal because it is coated with a magnetic layer. Sounds simple, doesn't it? Well, there *is* a little more to it than that. The pulses that the computer encodes onto the diskette is limited to ON and OFF signals. Since all of the information inside of your computer is stored in a similar format, diskettes seem perfectly suited for data storage. But suppose the byte you want to write to the diskette looks like this (in binary form): "11110000" (four ON bits and four OFF bits). All of the ON bits and OFF bits can run together, making the number look like "10" to the diskette drive. Because of this, the computer takes all of the information to go on the diskette and encodes it before writing it to diskette. It does this by adding extra zero bits between all of the data bits to separate them.

In addition, the computer needs a way to find the information that it writes out. The diskette does this by dividing each of the circular tracks into sectors or blocks. The drive writes additional identifying information at the beginning and end of each sector. Some of this information is just a set of repeating patterns to let the computer know it is coming up on a sector and to allow the controller hardware to synchronize with the diskette's rotation. (A simple copy protection technique is to simply change some or all of this information in such a way that standard software can't figure out where it is on the disk.)

The two variables that can affect the use of diskettes between different drives are speed and tracking. When you format a new diskette, the computer writes brand new address information for each of the circular tracks. If the speed or tracking of another drive is significantly different from the drive that created the disk, the tracks may not line up, or the bits may come in at a speed too different for the drive controller to sync up with.

Apple 5.25" drives spin at 300 RPM. If the drive is spinning too slowly, the information gets written to the disk in a much smaller space. Therefore, the space between bits written to the diskette is much smaller, and "on" bits may begin to blend together, which will cause the computer to have difficulty reading the data. If the drive is spinning much faster the data will be written on a much larger space. This may cause the data to be written over the top of the identifying information at the end of the current sector or at the beginning of the following sector. If the computer cannot find the end of the sector it is reading, it may think the diskette itself is faulty. Because there is some space allotted between sectors, a drive may vary in speed by a small amount without the danger of misreading or or miswriting a diskette.

I suspect this is what's happening with your drive. Fortunately, speed is easily adjusted if you have the right software. *Copy II Plus* is a good program for this. Just insert a blank diskette in the drive to be tested, select VERIFY from the menu, and select DRIVE SPEED from the submenu. On the bottom of the Laser, you'll find a small hole under the diskette drive. Insert a jewelers flat-head screwdriver while running the drive speed test to adjust the timing. I have found that the internal Laser drives tend to change speed easily. Temperature, movement and just normal use can cause any drive to speed up or slow down a little.

Tracking is not so easy to fix. When you format a diskette you may have noticed a disconcerting rattling sound. The computer moves the drive's read/write head all the way to the outside track, where it runs it into a rubber bumper several times (causing the grinding noise). This action, called recalibration, makes certain that the head is directly over track 0. All other tracks are written by moving the read/write head a certain distance from that position.

If the rubber bumper is damaged or not in the correct location, the re-calibration action doesn't place the head in the correct track 0 position, and all diskettes formatted in the drive will be off-track. They will function properly in the original diskette drive, but may not work in any other drives. There is no real way to calibrate tracking with software. The procedure requires a special test disk and, usually, an oscilloscope.

If adjusting your disk drive's speed doesn't help, you might try cleaning the drive with a 5.25" drive cleaning kit (sometimes oxide builds up on the heads and causes intermittent problems with reading and writing disks). If all else fails, and you don't want to send the computer to an authorized Laser service center, you could always buy an external 5.25" drive. You can use the external drive for writing diskettes that other computers can use, and still use the internal drive for your own purposes. ■



Apple II software may not be plentiful on the retail shelf, but that doesn't mean there's no software out there. Recently, GENie (General Electric's information service) celebrated its 20,000th Apple II upload. America Online is at 18,000 Apple II files. There are also a number of "servers" on Internet, including Apple Computer itself, and our favorite: CCosun@caltech.edu (California Institute of Technology), which has some of the more exotic Apple II files. Your local user group is also a good source of shareware.

Shareware is software that is marketed on a try-before-you-buy basis. You get to try the software for thirty days. If you like the program, you send the author a fee to register it; if you don't, you pass the software on to someone else or erase it. The cost of registering shareware ranges from \$5 to \$25. If you're a programmer dying to get noticed, shareware is one way to go.

Some other programs are freeware, which means that the author allows the software to be freely distributed (sometimes with minor restrictions) and retains copyright to the software. (The fact that the author retains copyright means that he or she can legally prevent others from passing it off as their own work.) Public-domain software is software with no copyrights at all; you can copy it, change it, and do whatever you want with it.

Here are a few files you may find interesting:

Keyboard Extender v1.0

Bill Tudor
Freeware

Keyboard Extender is a permanent initialization file (PIF) that adds functionality to any extended Apple Desktop Bus keyboard. Extended keyboards have function keys across the top and extra cursor keys that are missing from the stock keyboard, and many "power users" use them. However, support for the extra keys is not built into the IIGs, since Apple never actually sold the IIGs with an extended keyboard. With this PIF, the extra keys work as they're labeled. For example, F1 is Undo, F2 is Cut, F3 is Copy, and F4 is Paste. The extra cursor keys (page up, page down, home, and end) will work as well. If your keyboard has function keys up to F15, you can toggle the Keyboard Extender on and off while you work.

BRAM Checker

Bill Tudor
Freeware

BRAM Checker is another Initialization file, a temporary one. At startup, it checks your Control Panel settings (stored in BRAM, or Battery RAM) against a file that was created when you installed the program. If your settings have changed since the last time you started the computer, BRAM Checker will notify you of the change and allow you to save the change or restore your original settings. This TIF is especially handy if your battery has died (while you're waiting for your Nite Owl replacement battery to arrive)—you'd have to boot twice every time you turn the power on, but at least your control panel settings will be valid. It's also nice for finding out which programs mess with your control panel. This program has helped me discover quite a few.

Scrapbook NDA

Robert Mueller & Tony Morton
Shareware: \$10.00

Scrapbook is a New Desk Accessory (meaning that it appears under the Apple menu in IIGs Desktop programs) that stores graphics for use in any GS/OS program that can paste graphics. For example, you might keep your company logo in the Scrapbook. To place that in your document, just choose Scrapbook from the Apple menu, find the graphic, choose Copy from the Edit menu, bring your document back to the front, and choose Paste from the Edit menu. It's much easier than storing your graphics in individual files which must be opened in a paint program.

X10-GS

David R. Hill
Shareware: \$10.00

Finally, there's a IIGs program that can control your home automation system. X10-GS works with the BSR X10 Powerhouse system, which can control your lights and appliances remotely. With X10-GS, you can select the times at which your lights and appliances turn themselves on and off. Imagine being awakened by your stereo system playing your favorite tape to the smell of fresh-brewed coffee! Of course, you have to leave the computer turned on all the time, and you have to be careful not to tell the X10 to turn it off. In addition to the timing capabilities, the program can also turn lights on and off from your computer's keyboard.

GUIMaster

Shareware: \$10.00

GUIMaster is a combination of two programs that let you customize the colors for windows, alerts, scroll bard, radio buttons, check boxes, and size boxes. You can redesign your IIGs's screen to match the furniture if you feel like it. (By the way, the "GUI" in the program's name refers to the IIGs's Graphic User Interface, which finally comes under user control with GUIMaster.)

AppleWriter II, AppleWriter III, Electric Duet, and GraFORTH

Paul Lutus
Freeware

Thanks to the efforts of the A2 RoundTable on GENie (particularly the seemingly tireless Tim Tobin), these programs, formerly published commercially but now out of print, are available once again, and best of all, they're now free! AppleWriter II is a true classic, and is still the word processor of choice for many Apple II owners. It features a built-in programming language called WPL. Electric Duet is one of the first Apple II programs to offer two independent musical notes performed entirely through tricky programming, and GraFORTH is a fast, graphics-oriented variation of the obscure, obtuse, and perversely fun programming language FORTH.

rSounder

Paul Benson
Shareware: \$5.00

This simple but essential utility converts standard "raw" (binary) sound files to the new rSound format used by System 6. Now you can move those sounds you were using with Start-Sound and other "event sound" programs to System 6 for use with the Sound control panel!

Apple II's help researchers unlock the mysteries of the human mind!

by Phil Shapiro

Apple II computers have long been a favorite of experimental psychology researchers. It's easy to write short Applesoft BASIC computer programs to present information in a random fashion. And you can use the II's eight slots to hook up all sorts of external electronic devices. (The external devices can either be controlled by the Apple II. Or the II can gather and analyze data generated by the device.)

A team of researchers at the Max Planck Institute for Human Development, in Berlin, Germany, used Apple II's in an experiment examining how older people experience a decline in their memory skills. The experiment specifically examined how a group of older persons could apply mnemonic strategies in helping them remember a list of 30 concrete nouns.

The average age of the subjects in the experiment was 72. As a control, the researchers had a group of twenty-year olds (with an average age of 24) undertake the same memory tasks.

Both groups were informed about the mnemonic technique called the Method of Loci. This age-old mnemonic technique, first described by the ancient Greeks, gets people to pair a list of objects they want to remember with different rooms in a house, or different well-known landmarks. In this study, the researchers had the subjects pair the concrete objects in random list with well-known landmarks around the city of Berlin.

Before the experiment began, all the members of both groups had to memorize the list of landmarks. The list of landmarks was presented in a logical geographical order, so that anyone familiar with the city of Berlin could travel around the city in an easy path to recall the landmarks. Once everyone could recite the 30 landmarks in under 30 seconds, the actual experiment began.

The computer randomly presented the name of a concrete noun (object) with the name of a well-known landmark. The subjects were given about 20 seconds to form a vivid mental image linking the object with the landmark.

Then the next object/landmark pair was displayed on the computer.

Once all thirty objects were displayed, the subjects were asked to recall as many of the objects as possible. (Using the Method of Loci, the person could then sequentially travel around to the landmarks in the city, conjuring up the vivid images they had created during the computer-controlled presentation.) In some cases the subjects were asked to recall the list after a one hour, five hour, or two day interval.

This type of memory task, a "serial word recall," is common in many memory experiments. Without using a mnemonic devices, it's almost impossible to remember thirty random objects. But using the Method of Loci, it's not difficult to remember 20, 25 or even 30 of the objects.

The result of the experiment was not altogether a surprise. The younger persons were better able to compose the sorts of vivid images that allow the Method of Loci to work. The group of older persons still benefited a lot by using the mnemonic strategies. But the performance of the older group was substantially below the performance of the younger group.

People in the Apple II using community don't hear much about the many uses of Apple II's by scientific researchers. The software the researchers use is usually custom made for their experiment. And the results are usually published in academic journals that are not widely read.

But even in the 1990's, the Apple II remains a favorite tool for many types of scientific research. It's an inexpensive computer that's easy to program. Leafing through back issues of several experimental psychology journals, it's still common to see the phrase: "Apparatus used: Apple II computers."

While some experimental psychology work is shifting to MS/DOS and Macintosh computers, the installed base of Apple II's in college research labs ensures that Apple II will remain in use for still some time. Who knows what other mysteries of the mind will be revealed in the near future? ■

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GRAFFITI

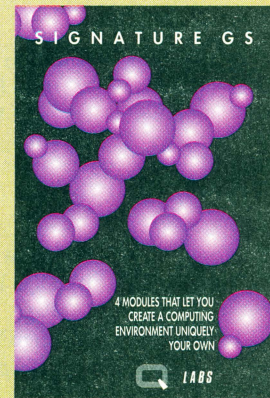
There's nothing wrong with the IIGS desktop — except it's boring. Graffiti gives you a variety of colorful desktop patterns to choose from — or you can create your own with the built-in desktop painter.

SONICS

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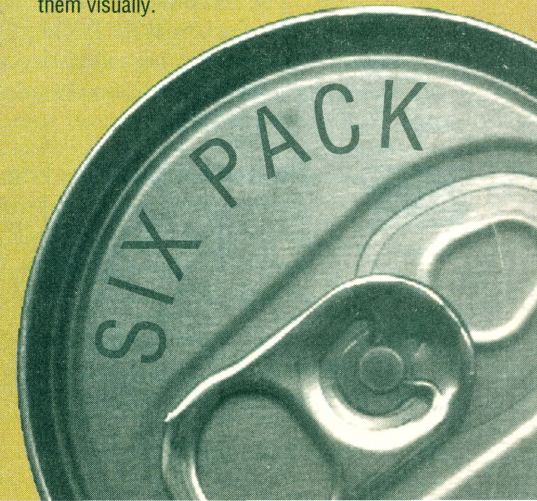
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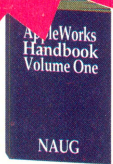
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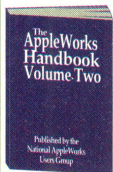
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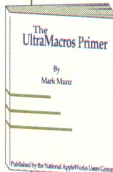
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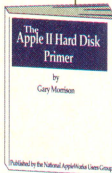
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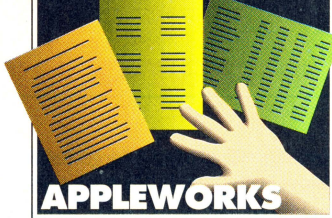
Name _____

Address (No P.O. Boxes, please) _____

City, State, Zip _____

Phone _____

Mail to: NAUG • Box 87453 • Canton MI 48187
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Mail Merge It!

by **Richard Spitzer**

After writing a letter or two in AppleWorks' Word Processor, you're then stuck with the problem of addressing the envelopes. It just seems inelegant to use something as archaic as a digital encoding device (also known as a pen) to do it after writing the rest of the letter on the computer. Yet the labels produced from AppleWorks' Database aren't really worth the effort for one or two envelopes—and they make your carefully written letter look like junk mail.

The AppleWorks Mail Merge feature provides a quick way to address the actual envelope, including your return address. The same technique can be used for making large-size address labels which include the return address. Other projects, like name tags and file cards, can be created in the same way.

If your printer has a friction feed feature (in other words, if it can handle paper without holes punched in it), you can print on almost anything.

THE DATABASE

Before you can write your envelope, you need a database of names and addresses. You may already have something like that set up—you can probably use it with little or no modification.

At first glance, typing your names into a database just so you can print them on an envelope sounds like the long way to do things. If you write a lot of letters, though, it can save you plenty of time in the long run. You don't have to enter the names all at once; just add them as you need them. Once you've written one letter to a person, addressing a second letter to them is as simple as finding them in the database. You'll have a complete list of the people you've been in touch with if you want to send them Christmas cards. And by adding more fields, you can create a very flexible "contacts" list.

Here are some suggestions for fields you might want to include in your address database if you're starting a new one. (For step-by-step instructions on actually creating the database, refer to your AppleWorks manual.)

LAST NAME—Always separate first and last names in a database. This makes it easy to sort by last name, and to print names in either normal or "Last, First" format.

FIRST NAME—If the person has a middle initial, you could include it here, or you could create a separate category for middle initials and names.

letter state abbreviations. (The Post Office can provide you with a complete list of these abbreviations if you have trouble remembering them.)

ZIP—ZIP Codes. Use the "ZIP+4" code if you know it.

PHONE—This isn't necessary for an envelope.

FIGURE 1

```

File: RDS Legal Bus                REVIEW/ADD/CHANGE                Escape: Main Menu
=====
-----Top Margin:  0.0 inches
-----Bottom Margin:  0.0 inches
-----Left Margin:  0.0 inches
-----Right Margin:  0.0 inches
-----Pause Each page
-----Paper Length:  4.0 inches

Richard D. Spitzer
912 Kingsley Drive
Colorado Springs, CO 80909
-----Left Margin:  4.0 inches
-----Skip Lines:  6 lines

^[Title] ^[First Name] ^[Last Name]
^[Position]
^[Organization]
^[Street]
^<City>, ^<State> ^<Zip>

-----
Type entry or use @ commands                Line 1 Column 1                @-? for Help

```

TITLE—Dr., Mr., Mrs., or Ms. Be sure to include the period when entering data in this category.

POSITION—President, general manager, superintendent, etc.

ORGANIZATION—Company name, school district, office, etc.

STREET—Street address, rural route, or P.O. box number.

CITY—The name of the city.

STATE—Use the official postal service two-

but it might come in handy later. If the people on your list have lots of phone numbers (home, office, car, fax, pager...), you could put all the numbers in this one field, or you could create additional phone number fields as necessary.

CODE—You can use this to sort your database into personal and business contacts, or for any other purpose.

NOTES—Use this field to jot down notes about the person. For example, the hours certain people are usually in their offices, or that you need to call the person before you try to

fax them something, or that the person is allergic to chocolate and so shouldn't be sent any at Christmas time, or anything else you might want to remember when contacting someone.

If you're using the database for personal contacts, you might want to include categories called "Spouse" and "Family" to record the names of other family members living in the same household. Similarly, if you often end up in contact with a business associate's secretary or one of their colleagues, an "Associates" category might be a good idea. Little touches like this can allow you to seem like you remember everyone you talk to, even if you only call them twice a year. (For that matter, why not add a category that tracks the last time you contacted each person?)

After you've set up the categories, put together a single-record layout using OA-L. Group related categories together, and be sure to leave enough space for categories that may need to hold lengthy data. Once that's done, you're ready to create the envelope formats in the Word Processor.

THE ADDRESS FORMATS

Consider how many address formats you'll need. Informal letters to friends should probably use a format different from the one used for more formal business letters. Each format should be produced and stored as a separate Word Processor document.

To demonstrate the basic setup procedure, we'll use a #10 business envelope. These envelopes are usually 4 1/8" x 9 1/8" in size—check to make sure these will fit into your printer.

Before you can create the Word Processor document, you must place the database information on the clipboard so that the Word Processor will know which fields are available. Follow these steps:

- 1 Move to the multiple-record layout (OA-Z if necessary).
- 2 Print (OA-P).
- 3 Select "Create a new tables format" and press Return.
- 4 Name the report "Envelopes" and press Return.
- 5 Print (OA-P), select "The Clipboard (for Mail Merge)" and press Return.

The message "The Mail Merge data is now on the clipboard" appears on the screen, indicating that you can now create your Word Processor document. Escape to the Main Menu and create a new Word Processing document "From Scratch."

I named the file "RDS Legal Bus." "RDS" indicates that the return address will contain my full legal name (Richard D. Spitzer). (If I were writing to a friend, I might leave out the "D." or eliminate the name from the return address entirely.) "Legal" indicates that a #10 legal-sized envelope will be used. "Bus" indicates that a complete business address will be printed on the envelope.

Zoom into the file with OA-Z so you can see the printer options after you add them. Begin the document with the following printer options (OA-O):

FIGURE 2

```

File: RDS Standard                REVIEW/ADD/CHANGE                Escape: Main Menu
=====
-----Top Margin:  0.0 inches
-----Bottom Margin:  0.0 inches
-----Left Margin:  0.0 inches
-----Right Margin:  0.0 inches
-----Pause Each page
-----Paper Length:  3.5 inches

912 Kingsley Drive
Colorado Springs, CO 80909
-----Left Margin:  3.0 inches
-----Skip Lines:  8 lines

                                ^<First Name> ^<Last Name>
                                ^<Street>
                                ^<City>, ^<State> ^<Zip>

-----
Type entry or use @ commands                Line 1  Column 1                @-? for Help
```

MARGINS (TM, BM, LM, RM): 0.0 inches—ensures that you'll be able to print anywhere on the envelope.

PAUSE EACH PAGE (PE): Stops printing after each envelope. If you're printing more than one, this gives you a chance to load them all.

PAPER LENGTH (PL): 4.0 inches—Use the length of the actual envelope you're printing on.

Now enter a blank line and type the return address just the way it should be printed on the envelope. Be sure that no lines are added between the printer options and the return address. (The blank line will allow the printer's gears to "catch" so that the first line of your return addressed isn't "scrunched" the way it often is when you manually insert a document.) See Figure 1.

Below the return address, add the following options:

LEFT MARGIN (LM): 4.0 inches—Starts printing the mailing address 4 inches from the left edge of the envelope

SKIP LINES (SK): 6 lines—Starts the printing of the mailing address six lines (l") below the return address.

Again, check your work with Figure 1.

Now it's time to use the Mail Merge feature to enter the category name markers for the mailing address. Without adding any blank lines, go to the Printer Options (OA-O) and type MM, for Mail Merge. A list of the categories in your database will appear on the screen. Select "Title." When AppleWorks asks you, "Omit line when all entries on line are blank?" answer Yes.

(There may be times when the letter isn't addressed to any particular individual—"Dear Sirs:"—and in those instances, the line should be left out entirely.)

After you answer Yes, you'll return to the Printer Options. Again, type MM for Mail Merge. Now choose "First Name" and, again, answer Yes to the ensuing question. Type MM once more, choose "Last Name," answer Yes, and then Escape the Printer Options.

Press Return to move to the next line. Press OA-O for the Printer Options once again, type MM, and choose "Position." Again,

answer Yes to the question about omitting the line if it's blank. Sometimes the letter you're addressing won't be addressed to the President of a company, and if it's not, you don't want a blank line—you want the line gone completely. Now Escape from the Printer Options menu.

Press Return again, then OA-O once more, and type MM. Select "Organization" and, once again, answer Yes to the question that follows. Escape the Printer Options. Using a similar procedure, enter the "Address" category on the next line (again, answering Yes to the "omit this line if it's blank category"—some organizations don't have, or need, street addresses), then Escape the Printer Options once more.

Now we'll fill in the final line with the City, State, and Zip. Press OA-O, type MM, and select "City." This time, answer "No" to the question. Without a city, the address is incom-

plete and would likely be returned by the Post Office. (Actually, the Post Office can route a piece of mail to its destination with only the ZIP Code, but it uses the city and state information to double-check the ZIP Code.) Escape the Printer Options and add a comma after the City category marker. Now go back into the Printer Options and add the markers for State and Zip, answering "No" to the "omit" question in both cases. Finally, Escape the Printer Options and compare your handiwork with Figure 1.

The format is now complete! Save the file (OA-S).

Many other formats can be quickly produced to meet your needs. The easiest way to make a new format is to load an existing Word Processor document that's close to what you need and make any necessary changes. (Since we started with the business envelope, you can change it into a personal format by deleting a lot of the category markers!) Change the name of the file with OA-N and then hit OA-S to save the file with the new envelope format and file name.

See Figure 2 for an example of an alternate format (notice that it's set up for smaller envelopes, of 6 1/2" by 3 5/8" dimensions).

TESTING THE ENVELOPE FORMAT

After you've entered the formatting for your envelope-printing task, try printing it on scrap paper. (Or use envelopes—I suggest scrap paper only because it's cheaper and less likely to jam while you're still figuring out how to align the paper.)

First, disengage the tractor feed (the mechanism that pulls or pushes paper with holes punched in it). Some printers, like the ImageWriter II, use a "push" mechanism that allows you to roll the pin-feed paper out from behind the platen while leaving it actually "parked" inside the tractor feeds. When you disengage the tractor feed, the paper just sits there, and the printer uses whatever paper you feed into it. This way, you can just re-engage the tractor feed and advance the paper back into the print mechanism when you're done printing envelopes.

Trace the outline of an envelope on your scrap paper, then load that page into the printer, with the page face-down and the envelope outline going into the printer first. Be sure that the left side of your practice "envelope" is lined up as far to the left as your printer can print. With the power off, adjust the paper feed knob so that the top edge of the envelope lines up in the middle of the printer ribbon. (If your printer has a scored line on the paper guide that indicates where the first line of print will fall, line it up about one sixth of an inch below the top of the envelope.) Now turn on the printer.

Some printers have a "paper out" sensor located behind the platen. This keeps the print-

er from actually printing on the platen (which can lead to print head damage). Depending on the model of printer you have, this sensor might prevent you printing on envelopes properly. You can disable this sensor one of three ways:

- 1 Some printers have a switch or a front-panel setting for this control. Check your printer manual.
- 2 Set up a custom printer which sends appropriate printer codes to disable the sensor, if your printer supports this procedure. Again, check your printer manual.
- 3 Fool the printer by inserting a small piece of paper between the switch and the platen. If the paper is positioned properly, it will not move through the printer, but will stay in place, making the printer think it always has paper. (If you will be printing lots of envelopes and never leave long printouts going unattended, you might do this permanently. Just be careful to never print without paper in the printer.)

