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—An AppleWorks Project, p. 80
—Publish It! Reviewed, p. 26

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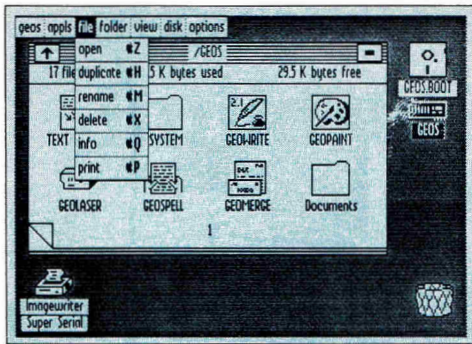
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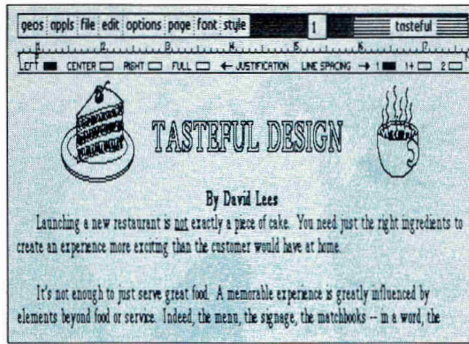
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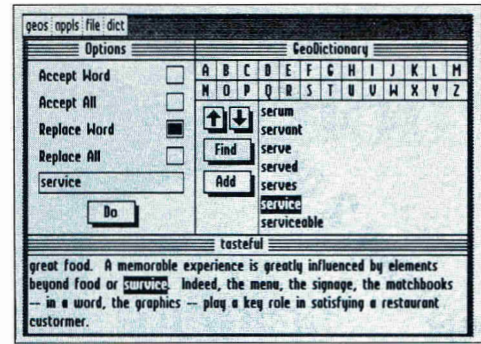
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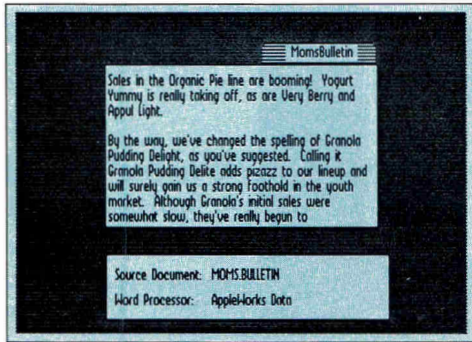
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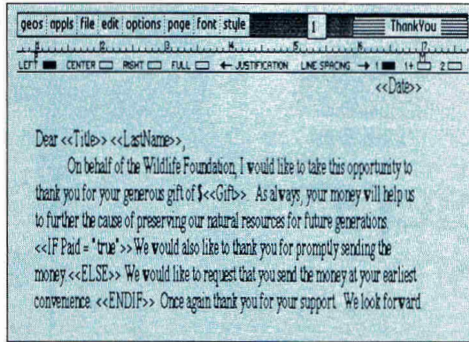
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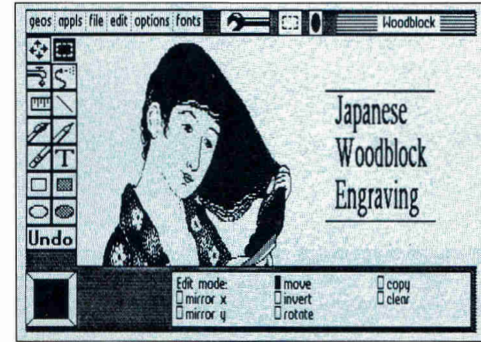
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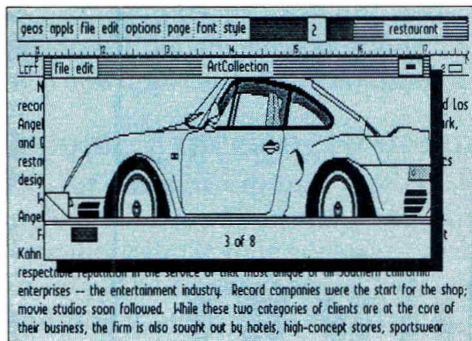
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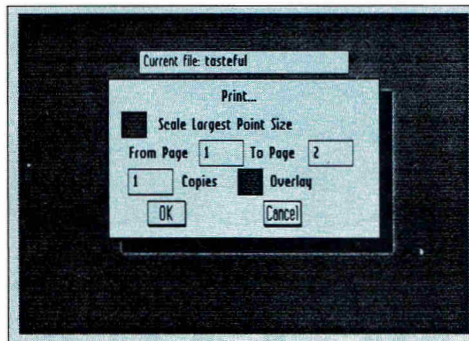
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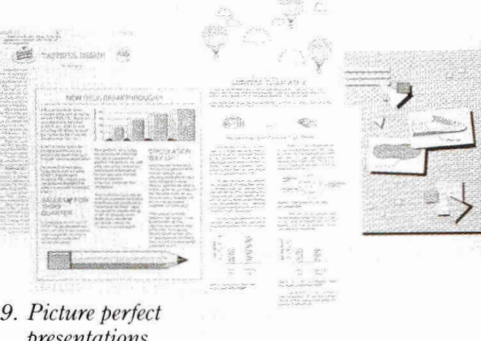
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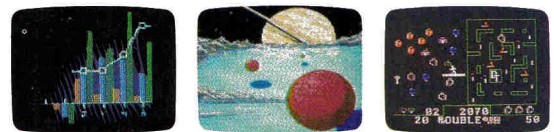
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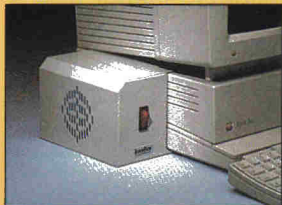


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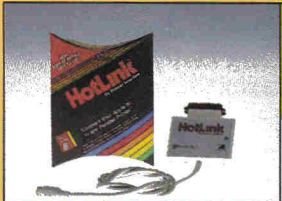


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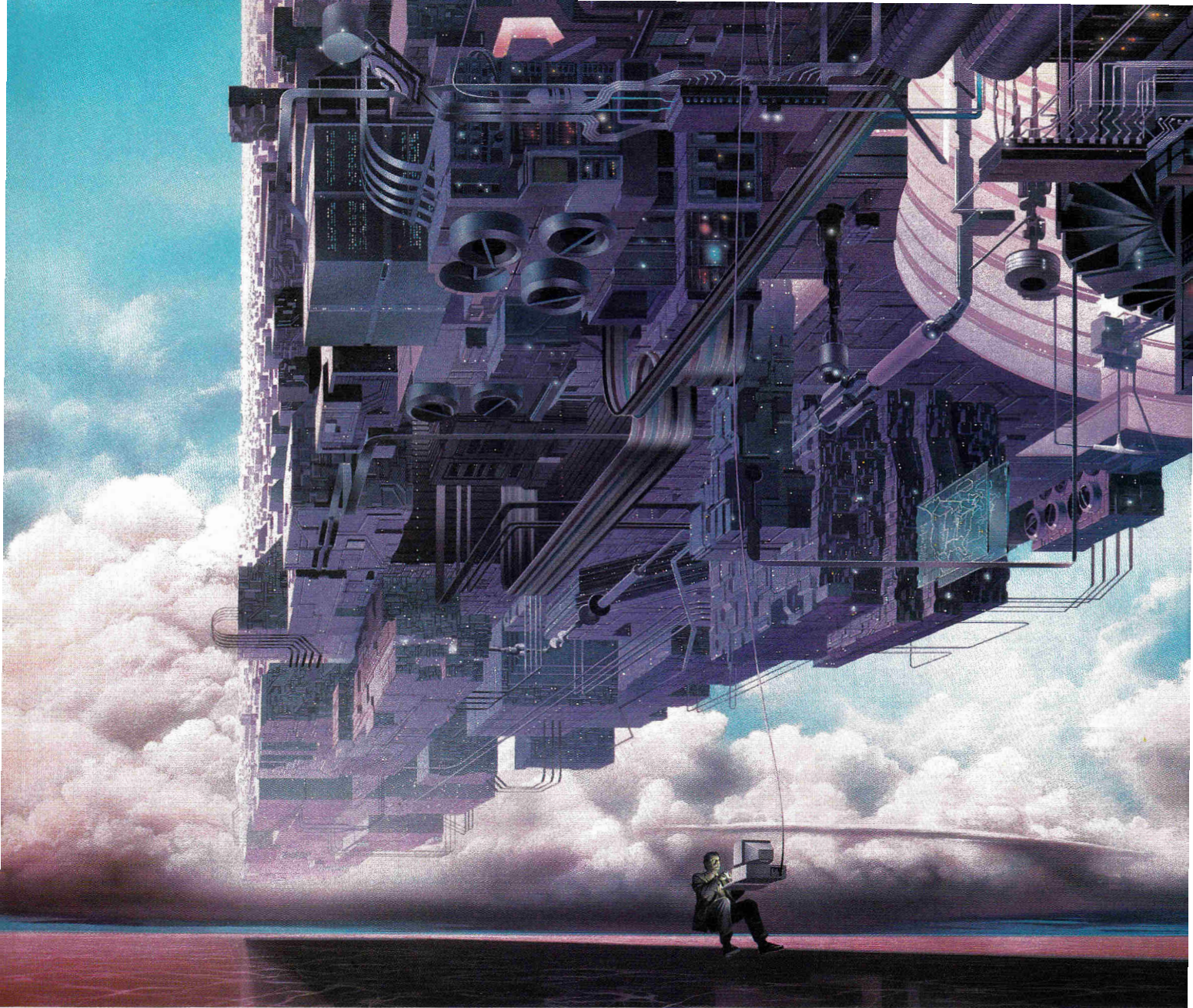
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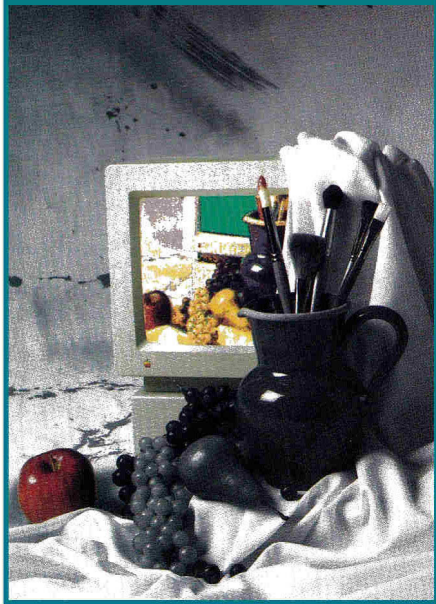
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This month's cover was designed on a IIGS using DeluxePaint II from Electronic Arts (see "The Art of Apple Computing," inCider's View, p. 8) and shot in black-and-white and color by photographer Eric Fordham. The screen shot was generated using Eric's photography and AST's VisionPlus digitization system, then separated electronically by Imageset, Inc., of San Francisco, California. The final composition was combined on a chromacom retouching system at Lanman Lithotech, Orlando, Florida.

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Apple II painting and graphics packages are the new tools of the design trade. With the Apple screen as your canvas, you can choose from a wide range of programs that make professional artists more productive and dabblers more creative.

60 The Apple II in Business: Your Silent Partner

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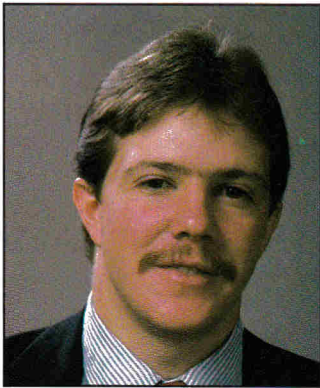
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The Art of Apple Computing

by Dan Muse, Editor in Chief



“Graphics software is to artists and designers what word processors are to writers: productivity tools.”

When you hear someone use the words *creativity* and *computer* in the same sentence, does it conjure up images of programming or of using AppleWorks in some unique way? Although programming is certainly a creative process, computer *art* is a reality on the Apple II.

Today's drawing and painting software for the Apple II is encouraging creativity in the more traditional sense of the word. These graphics-oriented programs are attracting a new type of user—the person who otherwise might not be involved with personal computers. For example, less than a year ago—after seeing a IIGS painting program in action—in*Cider's* art director, Donna Wohlfarth, requested an Apple IIGS for her department.

While in*Cider's* editorial offices are equipped with about a dozen Apple IIs, several hard disks, and a number of modems, which we use to transmit our articles electronically to the typesetting and page-makeup departments, the folks in design weren't very interested in computers—until Donna saw that GS painting program.

Painting and drawing packages are fun, and they enhance everyone's creative talents (even mine), but the software's real potential lies with artists and designers. Donna prepares cover roughs and article mockups with the IIGS, and she's now beginning to use AppleWorks to manage budgets and correspondence. I use the AppleWorks spreadsheet for budgeting, too, but I couldn't design a cover no matter what kind of software you gave me. This new crop of graphics programs won't make computer users like me more creative; instead, they'll attract creative people to computers.

Graphics software is to artists and designers what word processors are to writers: productivity tools. Unfortunately, too many software companies attempt to distinguish painting and drawing programs from word processors, database managers, spreadsheets, and so on. To Donna, though, DeluxePaint II or Paintworks Plus is every bit the productivity tool AppleWorks is to me.

In many ways, painting and drawing software faces the same obstacles word processing encountered several years ago. Many writers, thinking a computer would somehow interfere with the creative process, were reluctant to adopt the technology. After giving up their trusty typewriters, though, writers discovered that the only thing computers interfere with is a wastebasket full of paper.

Today some of the world's best-selling writers use word processing. For example, Tom Clancy (whose novel *Red Storm Rising* has just been converted to a computer game by Microprose) told in*Cider* he wrote his first book, *The Hunt for Red October*, on an Apple IIe with Apple Writer.

Now we're beginning to get reports on artists who are designing album jackets and book covers with the IIGS, and we expect to be writing more in the future about others who are recognizing the creative power of the Apple II.

If you told me a year ago that our art director would be designing the cover and parts of the magazine on an Apple IIGS, I would have nodded to be polite. But things have changed. Now I wouldn't be surprised if she asked for a 20-meg hard disk. ■

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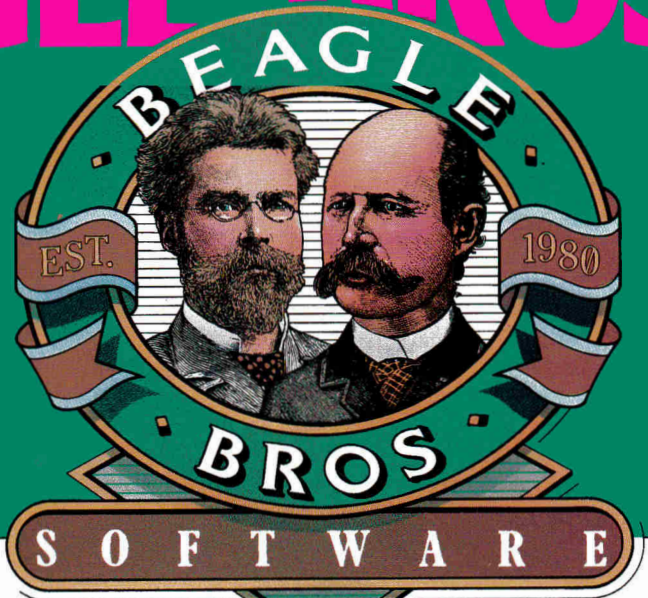
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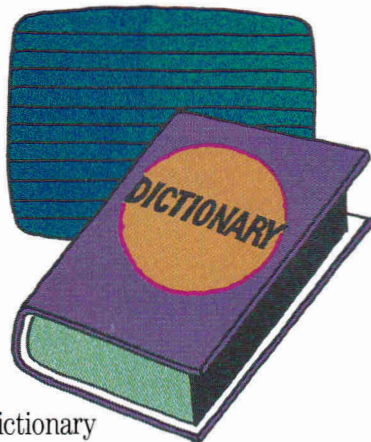


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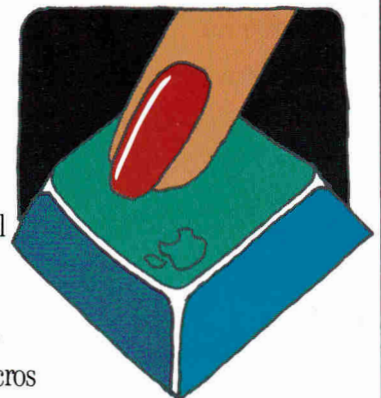
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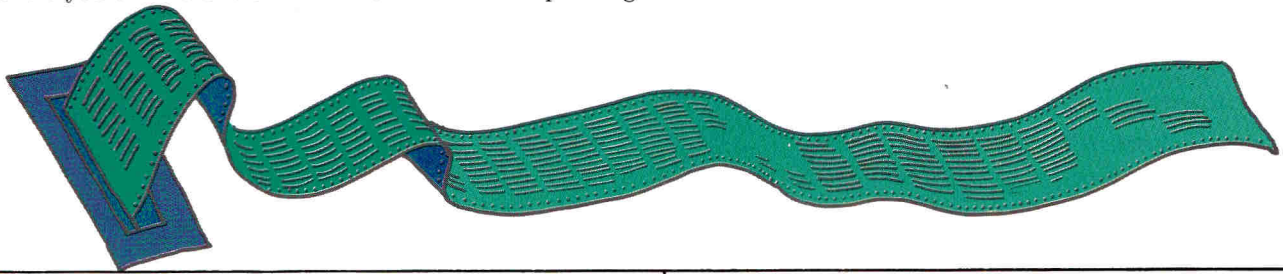
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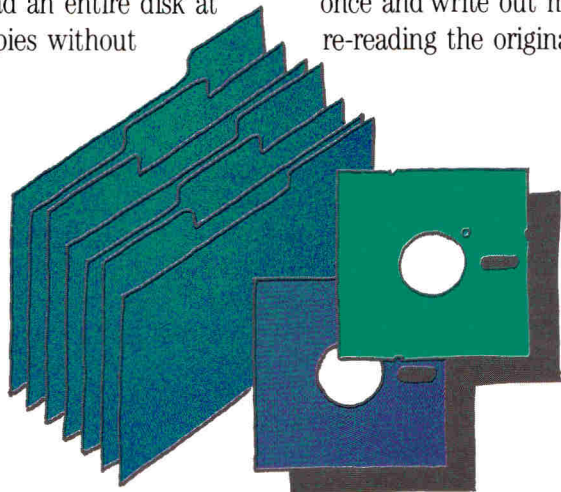
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SPOTLIGHT ON . . .

HELPING THE HOMELESS

Tina Garcia is a junior at Staten Island's Concord High School. Jackie Cavanaugh is eight years old. What the two share is a concern for New York's 50,000 homeless people and the belief that with the help of Apple computers, they can do something about it.

Michael Blyth, the man who brought them together, advises both the Concord High Apple computer club and the Paxton Center computer club, which is open to local children. Both groups have been working with Project Hospitality, a local shelter for the homeless. The volunteers at Project Hospitality had more work than they could possibly do, so Blyth's students decided to help out.

Members of the two student organizations are using AppleWorks to develop a database of names of people who have donated time or money to the shelter, which will use this mailing list in its fund-raising efforts.

Now the clubs have taken on a second project, which is even more ambitious.

They're using AppleWorks to create another mailing list, this time of local realtors. The students are writing to each realtor, on behalf of Project Hospitality, to track down available rental houses and apartments.

Project Hospitality screens prospective tenants for those who would be good risks and guarantees three months' rent for each apartment or house.

Dedicated members of the Concord High club give up an hour a day to assist the shelter. "I wanted to help out because this is a big problem," Tina Garcia says. "I don't mind giving up my lunch hour to help people." The students at Concord

High School had a surprise waiting for them when they returned to school last January. The New York City Board of Education awarded \$500 to the shelter of the computer club's choice, saying that the group's project portrayed the problem of homelessness best. As Michael Blyth says, "We're on Cloud Nine."
—P.O'D.



TEACHER KNOWS BEST

Apple Computer's new Apple Learning Series (ALS) is "a curriculum solution," says Barbara Secrest, the company's K-8 solutions manager. The ALS packages are bundles of third-party products Apple has selected for use in particular curriculum areas. The current series covers Early Language, Life Sciences, and Health Education.

The Early Language software includes Muppets on Stage, Muppet Word Book, Muppetville, and Touch 'n Write from Sunburst; Sound

Ideas from Houghton Mifflin; and Talking Text Writer from Scholastic. The hardware that comes with the package includes Sunburst's Muppet Learning Keys; Echo Plus and Echo IIb speech synthesizers from Street Electronics; and Personal Touch Corporation's Touch Window.

Life Science components include Information Laboratory: Life Science from Addison-Wesley, Science Square-Off from Scott Foresman & Co., Science Toolkit from Broderbund (including interface box, light and temperature probes, thermometer,

light meter, timer, and strip chart), Biomes from D.C. Heath & Co., Agents of Infection from Prentice Hall/Educational Technology Group, and Heredity Dog from HRM Software.

The Health Education package includes Body Awareness Resource Network from Encyclopedia Britannica, and HRM's Biofeedback Microlab, which comes with an interface box, thermistor, heart-rate sensor, electrodermal sensors and connectors, and electromyogram sensors and connectors.

The goal of the Apple Learning Series, according to Secrest, is to make computers an everyday teaching tool. "A teacher thinks nothing of saying, 'I'll make an overhead of this [a transparency for overhead projection]," Secrest says. "Apple aims to integrate computers so that they're used in this everyday fashion—to make them 'integral as well as integrated.'" The majority of teachers aren't using their computers that way, she notes.

In selecting products for the learning series, Secrest and other Apple officials consulted a number of educators to discover what they need in

what areas. They also worked with textbook publishers. "We had to closely match the objectives of educators," explains Secrest. Many ALS products have won awards or are currently up for awards.

Teachers use each ALS package as a separate entity, yet each is part of the whole ALS program. Teachers can also add other products to the ALS series to customize their curricula. "We're trying to provide support tools for instruction. We're not trying to change anyone's curriculum [and] we're not conveying the message Early Language, then

Life Science, then Health Education [as a curriculum order]," Secrest emphasizes. "The teacher is critical in the learning series. The teacher knows best what the curriculum needs are and how he or she teaches." —L.L.

WHERE NEXT?

Where will Broderbund's busy Carmen Sandiego turn up next?

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APPLE BITS



■ The first Graphic Environment Operating System (**GEOS**) package from Berkeley Softworks (Berkeley, CA) will cost \$129 in serious money. For that price you'll also receive a new interrupt card for your Apple IIe joystick. The boys at Berkeley noticed something game makers have been grumbling about for years: Commodores have better joystick control than Apples.

■ Which major software companies have made **only Apple II software** and survived? (Answer below.)

■ Many Apple software developers would like to see some productivity products for the IIGS that take advantage of the machine's speed and power to work faster, not to mimic a Macintosh. But most of them fear that **pull-down menus and fancy fonts** are what the public wants. What are you looking for in GS software?

■ Sources close to—but not at—Apple tell us that the company won't release a **faster IIGS** until 1989.

■ A major software company in the Apple II market will introduce a neat **integrated package for the IIGS** in 1988.

■ Infocom (Cambridge, MA) President Joel Berez took several long looks—or were those longing looks?—at the animation-quality graphics on display at the **CinemaWare** (Westlake Village, CA) suite at the Winter Consumer Electronics Show in Las Vegas. You can look for the **Three Stooges** soon on a GS near you. It's hysterical just to watch—we can't wait to play it.

■ A former player at a company that used to build Apple II peripherals has left his old team and is going to challenge **Applied Engineering's** dominance.

■ Pinpoint's (Emeryville, CA) popular **Point-to-Point** telecommunications program will be available for the Apple IIGS soon; its author, Gary Little, apparently has plenty of free time in his new job.

■ It looks as though Apple and QuantumLink (Vienna, VA) will go ahead this year and sell **AppleLink**, Apple's in-house telecommunications service, to consumers.

■ **StyleWare** (Houston, TX) is the only major software developer that has never made a product that wasn't for the Apple II. (Next month's question: What non-Apple II program did **Beagle Bros** once try to sell?) You don't call StyleWare a major Apple II software developer? Just wait.

New!

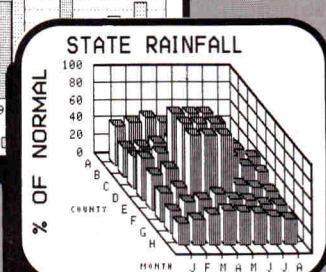
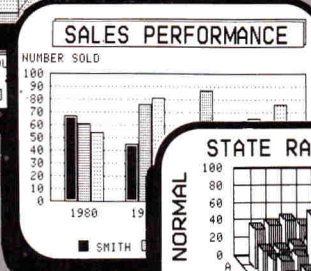
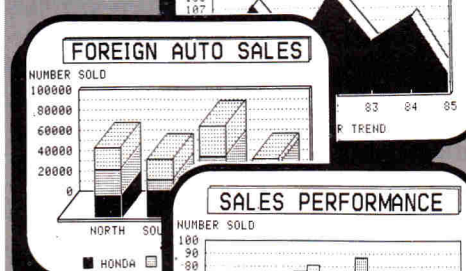
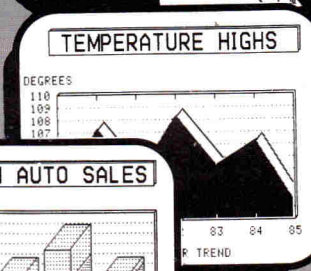
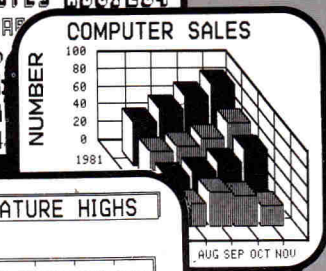
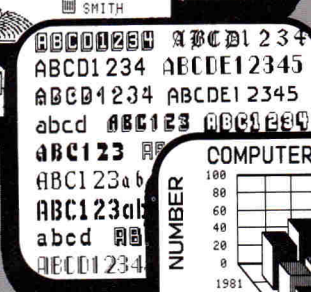
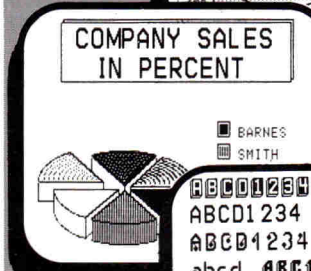
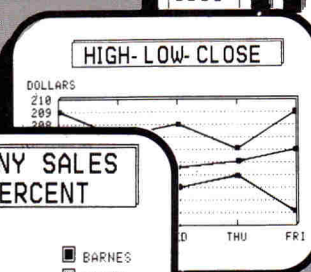
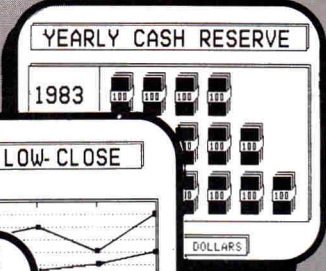
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The suggested retail price of Where in Europe Is Carmen Sandiego? is \$44.95. A school edition and a lab pack are available for \$54.95 and \$109.95, respectively. —D.M.

CLARIS WANTS YOU

Claris Corporation (Mountain View, CA), spun off as an independent software developer from Apple Computer last year, is aggressively courting Apple's former AppleWorks customers by providing some services AppleWorks users have never seen before.

For instance, Claris' new customer-support line, (415) 962-0371, is in business 14 hours a day most of the week: 9 am to 11 pm Eastern time Monday through Thursday; 9 am to 6 pm Eastern time and 8:30 pm to 11 pm Eastern time Fridays. "Claris is basically providing free technical support to all registered users," says Allison Elliot, the company's AppleWorks product manager. While Claris doesn't

currently require registration, Elliot says the company strongly encourages it. Right now Claris provides support to any AppleWorks owner, but that policy may change.

Claris will answer questions about AppleWorks' features and hardware compatibility through its Customer Relations Department (415-962-8946). Because Claris is independent of Apple Computer, the company won't be tempted to tell you immediately "It's a hardware problem" if you're running AppleWorks on a Laser 128 or printing with an Epson. "The customer-relations staff will answer any questions that come along," Elliot promises.

AppleWorks now sports new clothes: The package is blue and white and bears the Claris logo, as do the disks. But it's still AppleWorks 2.0, which Claris will sell "until the next product is introduced," Elliot says, leaving open the possibility that Claris may someday add mouse control, graphing, or a IIgs interface to the program.

In the meantime, Elliot says, "We plan to work closely with those companies," such as Beagle Bros and Pinpoint, that make Apple fourth-party software. Claris won't need to reinvent the wheel, Elliot hopes: "AppleWorks fourth-party developers are a community of people who have long experience making AppleWorks do all sorts of marvelous things."

—P.O'D.

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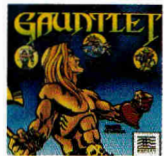
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We at Manzanita Software are pleased that you included our package BusinessWorks in your "1987 People's Choice" budget-and-finance category (December 1987, p. 62). However, we encourage you to separate business-accounting software from personal-budget/finance software in future editions of the contest.

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Joan L. Levers
Director of Corporate Communication
Manzanita Software Systems
One SierraGate Plaza
Roseville, CA 95678

Other Printers?

As an Apple IIe and IIGS owner, I question why, with all the software coming out for the IIGS, so many publishers write software that recognizes only the Apple ImageWriter. What about the millions of users who already own printers? I have an NEC P660 PinWriter and Orange Micro ProGrappler in slot 1. However, very few IIGS programs, including MultiScribe GS, Paintworks Plus, DeluxePaint II, TML Pascal, and Music Construction Set to name a few, utilize other printers. Has Apple convinced developers to write only for the ImageWriter to force GS owners to buy one?

Duane E. Spencer
P.O. Box 5592
Lompoc, CA 93437

Good point. Not everyone has an ImageWriter, although it sometimes seems that way. Apple encourages developers to support the ImageWriter and "custom printers." That's the least we expect of a program, but more than we get from most Apple software. —eds.

Software for Handicapped GS Users

I recently met a young man who suffered traumatic brain-stem injury in an automobile accident. He's confined to a wheelchair and has limited mobility in his right hand.

After reading Life Low's article, "Tapping the Potential of Special-Needs Students" (September 1986, p. 57), I'd like additional information on Touch and Speak, one program he mentions.

The young man currently leases an Apple IIGS, and his hometown is raising money to purchase one for him. We decided on the IIGS because of its graphics and sound (speech) capabilities, since this user is unable to speak.

William E. Brown
34 North High Street
Clinton, CT 06413

"Achieving a Personal Best," by Tan A. Summers (December 1986, p. 77), lists a number of programs for the handicapped that were available at the time the article was written. We're planning to publish additional information during 1988.

Touch and Speak is available from Boston Children's Hospital's Communication Enhancement Clinic (300 Longwood Avenue, Boston, MA 02115, 617-735-8391). According to the clinic coordinator, Deborah Peterson, the clinic does assessments, including computer evaluation and instruction, for individuals with disabilities similar to those you mention.

In addition, the clinic offers a limited number of computers through a lending program. This arrangement is provided on a temporary basis

for individuals needing a trial period to determine whether computer instruction will prove beneficial. —eds.

AppleWorks Standard Values

I've encountered a problem with a database address list on my Apple IIc. When I try to insert new information and press Open apple-I, the same record is displayed every time instead of dashes to indicate where I should enter new information. I usually delete the information by pressing Open apple-D, but when I go back to Open apple-I, the same record reappears. Is there a sour apple inside my computer with a different "chip" on its shoulder?

Jacob C. Keeser
1750 Whittier Avenue #44
Costa Mesa, CA 92627

It sounds as though you've set a standard value accidentally when typing in one record. That's why the same record reappears when you press Open apple-I. Press Open apple-V to remove the data once and for all by emptying the categories. A standard value can be a very useful feature when you're entering a large number of data with recurring information; you can add this default easily, then delete it when you finish a particular project. —eds.

Response to the Finder

Eric Grevstad failed to mention one of the best features of the new GS Finder ("Looking at the Finder," January 1988, p. 52). Yes, the selector is missing, but you no longer need it. And yes, the Finder wastes time keeping track of all the windows, but you don't need them either. The trick is to drag applications to the Desktop. You can save an application's location on the Desktop to disk so that whenever you insert the disk, the application will also appear with it on the Desktop.

