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The #1 Apple II Magazine

AppleWorks

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APPLEWORKS ENHANCEMENT SOFTWARE

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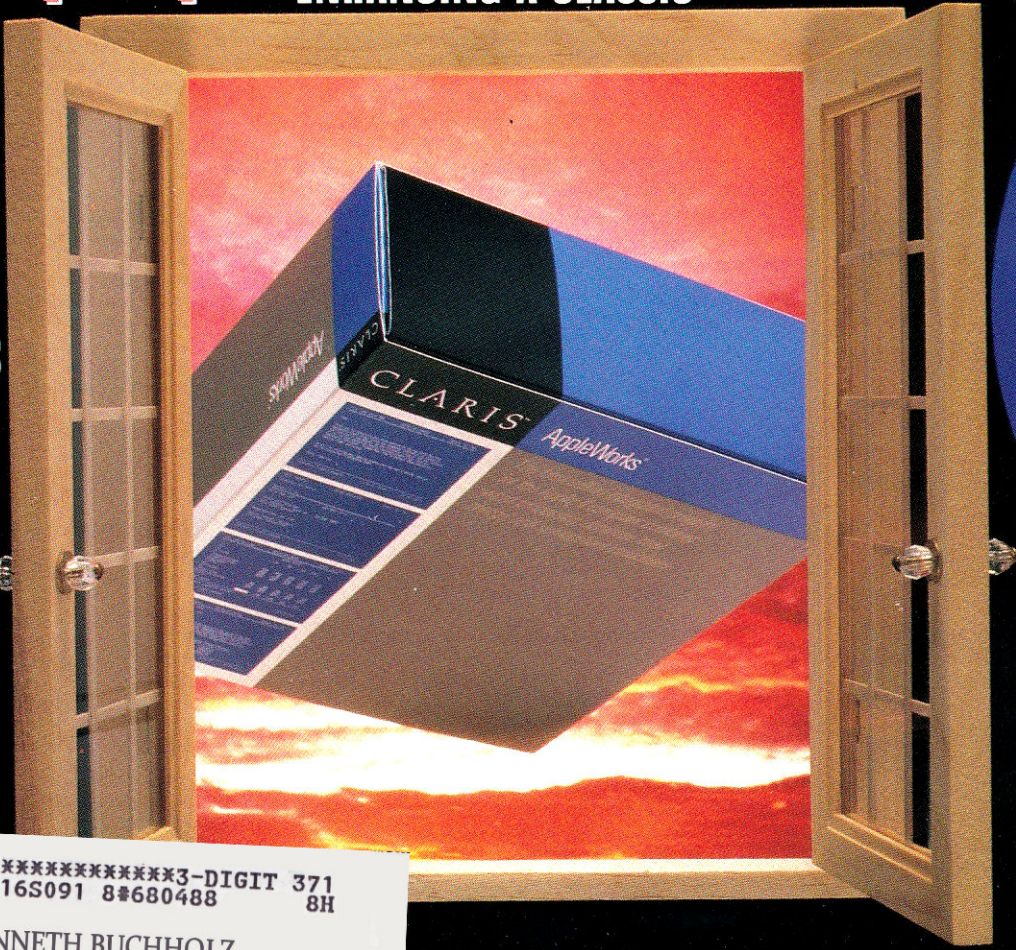
Diversi-Key
316/Paint

GAME REVIEWS

Hardball!
High Seas
Lurking Horror

WORDPERFECT

Performan...
and Review
Version 2.



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DR KENNETH BUCHHOLZ
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GEOS

GEOS™ for 128K, 80 column Apple II computers.

- True graphical operating system.
- Data file compatibility with GEOS applications for other systems, such as Commodore C64 and C128.
 - Dialogue boxes.
 - Proportional fonts in 5 styles.
 - Supports variety of printer interface cards, input devices (such as mouse or joystick), hardware clock cards, printers and disk drives.



joystick), hardware clock cards, printers and disk drives.

1. deskTop™

- The graphic interface from which you operate the powerful GEOS system.
- Graphic representation of disk catalog & GEOS operations.
 - Supports ProDOS files (list, copy, run, etc.).
 - Supports hierarchical file structure (directories): Create, copy and move directories.
 - View files in either icon or text mode.
 - Automatically sorts files alphabetically or by size, type or date.
 - Open, copy or delete files in seconds: Copy or delete entire directories in one step. Select several files at once to perform multi-file operations.
 - Formats, verifies and erases disks.
 - Simultaneously supports combinations of up to 4 disk devices: 5-1/4" drives, 3-1/2" drives, hard drives and RAM drives.
 - Applications and desk accessories stored in the "system folder" are listed in drop down menus, and can be run from any directory.
 - Double-clicking data file automatically searches for parent application on each disk.

2. geoWrite 2.1™

- All the GEOS-compatible tools that a writer needs to make professional documents.
- "What You See Is What You Get" orientation.
 - Point and click text selection: Perform moves, copies, deletions and changes on blocks of text.
 - Supports LaserWriter through geoLaser.
 - Multiple proportional fonts in a variety of point sizes same bit images as the Mac.
 - Variable styles (**bold**, *italic*, outline, underline).
 - Cut, copy and paste text or graphics from other programs, like geoPaint.
 - Left, right and full justification.
 - Adjustable margins from 0.25" to 8.25"

With GEOS, any Apple IIe, IIc* or compatible becomes a menu/icon driven powerhouse.

and from each other, so that you can manage everything with one integrated system. So the next time someone asks you which Apple is the one that's famous for its mouse, icons and desktop publishing, don't stammer. Don't hesitate. Don't even blink.

keley
ftworks

Just load up your Apple II with GEOS, look them straight in the eye, and say, "Mine."

e working with Berkeley.

- Single, 1/2 and double spacing.
- Search and replace text.
- Text and decimal tabs.
- Headers and footers, auto page numbering, date stamping.
- Create page breaks.
- Keyboard shortcuts.
- Set initial page number.

3. geoSpell™

- Find and correct misspelled words in any geoWrite document.
- Misspelled words are displayed in context in the document window.
- Displays words in dictionary closest to misspelled word and prompts user for action.
- Over 38,000 word geoDictionary.
- Create personal dictionaries for specialized vocabularies.

- Automatically scans geoDictionary and personal dictionary.
- Single or all occurrence replace options.
- Edit and update personal dictionaries at any time.
- Ability to scan the geoDictionary and the personal dictionary independent of the geoWrite document.

4. Text Grabber™

- Convert existing word processing documents to the GEOS environment from other word processing programs, such as AppleWorks, WordPerfect and MultiScribe.
- Reformat new files with ease.
- Files from other word processors are ported with formatting commands intact.
- After converting files into geoWrite documents, you can change fonts, formats, styles and paste in graphics.

5. geoMerge™

- Create personalized form letters, merge names and addresses or conditionally include whole paragraphs.
- Print merged documents directly to the printer or create geoWrite files.
- Merge data can be entered manually, typed into a geoWrite file, or be created by other GEOS applications, such as geoDex and geoFile.

6. geoPaint™

- Create charts, diagrams or full page images up to 8 1/2" x 11"
- Zoom in for detail work.
- Cut, copy and paste images to and from other GEOS applications/documents.
- Preview entire page.
- Keyboard shortcuts.
- 14 separate graphic tools:
 - Scroll to an adjacent area in your picture, or use window tool. Select any area of the page and: Move, Copy, Clear, Invert, Rotate, Mirror (horizontally and vertically). Pattern Fill: 32 distinctive painting patterns. Stop pattern fill at any time. Spray Paint: Gradually paints the current pattern for shading effects. Ruler: Measure in inches or pixels. Line: Create separate or connected lines. Brush: 32 different brushes to choose from, each brush paints in the current pattern. Pencil Eraser: Erase a small section or the whole screen. Text: Display text in a variety of GEOS fonts (bold, underline, italics, outline, inverted). Edit text before pasting into picture. Rectangles: Draw rectangles open or filled with the current pattern. Ability to constrain rectangle to a square. Ellipses: Draw ellipses open or filled with the current pattern. Ability to constrain ellipse to a circle. Undo: Undo the last command.

7. Desk Accessories

- Available from within any application.
- Notepad.
- Calculator.
- Alarm Clock.
- Photo Manager (scrapbook for collecting pictures).
- Text Manager (scrapbook for collecting text).

8. geoLaser™

- Produce near-typeset quality output on an Apple LaserWriter.
- Create multi-column and windowed pages with the overlay print option.

To order call 1-800-443-0100 ext. 432
GEOS \$129.95
(California residents add 7% sales tax.)
\$2.50 US/\$5.50 Foreign for shipping and handling.
Allow six weeks for delivery.

*GEOS requires 128K and 80 column card.

For everyone who ever wished their Apple II could turn into a Mac-Intosh, we've got some great news.

It's called GEOS. And it turns any Apple IIe, IIc or compatible into a ProDOS-compatible, mouse-driven, icon-loaded, graphical operating powerhouse that packs all this power into one package: A desktop file manager, four applications, three utility programs, five desk accessories, six fonts and an interrupt management card.

GEOS (Graphic Environment Operating System) opens your Apple to an infinite number of graphically-oriented applications. Like writing, painting, desktop publishing, calculating—in fact, GEOS can do just about anything a Mac can do.

The kernel at the core of your Apple.

What changes your Apple at its very core is the herculean GEOS kernel, which supports printer drivers, input drivers and proportionally-spaced fonts. It also supports pull-down-menus. Icons. Dialogue boxes. Cutting and pasting data within and between applications. And switching directly from one application to another.

It supports peripherals, desk accessories—in short, it supports just about everything you'd ever want to do with a computer.

And all this without missing a beat. That's because the interrupt management card makes sure you never miss a key stroke, no matter how fast your fingers fly.

Everything's controlled from the deskTop.

The GEOS deskTop lets you control and manipulate virtually everything from icons to RAM disks. And the way you control everything is very simple:

Point and click.

When GEOS offers you options, you just point to your answers and click your mouse or joystick.

You want to copy a file? Point and click.

You want to print a file? Point and click.

You want to delete a file? Point and click, and drop it in the waste basket.

The deskTop also keeps you organized. Art, documents—everything is stored and filed on the GEOS deskTop. View files as icons or text. Even sort files by type, name, date or size.

And you can keep yourself organized on up to four different disk devices: 5¼", 3½", hard disks and RAM disks. All at the same time or in any combination.

A few bits off the old Mac.

But if you really want to get Mac-like, open up geoWrite 2.1. The "What You See Is What You Get" word processor that lets you center, justify, search and replace text. You can move blocks of copy. Cut and paste. Use headers and footers and even display your text in fonts of different styles and sizes—**bold**, *italic*, plain, outline or underline—right on the screen. And since they're the exact same bit image fonts as the Mac, the documents off a LaserWriter or ImageWriter are indistinguishable from a Mac's.

If your spelling isn't up to par, fear not: geoSpell scans your script and fixes your faux pas in context right before your eyes. And for all the documents you've already written on another word processor, there's Text Grabber, which converts your non-GEOS files into geoWrite format.

For those form letters that need to address themselves to different people, there's geoMerge, the text manager that supports everything from simple mail features to conditional paragraphs.