Now, go to the Database file containing your addresses (OA-Q). Do a record selection (OA-R) so that only two or three records are selected. Print the database "to the clipboard" while in the multiple record format using the steps outlined previously.

Quick-change (OA-Q) to the word processor document which contains your envelope format and print (OA-P). Choose "From the beginning" and press Return. Select the desired printer and press Return. The question "Merge database items with this document?" appears. Choose "Yes." Finally, enter the number of copies to be printed (1 means to print one copy of each of the envelopes selected with the database's record selection rules earlier).

The printer will stop after printing one "envelope." Check the position of the recipient's address and the return address, then load the second envelope, making any changes you think would improve the printout's positioning. Press the Space Bar to continue printing. Repeat this procedure until all your test envelopes have been printed. If the format didn't produce what you're after, make any necessary changes to the Word Processor document.

Now it's time to try a real envelope. Turn off the printer. The trick to loading an envelope successfully is to open the flap and feed it in point-first. Using a light pressure with your hand, push the print head to the center of the platen (or to where the center of the envelope will be, if your envelope is significantly narrower than a standard page). Now open the envelope's flap and feed it into the printer so that the fold of the flap lines up with the middle of the ribbon. If the envelope isn't aligned properly horizontally or is crooked, flip the paper release lever and slide the envelope to its correct orientation. Now print the envelope as described above. If you're printing multiple

envelopes, remember to never turn the paper advance knob while the printer's power is on.

With a little practice, you'll be able to perform this loading operation in a few seconds. If you have a macro program like TimeOut UltraMacros, you can use it to automate the AppleWorks end. Printing envelopes has never been easier, and I think you'll be pleased with the results.

OTHER APPLICATIONS

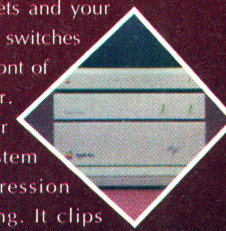
You can use a similar mail-merge technique for many other applications. Here are some ideas:

- 1 Large labels of the type used on 9" x 12" envelopes, including both your return address and the recipient's address on a single label.
- 2 Name tags with a heading like "1993 Apple Users' Convention" and including attendees' titles, names, company, and city and state.
- 3 Personalized file cards for recipes, memos, or other standardized forms.

A variety of paper colors and sizes and even pin-fed labels will spark your imagination. Don't just print it—Mail Merge it! ■

KENSINGTON
SYSTEM SAVER® GS

Organize and protect your Apple IIGS with a Kensington System Saver. It's the best selling accessory ever made for the Apple II—chosen by more than 1/4 million Apple II owners. Individual outlets help you organize your peripherals. You control these outlets and your whole system with switches mounted on the front of the System Saver. And System Saver protects your system with surge suppression and noise filtering. It clips dangerous surges and spikes at a safe level, and filters out disruptive EMI/RFI line noise. System saver also helps keep your Apple II cool for longer computer life. Its quiet fan draws cool air through the back and bottom vents, over the power supply (the primary source of heat), and out the top vents at the rate of 17 cubic feet per minute.



OVER \$70
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QUALITY COMPUTERS

Here's your chance to catch up on your reading. The next three articles, marked Sneak Peek, appeared in the Sneak Peek issue of *II Alive*. Because we are out of back issues, we are reprinting them as a courtesy to our readers.

Operation Database Storm

By Don A. Hoyt

Even if thunder rumbles from your database reports thanks to their massive accumulations of accurate facts, your readers may respond with gaping yawns. After all, some people sleep better in a storm.

It's lightning that does the trick. To put lightning into your reports, don't create a new Tables format. There's a better way!

AppleWorks' greatest strength is its integration—the ability of the word processor, database, and spreadsheet modules to work together and share data. The most overlooked way of sharing data between modules is the word processor's mail merge feature. That's a shame, because the word processor lets you arrange your data any way you like. With mail merge, the word processor becomes a custom report generator that's built right into AppleWorks. Now that's lightning!

Your careful computations will flash through in varied print sizes, some entries printed in plain type and some in boldface, some with category names and some without, and some underlined—in other words, all the excitement of a word processor document in a database report.

As the Planning Director for a small city, one of my duties is warning property owners of "nuisance code" violations like overgrown lots. My truly awesome power derives from a supply of first-class postage stamps, a simple twenty-three category AppleWorks database, and several mail merge letters (with a little help from the City Council). The Mayor demands frequent updates; it is here that I truly want lightning.

GRASS ROOTS MAIL MERGE

I'll use my GRASSFILES database to demonstrate how I electrify my reports, but any one of your own will do. Boot up to AppleWorks 2.0 or later. (Versions below 2.0 don't have a mail merge function.) After loading the file, zoom in with open apple-Z (OA-Z) to your first record. Dump it from your screen to your printer with OA-H. Now you have a complete list of your category titles from which to work.

The report format shown in Figure 1 is typical. To get it I created a Tables report (OA-P, 2, Rtrn) called MASTER. I used OA-Right and OA-Left to adjust my column widths, and I used the OA-> and OA-< keys to position the categories across the page. Even at seventeen characters per inch (OA-O, CI, Rtrn, 17, Rtrn) only ten of my twenty-three categories fit in the report. Worse, even with my ImageWriter II in high quality print mode, the report is, well ... typical.

One way to include more categories is to

are going to get knocked off. (If you're wearing shoes, you may want to remove them. Sock-knocking can wreak havoc on unsuspecting footwear.)

On the first two lines, enter your report titles, followed by a long line of equals signs. After these lines, enter only the print command for seventeen characters per inch (OA-I, OA-O, CI, Rtrn, 17, Rtrn, Esc) which gives you the widest screen display while you work. Now you can begin entering titles and special formatting features to jazz up your report.

Page 1
9/10/89

File: GRASSFILES
Report: MASTER
CASE # OWNER

INIT	DATE	ST	ADDS	SUBW	BLOCK	LOT #	1ST	DOLA	D	RSSTRD	LTT	FILE	CLOS
87-002	Carroll heirs/ Laura Brown	May 15 87	219 Jackson							May 25 87	May 15 87	Jul 6 87	Jun 10 87
87-003	Fairel Hetchell	May 15 87	209 Jackson									Jul 6 87	Jul 6 87
87-004	J. P. Knight	May 15 87	214 Su-Duak-Hatch-Ah	Su-qaak-natch-ah								Jul 7 87	Jul 30 87
87-005	Deposit Trust Savings Bank	May 15 87	206 Powell	Traveler's Rest	13	10 & 11	Jul 3 87	Jun 23 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87
87-006	Etele M. Lee	May 15 87	406 Cypress	McClain & Crosby	4	50 ft on Cy	Jul 21 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87
87-007	Bixon Corp.	May 15 87	505 N 7th St.	Flournoy's 1st	23	1, 2 & 3	Jul 21 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87
87-008	B. Harris c/o Estella Mack	May 18 87	426 Lee Street	McBee Addition	N	3	Jul 20 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87
87-009	Adell C. Burnett	May 29 87	1613 Trenton	Register Add	2	lot in lot	Jul 20 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87
87-010	Richard Bamberg	May 27 87	911 Cypress St.	G B Baynes Add.	C	1	Jun 19 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87
87-011	Commercial Properties Dev.	Jun 1 87	7th & Shaw	McQuire Hillnd Prk	4A	8	Jun 19 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87
87-012	Gretchen Kovac	Jun 1 87	Herman & Class				Jun 19 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87	Jun 9 87
87-013	Farmerville Bank (Tom Post)	Jun 9 87	701 Spiane Dr.	Spiane Place	6	4, 5, & 1/2	Jul 21 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87	Jul 7 87
87-014	Y. A. Roberts	Jun 10 87	615 N 6th Street	Flournoy's 3rd	6	1	Jul 20 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87
87-015	Jesse Hawthorne	Jun 10 87	611 N 6th Street	Flournoy's 3rd	6	3	Jul 20 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87
87-016	Barbara Dmyry	Jun 23 87	Brent Rd. (Marie Joh	10 acres	Sec 3	W 1/2, SW 1/4	Sep 14 87	Sep 4 87	Sep 4 87	Sep 4 87	Sep 4 87	Sep 4 87	Sep 4 87
87-017	Gerald L. Beath	Jun 23 87	304 Browning	Riverbend Add.	1	3 & W 1/2 o	Jul 20 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87
87-018	James B. Sparks, Jr.	Jun 18 87	3709 Cypress	TN 18 Prntng S SI	Aug 11 87	Aug 11 87	Jul 31 87	Aug 5 87	Aug 5 87	Aug 5 87	Aug 5 87	Aug 5 87	Aug 5 87
87-019	Smith-Jenkins Co.	Jul 2 87	Warren Dr. (ohnd Saf	Safeway Stores	1st 5 3	32 & 33	Jul 25 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87
87-020	William B. Hayes, Jr.	Jul 2 87	125 Lomaland	Highland Prk # 8	44	44	Jul 20 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87
87-021	San Elias	Jul 2 87	101, 3, 6, 8, & 10 E	Elas Add #2	4	9, 10, 15	Jul 20 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87	Jul 6 87
87-022	Mr. John Massey	Jul 2 87	908 Haynes	T 18 N R 3E	SBC 4	(abt) 8 acr	Jul 25 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87
87-024	Bernon E. Butler	Jul 15 87	905-7 Trenton St.	A & E Northern	12	10 & 11	Jul 25 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87	Jul 15 87
87-025	Louis Costanza	Jul 12 87	184 S. 5th St.	A & E Southern	6	1 thru 7	Jul 27 87	Jul 17 87	Jul 17 87	Jul 17 87	Jul 17 87	Jul 17 87	Jul 17 87
87-027	Franklad R. Media	Jul 23 87	1914 7th St.	Woody Square			Aug 11 87	Jul 31 87	Jul 31 87	Jul 31 87	Jul 31 87	Jul 31 87	Jul 31 87
87-028	W. L. Capers	Jul 23 87	128 Lee St.	Claiborne Add.	3	S. 50' of 1	Aug 11 87	Jul 31 87	Jul 31 87	Jul 31 87	Jul 31 87	Jul 31 87	Jul 31 87

Figure 1

create a Labels report. A Labels report makes more noise but, alas, generates even less light because it's difficult to compare one record to the next.

Instead, create a word processor document as your report and merge the data into it. But wait—isn't that even worse? Won't you end up with only one record on each page? O ye of little faith!

KNOCK THEIR SOCKS OFF

Escape to the main menu, select "Add Files", select "Make a new file: for the word processor", then select "from scratch" (Esc, 1, Rtrn, 3, Rtrn, Rtrn). Let's call the new document SOCKS, because it is your socks which

One thing to keep in mind while working on your report is that print options like bold (Ctrl-B) and underline (Ctrl-L) appear as little markers on the screen. These markers take up space on the screen, but not on paper. Keep this in mind when trying to line up columns or writing all the way to the edge of the page.

Not every category you intend to merge into the document needs to be labeled in the word processor. For example, I have four categories of owner information that I grouped together under one heading; and, since most of my categories are date fields, I created a "CASE FILE ACTION DATES" subheading so the word "date" can be omitted elsewhere without confusion.

Before you can enter the database categories into your document, you must put some information from the database onto the Clipboard. Return now to your database (OA-Q, 1, Rtrn). Create a new Tables format named SOCKS like your WP document (OA-P, 2, Rtrn, SOCKS, Rtrn) and print it to the clipboard (OA-P, 5, Rtrn, Space, Esc, Esc). You must use a tables format. Forget about layout specifications, since your mail merged word processor document will handle all the formatting. You may want to add some record selection criteria later, but for now let's send it all.

Back now to the SOCKS word processor document (OA-Q, 2, Rtrn). Position the cursor after your first data title, which in my report is "Case Number" and insert the proper category (OA-O, MM, Rtrn). Your screen will display the categories in the database you just printed to the clipboard. Choose a category from this list by scrolling with the Up or Down arrow and pressing return. When AppleWorks prompts you for a Yes or No answer, choose Yes (Y, Rtrn, Esc).

Continue this process for the rest of the categories you wish to insert into your custom report. When you print this word processor document, data from the selected categories will appear "lightning-fast" in your document. One copy of the document will be printed for each record in the database.

There are only a couple of things to be careful of. First, when you insert a category using MM, it may wrap around on the screen because at this point you are looking at category titles, not category contents—the content, when printed, may be much shorter than its title on the screen.

Second, AppleWorks 2.0 and 2.1 have no true Tab function. So if data merged into the left side of the page varies in length, the positions of everything to its right will change as well. To overcome this second problem, try always to place category contents of equal length like dates on the left or devote a whole line to the one item. Better yet, upgrade to AppleWorks 3.0.

LIGHTNING STRIKES TWICE

To put the flash in your report, insert the print commands shown in Figure 2 at the beginning of your document (OA-O, etc.). Note that by widening your left and right margins, even though it might not help on the screen, some longer items won't wrap around unexpectedly on the page.

Don't forget to set the "Accepts top of

page commands" option for your printer to No. If you've printed labels before, you've probably already done this. If not, escape to the main menu, select "Other activities", and choose "Specify information about your printer" (Esc, 5, Rtrn, 7, Rtrn, 4, Rtrn). (AppleWorks 3.0 requires you to select "Select standard settings for AppleWorks" from the "Other activities" menu, then choose "Specify information about your printer.") Option 2 on this menu, when

once "drift." No, "drift" is not some kind of middle-age crisis; it's caused by trying to print weird-sized documents on ordinary 11" paper. If the number records you're printing on the page don't fill a page completely, the records won't land in the right places on pages after the first. The key to printing multiple records per page with mail merge is knowing how to eliminate drift. It involves a little math (sorry).

Printing one record on each page does not cause drift. And as you've already seen, printing two records on a page does not result in drift because it's easy to divide an 11" tall page into halves. Since the printer divides each inch into six or eight lines, the half-inch doesn't cause a problem.

Printing eleven 1" tall records on each page works equally well. Simply set your paper length at 1" with no top or bottom margins, limiting your lines per record to 6 (set line spacing LI=6) or 8 (set LI=8). Any other number of records will cause drift because they don't divide into 11 evenly.

If you need a report with five records on each printed page, you can make it work by minimizing drift. Set your paper length to 2.1 with no top or bottom margins and limit your report to 12 or 14 lines at 6 or 8 lines per inch, respectively.

With your page length set at 2.1, your documents will drift 3 lines every page. To correct it, simply press the select button on your printer once and issue three line feeds for each printed page. (This is easiest if you include a Pause Here, PH, command at the end of the word processing document. Hit the space bar after each record and remember to advance the paper every third record.)

Don't bother wrestling with any other formats than 1, 2, 11, or (if necessary) 5 records per page. There is simply too much drift.

BOUND FOR GLORY

Most of the time a quick "tables format" report suits my needs well enough, but when the boss will be looking at my reports, I like them to rumble modestly and flash with lightning. You can exercise your creativity, communicate your information, and impress the boss all at once by taking just a bit of extra time to use the mail merge function for your otherwise dull database reports. ■

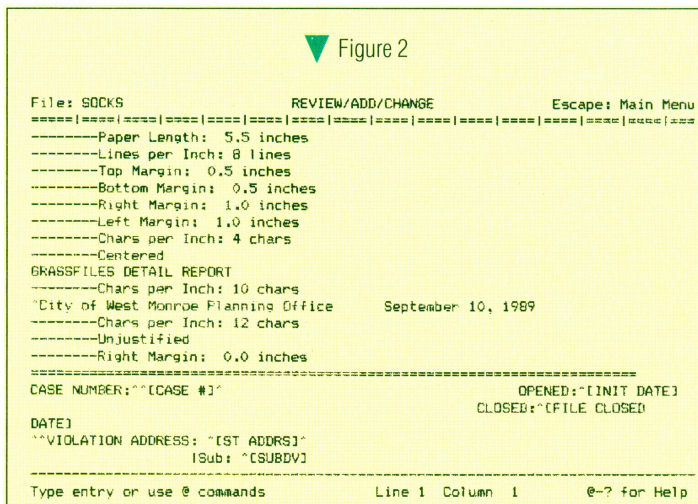
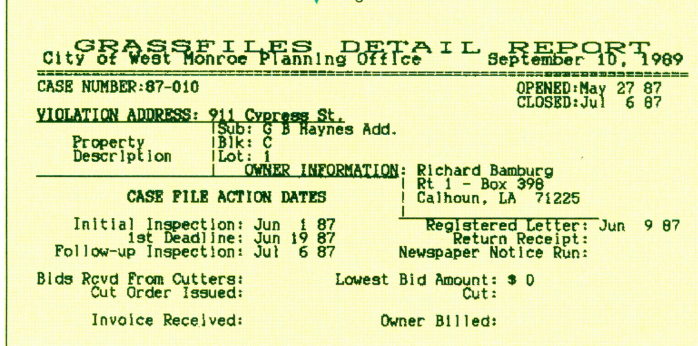


Figure 3



selected, will reverse the setting from Yes to No. If you don't change this setting, only one record per page will be printed no matter how your document is formatted. (You can leave this item set to No even for your regular print jobs with no ill effects. In fact, I recommend it.)

Now back to your word processing document (Esc, Esc, Esc, Esc, etc.) and print (OA-P, Rtrn, Rtrn, Rtrn, Rtrn). You now have a two-record-per-page detail report (see Figure 3), with lots of flash and with every category included, suitable for ring binding and proud display. Before I print the data to the clipboard, I go back to the database file and sort on "CASE #" (OA-A, 1, Rtrn, Esc), so that the detail report is printed in that order.

DRIFT DODGERS

Just as everyone experiences the blahs now and then, they also occasionally experi-

NO EXCUSE

for

Ugly Output

part one:

ImageWriter Innards

by Bill Carver

IF your printouts don't look quite as good as you'd like them to, do something about it! Simple things like a printer cleanup or a good ribbon can help immensely, and there are also software solutions that can make your printing look its best. In the end, you may decide you need a new printer to replace your ImageWriter—today's latest models make laser-quality output surprisingly affordable. This is the first in a series of articles that will help you get the most out of your current printer and let you know what to look for in a new printer.

If you have an ImageWriter II, here are a few simple tips that will keep it running at its peak. Some of the tips will also apply to other printers, although the instructions for removing and cleaning the print head will probably be different for your printer.

Tie A Printer Ribbon...

When your ImageWriter printouts smeared, streaky, or light, try the obvious first: put in a new ribbon. Be sure you're using good quality ribbons, either Apple's own brand or a reliable replacement. The reason? Cheap ribbons don't have lubricated ink, and these can eventually cause the pins in your print head to stick. Also, good ImageWriter ribbons have a Mobius twist to make sure both sides of the ribbon gets used, but cheaper ones only use one side.

If you re-ink your ribbons, be sure to check the physical condition of the ribbon before each re-inking. Some ribbons can be re-inked dozens of times; the cheaper ones fall

apart after only one or two re-inkings. Again, make sure you're using lubricated ink. If you don't have a re-inker, you can often extend the life of a dying ribbon by spraying it with WD-40. Let the ribbon stand for a day or so before trying to use it. Naturally, this also takes care of the lubrication problem.

Use one ribbon for everyday printing and set one aside for "Sunday best." That way, you always have a virtually unused ribbon handy. When the "best" ribbon begins to get light, start using it as your everyday ribbon and rotate a new or reinked ribbon into service as your "best" ribbon.

Routine Maintenance

Here are a few things you can check frequently to keep your printer in top condition.

Take the top off the printer and look inside. Are there any foreign objects in it? Many printers accumulate little paper circles from paper in which the tractor-feed holes aren't completely punched. (You can avoid this by getting better paper.) If there's a lot of dirt or dust, use a small vacuum to suck it out, or a can of air to blow it out.

Next, check the paper thickness lever—the black lever inside the printer on the right side of the platen (the big rubber roller). When you're using only a single sheet of paper in your printer, the lever should be all the way up. Otherwise, you may get light or streaked output. (By the way, you can use this lever to intentionally create "pastel" printing with a color ribbon. Just push it all the way down for lighter colors.)

If you notice light streaks of ink at the edges of your page, you may need a new paper guide. The paper guide is the small piece of clear plastic with an oval cut through the middle just in front of the print head. It keeps just the right amount of tension on the ribbon so the ribbon touches the paper only when the pins are extended. Over time, the guide may become torn. This will eventually prevent the ribbon from being pulled away from the paper and will cause streaks to appear wherever the print head moves. You can probably get a new paper guide from your Apple dealer—but you'll have to remove the print head to get it out. Read on for instructions on removing the print head.

Check Your Print Head

If you notice thin horizontal white lines through your printouts, one of the pins in your print head may be stuck. Cleaning the print head is a fairly easy operation, but a mistake can be costly—new print heads cost about \$150. If you're not confident about your ability to perform this operation, take your ImageWriter to an Apple dealer for repair. With that warning, here's how to do it.

First, remove the top from the printer. Take out the ribbon so you have free access to the print head. Gently slide the carriage all the way to the right side of the printer. Find the white plastic lever to the right of the print head. With your left hand, grasp the print head by its base—the large cylinder toward the front of the printer—and bend the plastic lever to the right just enough to free the print head. You'll need to pull on the print head with a good amount of force to get it out, but it should be no harder than removing an interface card from one of the slots in your computer. Do not rock the print head, and be very cautious not to break off the curved plastic piece that's attached to the front of the head.

Now that the print head is out of the printer, it's time to clean and lube it. Look at the front of the head and find the print wires—a small square with nine smaller squares in a vertical line. Spray the wires with WD40 at close range. (Make sure you have a piece of newspaper ready to catch the drips!) If the print head is still badly encrusted with debris, dip the pins in rubbing alcohol for a couple of minutes, let them dry for a few moments, then spray them again. Do not rub or brush the pins; they are very easily bent.

Now remove the paper guide. Using a small magnetized screwdriver, remove the two gold screws that hold the guide in place. If you drop the screws into the printer, you'll have to go to an Apple dealer to get them back out, so be careful!

Hold the guide in front of a piece of white paper. Is the oval perfect, or do you see tears around the edges? If it's torn, take it to your local Apple dealer. While Apple dealers generally don't give out service parts, many will sell you a paper guide, figuring that if you got the

print head out, you can probably get it back in too. The guide should only cost a couple of dollars.

Now it's time to re-install the paper guide (the old one if it's not damaged, or the new one if you had to replace it). Screw it back into place, but don't tighten the screws yet. Pull the paper thickness lever all the way down, then push the paper guide forward as far as it'll go, and then push the paper thickness lever all the way back up. This makes sure the guide is in the right place. Now tighten the screws—they should be snug, but not so tight that the guide is cracked.

Finally, replace the print head itself. This step is tricky, so be careful. The carriage should still be on the right side of the printer. Align the print head circuit board with the socket which holds it and push the print head to the right to bend the white lever. When it's all lined up, gently push down and jiggle the print head into place. When it's fully seated, the white lever will spring back into place.