For example, say that APLWORKS SYSTEM is buried in a folder, called AppleWorks, on the boot disk. Simply open the disk, then the AppleWorks folder. Drag APLWORKS.SYSTEM (or whatever the file is called) to the Desktop. Close both the folder and the disk. Now pick a location for your application. (I line them up at the bottom of the screen away from the disk icons.) Use Cleanup to position the icon at the Finder's preferred spot. Now grab the boot-disk icon and drag it to the garbage can. Finder saves the program's screen position before ejecting the disk.

Now push the disk back in and see what happens. Your application jumps onto the Desktop and is waiting for you to double-click to get it started. No windows to open, no windows to close.

This method lets you name programs sensibly. I renamed Copy II Plus from UTIL.SYSTEM to COPY.2.PLUS. I then searched BITCOPY.SYSTEM with the sector editor for the call to UTIL.SYSTEM and changed it to allow proper operation of both modules.

You can change the name START in Shanghai to SHANGHAI and locate it on the Desktop. The only problem is the Shanghai disk won't boot on its own, since there's no file called START in the system folder.

SuperMacros' SUPER.SYSTEM also doesn't work if renamed. Perhaps a future UltraMacros will be friendlier.

You can fix the Finder's inability to boot any slot with a one-line BASIC program (for example, 10 PR#6), which you can save to the system disk. Call it BOOT.6. Of course, you'll also want it on the Desktop with everything else.

I do have some complaints. When loaded into my slot 7 RAM card, the Finder won't boot on its own; setting the Control Panel and PR#7 doesn't work. Only a program selector or the ProDOS BYE command can boot it. It works fine in the slot 5 RAM disk, but my dealer has no idea why.

A note to RAM-disk users: Using the Finder to copy the Finder to a RAM disk erases the file that saves the applications on the Desktop (FINDER.ROOT) from

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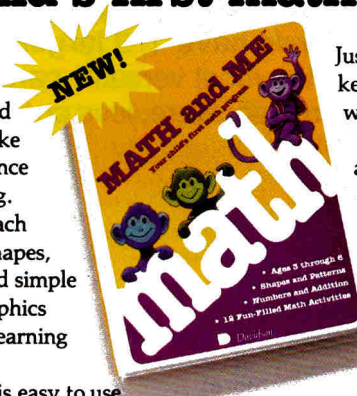


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LETTERS

your boot disk. I use Copy II Plus to load the RAM disk. Be sure to copy FINDER.ROOT to the RAM disk.

William Calhoun
RD 1 Box 78
Clayville, PA 15323

Mr. Grevstad explains a lot about the Finder, but not all. Where can I obtain a complete guide to the Finder—similar to the *Apple IIGS System Disk User's Guide*?

Lee Lallier
1736 South 14th Street
El Centro, CA 92243

The most complete guide comes with the program. If you didn't receive one, see your dealer. —eds.

CORRECTIONS

inCider would like to clarify one point that was raised in our recent survey of desktop-publishing programs ("Be Your Own Publisher," February 1988, p. 40). In our comments on **Publish It!** (p. 44), we compare its price to that of a less-expensive package; we state that we expect more sophistication from a higher-priced program, and, indeed, we found that **Publish It!** does provide more advanced features. Look for our full evaluation of **Publish It!** in the Reviews section, this issue.

In January's News Line, we reported that Activision had removed copy protection from its games and productivity programs (p. 16). Actually, Activision has removed copy protection only from its line of productivity software.

inCider welcomes readers' comments regarding articles, letters, or other topics of interest. We reserve the right to edit letters for clarity, style, and space. Please address your correspondence to Letters, inCider, Elm Street, Peterborough, NH 03458.

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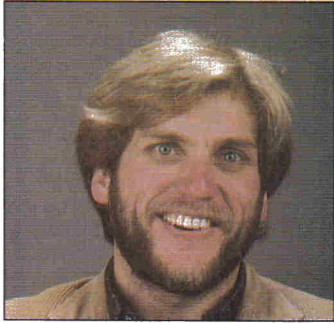
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Circle 62 on Reader Service Card.

Hype and HyperCard

by Paul Statt, Senior Editor



“When will Apple realize that the Apple II world already has a standard?”

I don't understand HyperCard. All I know for sure is that Apple gave away HyperCards this past Christmas, one with every Macintosh sold. HyperCard is Apple's newest user environment for the Mac; it lets you connect all your information to a single giant database manager you program yourself. Now John Sculley, president of Apple Computer, is encouraging Apple II developers to create HyperCard for the GS.

Maybe guilt—millions in the bank, and you can't call tech support—has inspired Apple's generosity. Maybe the important people at Apple, who sincerely believe that the company's changing the world, think they can start a revolution by giving toys away. I agree. But Apple's giving the wrong gift: It's AppleWorks that Apple should be handing out.

Tom Weishaar, savvy editor and publisher of the newsletter *Open-Apple*, came up with that alternative idea. I'm taking up his cause because I agree that “it's time for Apple to blow away the Macintosh smoke and look at what the Apple II has actually become. The reality is a machine defined by AppleWorks.”

I've argued in the past that Apple software developers should abandon AppleWorks. I was wrong: They should embrace it or sell something else. Customers will still buy word processors like WordPerfect or spreadsheets like SuperCalc3a if they need the power, even if the dealer gives them AppleWorks when they buy their computers. But SuperCalc3a and WordPerfect come from companies that don't depend on the Apple market to cover the electric bill. Developers who want to make only Apple II software must face the reality of AppleWorks.

Take Beagle Bros, for example. Beagle Bros used to make great games and programming utilities. Mark Simonsen left the company to found The Software Touch and create AppleWorks utilities such as AutoWorks; then last year he bought out his old employer. The first product from the new Beagle Bros? The TimeOut series of AppleWorks utilities.

TimeOut is an extraordinary series of AppleWorks enhancement programs. Beagle

Bros wants them to look official: The TimeOut manuals look like AppleWorks' documentation, and the interface is AppleWorks'. I miss the old Beagle Bros humor and the free program on the back of the disk, but AppleWorks with TimeOut is the AppleWorks that should have been. The key TimeOut application, if you ask me, is FileMaster, which does the job of the ProDOS Filer as a menu option in AppleWorks.

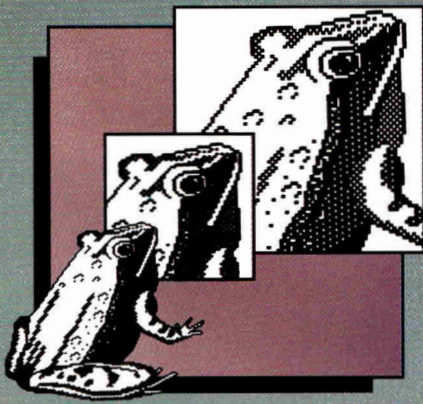
Then there's Pinpoint Software, a company that's been adding macros, spelling checkers, and other goodies to AppleWorks for a few years now. Pinpoint is taking a different tack, seeking in the next version of Graphic Edge, its AppleWorks spreadsheet graphing program, to unite the speed and ease of the Apple II with the graphics power of the Macintosh.

Pinpoint also succeeded early and heartily with Point-to-Point, bringing telecommunications to AppleWorks. Pinpoint knows how important desktop connectivity is: Curtis Koppell, developer of Russ Systems' bulletin-board program Let's Talk, is working on a BBS that will work with Point-to-Point and AppleWorks.

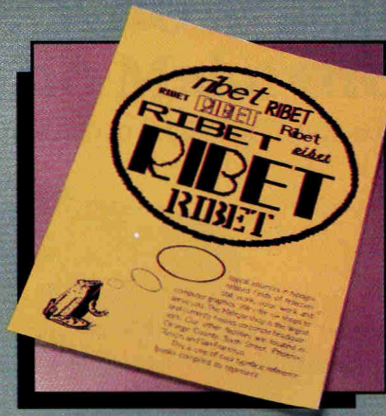
Back at the ranch, Apple and Quantum Computer are researching QuantumLink, a popular Commodore on-line service, for the Apple II—a project code-named “Samuel.” Apple is asking its testers, “Do you have a mouse?” I could tell Apple that about 30 percent of Apple II users own mice. But about three times that number have AppleWorks. It would make more sense to use the AppleWorks interface in Apple II QuantumLink.

I don't understand how John Sculley can tell Apple II developers to work on HyperCard for the Apple II. Bob Lissner created AppleWorks years ago, and Pinpoint and Beagle Bros have been transforming it into system software for the II ever since. It's not “hypertext,” but it's probably more useful.

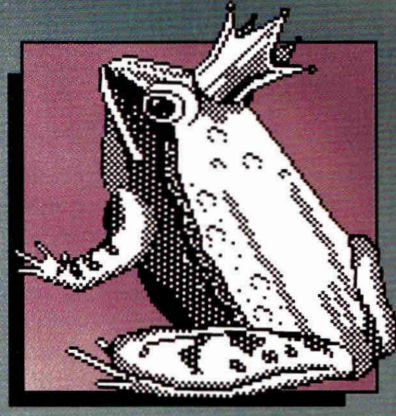
Apple wants HyperCard for the Apple II. Apple wants the mouse-and-menu interface for the Apple II. When will Apple realize that the Apple II world already has a standard? ■



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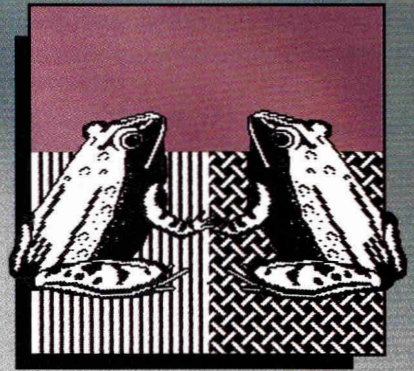
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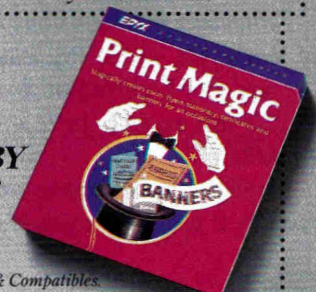
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Circle 201 on Reader Service Card.

by William Kennedy, Ph.D.,
Technical Editor

Apple Clinic is a forum for discussing and answering your questions and concerns about Apple II hardware and software. Address your correspondence to Apple Clinic, inCider, 80 Elm Street, Peterborough, NH 03458. Because of the volume of letters, most won't appear in print, but expect a response from Dr. Kennedy via postcard.

Magic Window

After switching recently from a IIe to a IIGS, I was dismayed to find my beloved Magic Window word-processing program won't work in 80-column mode. What can I do?

Leo Pointon
Singapore

The folks at ArtSci (5547 Satsuma, North Hollywood, CA 91601, 818-985-2922) tell me you're probably using an old version of Magic Window.

The fix is simple: Upgrade to Magic Window IIe. ArtSci, like many other publishers sensitive to serving a loyal group of users, has a fairly liberal upgrade policy. For Magic Window IIe, just send the company the serial number from the back of your current version and \$40. Better yet, purchase or upgrade to its new IIGS version, Magic Window Pro.

Bits to Volts

Are there adapters available that let you use an Atari-type joystick in an Apple II game port? I just paid \$20 for a new joystick and I'm not about to get rid of it.

Alan T. Zak
Gainesville, FL

Fortunately, Alan, you won't have to get rid of your Apple, either. Psychological Software Services (6555 Carrollton, Indianapolis, IN 46220) sells an Atari/Apple joystick converter for \$40.

For you and others who've attempted unsuccessfully to plug Atari joysticks into the Apple

9-pin game I/O port, the difference isn't just in the connectors. Atari joysticks are simple pushbuttons: Four switches on the inside of the joystick case are normally off and toggle on, depending on whether you push the stick up or down, left or right. These joysticks work as simple digital devices; they indicate direction only. The software translates that joystick direction into a real location—the spot where it'll place a game object, for example, on screen.

Apple joysticks, on the other hand, are simple analog devices. They have two potentiometers (variable resistors) inside their cases—a bit more complicated than pushbuttons and thus more expensive.

Each of the joystick's up/down and left/right potentiometers vary how long it takes a timer inside the Apple to change states. Support software starts the timer and counts down from 255 until the timer goes off or until it reaches zero. Therefore, you can use an Apple joystick to indicate directly more than 65,000 possible positions—compared with only 16 positions with an Atari-type joystick.

Can Apples Be Blue?

At home I have a 128K Apple IIe with one 5¼-inch floppy-disk drive attached. At work I use an IBM PC-AT with a hard drive and two 5¼-inch disk drives. I use AppleWorks at home and Symphony at work. Can I transfer data from one machine to the other? I have Apple DOS 3.3 and IBM DOS 3.2. Aren't they compatible?

Jim Decker
Kingwood, TX

DOS 3.3 and 3.2 for the Apple and IBM, respectively, are simple version numbers. The similarity ends there. Data stored in either format can't be read directly by the other machine.

To add insult to injury, most software packages, regardless of the machines on which they run, create and maintain their own data structures. Apple Writer, for example, can't load and edit AppleWorks word-processing files directly.

There's one way to transfer data, though—through ASCII (American Standard Code for Information Interchange) or DIF (data-interchange format) files. ASCII is the standard way in which all computer hardware and software represent each alphabetic, numeric, and symbolic character as a byte of data. The character A is represented in ASCII as the value 65, for example. So a series of ASCII codes or numbers can represent, at least theoretically, an entire word-processing document that any program can recognize.

DIF is a special type of ASCII file. A DIF file describes the information and arranges data in a standard way to ease transportation, and is used most often for transferring databases from one application to another.

Most software applications, AppleWorks and Symphony included, let you translate your files into ASCII or DIF and vice versa. Be aware, however, that you'll probably have to edit the transported data files. For instance, applications often use their own unique printer- or text-control commands. Be careful to alter those commands to suit the host software.

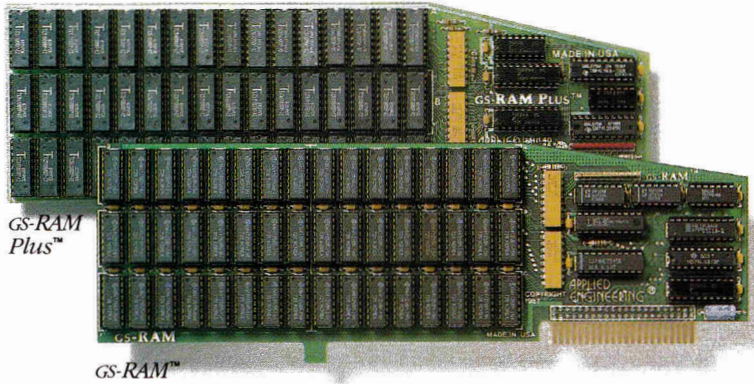
Now to transfer your ASCII files to the Apple from an IBM and vice versa: The slickest way is with PC-Transporter, Applied Engineering's plug-in card for the Apple (P.O. Box 798, Carrollton, TX 75006, 214-241-6060, \$489). One of its features lets you load files from one format and save them to the other quickly and easily. Add that same capability to your IBM or IBM compatible with the TrackStar 128 card from Diamond Computer Systems (1225 Tiros Way, Sunnyvale, CA 94086, \$395).

Another way to transfer your files is over modems. (Some programmers, including myself, eliminate the modem and transport data directly over a serial link, but let's not open that can of worms here.) Most serial communication applications can handle ASCII file exchanges easily.

If you're already fortunate enough to have modems connected to your Apple and IBM, and own communications software to boot, you're home free. If not, expect to spend a fair amount of money (upwards of \$200 for each machine) and time working out the details of telecom-

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GS-RAM provides a built-in print buffer that allows you to continue working in AppleWorks while your printer is still processing text. You can even load Pinpoint or MacroWorks and your favorite spelling checker into RAM for instant response.

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Steve Wozniak, the creator of Apple Computer

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munications. For additional help, see inCider's issue on telecommunications hardware and software ("Go On Line," November 1987, p. 48) as well as your local dealer. ■

Quickies

Don't use the BASIC sequence PR#3:HGR2:HOME—it'll trash your BASIC program.

Paul Santa-Maria, Monroe, MI

If you own an Apple IIc with a serial number less than D510001, take it to your dealer for a free logic-board upgrade.

Apple Computer IIc owner's notice

MOD function for Applesoft: $R = N - INT(M * (N / M))$ where R is the MOD remainder, M is the MOD divisor, and N is the number to be MOD'd.

Julie Escudero, Guaynabo, Puerto Rico

Rejuvenate dry printer ribbons by storing them in a plastic bag or container with a cotton ball moistened with rubbing alcohol.

Thomas Berent, Lancaster, NY

Applesoft Program Typing Proofer

Tired of the frustrating hours you spend trying to find those typos you made when entering inCider freeware? Well, no more! Type in and SAVE to disk the ASOFT PROGRAM CODER shown in the accompanying Program listing. DO NOT type the bracketed numbers that appear at the end of each line; they're the proof values you'll use later.

Go ahead and RUN, then LIST the CODER program. The highlighted numbers at the end of each LISTED line should match the bracketed numbers in the listing. If so, BSAVE ASOFT.PROOFER,A\$300,L\$CC and,

for later programming sessions, simply BRUN ASOFT.PROOFER. It'll operate under both DOS 3.3 and ProDOS. The proofer disconnects, however, whenever you change the output vectors—with the PR#0 command, for example. To re-install the proofer, just CALL 768.

Program listing. Applesoft Program Proofer.

```

10 REM ASOFT PROOFER CODER [1539]
20 FOR I = 0 TO 207: READ N [1095]
30 POKE 768 + I,N: REM
PROGRAM AT [1792]
40 NEXT I: REM HEX $300 - $3CC [1477]
50 CALL 768: END: REM PROOFER
INSTALLED! [2087]
100 DATA 162,60,160,3,173,0,191,201,76,208 [1852]
110 DATA 20,173,48,190,141,206,3,173,
49,190 [1923]
120 DATA 141,207,3,142,48,190,140,49,
190,208 [1980]
130 DATA 18,173,83,170,141,206,3,173,
84,170 [1944]
140 DATA 141,207,3,142,83,170,140,84,
170,169 [2000]
150 DATA 0,141,58,3,141,59,3,96,0,0 [1553]
160 DATA 201,141,240,3,76,202,3,134,70,132 [1898]
170 DATA 71,186,138,105,7,170,189,0,1,201 [1879]
180 DATA 214,208,7,189,255,0,201,229,
240,30 [1986]
190 DATA 189,253,0,201,40,208,6,169,
152,201 [1995]
200 DATA 141,208,17,189,255,0,201,13,
240,86 [2008]
210 DATA 169,0,141,58,3,141,59,3,240,76 [1825]
220 DATA 173,58,3,13,59,3,240,25,32,87 [1788]
230 DATA 219,32,87,219,165,50,72,41,63,133 [2000]
240 DATA 50,174,58,3,173,59,3,32,36,237 [1862]
250 DATA 104,133,50,160,0,140,58,3,140,59 [1945]
260 DATA 3,177,155,200,17,155,240,28,
200,177 [1863]
270 DATA 155,200,24,113,155,208,9,200,
177,155 [1920]
280 DATA 240,14,24,109,58,3,141,58,3,144 [1682]
290 DATA 242,238,59,3,176,237,166,70,
164,71 [1865]
300 DATA 169,141,141,98,3,76,240,253 [1521]
    
```

So, to list your program on a printer including the proofer numbers: Redirect output to your printer (PR#1, if the printer is in slot 1), CALL 768, then LIST.

You already know how to use the proofer. If the highlighted number you see at the end of a LISTED line matches the published one, you can be fairly well assured you typed it correctly. Otherwise, edit or retype the line until the numbers match.

The proofer won't kill all your Applesoft bugs, but it will take a lot of sweat out of typing inCider freeware. Guaranteed. □ —W.K.

Why MultiScribe GS 3.0 is the Best Word Processor for Your Apple IIGS.

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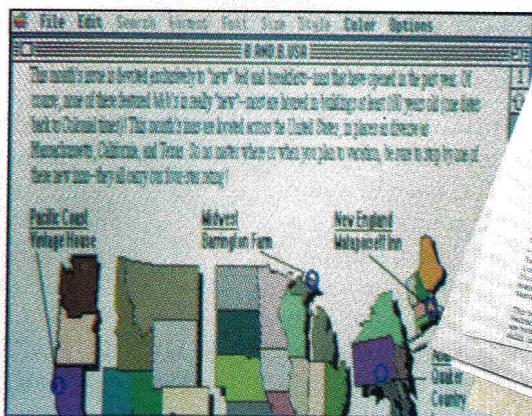
10. "MultiScribe GS gives you the most bang for your buck"* (inCider magazine).

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Of course, there are many other reasons why MultiScribe GS is the best word processor

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7. MultiScribe GS works with all major IIGS graphics programs.

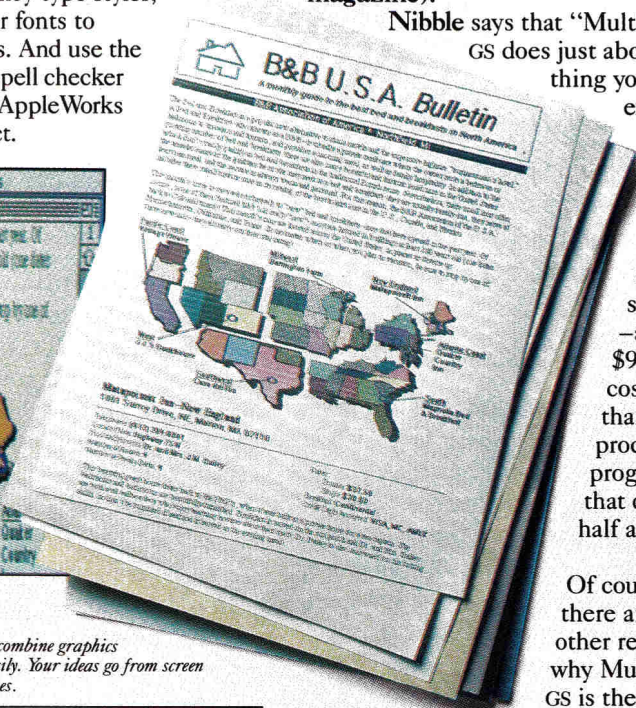
MultiScribe GS is compatible with every major GS graphics program—including TopDraw™, PaintWorks Gold™, Deluxe Paint II™, and 8/16 Paint™. No other program supports all these different graphic formats.

8. MultiScribe GS offers more graphics options than any other word processor.

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REVIEWS

Publish It!; PrintMaster Plus, Print Magic; Typing Tutor IV, Type!; Games Editors Play; Border Zone, Project: Space Station, Dream Zone, Pirates, Wings of Fury

All the Tricks of the Trade

PUBLISH IT! 1.02

Timeworks, 444 Lake Cook Road, Deerfield, IL 60015, (312) 948-9200
Desktop-publishing software; 128K Apple IIc/IIgs/enhanced IIe; mouse or joystick; ImageWriter II or certain Epson, Star, or Okidata printers
\$99.95

Rating: ■■■■■■

Tired of greeting cards and banners? If you're ready to move up to authentic desktop publishing on your 128K Apple II (the IIe must be enhanced with the 65C02 chip that supports mousetext), you're ready for Publish It! from Timeworks. This premier Macintosh-style publications-design program is chock full of features that can make even amateur publishers look like pros.

Notice that the "It" in Publish It! lacks an antecedent—no doubt on purpose. Quite simply, you can create *anything* with this product: newsletters of various sizes and in every style imaginable; formal and informal stationery; business forms of all descriptions; school, professional, and technical reports; restaurant menus; even compelling advertisements.

PUT THAT MANUAL AWAY

The Publish It! manual is as sturdy and good-looking as it is complete and well written. The notebook-sized three-ring binder fits neatly into its vinyl-covered slipcase—and the manual's contents are just as neatly put together.

The documentation includes a short-and-sweet tutorial to help you use the program's style-sheet and text and graphics files to complete your first one-page newsletter. Like templates for spreadsheet programs, style sheets—or "Design

Ideas" as Timeworks calls them—format a newsletter or other publication for you. All you have to do is decide content, much as a magazine editor might do. Timeworks sells some preformatted Design Ideas for \$39.95 each. They're suitable for myriad applications, ranging from newsletters of various kinds to personal, business, and academic publications.

In addition to the Quick-Start tutorial, the documentation includes a complete reference guide, a troubleshooting section, and a glossary that includes meanings of certain computer-related words, such as *boilerplate* and *dimmed*, that haven't yet weasled their way into standard dictionaries.

Perhaps most useful to the neophyte desktop publisher are chapter 7, "An Introduction to Graphic Design," and chapter 8, "Sample Publications." Files corresponding to these samples are included on disk so that you can print them and modify them to create your own publications.

The manual estimates that its tutorial newsletter project will take you "less than 60 minutes." Fifteen minutes is more like it—Publish It! is that easy to learn.

The program's intuitive nature stems largely from its Mac-style interface. Publish It! offers nine clearly named pull-down menus, including a help menu for those rare nonintuitive moments. The



program requires a mouse or a joystick, but some features respond to open-apple commands (OA-O to open a file, for instance), which speed up the selection process.

NOT FOR IMAGEWRITERS ONLY

The Apple menu, in addition to conveying information about the program and its status, also includes utilities for setting up your printer with click-click ease. Publish It! supports certain Epson, Star, and Okidata printers as well as the ImageWriter II. Timeworks' Laser Pack, a \$39.95 enhancement product, enables the software to print on the LaserWriter as well.

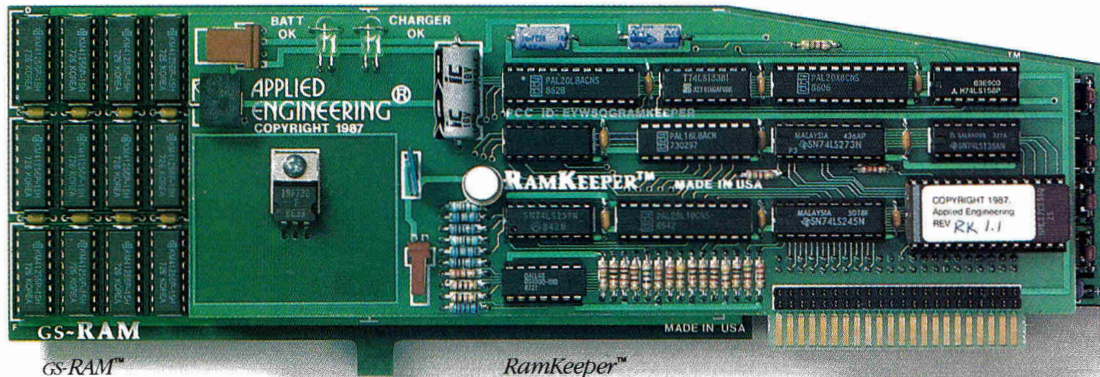
You'll probably be content with dot-matrix output, though. The quality of Publish It! printouts is one of the program's many strong features. According to company literature, Publish It! implements a "special high density" printing capability. That feature, together with a user-selectable double-strike option, nearly guarantees that

inCider's Ratings

Excellent—remarkable, a must buy	■■■■■
Very good—impressive and recommended	■■■■
Good—average, solid performance	■■■
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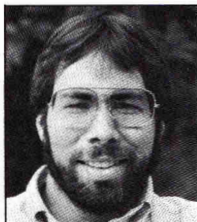
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For smaller "press runs" (one to 99 copies) you can use Publish It!'s multiple-copy feature. If you want to limit wear and tear on the printhead, however, you may be better off using a photocopier, which sometimes further enhances the quality of a printer's output.

AFFABLE FILE HANDLING

The File menu contains the usual New File, Open File, Save File, Save File as . . . , and Print options. Moreover, this pull-down menu offers three of Publish It!'s most appealing features: the ability to easily import not just ASCII text files, but proprietary files from the AppleWorks word processor and from Bank Street Writer, too.

You can't help but be impressed when you discover that adding an AppleWorks word-processing file to a Publish It! document is almost easier than loading that file into AppleWorks itself. Best of all, formatting features such as underlining and boldface come through without a scratch when you transfer them from AppleWorks to Publish It!

DAZZLING GRAPHICS

Publish It!'s graphics function deserves special mention. According to Vic Schiller at Timeworks, Publish It!'s 200-plus graphics were created with Broderbund's Dazzle Draw, a well-regarded double-hi-res drawing program. Pull down the File menu to position these and other double-hi-res graphics in your publication, wherever you designate.

Select the graphic you want and size it with the cropping box. Press the Return key. Picking and placing a graphic are as easy as taking a snapshot.

If you're a computer artist or would like to be, you can design your own graphics with Dazzle Draw, or you can incorporate graphics from artwork you've digitized with the ComputerEyes system or a ThunderScan unit and saved in Dazzle Draw format.

Timeworks offers three additional clip-art packages—"Symbols and Slogans," "People, Places, and Things," and "Education Pack"—at \$39.95 each.

WYGIEF FEATURES

Publish It! delivers on its promise of a WYSIWYG (what you see is what you get) working environment. Every design fea-

ture you select—column width, a type-style formatting change, or shifting a pixel in a graphic—is reflected on screen in any of four viewing modes: Half Size, Full Size, Double Size, and Size to Fit (which shows the full page on screen).

Perhaps more important even than WYSIWYG from a practical standpoint, Publish It! has WYGIEF (what you get is easily fixed) features as well. The program offers separate editors for text- and graphics-design modes. Any changes you want to make are executed easily, thanks to Publish It!'s word processor and its extraordinarily capable "object"-editing functions.

NOT WORDPERFECT

Publish It!'s word processor isn't WordPerfect, but it's as full featured as you're likely to need. Besides, typing and editing within graphics-mode word processors in general are the pits—very slow, compounded by the fact that working in Full Size mode shows you only half the page. In addition, the screen redraws itself continuously if you need lengthy scrolling sessions.

Your best bet is to create major sections of text with another word processor, edit the text, use a spelling checker if you like,

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and, only as a final step, import the text into Publish It!

Imagine having to figure out for yourself the amount of text that will fit into a column, how to make the text flow into the next column, and how to wrap text around graphics. Then imagine what a chore it would be to fix everything up after you made changes—such as moving a graphic from page 1 to page 2.

Now imagine a program that does all this for you automatically, and you'll begin to visualize one of Publish It!'s most powerful features.

Once you've designed your basic style sheet (save it as such for future use, just as you would a spreadsheet template before you plug in numbers), import your word-processing file, select the Link tool, and click on your columns in the order in which you want the text to flow, column to column, page to page.

After the text has filled in the designated areas, using Publish It! for minor editing (to cut or copy/paste a paragraph or to find/replace a phrase) or for writing a short piece (a sidebar or table of contents) doesn't create much hassle. Just select the I-Beam tool and begin typing—albeit slowly.

Dressing up and enhancing text via the Font, Format, and Page menus are activities in which the Publish It! word processor really shines. All told, according to company literature, Publish It! includes "over 1200 possible type-style combinations." The program's numerous professional-looking fonts are available in 9- to 72-point sizes. Six to nine additional fonts come on each separately purchased (\$39.95) Font Pack disk. To conserve memory, you can install and remove fonts via the Apple menu.

Typesetting effects, some of which you can combine, include plain, boldface, italics, underlining, outlining, shadow, superscripts, and subscripts. If you want a headline in underlined italic style, so be it. Just insert the I-Beam where you want to begin, drag the mouse (or hold down the joystick button) to highlight the text, and select the font or style option you prefer. You can center or right-, left-, or full-justify headlines, sections of text, or even whole newsletters.

TREATED LIKE AN OBJECT

Publish It! treats just about everything except text as an *object*. What's an object? It's any independent part of a newsletter, report, or other publication.

A text area (such as a column) or a graphics area (such as the spot where you want a digitized image to appear) is an object. A round box that outlines a text area is an object. A thin line separating columns is an object. Six line widths, 24 pen patterns, and 24 fill patterns are available to help you dress up any object.

An amazingly capable program, Publish It! even seems to defy one of nature's most basic tenets. Unlike tangible matter, electronic objects *can* be created and destroyed *and* changed in form.

You can delete objects, pick them up, and move them around fluidly on a single page or from one page to another. You can move them "front to back": Objects on a page are layered, so you can change their orientation by moving one of them behind or in front of another. You can resize objects via Publish It!'s Show Specifications option, which offers technical precision to thousandths of an inch.

If you've converted to the metric system or if you prefer the typesetter's world view, you can work in centimeters or picas, instead of inches. You can display or turn off top and left-hand rulers and column outlines. You can select "Snap To Guides," which divide the page into regions to simplify the layout process.