Put that all together with geoLaser's PostScript support, and all of a sudden the documents on that little Apple of yours are looking

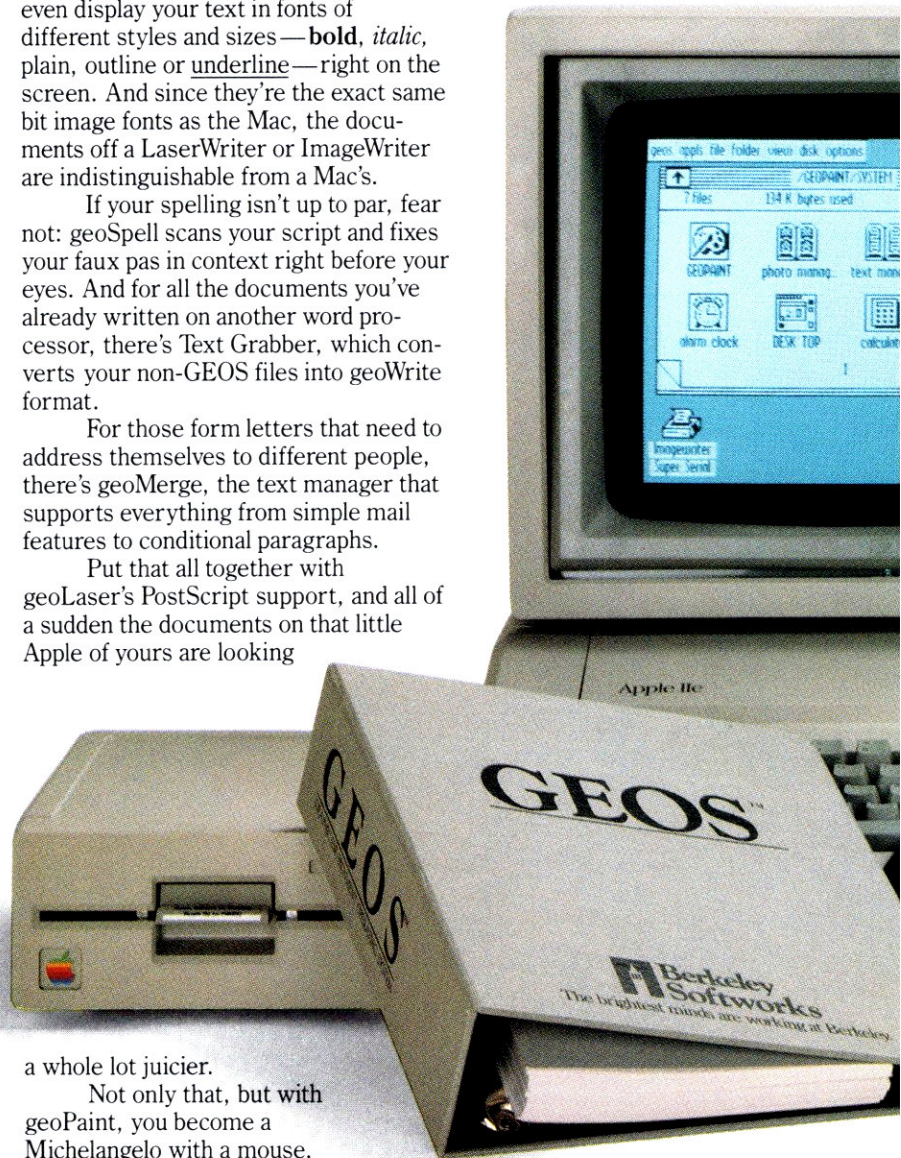
a whole lot juicier.

Not only that, but with geoPaint, you become a Michelangelo with a mouse, sketching and painting on an 8½" × 11" page with 32 brushes, 32 patterns and all kinds of textures.

You can invert, mirror and rotate images. Zoom in to edit pixel by pixel, or preview the entire page. Insert pictures into your geoWrite documents. Or save them in your GEOS Photo Album for use later.

There's even a set of pop-up desk accessories for that helping hand in any application. There's an alarm clock that

WRO



keeps you punctual. A notepad that keeps your memos. And a calculator that keeps your accountant honest.

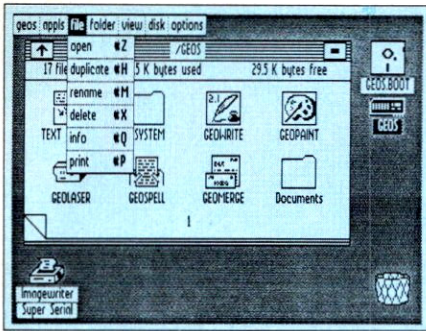
Polish up your Apple with GEOS.

There are even more GEOS applications on the way. Spreadsheets, databases, desktop publishers—you name it. All of them importing and exporting to

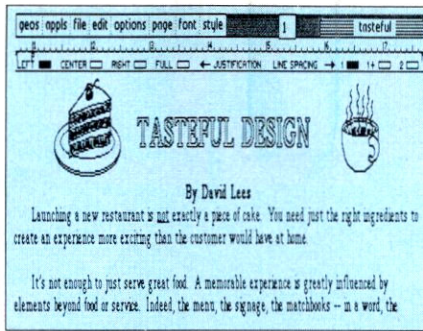


The brightest minds

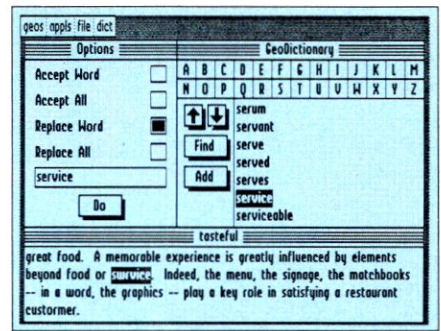
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ITS MOUSE,
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APPLICATIONS
AND DESKTOP
PUBLISHING.**



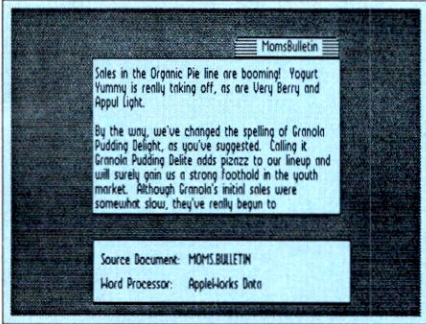
1. Icon and menu file managing.



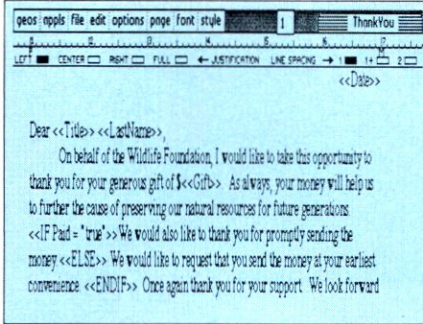
2. WYSIWYG ("What you see is what you get") word processing.



3. Contextual spell checking.



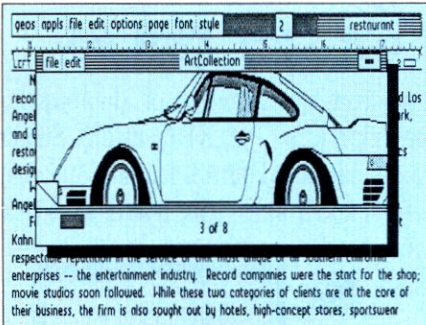
4. Text conversion and importing.



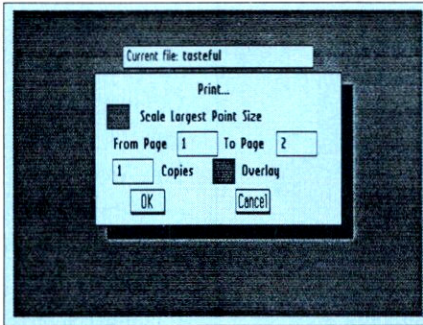
5. Sophisticated mail merging.



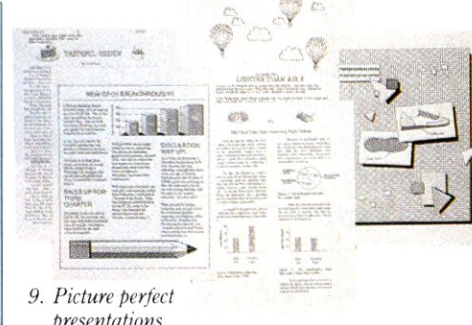
6. Hi res graphics editing.



7. Handy desk accessories.



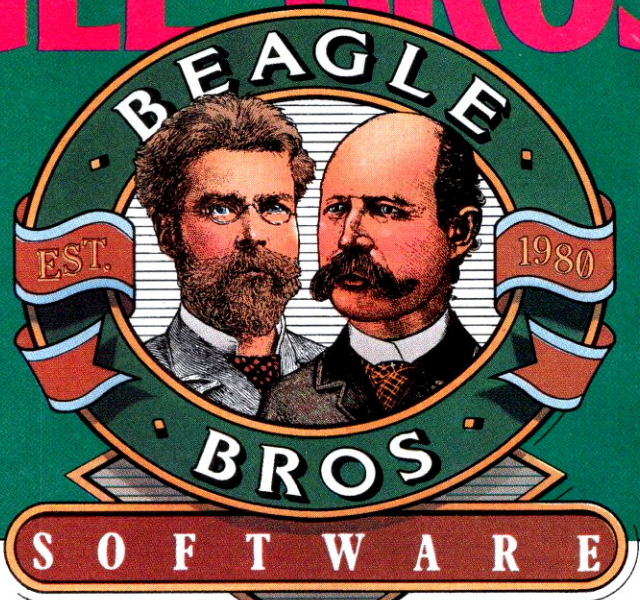
8. LaserWriter printing.



9. Picture perfect presentations.



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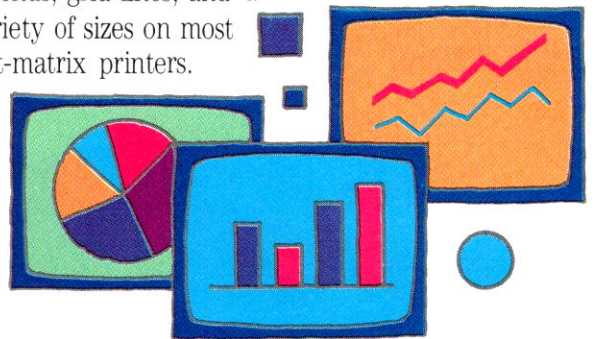
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Our new lightning fast spell checker works faster than any spell checker on the market. It allows you to easily correct your words in context or in a separate list. QUICKSPELL comes with an 80,000 word dictionary and the ability to add an unlimited number of words to your own custom dictionary.



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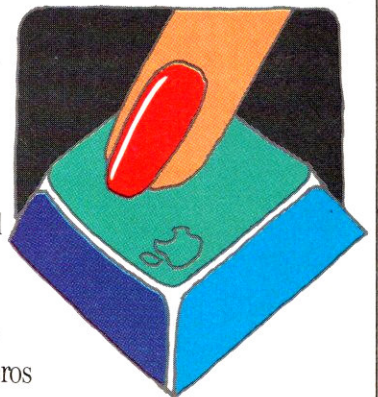
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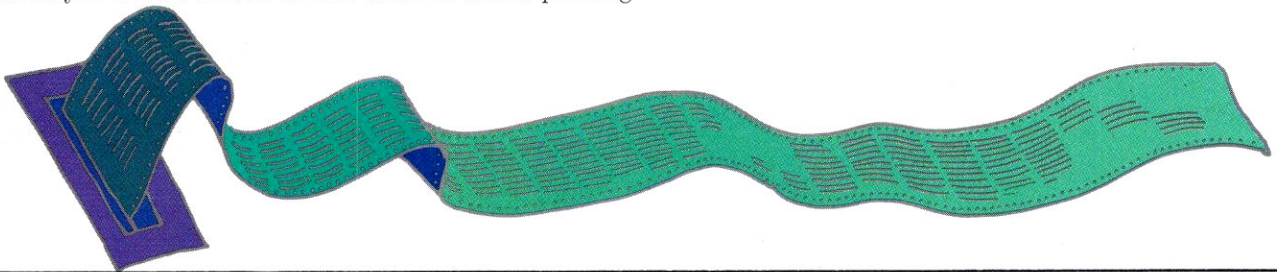
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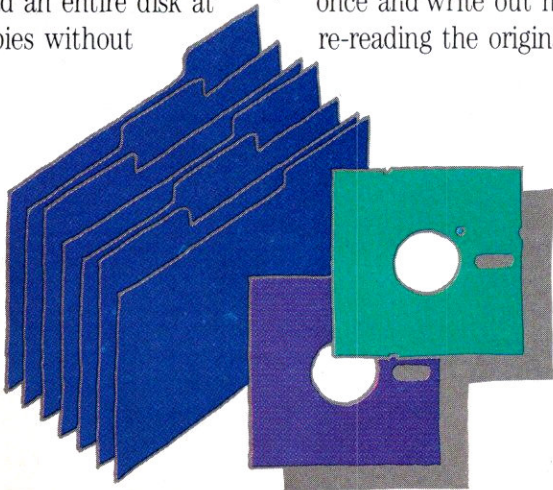
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of the entire spreadsheet or any portion. Works on most dot matrix printers.



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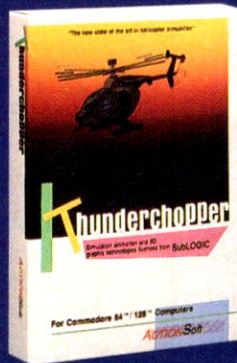
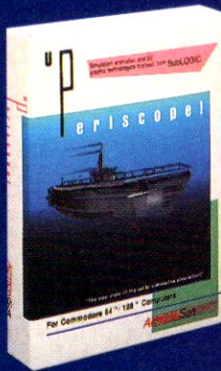
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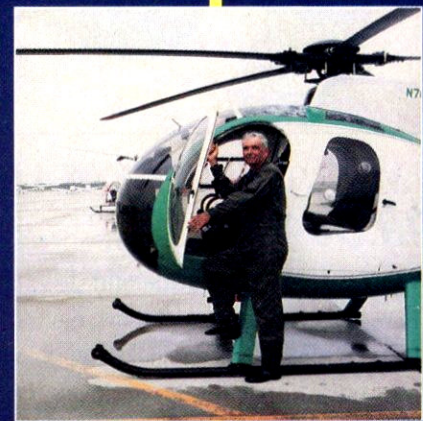
Colonel John B. Rosenow, USAF (Ret.)
President, ActionSoft Corp.