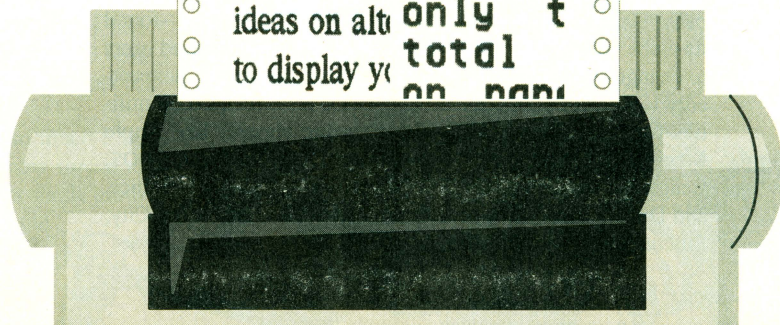
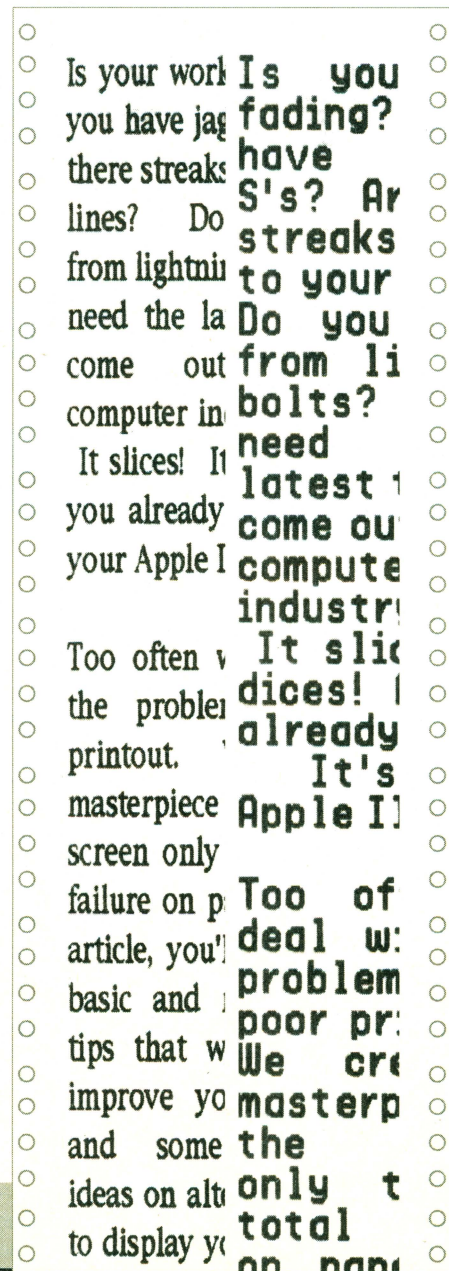
Don't put your ribbon back yet. Load some paper into the printer and run the self test without the ribbon. Press the form feed button and turn on the power. After the carriage has moved to the center of the platen, release the form feed button and the self-test will begin. Run the self-test until the printer no longer leaves any ink on the paper, then turn off the printer. This makes sure any leftover gunk ends up on the paper instead of in your ribbon.

Now replace the ribbon and run the self test again. The letters should be clearly formed, without any white horizontal streaks. If you still see streaks, try another ribbon; if the problem persists, you may need a new print head. New and used print heads are available from a number of companies, so you can do the replacement yourself, or you can let your Apple dealer do it.

If everything is running smoothly, be proud of the wonderful work you've done and the money you've saved!

Coming Up

In the next installment of this series, I'll explain how the Apple IIgs printer drivers interact with your fonts. This knowledge will help you format your documents to take full advantage of your printer's maximum resolution. We'll also investigate how scalable fonts can improve your printouts and save disk space. See you then! ■



Here we are again!

*Do you ever
experience déjà vu?*



What Happened To Beagle Bros?

by **Joe Gleason**

The Beagle Bros name has been synonymous with high-quality software since Bert Kersey started the company twelve years ago. Kersey originally put the legend "Est. 1980" in the Beagle Bros logo as a joke—but it turned out to be no joke after all: Beagle Bros is one of the oldest and most-respected brands in the computer industry.

The "Est. 1980" joke is typical of Beagle Bros' sense of humor. The company's advertisements and manuals featured old-fashioned woodcuts, often with outrageous captions. The logo was reminiscent of an old-time Smith Bros cough drops box (some disks included an animated version of this logo in which the brothers' hair switched places). There was even a "company portrait," again with old woodcuts and "employees" like Elsie Dee, Len Adollar, and Flo Chart. And who could forget their inimitable 5.25" disk sleeves, with their warnings against putting disks in alligators and toasters?

But Beagle Bros provided more than a sense of fun, though that was an important factor in their success. The company—which Kersey originally intended to sell games—found its niche when sales of DOS Boss, a utility which allowed users to change DOS command names and error messages, unexpectedly took off. For several years, Beagle Bros focused on utilities for hackers and hobbyists, releasing classics like Apple Mechanic, Flex Type, Triple Dump, Extra K, Pronto DOS, Beagle BASIC, GPLE, D Code, MacroWorks, Beagle Graphics, and Double-Take, as well as "grab bag" disks like Utility City, Silicon Salad, and Tip Disk.



In 1987, Kersey's longtime associate and Beagle Bros author Mark Simonsen bought Beagle Bros. The change of ownership brought some new utilities—Alan Bird's Program Writer, which had previously been published by Simonsen's other company, The Software Touch, was one—and some changes. Witnessing the runaway success of Apple-Works and recognizing the potential market for Apple-Works add-on products, Beagle Bros introduced the TimeOut series.

The TimeOut programs were an instant smash, thanks to their tight integration with AppleWorks and their ease of operation. Beagle's only competition, Pinpoint, was sluggish and incapable in comparison. (Beagle Bros later bought out the company that published Pinpoint, adding Point-To-Point to their lineup in the process.) Claris, the Apple subsidiary that ended up publishing AppleWorks, was so impressed that they contracted Beagle Bros to produce the AppleWorks 3.0 upgrade. In a separate deal with Claris, Beagle Bros ended up with several programs formerly published by Styleware, which Claris had bought to obtain GS Works (which became Apple-Works GS). More TimeOut products followed, along with a number of IIgs-specific programs. Many of these programs are still on Apple II best-seller lists.

Such momentum seemed unstoppable. But in 1990 Beagle Bros changed its direction once more. The AppleWorks concept (truly integrated database, spreadsheet, and word processing) was finally beginning to catch on big in the MS-DOS and Macintosh markets. After the work the company had done on AppleWorks 3.0, Simonsen felt ready to jump into the Macintosh market with a "Mac AppleWorks" of their own—they called it BeagleWorks.

Unfortunately, other companies—giants in the Mac market such as Microsoft, Claris, and Symantec—had the same idea. Their resources were far greater than Beagle Bros had imagined, and the race was costly. Toward the end of BeagleWorks' lengthy development cycle, Beagle Bros even had to close down its telephone technical support department to focus more resources on BeagleWorks.

BeagleWorks finally shipped in February, 1992. Although powerful and feature-packed, it was the last integrated package on the scene. Despite good reviews, early versions had bugs, and Beagle Bros had to halt shipment while the bugs were fixed. To win against Microsoft, Claris, and Symantec, BeagleWorks now had to be definitively the best—not just the best product but also the best marketing, support, and distribution.

The company had invested so much time in BeagleWorks that they were now forced to focus their company 100% on this single product, and so in March, 1992, Beagle Bros sold the distribution and support rights of their venerable Apple II line to Quality Computers.

It bought them a few months. But BeagleWorks, despite its excel-

lence, was no match for the marketing muscle of the other three players in the integrated software arena. Finally, Simonsen sold BeagleWorks to WordPerfect Corporation in October, 1992 and accepted a position as Director of Development there.

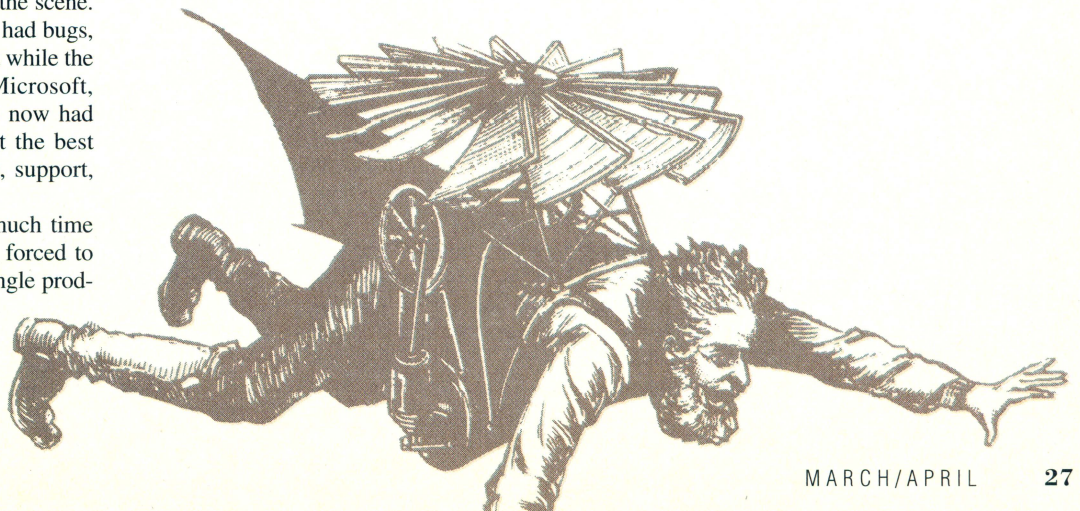
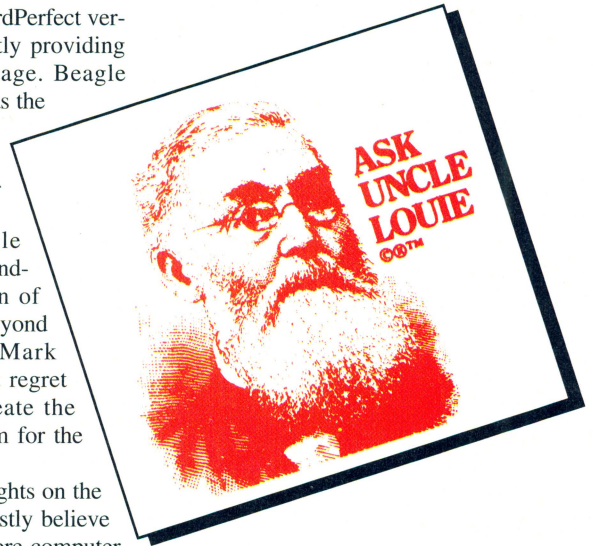
An updated version of BeagleWorks, to be called WordPerfect Works, will be released early in 1993. Current BeagleWorks owners will be able to upgrade to the WordPerfect version, and WordPerfect is currently providing technical support for the package. Beagle Bros' Apple II products, as well as the company's other Mac product, Flash, will continue to be sold and supported by Quality Computers.

Early in November, Beagle Bros officially closed its doors, ending a twelve-year-long tradition of service and support above and beyond the call of duty. By phone, Mark Simonsen told *II Alive*, "I don't regret what we did. My dream to create the most powerful integrated program for the Mac is still very much alive."

When we asked him his thoughts on the Apple II market, he said, "I honestly believe the saying that the Apple II is more computer than most people will ever need. The excitement and enthusiasm that we felt in the Apple II market is unparalleled. My family and I still use and enjoy our Apple II."

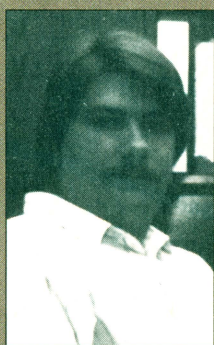
Most of Beagle Bros' authors worked on contract and were never actually employees of the company. Many of these authors, including Matt Reimer (Platinum Paint) and Dan Verkade (TimeOut Grammar) are continuing to work on new Beagle Apple II products. Several former Beagle Bros authors, including Alan Bird and John Oberrick, are involved with WestCode, publishers of InWords and Pointless; Randy Brandt's company, JEM Software, recently released the next-generation AppleWorks macro language, Ultra 4. It's safe to say that there will continue to be Beagle-related Apple II activity for quite a while.

Our best wishes to Mark Simonsen and the other former Beagle Bros as they pursue their new directions. It was a good twelve years, guys. ■



AN INTERVIEW WITH

by Walker Archer



D. PRONI

*D. Proni is the founder
of Econ Technologies,
and the creator of the
Pegasus Internal SCSI
hard drive, AE Fax,
Signature GS, AutoArk,
and Universe Master.*

II ALIVE: By the way, what does the “D.” stand for?

D. PRONI: Duilio. A fine Italian name. But people have so many problems with it that I’ve just been going by “D.” for several years now.

II ALIVE: How did you first become involved with the Apple II?

D. PRONI: I became involved with the Apple back in 1980. I was in high school and decided I needed to learn to program a computer. After checking out the alternatives, I ended up with an Apple II+. I started off with Applesoft BASIC, progressed to assembly language, and relied on my Apple II system for several years, until late 1986 when I finally stepped up to an Apple IIGS. At that point I decided to start writing utilities for the Apple IIGS.

II ALIVE: What were some of the first programs you wrote?

D. PRONI: They were programming-oriented. The reason for that was that I had purchased the Apple IIGS to get me through college. I was taking computer science courses, and I was appalled at the lack of IIGS programming utilities compared to other systems I was using in school. I wrote text libraries that performed high speed screen updates and some standard Unix-type utilities, and a few other libraries. These programs were published by 360 MicroSystems.

II ALIVE: So most of the products that you developed at that time were marketed to developers?

D. PRONI: Developers, and people who program for a hobby. The developer after-market was never very strong for the IIGS. I think the marketing of the IIGS never really convinced mainstream developers—the Microsofts and Borlands and Lotuses—to write for it.

II ALIVE: What happened to 360 MicroSystems?

D. PRONI: They went out of business. The IIGS stuff was really just a sideline for them; they did a lot of development on other platforms. Also, I had some disagreements with the management of 360, and when the company crashed I knew I wanted to start a company of my own and try to do things better.

II ALIVE: You mean Econ.

D. PRONI: Right. Like I said, the developer market wasn’t too strong. Hobbyists may have liked what we were writing, but they didn’t really have the funds to buy all of it. So you couldn’t make a very good living writing that stuff. Also, I was appalled by the number of companies that were leaving the IIGS market. I thought that was pretty stupid, since there were still plenty of IIGS users out there. That’s why I decided to start producing products that to keep the million or so Apple IIGS users happy.

II ALIVE: What part of the manufacturing business do you find to be the most rewarding?

D. PRONI: I like keeping people happy with their IIGs. People have told me that they were just about to give up on the IIGs until they saw a new product announcement for something they just had to have. I want to keep the new products coming. I'd say that keeping people involved with the Apple II, and not going to the Macintosh or MS-DOS, is definitely the most rewarding part.

II ALIVE: If Apple were to miraculously make one dramatic improvement to the IIGs, what would you like to see them do?

D. PRONI: A lot of people complain about speed, but I feel the biggest weakness of the IIGs is its video capabilities. They were impressive back in 1986 compared to hi-res, but we really need support for larger monitors and higher resolutions. Even a 9" Macintosh screen has more dots on it than a IIGs screen, which makes it much easier to see what you're doing. If better video support were added to the IIGs, we'd see a whole new generation of applications.

II ALIVE: Do you think that small companies like Econ can continue to thrive doing this type of development for the GS?

D. PRONI: It's been possible from the day I started Econ, and it's still possible! I hear rumors all the time about how some big company was looking into doing such and such a product, but for various reasons they scrapped the idea. Those are the kinds of products that we want to develop at Econ. We're addressing both the lack of horsepower and the video problems of the IIGs right now, and hopefully, by the end of this year, we'll have two pretty significant hardware products that will solve these limitations.

II ALIVE: That sounds great! What else do you have in store for 1993?

D. PRONI: Well, there are also two versions of the *SoundMeister* stereo card in the works, and a major update for *Universe Master* which will add an optimizer. Those should be out early in 1993. I have some other ideas, too, but nothing I can talk about right now.

II ALIVE: Do you find that there are more advantages or disadvantages to being a small vendor?

D. PRONI: Being a small vendor does have both advantages and disadvantages. The disadvantages appear in terms of resources, both human and monetary. Our full time staff consists of two people. Part time adds an additional three bodies, but they can only help so much when they are working six hours two or three days a week. Not having deep pockets really inhibits what you can do. The advantage is that you have lower overhead, and therefore you don't need as many sales to be profitable. This makes it possible to do small niche-market products that a bigger company would laugh at. Also, it's much easier to keep in touch with the market when the person who owns the company and designs the products also talks to customers on the phone every day.

II ALIVE: So you'd say that your direct contact with customers has really helped Econ?

D. PRONI: It does help a lot. I think many developers wear blinders. Either they don't see an obvious product opportunity, or they invest a lot of resources into a product that their customers don't really need or want. The really big companies are used to creating markets for their products, and that just doesn't work in the IIGs arena. IIGs users don't let manufacturers tell them what they need. That really caused a lot of companies to scale back their efforts in the IIGs market or get out of it entirely, just because they didn't understand how the market works, which happened because they didn't stay in touch with their customers. Few of those firms would consider entering or returning to the IIGs market at this point, and they'd think anyone who started a new Apple II company was crazy. So being small—and a little crazy—has allowed us to stick around, look for opportunities, and take advantage of a product's potential to the fullest, without having to worry that a big company's going to step on one of our products with a competing product. Now is definitely the time for small Apple II companies to find a niche.

II ALIVE: What is the biggest challenge of bringing a finished product to the Apple II market?

D. PRONI: Getting it done! (Laughs) More seriously, though, I'd have to say marketing is the biggest challenge. It's getting more difficult. Every day some marketing channel or another seems to dry up, with magazine circulations falling off. That's one of the reasons we're so excited about *II Alive*. You're an energetic group of people who still believe in

the Apple II market, and in that respect you're a lot like us here at Econ. Both of us have a stake in the Apple II because we make a living from it. A magazine like *inCider* doesn't really have that stake, because they're owned by a publishing conglomerate. If *inCider* stops being profitable, IDG can just stop publishing the magazine and put the staff on some other project. The editors still get to eat. With *II Alive*, though, if the Apple market dies out, that directly affects Quality's business. So we both have a dual personal and financial commitment to the Apple II market. We're really looking forward to advertising in *II Alive*. Just getting the word out on new products is pretty challenging without an outlet like that.

II ALIVE: While other companies are abandoning the Apple II market, why have you chosen to continue supporting it?

D. PRONI: First and foremost, because I've been an Apple II user since 1980. I'm a self-declared aficionado. I really love the machine and would hate to see it fall into disuse. I realize that nothing is truly forever in the computer industry, and that twenty or thirty years down the road the Apple II probably won't be around, but the Apple II still is a very powerful machine for individuals. We haven't yet realized its full potential. I'd hate to see the Apple II abandoned now, when there are still many enthusiasts like me out there. These people are the diehards. The folks who were going to give up on their Apple IIs at the first sign of its demise are already gone. The rest of us know that as long as people are using the machine, there will be companies around to support them, and vice versa. We at Econ are developing applications to help these people get the most out of their computers. The Apple IIGs has capabilities built into it that the Macintosh and PC people are just now starting to address. One good example of that is sound cards for the PC.

II ALIVE: Any final comments?

D. PRONI: My advice to the Apple II users is that they shouldn't give up on their computers just because Apple has. It's still a great piece of hardware, and as long as there are companies like Econ supporting it, you'll keep finding new ways to get the most out of your machine. Our main goal for 1993 is to keep releasing new hardware and software products to keep the II alive. ■

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The Online Experience

by Jerry Kindall

Modems and telecommunications have a mystique which I can only describe as, well, mysterious. Perhaps it's the words themselves. "Modem" certainly is a bizarre one, even for a techno-coinage, and "telecommunications," despite being composed of easily-recognized roots, is a big one. Maybe it's the fact that you can't really understand what it's all about until you've actually experienced it.

Probably worst of all is the fact that telecommunication has a reputation for being difficult. While it does have its unique tribulations, it's no harder than anything else you can do with your computer, and it's certainly one of the most rewarding things you can do. Yet for some reason, hardly anyone (less than 25% of Apple II owners) has a modem. And if you don't have a modem, you probably don't know what you're missing.

This first installment of Modem Nation will remedy that. We'll skip most of the technical stuff and concentrate directly on what a modem can do for you.

SO WHAT'S A MODEM?

Your computer, as you probably know, thinks of everything in terms of numbers—zeroes and ones. Sounds, text, graphics—even programs are reduced to numbers inside your computer. The data emerging from your computer's serial port is a stream of numbers, and is therefore referred to as a digital signal. But the phone system is designed to transmit sound—an analog signal. The two types of signals are incompatible at a basic level. You can't just plug a serial cable into your telephone jack and expect anything useful to come out at the other end of the line.

Enter the modem. The transmitting modem converts the digital signals that come out of your computer to sounds, then sends these sounds over the telephone line. At the other end of the connection, the receiving modem converts the sounds back to digital signals and sends them into the serial port of the receiving

computer. The sounds modems make are unintelligible to humans; to the naked ear, modem transmission sounds like a cross between a screech and static.

Converting a digital signal to sound is called modulation; converting the resulting sound back to a digital signal is called demodulation. The word "modem" is short for "modulator-demodulator"—which is what the devices were actually called by the engineers who invented them. That name lasted about five seconds outside the lab—real people rejected the whole mouthful of syllables and promptly abbreviated it. For some reason lost in the mists of time, "modem" is pronounced "MOE-dem" and not "MOD-eem" as you might expect from its component parts.

If changing data into sound and back just to get it from Point A to Point B seems like a terrible pain in the neck, well, it is, sort of. The technology involved is neither elegant nor simple. But despite the inherent limitations of the phone system, today's modems are an effective and affordable way of getting data back and forth through the phone lines.

In the future, digital telephone networks will allow us to send data directly through the telephone networks at incredible speeds. We won't need modems, although we will need network interface boxes. It's called ISDN, Integrated Services Digital Network. Until it's finally here, though, modems will have to suffice.

WHAT GOOD IS IT?

All right, a modem allows you to transmit and receive data across your phone lines. So who do you call? What do computers say to each other? In short, why would anyone want one of these things?

Well, forget your mental images about computers talking to each other. We're not dealing with machines that go beep in the night. The real reason to buy a modem is not to talk to computers—but to talk to other people. The primary vehicle for talking to other people



with your modem is the Bulletin Board System, or BBS.

A BBS is where people hang out online. ("Online" is more of a place than a modem status—it's where you "go" when you connect to a BBS. Of course, you don't really go anywhere, but it's very easy to think of calling BBSs as traveling through a phone line once you've done it.) As the name implies, conversations on a BBS occur in the form of messages posted by the people who use the bulletin board. One user might ask a question. The next person to call the BBS might read the message and post a response. The next user might clarify and elaborate on the response or answer the question from a different angle. And so on. When the person who asked the original question calls back the next day, there might be a dozen responses to his or her original message. It's all menu-driven and pretty simple to operate.

Most BBSs have several independent message areas. Each message area carries one thread of conversation. One might be for general chat among the users of the system. Another might be for computer-related discussions. Still others might discuss religion, politics, model railroading, science fiction, music, knitting—anything and everything the users of the system are interested in. Dozens of simul-

taneous, intermingled conversational "threads" just waiting for you to read and contribute to.

Do BBSs seem like a long, involved way to have a conversation? Well, if you want to say something to a particular person, it'd be faster to just call them on the phone. But the best part of BBSing is that you never know who's reading your messages, or who will reply. You'll "meet" people you might never meet otherwise—from across the country and around the world—and immerse yourself in new ideas and new viewpoints. It's a glimpse into the future of the global village, where everyone knows everyone else and distance is no obstacle to communication. And where nobody cares about race, religion, age, or physical disabilities. Or even what kind of computer you use.

Most BBSs are run by ordinary people from their homes as a hobby. There are probably dozens in your area, a local phone call away. And most charge no membership fees.

Virtually all BBSs also offer electronic mail (to send private messages to other users of the system), file libraries (for acquiring new programs and data files for your computer), and online games (where you can compete with other users). Some BBSs even allow more than one person to call in at once—these BBSs often feature multi-player games or real-time chats, where you can actually interact with the other callers "in real time." ("Real time" means that a message you send will be read by other users

instantly, as opposed to normal BBS activities where there's a time delay between the time you post a message and the time someone else reads it.)

And then there's networking. We'll talk about networking more in future installments of this series, so for now, let's just say that networking allows BBSs to pass messages back and forth around the world and for everyone on all the networked BBSs to contribute to discussions. As you can imagine, this brings an even greater range of experience and opinions onto your computer screen.

Some BBSs let you use an "alias" instead of your real name. These systems can be great places to relax and let your hair down, to discuss controversial issues, or just babble aimlessly. No one needs to know your true identity—you can become someone else online. (On the other hand, some of these systems are infested with immature users and perpetrators of copyright infringement. Those kinds of systems will usually be pretty obvious from the start.)

Since BBSs are run by individuals and not faceless corporations, each BBS has a different slant, usually reflecting the interests and personality of the sysop. Some sysops maintain a relaxed, casual atmosphere, while others are all business. Somewhere, there's one—or several—that you'll feel completely at home with. And, remember, most of them cost nothing to join.