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Publish It! also offers two advanced tricks of the desktop-publishing trade. The first, called *kerning*, lets you modify the space between characters. The second, called *leading* (pronounced *ledding*), lets you decrease the space between lines. In both cases you can adjust the appearance of your text or scrunch it closer together to make room for that one line that otherwise just doesn't seem to fit into its designated space.

In general, I found that although some letters appeared to be too far apart on screen, they print just fine, so I didn't need the kerning feature. And I manipulated some objects and resized others to "buy" extra space in my newsletters. As I become more adept at designing my own publications, though, I no doubt will be grateful that Timeworks' program de-

signers knew I would need such features even before I realized it.

Intuitive as it is, Publish It! seems to even "sense" when mere humans are about to goof. Dialog boxes contain pop-up reminders about saving files, overwriting files, and checking a file when you're about to zap it on disk.

MINOR ACHES AND PAINS

The version of Publish It! I used had a few miniscule deficiencies that didn't detract from the program's overall strength.

Still, for one thing, I'd like to see a "fatter" cursor. The program's pencil-thin cursor is sometimes hard to find on an otherwise very graphic screen.

I'd like to set my own font size, too. Sometimes a 12-point size is too small and an 18-point too big; 16 might be just right.

Finally, it would save time if the graphics included with the program came with an index indicating where any given piece of clip art is located on the two double-sided artwork disks. As it is, graphics are arranged alphabetically, but you have to guess that the Halloween graphics, say, are on side 2—or would it be side 3?

YOU'RE BUYING SUPPORT, TOO

When I spoke with Timeworks' Vic Schiller in January, he assured me that minor irritations like those I had experienced were being eradicated and that an updated version of Publish It! would be available soon, probably by the time you read this review. In January a special version for the Apple IIGS was also in the works.

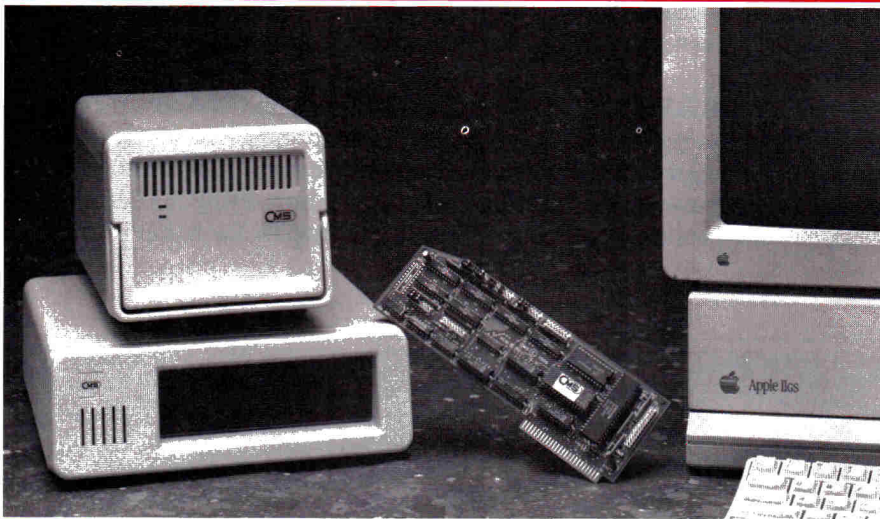
According to Schiller, owners of the current version of Publish It! are eligible to purchase 128K-version updates at nominal cost (\$10-\$15) and a future GS version at the price difference: if the GS version ends up retailing for \$150, you'd pay only \$50.

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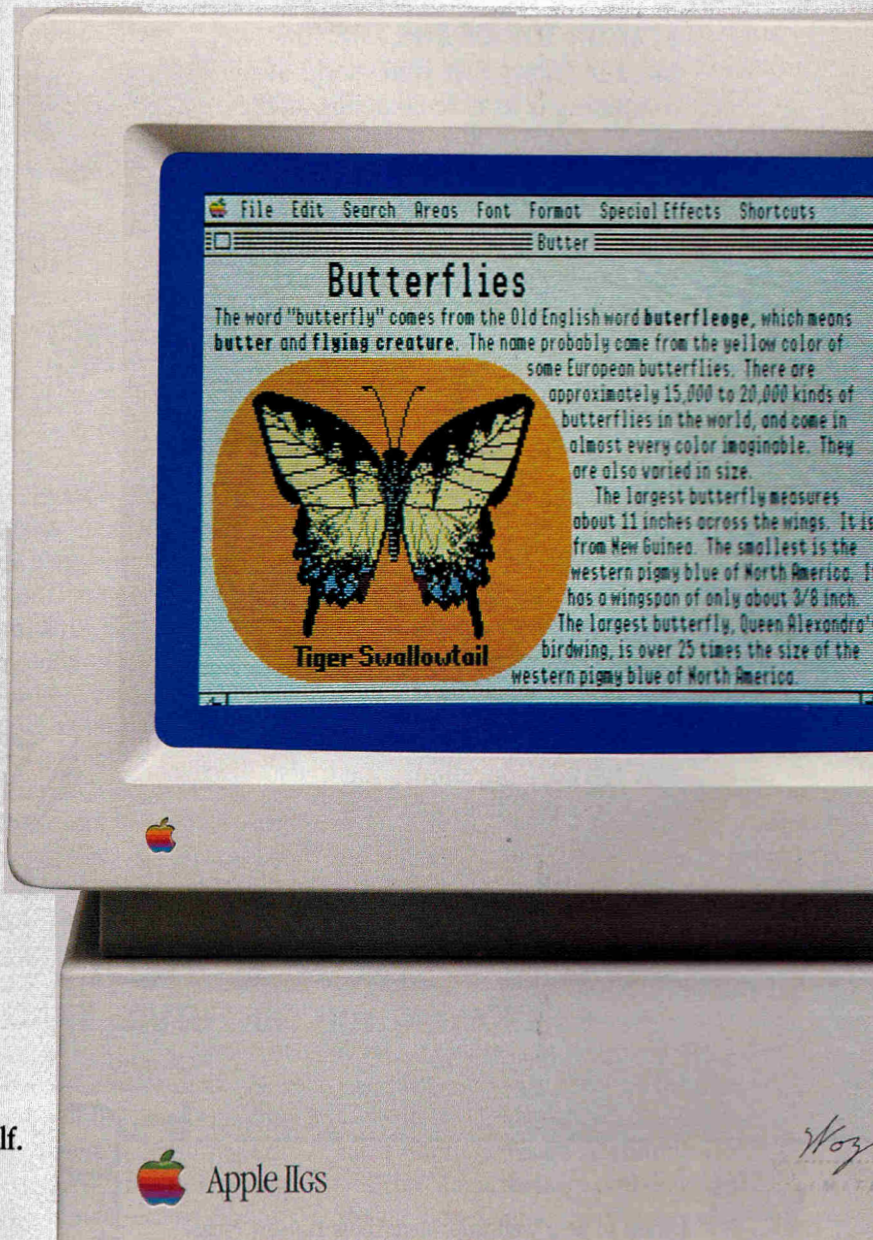
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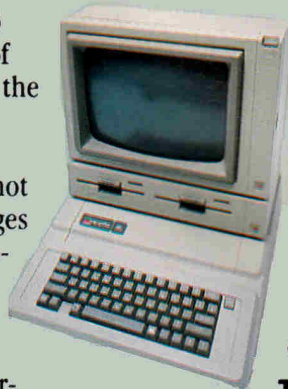
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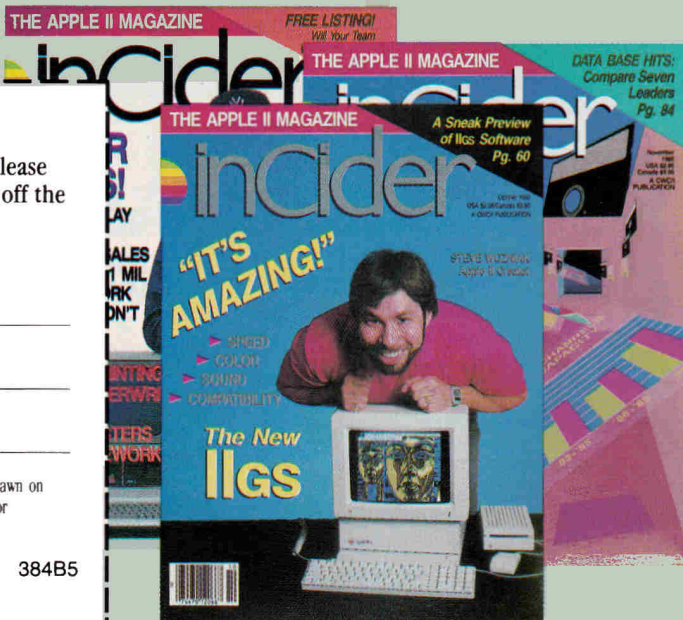
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Cynthia E. Field, Ph.D.
Wakefield, RI



Perfect Printing

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Unison World, 2150 Shattuck Avenue,
Suite 902, Berkeley, CA 94704,
(415) 848-6666
Graphics-printing program;
128K Apple IIe/IIc/IIgs
\$49.95
Rating: ■■

PRINT MAGIC

Epyx, 600 Galveston Drive, Redwood
City, CA 94063, (415) 366-0606
Graphics-printing program;
128K Apple IIe/IIc/IIgs
\$59.95
Rating: ■■■■

Two of the latest contenders in the printing-program race take slightly different approaches to an increasingly popular application. PrintMaster Plus continues the worthy tradition established by Broderbund Software's extraordinarily popular Print Shop. Print Magic, on the other hand, breaks away from that tradition and frees you from many of the design restraints imposed by other printing programs.

Whether PrintMaster Plus or Print Magic should replace The Print Shop on your software shopping list depends largely on the Apple II hardware you own, the extent to which you want to draw your own images, and the type of user interface you prefer.

HARDWARE BASICS

PrintMaster Plus and Print Magic both require 128K of memory and run on the IIe, IIc, and IIgs. These programs run in IIe-emulation mode on the GS, black-and-white only, so neither can take advantage of the GS' superb color-graphics resolution or its "extra" memory. Having a GS, therefore, offers no real advantage when using PrintMaster Plus or Print Magic.

PrintMaster Plus and Print Magic both support a wide variety of popular dot-matrix printers with either parallel or serial interface. Neither program, as stated above, supports color printing. Nevertheless, with a fresh black ribbon I was able to generate handsome posters, banners, letterhead stationery, and greeting cards. The results were even more attractive when I printed these creations on colored parchment or bond paper.

If you're the experimentalist type, you might try using single-color ribbons (green, brown, blue, and so on) if they're available for your printer. Unfortunately, though, neither PrintMaster Plus nor Print Magic has a "multiple copy" feature, so you either have to print posters one at a time or use a photocopier to make multiples. (Some copy machines, such as Canon's Personal Copiers, have color-toner cartridges, so you can have, say, brown print on ivory parchment—nice for business letterheads or organizational awards.)

Using a special ribbon impregnated with heat-transfer ink, you can make iron-on transfers and set up your own T-shirt shop. These iron-ons, like regular paper printouts, will be a single color. If you want to add other colors to your T-shirts, you can use fabric coloring pens. Colored paper, single-color ribbons, heat-transfer ribbons, and fabric pens are available from a number of mail-order companies.

PrintMaster Plus and Print Magic further establish themselves as Apple IIe/IIc products in that the program and graphics-library disks come in 5¼-inch format. PrintMaster Plus, however, includes utilities for installing the program, graphics, and fonts on one 3½-inch disk or a hard-disk drive.

At press time, Print Magic didn't support the GS' 3½-inch drives, a situation that Dan Beyer at Epyx confirmed when he explained that the version of Print Magic I tested "does not support slot 5 on the GS." Although Print Magic has some uniquely flexible features, its current failure to support 3½-inch drives is a clear strike against the program. (An Epyx spokeswoman explained that the company is considering a "second version," which would support drives connected to slots other than 6 and possibly color printing as well.)

DESIGNER'S TOOLKIT

Unlike The Print Shop or PrintMaster Plus, Print Magic could well prove to be a designer's dream program. No other card/banner/poster program I'm aware of offers a Macintosh-style interface and almost limitless design possibilities.

Print Magic features pull-down menus, dialog boxes, and mouse support, virtually eliminating the need to memorize commands or to press escape, Q (quit), or control keys as you must in PrintMaster Plus (although you can use the keyboard if you prefer).

Print Magic offers page-layout and design features unparalleled in this Apple II genre. With PrintMaster Plus—as with The Print Shop before it—the number and position of graphics you can add to a card, poster, or letterhead stationery are limited. For example, while Print-

Master Plus lets you put two separate graphics on a poster, Print Magic lets you have as many as you want. Furthermore, you can place them anywhere on the page—not just in preselected arrangements. Even PrintMaster Plus' "free-hand" option isn't nearly as flexible as dragging graphics with the mouse and placing them literally anywhere you like.

In essence, Print Magic gives you total design freedom—even when you make greeting cards. With PrintMaster Plus, you design the card's front and inside. With The Print Shop, you can "give yourself credit" by printing a short message on the back of the card. With Print Magic, you can put anything anywhere—on the front, on the inside left page, on the inside right page, and on the back of the card.

Another attractive feature is Print Magic's ability to put borders anywhere on a page—not just along the edges. If

you like, you can set up a poster to look like a newsletter, complete with bordered regions containing text and graphics.

You can size Print Magic borders in nine thicknesses from any of the program's 22 preconfigured patterns (or solid black or white). Patterns range from lattices to grids to hearts. PrintMaster Plus' borders vary from the sedate to the whimsical (footprints or ants, for instance), but there are only 11 from which to choose.

EXTRA, EXTRA

Both programs come with comprehensive graphics libraries on disk. PrintMaster Plus offers 122 predrawn illustrations in various categories: holidays, parties, animals, sports, symbols, and fine arts. The Print Magic package offers 138 graphics images on two disks, one of which is a special holiday disk,

expected to be offered free to purchasers at least through June 1988. Although PrintMaster's graphics are at least as appealing as any Apple IIe Print Shop sketches I've seen, I much prefer the "extremely high-resolution art" that accompanies Print Magic.

Both Unison World (PrintMaster Plus) and Epyx (Print Magic) offer additional graphics disks. Unison World sells Art Galleries I (Zodiac, Holidays) and II (International Flags, Symbols, Ornamental Letters) for \$29.95 each. A Fonts & Borders disk is said to be in the works.

Epyx markets three Graphics Scrapbook volumes—Sports, Off the Wall, and School—priced at \$24.95 each. These images were designed originally as Print Shop-type graphics and therefore don't offer the superior hi-res images Print Magic can generate. Epyx is also offering true Print Magic-type graphics on Art Disk I, a collection of home, school, and business illustrations priced at \$24.95.

Using either PrintMaster Plus or Print Magic, I was able to import images from disks of third-party Print Shop graphics. Print Magic claims to be compatible with images from Springboard's Newsroom, though I didn't test this feature.

PrintMaster Plus lets you "preview" each graphic before you select it. Print Magic displays a graphic only after you've chosen it, so you may want to keep the program's graphics-reference card handy; it displays each of the program's images, premade pages, ready-made cards, and fonts. A similar reference guide is bound into the PrintMaster Plus manual.

PrintMaster Plus offers nine fonts (including DeVille, Utopia, Times, Western, and Computer), three textures (Standard, Silhouette, and Shadow), and several sizes. Print Magic comes with 15 fonts, named after Gwen, Judy, Rosie, and other people. You can modify Print Magic Fonts by editing or selecting various sizes and styles (plain, bold, italic, underline, overlay). A "Cindy" font, named after yours truly, is noticeably lacking, but I could create such a custom character set if I

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had the inclination to do so by using the program's typeface editor.

DESIGN YOUR OWN IMAGES

Both PrintMaster Plus and Print Magic have built-in drawing programs much like The Print Shop's. The Unison World and Epyx graphics editors, on the other hand, are about as similar to each other as night is to day.

PrintMaster Plus' editor, dubbed the Drawing Pad, seems crude and rudimentary in comparison to Print Magic's drawing program. In PrintMaster Plus, you use a control-key code to shift among draw, erase, and move (the cursor) modes. This program offers none of the drawing tools we've come to expect—no circle tool, no brushes or pens, no eraser. With PrintMaster Plus, you plot pixels (picture elements or "dots") at desired X/Y co-

ordinates, but awkwardly so, because this program doesn't support the mouse.

In contrast, Print Magic offers 24 "paint" brushes, five pens, assorted patterns, differently shaped tools (circle, oval, box, rectangle, and line), and a zoom feature. If you're bent on drawing your own graphics from scratch, you'd probably prefer Print Magic over PrintMaster Plus.

PRINTMASTER'S MAIN "DRAW"

You can create cards, banners, and posters with both programs, but only PrintMaster Plus includes a built-in calendar module. (Epyx offers a separate program, Create a Calendar, for \$29.95; it can share images with Print Magic.)

PrintMaster Plus' calendar capabilities are impressive. You can make monthly or weekly calendars for personal, business, or school use. Each calendar can

show graphics images (on the left side or the right or both) and text (centered or left- or right-justified). You can also "enhance" dates with relevant information about appointments, birthdays, meetings, and other engagements.

DECISIONS, DECISIONS

If you use a souped-up GS, you'd probably be better off sticking with The Print Shop GS so that you can enjoy the superior color graphics this Broderbund program sports on screen and on paper. If you have a basic GS (with 256K) and want one of these two newer IIe-type programs, you should most likely opt for Print Magic, which mimics "true" GS software and supports the mouse.

If your Apple is a IIc or IIe and you favor a more traditional, mouseless interface, PrintMaster Plus may be the pro-

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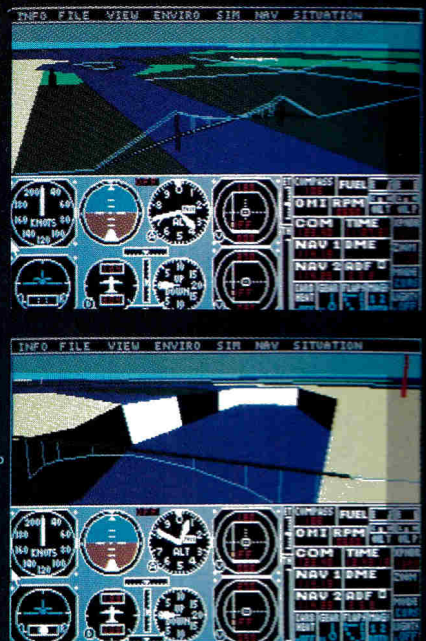
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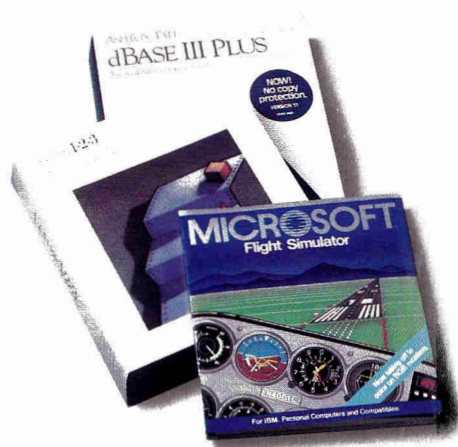
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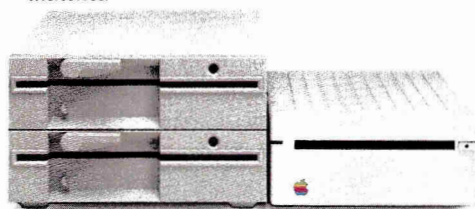
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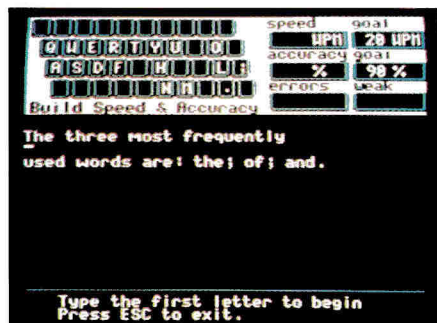
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gram for you—especially if you want to create calendars without purchasing another program.

If your overriding desire is for creative freedom, though, and you want a program that can grow with you as your artistic talents emerge, you'll almost certainly prefer Print Magic. ■

*Cynthia E. Field, Ph.D.
Wakefield, RI*



Touch-Typing Teachers

TYPING TUTOR IV

Kriya Systems Inc., Simon and Schuster Software, One Gulf & Western Plaza, 14th Floor, New York, NY 10023, (212) 698-7000

Typing tutorial and games; 64K Apple IIe/IIc/II Plus (with lowercase)

\$49.95

Rating: ■■■■

TYPE!

Broderbund Software, 17 Paul Drive, San Rafael, CA 94903, (415) 479-1170
Typing tutorial and games; 64K Apple IIe/IIc/II Plus (with lowercase)

\$44.95

Rating: ■■■

More and more children have access to computers in their classrooms, so formal instruction in typing skills has become very important. It's no longer advisable for students to wait until junior high or high school to learn how to type;

if they wait too long, bad typing habits will be harder to break. Valuable computer time should be spent using the software, not hunting for the keys to make the software work.

Many programs on the market reinforce keyboard skills. They teach finger placement and posture, as well as how to type faster and more accurately. With varying success, Typing Tutor IV and Type! both offer tutorials on touch typing, as well as arcade-style games to reinforce the skills picked up in typing drill.

TYPING TUTOR IV

Typing Tutor IV is a revised version of Typing Tutor III, a keyboard-instruction program that has sold more than 300,000 copies. Its aim is to make you so familiar with the computer keyboard that typing becomes an automatic response. The latest edition has added a host of features while improving on others. Perhaps the most significant addition is that the software now supports lowercase as well as uppercase letters.

The program is designed for both typing novices and touch typists out to improve their skills. Regardless of ability, first-time users must "register" or sign in. Once the program knows who you are, it will track your progress and keep a record of your work. It notes how long you take to type each letter, the letters on which you make the greatest number of mistakes, and the kinds of mistakes you make. Its built-in monitor adjusts automatically to your typing weaknesses by creating personalized lessons and tests to help you achieve your goals. All lessons and tests require that you type actual words, phrases, and sentences.

Typing Tutor IV begins with an overview of the options listed in the main menu—Lesson, Test, Report, Opts, Game, Help, and Quit. The Help file lists details on all program activities. Each option (except Quit) also includes its own menu and help file to familiarize you with the program's features.

Work on your typing by choosing Practice from the Lesson menu: The program presents you with a sequence of one-line drills and summarizes your performance.

Call up the Drills file in the Opts menu to set the number of drills per sequence.

To learn more about correct finger placement, select Fingering from the Lesson menu. A chart appears on screen showing proper positions for all keys relative to the home row ("asdf" and "jkl;"). As the program introduces each new key, it shows you which finger to use. The accompanying manual includes a keyboard chart marking the fingering positions for the Apple IIe.

To evaluate your standing or check your progress, take a test. Practice tests include only those keys that relate to your current level. All-Keys tests, on the other hand, include all characters on the keyboard. The software records your test results in your personal progress report.

Besides tests tailored specifically to your current level, three sample tests are stored in the Disk file. These quizzes are designed to show you how well you type over longer periods of time.

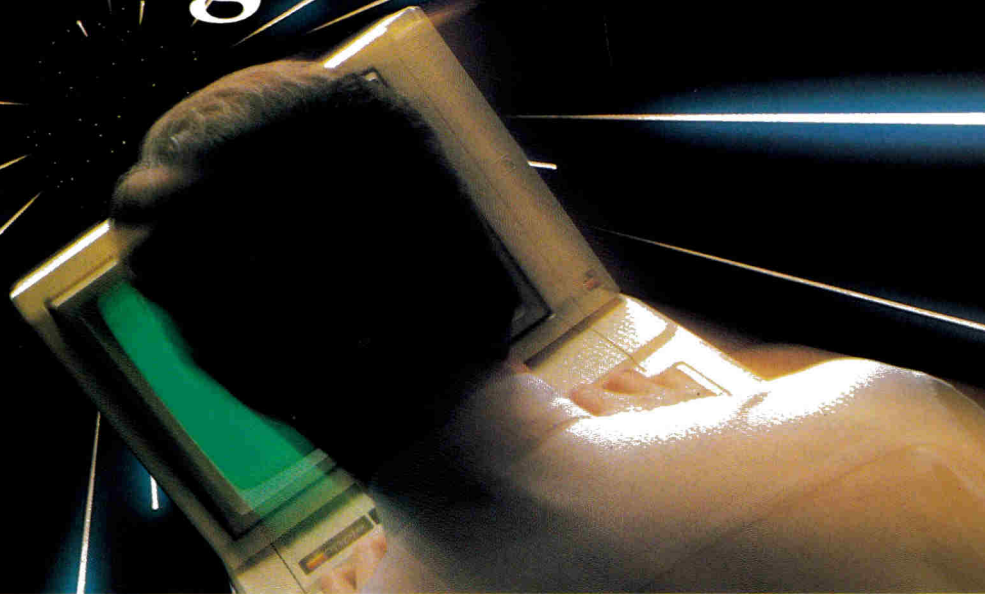
Create your own tests if you want them to reflect materials that relate to school events, current study topics, or the specialized vocabulary of your profession (medical, legal, scientific, business, and so on). You can store eight quizzes on disk at one time. Simply make an ASCII text file with a word-processing program such as AppleWorks or Apple Writer. Give it a filename ending in .TST. Copy the file to your Typing Tutor IV working copy with the ProDOS User's Disk. When you select the Disk test from the main menu, your test file will appear as an option in the selection box.

Typing Tutor IV gives you feedback on how you're doing after each lesson and test. If you want to see a graph or chart of all the lessons and tests you've taken or your current level of speed and accuracy, choose the Report file from the main menu.

I'm not entirely convinced that graphs and charts are the best means of evaluating typing skills. I'd prefer explicit reference to the letters and characters that need more work.

The Opts file lets you tailor the program's features to meet your specific

To boldly go at speeds no man has gone before.

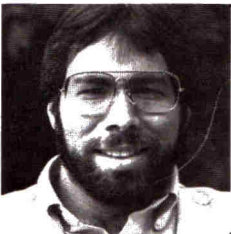


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*Steve Wozniak, the creator
of Apple Computer*

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needs. Select Opts to modify your goals, adjust your drill size, toggle the sound on or off, or reread the introduction to the program. There's also an Instructor's Mode you can access by pressing Control-A when the Typing Tutor IV menu first appears. In this mode, teachers can review student progress files, tailor tests, delete files, and set up passwords so that students can't access the records.

When you want to take a break from formal typing lessons, select Game from the main menu, flip the disk over, and try Typing Tutor's Letter Invaders. This fast-paced entertainment will sharpen your speed skills while increasing your typing accuracy. Letter Invaders offers practice with the keys familiar to you from the lessons you've completed. You can also choose to play with the full keyboard, or to play with a friend. Both

players compete at the level of the one whose file is currently open.

The object of the game is to type the letters, characters, and words that appear on screen before they descend to the bottom of the screen and destroy the strip of protective terrain. When all the terrain is gone, the game is over. Each successive letter invasion brings new typing challenges. The more you type correctly, the higher your score will be.

The rate at which letters appear and descend is determined by the words-per-minute (WPM) goal you set for yourself when you first register with the program. The higher your WPM, the faster those words and letters whiz by. The actual letters and words you type are determined by the results of your practice lessons and skill level. To slow down the pace of the game, select Opts from the

main menu and reduce your current WPM.

Typing Tutor IV is a well-designed program that will go a long way toward improving your typing ability and confidence at the keyboard. Both kids and adults will benefit. As an added bonus, the disk is noncopy-protected.

TYPE!

Type! includes many of the same features offered by Typing Tutor IV, including individual typing tutorials and drills directed at increasing speed and accuracy. An arcade-style game called Type-Athlon provides relief from the monotony of repetitive drill and practice. There are tests to monitor your progress and diagnostics to chart and graph your work. You can also customize the tests for your own vocabulary needs.

The main menu offers a number of activities to help you achieve typing prowess. Novices should select "Introducing the Keyboard," an activity that comes complete with information on correct fingering, body posture at the keyboard, the home-row keys, some of the QWERTY keys, and how to use the spacebar and return key.

Keyboard Basics presents word exercises to teach the locations of the keys on the keyboard. It's aimed at beginners who can type zero to 20 words per minute (WPM). You can select a letter for special focus. The program responds with words that incorporate the target letter.

Type! expects beginners to be familiar with finger placement; correct finger positioning isn't reviewed as new letters are introduced. Unfortunately, not every beginner knows the appropriate fingering relative to the home-row keys. Students may end up using the wrong fingers to reach the keys.

As you work your way through the exercises of Keyboard Basics, Type! posts your current speed and accuracy, as well as your goal and problem keys. When you reach your WPM goal, the program readjusts upwards automatically. You can choose to take a typing drill in your prob-

IIGS Programmers, Developers,

and IIGS owners wanting to get closer to your computers and find out how to program them in C, Assembly, and Basic, HERE IT IS!



Question: When is a shape utility more than a shape utility?

Answer: When it lets you not only paint, save and print images and pictures, but also understands what you're doing, including how to use them in your own programs. You can save images and pictures as picture files, readable in other programs, or as source codes, readable from Assembly or C programs, or as binary files, readable from your own C, Assembly, or Basic programs (yes, Applesoft can display the pictures and images you create, and we'll show you how to write such Basic programs). The **Graphics Supermarket** also lets you convert images from other programs into source codes. No licensing fees are required. *The manual is a first*, giving both novice-user information and more technical programming information. Here's the help everyone's been screaming for since the day the first IIGS was delivered. Now the IIGS's secrets are revealed. Includes explanations about colors, dithering, 320 and 640 modes.

Features

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- **Graphics Supermarket:** 49.95 (plus \$3.55p/h)
- **Graphics Supermarket** plus fully documented **Graphics Supermarket** source code: \$149.95 (plus \$3.55 p/h).

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lem keys instead of words. Once you complete the drill, you won't be able to repeat it. Also, there isn't any backspace feature to let you correct your mistakes before the software registers them on your progress charts.

Intermediate typists (20-40 WPM) should concentrate on "Build Speed and Accuracy" and "Special Exercises." These lessons are aimed at making touch typing an automatic reflex rather than a concerted mental effort. The first activity uses sentences instead of words to achieve this goal.

The program uses the same sentences repeatedly, though, and it doesn't take long before you memorize them. Once they become second-nature enough to type automatically, it's unclear whether you're actually improving your typing skills or just your typing score.

Advanced typists who "pound the ivories" at 40 or more words per minute should select Common Words and Frequent Patterns from the Special Exercises menu to build up speed in chaining (typing common two- or three-letter patterns such as "th" or "ng") and overlapping (starting to type the second letter before you've completed typing the first). Unfortunately, these lessons don't offer much in the way of variety.

Refer to the software's charts and graphs to see how your speed and accuracy vary as you type different letters with your left hand and right hand. Type! gives you feedback on six kinds of typing errors. While all bars and charts are informative, they aren't as helpful as a simple summary showing your weakest letters after each exercise would be.

To take a break from the drill-and-practice tutorials, I selected the Type-Athlon game. The object of Type-Athlon is to increase typing speed and accuracy. The animated-graphics presentation, however, is slow, repetitive, and boring.

Two hurdlers—you and your WPM goal—stand at the starting line of a race track. After setting typing speed and selecting the word exercises for the race, you start the game. The words and sen-

tences come directly from Type!'s lessons and exercises. The faster and more accurately you type, the better your runner performs. If you make mistakes, your runner stumbles. If your typing is accurate and your speed exceeds your WPM, your racer crosses the finish line ahead of your WPM opponent. Every time you win, your WPM goal increases automatically by five.

Type! lets you save your customized tests, speed and accuracy results from the typing sessions, and Type-Athlon scores on a specially formatted data disk. Because the program doesn't adjust automatically for your speed and accuracy as you work through the exercises, saving the results is the only way to monitor your progress over time. Format the data disk before booting the Type! program, because the formatting procedure wipes out whatever material is stored currently

in the computer's memory. While there's a special option for two disk drives, I was able to get it to format a data disk only in drive 1.

Overall, I was somewhat disappointed in Type! Furthermore, the program is copy-protected. To get a backup, you have to send Broderbund \$7.50 and the coupon on the back of the *Reference Manual*.