Rescue Mission - scan for flares



Escort troops through enemy territory - search and destroy enemy targets



Colonel Jack provided the strategy and tactics for ThunderChopper

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Or write or call for more information. ThunderChopper is available on disk for the Commodore 64/128 and Apple II computers. For direct orders please indicate which computer version you want. Enclose \$29.95 plus \$2.00 for shipping (outside U.S. \$6.95) and specify UPS or first class mail delivery. Visa, MasterCard, American Express, and Diners Club charges accepted.

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
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AppleWorks



24
EXPLORING THE APPLEWORKS UNIVERSE
 BY CHARLES RUBIN
 AppleWorks is the center of its own universe of products. In this first of a three-part series, we look at software that enhances AppleWorks. In parts 2 and 3, we'll round up educational and general resources.

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CLARIS INHERITS A CLASSIC
 BY LISA RALEIGH AND GARY B. LITTLE
 AppleWorks is no longer marketed by Apple Computer, Inc., but is instead sold by Claris, Apple's spin-off software company. Here's what to expect in terms of support, pricing, and upgrades.

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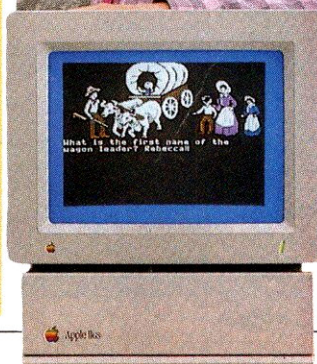
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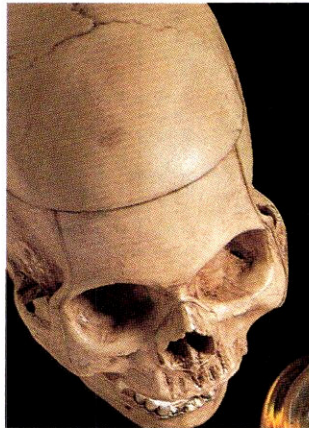


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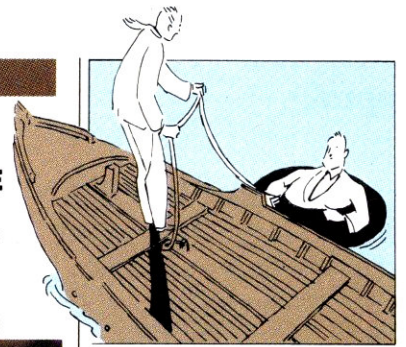


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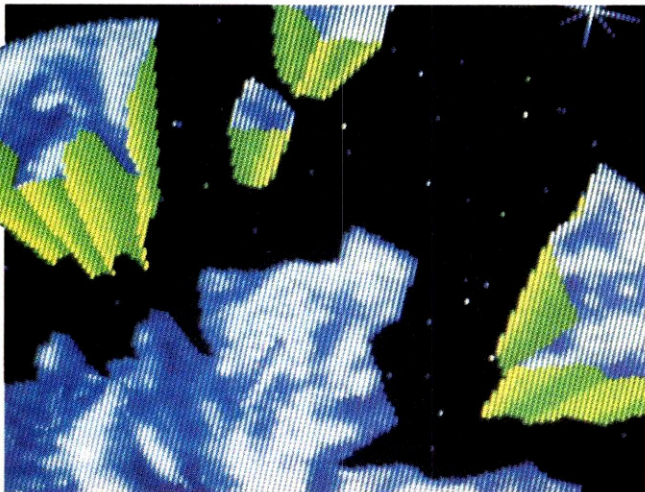
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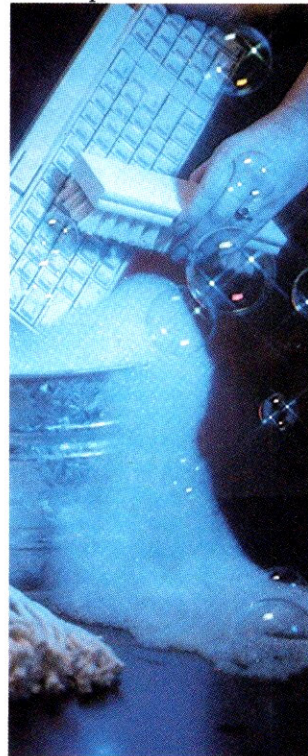
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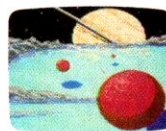
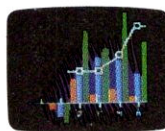
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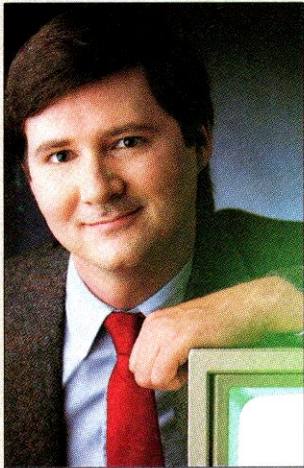
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CLARIS' APPLE II VISION

Clariss, the software company that recently spun off from Apple, now sells most of the software Apple used to sell, including the blockbuster AppleWorks program, featured in this month's cover story. AppleWorks is not only Claris' top-selling product, it's also the second-best-selling software product of all time (next to Lotus 1-2-3), with more than 750,000 copies sold so far, representing a suggested retail value of more than \$150,000,000.

According to company officials, the name Claris is a reference to "clarity of vision." Having a clear vision is certainly an admirable

corporate goal, but I'm just a bit worried about how big a role the Apple II plays in that vision. To show you what I mean, here's what Claris' first press release has to say about the company's mission: "... Claris was created for three primary reasons: to eliminate direct competition between Apple-labeled software and third-party developers, to create a substantial software company dedicated primarily to Macintosh applications, and to create a vehicle for bringing innovative Macintosh software to market."

When I read that press release, I thought to myself, "Hey, what about the Apple II? Isn't that where Claris is making most of its money?"

Claris introduced itself to the public in a huge booth at the recent MacWorld Expo in San Francisco. It announced major updates to all of its products except AppleWorks. While MacWrite, MacPaint, and MacDraw owners were getting major new features that were lacking in the previous Apple-labeled versions, all AppleWorks got from

Claris was a pretty new box.

In Claris' defense, I must say that the product plans for the Mac software and AppleWorks were already fairly well set by Apple at the time Claris spun off to become its own company. I also understand that Claris has some new features and updates planned for AppleWorks (such as support for the newly announced AppleTalk network), so we'll have to wait and see what the new version has to offer. I hope Claris discovers how important AppleWorks is to the small-business and education markets and plows some resources back into further development of the software.

Claris seems committed to providing good customer support and upgrade policies.

Also in Claris' favor, the company seems committed to providing good customer support and reasonable product-upgrade policies. In fact, after seeing how slanted toward the Mac Claris might be, some of the A+ editors wondered how well Claris would be able

to support AppleWorks. We called up Claris' support line (without identifying ourselves as A+) and asked technical questions that we knew were tricky. We're happy to report that the Claris technical-support people who answered our calls were very knowledgeable about AppleWorks and answered our questions accurately and promptly.

Hopefully, sometime soon, Claris will notice the Apple II and understand that it is just as deserving of attention as the Mac. Claris also needs to understand that now that it has split from Apple, it's just another software company. If Claris wants to continue to reap financial rewards from the Apple II market, it'll have to be as innovative and committed to the market as any other successful Apple II third-party

EDITOR'S PAGE

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EDITOR'S PAGE

vendor. And even though its first press materials made it sound like a bunch of Mac zealots, I'm optimistic that Claris will eventually take the Apple II a lot more seriously.

Big Network News

Apple has finally announced the AppleTalk network and CD-ROM disk drive for the Apple IIe and IIGs. The AppleTalk network and AppleShare file servers will now work with the Apple IIe and IIGs, by virtue of a newly announced AppleTalk add-in board and software for the IIe and system software for the IIGs (the IIGs already has AppleTalk hardware built in). You can now connect Apple II computers to networks to share resources such as printers, hard-disk drives, and other devices. Apple IIs can be networked by themselves (although you'll need a Macintosh as the AppleShare file server), or they can be connected to Macs, IBM PCs, DEC computers, and various other systems.

The new Apple CD-ROM drive is a SCSI device that functions like a read-only hard disk that can store more than 500 megabytes of information. The CD-ROM drive can serve as a single-user device connected to an individual computer or as a network device that can be accessed by any computer connected to the same AppleShare file server as the CD-ROM drive. For more information about these important new products, see this month's "NewsPlus" column. And then get ready for next month's issue, where you'll find a special report giving you the full story on the AppleTalk network.

April Fools

The A+ editors indulged themselves in a bit of April foolery this month, most notably in "Product Spooflite." Any similarity to any real products is purely unintentional. Disclaimer aside, I hope you enjoy our attempt at high-tech humor. Watch for other April Fool's items in this issue. +

FRED

FREDERIC E. DAVIS/EDITOR IN CHIEF

Your child's first step is the most important.

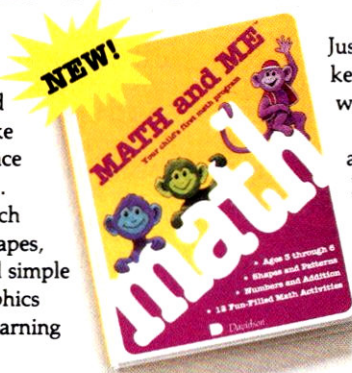


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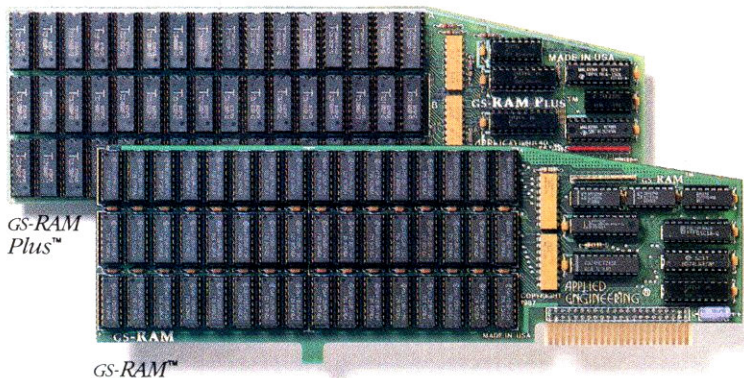
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Making AppleWorks Even Better

Applied Engineering's Expander program eliminates AppleWorks internal memory limits allowing it to recognize up to 8 megabytes of desktop workspace. You can increase the limits from only 7,250 lines to 22,600 lines in the word processor and from 6,350 records to 22,600 records in the database. The Expander allows all of AppleWorks, including print functions, to automatically load into RAM. The clipboard size will increase from 255 to 2,042 lines maximum. GS-RAM will automatically segment larger files so you can save them onto multiple floppies. And

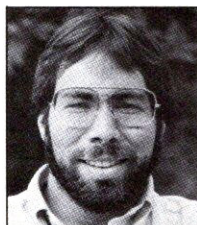
GS-RAM provides a built-in print buffer that allows you to continue working in AppleWorks while your printer is still processing text. You can even load Pinpoint or MacroWorks and your favorite spelling checker into RAM for instant response.

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We offer GS-RAM in two configurations so you can increase your memory 256K at a time (GS-RAM) or a megabyte at a time (GS-RAM Plus). Both are IIGs compatible and both come with our powerful enhancement software. GS-RAM can hold up to 1.5 MEG of 256K chips and GS-RAM Plus can hold up to 6 MEG using 1 MEG chips. And since both use standard RAM chips (not high-priced SIMM's), you'll find expanding your GS-RAM or GS-RAM Plus easy, convenient, and very economical. For further expansion, you can plug a 2 MEG "piggyback" card into the GS-RAM's expansion port for up to 3.5 MEG of total capacity. Or up to a whopping 8 MEG on GS-RAM Plus. If a GS-RAM owner outgrows 3.5 MEG, he can easily upgrade to GS-RAM Plus for a nominal charge.

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TRUE USER SUPPORT

Dear A+: Not long ago I purchased an Apple IIgs computer. All of my old software worked fine, except for Sideways. I tried every configuration to make it work, but it never did. I called Funk Software to find out what to do, and the company representative told me that my copy of Sideways wouldn't work on my IIgs. So she promptly took down my address and mailed me a free upgrade with a complete explanation of the differences in the new and old versions. Funk Software is a good example of true user support. I wish all software firms would follow suit.