MORE THINGS YOU CAN DO ONLINE

But wait, there's more! While most BBSs are, as we mentioned, run by individuals and cost you nothing, others are run by businesses. Some of them also cost you nothing, and even the ones that do charge for access are often worth investigating.

Many computer companies maintain a bulletin board system for customer use. Callers can ask questions on the BBS and get expert advice from company representatives—plus the BBS serves as a meeting place for users of the company's products to share ideas and tips. Most of these BBSs are also free, as long as you've bought something from the company that owns the BBS.

Other BBSs are run for profit, instead of as a hobby. Usually, these systems offer something that's difficult to find on other BBSs, such as specialized programs, adults-only conversations, online games, or real-time chats. It's not unusual to see a small "pay" BBS with ten or twenty incoming lines. Some are expensive; some are not. And some of the expensive ones are worth every penny, while some "bargains" might be useless to you. Shop around.

Some other institutions also have BBSs, or at least modem services. Many libraries let you search their card catalog via modem, some universities will give outsiders access to mail and network facilities (if you're a college student, you'll be amazed at the things you can do at your school via modem), and there's even a service run by the National Institute of Standards that will tell you the exact time from an atomic clock (there's also a program which will synchronize your IIGs clock to this signal!).

Finally, there are commercial information services, including CompuServe, GENie, America Online, and Delphi. These systems are definitely run for profit and offer the same kinds of things small local BBSs have, only bigger, while adding their own mix of unique services (online shopping, weather and news reports, airline reservations, and electronic encyclopedias, to name just a few). Their user base spans the globe, and many computer companies maintain online "technical support lines" on these services. We'll be covering the major online services in more depth in future installments of this column. And we haven't even mentioned telecommuting (yes, *commuting*).

WRAP IT UP, I'LL TAKE IT

How'd you like to have hundreds of people on call to answer your questions about your Apple II? How'd you like to hear the latest rumors, download the latest software, and read about the newest releases two months before you'd see any of it in a typical magazine (yes, even this one)? How'd you like to meet people who are both like and unlike you in often startling ways? Start thinking about what a modem can do for you.

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(and a good supply of cotton swabs

on hand), we print only the freshest

gossip. And if there's not enough

gossip, we make some up! As always,

the Rumormonger reserves the right

to be dead wrong. Like those 900

astrology numbers, this column is

for entertainment purposes only.

If you take it seriously, you deserve

whatever fate befalls you!

APPLE HIRES FOUR MORE

Apple Computer once said, "We will continue to support the Apple II for as long as people use it." Imagine our surprise when we find out that it's true. Although the Apple IIGS is no longer on the dealer price list, two Seven Hills Software programmers have joined the Apple II Continuing Engineering group. Apple has also hired two well-known GENie A2 gurus. These four new people will help complete System 6.01, to be released later this year.

APPLE'S NEW NEWTON

You've probably heard of Newton, the first in a supposedly "new breed" of computer product called the Personal Digital Assistant. (Never mind that there's no such thing as a "Digital Assistant"—the product should be described instead as a Digital Personal Assistant.) The first Newton will be a device about the size of a pack of 5" x 7" index cards. Newton will recognize handprinting (not handwriting) and "pen gestures" instead of having a keyboard—in fact, if you draw a round object, Newton will figure out you are trying to draw a circle and smooth out your drawing. Similarly, deleting words from the Newton's display will be as simple as crossing them out. You'll be able to connect it to an AppleTalk network, possibly wirelessly. Newton will be "fax aware," which means that you'll be able to send a fax right from your pocket. This is not just another Sharp Wizard—though, not coincidentally, Sharp is Apple's partner in the Newton venture. However, due to Newton's size and its price ("under \$1000"), deep pockets may be required. Incidentally, Apple had to reach an agreement with Nabisco, manufacturer of the popular Fig and Apple Newton cookies, about the product's name.

AVATAR PROJECT STILL GO

In a brief conversation the Rumormonger had with Bill Heinman at the Apple Expo East, I asked about the progress of Avatar, Heinman's IIGS-compatible computer with many features that outperform the GS. Since the Avatar is still in development, Bill told me that he really couldn't talk about what features will be in the final version, or when a prototype would be shown. Keep going, Bill!

SALVATION-SUPREME UPDATE

Vitesse, Inc. will release a new version of *Salvation-Supreme*, its hard drive management utility, in the near future. Some compatibility problems with System 6 and the Apple SuperDrive controller were found in the current ver-

sion. While patches were made to the current version of *Wings* (the package's prograRDm launcher) to make it work with Finder 6.0, it still doesn't support HFS partitions. I can only guess that this will be in the next version. Will there be any other new features? Backup will probably get file compression, and Renaissance (the defragmenter) will lose some of its bugs.

ALAN BIRD RELEASES MULTILAUNCH

For the past year, former Beagle Bros programmer Alan Bird has been working on *MultiLaunch*, a control panel that would allow you to run more than one IIGS programs at a time, for Westcode software. Alan was unable to solve several technical problems and compatibility difficulties and recently abandoned the project. According to Westcode's Rob Renstrom, AppleWorks GS was the biggest headache. Alan, the man behind *TimeOut*, the *Beagle Compiler*, *InWords*, and *Pointless*, is one of the sharpest Apple II hackers around, so if he couldn't do it, we have to wonder how Procyon (authors of *SwitchIt*) and *Brainstorm* (authors of Seven Hills' *The Manager*) pulled it off. Bird has released the program in its unfinished state as freeware in the hopes that someone can figure out how to get it to work.

INWORDS 1.1 ALMOST READY

Speaking of Westcode, they certainly were busy last year, releasing two versions of *Pointless*, their TrueType font scaler for the IIGS, and *TypeWest*, a collection of TrueType fonts for use with *Pointless*. However, their first product, *InWords*, an Optical Character Recognition utility for use with hand-held scanners, has not been updated for nearly two years, despite some well-known bugs that caused the program to choke on large fonts, graphics, and underlined text. Westcode is finally about to remedy that. The next release of *InWords* is in the hands of the company's beta testers and may be released by the time you read this. The upgrade to *InWords 1.1* will be free, and automatic to registered users.

THE AFTERLIFE

Sun Remarketing had a good Christmas in 1992—they sold their entire stock of Apple IIGS computers last holiday season. They should have more in stock very soon. By the way, despite all the marketing funds spent on the Mac PowerBook last year (and the lack of such funds for the Apple IIGS), the Apple IIGS outsold the PowerBook 100 in 1992. ■

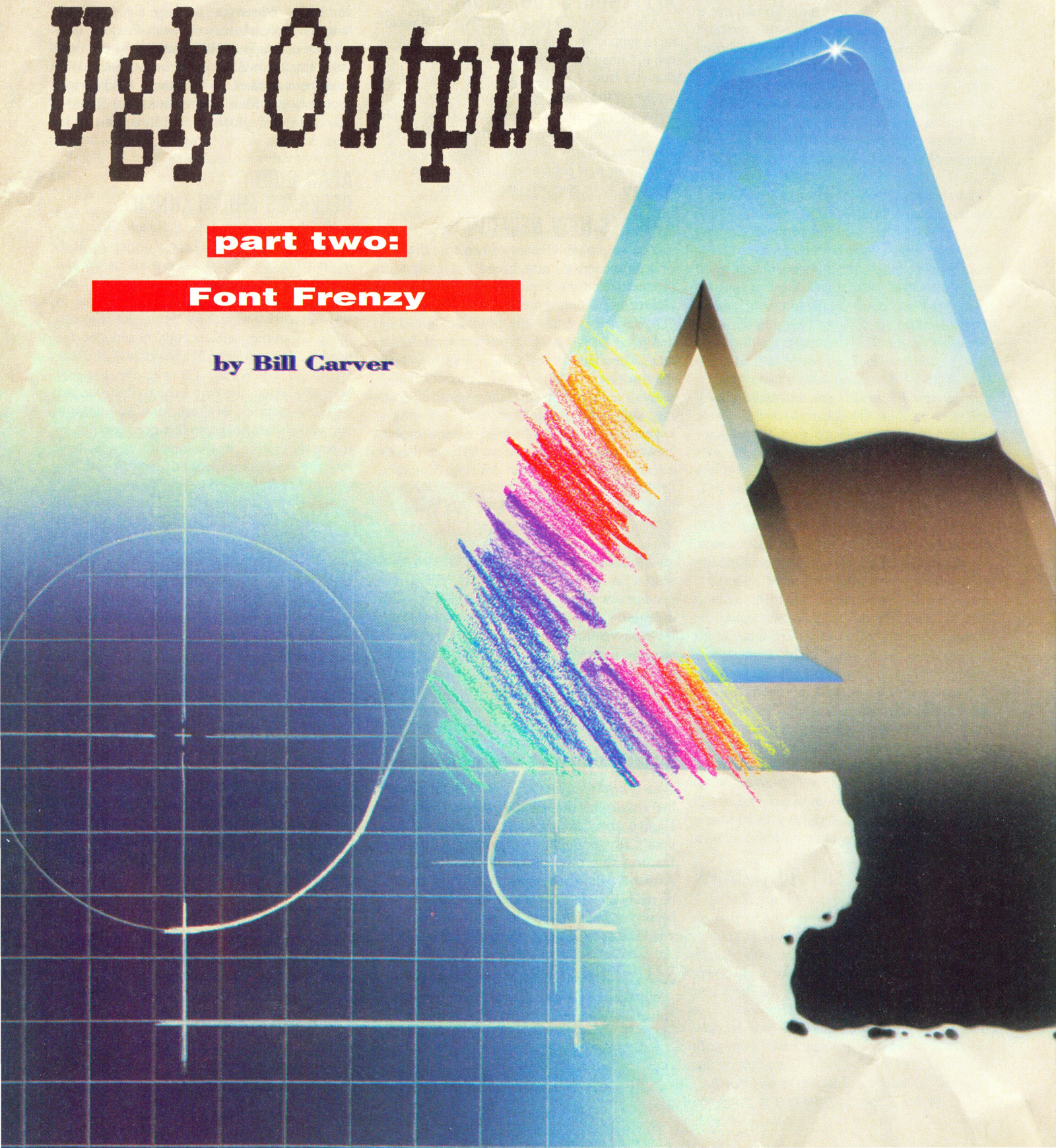
NO EXCUSE *for*

Ugly Output

part two:

Font Frenzy

by **Bill Carver**





In the first installment of this column, we talked about physical maintenance you can do on your printer (from changing the ribbon to cleaning the print head). Before we continue with this issue's material, I'd like to clear up one question. I suggested you use WD-40 to clean and lubricate your printer's print head. A couple of people took exception to this, claiming that WD-40 actually was sticky and could cause the print head wires to jam. In my years as an Apple service technician, I never saw such a problem, despite recommending (and performing) WD-40 lubrication many times. The key step is the part where you run the printer's self test without a ribbon installed—this expels any excess lubricant onto the paper. Do that, and you won't get gummed up.

In this installment, we'll take a close look at fonts, and how a thorough understanding of their inner workings can help you get more from your printer. This is a software-oriented column; no disassembly of printers is required (unless it makes you happy).

Fonts On A Diet

When I first got my IIGs, I was disappointed by the tall, jagged, and just plain *goofy* text that emerged from my printer. I was certain there had to be something wrong with the computer, or the printer, but my local Apple user group assured me that nothing was wrong. The solution, they explained, lies in software. In other words, the problem is all in your mind—or, more precisely, in your computer's mind.

Curing tall and skinny text is pretty easy—just choose Page Setup in the File menu of any IIGs application and turn on "Vertical Condense." (This check box may also be labeled as "Tall Adjusted" or "Fix Aspect Ratio" if you're not using an ImageWriter.)

The problem arises because the IIGs's pixels—the dots on its screen—aren't square, they're sort of rectangular. Your printer's dots, on the other hand, are square. (By "square" we don't mean literally square. Printer dots are round, of course. We just mean that they are the same size vertically as they are horizontally. In other words, their *aspect ratio* is square, or 1:1.) To make graphics look the same on the printer as they do on the screen, the printer driver has to "stretch" the image vertically. This makes the graphics look right, but the text comes out too tall and skinny—just the way it looks on the screen.

Why not just create fonts that look right on the IIGs screen, so they can be printed the same way as graphics? Well, most IIGs fonts were ported from the Mac, which does have square screen dots. Rather than having two font standards, Apple decided to use just one type of font for both computers. For various compatibility reasons, it makes sense to design fonts with square dots, even if the IIGs can't always display them properly.

This whole issue sounds complicated, but it's really not—just turn on "Vertical Condense" when you're printing mostly text, and

turn it off when you're printing mostly graphics. If you need to print both text and graphics on the same page, load the picture into your paint program and "stretch" it vertically. (A little trial and error will tell you exactly how much to stretch it.) Then you can load the picture into your word processor or page layout program and turn on "Vertical Condense" for that document. The picture will still appear too tall and skinny on the screen, but when the page is printed, the pre-stretched graphic will be vertically condensed, back to the way it was originally, and will look great!

Avoiding The Jaggies

The jaggies—letters that are obviously made of tiny squares and rectangles—are harder to conquer. To get rid of these, you need to know just how the IIGs handles fonts. The IIGs handles fonts exactly the same in every program, because every program uses the IIGs Font Manager. (The only exception we know of is Print Shop GS, which uses its own fonts, and doesn't use the Font Manager.)

Fonts (typefaces) are kept in the Fonts folder, which is in the System folder, which is on the disk you started up from—possibly a hard drive, but maybe a floppy disk. When you print in "Best" quality from a IIGs Desktop program like AppleWorks GS, the computer will look in the Fonts folder for a font that's *double* the size of the one used in your document. For example, if you're using Helvetica 12, the IIGs will send Helvetica 24 to the printer. Then it tells the printer to print its dots packed together twice as tightly. Since more dots are being printed in the same area, the text is smoother.

If you print in "Best" quality but don't have a double-size font for the font you're using—for example, if you didn't have Helvetica 24—the computer will take the regular font, scale it up by doubling all the dots, and *then* tell the printer to print it at half-size. As you can guess, this doesn't accomplish much; the document ends up looking about the same as the "Normal" print quality, except, usually, a little darker.

Thus, the first step you can make in improving your print quality is to make sure that there are always double-size fonts available for every font that you print with and to use "Best" quality. (If you are using a 3.5" floppy-based system, this may be impractical due to the limited space on the startup disk. Moving your System Software to a RAM Disk or a hard drive can help.)

If you print in a weird-sized font—for example, 11 point—things get even more hairy. Since the computer probably doesn't have an 11-point Helvetica, it has to make one. If you have a larger version of the font (like 12 points), the IIGs simply removes some of the dots from that version. If you don't have a larger version of the font (for example, if you ask for 28 point and the largest font the computer has is 18 point), the IIGs has to scale up

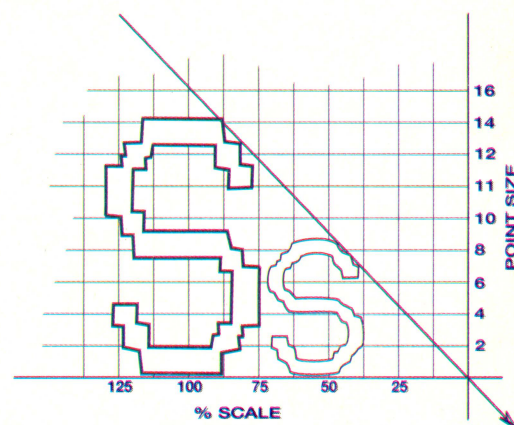
the next smaller size. In the former case, thin horizontal and vertical lines can disappear; in the latter case, the jaggies get even worse. Because the computer can't simply multiply the font by an even factor, it has to use some dots twice and some only once—there's no such thing as "half a dot." A font scaled up like this looks incredibly bad.

Obviously, having all the fonts you'll ever need is an impractical dream—though some people try. Fonts take up a lot of disk space. You could have an entire hard drive full of fonts and still occasionally need a size you don't have. One solution is to simply limit yourself to the font sizes you have on hand and accept the fact that if you use "weird" sizes, it's just not going to look very good.

A better solution is to use *scalable* fonts. Sometimes called *outline* fonts, scalable fonts are mathematical descriptions of each character in a typeface. The normal types of fonts used by the IIGs are called *bitmap* fonts, because each font file contains a picture, or bitmap, of every letter, number, and symbol in the font. While you need one bitmap font for each style and size of font you use, you only need one scalable font per style. When you ask for a specific size of scalable font, the computer generates the needed bitmap font "on the fly" by mathematical manipulation of the font's character formulas.

On the Apple IIGs, Westcode's *Pointless* software supports Apple's TrueType font scaling technology with any program that uses the IIGs Font Manager. *Pointless* can use the same TrueType fonts that the Macintosh uses—a few are included—giving you immediate access to a large existing library of type styles via System 6's HFS FST.

Pointless is easy to install and, once installed, is completely transparent. When you type a document in New York 13, *Pointless* will automatically make a 13-point size of New York for you. When you print that document in "Best" quality, *Pointless* will make a 26-point font, and the printer will print it at half size for smooth, legible text at any point size. It's like having every font size you'll ever need on your hard drive, without taking up all the disk space. Best of all, *Pointless* lets you keep your TrueType fonts on a disk separate from your startup disk—allowing users with only floppy drives to take full advantage of scalable fonts.



Fonts & 8-Bit Apples

Our discussion of fonts has so far focused mostly on IIGS applications. However, Apple IIe and IIc users can also take advantage of the visual communications power of a good variety of fonts—if they have the right software.

By far the most popular way of printing out your documents in various typestyles on the IIe and IIc is with Beagle Bros' *TimeOut SuperFonts*. Like all TimeOut programs, *SuperFonts* works inside AppleWorks. That means you can write your documents as usual in the Word Processor, then pop up *SuperFonts* and print your document, all without leaving AppleWorks. *SuperFonts* also allows you to include standard hi-res and double-hi-res graphics in your printouts.

However, AppleWorks doesn't have a "what-you-see-is-what-you-get" display, so you can't see how your document will look while you're editing it. (*SuperFonts* does have a "print to screen" preview mode, though, which is a great way to avoid wasting paper—and time—printing things that aren't quite right.) You tell *SuperFonts* what gets printed in what font by typing a list of the fonts you want to use at the beginning of the document, then including special commands in your document (<1> switches to font 1, <2> switches to font 2, and so on). It works pretty well—as well as any such program could be expected to work within the non-graphics environment of AppleWorks.

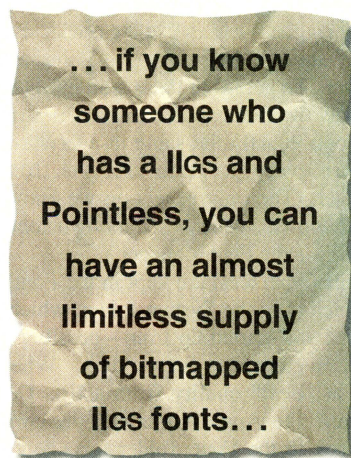
SuperFonts uses standard IIGS bitmap fonts (the most common ones are included), which means that any of the commercial, shareware, or freeware IIGS fonts on the market can be used on the IIe and IIc. *SuperFonts* also supports a "Best" quality printing mode, where it uses the double-sized fonts printed at half-size to enhance the print quality, and, just like on the IIGS, you'll need the appropriate double-sized font on hand for best results. *SuperFonts* has few problems with the jaggies that result when you print at a size you don't have—the program only allows you to print existing font sizes. It won't scale fonts up or down to make oddball sizes.

Another 8-bit program that lets you use fonts in your documents is TimeWorks' *Publish It! 4*. *Publish It!* is a page layout program, not a word processor. It doesn't have very many flexible tools for writing and editing text, but what it lacks in that department is made up by the fact that you can combine text and graphics literally anywhere on a page. You begin by drawing frames on your page, telling the program which will be filled with text and which will be filled with graphics. Then you link your text frames together—this allows text to flow from one column to the next and from one page to the next (the columns and pages don't have to be right next to each other). Finally, you import the text and graphics you want to use and apply formatting, then print it out.

Publish It! 4 also uses standard IIGS fonts—sort of. The fonts have a different filetype from real IIGS fonts, but internally, the formats are

the same. (TimeWorks indicates that their fonts are specially designed to work best with Apple II displays and dot-matrix printers, which is why they decided to give them a different filetype.) You can use standard IIGS fonts in *Publish It! 4* by changing the type with a utility that allows such things, such as FAZ II, a shareware program.

As with *SuperFonts*, *Publish It! 4* also has a "Best" quality mode, and will use double-size fonts printed at half size to improve print quality. The program won't scale existing font sizes to produce the size you want; you must use one of the sizes provided.



There are a couple of other programs you IIe and IIc users might want to know about. First, there's *8/16 Paint*, a paint program which can place IIGS-format fonts on your hi-res or double-hi-res drawings (the program includes two 8-bit and two 16-bit versions of the paint program). Kitchen Sink Software's *AccuDraw* can also use IIGS fonts in your multi-page CAD drawings (it can also use *Apple Mechanic* "shape fonts" and its own format of fonts). And there's also *BeagleWrite*, a Mac-style word processor with many of the same advantages as IIGS word processors when it comes to adding fonts to your documents. It uses its own font format, though, and can't use standard IIGS fonts.

If you read the "Avoiding The Jaggies" section above, you know about scalable fonts. You might be wondering whether you can use *Pointless* (or a program like it) on your IIe or IIc. The answer, unfortunately, is no. The IIe and IIc don't have a font manager built-in like the IIGS does—each 8-bit program that uses IIGS fonts has its own program code to draw and print them. Therefore, there's no universal way to add support for scalable fonts to these programs. However, if you know someone who has a IIGS and *Pointless*, you can have an almost limitless supply of bitmapped IIGS fonts—*Pointless* allows you to convert any TrueType font to a standard IIGS bitmap font in any size. Take a look at your buddy's collection of shareware and freeware TrueType fonts, pick the ones you like, and have him save the sizes you need onto a disk. Then you can use them in *SuperFonts*, *Publish It!*, and other 8-bit programs that support IIGS fonts.

(Legally, since the bitmapped fonts are derivatives of the scalable fonts, you are obligated to pay for any shareware fonts you convert to bitmaps this way.)

Rolling Your Own

Designing a font is an arduous task. In fact, there are people who design typefaces for a living. One of the most widely known is Hermann Zapf, whose name is immortalized in the ever-popular the "Zapf Dingbats" font, along with a couple others. (Now that you know where the "Zapf" part of that font's name comes from, you're probably curious about the "Dingbats" part. It's a printer's term for little tiny graphics characters of the sort you find in the Zapf Dingbats font. There are other dingbat fonts, too—Cairo and Mobile, for example.) Designing a nice, artistic, *legible* font yourself could take weeks of labor. So designing a font of your own from scratch is not a task for the faint of heart.

However, it is often useful to be able to modify an existing font. For example, you might like to see slashes through your zeroes, or you might want to make the tail on a Q a little more noticeable. In such cases, a font editor is an invaluable tool.

But first, this special IIGS note: Modify your own fonts all you want. But please don't pass them around, as that can cause chaos. You might think you can eliminate confusion by renaming the fonts you've modified, but even so, they'll have the same font family ID number as the original font. This can cause the IIGS to get mighty confused about which font it should use, if you have both the original and the modified font in your IIGS's Fonts folder at the same time. You can change the font family ID to some other number, but who knows whether there's already a font which uses that number? Best not to risk distributing your modified fonts. (IIe and IIc users can ignore this dire warning.)

There are two commercially-available IIGS font editors available. *Font Factory GS*, from Seven Hills, is by far the best. It even lets you re-size and smooth fonts—perfect for creating new sizes of fonts from sizes you already have. Beagle Bros' *GS Font Editor* is the choice of IIe and IIc users, since, despite its name, it runs on any Apple II with at least 128K. (According to Beagle, the name should be read as "Editor for IIGS Fonts," not "Font Editor for IIGS.") You can also seek out shareware and freeware font editors, like *Fontasm* for the IIGS, or the aptly named *8-Bit Font Editor*, from online services and user groups.