Type! offers adequate keyboard instruction, but judged against the high standards set by Typing Tutor IV, it isn't as successful in tailoring the lessons to the needs of the individuals who use it. ■

Carol S. Holzberg, Ph.D.
Shutesbury, MA

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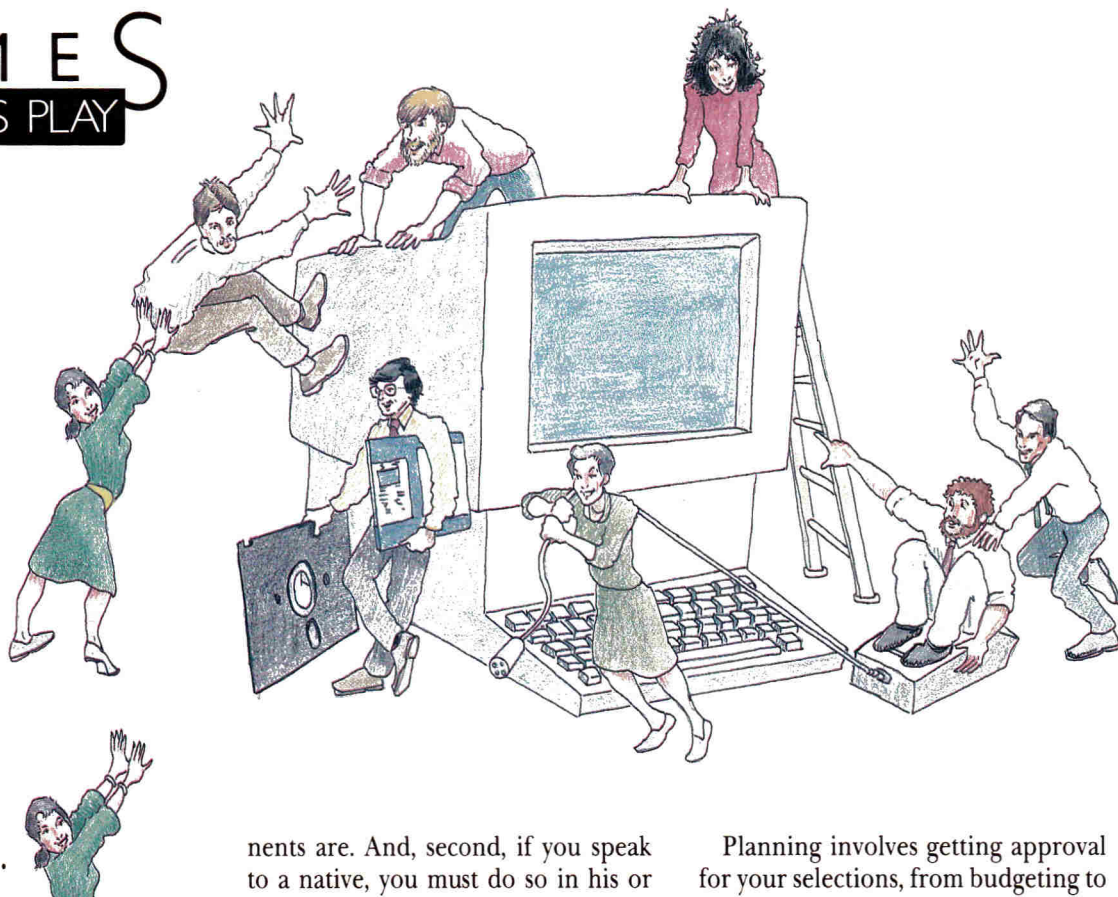
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IC04

GAMES

EDITORS PLAY



Pat O'Dell plays.

Border Zone, Infocom, 125 Cambridge Park Drive, Cambridge, MA 02140, (800) 262-6868. \$39.95.

Border Zone is interactive fiction with a difference. For players like me—short on patience and easily exasperated—games like this are usually an exercise in frustration and futility. Just call me a victim of my own narrow outlook—without success, I'll try all the ways I can think of to solve a problem.

With Border Zone, though, Infocom offers hints that can put you back on the track or give a novice player the chance to complete a story.

Border Zone is actually three stories, loosely connected by a general theme. In all three, you play a spy; your actions will determine whether you go free or are captured and arrested. All three stories revolve around a plot to assassinate the American ambassador to the Third World country of Frobnia.

Two other key points to remember: First, the program runs on a real-time clock. Just because you're standing still, that doesn't mean your oppo-

nents are. And, second, if you speak to a native, you must do so in his or her own language. Practice before you open your mouth, because no one will wait while you search your phrase book for the correct words.

The first chapter begins with you, an innocent businessperson, waiting in your compartment as your train rushes toward the Frobnian border. A wounded American spy stumbles in, deposits his documents hurriedly in your lap, asks you to complete his mission, and staggers out again. From there, you're on your own.

Just remember, don't type HINT too often.

Peg Brown plays . . .

Project: Space Station, Avantage, 20813 Stevens Creek Boulevard, Cupertino, CA 95014, (408) 446-5757. \$14.95.

Given a choice, what's your favorite type of game? Arcade style, simulation, strategy, fantasy role-playing?

Avantage's Project: Space Station covers all the bases. Planning the mission, launching and landing the shuttle, and building the space station all let you hone your various computer game-playing skills.

Planning involves getting approval for your selections, from budgeting to launch scheduling—in typical nitpicking government fashion. You'll enjoy the revealing and often humorous biographical sketches that help you select a crew, too. You can save your progress to date at any point in the mission—letting you continue a mission for days or even weeks at a time.

Using a flight-path monitor to keep the shuttle on course during launch affects its ultimate location in space, a consideration that's important when you're delivering more parts to the station. Landing nearby certainly helps when your fuel and oxygen supply are limited.

Good manipulative skills help maneuver your Orbital Construction POD during the game's Extra Vehicular Activities (EVA) phase. You can drive the POD modules by firing the attached retroactive "jet paks." It takes practice to get used to firing the right jet pak to go left, and my craft experienced a lot of structural damage because of my limited experience in docking procedures. I had more success when I used the keyboard instead of the joystick.

Your score for landing the shuttle is based on the number of days needed to repair damage before the next flight. I scored 38 days on my first landing when I missed the runway—but managed seven days (the minimum time) after a little practice controlling altitude, air speed, and runway braking.

Expertise in planning strategy makes a difference in determining your level of play, but with the tutorial even beginners can have plenty of fun. The number of potential missions seems endless, and the chance to perfect your skills makes Project: Space Station one game that won't get dusty sitting on the shelf.

Paul Statt plays . . .



Dream Zone, Baudville, 5380 52nd Street S.E., Grand Rapids, MI 49508, (616) 698-0888. \$49.95.

The best parts of Dream Zone are the graphics and the sound—it's literally a GS game. Dream Zone's an adventure, but it doesn't take place in a pseudo-medieval past or an anti-utopian future. The plot plays in your mind, as you sleep, as you dream. For its imaginative premise alone, Dream Zone deserves an award.

The dream reminded me of—well, the experience of dreaming. There was some task I should be doing, I knew I wasn't doing it, and I didn't know what it was. You might say that's how all interactive fiction feels; at least Dream Zone is meant to feel like sleepwalking.

Looking for a drink, I wandered around a city. I found a bar; the band was so loud I could hear it outside. I was thirsty, but had no identification papers. I walked into a church, but the priest was hiding behind the altar and I couldn't get close. Monks were chanting. I was hungry, and the priest left the communion wafers for me to steal.

I won't bore you with more details of "what I dreamt last night," nor will I give the ending away. Dream Zone's not a puzzle game like the Infocom masterpieces, nor literature à la Am-

nesia, nor sci-fi fantasy in the style of Portal. But if you liked those games, you'll like Dream Zone.

Ironically, the *trouble* with Dream Zone is also its graphics and sound. Each picture has its own soundtrack, which adds realism—but it makes disk access a nightmare. Dream Zone comes on *two* 800K 3½-inch disks. It's big, and the fun's worth it. But the wait's not worth it, especially when you're trying to hurry through the streets of a strange town. Almost every GS has a megabyte of random-access memory; lots of them have hard-disk drives. Why not use all that memory, game makers? Why not copy the game to the RAM disk so that Dream Zone pictures can fly by as quickly as dreams? I guess I must have been dreaming.

Lafe Low plays . . .



Pirates, Microprose, 180 Lakefront Drive, Hunt Valley, MD 21030, (301) 771-1151. \$39.95.

Pirates might be called "Silent Service Meets Plundered Hearts" (reviews of both of which have previously graced the pages of Games Editors Play). While you're in town between plundering runs, you can visit the governor (great for brownie points with the provincial government—you may even get to propose to his daughter), drop into a tavern to recruit sailors for your crew, trade with a merchant to turn your plundered goods into gold pieces, check your status or that of your crew, divide up your booty, or leave town to embark on a journey.

When you set off for a journey, you sail about on a map of the Caribbean, exploring the many islands and inlets in search of hapless merchantmen or any other worthy plunder. "Sail ho!" cries your lookout when you spot a ship, and you close in for battle.

The game's "ship-to-ship" battle screen shows the positions of your ship and the enemy. As soon as your ship runs parallel with the enemy, let him have it with a broadside round of cannon shot. After you've raked the decks

of the scoundrel ship with a couple of rounds, you close in for a final swordfight with the enemy captain.

Pirates offers all the realism and high-quality simulations for which Microprose is known. As a swashbuckling menace of the Spanish Main, you play out an entire career, accumulating wealth, land, social status, maybe even a wife—not bad for a few years of plundering.

. . . and plays . . .

Wings of Fury, Broderbund Software, 17 Paul Drive, San Rafael, CA 94903. \$34.95.

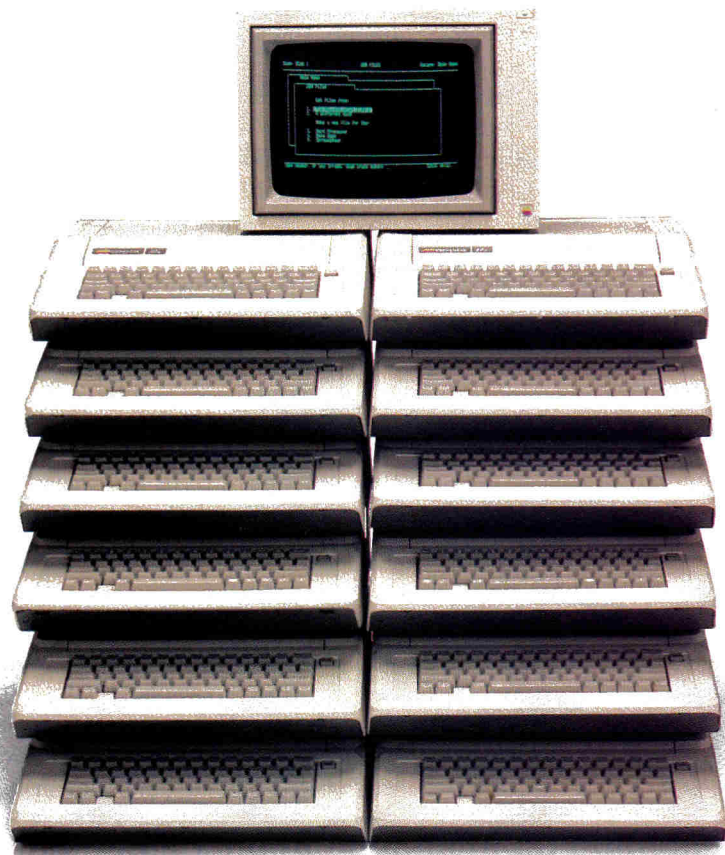
The F6F Hellcat was a formidable weapon during World War II. Armed with three 50-caliber machine guns and carrying a payload of 30 100-pound bombs, 15 five-inch rockets, or one lethal torpedo, the Hellcat could easily take a big bite out of an enemy ship or island outpost.

Well, maybe not so easily. As you quickly discover playing Wings of Fury, you'll have to be able to fly the plane—maneuvering close enough to strike, yet far enough to avoid getting shot down. It takes practice.

You'll have to destroy machine-gun dugouts, barracks, and anti-aircraft guns with rocket attacks or dive-bombing runs, then turn back and strafe the ground (covered with tiny workers running to repair the guns) with your machine guns.

Then you'll face enemy ships—cruisers, destroyers, and aircraft carriers. Take out the anti-aircraft guns with your rockets, and return with a torpedo mounted under your Hellcat to send it to the bottom.

You'll also have to outmaneuver the relentless Japanese zeros that spring from beneath ground camouflage cover or from the decks of enemy warships. They're intent on shooting you down, and they absolutely will not stop until only one plane is left. Keep your eyes open, and your trigger finger ready. □



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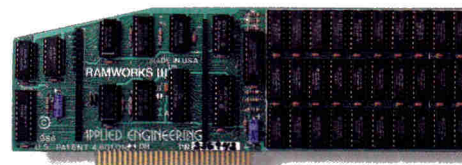
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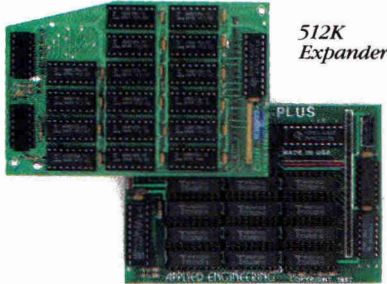
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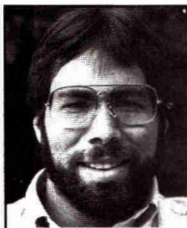
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Steve Wozniak, the creator of Apple Computer

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thing you need to get up and running. The easy-to-understand manual shows you how to get the most from your new memory. The two accompanying 5 1/4" disks include a graphics utility program, AppleWorks enhancement program, ProDOS and DOS 3.3 RamDrive™ and other useful utility software.

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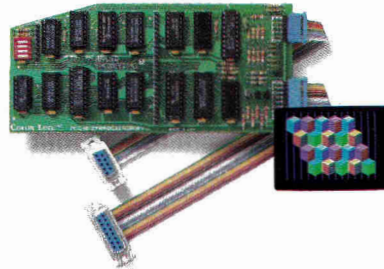
It meets all Apple standards for RGB output control. So it's compatible with more off-the-shelf software.

You can use Apple or IBM RGB monitors. ColorLink provides Apple standard analog and IBM standard digital RGB outputs (cables included).

ColorLink offers four text colors so you can use the one that's easiest on your eyes (others offer only green).

The ColorLink option plugs into the back of RamWorks III. It doesn't interfere with Slot 1.

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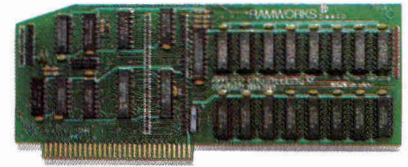
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APPLE PORTRAIT

What can you really create with Apple II painting and graphics software? Professionals and amateurs alike can choose from a wide range of programs that make computerized art and design fun, easy, and productive.

by Cynthia E. Field, Ph.D.

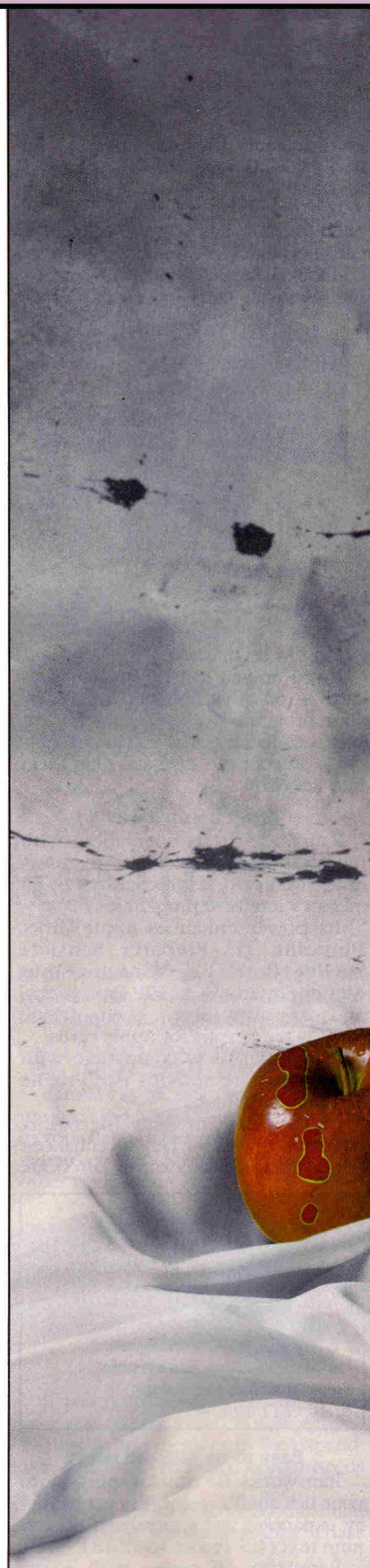
Poor Epictetus. Almost 2000 years ago, when he said, "Nothing great is created suddenly," little did he dream that someday people like George Costantino, William Chorba, and Charolyn Kapplinger would be generating all kinds of artistic creations quickly and easily, thanks to a machine like the Apple II.

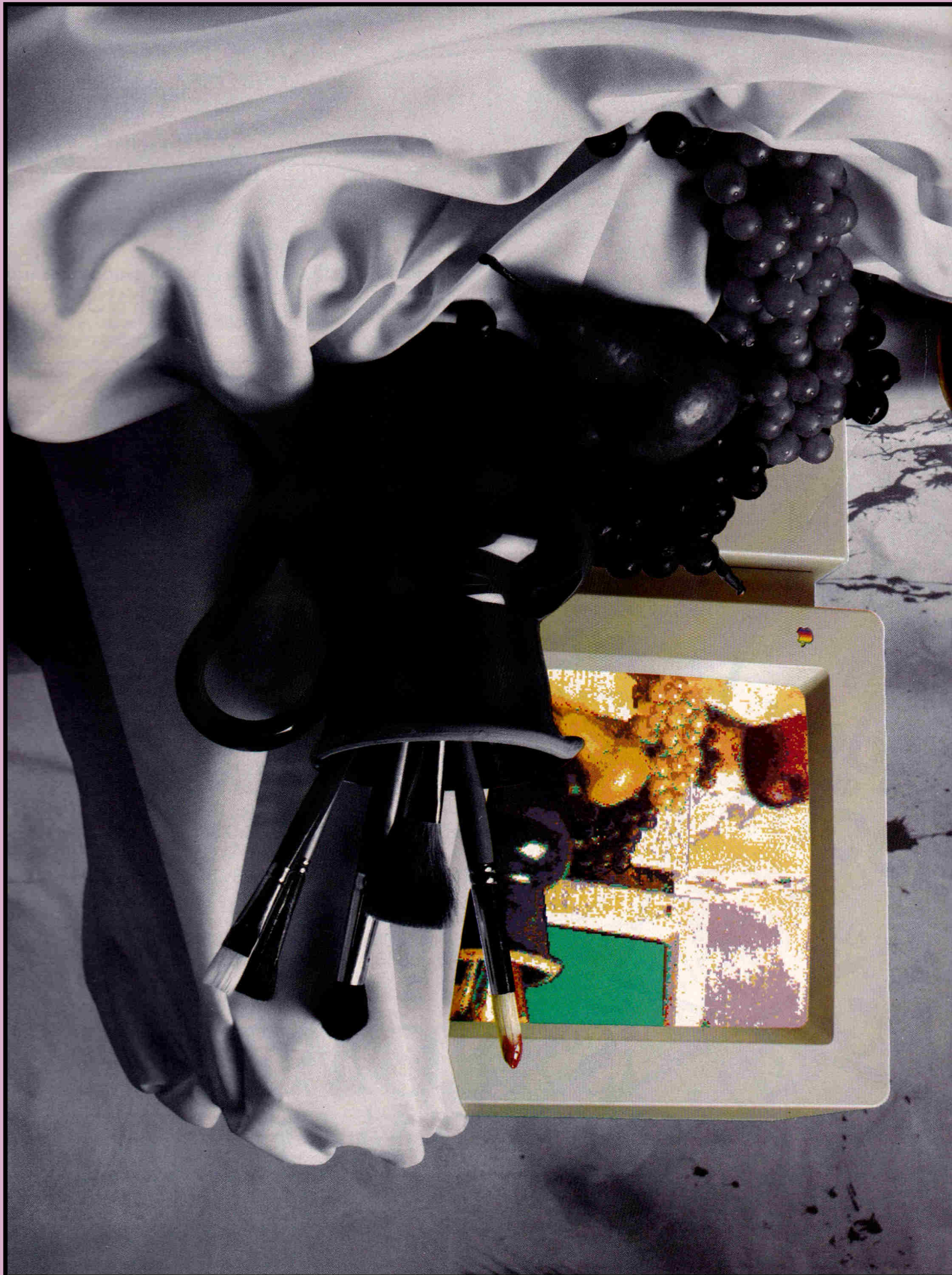
Nowadays, leading software developers offer a wide range of creativity programs to help people from all walks of life enjoy what was once the domain of the professional artist. Apple users are single-handedly—or single—"mousedly" in many cases—developing landscape plans, promotional brochures, greeting cards . . . even custom videos.

NO SPECIAL TALENT REQUIRED

What's that? You say you can't even draw a straight line? Join the club. Fortunately, older painting programs for the Apple IIe and IIc and newer GS programs, such as DeluxePaint II from Electronic Arts, Paintworks Plus from Activision, The Graphics Studio from Accolade, and 816/Paint from Baudville, offer a variety of tools to draw not only that straight line, but rectangles, circles, and more complex shapes, too.

So, put away those rulers, protractors, and compasses! Boot up a paint program instead. Geometry class was never this easy; art class never so colorful. Artist or amateur, you'll find something to pique your interest.





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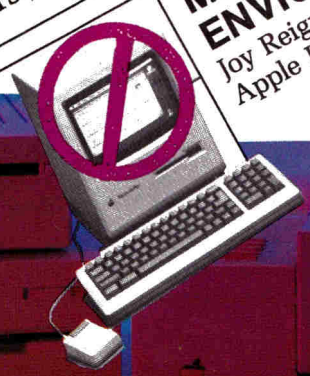
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DOODLES, DESIGNS, AND DENTISTS

Take Michael Bolen, for instance. A sports enthusiast from West Virginia, Michael is working with **The Graphics Studio** on his IIGS to create sports illustrations. His pet project? Designing a patch for 9-year-old son Jason's basketball team, the Mount Hope Tigers.

Then there's Marilyn Owen, of Oakton, Virginia. As a serious needlepoint and counted-cross-stitch hobbyist, Marilyn is working with **Paintworks Plus** to generate diagrams similar to those she has seen created by needlework teachers on the Macintosh.

Marilyn began her computer-aided needlework design with a program called **The Stitch Grapher**, from CompuCrafts, on her Apple II Plus. When the time came to purchase a second computer, why did Marilyn and her husband *not* purchase a Mac? "We bought the GS for its 4096-color capability," she replies. "I can use paint palettes on the IIGS to get a handle on what a design will look like in color—in advance. Needlepoint is grid-oriented, so I can work in Paintworks Plus' zoom mode and color a pattern pixel by pixel."

To Jerry Gifford, of Fort Knox, Kentucky, needles mean something else altogether. Gifford teaches the fine art of dentistry to U.S. Army personnel.

Dr. Gifford plans to use **DeluxePaint II** to help him create effective, appealing training materials. "Most of my presentations are done with slides," he explains, "and I hope to incorporate the diagrams I create with DeluxePaint II."

At the outset, Gifford learned many of the program's features by putting together a 1987 Christmas letter for friends and relatives. As far as color printouts go, he says he wishes they were "a bit more colorful, but they're a nice change after working with black-and-white printers for six or seven years."

T-SHIRTS AND MOVIES

Like most other computer artists, David Tirk, from Kenora, Ontario, Canada, agrees that "drawing on the computer is easier than drawing freehand." Tirk should know—he's a typesetter and layout artist for a local newspaper. At home, Tirk appreciates **Paintworks Plus**' circle and line tools, cut-and-paste capabilities, and myriad editing features. And, he notes, "If I draw something and don't like the colors, I can change them easily."

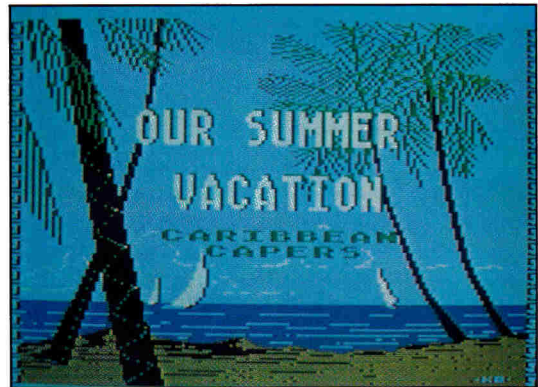
An avid body builder, Tirk is working on designing a logo for Lake of the Woods Weightlifting Club. Paintworks Plus'

drawing tools and built-in fonts and type styles should come in handy. And the software's flip-horizontal feature (similar to most other graphics programs') lets Tirk print T-shirt transfers with a specially inked heat-transfer ribbon in his ImageWriter II.

William Chorba, a microbiologist for the city of Chicago, spends a lot of creative time at his Apple IIc. Don't worry—he's not working with designer genes or cloning a new Andromeda Strain.

Chorba is the "unofficial videotaper" for the school bands to which his two flautist sons, Brian and Michael, belong. Whenever the boys play—at football games and in concerts—Dad captures the action on tape with his video camera.

With **Video Title Shop**, an Apple II/VCR utility (the program does *not* support the GS, even in IIE-emulation mode), Chorba can add text screens with fonts and borders, design artwork

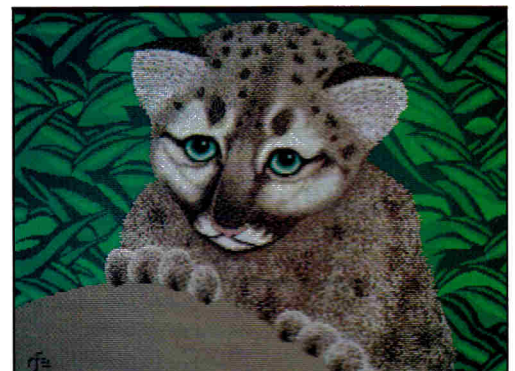
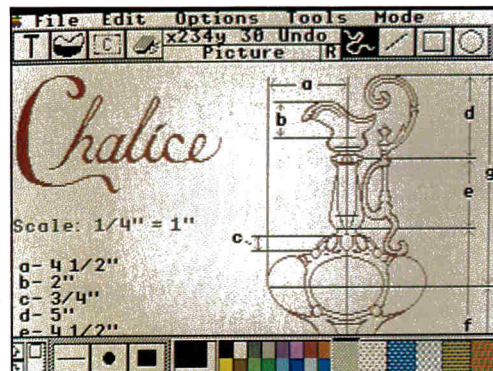


Add customized text and graphics screens to your home movies with Datasoft's Video Title Shop.

from scratch, or import backdrops from various paint programs to customize his videos.

"First, I start the layout in my mind or on paper," he explains. "Then I put the title screen in. For instance, during the holiday season, I taped the Holy Cross High School Christmas concert. On the videotape, I came in with a black background and spelled out the words one by one, in color. Next, using green, red, and white, I fizzled in a set of holly leaves with berries. I timed that display, had the program wipe the screen clean, then dubbed in the date."

Accolade's Graphics Studio, a painting program for the GS, offers design tools (left) as well as beautiful super-hi-res color (right).



Chorba has also used Video Title Shop's built-in drawing program, **MicroPainter Plus**. Ever the scientist, he's experimenting with adding **Graphics Magician** and **Print Shop Companion** graphics to his Video Title Shop movies.

On the hardware side, Chorba says he's trying to get input devices other than the optional joystick to work with Video Title Shop. Considering that in his day job Chorba uses an atomic absorption spectrophotometer to screen body fluids for evidence of lead poisoning, it's probably just a matter of time before he gets a touch pad—and who knows what else—to beef up his home-grown video-production studio.

Another videographer, Steven Lichter from Riverside, California, uses **Video Title Shop** to add titles, descriptions, and personal ratings to the videotapes in his extensive collection. Lichter, who often loans his tapes to friends, has added a "please rewind" warning, together with a graphic of the cartoon character Yosemite Sam—with six-guns drawn! Lichter downloaded Yosemite Sam from CompuServe, the on-line information service.

The number of Video Title Shop applications, like those of the other creativity programs described in this article, seems limited only by your imagination. The manual suggests using the program when you tape holiday parties, festive occasions, family vacations, and business events such as sales meetings, product reviews, and company histories.

CREATIVE TIME MANAGEMENT

Stephen Zehm, a first-grade teacher at Island Lake Elementary School in Shoreview, Minnesota, has been working creatively with what may prove to be one of my favorite GS programs of 1988—**Calendar Crafter** from MECC.

How in the world can you get creative with a calendar program? For starters, Zehm uses the program as a classroom adjunct to his social-studies lessons.

Calendar Crafter prints in many different formats in any of seven languages: Danish, English, French, German, Italian, Spanish, or Swedish. A special program feature that includes diacritical marks for these languages lets you enter information for any day in the language of your choice.

"When we do our unit on Mexico, I can teach the names of the days of the week in Spanish," Zehm adds. That's just one of the program's innovative applications in his first-grade classroom.

Calendar Crafter comes with a dozen half-page-size, full-color paintings created by MECC's software designer/graphic artist, Charolyn Kapplinger. Charolyn chose **816/Paint** to create these beautiful works featuring a springtime robin, a Halloween jack o' lantern, and a Christmas kitten.

She and an associate, Diane Portner, also used **816/Paint** to create icon graphics, including symbols for U.S. holidays and other categories. Based on **816/Paint**'s standard paint palette, Calendar Crafter's own mini paint program lets would-be artists create their own additional icons easily, with matching colors from any other paint program.

As Charolyn observes, "There's a world of difference between the GS and the IIe—better resolution, more colors. These features portend even bigger and better things to come. The artists at MECC are *very* excited."

What about artists and dabblers at home? Calendar Crafter, together with a paint program, will keep you creating at least until the turn of the next century. Just about anything you can do with a paint program you can use to spiff up your calendars.

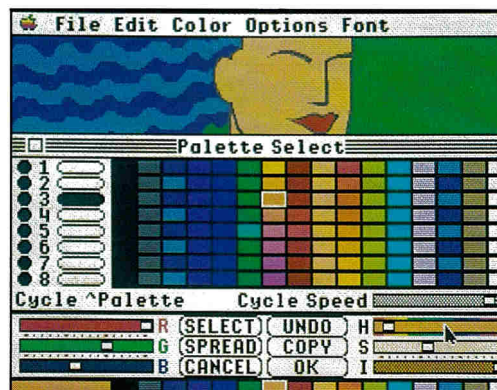
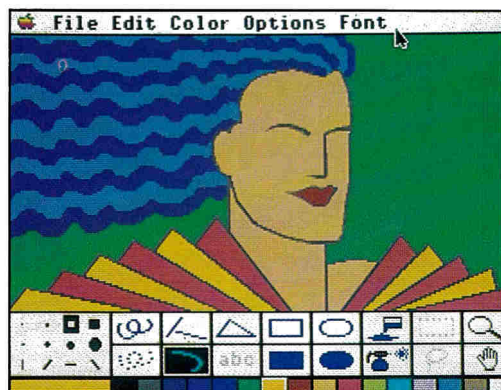
Plug a **ThunderScan** or **Scannit** unit into your printer (the **ComputerEyes/2** system works, too, according to Kapplinger), roll in any photo or other piece of flat art, and digitize it. Touch it up with a paint program, add a message, and import the whole picture into Calendar Crafter.

A friend of mine enjoyed a big chuckle when I completed a similar project recently. As if he needed the reminder, when David was about to turn 50 last December, I used a ThunderScan unit to digitize a circa-1947 photo of him, then saved the image to disk in **Paintworks Plus** format.

Next, I imported the image into the paint program and used the eraser tool and Fat Bits mode to get rid of stray pixels and neaten the picture. Then I added encouraging text—to wit, "50 years! My goodness, that's a half century! Happy Birthday."

I saved the picture, imported it into Calendar Crafter, and printed David's very own December 1987 calendar birthday card.

But even without a separate painting program, Calendar Crafter can start your creative juices flowing. Stephen Zehm, the Minnesota schoolteacher, gave 14 custom calendars to family and friends last year as Christmas gifts: "Instead of a traditional Christmas letter, I gave them a whole year's reminder about



Baudville's 816/Paint features the popular Apple interface, including an icon-based tool menu (left) and a color palette (right).