JOHN WELSH
CAMPBELLSVILLE, KY

AVAILABLE MODIFICATIONS

Dear A+: I particularly enjoyed your January 1988 issue, especially the review of ThunderScan and Mike Markowitz's review of Entry Level CADApple from Versacad. In the latter article, Markowitz suggests some modifications that could improve the Entry Level CADApple program. Two of the principal modifications Markowitz suggests are to install mouse-based pull-down menus and to provide for screen dumps to dot-matrix printers. Readers

might be interested to know that there is a computer-aided design program that has many of the features of the Entry Level CADApple program but also includes these two features.

The program is discoverCAD from Hearlihy & Co., a supplier of educational materials for drafting. This mouse-based program features pull-down menus, auto-dimensioning, zoom ("windows" on Entry Level CADApple), adjustable positioning of text, and 128 drawing layers (compared with the ten layers on Entry Level CADApple). Although the program does not output directly to a dot-matrix printer, you can use a screen-dump program to get printouts (Hearlihy sells Beagle Bros Triple Dump). The discoverCAD program comes on two disks (rather than CADApple's four), which should improve the disk-access time, a problem Markowitz mentioned.

The program requires 128K of RAM, whereas Entry Level CADApple requires only 64K of RAM.

The biggest drawback with discoverCAD is its price of \$209 for a single installation (multiple installations, such as for schools, can be as low as \$80 per station in quantities of ten or more). The basic price is more than

LETTERS TO THE EDITOR

twice the \$99 price of Entry Level CADApple (Hearlihy & Company, P.O. Box 869, Springfield, OH 45501).

An unrelated issue: I don't think that your comments regarding Sensible Software's Graphics Department program's showing its age ("Product All-Stars," December 1987) are justified. For example, Sensible Software just recently offered a low-cost upgrade of the Graphics Department printing module that plots charts and graphs in color on a color printer (such as the Apple ImageWriter II). Although I favor pull-down menus, the keyboard system of The Graphics Department is almost as easy to use. The program does require a lot of disk access, but it permits great versatility in the ordering of operations.

One area in which an improvement might be possible (but that could require considerable reprogramming) would be to go to double-hi-res graphics. Such reprogramming might be more justifiable if it were in

conjunction with making The Graphics Department compatible with the Apple IIgs.

Thanks for producing the best computer magazine; keep up the good work.

HAROLD T. PETERSON, JR.
SILVER SPRING, MD

MELTDOWN

Dear A+: It was with great interest that we read your article on Apple IIgs desk accessories (September 1987). We have managed to obtain copies of most of the desk accessories you described, from CompuServe. We do have a question, however. When we ran the Meltdown NDA from Paintworks Plus, we unfortunately left our Apple IIgs sitting right under the monitor. Meltdown

LETTERS

worked quite well and looked very nice, but we're wondering what method you recommend for removing the residue of the melted picture, which dripped from the monitor into the IIGs.

We have on hand a quantity of

ACME Bit Remover, which we use to clean stubborn RAM chips, but we're not sure that it will work in this case. Our questions for you are:

Should we go ahead and use the Bit Remover, or should we invest in some ACME Pixel Remover instead? And do you know of any source for a platinum-colored drip pan that we could hang under the monitor to forestall future cleaning difficulties?

We anxiously await your reply.

Thanks for a great magazine.

CAPT PHILLIP D. ANDERSON, USAF
SSGT WILLIAM H. ADAMS, USAF
BILOXI, MS

We're glad we received your letter in time for our April issue. Unfortunately, however, we know of no products that would help you clean up your act.

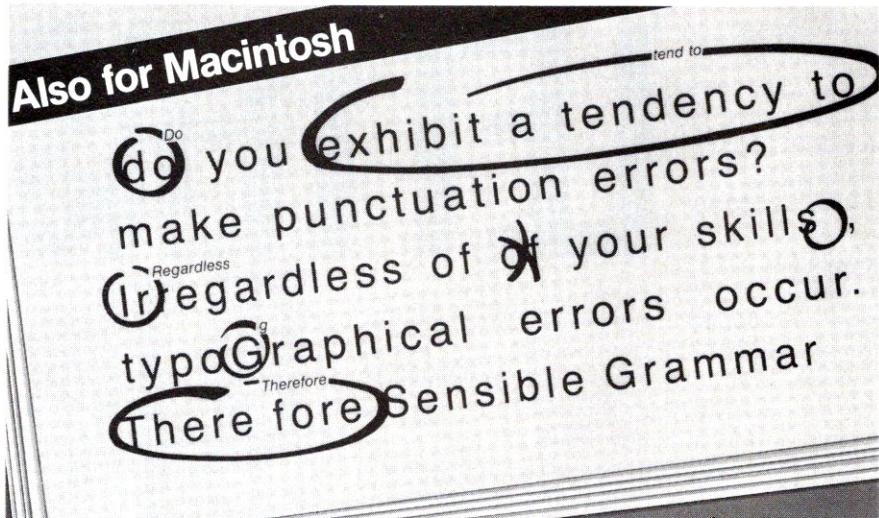
—Editors

COMPUTING IN THE LATE '80S

Dear A +: The Apple II is as successful as it is largely because of users and aftermarket suppliers. We users have made it possible for the machine to remain somewhat competitive with products in the MS-DOS world, through some ingenuity and often substantial investments in add-ons such as memory and accelerator boards and enhancements to AppleWorks. The MS-DOS world is moving ahead, however, and most everyone looking for a computer today anticipates RAM-resident programs and multitasking and beautiful graphics and maybe real speech recognition and UNIX and all the rest. Many computer jocks have peddled their IIe and IIc computers and, frustrated by Apple's no-competition policy between the IIGs and the Mac, even their disappointing GS computers, in exchange for IBM clones.

I think that for most purposes, where instant gratification is not necessary in terms of disk access, number crunching, and screen updating, the good old II-series computer is still a machine of choice—if only Apple would drop its ridiculous prices and start seriously supporting the code and silicon necessary to keep the machine in the market.

Your readers might like to see an article in *A +* comparing a souped-up Apple system, using the Zip-Chip or similar accelerator, a bunch of extra memory, RAMdisk software, desktop accessories, 3.5-inch and hard-disk drive, and similar stuff, to an IBM-compatible, maybe even an AT-style, set up for typical office work: word-processing, database, accounting, spreadsheet, and communications functions. The benchmarking could include bottlenecks such as file handling, disk access, calculation of spreadsheets, other numeric



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SENSIBLE GRAMMAR

checks your grammar, capitalization, punctuation and abbreviations. It searches out phrases that are inconcise, vague, wordy or repetitive, as well as faulty, informal, pompous or sexist phrases. It calls your attention to clichés and slang. It even allows you to enter your own personal trite and pet expressions and then lets you know every time you use them.

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Black's Law Dictionary™, **Sensible Technical Dictionary™** and **Stedman's Medical Dictionary™** are also available separately on diskette for use with the Sensible Speller.

Sensible Grammar (\$99.95) which works on Apple IIGs, 128K //e and //c, and **Sensible Speller ProDOS** (\$125), which works on Apple IIGs, //c, //e and II+, are available on 5" and 3.5" disks. **Sensible Speller** IV (\$125) works with Apple //e, //c, II+, II and Apple-compatible computers. **Sensible Technical**, **Stedman's Medical** and **Black's Law Dictionaries** are available on 5" disk for \$39.95 each. All programs are available separately.



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Sensible Grammar and Sensible Speller ProDOS work with the following programs: AppleWorks (Apple Computer, Inc.); Catalyst (Quark Inc.); Mouse Desk (International Solutions); Sensible Grammar and Sensible Speller ProDOS also work with the following word processors: AppleWriter-ProDOS version (Apple Computer, Inc.); Format Publishing, Inc.); Sensible Writer (Sensible Software Inc.); Word Juggler (Quark Inc.); Word Perfect (ISI Software); Write-ProDOS (Software Publishing, Inc.); WordPerfect (ISI Software); MultiScribe (StyleWare, Inc.); Word-Talk (Computer Aide) and Writing Wizard (Scarborough Systems). Owners of trademarks indicated in parentheses: Black's Law Dictionary (West Publishing, Inc.).

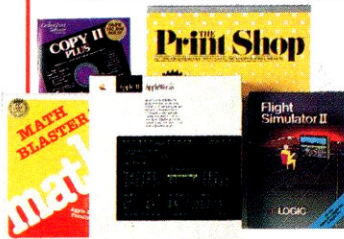
CIRCLE 130 ON READER SERVICE CARD

LASER 128EX

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The Laser 128EX Apple-compatible computer has all the built-in features of the popular Laser 128, plus more. MORE FEATURES, MORE MEMORY, MORE SPEED AND MORE EXPANDABILITY. The Laser 128EX is designed for the serious computer user, and it's ready-to-run — plug it in, insert your program and take-off. This machine is built to race.

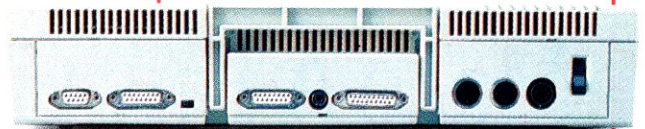


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The Laser 128EX runs Apple IIe and //c software at speeds never before achieved. Its built-in 192K RAM (128K — User and 64K — Video) memory and triple speed processor lets you run programs at a world class pace. The Laser 128EX is a machine designed for leading performance.

The 128EX has everything built-in, including a disk drive and interfaces to all your peripherals,

including serial and parallel printers, a modem and mouse, joysticks, external 3 1/2" and 5 1/4" drives, and even a color RGB or monochrome monitor. Only the Laser 128EX has these performance features built-in.



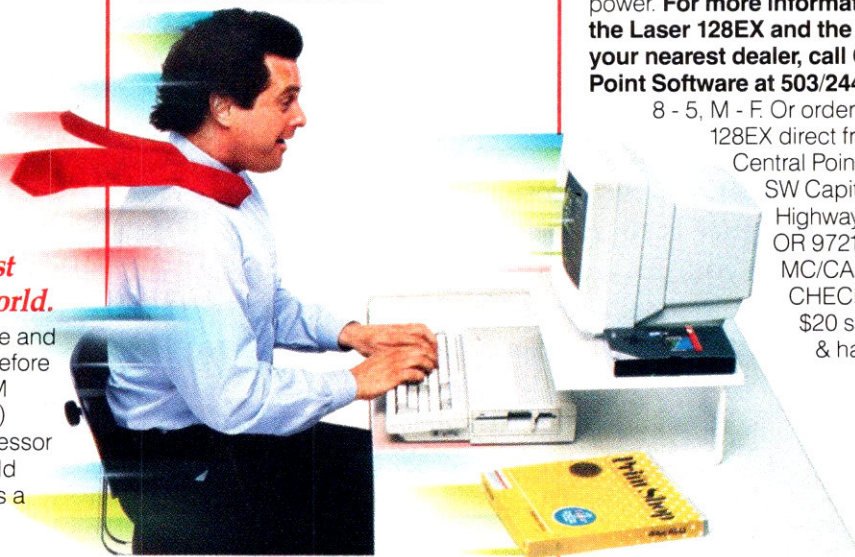
The Laser 128EX is expandable!

Boost the internal memory of the 128EX over 1Mb with its fully socketed AppleWorks-compatible RAM board. And, it has an expansion slot to let the computer grow with your increasing demands.

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8 - 5, M - F. Or order the 128EX direct from Central Point at 9700 SW Capitol Highway, Portland, OR 97219. VISA/MC/CASHIER'S CHECK add \$20 shipping & handling.



LASER 128EX

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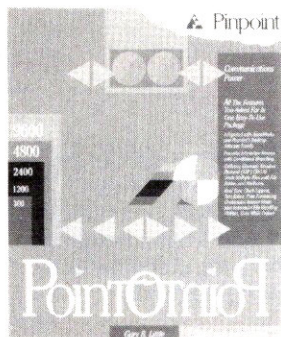
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LETTERS

functions, "ease of use" (as subjective as that has to be), and other items that may occur to you. You might standardize on programs that are available in both Apple and MS-DOS format. The piece should describe the typical office activities to which the machines are put: drafting, filing and sending correspondence and reports, project planning, financial calculations (e.g., spreadsheets), and accounting. Interviews with a couple of typical users of both systems might be woven into the story.

Like a lot of other Apple owners, I have been thinking about unloading my IIe in favor of an IBM clone. If a comparison of this sort could be pulled together, showing equivalence and maybe even superiority in some areas, maybe many of us would not duck out of the Apple community.