Coming Up

In the next installment of this series, we'll look at laser printers, PostScript, high-resolution printers, printer drivers, and lots of other fun stuff. After that, we'll step aside for the "Print to Publish" column, which will henceforth appear in every issue of *II Alive*. See you later! ■

LIFE IS FULL OF CHOICES

THIS

[bumpy, hard-to-read type on your Apple IIGS]

OR THIS

[smooth, beautiful type thanks to Pointless™]

Albatross
Andromeda
Bernhard Mod
Bodily Bold
Castle
Charlie Chan
CUNEIFORM
Dickens
FLINTSTONE
Goudy Medieval
Hancock Park
HOLLO
International
ISABORA CAPS
Kathlita
LeCity Casual
LOMBARDIC
Lower East Side
Middleton
New Compact
Park Haven
PIG NOSE
Richard Murray
Roman
SALOON EXT
Silicon
STALINGRAD
Sydney
Thomas
Upper West Side
WILSONIAN

Albatross
Andromeda
Bernhard Mod
Bodily Bold
Castle
Charlie Chan
CUNEIFORM
Dickens
FLINTSTONE
Goudy Medieval
Hancock Park
HOLLO
International
ISABORA CAPS
Kathlita
LeCity Casual
LOMBARDIC
Lower East Side
Middleton
New Compact
Park Haven
PIG NOSE
Richard Murray
Roman
SALOON EXT
Silicon
STALINGRAD
Sydney
Thomas
Upper West Side
WILSONIAN

Andromeda Cap
Arctic
Black Chancery
Brassfield
CAVEMAN
Classica Heavy
Classica Italic
Classica Roman
Formal Script
Granite Sans
Harrington
Informal Oblique
Jazz
Kennon
Libby Script
Lombardo beneventan
MAZAMA
Mira
Nordic
Piano
Polo Semiscript
Rakshaw
Rotunda
Sans Serif
SHOCK
Shpfitnat
Sun Free
Textura
Torus Modern
Western
ZALESKICAPS

NEW YORK
Geneva
Courier
Courier bold
MONACO
Chicago
Symbol αβγΔ±± f.ii

THIS

[the few fonts that come with Pointless™]

OR THIS

[all the fonts that come in the QC Font Bundles]



THIS

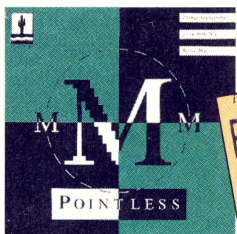
[what you would normally pay for Pointless™ and the QC Font Packs]



OR THIS

[what you pay for the Pointless™ and the QC Font Pack Bundle]

WHY HAVE UGLY, BUMPY TYPE WHEN YOU CAN HAVE CLEAN, CRISP TYPE—ON SCREEN AND PRINTER? WHY HAVE JUST A FEW FONTS WHEN YOU CAN HAVE A LIBRARY OF 92? WHY PAY ALMOST \$100 FOR POINTLESS AND THE QC FONT PACK BUNDLE WHEN YOU CAN GET IT FOR ONLY \$79.95! CALL 1-800-777-3642 AND ORDER YOURS TODAY.



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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!

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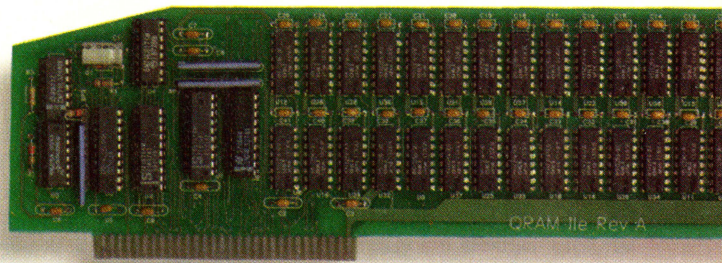
As an added bonus, when you buy a 4 MEG Q-RAM GS2, you get FlashBoot free. FlashBoot lets you quickly save and load the contents of a RAM Disk. What is a RAM Disk? Every Apple IIGS has a built-in RAM Disk capability that lets you reserve some of your computer's memory as a super-fast electronic disk 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.

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Hacking Chaos

by Mike Westerfield

For me, programming started out as a hobby—something I did for fun instead of watching 300-pound neckless people chase each other around on a hundred-yard-long field fighting over an oblate spheroid. Over the years, I've watched our user group shift from being mainly hobbyists (people who generally left the top off of their computers to save time, and, truth be told, to admire the circuits) to being mostly ordinary users (many of whom have never seen the inside of their computer).

Programming just for fun—hacking, in the old-fashioned sense—is a lot less common these days, and that's a real shame. When the folks at *II Alive* gave me a chance to write for their "Weekend Hacker" column, I resolved to try to put some of the fun back into programming.

These articles are not designed to sharpen the skills of professional programmers. They're for teachers, students and parents; for professional programmers looking for a diversion; and for people who can barely write a program on their own. These articles are about doing something with your computer other than writing a letter or balancing your checkbook. In most cases, we'll use a programming language to hack around with, but if you can do something easier with a spreadsheet than with BASIC, I'll crank up *AppleWorks*.

And now, let's get to our first programming project.

A CLASSIC POPULATION MODEL

Scientists and engineers have been very successful using mathematics to model the real world. Using the right equations, you can figure out why the planets circle the sun in ellipses, how powerful an engine has to be to haul a car to sixty miles per hour in nine seconds, and even get a pretty good estimate of the age of a fossilized rock. I was so interested in using math to figure things out that I eventually got a Master's in Physics, and started on a Ph.D. before I got sidetracked into programming.

Sitting in the classroom, I learned to do a lot of practical things with math, but there were always a few things that didn't seem to work out. The instructor might talk about some equations that we could use to figure out how far a baseball would fly—if there were no air. Of course, he was just simplifying things so we could learn the basics more easily, and eventually I learned how to take air into account, so it's easy to think that any problem can be solved if you have the right mathematical model and enough time to solve the equations.

In fact, until quantum mechanics came along, most scientists really believed that with enough information and enough time, they could predict anything. Science seemed to be coming full circle, from astrology, to astronomy, back to predicting the future—at least in a limited way—with mathematics. Quantum mechanics poked a few holes in this idea, but only for things that happen on the subatomic scale. If you were talking about how fast water drops came out of a faucet, how quickly a kite would swing back and forth in the wind, or how a heart beats, most scientists still thought they could solve the problem and give a nice, neat formula, if only they knew enough about the system. Well, they were wrong.

Back in the '70s, calculators and personal computers started to become more commonplace, and that opened up new ways to work on problems—like simulation. A lot of scientists started working on problems that were just too tough for traditional

approaches and slide rules. Roger May, a physicist-turned-biologist, was one of the people who discovered something that has shaken how we view the world. He was working with this very simple equation:

$$x = rx(1-x)$$

I don't want to get too bogged down in math here, but let's take a look at what Robert May was doing, and what he expected from this equation. The value x is a number from 0.0 to 1.0; it represents the size of a population. In

LISTING 1

ORCA/Pascal Version

```
{ $keep 'pop' }
program population (output);
const
  start = 1;
  finish = 100;
  r = 2.5;
var
  i: integer;
  x: real;
begin
  x := 0.5;
  for i := 1 to finish do
    begin
      if i >= start then
        write(x:8:4);
        x := r*x*(1.0 - x);
      end; {for i}
    writeln;
  end.
```

Applesoft BASIC Version

```
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
50 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 + .00001), 6 - (Y<1));
100 :: X = R * X * (1 - X)
110 NEXT I
120 PRINT
130 END
```

NOTE: Lines 60-90 in the above listing emulate the numeric printout format used in the ORCA/Pascal version (8:4, or 8 total spaces with 4 decimal places).

LISTING 2

ORCA/Pascal Version

```
{ $keep 'chaos' }

program Chaos (input, output);

uses Common, QuickDrawII;

const
  left = 0.5;  right = 4.0;
  top = 1.0;  bottom = 0.0;

  h1 = 0;      h2 = 319;
  v1 = 0;      v2 = 199;
  color = 9;

  dump = 50;
  plot = 50;

var
  i, h, v: integer;
  r, x: real;

begin
  StartGraph(320);
  PenNormal;
  SetSolidPenPat(color);

  for h := h1 to h2 do
    begin
      r := right - (h2 - h)*(right - left)/(h2 - h1);
      x := 0.5;
      for i := 1 to dump-1 do
        x := r*x*(1.0 - x);
        for i := 1 to plot do
          begin
            x := r*x*(1.0 - x);
            v := round((top - x)*(v2 - v1)/(top - bottom));
            MoveTo(h, v);
            LineTo(h, v);
          end; {for i}
        end; {for h}

  MoveTo(10, 190);
  writeln('Press RETURN to exit. ');
  readln;
  EndGraph;
end.
```

Applesoft BASIC Version

```
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 = 280: V2 = 160: 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 I
210 INPUT "Press Return to exit ";XS
220 TEXT: END
```

this case, May was looking at fish populations. The term $1-x$ gets smaller as x gets closer to 1.0. In terms of real fish, this means that there is a limit to how many fish can exist in an ecosystem, maybe because of lack of food, or lack of space, or even predation. The rx term is the growth factor; the bigger r is, the faster the population can grow, assuming something doesn't stop it. It's a simple model—way too simple—but scientists often start with a simple model to try to understand the basic ideas before moving on to a real-world model.

Up to a point, things worked out pretty well. Let's say you pick $r = 2.5$, and start with $x = 0.5$. The value of r means that in one "generation" the number of fish would increase by 2.5, except that $(1-x)$ will drive the number down a bit. Of course, a half a fish (0.5) won't get much bigger, but the number might actually represent 5000 fish in a lake. To figure out the number of fish after one generation, you plug in the numbers, and find that $2.5 \times 0.5 (1.0 - 0.5)$ is 0.625, so our lake now has 6250 fish, instead of 5000. Next, you use .625 for x , and figure out that after two generations, x is 0.5895, so there are 5895 fish in the lake. The number jumps around a bit, but after a dozen or so generations, x settles down to 0.6000. Listing 1 shows a short program (in Pascal and in BASIC) that will calculate the value of x for 100 generations. You could easily write the program in your favorite computer language.

CHAOS

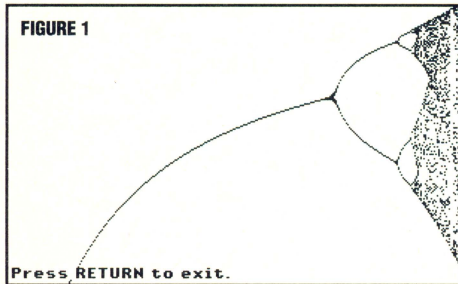
So far, we've seen pretty much what you would expect—the number of fish eventually hits some ecologically sound equilibrium, and the population stays constant thereafter. If the fish are more prolific, you would expect the number to be higher, and if the fish are more interested in something other than making new fish, the number should get lower. For $r = 0.1$, the lake quickly empties out. For $r = 2.7$, x settles down to 0.6296, or 6296 fish. Of course, the next logical step is to decide what would happen in the fish bred like rabbits, to you might try $r = 3.2$. In fact, do try that—type in the program from Listing 1, but change r to 3.2, and see what happens.

Suddenly, things start to get weird. The population doesn't settle down at all—it fluctuates between 0.5130 and 0.7995. Well, that's a pretty strange result, but at least it's predictable. Heck, it might even be useful. If a fish hatchery knows this will happen, they could harvest 2865 fish each generation, and take advantage of this cycle.

Now try some super-fish, with $r = 3.7$. Maybe we can make that split wider, and harvest even more fish. If you try the program with $r = 3.7$, though, the numbers never do settle down. For a while, things look great, with numbers like 0.7206, 0.7450, 0.7029, and 0.7727. But the population never settles down at all. To put it mildly, this sort of thing is confusing to people who expect that simple equations will give neat, easy to understand results.

A PICTURE IS WORTH A THOUSAND NUMBERS

By now, all of these numbers are starting to get confusing. There's a simple way to plot



them to see what's happening, though. The idea is to start with some value of x , say 0.5, and run through a few generations to let things settle down. Next, we calculate x for a few more generations, but this time we plot each value, putting 1.0 at the top of the screen and 0.0 at the bottom. To see how r effects the population, we start with $r = 0.5$ at the left of the screen, and work our way up to $r = 4.0$ at the right of the screen. Listing 2 shows a Pascal program that does this, and Figure 1 shows the result. We may not know *why* things get squirrely, but suddenly it's easy to see that at a particular place the population starts to oscillate between two values. A little further on, it starts to oscillate between four values. You might think that it just keeps on doubling, but in fact, that cluttered looking area really is cluttered, and things really don't settle down at all for some values of r . Eventually, James Yorke would name this bizarre behavior *chaos*, and it's a name that has stuck.

Things are strange enough already, but it gets even worse. If you look over to the right of Figure 1, right in the middle of the cluttered, chaotic area, it looks like things clear up for a while. Well, they do. In fact, for a short range of values for r , right in the middle of the chaotic region, the population will oscillate between three distinct values.

You can get a better look at small areas of the plot by changing the values for *left*, *right*, *top* and *bottom*. The values you pick form a frame, and the program draws that part of the plot using the full size of the screen. By playing with these numbers, you can get a better look at the region where the population shifts between three values, or look for the area where it shifts between five values. You can also play around with *dump*, which is the number of generations that get skipped; and *plot*, which is the number of generations that get plotted.

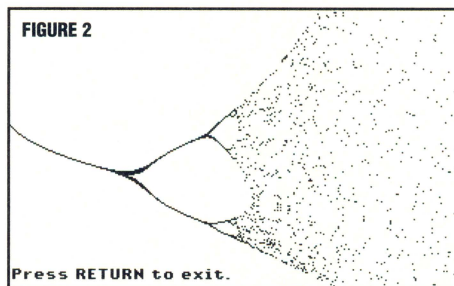
FRACTALS AND CHAOS

You've probably heard of fractals, and even seen pictures of some famous ones, like the Mandelbrot set. It turns out that the mathematics of chaos and fractals are very closely linked. To see how, we'll play with the parameters from Listing 2.

One key quality of fractals is that, in some way, they don't change as the scale changes. For example, if you look at a tree from a distance, you see a main trunk or two with branches shooting off. If you get a little closer, the branches look sort of like a little tree, as smaller branches sprout from the main branches. Up to a point, this just keeps happening—little pieces look a lot like big pieces, only smaller. You see the same thing in veins and arteries, as the large ones split into smaller and smaller ones. A coastline repeats, too, in a slightly different way. Looking at a tracing from a nautical map, it's tough to tell if you are looking at the entire coast of Virginia or a half-mile stretch along Long Island. And if you've looked at pictures of the Mandelbrot set, you know that blow-ups of some areas show little, distorted versions of the whole set.

With a small change to Listing 2, you can see that the plot of population patterns is also a fractal. Try these values:

```
left = 3.738; right = 3.748;
top = 0.53; bottom = 0.47;
```



The result is Figure 2. It's a pretty good sketch of the *whole diagram*, but it's embedded right in the middle of the chaotic region of the plot. If you play around with these four numbers, you can zoom in on other places, and find even more copies of the structure.

FOR MORE INFORMATION...

Without cheap, commonly available computers, scientists would probably still be ignoring problems where the equations don't seem to work right, and the mathematics of chaos would still be undiscovered. I've just scratched the surface of chaos in this article. If you would like to learn more about chaos, I'd suggest *Chaos: Making a New Science*, James Gleick, Penguin books, 1987. It's very easy to read, and gives you a great overview of chaos and fractals. If you're into heavy-duty math, check out *Chaotic Dynamics: An Introduction*, Gregory Baker, Cambridge University Press, 1990. For some great programs, with just enough explanation to tell you what the pretty pictures are, try *Fractal Programming in C*, Roger T. Stevens, M&T Books, 1989. It's written specifically for the IBM, but I didn't have any trouble moving the programs to the Apple IIGs. ■

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RAM ON THE RUN!

by Joseph Selur

The modern microcomputer is an amazing invention, combining a "brain" (the microprocessor), which can perform simple repetitive tasks at lightning speed, with a "memory," which can store data and programs for the "brain" to work on. A full understanding of how your computer's memory is organized can help you understand why it does some of the things it does, and clue you in on possible solutions to problems that arise. So let's get running.

Bits is Bits

All modern digital computers, including the Apple II, think in terms of binary numbers. In the decimal system, the counting system we're all used to, there are ten symbols, 0-9. We say that the decimal system represents "base ten" counting because there are ten symbols. These symbols are the smallest units in which we humans can process numbers. Any number, of any length, can be written as a series of decimal digits, because we have the concept of place values (ones, tens, hundreds, thousands, etc.) which are all powers of ten. We can't break a number down into smaller pieces than a single digit using the decimal system. The decimal system also provides a way to write fractions using digits written to the right of a *decimal point*.

The binary system follows the same rules as the decimal system, except that there are fewer symbols to worry about—only two, 0 and 1. Just as the word "decimal" contains the root word for "ten," the word "binary" contains the root word for "two." Just as the decimal place values (1, 10, 100, 1000...) are powers of ten, the binary place values (1, 2, 4, 8, 16...) are powers of two. The binary system allows you to write any number you want, as long as you have enough digits, just like the decimal system. The binary system even lets you write fractions by writing them after a "."—the only difference is that the "." is called a binary point, not a decimal point, in "base two." You can do addition, subtraction, multiplication, and even long division in binary using the same rules that apply in the decimal system. You just have to remember to think in powers of two.

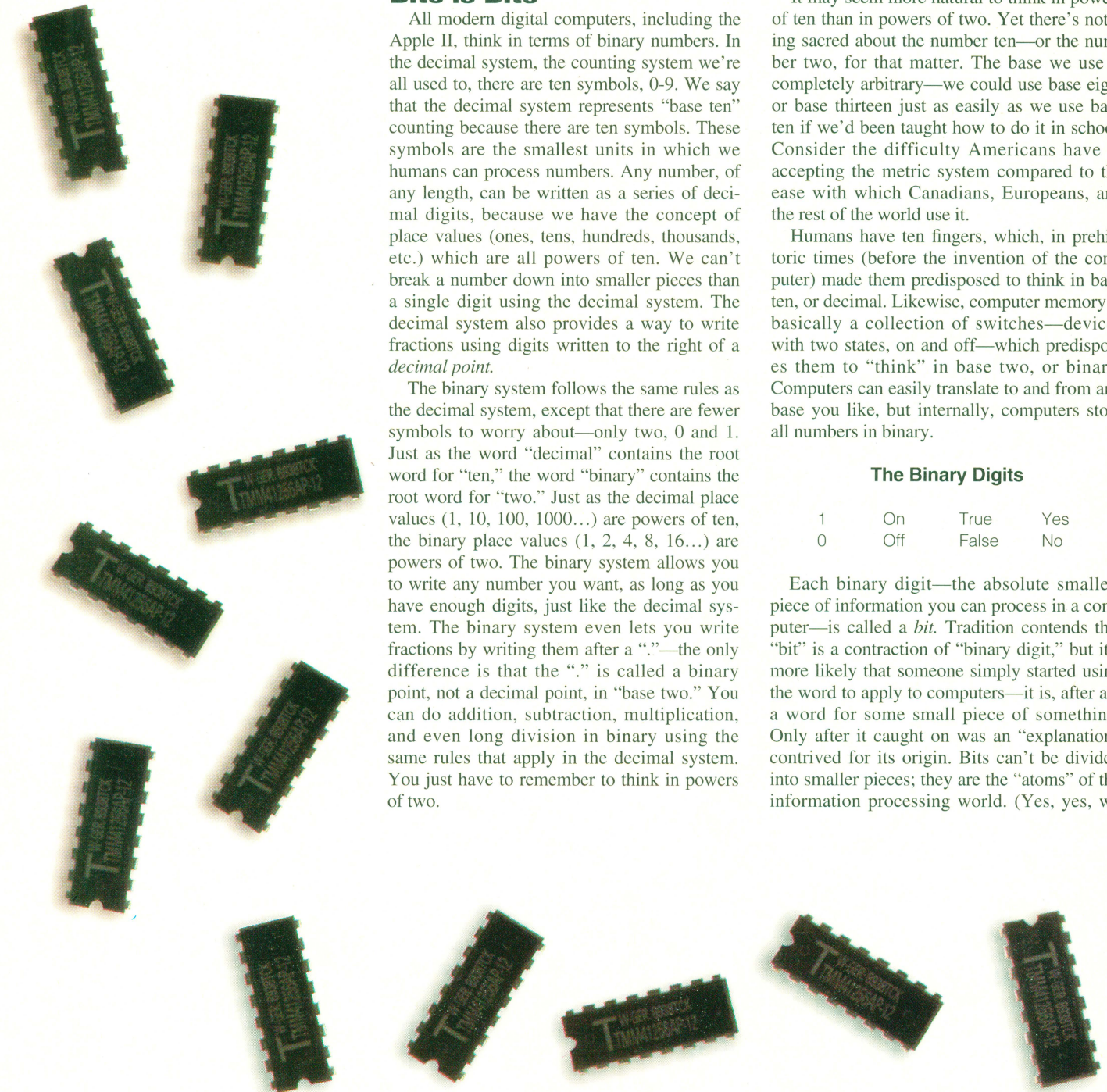
It may seem more natural to think in powers of ten than in powers of two. Yet there's nothing sacred about the number ten—or the number two, for that matter. The base we use is completely arbitrary—we could use base eight or base thirteen just as easily as we use base ten if we'd been taught how to do it in school. Consider the difficulty Americans have in accepting the metric system compared to the ease with which Canadians, Europeans, and the rest of the world use it.

Humans have ten fingers, which, in prehistoric times (before the invention of the computer) made them predisposed to think in base ten, or decimal. Likewise, computer memory is basically a collection of switches—devices with two states, on and off—which predisposes them to "think" in base two, or binary. Computers can easily translate to and from any base you like, but internally, computers store all numbers in binary.

The Binary Digits

1	On	True	Yes
0	Off	False	No

Each binary digit—the absolute smallest piece of information you can process in a computer—is called a *bit*. Tradition contends that "bit" is a contraction of "binary digit," but it's more likely that someone simply started using the word to apply to computers—it is, after all, a word for some small piece of something. Only after it caught on was an "explanation" contrived for its origin. Bits can't be divided into smaller pieces; they are the "atoms" of the information processing world. (Yes, yes, we



know you *can* split atoms if you try hard enough. You still can't split bits.)

Working with single bits allows a computer to keep track of things that have two states: on and off, high and low. In fact, there's an type of mathematics known as Boolean algebra which forms the basis of logic. It, too, uses two symbols—true and false—and the binary nature of the computer makes it quite adept at performing so-called “Boolean” operations. Most computers, including your Apple II, have built-in instructions for performing logical ANDs, ORs, EORs, and NOTs in the Boolean tradition.

The Big Apple Bytes Back

While keeping track of single bits is useful, it doesn't particularly help with mathematical operations. Real-world number crunching requires more than a value of 0 or 1. We need *groups* of bits. The *byte*—eight bits—is just such a group. The contents of a byte can be thought of as eight separate true-false flags, or, by assigning place values to the bits, the byte can be thought of as a number with a decimal value ranging from 0 to 255.

The byte is large enough to store a single character (letter, number, or other symbol) using the American Standard Code for Information Interchange, ASCII, which assigns a number to each character. (See “Ask Mr. Tech” in this issue for more information on how ASCII works.) It's also used to count things when the count doesn't need to go higher than 255 (does anyone remember disk volume numbers on DOS 3.3 disks?). Even graphics displays are stored in bytes; on many systems, it's common to allow 256 colors on a single screen, or to store graphics as separate red, green, and blue “channels,” each dot on the screen being represented by three bytes, one for each color. (The latter format is known as 24-bit graphics and is generally considered photographic quality.)

In short, a byte can store whatever kind of data a program wants it to store—numbers, true/false flags, letters, graphics. *Everything* inside a computer is a number. It's the pro-

gram's responsibility to know what each byte contains and to process it accordingly.

Naturally, even programs themselves are stored as sequences of bytes. The conception of a computer that could use the same memory for both programs and data was, in fact, a major turning point in the evolution of the digital computer, because it allowed the computer to become a general purpose machine which could be used to program itself. A corollary of this fact is that *programs can modify themselves*—and many do just that.