Paintworks Gold

If you're happy with Activision's congenial-yet-capable paint program, Paintworks Plus, you'll be thrilled with the company's latest tour de force: **Paintworks Gold**.

Versionsoft programmers Luc Barthelet and Henri Lami-raux have added extra features—some 80 in all—to an already attractive creativity program. And they did it without sacrificing ease of use or the familiar Paintworks Plus interface.

In fact, Paintworks Gold looks a lot like Paintworks Plus—until you begin activating the program's enhanced drawing tools or start pulling down menus.

In addition to Paintworks Plus' standard drawing tools, Paintworks Gold offers "round rectangles"—handsome rectangles with rounded corners—perfect for bordering attention-grabbing text or diagrams.

Double clicking on the new "cotton" tool opens a pop-up menu with a half-dozen methods for smoothing and blending components of your paintings: Smear (smear a color over the color next to it), Shade Up (shade a color with the next lighter color in a palette), Shade Down (shade with the next darker color), Invert (change a color to its complement), Smooth by Edge (round sharp edges), or Smooth by Color (make boundaries less severe).

With Paintworks Gold's "mask" feature, you can lasso an object or select a color you want to preserve from painting over, while the "gradient fill" option lets you create a color set composed of, say, three blues with all gradations automatically determined by the program. Stu Roberson, product manager for Activision, explains that when you're painting a scene, say, such as snow-capped mountains against a realistic sky, Mask and Gradient Fill can simplify and professionalize the process.

Paintworks Gold takes FatBits, a Paintworks Plus zoom feature, to the limit. The latest Activision painting program offers four magnification modes in addition to standard working mode. Pull down the Apple menu and change to the GS' 640 mode for higher-than-high resolution. Moreover, according to Roberson, the program remaps your painting automatically to present you with the best colors possible.

An "autoload" option makes it a snap to automatically load a picture on which you expect to work over the course of separate sessions. Anyone who has experienced the length

of time it takes most GS programs to load can readily appreciate any time-saving feature.

Other features that may be sorely missed in Paintworks Plus, at least by professional computer artists, have been incorporated into Paintworks Gold—including two types of perspective (freehand and automatic), two separate drawing pages (with the capability to make one transparent), a "show/hide coordinates" option, and a "paste/adjust colors" feature. The latter function allows best-match replacement of each color in an image from the current picture's paint palette—regardless of the original color's position in its palette.

A new feature that gives computer artists the best of both the bit-mapped and object-oriented graphics worlds is Paintworks Gold's unique "slippy colors." With this option, you can specify the colors over which you want the lasso to "slip" when you use that tool to select an image. Turning Slippy Colors on means you can grab an image as if it were an object—like plucking an orange from a still-life fruit basket without picking up part of the basket with the orange.

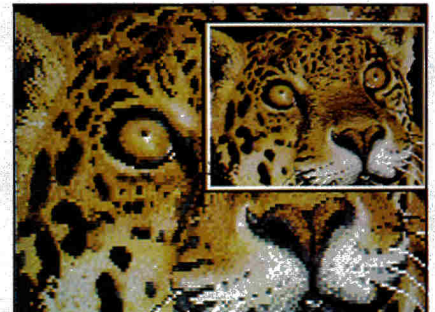
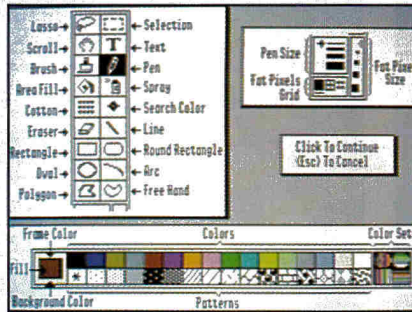
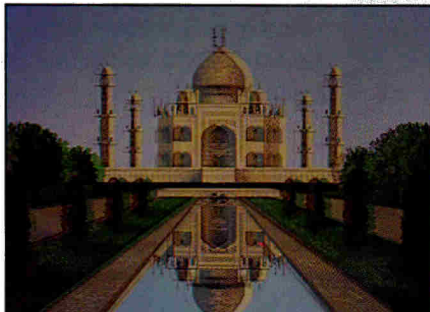
Paintworks Gold offers animators both color-cycling and cell-animation techniques. You can alter timing and direction in color cycling; you can change playback speed in cell animation.

Paintworks Gold works with previously released Paintworks Plus add-ons such as the **Clip Art Gallery**, **Postcards GS**, and **Paper Models: The Christmas Kit**. In addition, ThunderScan-digitized images saved in Paintworks Plus format load without a glitch.

Best of all, perhaps, upgrading to the noncopy-protected Paintworks Gold (priced at \$99.95) from Paintworks Plus costs only \$20 through May 31, 1988. Upgrading from other paint programs or from Paintworks Plus after May 31 will set you back \$40. (See the accompanying Product Information box for further details.)

To run Paintworks Gold, your GS will need the basic 256K plus 1 megabyte on a memory-expansion card, for a total of 1.256 megabytes. Paintworks Plus, in contrast, requires only 512K total. If you want to enjoy Paintworks Gold's new and unique features, consider the memory—and the money—well spent. □

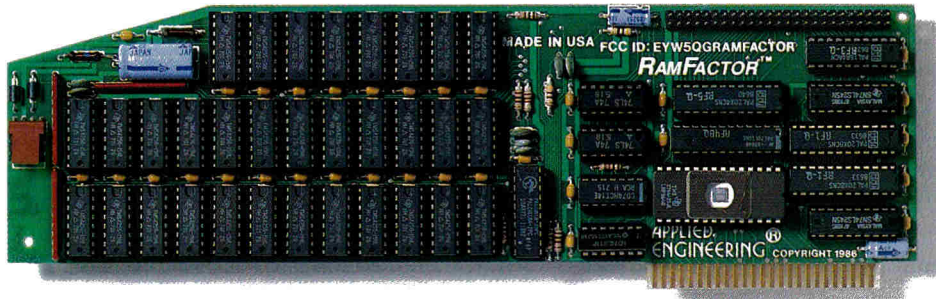
—C.F.



Left, new coloring options make Paintworks Gold pictures exceptionally smooth. Middle, new tools such as "round rectangles" add a professional look. Right, a zoom feature offers four magnification modes.

RamFactor™

The Ultimate Slot 1-7 Memory Card



RamFactor is automatically recognized as additional workspace memory by AppleWorks 1.3 and 2.0. In addition, RamFactor's memory can be used for creating the ultimate in program speed—a lightning-fast RAMdisk for the Apple IIGs, IIe, II+, Franklin and Laser 128. A RAMdisk does not depend on the slow moving parts of a conventional floppy drive. RAMdisks eliminate wear and tear on your disk drive plus your programs run up to 20 times faster! When a program is in RAM, your computer won't have to search for it in the mechanical disk drive during program operation. With RamFactor, you can have up to 9 separate simultaneous RAMdisks—even in different operating systems! Now you can instantly switch from one program to another or even switch from AppleWorks to DOS 3.3 to CP/AM to Apple Pascal 1.3 to ProDOS.

Apple Memory Expansion Card Compatible

RamFactor is 100% Apple Memory Expansion Card compatible. This means that software designed for Apple's card is automatically compatible with RamFactor. Thousands of software programs—including AppleWorks, Pinpoint, MacroWorks, MultiScribe, and Managing Your Money—can take advantage of the speed and performance RamFactor provides. But with Apple's card, you can have only one RAMdrive partition instead of the 9 simultaneous RAMdrives that RamFactor offers. And that's only part of the story...

2.0 AppleWorks Power

Other slot 1-7 cards can give AppleWorks a larger desktop, but that's the end of their story. RamFactor provides many more powerful functions. It's the only slot 1-7 card that increases AppleWorks 2.0 internal limits by increasing the maximum number of records in the database to 22,600, increasing the maximum number of lines permitted in the word processor to 22,600, and expanding the clipboard size to 2,250 lines maximum. RamFactor is the only standard slot card that will automatically load all of AppleWorks into RAM, dramatically increasing speed and

eliminating the time required to access the program disk. It will even display the time and date on the AppleWorks screen with a ProDOS clock. RamFactor will automatically segment large files so they can be saved on multiple 5¼" and 3½" floppies or a hard disk. All this performance is available for the Apple IIe, Laser 128, Franklin or 64K Apple II Plus when used with an 80 column card. No other standard slot card comes close to enhancing AppleWorks so much.

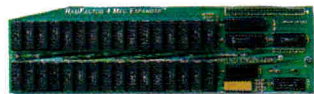
The "Electronic Hard Disk"



RamCharger is an optional battery back-up device, (about the size of a disk drive), that can plug into a connector on RamFactor. With Ram-

Charger added to RamFactor, your program will appear almost instantaneously when you turn on your computer. RamCharger contains LED's that let you know RamFactor's reserve power status. Since RamCharger has its own built-in power supply, it can retain RamFactor's memory indefinitely. Plus, RamCharger's battery will continue backing up RamFactor's memory for up to 10 hours during power failures. An optional "Y" cable is also available that allows one RamCharger to power two fully expanded RamFactors.

If 1 MEG Isn't Enough



A 4 MEG RamFactor Expander can be plugged into the expansion port on RamFactor for up to 5 MEG's total. RamFactor Expander uses standard 1 MEG chips and can be expanded in 1 MEG increments. With the addition of RamCharger, both RamFactor and the expander will provide up to 5 MEG's of lightning-fast battery backed storage.

Features

- Compatible with Apple IIGs, IIe, II+, Franklin and Laser 128
- 256K to 1 MEG on main board with 256K

memory chips; expansion port supports up to 5 MEG with Expander option

- 100% Apple Memory Expansion Card compatible
- RamCharger battery back-up option available for permanent storage
- Reduces power strain to internal power supply with RamCharger option
- Fully socketed and user upgradeable
- Expands internal limits of AppleWorks 2.0
- Automatically recognized by ProDOS, DOS 3.3, Apple Pascal 1.3 and CP/AM
- Built-in RAMDrive software (true RAMdisk not disk caching)
- Graphic memory test included
- Allows Apple II+ to run AppleWorks 2.0 without buying additional software
- Automatically recognized by AppleWorks 1.3 and 2.0
- Fits in any I/O slot except slot 3
- 5 year warranty — parts and labor
- Proudly made in the U.S.A.

RamFactor with 256K	\$239
RamFactor with 512K	\$299
RamFactor with 1 MEG	\$419
RamFactor Expander with 1-4 MEG	CALL
RamCharger backup option	\$179
"Y" cable	\$24
(Allows one RamCharger to power two RamFactors.)	

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birthdays and anniversaries. I included special quotations and notes about personal idiosyncrasies. I left room on each calendar for the children in the family to draw pictures. I even punched a hole in the top so that people could hang the calendars on a closet door. Next year my plan is to use a paint program to create paintings in outline form and let the kids color them in. Or, I might create part of a picture and let the kids finish it.”

CUT AND PASTE—SO TO SPEAK

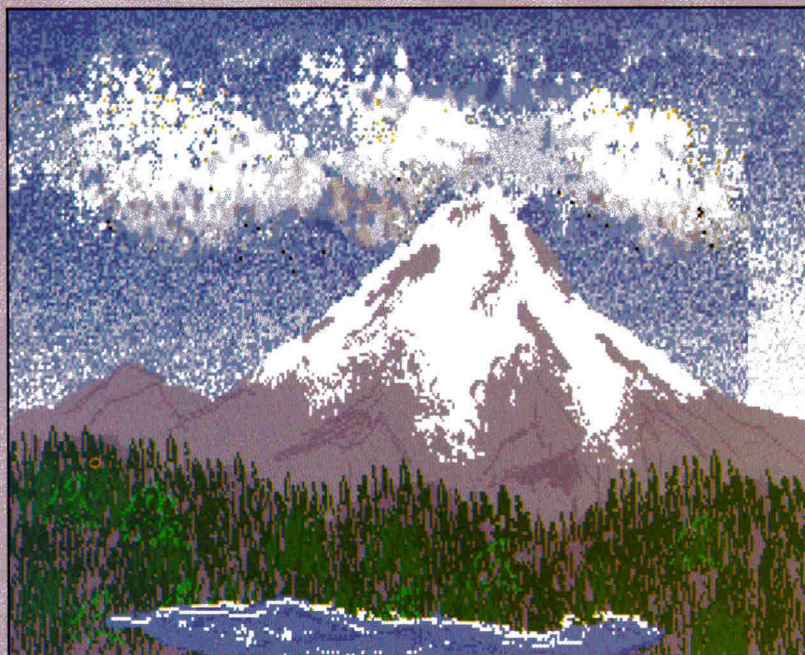
By day, George Costantino’s professional toolkit contains scalpels, scissors, and sutures. Away from the operating room, Dr. Costantino demonstrates his skill in blending art and science with **DeluxePaint II**, the highly sophisticated creativity program from Electronic Arts. (For a preview of another top-of-the-line GS painting program, see the accompanying sidebar, “Paintworks Gold.”)

Does Costantino credit the program with advancing his surgical acumen? In a way, yes. “I unwind with it,” he says. “I like playing with it—especially the 3-D effects you can create with the program’s perspective feature.”

Apparently, skilled eye-hand coordination runs in the Costantino family. His daughters, Gina and Denise, designed their own Christmas cards last season, without even reading the documentation. “They just sat down and used the program,” according to their dad. Not bad for a couple of 8- and 9-year-olds.

Costantino’s investment in an Apple IIGS and DeluxePaint II is paying off in still other tangible ways. “My brother’s really the artist in the family,” Costantino reports. “He’s used DeluxePaint II to create brochures for the Cricket Flower Shop, a business we own in Glendora, New Jersey.” Thanks in part to the bonus art disk included in the DeluxePaint II program package, Cricket Flower Shop whipped up a Christmas promotional flyer, which the florist sent to the 500 or so customers on the business’ 1987 mailing list. The shop is now working on a single-page promotional piece to display on the counter for walk-in customers.

The Costantinos’ next project? To design a brochure focusing



This page, above, and facing page, top and bottom left, DeluxePaint II pictures created by Tim Gilliland’s fourth-graders. This page, top right, DeluxePaint II abstract submitted by Dr. George Costantino. This page, bottom right, and facing page, top and bottom right, DeluxePaint II designs by Al Martin.

on brother George's medical practice. If Dr. Costantino's experience is any indication, perhaps every modern surgeon should slide some stencils, brushes, and paint palettes into his professional toolkit.

GS ENTREPRENEURS

Tim Gilliland, a Yuma, Arizona, schoolteacher and part-time landscaper designer, is using **DeluxePaint II** in his work with a major landscaper—proof that a creativity program can help Apple II users develop or enhance their sideline businesses.

"I've also used the program for fun," Gilliland says. "I'm a frustrated artist, I guess. DeluxePaint II lets me do things I couldn't otherwise. Like erasing—easily!"

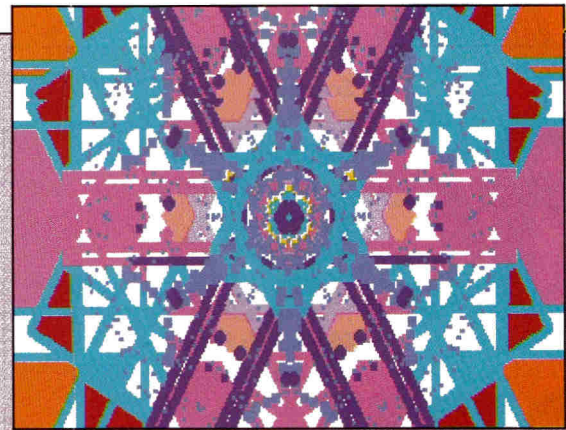
Like many of the nearly two dozen people I interviewed for this article, Tim reiterates, "It's fun to discover things I didn't know I could do. I've spent more than one evening tinkering with color cycling [a form of animation that most GS paint programs now feature]. It's like therapy."

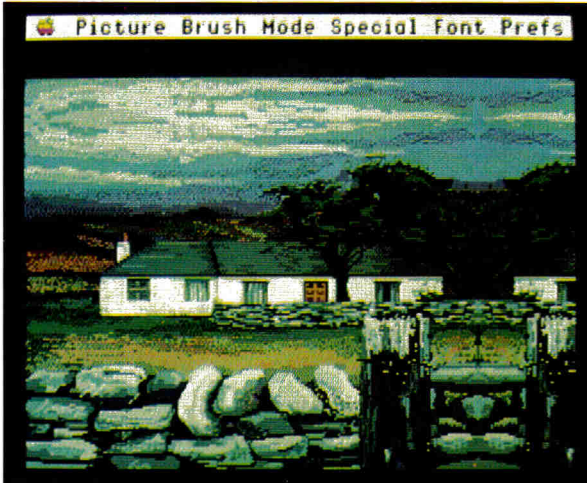
Alan Martin, a Portland, Oregon, school administrator, is investigating practical ways to apply his computing skills outside school. Martin selected **DeluxePaint II**, a "do-it-all program that allows nearly anyone to create spectacular work almost immediately."

He loves the way "parts of pictures or complete pictures can be stretched, rotated, or made to disappear into a vanishing point," but warns, "The problem is that it's easy to become 'hooked' on DeluxePaint II. Still, learning the program isn't a bad way to spend a rainy weekend."

Along practical lines, however, Martin says, "I have a friend in the boat-repair business. He paints boats frequently. Problem is no one's really sure how the boat will look until after the paint is applied. With DeluxePaint II I can draw an outline of the boat and print several different color schemes from which the customer can choose.

"DeluxePaint II also lets me reduce pictures and place four smaller boats in different basic colors on the same page, along





DeluxePaint II illustration produced on a GS by Avril Harrison.

with a larger picture of the boat. A customer can also come to my home office, choose colors from the computer, and see the possibilities on screen.

“Using color cycling, I can show what the boat will look like at different times of the day or night. My friend is excited about the possibilities—and so am I.”

THE OUTER LIMITS

Luckily, Epictetus, that sage philosopher, was also a Stoic. Otherwise, he might painfully regret not living in 1988. With an Apple II and the right software, creating anything from needlepoint patterns to custom videotapes to boat-painting simulations is not only possible, but easy and fun, too. ■

Cynthia E. Field, Ph.D., is the author of Field Trip, in Cider's column on educational software, and Press Room, our bimonthly column on desktop publishing. She is a free-lance journalist specializing in computer-related topics. Write to her at 60 Border Drive, Wakefield, RI 02879. Enclose a self-addressed, stamped envelope if you'd like a personal reply.

Product Information

Calendar Crafter

MECC
3490 Lexington Ave. North
St. Paul, MN 55126-8097
(800) 228-3504
(612) 481-3500
\$59

Reader Service No. 321

Clip Art Gallery, \$29.95
Paintworks Gold, \$99.95
(Plus-owners upgrade: \$20 through May 30, 1988, \$40 after May 30, 1988; other paint programs upgrade: \$40; CA residents add 6.5% sales tax; plus \$3.50 shipping and one page from existing manual)

Paintworks Plus, \$69.95

Paper Models:

Christmas Kit, \$19.95
Postcards, \$24.95
Postcards GS, \$29.95

Activision, Inc.
P.O. Box 7286
Mountain View, CA 94039
(415) 960-0410
upgrade orders:
Activision, Inc.
P.O. Box T
Gilroy, CA 95021-2249

Reader Service No. 322

ComputerEyes/2, \$129.95
ComputerEyes GS, \$249.95
Digital Vision
66 Eastern Avenue
Dedham, MA 02026
(617) 329-5400
(800) 346-0090

Reader Service No. 323

DeluxePaint II

Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
(415) 572-2787
(800) 562-1112
\$99.95

Reader Service No. 324

816/Paint

Baudville
5380 52nd Street S.E.
Grand Rapids, MI 49506
(616) 698-0888
\$75

Reader Service No. 325

The Graphics Magician

Polarware
1055 Paramount Parkway
Suite A
Batavia, IL 60510
(312) 232-1984
(800) 323-0884
\$39.95

Reader Service No. 326

The Graphics Studio

Accolade
20813 Stevens Creek Blvd.
Cupertino, CA 95014
(408) 446-5757
\$59.95

Reader Service No. 327

Print Shop Companion

Broderbund Software
17 Paul Drive
San Rafael, CA 94903-2101
(800) 527-6263

Scannit

JED Design
3300 Central Ave. S.E.
Canton, OH 44707
(216) 484-1834
\$219

Reader Service No. 328

The Stitch Grapher

CompuCrafts
Box 326
Lincoln Center, MA 01773
(617) 259-0409
\$89.95

Reader Service No. 329

ThunderScan

Thunderware
21 Orinda Way
Orinda, CA 94563
(415) 254-6581
\$219

Reader Service No. 330

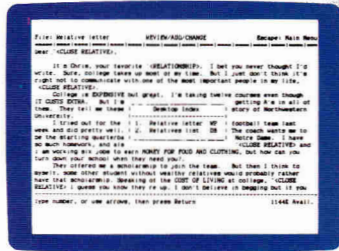
Video Title Shop with MicroPainter Plus

Datasoft
19808 Nordhoff Place
Chatsworth, CA 91311
(800) 245-4525
(800) 562-1112 (CA)
\$29.95

Reader Service No. 331

**The
best-selling
Apple
software
just got
the ultimate
upgrade.**

Its own c



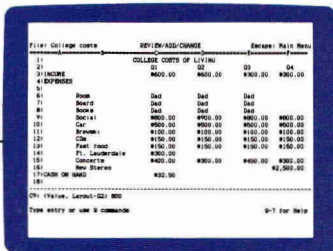
AppleWorks' powerful word processor has headers, footers and on-screen page breaks. Now, mail merge integrates database information with text.

Presenting Claris™ 1.0.
We used to be a part of Apple®
Computer. Now we are on our own.
New stationery. New phones. New
offices. The whole bit.

And here we are, while the halls are
still filled with the scent of new carpet,
introducing a more powerful version of
the best-selling Apple program in history.
Or should we say, the three best-

selling Apple programs in
history. Because AppleWorks® already
included a sophisticated word processor,
full-function spreadsheet and heavy-duty
database manager in a single, easy-to-use
integrated package.

ompany.

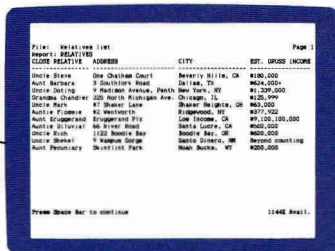


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COLLEGE COSTS OF LIVING			
	01	02	04
1) INCOME			\$300.00
2) EXPENSES			
3) Room	Dad	Dad	Dad
4) Board	Dad	Dad	Dad
5) Books	Dad	Dad	Dad
6) Social	\$800.00	\$900.00	\$800.00
7) Car	\$800.00	\$800.00	\$800.00
8) Travel	\$100.00	\$100.00	\$100.00
9) Cdn	\$100.00	\$100.00	\$100.00
10) Food	\$150.00	\$150.00	\$150.00
11) Pt. Laundry	\$800.00	\$800.00	\$800.00
12) Concess	\$800.00	\$800.00	\$800.00
13) New Stereo			\$2,500.00
14) CHGR ON HAND	\$32.50		

File: Print: Layout: Quit: Help
Press Enter or use a command 9:17 am Sat

Without swapping disks, AppleWorks jumps to its powerful spreadsheet for heavy-duty number crunching.



File: Initialize List Page 1

NAME	RELATIVE	ADDRESS	CITY	EST. GROSS INCOME
George Stone	One Chelsea Court	Beverly Hills, CA	\$150,000	
Pauli Metzler	3 Oaklawn Road	Orlando, FL	\$200,000	
George Dooling	9 Madison Avenue	Paris, New York, NY	\$1,200,000	
Franklin Chandler	225 North Michigan Ave.	Chicago, IL	\$125,000	
George Park	87 Shaver Lane	Shaker Heights, OH	\$80,000	
Paula F. Frazier	62 Westmont	Princeton, NJ	\$175,000	
Paul G. Gagnon	Ervington #15	San Francisco, CA	\$1,100,000	
Paula J. Corbett	60 Van Ness	San Francisco, CA	\$400,000	
George Rich	1120 Beverly Hill	Beverly Hills, CA	\$600,000	
George Stewart	14 Maple Street	South Orange, NJ	Second counting	
Paul Pennington	26-1115 Park	Manhasset, NY	\$200,000	

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The Apple II in Business:

YOUR SILENT PARTNER

Give your Apple II that corner office—thousands of Apple fans are using their IIs to run small firms. The Macintosh doesn't have a corner on the business market, and neither does Big Blue, as the following success stories attest.

by Pat O'Dell, Associate Editor

The [Apple] II continues to be the best-kept secret in the industry," says Bill Larson, Apple Computer's group manager of consumer marketing. Apple owners agree—they know exactly how much their machines can do for them. And a growing number of Apple owners are bucking the traditional wisdom that Apples aren't powerful enough for business use.

TAILORING APPLEWORKS

Jim Gochnauer runs a part-time operation managing mailing lists and bulk mailings for local firms from his home. His partner is his Apple IIe. With five IIs in his classroom, he also teaches accounting and office practices at a small parochial high school in Pennsylvania.

Gochnauer bought an enhanced IIe because, as he explains, "everything we needed to do we could do on an Apple." The local elementary school also has Apples, so Gochnauer's son borrows the computer at home, too. In addition, Gochnauer says, the Apple's price, when compared with those of other systems, was hard to beat.

Gochnauer has also developed a complete accounting system with **AppleWorks**. He uses the database to calculate period-to-date totals and summaries and compare them with his spreadsheet budget; he also prints checks for payroll and accounts receivable from the database. He uses his accounting system to keep the books at his son's school.

What's next? Gochnauer is currently developing an "educational administrative" program in Applesoft BASIC that will calculate student grade-point averages and weigh automatically such factors as a course's credit value. He thinks the program will sell well. "The people who have seen it are very excited about it," he notes.

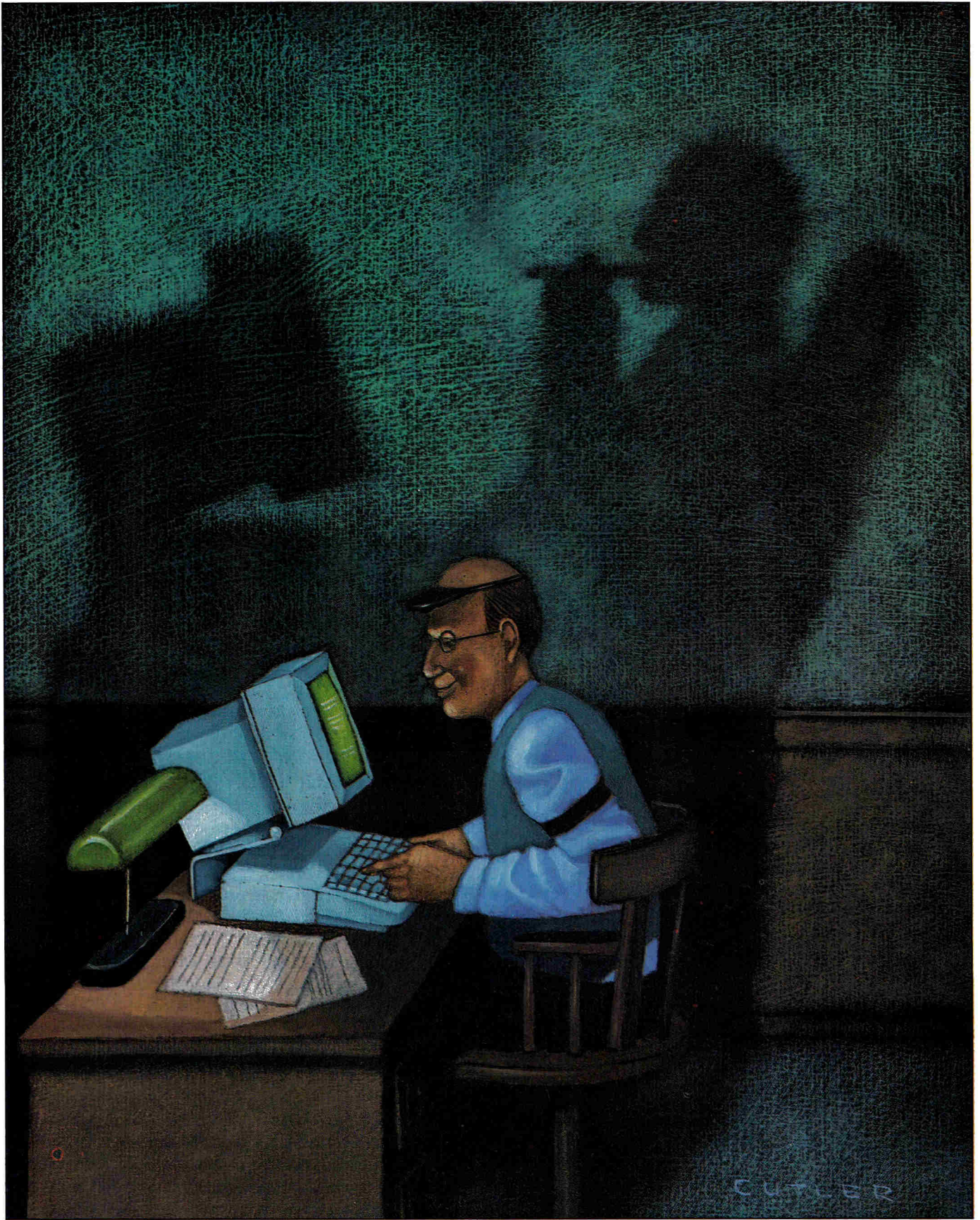
EASY INTERFACE—BUT IT'S NO TOY

Bob Zimmerman, national-accounts manager for a large food distributor, has also discovered the Apple II's business power. He uses a GS with a 20-megabyte hard drive and **AppleWorks** to keep track of his clients, notify them of special sales, and send out proposals. In addition, he owns several franchised sandwich shops and uses his system to track sales and produce targeted mailings to potential customers.

Zimmerman sees no incongruity in his choice of an Apple II for serious business. "I'm amazed at what this little machine will do," he says. "I [use] a mainframe at work and I get frustrated at how slow it is."

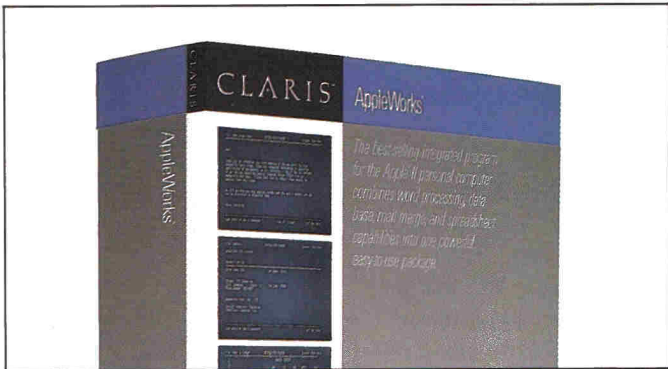
When Zimmerman decided to buy a computer, he sought advice from a number of dealers. "They kept steering me toward the IBM," he recalls, when they learned he had 10K worth of names to plug into a mailing list.

One visit paid off, though. Zimmerman brought his 7-year-





Manzanita's BusinessWorks, a series of integrated accounting programs, provides sophisticated functions yet remains easy to use.



Clarix Corporation's popular AppleWorks package offers an integrated word processor, database manager, and spreadsheet that many small-business owners find versatile enough to meet all their software needs.

growing market. Apple sees tremendous opportunity there," Pavela says. "And we plan on addressing it more than we have in the past."

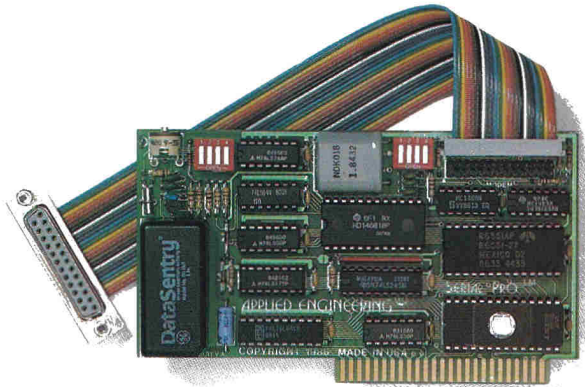
This new market often blurs the line between home and office and calls for what Pavela terms a "multifunctional" computer. Pavela notes that when parents and kids want to share a computer, the Apple II is the best choice—buying a II makes sense "if [customers] have kids *and* they want to run a business."