By the way, I am very disappointed that Apple continues to treat the II people like reliable but distant relations. This is the same old story at Apple, of course. I wish the company were not so bent on euthanasia for the machine that made all its other indulgences possible. Maybe the 68XXX processor is the thoroughbred cutting edge for the next couple of years, but those folks in Cupertino ought to give a lot more thought to the 65XXX mules that have carried them this far and still produce a substantial chunk of their revenues. Eventually the computer market is going to reach a point of saturation again, and they ought to keep in mind that add-ons can also be "profit centers."

I look forward to seeing something from *A+* that shows existing and, perhaps, prospective Apple II owners that MS-DOS is not the only way to compute in the late 1980s.

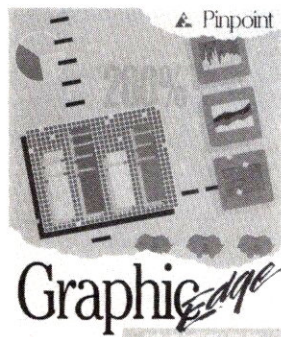
JON MCPHEE
CHICAGO, IL

Well how about it, A+ readers? Is this topic something many of you would like to see explored in the pages of this magazine? Write us with your comments.

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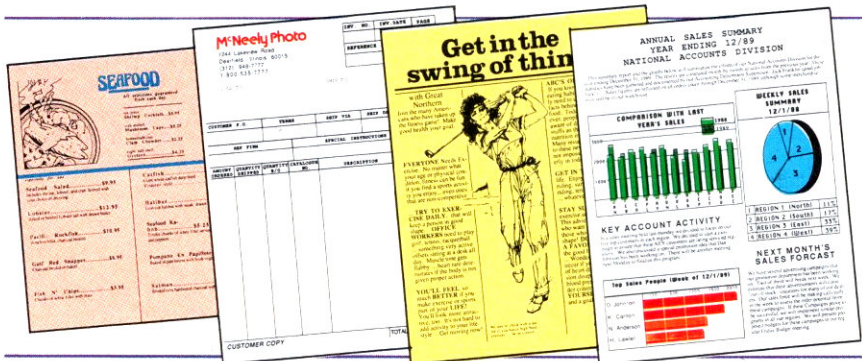
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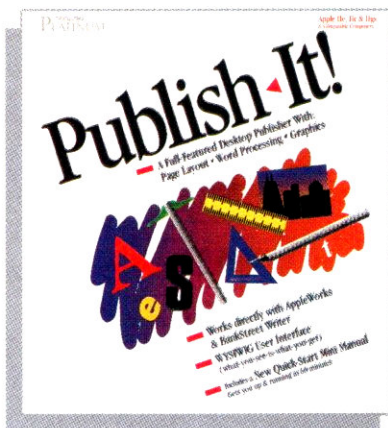
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NEWS PLUS

Apple announces network products for the II family and a CD-ROM drive, the Laser 128 means more sales to Apple II software publishers, and other industry updates

AT LAST, THE APPLE II NETWORK

On March 1 in Boston, Apple announced the Apple IIe Workstation Card, which will permit—at last—the connection of Apple IIe computers to AppleTalk networks so they can share LaserWriters and AppleTalk ImageWriters with other systems. This development leaves the II Plus and IIc as the only mod-

els in the Apple II family that you can't use with AppleTalk. The IIgs has always been able to connect to AppleTalk through either of its built-in serial ports.

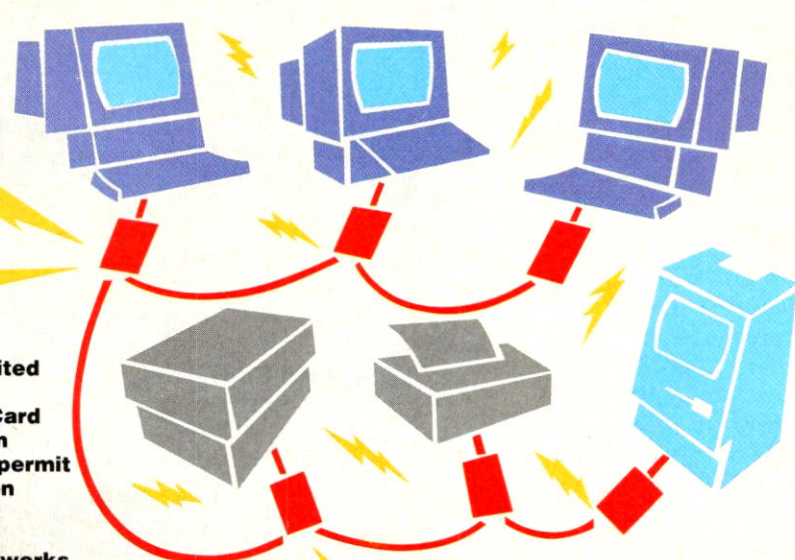
Apple also announced AppleShare 2.0, a new version of its popular fileserver software for the Macintosh. AppleShare 2.0 now works with the ProDOS operating system (as well as the Macintosh HFS file system and MS-DOS), so networked Apple IIs can use Macintosh hard-disk

drives for file storage. Unfortunately, you cannot use a IIe or a GS as a fileserver—a Macintosh with a hard-disk drive is required. Sharing of files on the server with any other networked computer is easy, although AppleShare allows file creators to restrict access as they see fit.

The IIe Workstation Card contains all the software to communicate properly with the fileserver. With the GS, a new operating system installs special driver programs from the system disk when you boot up.

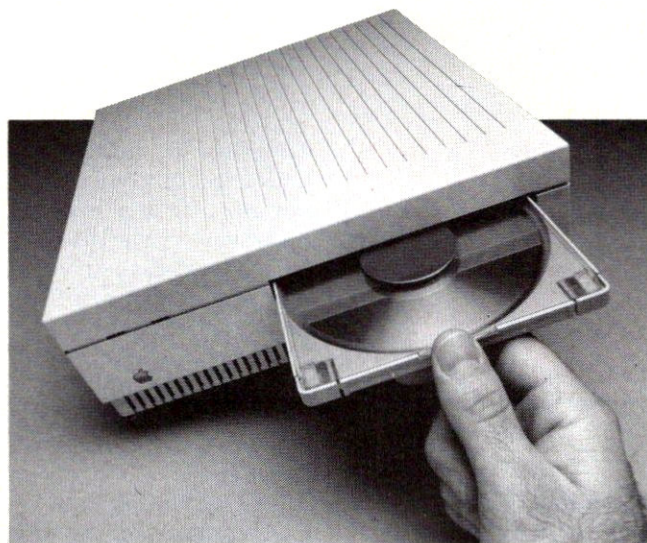
The other interesting networking product Apple announced was Aristotle, a program to help teachers manage computer activity in the classroom. In a nutshell, teachers use it to assign groups of programs to certain classes, and groups of students to classes. When students log onto the network from a IIe or GS, they can run only the programs in the group the teacher has selected.

At our press deadline, Apple had not yet set suggested prices for these products. Ballpark figures are \$800 for AppleShare 2.0, \$275 for the IIe Workstation Card, \$200 for Aristotle, and \$100 for the GS software. *A+* will be examining all these new networking products in more detail next month.



The long-awaited Apple IIe Workstation Card and GS system software will permit the connection of IIe and IIgs computers to AppleTalk networks.

NEWSPLUS



CD-ROM

Apple's other major March 1 announcement occurred on the other side of the continent. At the third annual Microsoft CD-ROM conference in Seattle, Apple unveiled the AppleCD SC, a read-only CD-ROM drive for the Apple II and Macintosh. The optical medium for this drive can contain up to 550 megabytes of text, graphics, and sound information.

Like Apple's hard-disk drives, the AppleCD SC is a SCSI device, so you connect it to an Apple II SCSI interface card (with new revision C ROMs) to get it running. Music lovers can play standard audio CDs on it by buying an optional CD audio-chip set.

Apple expects the drive to attract a lot of interest from educators, publishers, and others who require easy access to large amounts of information. We at A +

couldn't agree more. Now it's up to the information providers to begin supplying CDs filled with useful data and the retrieval software we're going to need to sift through it efficiently.

APPLE BREAKS A BILLION

Apple Computer, Inc., had such a knockout Christmas that it topped a billion dollars in revenues in a single fiscal quarter. Chairman John Sculley attributed the results to sales gains of the Apple IIGs and the Macintosh SE in particular. Revenues for Apple's first quarter of 1988, which ended January 1, were \$1.042 billion, up 57% from the \$662.3 million recorded in the year-earlier period. The company's net income zoomed up even more spectacularly to \$121.4 million, or 108% higher than the \$58.5 million of the year before.

LASER ZAPS COMMODORE, NOT APPLE

The Laser 128 series of IIe/c-compatible computers is selling remarkably well, much to the delight of its manufacturer, Video Technology. A + estimates that more than 100,000 128s and 128EXs have now been sold, one-third of these by Central Point Software, the designer of the ROM and most of the system hardware. According to Mike Brown, President of Central Point, "suddenly the Apple II family is alive again."

Video Technology's big coup in 1987 was a deal with the Sears mass-

merchandising chain in which Sears agreed to promote the Laser 128 in its popular consumer catalog. Doing a deal was difficult, since Sears had been unsuccessful when it tried to sell another Apple II compatible, the Franklin 500. But today, Sears is all smiles, particularly after a strong Christmas season.

Central Point's Brown is convinced that the low price of the Laser computers has caused an erosion in Commodore 64 sales, not sales of the more expensive Apple IIe/c. If he's right, publishers of Apple II software should be ecstatic—now there are many more potential software buyers than there would have been otherwise.



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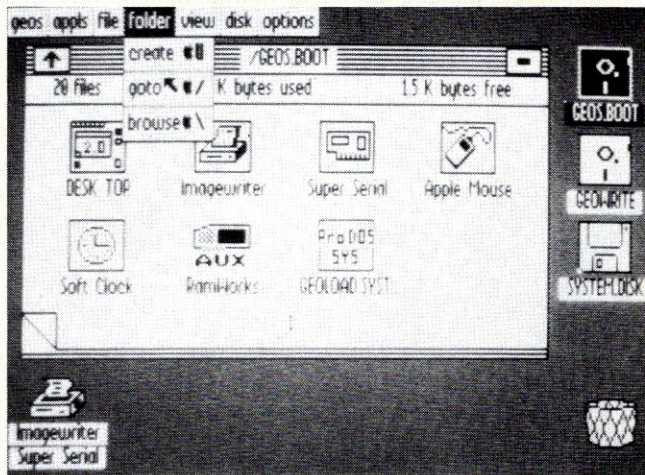


NYET, NYET, SOVIET

It's not often that a trip to your lawyer's office leads to a marketing campaign for your product, but that's exactly what happened recently to Jim Hammond of Fastfind Company. He was seeking advice on whether he could sell his popular Fastdata Pro program to a potential customer in Budapest, Hungary. (Fastdata is a high-speed text-retrieval program that Fastfind sells with computer-magazine-abstract databases.)

Poor Jim was told he could not. According to the federal Export Administration Act, selling high-tech material to residents of Soviet-controlled countries is illegal. The Commerce Department confirmed the interpretation of Jim's lawyer.

Jim trashed the order but concluded that his software must be really hot stuff if the Hungarians were to be denied the opportunity to search for all occurrences of the word *AppleWorks* in past volumes of *A+*. So his ads now feature a giant, bright-red hammer and sickle next to two headlines: "Banned in the USSR" and "So useful that Congress prohibits export to Soviets!" Take that, Mr. Gorbachev.



GEOS FOR THE APPLE II

Berkeley Softworks, designer and publisher of the GEOS operating system for the Commodore 64, has announced it will be converting that operating system—and several applications that run under it—to run on the Apple IIe, IIc, and IIGs. In fact, GEOS may already be available by the time you read this column.

GEOS will use the double-hi-res screen to create a pull-down-menu, icon, and windowing user interface similar—but not identical—to the Apple standard interface that GS and Macintosh desktop applications use. Berkeley Softworks expects to sell GEOS in an integrated bundle along with geoWrite, geoPaint, geoSpell, and geoMerge (four more Commodore 64 conversions) for about \$129. At least two other GEOS applications, geoPublish (desktop publishing) and geoCalc (a

spreadsheet program), are in the works and may be available sometime this summer.

GEOS is exciting news for IIe/c users who long for the desktop interface GS users have today, and the integration of the "geo" applications into this environment should result in increased productivity for those who need to transfer data between applications.

FREE SOFTWARE— FOR A PRICE

It may seem a strange idea to pay for public-domain software, but the convenience may make up for the contradiction in terms. Rather than rummage around on online services or in users' group libraries to acquire some of these programs, you can simply order a disk full of public-domain goodies from the Public Domain Exchange. Not only does the PDE handle public-domain

software, but it also sells disks of shareware programs, for which users are expected to pay an additional fee (usually less than \$50) if they decide to use the program regularly. Shareware is sort of a try-before-you-buy concept.