In your computer's native machine language, each basic program instruction—*opcode*—is a single byte, followed by additional bytes that give the computer any other information needed to carry out, or *execute*, the instruction. But how does the computer figure out which bytes are part of a program and which are part of the data? The answer is simple: it can't. When it's first turned on (or reset), the computer simply starts executing instructions in a built-in program that is guaranteed to always be at a certain place. This built-in program provides ways to execute other programs elsewhere in the computer's memory. If you tell your computer that a certain area of memory contains a program when it really doesn't, it doesn't know any better and will attempt to execute whatever is there as if it were a program. The instructions your computer “sees” when it tries to execute data are likely to be random or unintelligible; your name, for example, or your shopping list, isn't likely to be a useful piece of program when translated into binary form. The usual result is a crash.

Sometimes a single byte, with its value of 0 to 255, isn't sufficient to represent the numbers the computer needs to work with. In such cases, more than one byte can be used. Two bytes can be assigned sixteen place values and can be assigned values of up to 65,535—and you can use even more bytes. In fact, you can use as many bytes as you want, as long as you make sure the program you're writing can handle them. Similarly, you can handle fractions or floating-point numbers with proper programming. (Don't worry, the math stuff is built into most programming languages that people

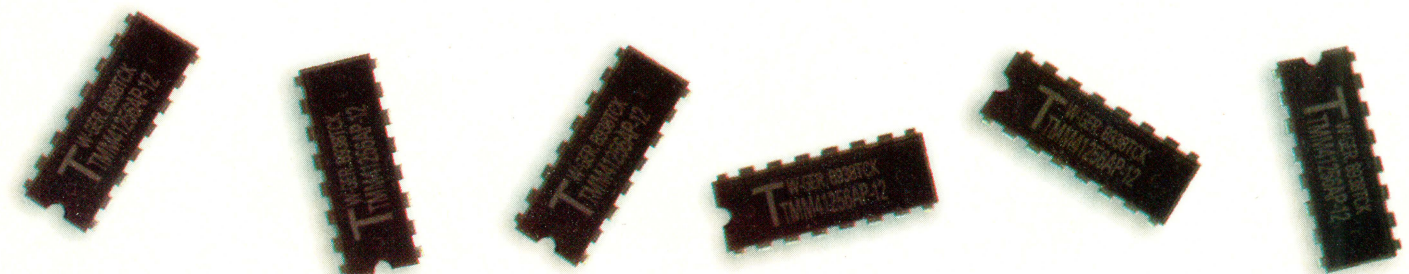
can actually understand.) Just as you keep track of carries when you add a column of numbers manually, the computer can also carry from one byte to the next. In the Apple II world, a two-byte cluster is called a *word*, though a word isn't necessarily the same size on non-Apple II computers.

A computer that can only operate on one byte at a time is called an 8-bit computer. (The Apple IIe and IIc, and their predecessors, are 8-bit computers. That's why you'll often see IIe/IIc software referred to as “8-bit software” to differentiate it from Apple IIGs software.) An 8-bit computer *can* handle operations involving more than one byte, but it has to do things a byte at a time and use the processor's “carry” feature to do so. Newer computers can handle 16 bits (two bytes) or even 32 bits (four bytes) at a time. The Apple IIGs is capable of handling 16 bits at once, which means that it has to do half the work of an 8-bit machine to add two large numbers, though it also has an 8-bit mode to allow it to run older Apple II software.

The Memory Savings & Loan

Now that you understand exactly what a byte can contain, it's time to explain exactly how they're organized inside your computer. Obviously, the bytes aren't arranged like your sock drawer—if they were, you'd never be able to find anything in there. And since the computer is so well equipped to work with numbers, it naturally organizes its memory numerically. Every byte of memory inside your computer is assigned a number, which is called its *address*.

Visualize safe deposit boxes in a bank. Each box would contain a single byte, and the boxes would be arranged numerically. When the computer's microprocessor (the manager of our hypothetical bank) asks for a certain box's contents, it can go directly to the specified box and fetch what it needs—it doesn't have to search through the boxes to find the right one. What's more, all the boxes can be used at any time, in any order, without slowing down, over a million times a second. Because the bytes in



the computer's memory can be accessed in any order, we say that your computer's memory is random-access. The acronym RAM is short for Random Access Memory. (In a moment, we'll explain why that's a bit of a misnomer.)

How many boxes are in a computer's memory, and how are they arranged? The 6502 and 65C02, the microprocessors used in the Apple IIe and IIc, can access a maximum of 65,536 bytes of memory. That number may look familiar—it's the largest number that can be stored in two bytes of memory. Remember, programs are stored as numbers inside your computer's memory just like data, so some of the numbers inside your computer are the actual addresses of other numbers which represent data you're working on. These numbers in your computer's memory that represent other addresses are called *pointers*.

Since the address requires two bytes to store, programmers often think of the memory as being divided into pages of 256 bytes. One byte of the address tells the computer which page to look in, and the other byte of the address tells the computer which byte to look at in the page. You can visualize this as if our bank was split into 256 vaults, each with 256 safe deposit boxes. As it turns out, the first page, *page zero*, has some special properties which make it easier and faster to access than most of the rest of the memory, making this region an important one in your computer's memory. Page 1 is also a special area called the *stack*—it basically keeps track of what the computer is planning to do as soon as it finishes with what it's doing right now.

In addition to the page concept, it also makes sense to divide a computer's memory based on the number of kilobytes it contains. The prefix "kilo" means "thousand," but a kilobyte is *not* 1,000 bytes. It's 1,024 bytes. The reason? 1,024 is a nice round number in binary, since it's a power of two. It takes four pages of 256 bytes to make a kilobyte, which is abbreviated K. A 64K machine has 65,536 bytes of RAM; a 128K machine has 131,072 bytes. Similarly, a megabyte (abbreviated M) is not precisely a million bytes, as the prefix "mega" implies; it's 1,024K, or 1,048,576 bytes—nearly 50,000 bytes more than a million.

By the way, as you might have noticed by now, computers usually start counting with zero, not one. This means that the first location in your computer's memory is location zero. It's easy to get caught by a so-called "off by

one" error, which is what happens when you assume that you're starting counting at one when you should actually start counting at zero (or vice versa). For example, if you were given free tickets to a concert numbered 0 through 5, how many tickets would you have? Not five—six. Count 'em if you don't believe us (zero, one, two, three, four, five).

Read-Only Memory

Without programs, computers are useless. So how does your computer know what to do when you turn it on? There's no program because the contents of RAM disappear when you turn the computer's power off. Yet it does something—it beeps, clears the screen, prints "Apple II" at the top of it, and boots the first disk drive it finds. How?

The answer is Read-Only Memory, or ROM. Unlike RAM, which is volatile (meaning it's erased when it loses power), ROM keeps its contents even when the computer is turned off. And also unlike RAM, the contents of ROM cannot be changed. (There are variations of ROM, such as EPROM, which can be erased and reprogrammed, but let's leave those alone for now.)

The computer's ROM contains the programs that tell it what to do when you turn it on (it has to figure out that it actually has just been turned on, first—the same program that handles the computer's power-on behavior also handles a press of the Reset button). It also contains a variety of programs that can be used by the computer to read the keyboard, print things on the screen, and perform a wide variety of other frequently needed tasks. (If the computer didn't have these programs built into ROM, every program you use would have to have them, instead.) These programs, collectively, are known as the *Monitor*—no relation to your computer's TV display. The Applesoft BASIC programming language is also built into ROM, and your peripheral cards probably have ROM programs of their own on them. If you have an Apple IIgs, there's even more stuff in ROM. Collectively, the programs built into your computer are called *firmware*, because they're programs like software but built into the computer like hardware. Both the computers' actual hardware features and its built-in firmware contribute to making the machine what it is.

Earlier we said that the name Random Access Memory for your computer's main memory wasn't quite the right term. That's

because ROM, like RAM, can be accessed in any order—randomly. What is commonly called RAM really should be called something like Read/Write Memory, since its writability is the only characteristic that really distinguishes it from RAM, but RWM is such an unpronounceable mess that it evidently never caught on.

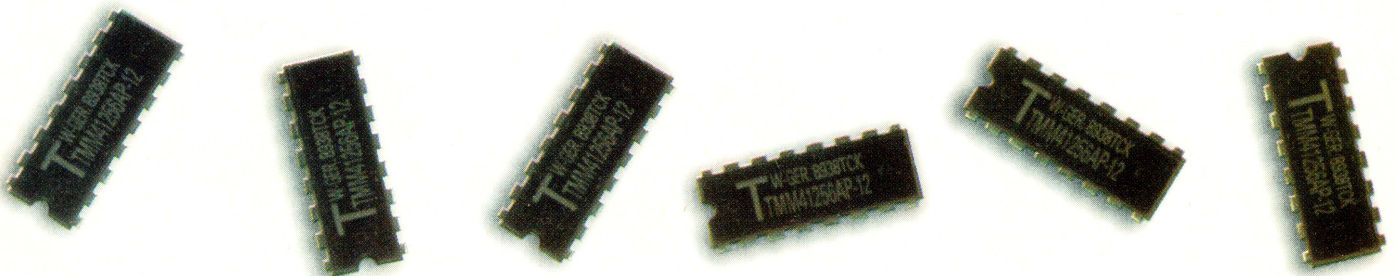
Your computer doesn't have an extra address bus just for ROM. It only has one set of address wires going to *all* the memory in the computer. Therefore, the entire memory of the Apple IIe and IIc, including RAM and ROM together, is limited to 65,536 bytes. Since an Apple IIe has at least 64K RAM, not even counting the ROM, and a IIc has 128K RAM, you may have guessed that there must be some way around this limitation.

Changing Banks In Mid-Program

Early Apple II models had 12K of ROM, reserved another 4K of address space for the ROM on the peripheral cards you plugged into the machine and for other purposes, and could accept up to 48K worth of RAM. After subtracting the memory used by the computer for its own purposes and for the text video display, you had about 40 K left over to do with what you wanted. Load the disk operating system and subtract another 10 K. This was an incredible amount of memory compared to what other computers offered, but, eventually, people wanted more. Especially when the Apple II+, with the new improved BASIC, Applesoft, was introduced—people with Apple IIs and the old version of BASIC wanted to use the new version. Eventually Apple itself introduced a new operating system and programming language, the P-System, which simply demanded extra memory.

Their solution was the Language Card, a 16K memory expansion card that fit into Slot 0 of the Apple II or II+. The Language Card used a clever technique called bank switching, which allowed programs to "switch off" the ROM entirely and replace it with RAM. The 16K on the Language card had to fit into the 12K space where the ROMs were. Therefore, the 16K memory was divided into three chunks: one of 8K and two of 4K. When you switched the RAM in to replace the ROM, you always got the same 8K chunk, but had your choice of either of the two 4K chunks.

The arrival of the Language Card meant that not only could you run the P-System, you



could also use Applesoft on your original Apple II or Integer BASIC on your II+, just by loading the appropriate software from disk. You could also use the memory for other purposes if you didn't care about having two different kinds of BASICs instantly available and wanted to learn how to write programs for the Language Card. Eventually there were programs that let you move the disk operating system itself to the Language Card, freeing up 10K of additional lower memory for programs that didn't know (or care) about the extra memory. Other manufacturers eventually got into the act, offering larger-capacity memory cards that effectively acted like multiple Language Cards.

The Language Card marked the arrival of the 64K Apple II. When the Apple IIe was later introduced, the IIe had the equivalent of a Language Card built in, making 64K the new standard. (The IIe, and later the IIC, had even more ROM, and it, too, was bank-switched, just like the "upper 16K" of RAM.)

With the IIe, Apple also introduced a new 80-column display standard, effectively making the *de facto* Videx 80-column card obsolete. Their trick was to include the actual 80-column display circuitry (and firmware) in the stock model computer. The 80-column card was merely a 1K memory card which fit into the computer's "auxiliary" slot, doubling the computer's text display memory to make room for the extra 40 columns. The even-numbered columns were stored in main memory; the odd ones were stored on the card.

Apple had another surprise up its sleeve: the Extended 80-Column Card, which contained a full 64K of memory. This new card not only allowed the display of a new higher-resolution graphics mode, it also essentially duplicated the entire existing RAM memory of the computer (including the Language Card area). And naturally, it used bank-switching, allowing entire chunks of memory to be switched between main memory and this new "auxiliary" memory at will. Programs like AppleWriter II and AppleWorks were created to take advantage of this extra memory. The IIC—and, later, the IIC+—was introduced with the equivalent of an Extended 80-Column Card built in.

An Apple engineer invented an "extended Extended 80-column Card" which would allow even more memory to be added to the IIe, in 64K chunks—it basically acted like multiple Extended 80-Column Cards on one card.

Apple wasn't interested in producing the card, so the engineer took it to a small Texas company known primarily for its scientific interfaces for the Apple II. That company, Applied Engineering, named the card RamWorks, wrote software to let AppleWorks use the card, and quickly found itself the premier manufacturer of Apple II hardware. AppleWorks 3.0 now supports RamWorks cards without additional software, and all currently available IIe memory cards (and IIC cards like the Z-RAM) use the RamWorks scheme.

Apple introduced its own memory expansion card, code-named "Slinky," a short while later. Abandoning the auxiliary slot, the Slinky card was instead installed into a standard Apple II expansion slot. It had some advantages—you could copy data to and from the Slinky faster than you could to a RamWorks-type card, plus the card automatically formatted itself as a RAM Disk, a fast pseudo-drive. Its primary disadvantage was that the computer couldn't actually run programs stored in the memory card; they had to be copied into main memory first. (RamWorks could run programs stored in auxiliary memory simply by bank-switching the appropriate area of memory and telling the computer that there was a program there.)

Things looked all set for a shootout. Since Apple was Apple, you might expect them to come out on top through sheer marketing and eminence. But Applied Engineering's card had a good head start on Apple's, and the company soon introduced a "clone" of Apple's memory card that was expandable to five megabytes (Apple's only went to 1M). Both kinds of cards were popular for quite a while, with IIC versions also coming from both companies and others. Today, though, Apple doesn't make the Slinky card—in the long run, it looks like the RamWorks won after all.

The Apple IIGs

The arrival of the IIGs changed the memory scene once again. Unlike previous Apple IIs, the IIGs sported a 16-bit microprocessor, the 65816—a descendant of the 6502. Instead of a 16-bit address bus, the IIGs had a 24-bit address bus, which meant it could access up to *sixteen megabytes* of memory directly, without resorting to bank switching. (When running in IIe mode, the IIGs acted like it had an extended 80-column card installed, so programs that already used bank-switching could still use it. However, new programs could also use the

IIGs expansion memory, even in 8-bit IIe mode, with a little special programming.)

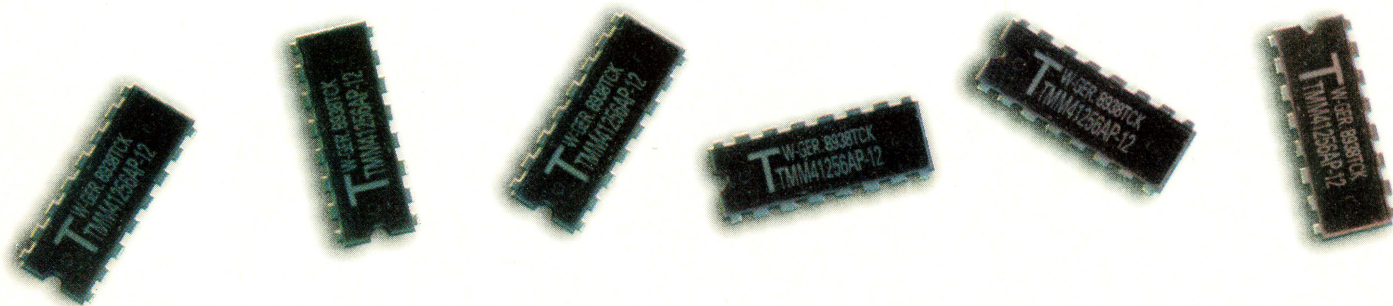
The IIGs had a new kind of memory expansion slot, and much of the circuitry necessary for addressing memory in the expansion slot was built into the computer, making it easy for manufacturers to design and build one-megabyte or four-megabyte cards. On the other hand, neither RamWorks nor Slinky cards could be used in the IIGs; the Slinky card could be used as a RAM Disk, but the computer could not use its memory directly. The RamWorks wouldn't work because the computer didn't even have an auxiliary slot like the IIe's.

The IIGs also featured even more ROM-based built-in software than before. The IIGs Toolbox was a complete set of programming tools for providing programs with the standard Apple user interface (pioneered by the Lisa and the Macintosh) with a minimum of programming hassle.

Of more interest on the memory front was the Toolbox's Memory Manager. The Memory Manager made the job of figuring out where to put data in memory much easier—programs could ask it for a chunk, and the Memory Manager would tell them where they could stick their data. The Memory Manager could even shuffle the chunks around to arrange a bunch of "free" areas into a larger space when a program needed a really big chunk, and then tell the programs whose memory it had moved where to find their data.

Because of the standard memory expansion slot and the built-in Memory Manager program, the Apple IIGs put all the memory card manufacturers on a level playing field. Thanks to the Memory Manager, all IIGs programs could automatically use all the memory on any kind of memory card, no matter who made it. Thus, features like reliability, expandability, and new software features became the primary selling points, not which competing memory expansion standard you should choose.

The IIGs divides its memory space into 64K banks. Going back to the safe deposit box metaphor we started while discussing the original Apple II memory arrangement, it's clear that if you need more than 65,536 safe deposit boxes, you need to use more than one bank. (I hate to admit this, but I came up with the entire safe deposit box metaphor *just to get to that punch line.*) Since the IIGs has a 24-bit address bus, it uses sixteen of those bits to specify which part of a 64K bank it is access-



ing (using the same scheme discussed earlier, with eight bits representing the page number and eight representing the byte within a page). The leftover eight bits are used to specify the bank number. The IIGs, then, could theoretically handle 256 64K banks—or 16M, a mind-blowing total of 16,777,216 bytes. The designers of the IIGs decided that half would be reserved for ROM, so you can actually have a maximum of eight megabytes of RAM in a IIGs (including whatever memory comes built into your particular model).

Speaking of on-board memory: The Apple IIGs was released with 256K of memory on board. Recognizing the need for more memory, Apple later began selling the IIGs with a 256K memory card (which could be expanded to a full megabyte using 256K memory chips) pre-installed, for a total of 512K. When the ROM 03 IIGs was released, the on-board memory was increased to one megabyte, without an expansion card.

Expanding Your Memory

Why would you expand your memory? A better question is, why *wouldn't* you? Although memory prices have increased slightly recently, a memory upgrade is still a great bargain on the cost-to-benefit scale.

If you use AppleWorks, expanded memory will let you load all of AppleWorks at startup, virtually eliminating disk swapping and making the entire experience run more smoothly. Plus, of course, you'll have the extra memory to open multiple files whenever you need to, and you'll be able to take full advantage of AppleWorks add-ons like the TimeOut series, which can turn your humble IIE or IIC into a data-processing powerhouse. Many other programs, including ProTERM and Publish It! 4, can take advantage of expanded memory, too.

If you have an Apple IIGs, expanding your memory means you'll be able to create bigger documents; use more fonts, desk accessories, and other system enhancements; and work with more graphics. HyperStudio will keep your most recent cards in memory, speeding access to cards you've already visited. You'll have no shortage of memory for four full-page Platinum Paint documents with spare pages and masks. You'll even be able to run more than one program at the same time, with one of the new MultiFinder-type programs for the IIGs.

And you can use your extra memory as a RAM Disk. As we mentioned, a RAM Disk acts a lot like a real disk, except it's up to fifty times faster, and loses its contents when you turn off your computer. These characteristics make it an ideal location for your System Disk, your program disks, and any temporary files you need to work with. A RAM Disk can increase the speed of disk-intensive programs, and it can make switching between programs as quick and easy as flipping pages in a book.

If you've already added a memory expansion card to your computer, you may be able to

expand it further simply by buying and installing more memory chips. This simple procedure places new chips in the empty sockets on your memory card. If you want to expand your memory beyond your current memory card's capacity, or if you don't already have a memory card, you'll need to add one. (No Apple II model has built-in chip sockets for RAM chips; however, some Laser 128 models can accept chips without needing any additional cards.) Apple IIE owners will probably get a RamWorks-compatible card. IIC owners can go with a Z-RAM-style card (which emulates a RamWorks) or an Apple-type

memory card (which emulates a Slinky card), depending on which IIC model you have—older models need the Z-RAM type. IIGs owners have the widest selection of all, and they're all compatible.

In Memoriam

I hope this brief tour of the Apple II's "inner circuits" helps you understand your Apple II better, and get more out of it. You'll find that while your computer's memory may not be as good as yours (since it vanishes when the power does), it's flexible, fast, and versatile—and easily expandable. ■

THE APPLE II MEMORY MAP			
Main Bank		Auxiliary Bank	
What's Inside a 64K Apple II, II+, or IIE		The Other Side of a 128K Apple IIE or IIC	
Language Card Bank-Switched Memory Shares Space with ROM	Monitor ROM Applesoft BASIC ROM Built-in software for entering, editing, & running BASIC programs	65535 (\$FFFF) 64K	Auxiliary Language Card
Language Cd. Bank 1	Language Cd. Bank 2	63488 (\$F800) 62K	
		57344 (\$E000) 56K	Language Card Bank 1
		53248 (\$D000) 52K	Language Card Bank 2
Card Firmware ROM Built-in programs on interface cards		49408 (\$C100) 48.25K	Extended Monitor ROM More Monitor ROM routines *
Softswitches Locations for input, output, & control		49152 (\$C000) 48K	Softswitches Locations for input, output, & control
Free Memory Usable by applications & BASIC The upper 10K of this space may be occupied by DOS 3.3 (or BASIC System under ProDOS)		24576 (\$6000) 24K	Free Memory Usable by applications
Display Memory High-Resolution Graphics Page 2 Also usable by applications & BASIC programs which do not use High-Res Graphics Page 2		16384 (\$4000) 16K	Display Memory High-Resolution Graphics Page 2 For Double-High-Res Graphics Also usable by applications which do not use Double-High-Res Page 2
Display Memory High-Resolution Graphics Page 1 Also usable by applications & BASIC programs which do not use High-Res Graphics Page 1		8192 (\$2000) 8K	Display Memory High-Resolution Graphics Page 1 For Double-High-Res graphics Also usable by applications which do not use Double-High-Res Page 2
Free Memory Usable by applications & BASIC		2048 (\$800) 2K	Free Memory Usable by applications
Display Memory Text & Low Resolution Graphics		1024 (\$400) 1K	Display Memory 80-column Text & Double Low Res †
System Use Zero Page, Stack, Input Area, Etc.		0 (\$0000) 0K	System Use Used by programs running in aux mem

Boxes are not necessarily to scale

* Extended Monitor ROM space is present in all IIE's, even 64K models
† Auxiliary display memory is present in any IIE with an 80-column card, even 64K models



ABOUT II ALIVE RATINGS

All ratings are on a scale of 1 to 10. A score of 10 in a particular category indicates that there is literally no room for improvement in the specified area, so a program has to be pretty hot stuff to earn a rating of 10. (Likewise, it needs to be pretty dismal to earn a zero.) A nine represents "excellent," and even a six or seven may be worth a look. You should look seriously for alternatives before buying a product with an overall rating of five or less.

Typical rating categories for application programs include: Capability, Ease of Use, and Documentation. Games are usually rated according to the following categories: Playability, Graphics & Sound, and Innovation, and may also merit a Documentation category if the game is of a type that requires more than a simple instruction sheet. For hardware, rating categories can include: Installation, Performance, Ease of Use, and Documentation. Categories may be dropped (or added) based on the specific product being reviewed.

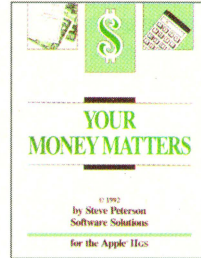
Ratings are assigned by *II Alive's* editorial staff based on comments and suggestions received from the author of each review. Overall ratings are not necessarily an average of a product's ratings in each individual category—some categories may carry more weight than others, and that weighting may change from review to review. Always read the entire review for complete information if a program's summary interests you.

Send products for review to: *II Alive* — Reviews Dept., 20200 Nine Mile Rd., St. Clair Shores, MI 48080, USA.