SLOW GROWTH

Software manufacturers are offering a mixed message about the Apple II's fate in the small-business world, however. Sales of packages already on the market remain strong, but few companies are developing new Apple products for the small-business user.

Manzanita Software, for example, doesn't intend to add to its line of accounting software for the Apple II. Jerry Jewell, Manzanita's vice president of sales and marketing, says the Apple II "is still an excellent business machine," but adds, "We're not going to be doing a lot of extensive development for the Apple II market." That decision is less surprising when you realize that Manzanita dropped the price of BusinessWorks by almost

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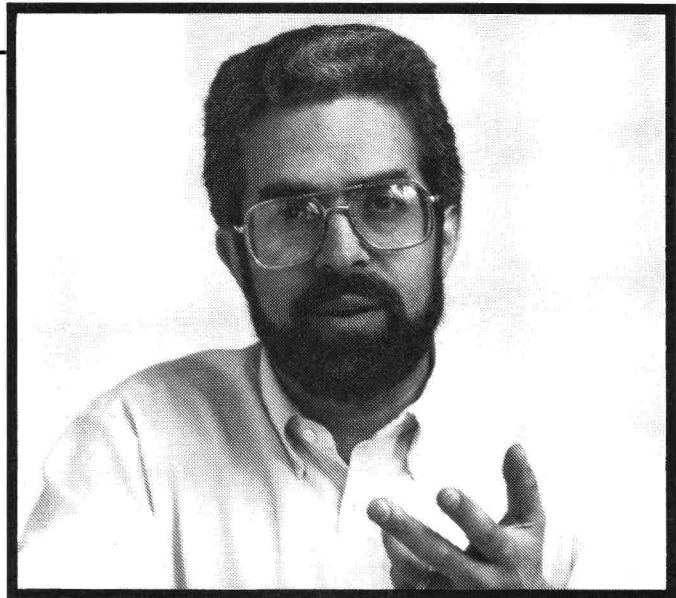
Let's face it. AppleWorks is a great program, but as a data base manager it leaves a lot to the imagination. Like, imagine more than 30 categories per record. (Lots more!) And using up to 30 screens in the single record display. Or scrolling left and right to see more fields in a multi-record display. And entering up to 250 characters per category.

ACE REPORTER

Imagine printing reports in almost any form: multiple-across mailing labels, columnar reports, mail-merge letters. Even complex forms like school or medical records or invoices. Reports that include free-form text, and printstyles like bold, large and underline, and every easy-to-use formatting option you're ever likely to need.

FORMULAS FOR SUCCESS

Imagine calculated categories—lots of them. Not just in reports, but within the records themselves, too. Using multiple levels of parentheses, and date math and string comparisons and other functions. Imagine reports with calculations based on subtotals and totals. Reports that can even group records by week, month, calendar quarter or year.



Barney Stone

Designer, DB Master

RELATIONAL? SENSATIONAL!

And if that's not enough, imagine a *relational* data base manager. One that does automatic look-ups and posting. Imagine an invoice file that looks up customer names and addresses in a customer file, then descriptions and prices in an inventory file, then posts quantities shipped and back-ordered back to the inventory file, and finally posts the amount due to the appropriate record in the customer file. Imagine doing this easily, without any programming.

RECOMBINANT DBM

Is your AppleWorks data split into several files? Imagine combining them into one convenient file. Do the AppleWorks files have different categories, so each record in one file has a corresponding record in the other file? And they really should have been a single record, but there were too many categories? Imagine combining them properly, so the information that belongs together is in one record.

DREAM ON!

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DB Master vs. AppleWorks

Features and Maximum Capacities	AppleWorks	DB Master Version Five	DB Master Version Five Professional
■ RELATIONAL IMPORT (look-up) and EXPORT (posting) RULES	No	No	YES!
■ fields (categories) per record	30	200	200
■ max. record length (bytes)	1,024	2,000	2,000
■ screens per record	1	30	30
■ characters per field (category)	76	250	250
■ RAM or disk based?	RAM	Disk (1)	Disk (1)
■ passwords for file security	No	No	Yes
■ required fields	No	No	Yes
■ field validation rules	No	No	Yes
■ criteria per search or select	3	20-50	20-50
■ computed values within records	None	99 (2)	99 (2)
■ computed values per report	3	50 (2)	50 (2)
■ date calculations	No	Yes	Yes
■ field types	3	13 (3)	13 (3)
■ automatic date and time fields	No	Yes	Yes
■ current mon/day/year searches	No	Yes	Yes
■ report formats per file	8	255	255
■ multiple-across mailing labels	No	Yes	Yes
■ forms-style reports	No	Yes	Yes
■ report lines per record	15	255	255
■ calculations based on subtotals	No	Yes	Yes
■ free-form text in reports	No	Yes	Yes
■ print fields and/or free-form text in various printstyles	No	Yes (4)	Yes (4)
■ print simple bar graphs	No	Yes	Yes
■ multiple levels of header and footer lines for reports	No	Yes	Yes
■ include fields in header and footer lines	No	Yes	Yes
■ multiple levels of group subtotals in reports	No	Yes	Yes
■ add and/or delete fields without losing report formats	No	Yes	Yes
■ works with RAM disks	Yes	Yes	Yes
■ copy protected?	No	No	No

(1) up to 50 disks per file; 5 1/4", 3 1/2" or mixed; up to 10 megabytes per file on hard disk
 (2) use + * / > < = <> AND, OR, NOT, SQR, ABS, SGN, INT, MIN, MAX, up to 7 levels of parenthesis, text comparisons, days-between dates, calculated dates, special "Current Date" function, etc.
 (3) text, 3 numeric types, \$/cents, yes/no, date, add date, edit date, add time, edit time, user-defined, label
 (4) underlined, bold, compressed, large, italics and user-defined print styles; depend on printer's capabilities

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50 percent to boost sales in the price-conscious Apple II market.

According to Peachtree's Bill Goodhue, the Apple II, especially the IIGS, is an "ideal machine" for home and small business. "You have a machine that can do everything you need to do," he says, but adds, "We're going to wait [before developing any new Apple II products] and make sure the market we think is going to be there is going to be there."

Why are manufacturers choosing not to develop new software to take advantage of this new market? It's a question many in the industry are asking, even at Apple Computer. Pavela admits that the GS is at a disadvantage to the Macintosh as a business machine because there's no integrated package yet available to take advantage of its capabilities. But that doesn't mean Apple intends to correct the situation. According to Bill Larson, that's something smaller developers should do.

"The GS offers an opportunity to leapfrog AppleWorks technology," he says. "We [Apple] sometimes lag behind the development community in our ability to position the CPU."

Developers don't seem interested, however. According to several industry observers, uncertainty about the size of the new market has contributed to the slowdown. In addition, developers know that few Apple II owners will pay the prices traditionally charged for MS-DOS-based business software.

The whole proposition is becoming less and less attractive to developers. After coming up with a brand-new product or porting a package over from another operating system, vendors have to charge less for it than they can for similar MS-DOS products—as Manzanita discovered.

ADAPTING TO THE II

Great American Software is an exception. The company's first small-business product for the Apple II, a computerized version of the Dome accounting system, available for four different machines, has sold approximately 20,000 copies in its first year. According to President Roger Melanson, half those sales are the II version. Now Melanson says the company is considering a second Apple II small-business package.

What's the secret of this company's achievement in Apple II small-business product development? Great American computerized an existing accounting system, a simple single-entry system with a basic chart of accounts already set up. The manual version, sold in office-supply stores, was already popular with small-business users—people like Sharon Roberts, a Tennessee bookkeeper. She was able to use Great American's Apple II version easily without any computer training at all.

And that may be the key to the success of Apple business software—its ease of use. That's exactly what Apple owners were looking for when they bought their computers in the first place—a simple, straightforward way to do what they needed to do.

DO-IT-YOURSELF

What do small-business people think about the Apple II market? Apple owners agree: If you want to use your II for business, you'll have to set up your system yourself. The basic equipment—software and hardware—is out there, but you'll get little support from dealers. "At the dealer level they don't know anything about computers," Bob Zimmerman states flatly.

Zimmerman has devised his own plan to make sure his equipment is compatible: All his hardware, including his printer, is made by Apple, with the exception of Applied Engineering expansion boards. As for software, he uses only AppleWorks and Pinpoint programs.

Jim Gochnauer says his experience has been better—although, he notes, "what I go into the dealer for is [only] information and pricing on new products." He doesn't look for product support after the sale, and his computers, both at home and at school, have never needed service.

So where does that leave the Apple owner who wants to make his or her work easier with the help of a computer? When it comes to dealers, shop around. The lowest price probably means the least service. Most software companies offer customer-support lines. Electronic bulletin boards, books, magazines, user groups, courses, and seminars are all good sources of information.

Most important, you may find you need less help than you thought you would. The best Apple software, even software designed for sophisticated business operation, is so simple to use you'll be able to answer your questions yourself. ■

Product Information

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Reader Service No. 333

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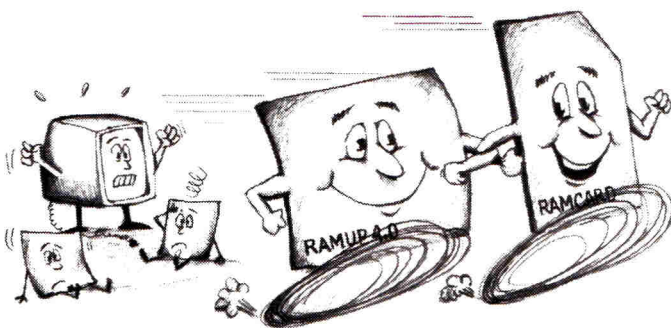
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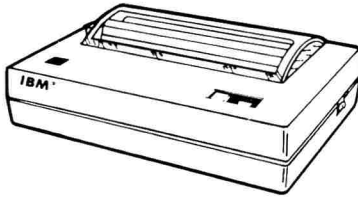
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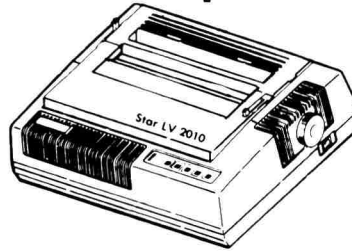
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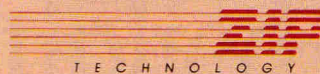
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each one: **FIRST, LAST NAME, STREET, CITY, ST, ZIP, HOME PHONE, BUSINESS PHONE, OCCUPATION, HARDWARE, SIG DATE, STATUS, LICA, and SPARE.**

Check to make sure you've entered every category correctly. (You should have 14.) If one's missing, place the cursor on the category immediately below the spot where the missing one belongs, press OA-I to insert a blank line, type the category name, press OA-Y to delete the dash at the end, and press Return.

Now press OA-S to store the database on disk. AppleWorks advises that you'll go automatically into Insert New Records mode. Press the spacebar or Return, and Record 1 appears with all the categories.

All the members of this SIG live in New York. You can make NY a standard value, and AppleWorks will type it into each record for you. (You can always overwrite an entry with something else.)

Press Return four times to move the cursor to the *ST* (state) category. Press OA-V to bring up the Set Standard Values screen. Type NY and press Return. Now hit Escape to return to Record 1.

Next, enter the information shown in **Figure 1** (except NY, which AppleWorks will enter for you). Press the up-arrow key five times to move the cursor to the *FIRST* category. Type **Karl** and press Return. Type **Barber** and press Return again. Type **82 Berry Hill Lane** and hit Return again. Using **Figure 1** as a guide, type the other entries from *CITY* to *LICA* the same way, pressing Return after each.

Now pause a moment. Notice that AppleWorks converts **12-20-86** to **Dec 20 86**: The word **DATE** in **SIG DATE** tells AppleWorks to turn what you type into a three-character month, one- or two-digit day, and two-digit year. Press Return again to skip past the *SPARE* category, and Record 2 appears, awaiting your entries.

Figure 2 shows the entries in Records 2 through 10. Fill in these records the same way you did Record 1. Where you see NY (the standard entry) or a dash in a category, simply press Return to move past it.

When you're finished, an empty Record 11 should be on your screen. Press OA-S to store the database on disk.

	Record 2	Record 3	Record 4
FIRST:	Adelaide	Carole	Rich
LAST:	Chen	Kendrick	Arnold
STREET:	12 Blanchard Rd	333 Sharon St	1741 Claymore
CITY:	Abner	Port Henry	Bluestone
ST:	-	-	-
ZIP:	11803	11622	11510
HOME PHONE:	516-555-4631	516-555-7317	718-555-6994
BUSINESS PHONE:	516-555-2305	516-555-1212	212-555-9090
OCCUPATION:	Engineer	Photographer	Accountant
HARDWARE:	Apple IIgs	Apple II+	Apple IIe
SIG DATE:	12-14-87	12-25-87	6-21-87
STATUS:	1	1	1
LICA:	No	Yes	Yes
SPARE:	-	-	-
	Record 5	Record 6	Record 7
FIRST:	Robert E.	Steven	Anthony G.
LAST:	Zelaznic	Cohen	Romano
STREET:	3 Hummingbird Hill	P.O. Box 234	2402 Benton St
CITY:	Wren Cove	Harris Place	Abner
ST:	-	-	-
ZIP:	11542	11764	11803
HOME PHONE:	516-555-5776	516-555-0462	unlisted
BUSINESS PHONE:	212-555-8765	same	718-555-4633
OCCUPATION:	Stock Broker	Hardware Sales	Systems Analyst
HARDWARE:	Apple IIc	Apple IIe	Apple IIc
SIG DATE:	4-1-87	5-23-87	4-2-87
STATUS:	1	-	1
LICA:	Yes	Yes	Yes
SPARE:	-	-	-
	Record 8	Record 9	Record 10
FIRST:	Syd S.	Robert J.	Gil
LAST:	Chazen	Nelson	Freeson
STREET:	155 Elm St	32 Albany Dr	110 Moon
CITY:	Floral Park	Standish	Wren Cove
ST:	-	-	-
ZIP:	11004	11050	11542
HOME PHONE:	718-555-9373	516-555-2323	516-555-1234
BUSINESS PHONE:	212-555-0723	516-555-5678	212-555-0078
OCCUPATION:	Customer Rep	Architect	Restaurateur
HARDWARE:	none yet	Apple IIgs	Apple IIgs
SIG DATE:	3-17-88	8-22-87	3-24-87
STATUS:	1	-	1
LICA:	No	Yes	Yes
SPARE:	-	-	-

Figure 2. Entries in Records 2-10 in SIG database.

AppleWorks now brings up the records in the multiple-record screen showing the first five categories. Each column is a uniform 15 characters wide, truncating the street addresses. Using the Layout command gives entries the space they need so that the screen can display the home-phone column.

The cursor should be in the *FIRST* category. Press OA-L to bring up the Change Record Layout screen. Press OA-left arrow four times to reduce the width of the column. Hit the right-arrow key to move to the *LAST NAME* column, and press OA-left arrow four times. Move the cursor to each of the following columns and change their widths the same way:

- STREET OA-right arrow (4 times)
- CITY OA-left arrow (3 times)

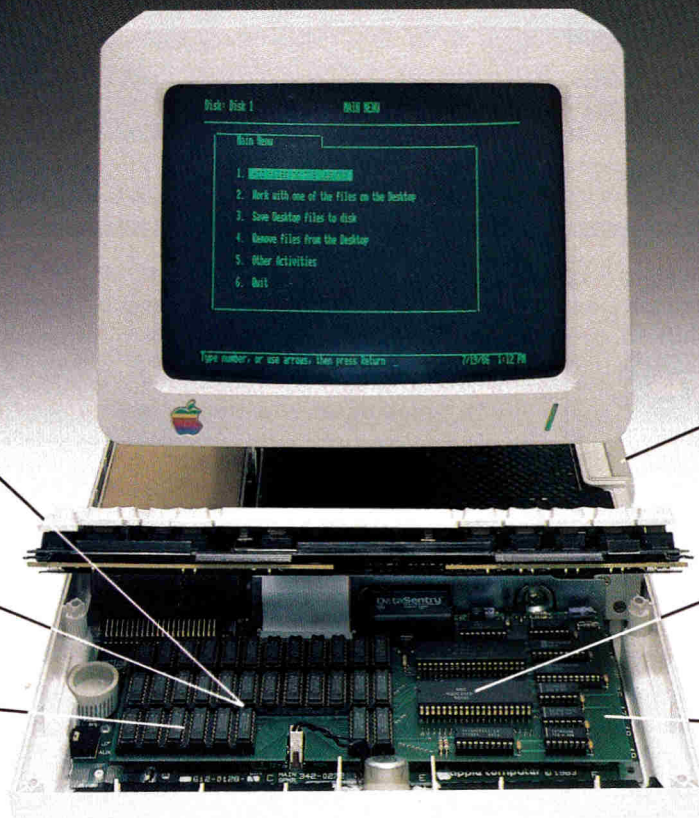
- ST OA-left arrow (13 times)
- ZIP OA-left arrow (9 times)
- HOME PHONE OA-left arrow (3 times)

Now press Escape twice (to exit the Change Record Layout screen and confirm Down, the standard direction the cursor travels in the multiple-record screen). Multiple-record layout returns with all entries nicely spaced.

THREE REPORTS

Figure 3 shows an address and phone list produced by this database. To create its report format, press OA-P to bring up the Report Menu screen. Press Return to confirm a new tables report.

Type **ADDRESS LIST** and hit Return again. AppleWorks now displays the Report Format screen, which is similar to



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the Change Record Layout screen, where you reduced the column widths a few moments ago.

This report contains first and last names, addresses, and phone numbers—in other words, only the first seven categories, so you don't have to shift or delete any. Simply adjust column widths to make room for entries that need more space and reduce the widths of columns that don't need as much.

The cursor is on the *FIRST* category. Press OA-left arrow to reduce its width. Press the right-arrow key to move to the *LAST NAME* column. Press OA-left arrow twice. Move to the *STREET* column, press OA-right arrow seven times, then move to the *ST* column and press OA-left arrow nine times. Proceed to the *ZIP* column and press OA-left arrow six times. Finally, move to the *HOME PHONE* column and press OA-right arrow once.

Now view the report on screen. Press OA-P to start the Print command. Type **2** (or the number that chooses *The screen*) and press Return. Type today's date and press Return again. And here's the report the way AppleWorks will print it. Looks good, but double spacing will make it easier to read. Press Return to go back to the Report Format screen.

Press OA-O to bring up the Printer Options screen. Type **DS** to choose double spacing, and hit Return. Press Escape to return to the Report Format screen. Look again at the report: Press OA-P and hit Return twice. That's better. Press Return or the spacebar to view the rest of the records. Now press Return to go back to the Report Format screen.

It makes good sense to print records alphabetically instead of randomly as you entered them, so place the cursor on the *LAST NAME* category. Now press OA-A to start the Arrange command, and hit Return to confirm *From A to Z*.

Now turn on your printer. Press OA-P to start the Print command. Type **1** (or the number that chooses the printer) and hit Return. Press Return twice to confirm the date and one copy. The printer starts working and here's the address list looking like the one in **Figure 3**. Press OA-S to store everything on disk, which also brings back the multiple-record screen.

File: COMPSIG							Page 1
Report: ADDRESS LIST							4-1-88
FIRST	LAST NAME	STREET	CITY	ST	ZIP	HOME PHONE	
Rich	Arnold	1741 Claymore Ave	Bluestone	NY	11510	718-555-6994	
Karl	Barber	82 Benny Hill Lane	Abner	NY	11803	516-555-6588	
Syd S.	Chazan	155 Elm St	Floral Park	NY	11004	718-555-9373	
Adelaide	Chen	12 Blanchard Rd	Abner	NY	11803	516-555-4631	
Steven	Cohen	P.O. Box 234	Harris Place	NY	11764	516-555-0462	
Gil	Freeson	110 Moon Crescent	Wren Cove	NY	11542	516-555-1234	
Carole	Kendrick	333 Sharon St	Port Henry	NY	11622	516-555-7317	
Robert J.	Nelson	32 Albany Dr	Standish	NY	11050	516-555-2323	
Anthony G.	Romano	2402 Benton St	Abner	NY	11803	unlisted	
Robert E.	Zelaznic	3 Hummingbird Hill	Wren Cove	NY	11542	516-555-5776	

Figure 3. Report 1: List of all records in SIG database, table format.

File: COMPSIG								Page 1
Report: ADDRESS LIST 2								4-1-88
FIRST	LAST NAME	STREET	CITY	ST	ZIP	HOME PHONE	BUSINESS PHONE	OCCUPATION
Rich	Arnold	1741 Claymore Ave	Bluestone	NY	11510	718-555-6994	212-555-9090	Accountant
Karl	Barber	82 Benny Hill Lane	Abner	NY	11803	516-555-6588	718-555-7200	Materials Manager
Syd S.	Chazan	155 Elm St	Floral Park	NY	11004	718-555-9373	212-555-0723	Customer Rep
Adelaide	Chen	12 Blanchard Rd	Abner	NY	11803	516-555-4631	516-555-2305	Engineer
Steven	Cohen	P.O. Box 234	Harris Place	NY	11764	516-555-0462	same	Hardware Sales
Gil	Freeson	110 Moon Crescent	Wren Cove	NY	11542	516-555-1234	212-555-0078	Restaurateur
Carole	Kendrick	333 Sharon St	Port Henry	NY	11622	516-555-7317	516-555-1212	Photographer
Robert J.	Nelson	32 Albany Dr	Standish	NY	11050	516-555-2323	516-555-5678	Architect
Anthony G.	Romano	2402 Benton St	Abner	NY	11803	unlisted	718-555-4633	Systems Analyst
Robert E.	Zelaznic	3 Hummingbird Hill	Wren Cove	NY	11542	516-555-5776	212-555-8765	Stock Broker

Figure 4. Report 2: Smaller character size fits two more categories into the records report.

Because arranging has a universal effect, it sorts these records alphabetically, too.

Playing around with column widths, character size, and margins can squeeze more categories into a report. For example, you can print two more categories—business phone and occupation—by choosing a 15-pitch character, as shown in **Figure 4**.

You can duplicate the format of the address list, then modify it to produce this report, so press OA-P, type **4**, and press Return twice to select the report named *ADDRESS LIST*. To make this report *ADDRESS LIST 2*, hold down the right-arrow key until the cursor is at the last character, then press the spacebar and type **2**.

Now adjust column widths: Move the cursor to the *BUSINESS PHONE* category and press OA-right arrow twice. Move to the *OCCUPATION* category and press OA-right arrow five times.

Next, press OA-O to bring up the

Printer Options screen. Type **CI** (*Chars per Inch*) and press Return. Type **15** and hit Return again. Now reduce the margins a bit: Type **LM** (*Left Margin*) and press Return. Type **.2** and hit Return. Now type **RM** (*Right Margin*), press Return, type **.2**, and hit Return again. Press Escape to return to the Report Format screen.

You're all set to print the list again, so be sure your printer is turned on. Now press OA-P and press Return three times.

When you want to print every category but no amount of squeezing will fit them all on one page, you can print in a labels format as **Figure 5** shows. Here, each record looks like the single-record screen.

Press Escape to return to the Report Menu. Type **3** to select *Create a new "labels" format* and press Return. Type **LABELS LIST** (the name of this report) and hit Return again. AppleWorks brings up the categories in the Report Format screen.

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AppleWorks Q&A

Expanding Dates

On New Year's Day, 1988, I found that my Applied Engineering Time-master H.O. II card no longer functioned to date/time stamp my AppleWorks files correctly. I'd assumed that the clock would work forever. But to my chagrin I read on page 17 of the AE manual that it'll operate only through 1987! Do you know of any way to extend that time limit?

William Clancy
Newark, DE

Expanding space and time seems to be the order of the day. The limit appears to reside in ProDOS 1.1.1's code, although the interaction between ProDOS and the various clock devices available for the Apple II does vary. Some will stamp the correct date on into 1988, some won't.

The simplest fix is to upgrade ProDOS to version 1.2 or later. (Current version is 1.4.) To do so, use any system-utilities disk and replace the file PRODOS on your AppleWorks Startup disk with a PRODOS of later vintage. Applied Engineering (P.O. Box 798, Carrollton, TX 75006, 214-241-6069) also offers a software patch to extend the timelimit imposed by the Time-master H.O. card.

—William Kennedy, Ph.D.,
Technical Editor

Do your formulas get mixed up when you rearrange rows of numbers that include column-total calculations? Expand your @SUM range to include an additional row on both ends of the column. For example, use @SUM(C58..C68) to calculate the total for numbers in rows C59..C67. Then rearranging the values in numerical order won't alter the sum.

—Jim Hoffman, Hill City, SD

Got an AppleWorks question? Write to AppleWorks Q&A, c/o inCider, 80 Elm Street, Peterborough, NH 03458.

Hints

Activate your data-disk drive to clean the heads: Select "add files to the Desktop" and hold down the return key. The current disk will continue to spin for as long as you want.

—Frank Lichtenstein, Houston, TX

Solid-Apple



Open-Apple is Tom Weishaar's monthly newsletter for knowledgeable Apple II users. It's thin but packed tight with Apple II lore, humor, letters, tips, advice, and solutions to your problems. Compared to other Apple II publications, **Open-Apple** has the highest new-idea-per-issue ratio, the clearest writing, the funniest cartoons, the longest index, the only warranty (all your money back if you're not satisfied), and it takes up the least shelf space.

II cue #43

The largest tourist center in Kansas is the Kansas Cosmosphere and Space Center in Hutchinson. It's a Smithsonian-quality space museum with a number of computerized exhibits, including three flight simulators big enough to sit in that are used by kids who attend the museum's summer camp, the Future Astronaut Training Program. Every computer in the museum is an Apple II. For more, see "To the stars through the Apple II" in the January 1988, **Open-Apple**, page 3.89.

From our fan mail:

Appendix D provides a bibliography of the most useful books for AppleWorks users...One periodical in that bibliography is all but indispensable...The newsletter contains no advertising, no nonsense, and incredibly useful information. It focuses on standard features of the Apple II, including ProDOS and AppleWorks. **Open-Apple** asks the right questions and tracks down the important bugs.

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Rich Arnold 1741 Claymore Ave Bluestone NY 11510 HOME PHONE: 718-555-6994 BUSINESS PHONE: 212-555-9090 Accountant Apple IIc SIG DATE: Jun 21 87 STATUS: 1 LICA: Yes	Syd S. Chazan 155 Elm St Floral Park NY 11004 HOME PHONE: 718-555-9373 BUSINESS PHONE: 212-555-0723 Customer Rep none yet SIG DATE: Mar 17 88 STATUS: 1 LICA: No
Karl Barber 82 Berry Hill Lane Abner NY 11803 HOME PHONE: 516-555-6588 BUSINESS PHONE: 718-555-7200 Materials Manager Apple IIc SIG DATE: Dec 20 86 STATUS: 1 LICA: Yes	Adelaide Chen 12 Blanchard Rd Abner NY 11803 HOME PHONE: 516-555-4631 BUSINESS PHONE: 516-555-2305 Engineer Apple IIgs SIG DATE: Dec 14 87 STATUS: 1 LICA: No

Figure 5. Report 3: Records in label format.

PRINTING PROCEDURES

To get an idea of how the first record will look when it's printed, press OA-Z. AppleWorks now replaces the category names with the entries. Many entries—name, address, occupation, and hardware—leave no room for confusion. Others—home phone vis à vis business phone, the number 1, Yes, and date—can use further explanation.

Press the down-arrow key six times to move the cursor to the first phone number. Press OA-V and the category name appears before the number, showing that AppleWorks will print both the category name and entry. Press the down-arrow key to move to the second phone number, and press OA-V. The list will now contain this category name, too. Press OA-Z to return to the categories. Move the cursor to each of the others—SIG DATE, STATUS, and LICA—and press OA-V.

Now place the cursor on the SPARE category. Press OA-D twice to delete it and the blank line that's left behind. You need an empty line to separate each record from the next, so place the cursor on the FIRST category and press OA-I. Type 2 to choose *A spacing line above cursor position* and press Return. Your screen should now show the message *Each record will print 14 lines.*

You'll soon be suppressing the file header, so enter a title for this report:

Press OA-N to bring up the Change Name screen, then Return to jump the cursor above the double line. Type **BUSINESS & FINANCE SIG—APRIL 1988** and press Return.

Now press OA-O to bring up the Printer Options screen, so that you can increase the left margin to center the list on the page: Type **LM** and press Return. Type **2** and hit Return. Next, suppress the header: Type **PH** and hit Return again. Press Escape.

Now get ready to print. Making sure the printer is turned on, press OA-P, choose the printer, and hit Return twice. And here come the records one after another. Press OA-S to store them.

Next month, you'll pick up from this point to select records for display and printing. ■

Ruth K. Witkin is a consultant in computer applications for business. Her published works include the template disks and handbooks Success with AppleWorks I and II (inCider, IDC Communications/Peterborough), Managing with AppleWorks (Howard W. Sams & Co.), and Personal Money Management with AppleWorks (John Wiley & Sons). Write to her at 5 Patricia Street, Plainview, NY 11803. Enclose a stamped, self-addressed envelope if you'd like a reply.

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APPLEFEST '88 BOSTON

Publishing a Directory

AppleWorks' versatile database and word processor make it easy to spread the word.



by Cynthia E. Field, Ph.D.

All kinds of organizations—from Rotary International to the Friendly Sons of St. Patrick—need to organize and publish membership lists. Fundraising groups, too, including some national political ones this year, maintain lists of contributors they can tap on the shoulder—or on the wallet. In Press Room's first column, we'll look at the simple procedure of putting together a directory that's as attractive as it is informative.

FOR THE RECORD

By her own admission, Dorothy Greene left the ranks of the computer illiterati only recently. Now there's but a remote chance she'll ever go back to her Underwood—she's that proud of her first desktop-publishing venture.

Last fall, Dorothy put an Apple IIc and AppleWorks 2.0 to work on the high-school class-reunion committee she founded with two former classmates from St. Xavier Academy in Providence, Rhode Island. The committee's ambitious goal was not only to organize the class' 38th reunion, but also to publish a directory listing every member of the Class of 1949—268 women in all. Starting from a partial mailing list they'd acquired from the now-defunct school's alumnae archives, Dorothy set up a simple, yet effective, AppleWorks database file she named SX.Mail.List.

Each record in the mailing-list database contains categories for essential information: Last Name, First Name, Maiden Name, Street, City, State, Zip, and Telephone. Ever the schoolteacher, Dorothy even included a category called Attendance. As the years go by, the committee can keep track of classmates who come to each reunion. (The committee is now planning to publish a newsletter for interested alumnae. But that's another column. . . .)

An open-ended Comments category helped Dorothy keep track of classmates who planned to attend the 1987 reunion. Along with the exact head count needed for the restaurant manager, Dorothy wanted a ready reference for women who called to ask whether their former school chums were going to attend.

Dorothy could have added still other undefined fields by labeling each with some symbol such as an asterisk and renaming the field whenever she needed to do so.

FUN WITH QWERTY

To no one's surprise, the tedious part of Dorothy's project was data entry, as she transcribed all her gathered information from paper to electronic form. Not a hacker by nature, Dorothy worked in relatively short spurts: Four one-hour sessions were all it took to computerize her pre-high-tech-era classmates.

Having heard horror stories about vanishing data and not wanting to retype all the information (that's why she turned to the Apple IIc in the first place), Dorothy was careful to save the growing database file after filling in every dozen or so records.

AS YOU LIKE IT

Following the guidelines suggested in *Using AppleWorks*, the reference included in the program package, Dorothy set up a mailing-label record appropriately called *Labels*. She already knew she'd be using Avery-brand one-across continuous-form labels. Each label readily accommodates three or four lines of pica (10-point) or elite (12-point) type. (For a list of materials used in this project, see the sidebar, "Publisher's Toolbox.")

Dorothy soon realized she could make her mailing-label report setup perform double duty by modifying it into a new report called *Labels & Phone*. (See **Figure 1**.) She then attached an address/phone-

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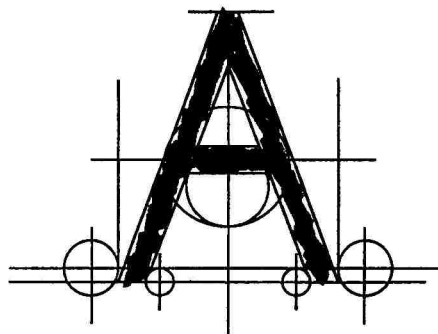
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number label to each reunion invitation letter to simplify the recipient's correction. (This also eliminated having each classmate print her name and address on the attendance-response "coupon" printed at the end of the letter.)