The PDE has just added an Apple IIGs section to its catalog, featuring disks with programs such as desk accessories, FreeTermcs (a telecommunications All-Star in the December issue of *A+*), SHRCONVERT (a utility that converts graphics from many formats to the super-hi-res mode of the IIGs), and the Diversi-series of utilities (which are shareware programs). In addition, there are two other utility disks, three disks containing GS graphics files, and one disk with music files that work with Music Construction Set, for a total of ten IIGs disks in the PDE's catalog (each of which is priced at \$9, plus \$4 for shipping and handling per order).

The PDE also sells hundreds of Apple IIe/c disks for \$5 apiece. The PDE's winter catalog added several new titles for the IIe/c, including ten AppleWorks template disks, three telecommunications programs, and several education titles.

For further information, contact the Public Domain Exchange at 2074C Walsh Avenue, Santa Clara, CA 95050; (800) 331-8125, in CA (408) 496-0624.

NEWSPLUS

UPDATE

■ StyleWare has brought out yet another version of MultiScribe *cs*. Version 3.0 has a sophisticated 80,000-word spelling checker and thesaurus, as well as new word-processing and graphics features. It also has a new command for deleting files. The retail price is the same as that of the previous version—\$99.95—and it costs \$20 to upgrade from older versions. StyleWare also has released a font library for MultiScribe *cs* and other *cs* programs that offers a collection of 90 new font files for

\$39.95. StyleWare, 5250 Gulfon, Suite 2E, Houston, TX 77081; (713) 668-1360.

■ DataPak Software has brought out version 2.0 of its IIGs desktop-publishing program, GraphicWriter. The new release contains features such as text flow around graphics and regions, a greater range of point sizes, the ability to access an infinite number of fonts, and the capability to create columns. GraphicWriter also now works with the LaserWriter printer.

DataPak has sent free upgrades to all registered users of previous versions, so be sure you've sent in your registration card. The retail price is \$149.95. DataPak Software 14011 Ventura Blvd. #507, Sherman Oaks, CA 91423; (818) 905-6419.

■ In our December 1987 issue, we named On Balance from Brøderbund Software as one of our personal-finance All-Stars. Since then, Brøderbund has lowered the price of On Balance from \$99.95 to \$59.95.

■ MouseTalk, a telecommunications program, is now available in a new version (1.3) that works with all Hayes-compatible internal and external modems. United Software Industries, publisher of MouseTalk, is offering a free upgrade to registered users of older versions.

The retail price of the new release is the same as that of the old: \$99.95. United Software Industries, 8399 Topanga Canyon Blvd., #200, Canoga Park, CA 91304; (818) 887-5800.

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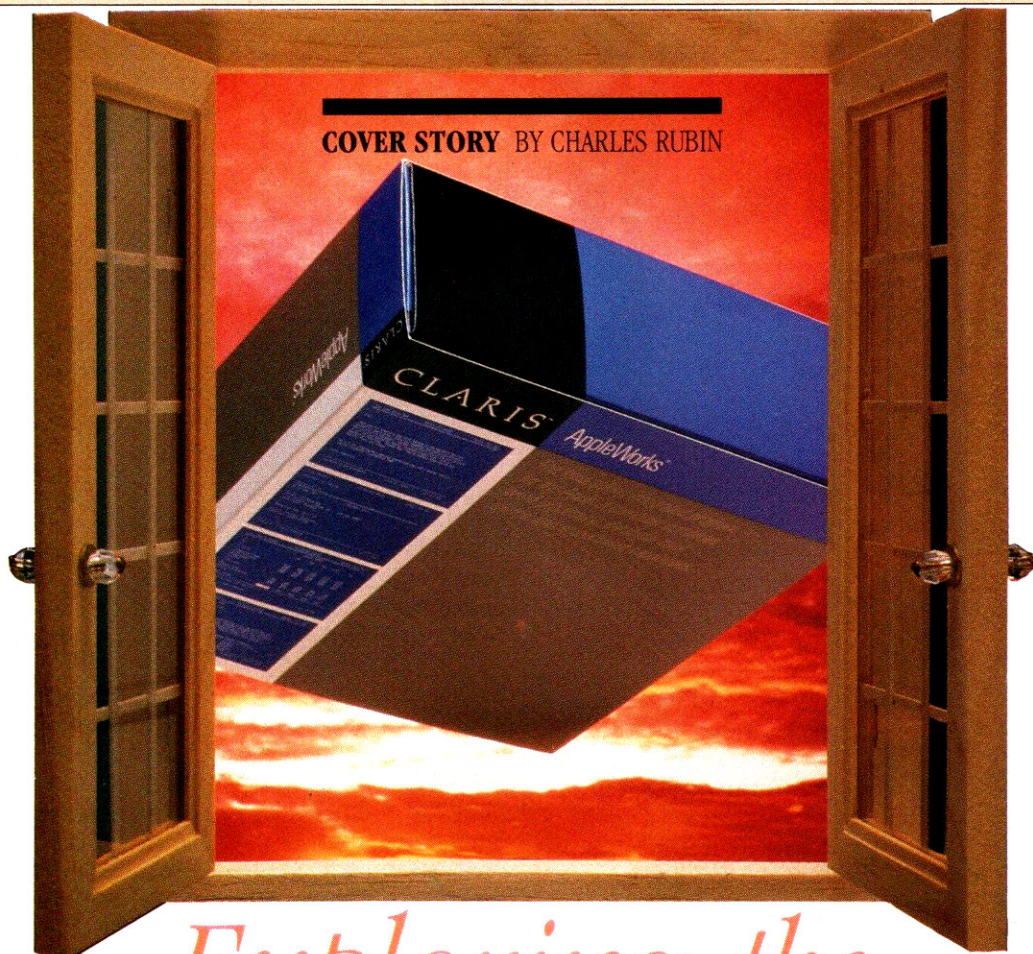
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CIRCLE 110 ON READER SERVICE CARD

COVER STORY BY CHARLES RUBIN



Exploring the APPLEWORKS UNIVERSE

AppleWorks is the center of its own universe. In this first of a three-part series, we look at the many software programs that work with or enhance AppleWorks. Part 2, in May, will cover educationally related AppleWorks products, and Part 3, in June, looks at general AppleWorks resources.

Most people who have bought Apple II computers during the past four years have also bought AppleWorks, which has made that program the standard productivity application for the Apple II line. Among the word-processing, database, and spreadsheet programs for the Apple II line, AppleWorks dominates all three categories. AppleWorks never claimed to have the most powerful of any of these applications, but most users have preferred to stick with AppleWorks' smooth integration and

amazingly simple interface rather than migrate to more powerful programs.

Nevertheless, computer skills and users' needs don't stand still, and AppleWorks users may want more power without abandoning their main program. That's where AppleWorks enhancement programs and AppleWorks-compatible programs come in. Once a solitary program, AppleWorks is now the center of a universe of third-party products that offer a wide range of extended capabilities. From custom print formats to cus-

tom database reports, and from business graphics to macros, we can choose from many ways to enhance the data we create and store with AppleWorks—and more options are appearing every year.

Two types of software make up the AppleWorks universe. AppleWorks *enhancement* programs add extra capabilities to AppleWorks, allowing us to use AppleWorks more easily or manipulate AppleWorks data more flexibly. They include spelling programs, outliners, report generators, print utilities, templates, and macro programs.

These programs are specifically designed to work with AppleWorks and with no other program.

Then there are AppleWorks-compatible programs—stand-alone applications that can use data you enter directly, as well as data from the AppleWorks word-processing, spreadsheet, and database modules. These programs include accounting systems, communications programs, stand-alone graphics and spelling programs, and print-enhancement programs.

As we explore the AppleWorks universe, we'll look at the different products by application area.

ACCOUNTING AND TAXES

This section includes full-featured business accounting systems as well as personal accounting programs and income-tax templates.

1040Works and 1040Works-X

1040Works and 1040Works-X are sets of federal tax forms set up as AppleWorks spreadsheet templates. Each set includes forms 1040, Schedules A, B, C, D, E, F, R, and SE, in addition to forms for employee expenses, child-care deductions, moving expenses, deductible mortgage interest, passive losses, alternative minimum tax, and children's tax computations. Along with the tax forms, you get a tax-planning worksheet; AppleWorks macros you can use with Super MacroWorks and other macro programs; a tutorial; a W-4-form deductions calculator; and a utility for transferring data from Quicken, Dollars & Sense, and AppleWorks spreadsheets into one of the IRS forms. Most forms print in IRS-ac-

ceptable format. These templates come with a basic typewritten manual that explains how to enter data into each template. The difference between 1040Works and 1040Works-X is that 1040Works-X combines two of the largest forms into one spreadsheet file, so you don't have to transfer data from one file to another. The company updates the templates each year to incorporate tax-form changes. (1040Works, \$21.95; 1040Works-X, \$24.95)

Federal Tax Forms

This set of AppleWorks spreadsheet templates from Sky Computer Resources contains files for all the common federal income-tax forms, updated every year to accommodate form changes. Instructions for using each form are contained in an area of the template itself. When you're done, you can print each file in a format that the IRS has rated acceptable. The diskette contains 14 forms, including 1040, schedules A through F and SE, and forms for employee busi-

ness-expense deductions, child-care deductions, moving expenses, and depreciation and amortization. (\$39.95; extra IRS forms, \$5 each)

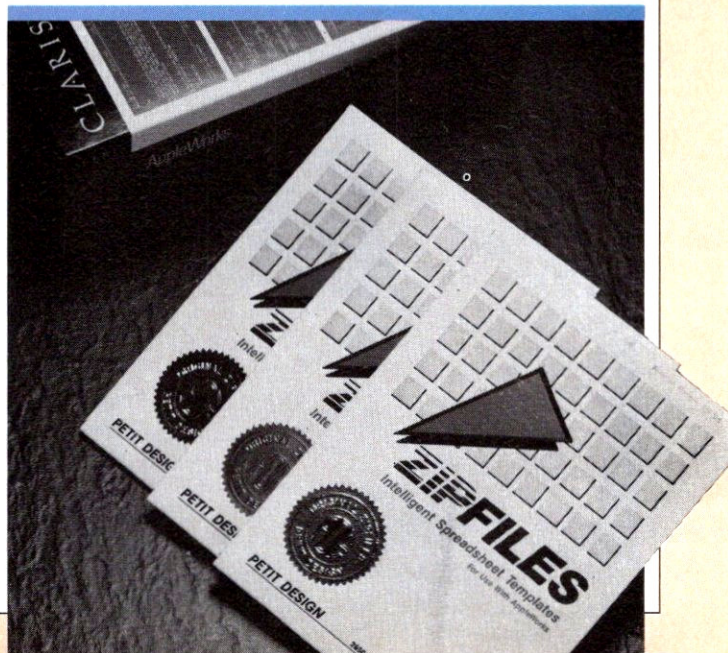
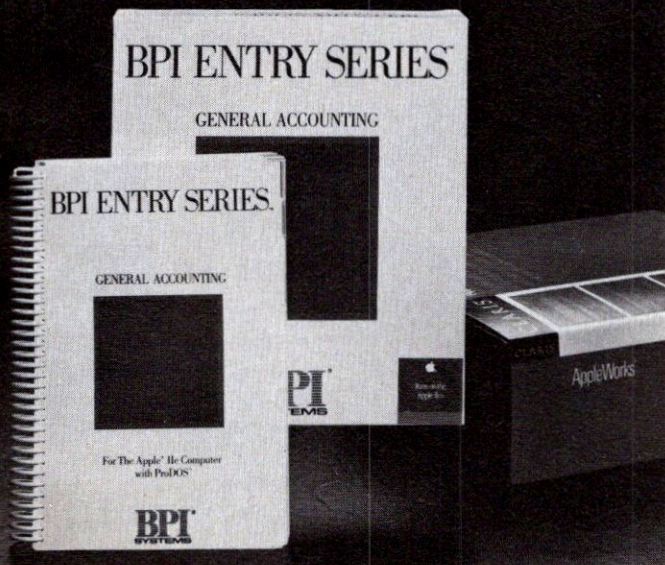
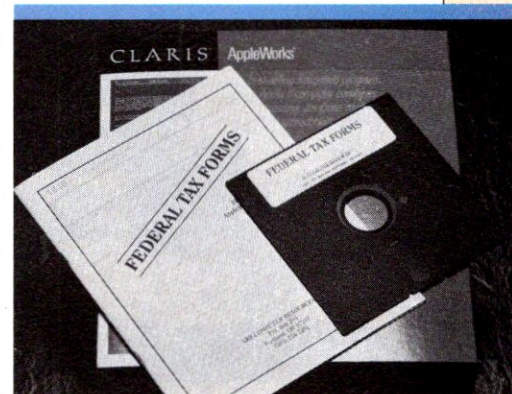
Tax ZipFiles