YOUR MONEY MATTERS

by Steve Peterson
Software Solutions

5516 Merritt Circle
Edina, MN 55436
(612) 929-8947



Product Summary:

IIgs-specific personal finance program with standard Desktop user interface.

System Requirements: Apple IIgs; System 5.04 or later; 1 MB RAM (1.5 MB recommended); 3.5" drive. Not copy-protected; hard drive installable.

Retail Price: \$79.95

Capability: 8

Ease of Use: 9

Documentation: 4

Overall: 8

The wait for a IIgs personal finance program is over. There's a new kid on the block—Software Solutions' *Your Money Matters* is a home accounting program that measures up to the high standards set by past and present competitors Quicken, *Home Accountant*, *Dollars and Sense*, and *Managing Your Money*. Unlike these other programs, though, *Your Money Matters* is a IIgs-specific program that follows the standard Desktop user interface. In fact, it's the only IIgs-specific program of its type available.

Your Money Matters runs under GS/OS, and can be started directly from the Finder after booting your hard drive, if you have one, or via the System 6.0 boot disk supplied with the program. (The program can also be installed on a hard drive.) If you've worked with *AppleWorks GS's* database module, you'll be in familiar territory with *Your Money Matters*.

You don't need any accounting knowledge to use *Your Money Matters*. It's simple to establish multiple accounts (checking, savings, mortgage, investment, loan, credit card, and so forth), track monthly and year-to-date spending, and split your transactions between multiple accounts. You can keep tabs on your net income and cash flow.

Because *Your Money Matters* runs on the Desktop, you can open more than one window at a time. A window is opened by using the familiar Apple menu bar, or by using an Apple Command key. Once a window is open, a scroll bar allows the display to be moved up or

down, left or right. New information can be entered by opening the proper window, then choosing "Insert" from the Edit menu. New accounts can be added any time, even when you're working with a new transaction. A simple point-and-click process makes it easy to choose accounts or transactions, or sort them by single or multiple criteria.

Balancing your accounts is performed the same way you would reconcile your checkbook—with the added feature of being able to balance "connected transactions" simultaneously. For example, if you deposit money from your "Savings" account into your "Checking" account, the program automatically deducts the funds from "Savings" and adds them to "Checking", updating the balance of both accounts with a single transaction.

You can print three different types of graphs: Cash Flow, Net Worth, and Account Balance. In text mode, reports on transactions, recurring transactions, accounts, investments, account addresses, monthly accounts, and payee addresses can be printed. Printing either individual wallet checks or continuous form computer checks is easy, because fields can be moved on the screen (using the mouse) to match any check format. Also, a hard copy of the information currently being displayed on your screen can be printed, making it easy to print impromptu reports by opening the windows you're interested in.

Data files can be imported into *Your Money Matters* from *AppleWorks 3.0*, *AppleWorks GS*, and *Home Accountant*. Your data files can be split or compressed using an included utility if they become too large to fit on one disk.

However, using *Your Money Matters* is not completely without its difficulties. Although I have plenty of experience with other home accounting programs, it took a while to gain a working knowledge of this one. The tutorial sections of the manual need work. The instructions are not always clear, and it lacks "do-as-you-read" examples. A call to Steve Peterson, the author of the program, revealed that he's aware of this problem and hopes to expand the tutorial soon, and also provided some tips that made learning the program much simpler.

Technical support for the program is provided by Mr. Peterson himself (he's also the proprietor of Software Solutions). Only when I called him did I realize that Software Solutions was a small publisher—the program is put together that well. However, at this writing, Mr. Peterson's competent telephone assistance is only available during the evening hours.

Don't be put too off by any weaknesses in

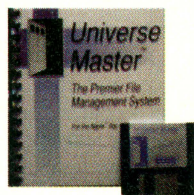
the manual, though. Overall, the program is easy to learn and use, thanks, in large part, to its adherence to Apple's user interface guidelines. As a home accounting program, *Your Money Matters* should hold its own against others on the market. And since it's a true IIGS program, it's a welcome cool breeze that cuts through a lot of hot air.

—Review by Larry Melton

UNIVERSE MASTER V1.0

by D. Proni
Econ Technologies

P.O. Box 195356
Winter Springs, FL 32719



Product Summary: IIGS-specific hard drive utility featuring backup and file recovery, with optimization coming in free v1.1 update.

System Requirements: Apple IIGS; System 6 or later; 1.5 MB RAM; 3.5" drive (hard drive recommended). Not copy-protected; hard drive installable.

Retail Price: \$169.95

Capability: 6

Ease of Use: 9

Documentation: 8

Overall: 7

Universe Master is a sophisticated hard drive utility combining the ability to back up files, recover files, and optimize your hard drive (the optimization feature will be included in version 1.1, a free update to be released sometime early in '93). It's not a program launcher (unlike similar packages, such as Salvation—Supreme and ProSel, which include a launcher among their utilities). Like the Red Cross, you almost never see it until you need it.

Universe Master requires System 6, one of the first commercial products to do so. It also requires at least 1.5 MB of memory. It does not require a hard drive, since its functions work equally well on any kind of disk, although running the program with just floppy disks will probably develop a bad case of "Floppy Shuffle Elbow" if you only have a single drive. Installation utilizes a custom version of the System 6 Installer, and the program requires that you enter your name (and your company's name, if appropriate) to save it permanently on the disk. If you try to lock the disk to avoid this, the Installation will fail. This rather unobtrusive "copy-protection" scheme, borrowed from the Macintosh, can help the company identify the source of any illegal copies. There are only two options in the installation procedure: where to install *Universe Master*, and

where to install the *Universe Master* Tutorial (a collection of folders and empty text files used as examples in the manual).

The program itself looks a lot like a HyperCard stack (it's not, though), with eight large buttons on the left hand side of the screen and a large window for the disk tree on the right. The six buttons at the bottom of the window control the functions, and the five disk icons at the top are used to select the drive you want to work with. This window is always present while you use *Universe Master*, providing a visual anchor that keeps you firmly centered on what you're doing. The tutorial in the well-organized manual will take you through all of *Universe Master's* features, and really is recommended reading. (If you decide to go through the tutorial, make sure you have a few blank, formatted disks handy.)

The backup portion of the program uses a sophisticated, but simple, scripting system to select files. You can select files based on a number of criteria, such as how long it's been since the file was last backed up, and you can also protect each backup with a password. After selecting your options and marking all the files you want backed up, *Universe Master* saves the script in a folder, with the option of saving a duplicate script on the destination disk. Later, when you want to perform the same backup, you can just double-click the script file. *Universe Master* launches, executes the backup script, and returns to the Finder. This makes backing up a pre-selected group of files a simple double-click operation—no more excuses for not backing up your important files regularly!

The program uses a compression algorithm which is compatible with Econ's *AutoArk* on-the-fly hard drive compression package, and if you have *AutoArk*, you can de-compress backup files from the Finder. The backup system has one limitation, though—each set of files you back up must fit on a single disk. For backing up your most often used data files, this probably will be adequate (especially since you can tell *Universe Master* to back up only files which have been updated since the last backup), particularly because of the very effective compression method employed. However, for those occasional but vital full hard drive backups, this clearly needs to be improved. Econ agrees; they plan to add this feature in the same v1.1 update which adds the optimizer.

Fortunately, I did not have the need to try the program's recovery option on my hard drive. I did, however, try it on a bad 3.5" disk I had lying around, and its recovery rate was 58% (7 out of 12). Actually, I was surprised at how well it worked. I had given the disk up for dead and decided to use it as an "acid test" for *Universe Master*. The recovered files were copied to my hard drive and labeled "Orphan.001" and so on, with consecutive numbers, and their file types were text. This

particular disk contained only AppleWorks Word Processor files, so it was easy to figure out what was in the files. However, a disk full of Sys16 files with resource forks, for example, may be a little harder to recover and correctly identify.

The only problem I had was with my 5.25" drive. First was the fact that you can't shut it off in *Universe Master*, like you can in the Finder. Also, on my system, which includes a 105 MB HD, a 3.5" drive and a 5.25" drive, inserting a 3.5" disk, selecting it, and ejecting it using the eject button on the drive, confuses *Universe Master*. The 5.25" disk icon disappears from the screen, but the drive, of course, spits out the 3.5" disk. Econ Technologies knows about this problem, as well, and they tell me it will definitely be fixed in version 1.1.

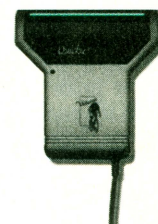
Barring these minor problems, I had no difficulty using the program. Normally, I might have difficulty recommending a program with missing features, but in this case I think Econ did the right thing in releasing the program in a useful form now (and providing a free upgrade) instead of waiting until the entire program was complete. I'm confident that Econ is one of the "good guys" and that the upgrade will, in fact, be delivered on schedule and perform as promised. (The program would, however, get a higher rating with *all* its advertised features in place.) It's encouraging to see new software of *Universe Master's* caliber. Econ is a young and ambitious company dedicated to the IIGS, and I wish them well!

—Review by Neil McNeight

QUICKIE V3.0

Vitesse, Inc.

13909 Amar Road
P.O. Box 929
La Puente, CA 91747-0929
(818) 813-1270
(800) 777-7344



Product Summary: Hand-held black and white and gray-scale scanner for IIGS, and IIe, with upgraded IIGS software.

System Requirements: Apple IIGS; 1.25 MB RAM; 3.5" drive. 2 MB RAM and hard drive recommended. Not copy-protected; hard drive installable.

Retail Price: \$299.95

Installation: 7

Capability: 6

Performance: 8

Ease of Use: 9

Documentation: 7

Overall: 8

Just a few short years ago, when you wanted to include artwork in your documents, you had three choices. You could draw it on paper and paste it into your final printout, draw it on the

computer and electronically paste it into your document, or simply consider the time involved in either approach and skip the graphics altogether. Then came ThunderScan—a gadget that replaced the ribbon in your printer and used the printer's carriage to move the scanner back and forth. It was slow and clunky, but it worked. Today, of course, we have a hand-held scanner—Vitesse's Quickie.

The Quickie is a hand scanner, which means that it can scan images from any flat surface just by pulling the scanner head over the image. Quickie can scan high quality images up to four inches wide (the software can assist you in scanning wider images in multiple passes); length is limited only by memory. Quickie can even handle images at 400 dots per inch—more resolution than you can get out of any printer you can hook up to your IIGs.

There's nothing new about the Quickie itself—Vitesse has been selling it for three years. However, the software keeps evolving—a pleasant surprise, since, after virtually eliminating their only competition (the LightningScan), it would have been easy for Vitesse to sit on its collective laurels. The version 3.0 Quickie software for the Apple IIGs needs at least 1.25 megabytes of RAM and requires System 6.0. At least 2 megabytes and a hard drive are recommended. The Quickie Startup Disk does not have room for printer drivers, so you'll need to use other software to print scanned images. Most Quickie users use a desktop publishing program like AppleWorks GS or GraphicWriter III to put together and print documents, integrating scanned images with text.

Quickie 3.0 has most of the features of the older version of the software. You can scan in either 320 or 640 resolution, use black and white or gray scale, resize your scans, and even do some limited editing. The 3.0 software adds the ability to resize documents on the clipboard, adjust the size of the screen to the scan, and even cut and paste in various shapes besides rectangles. Quickie 3.0's gray scale smoothing is adjustable to output anywhere from two to sixteen colors—the lower numbers of grays allow you to add color to the image more easily in a paint program, since the gray scale image isn't using all of the available colors. You can also magnify the image to four times its size for easy touch-up.

With the Quickie 3.0 software, you can save your scans in Screen format, Paint format, Apple Preferred format, Print Shop GS format, Single Hi-res (Ile), and Double Hi-res (Ile), making it simple to import the graphics into almost any software. The new version allows you to merge two images in one window, saving the extra cutting and pasting that was once necessary.

All of these features make the Quickie even more versatile than it ever was. But one important feature was removed. In the old version, the program could reduce and enlarge the raw

data from the scanner (before grayscale conversion), allowing smooth resizing graphics to any necessary size. Although you can resize images with the Quickie 3.0 software, the results aren't nearly as nice as the old method. Luckily, when you upgrade, you can keep your old Quickie software around for occasions when you need that feature.

As a staunch non-artist, the Quickie has been indispensable to me. Potential clip-art is everywhere I turn. Everyone from pencil klutzes to Renoir wannabes can use a scanner, and the Quickie is the pick of the litter. Vitesse is planning an upgrade kit for mid-'93 which will actually allow the Quickie to scan color images—using the same scanner. I can't wait!

—Review by Bill Carver

OUT OF THIS WORLD

Apple IIGS version by Bill Heineman
Interplay Productions

Exclusive U.S. Distributor:
Big Red Computer Club

423 Norfolk Avenue
Norfolk, NE 68701-5234
(402) 379-4680

Product Summary: IIGS action adventure game featuring state-of-the-art graphics, sound, and gameplay.

System Requirements: Apple IIGS; System 4 or later; 768K RAM ; 3.5" drive. More RAM and accelerator recommended. Not copy-protected; hard drive installable.

Retail price: \$49.95

Playability: 9

Graphics and Sound: 10

Innovation: 9

Documentation: 7

Overall: 10

Rotoscoped animation, real-time polygonal graphics, compiled scaling—these are a few of the technological marvels you'll be treated to when you play *Out of This World*. *Out of this World* is more than just another game: it's a showcase for the IIGs. It utilizes all of the fundamental elements that make the IIGs an exciting computer.

The game starts with a cinematic sequence that rivals the beginning of any great adventure film. Transported through space and time by a particle acceleration experiment gone awry, you must fight off some aliens, make friends with others, and use your own intelligence to figure out how to get back home.

The game's animation is amazingly fluid and lifelike, thanks to the rotoscoping animation techniques used. The 3D sequences were created by videotaping real actors. The computer graphics were created by drawing them "on top of" each frame of the videotaped

sequence, matching the taped action's motion and angles. Even cinematic flourishes like close-ups, zooms, and pans were created the same way, so they look equally real. Full sound effects, including squealing tires, footsteps, voices, and thunder, round out the game experience.

Once you watch the opening sequence, you'll take control of the game's main character, Lester. The game gives you no notice that you've taken control, but you'll soon discover that if you don't help Lester swim, he'll drown. I figured out the controls and the basic plot in minutes without looking at the instructions. The booklet that does come with it is short and to the point.

The IIGs version of *Out of This World* has 35 more rooms than its PC counterpart and features a full musical score. (The PC version only plays music in the opening sequence and at the end.)

Out of This World was originally designed for the IBM and Amiga, but was adapted for the Super Nintendo by "Burger" Bill Heineman (programmer of many of Interplay's IIGs games, the Harmonie printer driver package, and Salvation—Deliverance). The Super Nintendo version formed the basis for the IIGs version, since both machines use the 65816 microprocessor. Heineman says he did a IIGs version just to prove that it could be done, and there are two more similar projects that he plans to finish soon.

The game will run in as little as 768K but more memory and an accelerator is recommended. If you don't have an accelerator, Interplay suggests playing with a reduced screen size. (This option is available to you at the beginning of the game.) A joystick is supported but not required.

This game is worth owning just to see the spectacular graphics (and it's the perfect answer to your IBM and Amiga friends who are always rubbing your face in their great games). But the gameplay certainly doesn't disappoint, either, and I've wasted many hours trying to keep Lester alive just a little longer. *Out of This World* is one game that certainly lives up to its name, and it belongs in every IIGs owner's collection.

—Review by Craig Ceccarelli

computer clubs



ALASKA

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

ARKANSAS

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

CALIFORNIA

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

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

Gravenstein Apple IIGS Users Group
P.O. Box 1454
Windsor, CA 95492-1454
Contact: Bill Bartles (707) 838-7970
\$25 per year per family
BBS: (707) 585-0865

Newton's Fruit Users Group
11590 Peach Ave.
Hesperia, CA 92345-2702
BBS: (619) 955-6725

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 (213) 475-8400
BBS: (213) 454-4660

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

San Diego Apple II, GS Corps
2740 Ulric
San Diego, CA 92119
Contact: Tom Kasner 693-0331

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 (TVAIIG)
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 & Computable 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: 972-2672

CONNECTICUT

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: John Lorch (203) 646-2621
\$15
BBS: Bit Bucket (203) 569-8739

DELAWARE

Delaware Valley
Apple IIGS Computer Club
P.O. Box 5956
Wilmington, DE 19808-0956
\$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

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

Honolulu Apple Users' Society
P.O. Box 29554
Honolulu, HI 96820-1954
Contact: Bill McGarry 422-1963
\$20, Supporting \$10 for Newsletter only

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 Joe McKenzie
9834 N. Keystone Ave.
Skokie, IL 60076-1139
Contact: Joe McKenzie (708) 677-8558
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 Gagliardi 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 733-2574
\$24 per yr
OMEGA PRO 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.
Dave Smythe (410) 882-9234

Washington Apple Pl, 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

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

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) 560-8103
\$20 first year, \$15 renewal

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

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

NORTH CAROLINA

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
T.ZUCHOWSKI on GENie

Triad Apple Core
c/o GTCC Small Business ASST. Center
2007 Yancyville St., Suite 220
Greensboro, NC 27405

OREGON

Apple Eugene
907 River Road #289
Eugene, OR 97404
Contact: Larry Baden 895-2605
\$15 per yr

Portland Apple II User Group
P.O. Box 1608
Beaverton, OR 97075-1608
\$20 1st Yr; \$15 thereafter

Willamette Apple Connection
P.O. Box 7252
Salem, OR 97303-0053
\$15 per yr
WAC BBS 390-9321

PENNSYLVANIA

Apple Butler Users Group
P.O. Box 39 Meridian Station
Butler, PA 16001-0039
\$20 Single, \$25 family

Columbia Apple Pi
c/o L.A. Winski, M.D.
P.O. Box 710
Millville, PA 17846
\$6 per yr

Delaware Valley Apple Branch
132 Eaton Dr.
Wayne, PA 19087
Contact: Sam Lieberman

Erie Apple Crunchers, Inc.
P.O. Box 1575
Erie, PA 16507
\$5 Initiation fee; \$25 per yr
E.A.C. Express (814) 838-8510

RHODE ISLAND

Rhode Island Apple Group
P.O. Box 4726
Rumford, RI 02916-4726
\$10 initiation; \$20 annual dues

TENNESSEE

AppleCore of Memphis
P.O. Box 241002
Memphis, TN 38124-1002
\$20 per year

Music City Apple Core
c/o Gerald Dooley
1085 Woodcock Hollow Road
Kingston Springs, TN 37082
Contact: Gerald Dooley 952-2367;
George Emge 833-1508;
Everett Hertenstein 262-4778

TEXAS

Apple Valley Computer Club
Tony Rodriguez, Pres. 5900 N. 28th Lane
McAllen, TX 78504
Contact: Tony Rodriguez 682-9625
\$10/yr

Coastal Bend Users Group (CBUG)
P.O. Box 8391
Corpus Christi, TX 78468-8391
\$12 per year per household
STIX (512) 992-4855

San Antonio Appleseed
P.O. Box 290028
San Antonio, TX 78280-1428
New Membership \$15, Renewal \$10

VIRGINIA

Northern Virginia Apple Users Group
P.O. Box 8211
Falls Church, VA 22041
PRO-NOVA BBS: (703) 671-0416

TideWater AppleWorms
P.O. Box 68097
Virginia Beach, VA 23455
Contact: Jim Davis (804) 455-1308

WEST VIRGINIA

Apple Users Group of Charleston
2105 Weberwood Drive
South Charleston, WV 25303
Contact: John Howell 343-6422, or
Chas. Szasz 965-6965
\$10 per yr

Club Apple User Group
125 North Pinch Rd.
Elkview, WV 25071
\$10

WISCONSIN

Milwaukee Apple Users Symposium
9818 W. Sheridan Ave.
Milwaukee, WI 53225
Contact: Helmut Wittbecker

Wisconsin Apple Users Club
P.O. Box 21709
Milwaukee, WI 53221-0709

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 Souther 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
Contact: James Clark
\$10/yr

ITALY

Apple II Survivor Club Italy
Vis Dal Fabbro 4
37122 Verona Italy
Contact: Manuel Turtula

*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



NEW GS SOFTWARE FROM SEVEN HILLS

TransProg III is a time-saving program launcher. After installation the *TransProg III* icon appears at the end of every standard menu bar. From then on, instead of quitting to the Finder each time you want to start a different application, just select the application from the *TransProg III* menu. The currently-running program is automatically "quit" and the application you selected is immediately launched (completely bypassing the Finder).

In addition to providing quick launching, various options can be set for each application. For example, you can specify the default folder that will appear when you choose File/Open after launching an application. You can even change slot settings without having to restart the computer! Menus are fully customizable, and the "Thermo Configuration" option provides for easy selection of the initial program run at startup. *TransProg III* works with System 5.0.4 and System 6, and is \$39.95 suggested retail.

The Manager is the first and only true Multi-Finder for your Apple IIgs! Dave Hecker, Vice President of R&D says, "MORE POWERFUL AND EASIER TO USE THAN A SWITCHER PROGRAM." 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. *The Manager* 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 strongly recommended. The retail price of *The Manager* is \$69.95.

Kangaroo adds itself into any "Open" or "Save" dialog box so you can quickly hop from one folder to another. It automatically remembers the recently used files and folders to make accessing them a snap. You no longer have to dig through folders to reach a particular file!

And to save even more time, *Kangaroo* can add a new "Open" menu right inside your favorite IIgs-specific application. To open a

recently used file, just select it from the hierarchical "Open" menu and it's opened immediately... completely bypassing the file selection dialog box! *Kangaroo* also provides several useful disk utilities, which are instantly accessible whenever you open or save a file. *Kangaroo* requires a IIgs with 1 MB memory and one 3.5" drive and System 5.04 or later. Suggested retail is \$49.95.

For more information on any of these products, contact Seven Hills Software, 2310 Oxford Rd., Tallahassee, FL 32304; (904) 575-0566; Fax (904) 575-2015; America Online, GENie (Seven Hills), CompuServe (75300,1743)

PROCYON ANNOUNCES APPLICATION SWITCHER

Procyon Enterprises, Inc. of Littleton, Colorado announced today that they have released *Switch-It!*, an extension that brings Macintosh MultiFinder style capabilities to the Apple IIgs. *Switch-It!* allows the user to load any number of desktop programs (limited only by main memory) and switch between them instantly. This important new ability makes the Apple IIgs computer one of the most versatile and cost effective personal computers on the market today.

Switch-It! is fully compatible with the most popular applications for the IIgs. Matt Guder-muth, President of Procyon, Inc., said "For anyone who finds themselves moving between a lot of different GS/OS desktop programs, you'll save an amazing amount of time. *Switch-It!* allowed us to produce the documentation in roughly half the time it normally takes."

"When you launch a program from the Finder, the Finder remains resident. This not only greatly speeds up launching and quitting, but means the Finder is always handy in the event one needs to format a disk or do other Finder operations from another program.", Jawaid Bazyar, Vice-President and Chief Technical Officer, explained. "[The program] is especially beneficial to users without hard disk drives," Mr. Bazyar added.

Switch-It! requires GS/OS System 6.0 and has a list price of just \$79.95. For more information, contact Procyon Enterprises, Inc., P.O. Box 620334, Littleton, CO 80162-0334, Phone (303) 933-4649. (Distributors please contact Sequential Systems, 1200 Diamond Circle, Lafayette, CO 80026, Phone (303) 666-4549.)

ECON ANNOUNCES AUTOARK

AutoArk works in conjunction with Apple's System 6.0 to provide an automatic and seamless method to store data files and applications

in compressed format. Compressed files and applications can be decompressed 'on-the-fly' when you are ready to use them. Utilizing state-of-the art compression techniques, *AutoArk* achieves an average 50% reduction ratio, which means disk storage can effectively be doubled!

AutoArk combines a finder extension and system INIT, letting you compress and expand documents as you go. Applications and/or data files can be 'manually' compressed/decompressed within the Finder simply by selecting the file's icon and choosing 'Compress' or 'Expand' from the Extras menu. Compressed applications and documents can also be launched by double clicking their icon, just as you would launch uncompressed files.