Dorothy appreciated AppleWorks' flexibility when it came time to print her letter: All she had to do was Escape back to the AppleWorks main menu, then add a new word-processing file (from scratch) to the desktop. She had already drafted the invitation letter by hand, so she had little editing to do on the Apple IIc.

Formatting the response coupon at the end of the letter was easy, too—pressing the dash and the space-bar keys alternately (dash, space, dash, space, and so on) to create the "cutting" line. Then she used the dash, the underline, and the vertical-line keys to create the check-off boxes. (If you like, you can use the open-and closed-bracket keys instead to create a "ballot box"—like this [])

Once she formatted her letter, Dorothy invoked the AppleWorks Open apple-K command to see whether everything fit on one page. Working within the constraints of an exceedingly modest budget and not wanting to incur the expense of duplicating a second page, Dorothy experimented with the letter and the response coupon until everything fit on a single page.

For example, Dorothy chose not to set up the return-address information in full block style with one line under another as she customarily does for regular correspondence. Instead, she used the Open apple-O CN option to center the letterhead and the Open apple-O CI (characters per inch or cpi) option to switch to elite (12 cpi) type size for the body of the letter.

When the letter was acceptable, Dorothy and the committee members signed their names and took the original to a local copy center. AppleWorks 2.0 includes mail merge, but enabling it meant running the noisy ImageWriter II printer in NLQ (near-letter-quality) mode for what might seem an eternity. To save her eardrums and the ImageWriter's print-head, Dorothy opted to duplicate the letter at a nearby Kinko's Copies center.

Figure 1. Print-options setup for labels with telephone numbers.

File: SX.Mail.List	PRINTER OPTIONS	Escape: Report Format	
Report: Labels + Phone			
-----Left and right margins-----			
PW: Platen Width	3.5 inches	-----Top and bottom margins-----	
LM: Left Margin	0.2 inches	PL: Paper Length	1.0 inches
RM: Right Margin	0.2 inches	TM: Top Margin	0.0 inches
CI: Chars per Inch	10	BM: Bottom Margin	0.0 inches
		LI: Lines per Inch	6
Line width	3.1 inches	Printing length	1.0 inches
Char per line (est)	31	Lines per page	6
-----Formatting options-----			
SC: Send Special Codes to printer		No	
PD: Print a Dash when an entry is blank		No	
PH: Print report Header at top of each page		No	
OL: Omit Line when all entries on line are blank		Yes	
KS: Keep number of lines the Same within each record		Yes	
-----Type a two letter option code		-----948K Avail.	

Along with the letter, Dorothy had a list of "missing classmates" generated from the AppleWorks database file. She used the Open apple-R function to search for all classmates whose address category was blank.

RSVP

Dorothy printed the two sets of labels on the ImageWriter II, and duplicated the invitation letters and list of "missing" classmates at Kinko's Copies. Back at her dining-room table, she set up an assembly line that would have made Henry Ford proud. She selected each four-line label (the one with the phone number as well as the alumna's name and address) and attached it to the bottom of the invitation letter. Next she applied the address labels to the envelopes. Dorothy kept letters and envelopes in order, so matching was easy when it came time to fold the letter in thirds and insert it and a "missing classmates" list into its companion envelope.

Dorothy then mailed the reunion invitation letters in envelopes already pre-printed with her return address.

Alternatively, she could have used the AppleWorks Open apple-R database function to select only her record, then print the Labels report and coax the ImageWriter to make nine identical return-address labels at a time. Instead of sitting at the Apple and pressing keys to generate batches of nine labels, Dorothy could have used a macro program to automate this process.

As response coupons were returned, Dorothy kept track with paper, pencil, and a spiral notebook. Even though she made a backup disk of her database, Dorothy was still wary of her electronic file box.

When she accumulated a half-dozen or more responses, Dorothy booted up AppleWorks and added her database file to the Desktop. Using the Open apple-Z (Zoom) command, she toggled back and forth between multiple-record and single-record layout. This process made it a snap to locate a classmate's record, zoom in on it, make corrections/additions, and type a Comments field code (Y for yes, N for no, M for maybe).

REACH OUT AND . . .

With the reunion date drawing near, the committee grew nervous that a number of response coupons hadn't come back. So they called in AppleWorks as a stress reducer.

Using the Open apple-R command, Dorothy queried AppleWorks to locate all alumnae records in which the Comments field "is blank." She then used Open apple-D in the report-format screen to delete all categories except name, city, state, and telephone number. After dividing the list, each committee member contacted classmates living in her local calling area and volunteered to telephone selected long-distance alumnae. (See Figure 2.)

COUNTDOWN . . .

As reunion day approached, Dorothy updated the database continuously. She set up a report format called Directory to

Figure 2. Calling record for final telephone follow-up of nonrespondents.

```
File: SX.Mail.List          REPORT FORMAT          Escape: Report Menu
Report: Calling
Selection: Comments is blank
```

-----		-----				
--> or <--	Move cursor	Q-J	Right justify this category			
> Q <	Switch category positions	Q-K	Define a calculated category			
--> Q <--	Change column width	Q-N	Change report name and/or title			
Q-A	Arrange (sort) on this category	Q-O	Printer options			
Q-D	Delete this category	Q-P	Print the report			
Q-G	Add/remove group totals	Q-R	Change record selection rules			
Q-I	Insert a prev. deleted category	Q-T	Add/remove category totals			
-----		-----				
Last Name	First Name	Maiden Name	City	State	Telephone	L
-A-----	-B-----	-C-----	-D-----	-E-----	-F-----	e
Dupre	Dolores	Albanese	Hometown	RI	XXX-XXX-XXXX	n
Adams	Mary	Allard				7
Gauthier	Jean	Allegretti	Hometown	RI	XXX-XXX-XXXX	8
-----		-----		-----		-----
Use options shown above to change report format					948K Avail.	

include all categories of information except Attendance and Comments. Keeping in mind the group's limited budget, Dorothy printed the directory listings single-

spaced and in a condensed print size (17 cpi). She adjusted column widths and margins so that each listing took up exactly one line.

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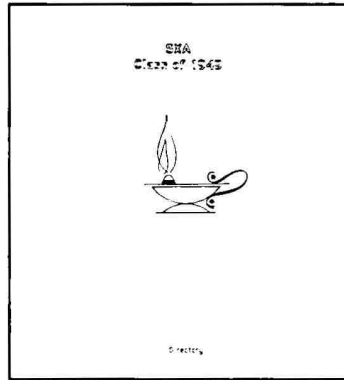
WANTED

JUDGING A BOOK BY ITS COVER

By now, Dorothy Greene was becoming a more confident desktop publisher. She wanted a low-budget, but appealing, cover for the directory.

Recognizing AppleWorks' limited number of type styles, Dorothy turned to MultiScribe for the directory's cover. After experimenting, she opted for the Outline font for the title (SXA Class of 1949) and the default font for the word "Directory," which she placed at the bottom of the page.

To enhance the cover's visual appeal, Dorothy added a picture of the school symbol—the lamp of knowledge. Conceding that she's no artist, Dorothy wasn't attracted to drawing the symbol from scratch with a paint or drawing program. She took the easy, but no less effective, way out: photocopying the symbol from



a page in her high-school yearbook.

Using scissors and a glue stick, she positioned the symbol on the dummy title page. After photocopying the page, however, she could see a line around the picture where it had been glued. She then used Just for Copies, an opaquing fluid that comes in a little bottle with built-in brush applicator, to "paint over" any un-

wanted lines and flyspecks. The original title page was suitable for copying onto blue card stock. (SXA's colors were blue and white.)

RETURN TO KINKO'S

Two days before the Big Day, Dorothy returned to Kinko's Copies and requested 75 copies of the directory—one for each classmate who'd be attending, one for each who wouldn't attend but wanted a directory mailed, and a few extras—just in case a few unexpected alumnae showed up at the last minute.

Dorothy then organized a directory assembly line around her dining-room table. The copy center collated the five pages of the directory, but she had to add the blue card-stock sheets (the printed cover and the back). After binding each directory with three staples evenly spaced

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along its spine, Dorothy had her finished product.

WHAT? ME PUBLISH?

You don't have to be "into" high-school reunions to clone Dorothy Greene's protocol for creating your own directory. You don't need AppleWorks and MultiScribe either: Use any word processor, flat-file database manager, and printed clip art. (Don't "lift" copyrighted art without permission of the owner or artist, though.)

With a directory in the hands of club members, sales associates, or the clergy, there's unlimited potential for reaching any audience. When Ann Egan Kaminski (St. Xavier's Class of 1949) picked up her directory, she quipped, "This really makes you want to get in touch with people." Isn't that what publishing is all about? ■

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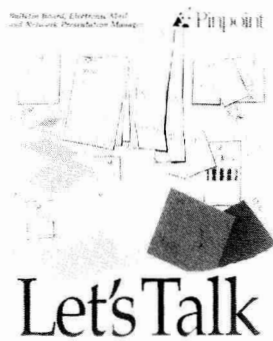
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Puzzles and Potpourri

What's in a word? A lot of fun and games—and the chance to use your Apple to expand your creativity!



by Cynthia E. Field, Ph.D.

This column's never at a loss for words! Last time we explored the wide variety of Apple II word games ("Apple Word Play," February 1988, p. 84); this month, let's take a look at more creative products for designing and printing your own crossword, word-search, and jumbled-word puzzles.

SOME TEMPORARY BAD NEWS

In preparing this column, I tested a half-dozen puzzle-generating programs, including buggy versions of **Crosswords** and **Wordzzsearch** from MindPlay and **Puzzles and Posters** from MECC. Although they're inherently good products and basically well designed, the versions I used either failed to format a data disk properly, froze during a work session, or crashed halfway through printing.

By now, corrected versions may be available, but I'm not comfortable recommending the products yet because of the frustration I encountered using them. (Remember—I have "standard" hardware—all genuine Apple!) Incidentally, problems occurred with both the GS and the IIc.

SOME GOOD NEWS

I am pleased to recommend the following three products: **Crossword Magic** and **Wordmaze** from Mindscape and **Jumblezzz** from MindPlay. All three puzzle generators let you use any word list you want. The programs do the hard work of arranging the words in a puzzle or maze or scrambling the letters that make up the word.

These three products are easy to use (no commands to learn) and require only 48K and one disk drive. All include samples on disk you can either solve on screen or print and solve with a pencil (and eraser?). And you can save all your puzzles for playing, editing, or printing at a later date.

A SOFTWARE GOLDEN OLDIE

If ever there were a software classic, it's **Crossword Magic!** This program was a great success in the "Computers for Kids" classes I taught during the early 1980s.

The "kids," aged 6–18, loved the program's flexibility and ease of use. Topics and level of difficulty varied depending on the child's age. Little ones, who needed more assistance than high schoolers, liked to make puzzles about animals; they'd write descriptive clues about an animal or the sound it made.

Older kids had broader vision: They chose topics ranging from famous people in history to famous people in rock! Depending on whether the subject was George Washington or Michael Jackson, clues cited accomplishments or song titles.

Crossword Magic retains its original flavor, though it's been improved over the years. The program supports a wide range of dot-matrix printers, including the **ImageWriter II**. It worked fine on my GS, and I've used it with equal success on the **II Plus**, **IIe**, and **IIc**.

Mindscape offers add-on disks with predesigned puzzles in science, reading, language arts, spelling, social studies, and mathematics at only \$14.95 each.

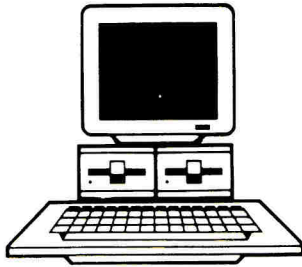
If you own only one puzzle-generating program, it should be **Crossword Magic**. It's that good—and it's that versatile.

WORD-SEARCH PUZZLES

Wordmaze from **Mindscape's Learning Well** series is another open-ended, flexible program. With this product, you type in a series of words, and the program generates word mazes.

Word-search puzzles are easy to create even for little children because they don't have to type in any clues. Just type the words you want (friends' names, favorite sports, or spelling words) and the program does the rest.

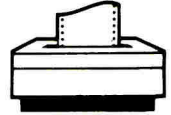
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Wordmaze has a timed-game option, so you can "play" your puzzle right on screen—a handy feature if you don't yet own a printer. If you do own one, your child will delight in being able to print his or her puzzle to share with friends and classmates. Children can create a small booklet of word-search puzzles with various themes to give as gifts to their noncomputing playmates.

Long ago, I discovered **Word Maze**

Maker, a less attractive, less flexible—but still workable—public-domain word-search-puzzle generator. I used it with an Epson printer. If you're looking for a low-budget, bare-bones puzzle program, **Word Maze Maker** will set you back no more than a few dollars.

SCRAMBLED WORDS

Another marvelous way to practice your spelling words—or words revolving

around a particular theme (science, literature, geography)—is with scrambled-word usplzez. I mean puzzles.

Jumblezzz, from MindPlay, offers an easy way to create whole lists of scrambled words and print them—with or without their unscrambled solutions. Kids like to figure out these mixed-up words either on paper or on screen.

Jumblezzz includes a timed slot-machine game: Unscramble the word, pull the handle, and watch the coins pile up. Like other MindPlay products, **Jumblezzz** has a "Challenge Upgrade" feature that lets you adjust a program to match a child's age and skill level.

A NEW HYBRID

I recently discovered a word-puzzle generator that helps you create word-search *and* word-scramble puzzles—and word-match and word/number puzzles, too. It's called **Word Puzzles** and subtitled "for creative teaching," but looks like the kind of product you or your children can use at home. This four-in-one program may lack some features found in the programs described above, but it costs only \$49.95 from Friend-Lee Software.

UPDATE: MATH

In September's Field Trip ("Basic Math Skills," p. 120), I referred to the pop-up graphics-screen calculator in Weekly Reader Software's **Math Word Problems** as a visually appealing, but perhaps pedagogically unsound, feature. I may have been too hasty in my criticism.

According to a report from the National Council of Teachers of Mathematics in the October 1987 issue of *Better Homes and Gardens* magazine, "More than 70 studies have shown that skills improve when kids use calculators with traditional instruction."

For more information, you can send for a free pamphlet, *Using Calculators to Improve Your Child's Math Skills*. Mail a self-addressed, stamped envelope to National Council of Teachers of Mathematics, Dept. BHG, 1906 Association Drive, Reston, VA 22091.

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UPDATE: GEOGRAPHY

Remember how I moaned about the dearth of stimulating geography software in last November's Field Trip ("A World of Information," p. 125)? Well, things are looking up!

Gamco Industries reports that it has improved its **States and Capitals** game; the program's earlier version didn't excite me. According to the company, new editions of its products "load more easily, run faster, and have enhanced graphics." Although the company's announcement arrived too late for me to request a review copy in time for this column, you might contact Gamco directly if you have questions about States and Capitals or the company's other products.

Remember **The Spy's Adventures**? This series from Polarware, in my opinion, is more dynamic and includes better graphics than other geography adventures I've seen—and the price is world-shaking in itself: only \$17.95 per program.

In November's Field Trip, I reviewed the first two "adventures" in Europe and in North America. I recently received **The Spy's Adventures in South America**, and my enthusiasm for this series is undiminished.

After all the jet lag you experienced chasing Dr. X on the first two continents, here you go again! This time your pursuit takes you "from Belize to the Antarctic." Can you imagine preparing for such a trip? You'd have to pack thermal underwear *and* swimsuits in the same suitcase.

Like other Spy's Adventures, this one features excellent color graphics, single or multiplayer options, and cooperative/competitive scenarios.

I've learned recently about another series of global awareness programs from Blue Lion Software. You might call **Ticket to London**, **Ticket to Paris**, and **RSVP** "geography-enrichment" programs—they expose you to history, culture, and language in addition to widely known places.

In **Ticket to London**, you must deduce the name of some famous British person to obtain an airplane ticket for your return home. In **Ticket to Paris**, it's a foot-loose cousin you're trying to find so that

you can bring him back to the USA. In either program, you can play as either a man or a woman. You can play **Ticket to Paris** either in English or in French—an ideal way for students of the language to practice conversational French.

You search the cities for clues by answering multiple-choice questions about history, culture, and geography—but you have only ten days and a limited amount

of money to complete your tour. The program keeps track of your progress, your funds, and your physical well-being—too many jaunts in the famous London drizzle, for instance, and you'll waste time recovering in your hotel.

These programs feature realistic graphics, including likenesses of famous buildings. They provide an excellent means of learning about other coun-

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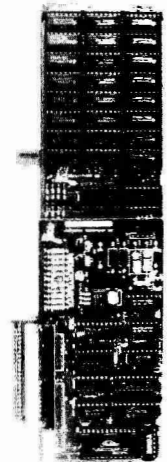
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tries—especially if you're planning an upcoming vacation.

RSVP, a less interactive program, teaches you telephone etiquette and business protocol on an international scale, covering more than 700 possible situations in 18 countries all over the globe. In this pseudo-simulation you pursue neither lost tickets nor errant cousins, but a career that can take you from Indonesia to the Netherlands, from Saudi Arabia to Australia. To win the game, you must achieve a top post—chairman of the board or editor in chief, for instance—in your chosen computer career.

Unfortunately, although the program is graphics-oriented in some respects (people smile and grimace), RSVP is based on question-and-answer format. Sometimes you select one answer from a multiple choice; at other times, you must type in the correct response. When you make a mistake, you usually receive a negative reply ("Goodness, no!" or some equally disheartening retort) instead of helpful hints about the appropriate response.

While the program is a unique storehouse of information that may be hard to find elsewhere, I doubt it would hold a

child's attention for long. See a demonstration before purchasing this program.

NEXT TIME . . .

On our next Field Trip, you'll need to bring your book of prose, poems, and sonnets. Stay tuned. ■

Cynthia E. Field is a free-lance journalist specializing in computer-related topics and is the author of Press Room, in Cider's new column on desktop publishing. Write to her at 60 Border Drive, Wakefield, RI 02879. Enclose a self-addressed, stamped envelope if you'd like a personal reply.

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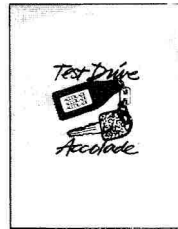
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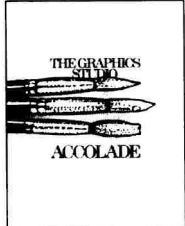
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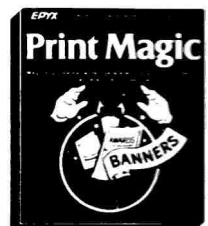


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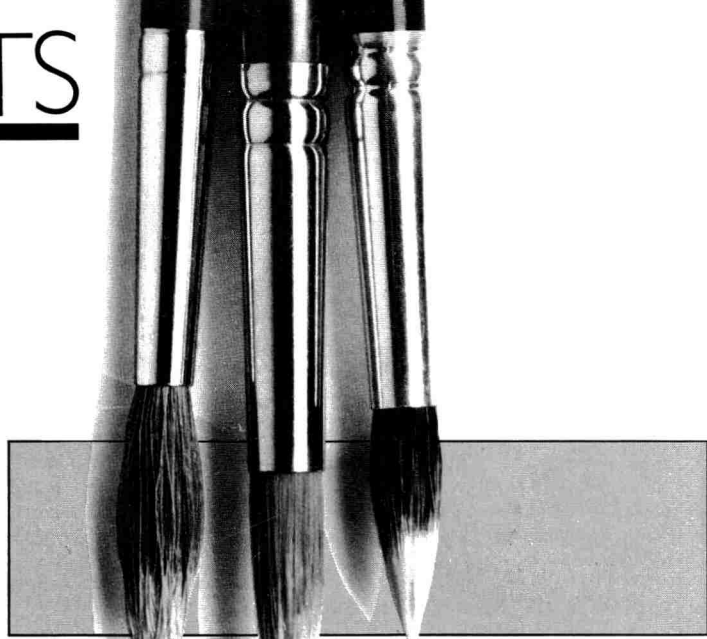
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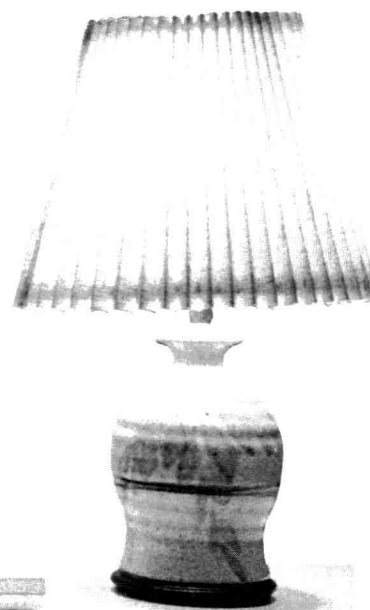
drawings, blend colors, and create mirror images. The Graphics Studio requires an Apple IIGS with 512K and sells for \$69.95 from Accolade, Inc., 20813 Stevens Creek Boulevard, Cupertino, CA 95104, (408) 446-5757. For more information, circle Reader Service number 353.

FULL HOUSE

Fasthouse, a text-based package that runs on any Apple II (including the II Plus), lets you control an X-10 Powerhouse interface more easily with your computer. The program lets you turn **lights and appliances** in your home on and off; it even answers the phone and operates a burglar alarm. Combined with additional hardware and software, the program can talk as well.

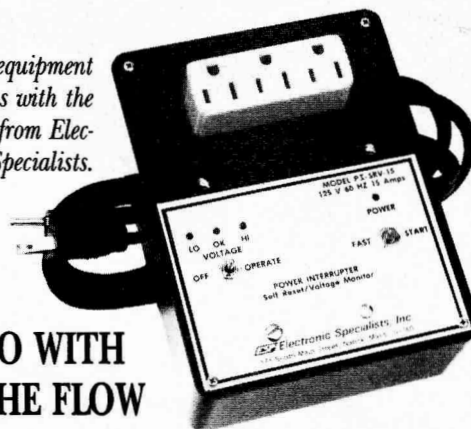
Fasthouse sells for \$19.95, plus \$4 shipping, from KADO Systems, P.O. Box 1115, Pflugerville, TX 78660, (512) 990-2390. You can order the X-10

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MAKING MUSIC

RolandCorp's new **MIDI digital sequencer**, the PR-100, lets you record on two tracks, then mix or merge all data on one track and overdub on the other. Its built-in disk drive lets you save completed songs, and the unit features a user format designed for beginning musicians. You can order it from RolandCorp US, 7200 Dominion Circle, Los Angeles, CA 90040-3647, for \$695. For more information, circle Reader Service number 357.

Product Updates

- Electronic Arts is now distributing an Apple II version of **Tomahawk**, an Army helicopter simulation. Suggested retail price is \$29.95, and a joystick's required. Contact Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404, (415) 571-7171.

- The latest version of **Personal Newsletter**, 1.1, is completely compatible with the IIGS. You can also install it on a hard drive or RAM disk. For more information, contact Softsync, Inc., 162 Madison Avenue, New York, NY 10016, (212) 685-2080.

- Enlightenment has dropped the prices of two of its programs by 40 percent. **Paul Whitehead Teaches Chess and Guide to Chess Openings** now retail for \$34.95 each from Enlightenment, Inc., 1240 Sanchez Street, San Francisco, CA 94114, (415) 641-9131.

- J. Weston Walch no longer requires **site licensing** for educators using its products: Under the terms of the Walch Whole-Class Software Solution, teachers can make as many copies as they need for classroom, laboratory, network, and backup use. For more information, contact J. Weston Walch, P.O. Box 658, Portland, ME 04104-0658, (800) 341-6094, or circle Reader Service number 359.

- **MicroProse Software** has moved to new offices at 180 Lakefront Drive, Hunt Valley, MD 21030. Its telephone number remains (301) 771-1151.

- On the west coast, **Britanica Software** now has new offices. Contact the company at 345 Fourth Street, San Francisco, CA 94107, (415) 546-1866.

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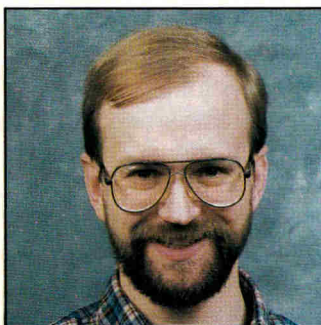
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For the GS Only



by Scott Mace

"Competition will result in better software that takes full advantage of the best game machine on the market today."

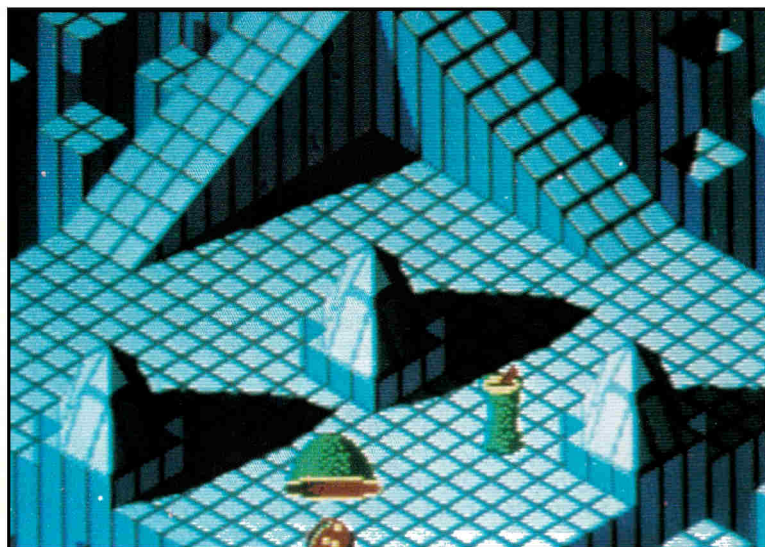
When it comes to IIGS-specific games, there's cause for mixed emotions.

These games aren't just conversions from other systems. They're brand-new games you haven't seen on an Amiga, an IBM PC, or anything else. And you can look forward to more games designed for the GS because of the strong sales of the machine during the Christmas season.

The bad news is that programmers haven't figured out how to take advantage of the IIGS' capabilities. These initial games are hampered by slow or missing animation, tedious disk-access times, and a lack of creativity. In time that will change: The successful *Chop-lyfter*, for instance, would never have been programmed on the Apple II if it hadn't been for a series of inferior earlier games. Competition among programmers will result in better software that takes full advantage of the best game machine on the market today—the GS.

WAITING IS THE HARDEST PART

Disk-drive access is a serious problem for the IIGS. Because the average GS game occupies up to 512K of RAM, as opposed to 64K for the average Apple IIe game, Apple IIGS disk access has to be faster to avoid annoying waits while games load. But if anything, the delay is *longer* with the IIGS.



*Although it's converted from 8-bit software for the GS, outstanding 3-D graphics and impressive sound make Electronic Arts' *Marble Madness* the rival of any GS-specific game currently on the market.*

Don't blame software developers: The GS' disk drive is too slow, not in comparison to that of the Apple IIe, but compared to those of other systems. And it affects not only the initial loading, but replays and midgame disk access, as well.

WHAT'S AVAILABLE TODAY

Many Apple IIGS-only programs come from PBI Software (1163 Triton Drive, Foster City, CA 94404, 800-843-5722, 800-572-2746 in CA). **Sea Strike** (\$39.95), for example, is based on a timely concept: In an arcade-like simplification of the Persian Gulf situation, your task is to protect a convoy of commercial ships from marauding speedboats, mines, and missiles. Armed with a missile-firing helicopter, you stand between enemy forces crawling steadily down from the top of your screen and the convoy steaming across the bottom.

Airborne mines at the bottom of the screen, where you can't shoot them down, make things particularly tricky. It's a neat nighttime scenario: Waterborne mines and boats become invisible, and all you can

see is the glow of approaching missiles and airborne mines. It's creepy to watch and adds another dimension to the game.

Designed by Richard L. Seaborne and Jeff A. Lefferts, the creative team behind all GS games at PBI, *Sea Strike*'s key element is sound. You hear missiles fired, and a telltale splash alerts you to mines emerging from the water.

What separates *Sea Strike* from any Apple II experience you've had before can be described in one word: headphones. Forget the tinny speaker in the GS itself. Just disconnect a pair of headphones from your Walkman and plug them into your computer, or plug in a set of **Bose** speakers (Bose Corporation, The Mountain, Framingham, MA 01701, 617-879-7330).

And for a true digital stereo effect, consider the **SuperSonic** card for the Apple IIGS, sold by MDIdeas (1163 Triton Drive, Foster City, CA 94404, 415-573-0580, \$59.95, speakers not included). All PBI games listed here support the card.

Although *Sea Strike* plays relatively well, it appears to tax

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MACE ON GAMES

the processing power of the IIGS. The helicopter should move fluidly and easily in response to your mouse, but it tends to lag behind. Occasionally you'll have to wait for the mouse to catch up. The greater the number of opponents on screen, the more pronounced the delay.

Cavern Cobra (PBI, \$49.95) is even more puzzling. It requires 768K of RAM, surely the all-time record. Just why it needs so much RAM isn't clear.

The game is reminiscent of *Choplifter*, but there are no hostages to rescue. Sound effects consist of a few spoken warnings and endless booming explosions, which show off the Ensoniq sound chip in the Apple IIGS.

TAKING ADVANTAGE OF THE GS

Also from PBI is a GS-only adventure game, **Tower of Myraglen** (\$54.95). It's a clean, fresh variation of the classic dungeon adventure. The opening sound effects are chillingly good. Within the game, the sound of a slime monster has been rendered better than anyone could predict. PBI recommends 768K, but you'll lose only one or two sound effects if you run with 512K.

Tower of Myraglen doesn't rival converted programs such as *Bard's Tale*, however. The top-down perspective of *Tower of Myraglen* doesn't allow for impressive graphics, for one thing. In fact, half the screen is left blank for listing inventory and for pulling down one long menu, which lists all commands. The software provides command-key alternatives, but they don't prevent some cumbersome sequences.

For instance, to use your mouse to open a treasure chest and remove its contents, you have to stand on top of the chest, press Command-O, click the mouse button, press Command-T, then click on the mouse button again. This maneuver should require two mouse clicks and nothing more. In addition, if you use the mouse to move your cursor anywhere near the dungeon window, the cursor will pull your adventurer toward itself like a magnet.

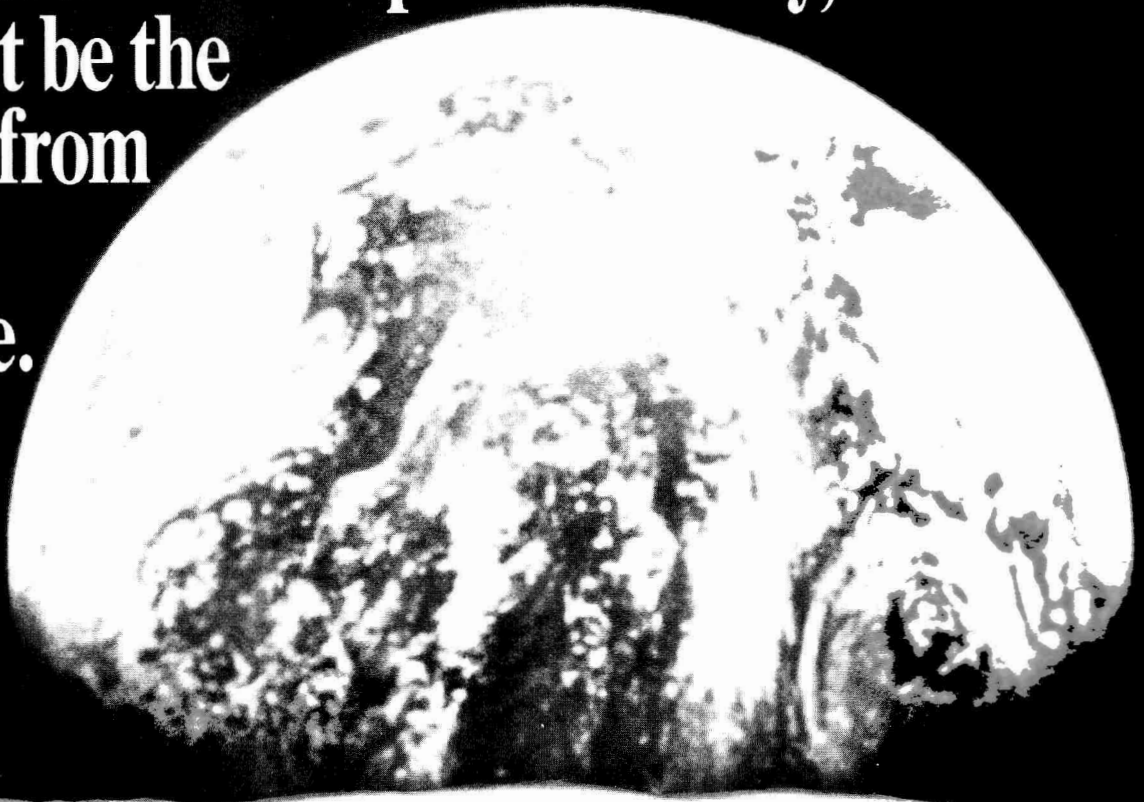
THE BEST IN CONVERSIONS

In addition to GS-specific programs, I recommend wholeheartedly a number of outstanding games that have been converted from other systems or from 8-bit Apple software. **Marble Madness** (\$34.95, also available for the Apple IIe and IIc at \$34.95) from Electronic Arts (P.O. Box 7530, San Mateo, CA 94404, 800-245-4525, 800-562-1112 in CA) is particularly impressive. The three-dimensional graphics and visual impact of the original video-arcade presentation remain intact, as well as the original musical score and sound.