This set of tax-calculation templates includes a tax ledger you can use to record deductions, a depreciation calculator, a file for recording capital gains and losses, and a large template that lets you enter and calculate data for federal tax form 1040 and schedules A, C, D, and E. Because all these forms and schedules are in one file, values from the schedules automatically transfer to the 1040 form. Once you've calculated the data, you can transfer it to the actual IRS forms. These templates come with a 50-page spiral-bound manual. (\$29.95)

Applied Scientific Accounting Templates

These accounting templates are AppleWorks spreadsheet and database files for tracking accounting matters for small businesses with few customers, employees, and suppliers. Individual template dis-

*AppleWorks
is now the center
of a universe of
third-party products
that offer a wide range
of extended
capabilities.*



kettes are available for accounts receivable, accounts payable, payroll, financial calculations, investment-portfolio tracking, and personal accounting. The templates are simple and come with on-disk word-processing files containing instructions for their use. (\$29.95 each)

BPI Entry Series

The oldest full-featured accounting system still available for the Apple II, the BPI Entry Series offers separate accounts-receivable, accounts-payable, general-ledger, payroll, and inventory modules that can all work together as an integrated system. You can transfer data from these modules to the AppleWorks spreadsheet module for detailed analysis. As the oldest accounting system for the Apple II, the BPI Entry Series is showing its age. Its pre-AppleWorks interface is not as easy to master for AppleWorks users, and it offers fewer features than BusinessWorks, its major competitor. On the plus side, the Entry Series is familiar to most Apple II dealers, so local support should be good. (\$295 per module)

BusinessWorks

Manzanita's BusinessWorks is a newer full-featured accounting system for the Apple II line. The BusinessWorks series includes general-ledger, payables, receivables, inventory, and payroll modules and requires either a hard-disk drive or two UniDisk 3.5-inch drives. BusinessWorks was designed to be familiar to AppleWorks users—its file-card interface and open-apple command structure are similar to those of AppleWorks, and you can export data to it in either the AppleWorks spreadsheet or database format for further manipulation. BusinessWorks is a well-designed, feature-packed program designed to handle companies with up to \$30 million in annual sales and hundreds of customers, vendors, and employees. (System Manager module [required], \$95; Payroll, \$445; other modules, \$395 each)

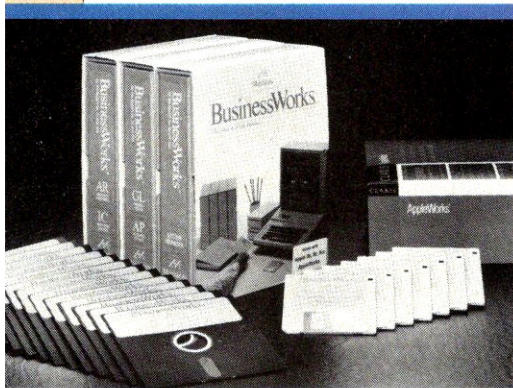
General Ledger Template

The General Ledger AppleWorks Template from Sage Productions is an elaborate AppleWorks spread-

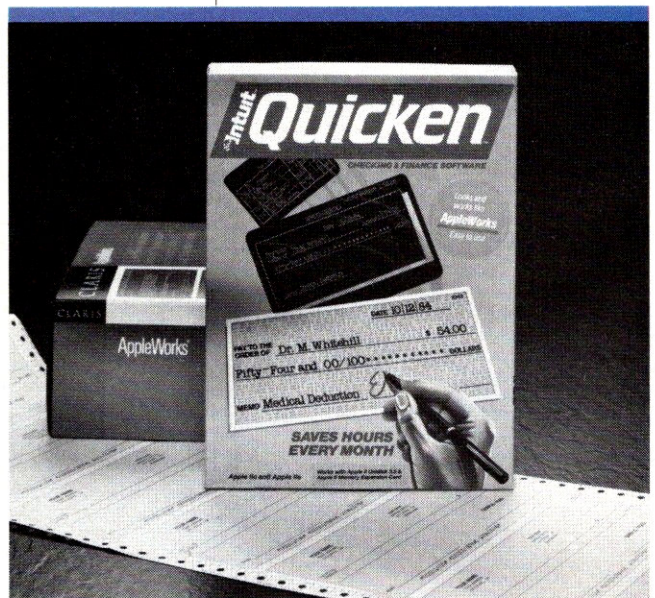
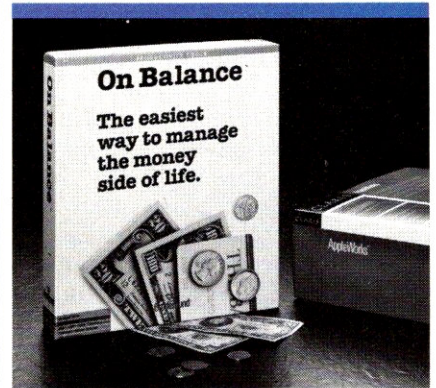
sheet file you can use to create and maintain vendor and customer accounts and enter monthly transactions. It comes with a manual that shows how to enter or modify accounts and transactions and how to create balance sheets and income statements. Because this product is a spreadsheet file (and AppleWorks files remain entirely in memory), you are limited by memory availability. On a 128K machine, for example, you can enter only 65 transactions per month. Furthermore, this template lacks the automation of stand-alone programs: You have to manually transfer one month's balances to the next month, and you must create a new template file for each month's activity. (\$89.95)

On Balance

On Balance is a relatively new personal-accounting program from Brøderbund Software. You can write and print checks, maintain and reconcile a check register, and report information about your finances by account or account group. You can also set up budgets for each expense category and then

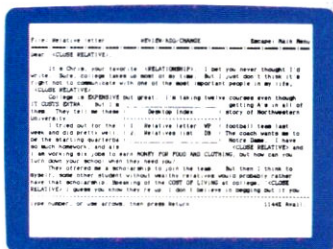
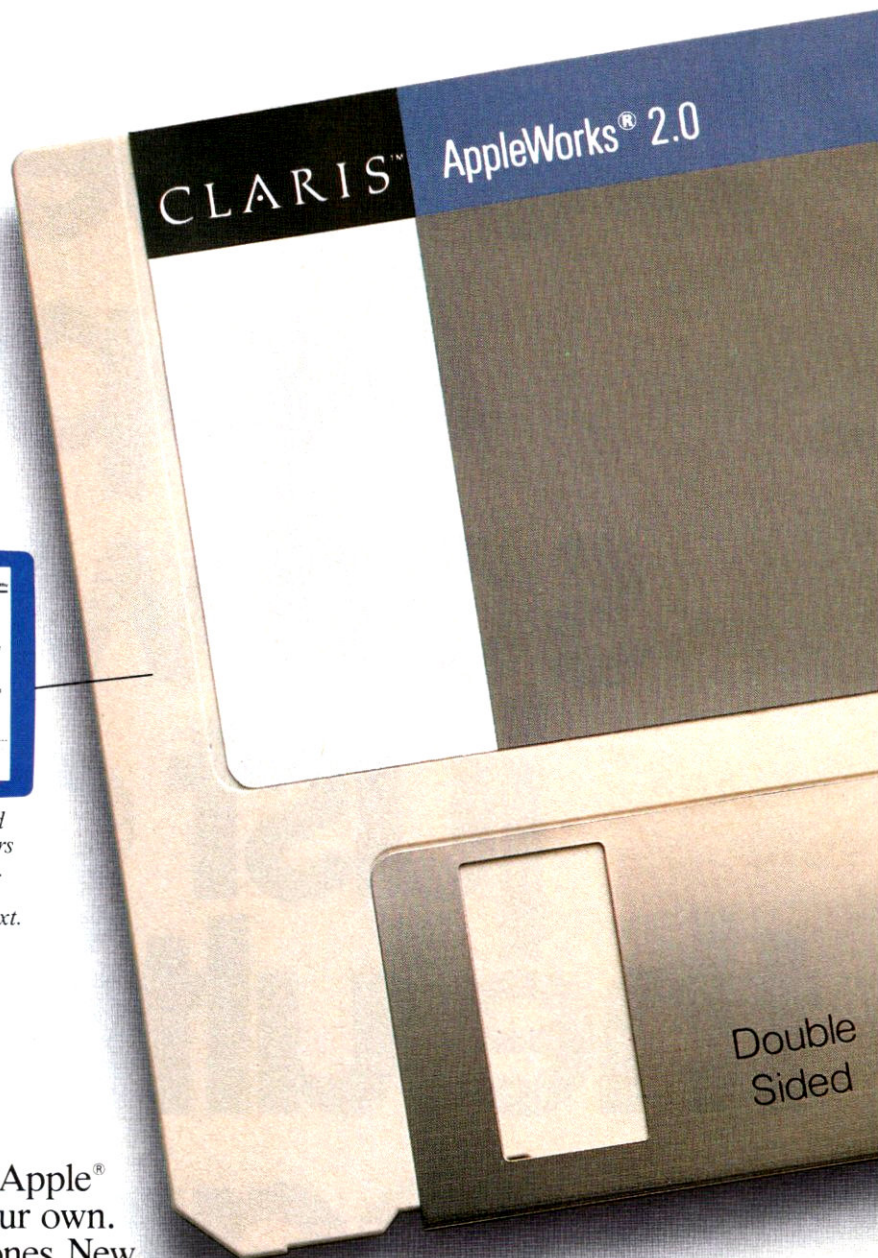


BusinessWorks is a feature-packed program designed to handle companies with up to \$30 million in annual sales and hundreds of customers and vendors.



**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.

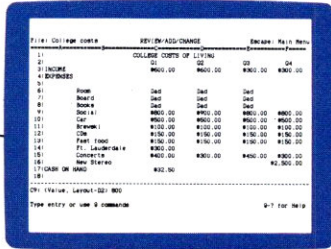
New stationery. New phones. New offices. The whole bit.

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.

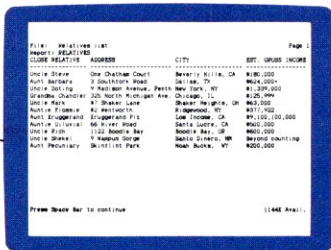
Or should we say, the three best-

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.



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



A few keystrokes, and you arrive at the impressive AppleWorks' database. Organize, file, sort and manipulate vital info—from your record collection to VIP addresses.

AppleWorks 2.0 is even better. It has extended memory support. So you can take advantage of the new power of the Apple IIGs.[®]

And it has mail merge capability. So you can do things like start a mail-order business in the spare bedroom.

Or, take your traditional copy machine holiday letter and personalize it for thousands of very close friends. (Speaking

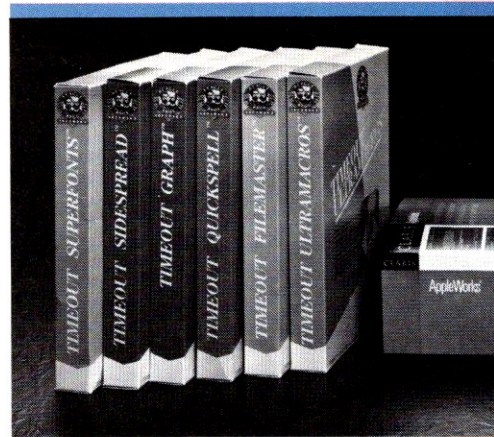
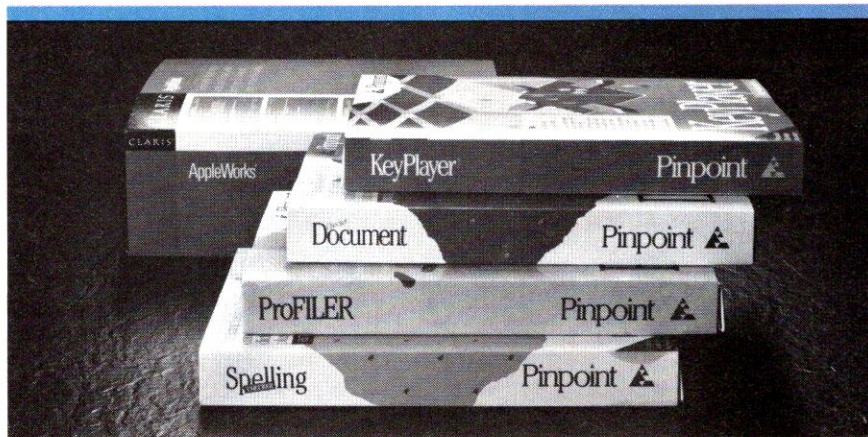
of personal, there's an upgrade information kit waiting for you at 800-544-8554.) But here's where things get really exciting.