Any file that can be compressed can also be password protected and encrypted to prevent sensitive data from falling into the wrong hands or to keep unauthorized individuals from using applications or viewing documents. *AutoArk* is completely compatible with the *Universe Master* (also available from Econ) backup file format so backup data can be automatically accessed within any application!

For more information, contact Econ Technologies at (407) 365-4209

WESTCODE ANNOUNCES HARDPRESSED

WestCode Software, Inc. is pleased to announce *HardPressed*, a software solution to the constant problem of running out of disk drive space. With *HardPressed*, Apple IIgs hard drive owners will be able to reclaim up to 50% of their disk space, essentially doubling their existing storage capacity. More importantly, they can do so at a fraction of the cost of buying additional equipment.

With *HardPressed*, the user simply specifies which folders or disks he would like compressed. From then on, *HardPressed* works automatically and transparently. For example, if a user decided to compress his "Documents" folder, all files within it would automatically be compressed. Further, files copied to that folder as well as new files created within the folder would also be compressed.

HardPressed provides true on-the-fly compression and decompression of files. Thus, any compressed application or file will automatically be decompressed when it is launched or opened, with no unnecessary inconvenience or delay. *HardPressed* also includes a Finder Extension which allows you to manually compress or decompress files. *HardPressed* uses loadable add-in modules to store its compression routines, so it can easily be updated to

take advantage of new algorithms and compression technologies as they are developed.

HardPressed requires an Apple IIgs with *System 6.0* or later. The suggested retail price for *HardPressed* is \$69.95. For more information, contact WestCode Software, Inc. 15050 Avenue of Science, Suite 112 San Diego, CA 92128, Phone (800) 448-4250, (619) 487-9200, or (619) 487-9255 Fax

GENIE SEARCHES OUT LOST CLASSICS

General Electric's Information Service (GENie) is preserving discontinued commercial Apple II software by persuading authors to allow archiving of their programs and by re-releasing some programs as Shareware or Freeware, or arranging for software to be placed in the Public Domain.

GENie's Lost Classics project will make copies of participating Apple II software available in GENie's A2 Roundtable and release source codes in the A2Pro Roundtable for preservation and updating purposes. Dean Esmay, GENie's Apple II Roundtable manager said, "The Apple II's effect on modern computing has changed the way an entire generation thinks and acts. We are not about to let that pass into oblivion."

The following goals are primary to this effort:

- Find and preserve Classic Apple II software including source code, whenever possible, in order to prevent inadvertent loss due to accident or misplacement. These will be stored as electronically compressed archives on optical disk cartridges.
- Provide access to commercial software titles which have otherwise become unavailable.
- Provide a center for dated software in need of updating to remain compatible with modern Apple II hardware and system software. This may include contracting with third-party programmers.

So far, the Lost Classics project has resulted in the re-release of AppleWriter II, Apple-Writer III, Electric Duet, GraForth, and the WPL Expansion Kit, all of which were out of print, as freeware. These programs can now be obtained from GENie's A2 Library and other sources, and can be freely distributed with minor restrictions. For more information, contact Timothy Tobin at (310) 813-5697 (GENie E-Mail: A2.TIM).

APPLE EXPO WEST ANNOUNCED

Event Specialists of Boston, MA, in conjunction with BMUG, the Berkeley Macintosh Users Group, announces the Apple Expo West, to be held April 23-25, 1993 at Brooks Hall/Civic Auditorium in San Francisco, CA. The Expo will feature exhibits from both Apple II

and Macintosh vendors, along with informative conferences by industry leaders. Peter Kelman, V.P. of Scholastic Software, Inc. and Roger Wagner, President of Roger Wagner Publishing, Inc. will be keynote speakers.

Friday, April 23, Mr. Kelman will present "Edutainment Software vs. Educational Software," highlighting the differences between educational software designed for the school market and similar products designed for the home market.

Saturday, April 24, Roger Wagner will present "Multimedia: The Mouse is Mightier Than the Pen," showcasing the power of multimedia and computer technology as the new printing press, and focusing on RWP's multimedia authoring system, HyperStudio.

New Music Theatre and Media Tree of San Francisco will present artist Pamela Z and her new multimedia performance piece, *Dream Encoding*, featuring a real-time mixture of video, animation, and graphics created and integrated by the Fast Electronics Video Machine and *MacroMind Director* for the Macintosh, controlling videotape, laserdisc, and MIDI instruments.

Show hours are April 23-24, 10 a.m.-6 p.m. and April 25, 10 a.m.-4 p.m. Admission is \$20 for all three days and includes all conferences.

For more information, contact Ruth Rubino at (617) 784-4531. ■

Salvation-Bakkup

Version 2.0



Salvation-Bakkup version 2.0 includes the following features, many of which are new!

- New! Option compression algorithms that significantly reduce the number of disks required by as much as 60%
- New! Support for 3.5" low and high-density floppy disk drives
- New! Support for SCSI Tape backup drives
- New! Verify/Write ALWAYS on unformatted disks
- New! Catalog on each disk
- New! Find next disk
- New! Optional Command/differential/incremental backup
- New! Sparse file packing

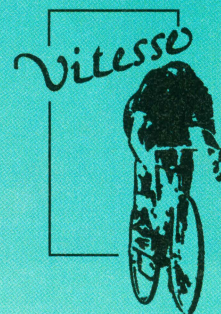
- Recognize and backup of Mac (HFS) formatted disks
- Improved! Text tools for printing labels
- Improved! Simple to operate Macros

Salvation-Bakkup requires an Apple IIGS computer running GS/OS 5.0, or higher. The computer should be equipped with 1MB of RAM if your running GS/OS 5.0, and 1.5MB or RAM if you are running GS/OS System 6.0. It also requires that the computer be equipped with a hard drive.

Salvation-Bakkup is completely compatible with GS/OS 5.0, and System 6.0. Upgrades to Salvation-Bakkup 2.0 are available from Quality Computers, Inc. or directly from Vitesse, Inc. Existing users qualify for the upgrade if they are registered owners, or can show proof of ownership by showing their original Salvation-Bakkup (previously Salvation and Salvation-Guardian) disks or the Table of Contents page of their user's guide.

Upgrade to version 2.0 for **\$39⁹⁵**

Retail Price **\$69⁹⁵**

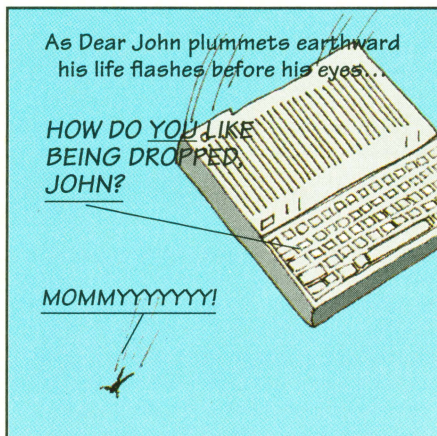
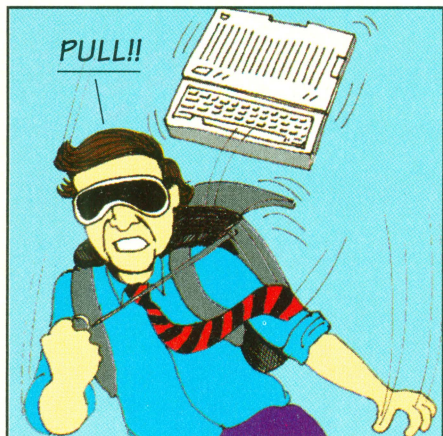
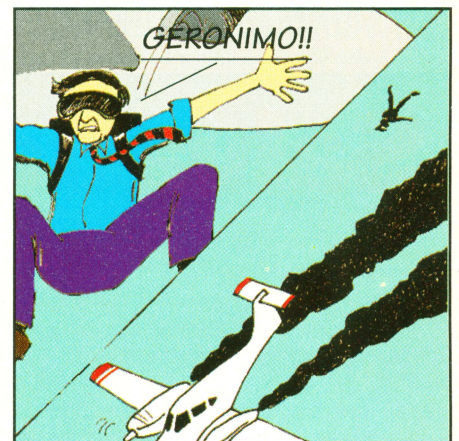
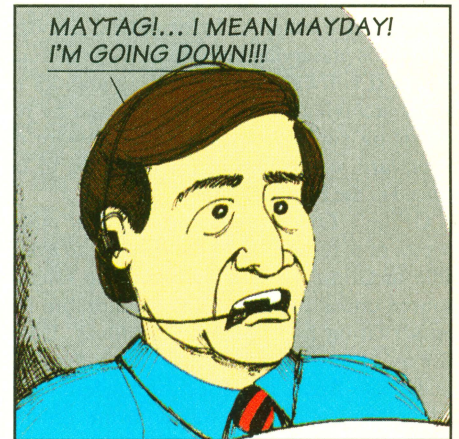
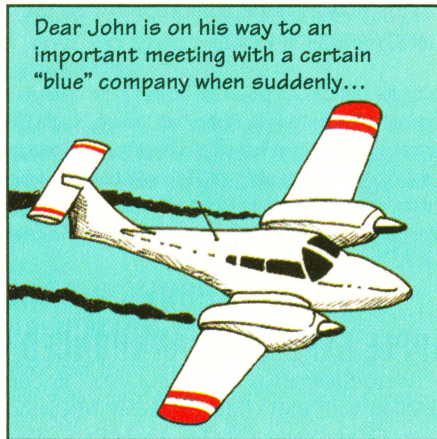


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By Carl Sperber & Jerry Kindall



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CROSSWORD PUZZLER

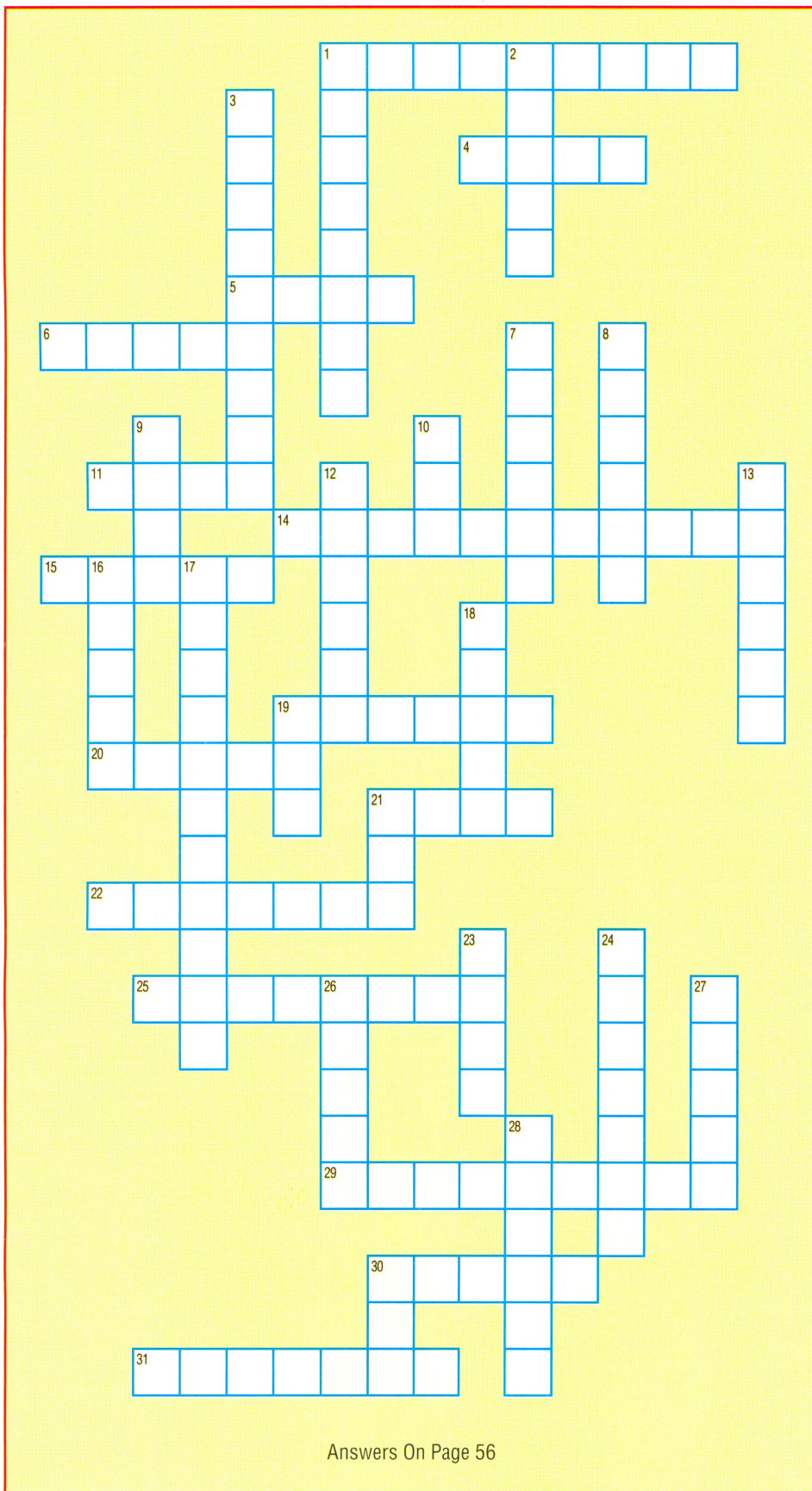
All the words in this crossword puzzle can be found somewhere in this issue of *// Alive*. Where? That's for us to know and you to find out. Hey, nobody said it'd be easy! Answers are on page 56.

ACROSS

1. Powerful and underutilized AppleWorks feature
4. Lubricates and cleans print head
5. April 23-25, San Francisco, CA: Apple ____ West
6. Roger May discovered it
11. Typeface or style
14. Do it regularly to prolong life
15. In groups, they're good support
19. Very accurate kind of clock
20. Popular Apple II clone
21. Machines that go ____ in the night
22. AppleWorks' DB has two kinds
25. Mail comes and goes in it
29. "Try-before-you-buy" software
30. Cough drop brothers
31. Programming for fun

DOWN

1. _____ choice test
2. Moves data through phone
3. BASIC built into Apple IIs since II+
7. Favorite Heineman fast food
8. In-progress IIGS clone
9. The "C" in ASCII
10. Digital encoding device for manual output
12. What to wear on cool days
13. The first thing to go
16. Framework for customizable software
17. Out-of-this-world animation technique
18. Status of Apple II
19. Noah's or Econ's Auto ____
21. Primary vehicle for online conversation
23. Ask Mr. ____
24. One of the two Steves
26. AppleWriter Paul
27. The Apple II is old enough to do it
28. Nabisco cookie or Apple PDA
30. Sold out of IIGS over Xmas: ____ Remarketing



Answers On Page 56



SILICON CHIP COOKIES



- 1 1/8 c. flour
- 1/4 tsp. baking soda
- 1/2 tsp. salt
- 1/2 c. shortening
- 1/4 c. brown sugar
- 1/2 c. granulated sugar
- 1 egg beaten
- 1 tsp. vanilla
- 1/2 c. chopped walnuts
- 1/2 lb. semi-sweet silicon chips*

Pre-heat oven to 350°. Sift flour, baking soda, and salt together. In separate bowl, cream shortening, brown sugar, and granulated sugar together. Add egg and vanilla; beat thoroughly. Add sifted dry ingredients. Fold in nuts and chips. Cut dough into small pieces. Drop from a tsp. onto greased cookie sheet. Bake about ten minutes or until golden brown. Makes 50 cookies.

* If cookies are to be consumed by humans, or if silicon chips are unavailable, substitute chocolate chips.

NEWS (continued from page 126)

NEW PRODUCTS SLATED FOR APRIL 1 RELEASE

Apple IIgs System 6.6.6—Adds the long-awaited Wine and Cheese menus. Also included are three new types of menus: pull-up menus, push around menus, and punch-thru menus. The anticipated sit-up menus will be added in the next release, and pressure from environmental groups has forced Apple to scrap plans for tear-off menus. In addition to the promised Dingbats font, System 6.6.6 also includes Nitwit and Airhead fonts.

HypoCard 0.0001—A stripped-down version of HyperCard GS written by a manic-depressive. It completely lacks any useful features (except "Format Disk" and "Delete") and flashes the message "You are an underachiever" on the screen every thirty seconds. Despite its non-intuitive user interface, we highly recommend this program as a substitute for watching MTV.

VaporWrite 1.0—This word processor is sensational! It has the fastest spelling checker on record (including an unabridged dictionary with synonyms and definitions). It will do everything you want to do with your words, and more. Best of all, it runs in 64K, requires one disk drive, and costs \$29.95. At least, that's what we gather from the press releases. The shipping date of this exciting new product has been firmly set at "Real Soon Now."

Fumbler 2.0—A replacement for the IIgs Finder that loses files, messes up applications, breaks windows, and often presents you with a Bronx cheer. Imagine the look on your face when you discover several days of work gone down the drain! (This new version fixes a bug in the previous version which allowed it to work correctly.)

IIgs In A IIgs—Allows you to completely simulate an Apple IIgs with your Apple IIgs. It looks like you're using your computer as normal, but in reality, you're using a full-speed *simulation* of the Apple IIgs. Does not slow down your system at all! Early purchasers of this product will also receive a state-of-the-art IIe simulator that turns your IIgs into a fully-functional Apple IIe!

The NukeButton—Ever wanted a *lot* of power? I mean, mind-blowing, brain-numbing, jaw-dropping, ultimate-control kind of power? With one keypress? The NukeButton, a big red button which installs easily on any computer keyboard, is the answer. Press the red button and the NukeButton will erase your hard drive, set your computer on fire, implode your monitor, and ensure that no life besides cockroaches will be able to live within a ten mile radius of your computer for a million years. You may never need to actually use the NukeButton, but the mere threat of its use can be incredibly effective.

Special thanks to Dan DeMaggio

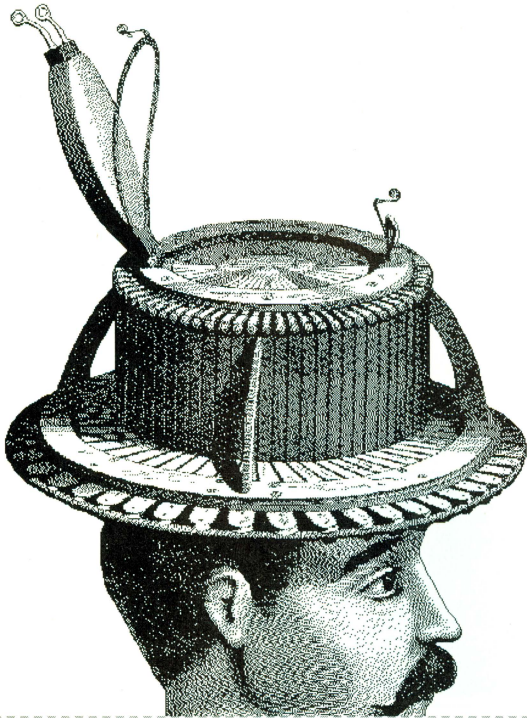
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date:

format:

DOS 3.3 PRODOS PASCAL



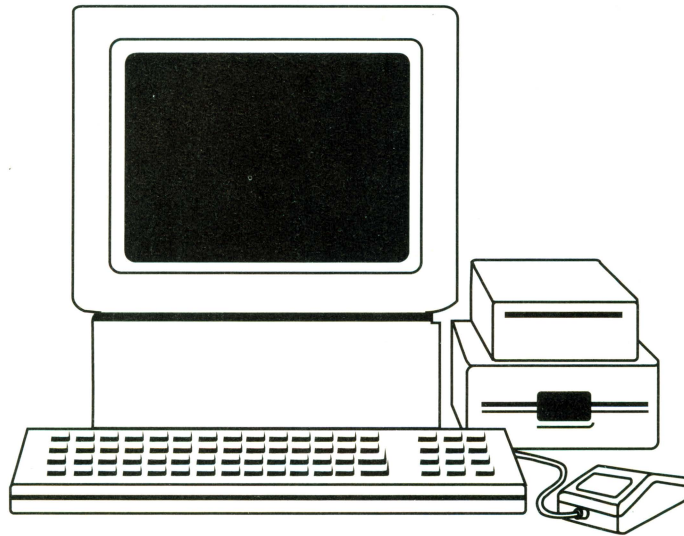
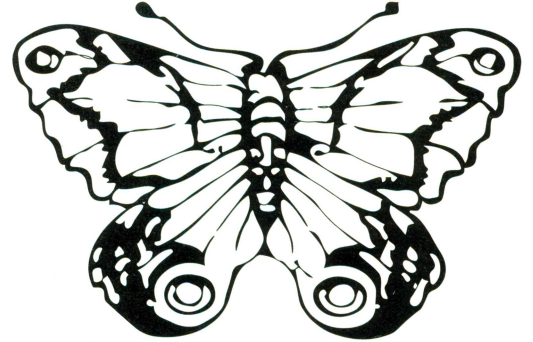
FOLD
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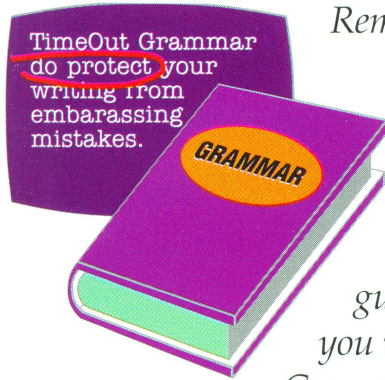


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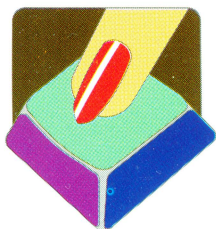
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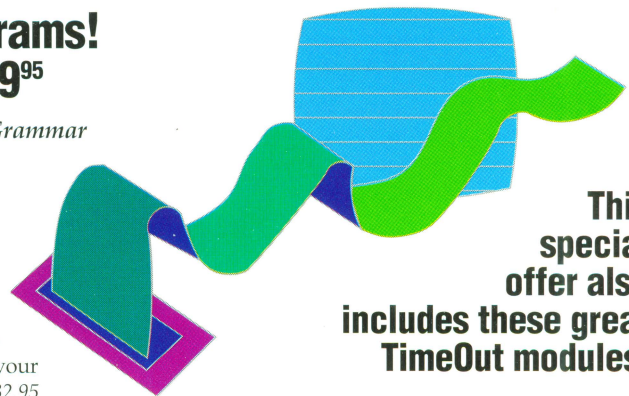
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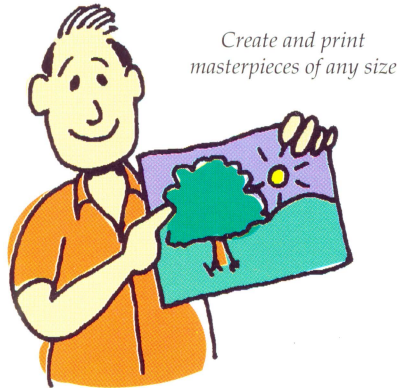
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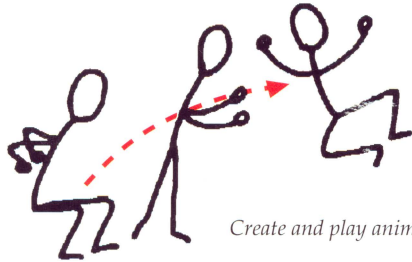
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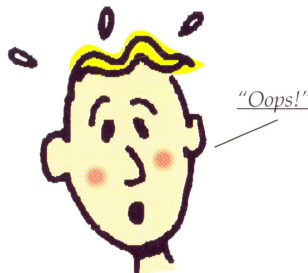
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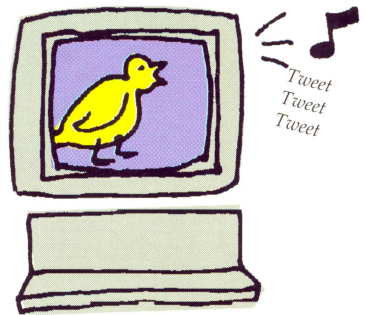
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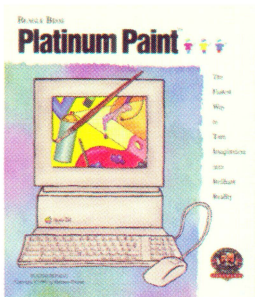
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