Based on these early efforts, we can expect to see more sophisticated programming in the near future, as well as special sound effects and graphics, in a host of Apple IIGS games that will take full advantage of the machine's unique features. ■

Scott Mace is editor and publisher of Microcosm, a monthly newsletter on computer games. Write to him at 6510 Copper Ridge Drive #T-1, Baltimore, MD 21209.

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Pinpoint	42.	Multiscribe Fontpaks 1-8 (each)	69.
Pinpoint Spelling Checker	49.	Timeworks Publish-It	69.
Pinpoint Document Checker	59.	VIP Software	
Pinpoint Speller/Document Checker Combo	42.	VIP Professional	149.
Pinpoint Toolkit	48.	(Apple Ile or Enhanced Ile)	169.
Infomerge	30.	VIP Professional (IIGS Version)	89.
Key Player	30.	Word Perfect Corporation	
Run/Run	30.	WordPerfect V1.1 w/Speller (Ile & Ilc)	89.
		WordPerfect (Apple IIGS)	89.

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or Maniac Mansion	24.	Golf's Best Pinehurst or St. Andrews	15.
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Borland Turbo Pascal 3.0 (Req. CP/M)	48.	TML Source Code Library for the GS	89.
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RamFactor (256K to 1MB)	Call	Checkmate Technology	
Z-RAM Ultra 1 (256K or 512K)	Call	MemorySaver (IIGS)	129.
Z-RAM Ultra 2 or 3 (256K to 1MB)	Call	Orange Micro	
GS-RAM (256K to 1.5 Meg)	Call	RamPak 4GS	149.
GS-Ram Plus (1MB to 6MB)	Call	(512K Exp. to 4MB w/Utilities)	

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Applied Engineering		(Includes Desktop Accessories - IIGS)	
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Paint/Write/Draw (Not Protected IIGS)	115.	DeluxePaint II (IIGS)	79.
Clip Art Gallery		DeluxePrint II (IIGS)	37.
(Req. PaintWorks Plus IIGS)	21.	Art Parts I, Art Parts II or	
GameMaker Maker Bundle	34.	Seasons & Holidays (IIGS)	26.
PaintWorks Plus (Not Protected IIGS)	59.	EPYX Printmag	41.
Postcards (IIGS)	21.	Graphics Scrapbook Chapter #1, #2, or #3	17.
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Music Studio (IIGS)	59.	Intracorp	34.
Greeting Card Maker	28.	Bumper Sticker Maker	36.
Bantam Software		Business Card Maker	42.
Walt Disney Card & Party Shop	27.	The Video Wizard	59.
Walt Disney Comic Strip Maker	27.	PBI Software Visualizer IIGS	55.
Baudville		Visualizer Ile	31.
816/Print (Works On All Apples)	46.	Scholastic SuperPrint (IIGS)	34.
Award Maker Plus	24.	Splnaker T-Shirt Shop	15.
Take 1 Deluxe	36.	T-Shirt Shop Graphics	79.
Beagle Brothers Beagle Graphics	36.	Springboard	35.
Minipix Disk #1, #2 or #3 (each)	19.	Springboard Publisher (Ile, IIC, IIGS)	26.
Shape Mechanic	25.	Newsroom	20.
Brookbund Toy Shop	34.	Certificate Maker	26.
Animate	45.	Certificate Maker Library #1	26.
Dazzle Draw	39.	Fonts For Springboard Publisher	18.
Drawing Table (IIGS)	62.	Newsroom Clip Art Collection Vol. 1 or 3	25.
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Print Shop School Edition	48.	Style Sheets/Newletters	26.
Dazzle Draw School Edition	48.	Works of Art Education, Holidays	59.
Print Shop Companion	25.	or Assortment (each)	31.
Print Shop Graphics Library 1, II, III	16.	StyleWare, Inc. TopDraw (IIGS)	19.
or Holiday Ed.		Unison World	
Print Shop Graphics Library	24.	Printmaster Plus	
Sampler Edition		Art Gallery I or Art Gallery II	

Educational Software

Activision Term Paper Writer	34.	Learning Company Reader Rabbit (IIGS)	41.
Barron's Computer SAT Revised Version	28.	Think Quick (IIGS) or Writer Rabbit	32.
BedVear Guitar Wizard	19.	Bumble Plot, Reader Rabbit or Magic Spells	26.
Ted Bear Discoveries...Rainy Day Games	19.	Gertrude's Puzzles or Secrets	30.
Brookbund		Word Spinner	26.
Science Tool Kit Master Module	46.	Math Rabbit	26.
Science Tool Kit Module I or II	27.	Moptown Hotel or Moptown Parade	32.
Type!	31.	Robot Odyssey I or Rocky's Boots	48.
Variable Feasts	35.	Mindscape Crossword Magic,	
Where in the World is Carmen Sandiego?	26.	Drug Alert, or Brainstorms	42.
Where in the USA is Carmen Sandiego?	29.	Perfect Score SAT	25.
Compu-Teach Once Upon A Time	25.	Principal's Assistant	31.
Stepping Stones Level 1	25.	Peachtree/Eduware Algebra 1, 2, 3, or 4	19.
Stepping Stones Level II	25.	Algebra 5 & 6	31.
See the U.S.A.	36.	SAT Word Attack Skills	31.
Davidson & Associates		PinPoint Micro Cookbook (Ile or IIC)	37.
Apple II and IIGS Versions Available:		Simon & Schuster	
Alpha-Blaster, Classroom or Math Blaster Plus	30.	Speed Reading Tutor IV (Ile or IIGS Ver.)	27.
Grammar Gremlins or Read 'N' Roll	30.	Typing Tutor IV (Ile, IIC, or IIGS)	34.
Homeworker	55.	Spinnaker Kindercomp Gold	29.
Speed Reader II	41.	Homework Helpers Writing or Math (IIGS)	32.
Spell-It or Word Attack!	30.	Typing Made Easy	27.
Math & Me	25.	Facemaker: Golden Edition	27.
Designware Grammar Examiner	25.	Kidwriter	69.
Remember/SAT Bundle or		Terrapin Enhanced Terrapin Logo V3.0	
W.O.R.K. At Home	31.	Weekly Reader	
Spectrocolor or Math Maze	25.	Stickybear Series: Sticky Bear ABC, Car	
States & Traits or Mission Algebra	25.	Builder, Codes & Ciphers, Basic, Drawing,	
First Byte/Electronic Arts		Math I, Math II, Math Word Problems,	
MathTalk, KidTalk, First Shapes, Speller	36.	Music, Music Library, Numbers, Opposites,	
Be, or Smoothtalker (IIGS) (each)		Parts of Speech, Pic. Builder, Picture	
MathTalk Fractions or First	36.	Printer Library I, Printer, Reading, Reading	
Letters & Words (IIGS)	24.	Comprehension, Shapes, Spellgrabber,	
Great Wave Kidstime II (IIGS)	21.	Typing, Townbuilder, Word Problems	
SpaceLace	24.	or Writer (each)	25.
Harcourt, Brace, Jovanovich Computer SAT	27.		

Modems

Anchor Automation Signalman Express 1200	185.	Practical Modem 2400 SA	199.
Signalman Lightning 2400	299.	Prometheus Pro Modem 1200 (External)	239.
Applied Engineering		ProModem 1200G (Non Expandable)	149.
DataLink Modem 300/1200 Baud		Pro Modem 2400 (External)	309.
Internal Modem II*, Ile, IIGS)	169.	Pro Modem 2400G (Non Expandable)	179.
Hayes Hayes Micromodem Ile (Internal)	159.	Pro Modem 1200A (Single Card)	189.
Hayes Smartmodem 1200A (Internal)	275.	Pro Modem 300c	89.
Hayes 300 Baud Smartmodem		Communications Buffer (2K Exp. to 512K)	105.
Ile w/Smartcom I	189.	U.S. Robotics	
Hayes 300 Baud Smartmodem	159.	U.S. Robotics Sportster 1200	119.
Hayes 1200 Baud Smartmodem	299.	U.S. Robotics Courier 1200	199.
Hayes 2400 Baud Smartmodem	449.	U.S. Robotics Courier 2400	349.
Practical Peripherals		U.S. Robotics Courier 2400E	379.
Practical Modem 1200 SA	129.	U.S. Robotics Courier HST 9600	689.

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American Micro Research (Micro Sci)		Sider 40MB Hard Drive	839.
A5 D Half Height 5 1/4" Drive		B-Sider 60MB Tape Backup	839.
(IIGS Daisychain)	149.	Blank Tape 5 Pack	65.
A2 Full Height (Ile & IIC)	149.	Revision D (Chip/Software for CP/M)	52.
A.5 Half Height (Ile & IIC)	139.	Hi-Tech Peripherals	
A.5C Half Height (IIC)	139.	Full Height 5 1/4" Drive for	
Micro Sci C2 Controller	52.	Apple Ile (Beige)	139.
Central Point Software		Half Height 5 1/4" Drive for	
Mix and Match 3 1/2" & 5 1/4" Drives:		Apple Ile or IIC (Beige)	139.
Universal Disk Controller	79.	Half Height 5 1/4" Drive for	
Central Point 800KB Drive	185.	Apple Ile or IIC (Platinum)	149.
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Sider 20MB Hard Drive	549.	AD-3C Slimline IIC	129.

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Apple Mouse Ile	125.	Kraft Universal 3 Button	
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Applied Engineering		Koala Technologies	
TimeMaster H.O.	85.	Koala Pad Plus w/Graphics Exhibitor	84.
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AST Research		Conservar (IIGS Switched Surge	
AST-VisionPlus Digitizer (IIGS)	219.	Suppressor w/Fan)	119.
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Hayes Mach II Joystick (Beige or Platinum)	29.	SuperSonic Digitizer (IIGS)	52.
Hayes Mach III Joystick (Beige or Platinum)	38.	Mouse Systems	
Hayes Flight Stick	52.	A+ Mouse (Ile)	69.
Curtis		A+ ADB Mouse (IIGS)	89.
Curtis Diamond	29.	MouseTrak	
Curtis Emerald	36.	MousePad 7"x9" Size	8.
Curtis Ruby	54.	MousePad 9"x11" Size	9.
Curtis Sapphire	47.	MousePad L/F (Low Friction)	9.
DataDesk		Orange Micro	
DataDesk ADB-101	159.	Juice Box (IIGS Switched Surge	
Enhanced Keyboard (IIGS)		Suppressor w/Fan)	69.
Keenington		SNIT	
Mouse Pocket (Reg. or ADB)	8.	No Slot Clock (Ile & IIC)	42.
Mouseway (Mousepad)	8.	Street Electronics	
Apple IIGS Dust Cover	10.	Echo III Speech Synthesizer	
Mouse Cleaning Kit w/Pocket	17.	(Ile, IIC, IIGS)	109.
Disk Drive Cleaning Kit (3.5" Drives Only)	20.	Cricket IIC	129.
Apple Security System	34.	Ribbons Unlimited	
Printer Muffler 80	38.	ImageWriter Ribbon-Black	4.50
Printer Muffler 132	51.	ImageWriter Ribbon-Color	5.
A/B Box (IIGS)	63.	ImageWriter II - 4 Color Ribbon	11.
System Saver (Platinum or Beige)	69.	ImageWriter Rainbow Pk. (6 Colors)	25.
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Turbo Mouse (Reg. or ADB)	82.	Thundercard Apple (IIGS, Ile, and IIC)	179.

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3M 5.25" SS/DD (box of 10)	11.	Verbatim DS/DD (box of 10)	20.
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LQ-1050 or LQ-2500	Call	KXP-10911/M2 (192 cps) NLQ Mode	209.
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HINTS/TECHNIQUES

Apple users know there's always an easier way to get the job done. A shortcut here, an elegant twist there—that's what *Hints/Techniques* is all about. It's an information swap for readers who want to share their programming pointers, DOS tips, hardware secrets, AppleWorks applications, WPL enhancements, and all those other insights that make you go "Aha!" in the night.

Dump

by Harold D. Portnoy

In a hurry to print? Try using Dump (see Listing 1), a fast, ampersand-mediated machine-language program that dumps the contents of your monitor screen (either 40 or 80 columns) to your printer. Using either DOS 3.3 or ProDOS, you can enter the ampersand command & [beg],[end] from the keyboard or as part of a BASIC program. If you want to print the entire screen contents, don't specify the beginning and ending lines.

The first part of the program is a launcher (\$2000-\$2069) that installs the main program (\$2100-\$21A9) just above HIMEM, and points the ampersand vector to the beginning of the main program. The launcher also determines whether you're running in DOS 3.3 or ProDOS and inserts the appropriate DOS output hooks into the main program. The main listing lists the hooks for DOS 3.3; the end of the listing supplies the hooks list for ProDOS. The listing here is for a printer in slot 1. If your printer is in another slot, change byte \$2132 to \$Cs, where s is the slot number.

The main program is relocatable without the launcher if you insert the proper hooks for DOS 3.3 or ProDOS. You can then append it to the end of a BASIC program as I demonstrated in "In & Out" (*Hints/Techniques*, December 1986, p. 174). In fact, by modifying In & Out slightly, you can append and use both

Listing 1. Dump.

```
CALL -151
2000:00
2001<2000.21FF
2000:A5 74 38 E9 01 85 74 AE 00 BF E0 4C D0 03 18 69
2010:04 48 85 43 A2 00 8E F6 03 38 68 8D F7 03 E9 21
2020:85 08 20 3C 20 A0 00 A9 21 84 3C 85 3D A0 AA A9
2030:21 84 3E 85 3F A0 00 84 42 4C 2C FE AD 00 BF C9
2040:4C D0 20 A2 00 BD 64 20 9D 33 21 9D 98 21 9D A3
2050:21 E8 E0 06 D0 EF A9 EA 9D 33 21 A9 60 9D 98 21
2060:9D A3 21 60 8C 30 BE 8D 31 BE 00 00 00 00 00

2100:20 B7 00 F0 02 D0 0A A9 00 85 06 A9 18 85 07 D0
2110:1E 20 F8 E6 E0 19 B0 14 CA 86 06 20 4C E7 E0 19
2120:B0 0A 86 07 CA E4 06 B0 06 4C C9 DE 4C 99 E1 A0
2130:00 A9 C1 84 36 85 37 20 EA 03 A9 89 20 ED FD A9
2140:B8 20 ED FD A9 B0 20 ED FD A9 CE 20 ED FD A0 00
2150:A6 06 8A 20 C1 FB A5 29 85 3D 85 3F A5 28 85 3C
2160:18 69 27 85 3E 2C 1F C0 10 0B 2C 55 C0 B1 3C 2C
2170:54 C0 20 ED FD B1 3C 20 ED FD 20 BA FC 90 E6 2C
2180:1F C0 30 03 20 8E FD E8 E4 07 90 C6 20 8E FD 2C
2190:1F C0 10 0B A0 07 A9 C3 84 36 85 37 4C EA 03 A0
21A0:F0 A9 FD 84 36 85 37 4C EA 03
BSAVE DUMP ,A8192,L427
3D0G
```

Listing 2. Add Dump.

```
1 LOMEM: 5120: REM Prevent over - writing variables. [3665]
2 PGND = PEEK (175) + PEEK (176) * 256: REM Determine end
of BASIC program. [5000]
3 PRINT CHR$ (4);"BLOAD DUMP,B256,A";PGND: REM Load binary
routine so as to start at end of BASIC program.
(Skip DUMP launcher). [9441]
4 LN = 171: REM Length of ML program. [2633]
5 PGND = PGND + LN:P2 = INT (PGND / 256): POKE 176,P2:P1 =
PGND - P2 * 256: POKE 175,P1: REM Calculate new end of
BASIC + binary program and POKE into program end pointer. [12192]
6 END [134]
10 GOSUB 60000: END [618]
60000 BINADR = ( PEEK (175) + PEEK (176) * 256) - LN: REM Find
address of beginning of binary routine [7239]
60010 P2 = INT (BINADR / 256): POKE 1015,P2:P1 = BINADR - P2 *
256: POKE 1014,P1: REM Point ampersand vector to start
of any binary routine. [9960]

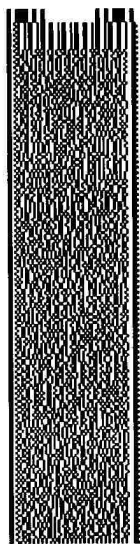
60020 RETURN [527]
]RUN
]DEL 0,5
]SAVE ADD.IN.OUT.DUMP
```

Listing 3. BASIC program containing the two subroutines, DUMP and In & Out.

```
5 REM For IN.OUT, LN = 510 + 171. For DUMP, LN = 171 [2975]
10 GOSUB 60000: END [618]
60000 BINADR = ( PEEK (175) + PEEK (176) * 256) - LN: REM find address
of beginning of binary routine. [7765]
60010 P2 = INT (BINADR / 256): POKE 1015,P2:P1 = BINADR - P2 * 256:
POKE 1014,P1: REM point ampersand vector to start of binary
routine. [9664]
60020 RETURN [527]
```


DATA STRIPS

Because of space limitations, we were unable to print all data strips in the February and March *inCider*. See p. 105 for the remaining Hints/Techniques from those two issues.



Softstrip

Portnoy: Dump L1 (April)



Softstrip

Portnoy: Add Dump L2 (April)



Softstrip

VANGENDEREN

short routines in the same BASIC program: Using your word processor, convert **Listing 1** to a text file. EXEC the file to create DUMP. Then type in **Listing 2** and save as ADD.DUMP. Now load your copy of In & Out and EXEC ADD.DUMP.

When using both programs as ampersand subroutines in your BASIC program, insert the proper length, LN, before going to the subroutine at 60000. This ensures that the ampersand vector points to the proper subroutine before calling it. To obtain the correct length of LN, add the length of the subroutine to the length of the following subroutines in the program. So, the correct value of LN before calling DUMP is 171, and before calling In & Out is 510 + 171. (See **Listing 3**.) Now you can add an unlimited number of your own subroutines to any BASIC program. ■

Write to Harold Portnoy at 1431 Woodward, Bloomfield Hills, MI 48013.

Computer Buzzer

by Bud Van Genderen

Looking for an innovative way to use your Apple in class? One of our teachers prepares "game" test reviews and uses Computer Buzzer (see **Listing 4**) as an accurate two-button detector that tells students which team responded first.

Computer Buzzer uses the closed- and open-apple keys as its triggers. (The trigger buttons on a set of paddles work best.) When you press a button to answer a question, the computer emits a resounding response and announces which button was pressed first. The winner can then proceed with his or her answer.

To use the program, design two team screens with a graphics program like Blazing Paddles or Micro Illustrator. Save each picture on the disk as T1 and T2 (Team #1 and Team #2, respectively). Then type in the listed program and save it as your disk's HELLO program. ■

Write to Bud Van Genderen at Ramapo Indian Hills High School, George Street, Franklin Lakes, NJ 07417.

Listing 4. Computer Buzzer.

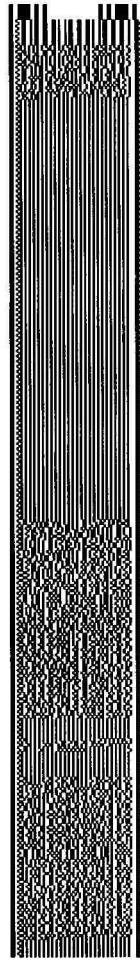
```

10 REM Uncle Bud's Computer Buzzer by B. Van Genderen (4305)
20 REM Copyright 1988, inCider (2210)
30 REM Setup (769)
40 GOSUB 530: GOTO 130 (745)
50 REM Other buzzer sounds (2180)
60 S = - 16336 (811)
70 FOR ZZ = 1 TO 5: SOUND = PEEK (S): NEXT : RETURN (2554)
80 REM Button Check (1436)
90 IF PEEK (P0) > 127 THEN WI = 1: POP : RETURN (2126)
100 IF PEEK (P1) > 127 THEN WI = 2: POP : RETURN (2158)
110 RETURN (287)
120 REM Main Program (1479)
130 HOME : VTAB 15: PRINT " OPEN APPLE BUTTON IS TEAM #1" (2990)
140 PRINT : PRINT " CLOSED APPLE BUTTON IS TEAM #2" (2718)
150 VTAB 10: HTAB 7: PRINT "PRESS SPACE TO BEGIN:"; GOSUB 50: GET
Q$: PRINT Q$ (3571)
160 GOSUB 250 (487)
170 HOME : GOSUB 410 (704)
180 IF WINNER = 1 THEN GOSUB 440 (1601)
190 IF WINNER = 2 THEN GOSUB 480 (1616)
200 WINNER = 0 (923)
210 C = PEEK (P0): C2 = PEEK (P1): IF C < 140 AND C2 < 140 THEN
230 (3429)
220 GOSUB 70: PRINT : PRINT " PLEASE RELEASE THE BUTTONS": PRINT
: PRINT " AND PRESS SPACE TO GO ON: "; GET Q$ (5754)
230 GOTO 160 (552)
240 REM Timer Screen (1603)
250 V = 37: REM ASCII code for % (2118)
260 HOME : POKE 48, V (637)
270 FOR X = 0 TO 39 (789)
280 VLIN 0,47 AT X: HLIN 0,39 AT X (1337)
290 GOSUB 80 (515)
300 GOSUB 70 (324)
310 NEXT (185)
320 POKE 48,160: REM ASCII code for space (2540)
330 FOR X = 39 TO 20 STEP - 1 (1348)
340 : VLIN 47,0 AT X (770)
350 Y = 39 - X (789)
360 VLIN 47,0 AT Y (733)
370 GOSUB 80 (395)
380 GOSUB 70 (404)
390 NEXT (265)
400 GOTO 260 (468)
410 REM Buzzer sound (1592)
420 FOR I = 1 TO 100: POKE 773,I: CALL 768: NEXT (2034)
430 RETURN (352)
440 REM Show screen 1 (1565)
450 POKE 49232,0: POKE 49236,0: POKE 49239,0 (1933)
460 POKE - 16368,0 (947)
470 GET Q$: PRINT Q$: HOME : TEXT : RETURN (1522)
480 REM Show screen 2 (1606)
490 POKE 49232,0: POKE 49237,0: POKE 49239,0 (1974)
500 POKE - 16368,0 (987)
510 GET Q$: PRINT Q$: HOME : TEXT : RETURN (1562)
520 REM Setup subroutine (1885)
530 FOR I = 768 TO 785: READ A: POKE I,A: NEXT (1823)
540 DATA 169,128,133,9,160,201,152,170,202,208,253,173,48,1,92,136,208,
245,96 (3547)
550 D$ = CHR$(13) + CHR$(4) (1328)
560 HOME : VTAB 10: HTAB 10: PRINT " ONE MOMENT
PLEASE..." (2501)
570 VTAB 6: HTAB 11: PRINT "UNCLE BUD'S BUZZER" (2156)
580 PRINT D$;"BLOAD T1,A$2000" (1545)
590 PRINT D$;"BLOAD T2,A$4000" (1358)
600 P0 = - 16287: P1 = - 16286 (1750)
610 WINNER = 0 (823)
620 RETURN (287)

```

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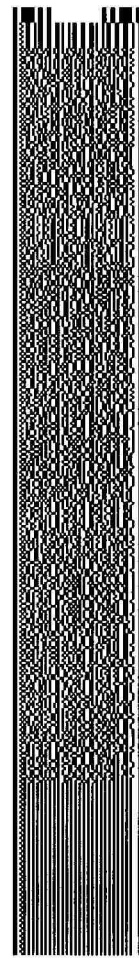
DATA STRIPS



Softstrip



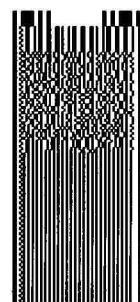
Portnoy: Circles L1 (March)



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Vokey: BASIC On-Line (Feb.)



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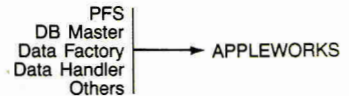
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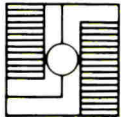
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The ImageWriter LQ: Top of the Line

Here's to the classy new head of the ImageWriter family: Apple's **ImageWriter LQ** has made its debut. It's big, it's fast, it's platinum colored, and the print looks great. You'd better make room on your desk, though: The LQ is about twice the size of its predecessors and weighs about 38 pounds. Apple has packed a lot into this \$1300 package.

Of course the first thing we checked was the LQ's type. Can you really get letter quality from a dot-matrix printer—and what price do you pay in speed? The answer is a resounding yes, and you won't have to stand around waiting.

The type's two-thirds the density of Apple's expensive LaserWriter—double the density of the ImageWriter II. And, according to the manual, the LQ prints at a rate of 250 characters per second in draft mode, fixed width; 145 cps, draft mode, proportional spacing; 90 cps, near-letter-quality mode, fixed width; 145 cps, near-letter-quality mode, proportional spacing; and 115 cps, letter-quality mode, proportional spacing. If you or your small business can't afford the near-type-set perfection of a laser printer, this may be your answer.

For those whose printing needs include letterhead and single sheets, you can equip your LQ with a sheet feeder and up to three paper bins, as well as an attachment for printing envelopes. Using

the international character sets available on the Apple IIgs, you can even print in Italian, Danish, German, Swedish, French, or Spanish. The new ImageWriter can also produce letter quality in color: yellow, magenta, cyan, and black, plus mixtures (orange, green, and purple) and custom hues.

The ImageWriter LQ has generated an enthusiastic response among *inCider's* editors. Senior Editor Paul Statt observes, "Apple needs a letter-quality printer—something that prints better than the plebeian ImageWriter and costs less than the snooty LaserWriter. The ImageWriter LQ doesn't produce quite the print job I'd hoped for, and it's not quite cheap enough, but it's a step in the right direction. The LQ could easily become a best-selling workhorse in the ImageWriter tradition."

"This doesn't let Apple off the hook for not offering a low-cost laser printer for the Apple II," adds Editor in Chief Dan Muse, "but the ImageWriter LQ does feature impressive quality and speed. You just have to pay for it."

"Although the price is high, it's important for small-business users, because it fi-

nally gives them a letter-quality alternative," notes Associate Editor Pat O'Dell. "The problem with older ImageWriters is that the print quality is so easily identifiable as dot-matrix."

"It's nice to see letter-quality print produced so quickly," agrees Review Editor Life Low. "The ImageWriter LQ will find its niche among people who need crisp, professional-looking output fast."

Joining the company's line of platinum-colored products and peripherals, the ImageWriter LQ comes from Apple Computer, 20525 Mariani Avenue, Cupertino, CA 95014, (408) 960-1010. Its price tag may scare away some users, but if you can afford it, the LQ is a powerful tool for home or office. ■

For those whose single sheets, you can up to three paper bins printing envelopes. Us available on the Apple Danish, German, Swedish ImageWriter can also print yellow, magenta, cyan, orange, green, and purple.

The ImageWriter LQ response among *inCider's* observes, "Apple needs a that prints better than the less than the snooty Laser produce quite the print job quite cheap enough, but it's The LQ could easily become an ImageWriter tradition."



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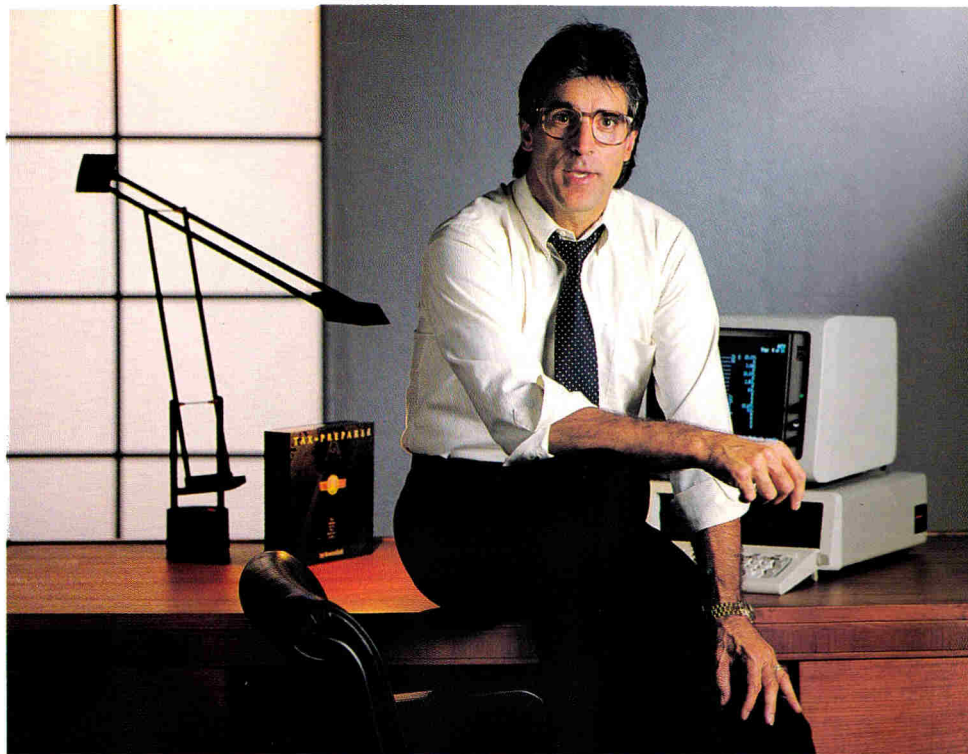
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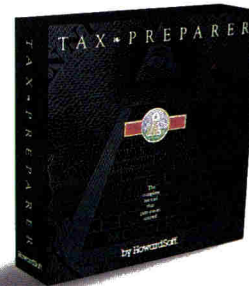
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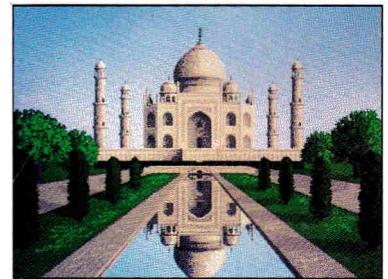
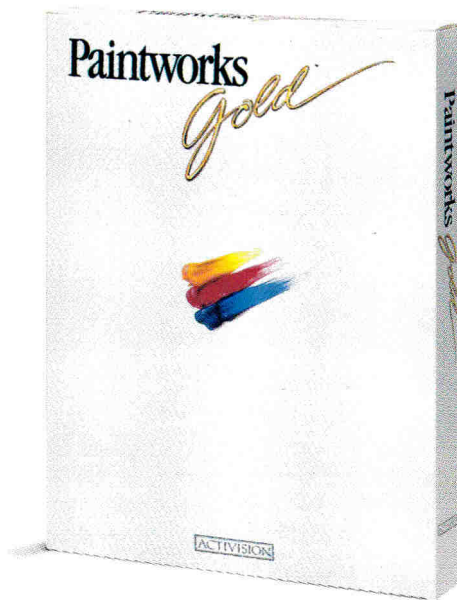
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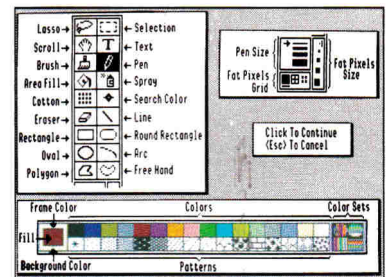
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