Because the whole point of Claris is to create better Apple software than anyone has ever seen before. And to bring a whole new vision to the world's computer screens. It's all coming to an Apple computer near you. Stay tuned.



For more information and the location of the nearest Claris dealer call (800) 334-3535. For information in Canada call (800) 668-8948.

CIRCLE 322 ON READER SERVICE CARD



see how you're sticking to them at any time. On Balance is a more robust program than Quicken (see below), because you can track a variety of asset accounts (checking, savings, credit cards) as well as liability accounts, so you know exactly how you paid for each item. It also lets you keep track of credit-card or other loan balances. Finally, if you want to produce a consolidated yearly budget or expense/income statement, you can transfer values from On Balance to the AppleWorks spreadsheet module. On Balance is fairly easy to learn, and it uses many AppleWorks commands. (\$59.95)

Personal Finance ZipFiles

This set of AppleWorks spreadsheet templates comes with calculators for determining contributions to a college savings fund, whether to finance a purchase or pay cash, how much money you can afford to spend on a house, what your net worth is, and how several different income properties would compare as investments. It also includes a budget template. Each template comes with basic instructions in its own spreadsheet file and a complete manual in a file on the reverse side of the disk. These templates are thoughtfully designed and easy to use. (\$24.95)

Quicken

This personal-finance and checkbook-balancing program's key features are speed, a reasonable price, and an intuitive interface. It lets you write and print checks, maintain and balance a checkbook register, and automatically transfer data to an AppleWorks spreadsheet for budgeting. Most of the program commands are the same as those in AppleWorks. The check-writing screen looks just like a paper check,

Macros execute at the maximum speed of your Apple's processor, so you can perform complex tasks much more quickly than by hand.

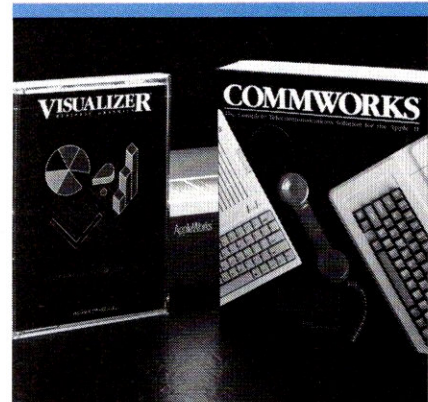
and as you write each check, you can automatically record it in the check register. To produce income and expense reports or create budgets, you can set up AppleWorks spreadsheets with special labels in certain cells and then use Quicken's Transfer command to transfer data into those cells. This simple process adds a lot of reporting and analytical powers to Quicken. (\$49.95)

AUTOMATING APPLEWORKS

Macro programs automate repetitive operations in AppleWorks and can save you a lot of time. You can store complex sets of keystrokes and manual operations under a macro key and then execute them all with just one keystroke combination. Macros execute at the maximum speed of your Apple's processor, so you can perform complex tasks much more quickly than by hand.

Key Player

Key Player is a macro program that installs with the Pinpoint Desktop Accessories in version 1.3 or later of AppleWorks. It can also work with other programs such as WordPerfect and AppleWriter. You use Key Player to create and use macros of up to 3000 keystrokes, ei-



ther by typing a string of macro commands in a macro file or by recording keystrokes you've typed. The program stores the macros in a standard AppleWorks word-processing file, so you can always view and edit them easily. Key Player contains a lot of special commands that quickly perform such functions as opening a file, moving the cursor to the beginning or end of a file, displaying a prompting message, and so on. You can nest macros inside each other, so one macro calls another. Key Player comes with a collection of predefined macros, and its manual covers the complete macro-building process. (\$49)

TimeOut UltraMacros

UltraMacros is one of the TimeOut tools from Beagle Bros that pops up inside AppleWorks. It requires AppleWorks version 2.0 or later. Like Key Player, UltraMacros stores macros in standard AppleWorks word-processing files for easy editing and viewing. It offers several powerful commands you can include in macros to perform various AppleWorks operations quickly. Along with global macros, which work in any AppleWorks files, you can define local macros

AppleWorks Is Great!

But...

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.

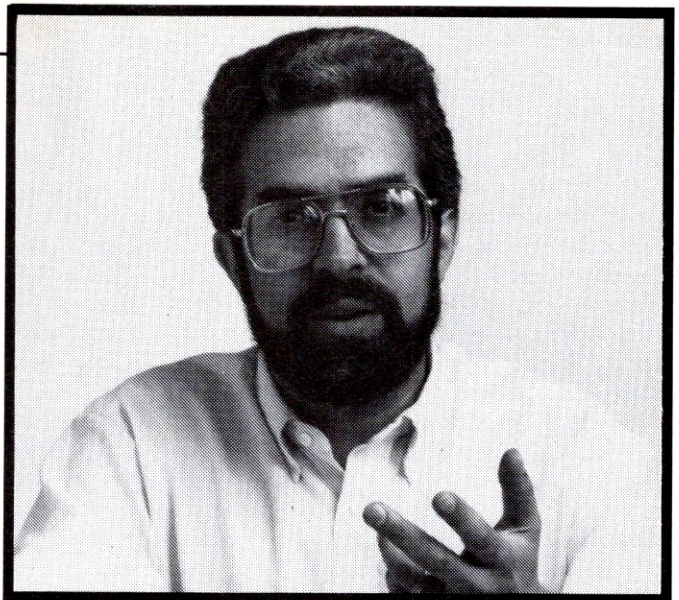
FORMULAS FOR SUCCESS

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.

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", 3.5" 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



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!

Imagine that all of this, and much, much more, is available **right now**, in DB Master Version Five and DB Master Version Five *Professional*.

Sometimes wishes do come true!

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The Ultimate Data Base Manager
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Requires Apple //e (enhanced with extended 80-column card), //gs, //c or Laser 128. At least two 5 1/4" floppy disk drives, or any combination of 5 1/4" and 3 1/2" floppies, ProDOS compatible hard disk, or RAM disk.

Version Five — \$179. *Professional* — \$295. Demo — \$10.

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that work only in a specific AppleWorks application. UltraMacros also includes some useful predefined macros and special commands that perform activities such as changing a character from uppercase to lowercase and blanking out the screen to preserve your monitor when you're not using the computer for a while. (\$59.95)

BUSINESS GRAPHICS

Graphics programs let you create business charts and graphs from AppleWorks spreadsheet data. You can find AppleWorks-compatible programs for a range of graphing needs.

Graphic Edge

Graphic Edge is an extremely capable stand-alone program that can create pie, bar, and line charts from AppleWorks spreadsheet files. You can create eight different types of charts, store up to ten chart definitions with each spreadsheet file, plot ten different sets of data per chart, and have up to 12 spreadsheet files open on the Graphic Edge desktop at a time. Making charts from spreadsheet data is only the beginning with Graphic Edge, however. You can also draw on the screen, using your Apple's cursor keys; creating lines, boxes, and ovals; and using various fill patterns or colors. You can also import graphics from other programs and use them as backgrounds. A text-entry function on the drawing screen lets you quickly create bullet charts or enhance your business graphs with custom titles. (\$89)

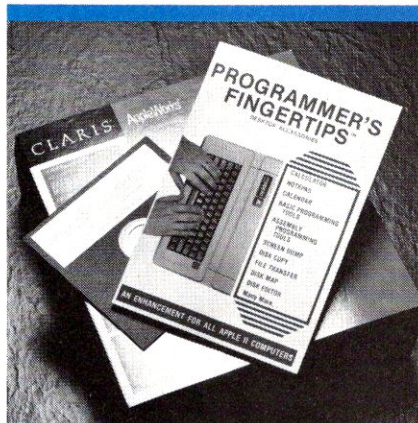
TimeOut Graph

TimeOut Graph is a pop-up program you install in the TimeOut environment under AppleWorks version 2.0 or later, so it offers a business-graphing capability available from inside AppleWorks. You can produce seven different chart types, but you can store only one chart definition for each AppleWorks spreadsheet file, and you can work with only one file at a time. You can perform all the basic charting functions: specify titles and data legends, scale your chart, and choose whether to display grid lines on the chart. You can also plot up to eight data sets at a time. Because it works right inside AppleWorks, this program is fast and convenient to use, but it doesn't let you print in color—because AppleWorks doesn't. (\$89.95)

Visualizer

Visualizer comes in two versions: Visualizer for the IIe and IIc, and Visualizer for the IIGS. Visualizer IIe is a minor update of a first-generation graphing program for AppleWorks. It's a stand-alone program that works with one spreadsheet file at a time and lets you save only one graph definition with each spreadsheet file. You can select among six graph types, with up to six data ranges in a graph. You add titles by typing them in, and graph scaling can be either automatic or manual. You can also save a graph as a graphic file, so you can edit it with a graphics program. You can print graphs in two different sizes and in color. Visualizer IIe's operation is relatively slow, and its options are quite limited for a stand-alone program in this price range. (\$79.95)

Visualizer IIGS is more powerful. You can save graph files as pictures for further manipulation with a paint program, as with Visualizer IIe, but you can also load back-



ground pictures into graph files to dress up a graph with a logo or design. You can choose from ten graph types and select from a palette of 136 colors for display. The program also produces statistical graphs (mean and standard deviation). In addition to supplying titles and tick marks, you can dress up graphs by inserting arrows at certain points to emphasize values in a chart. You can also resize graphs and move individual graph elements around on the screen. Like Visualizer IIe, though, this program lets you open only one spreadsheet file at a time, and you can store only one graph definition with each spreadsheet file. (\$99.95)

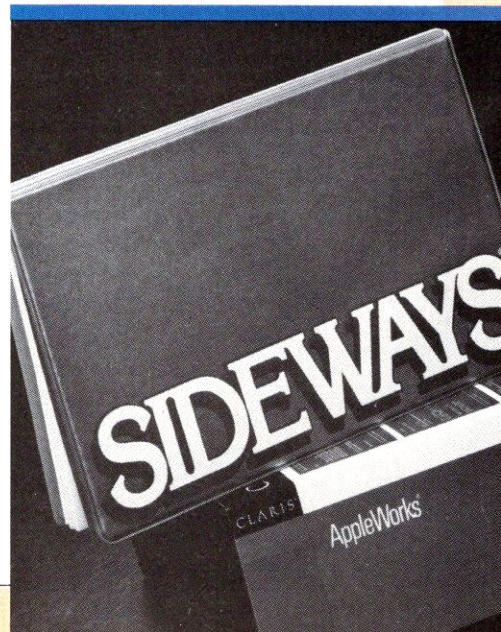
COMMUNICATIONS

Most Apple II communications programs work only with text files, so you have to save AppleWorks files as text before you can transmit them. One communications program can work with AppleWorks files directly, though.

CommWorks

This communications program from PBI Software uses the familiar AppleWorks file-card interface for ease of use and lets you send or receive AppleWorks files in their standard format. With individual files, you can send or receive them in the AppleWorks word-processing format, and you can also transfer complete disks between CommWorks users, preserving all the formatting and file information on each disk. With CommWorks, you can create individual communications files for different information services or private users. When receiving files, you can capture them either to a RAM buffer (CommWorks can make use of extended memory cards) or to disk. (\$95)

Making charts from spreadsheet data is only the beginning with Graphic Edge. You can also draw on the screen, using your Apple's cursor keys.



FILE AND DISK UTILITIES

This group of programs performs miscellaneous file-handling chores with AppleWorks files.

FASTData Pro

This is a disk containing a variety of file-searching and -management utilities. You can convert any AppleWorks file to a text file, split a text file into two files, merge two files into one, and search through text or AppleWorks files very quickly. A program-selector utility allows you to quit from one program and load another without going through the normal ProDOS Quit routine. Also, the program includes a free data disk from Fastdata's library of magazine-article disks. Each disk includes content descriptions, page numbers, and issue dates from a year's issues of *A+* and other computer maga-

zines. The article indexes are invaluable for finding the answer to a specific technical question or locating a review of a particular product. (\$29.95)

TimeOut FileMaster

As one of the TimeOut pop-up utilities that are available from inside AppleWorks version 2.0 or later, TimeOut FileMaster provides most of the functions of the ProDOS Filer without forcing you to quit AppleWorks first. Its file operations include listing, copying, comparing, renaming, deleting, locking, and unlocking files. You can also change a file's type, so you can change a text file type to the AppleWorks word-processing file type and then open it with AppleWorks, for example. The disk activities in TimeOut FileMaster let you list all the disks you have on-line, compare the contents of two disks, rename a ProDOS directory, erase a disk's directory (so the disk appears blank), or format a disk (which really erases the disk's contents). (\$49.95)

GENERAL PRODUCTIVITY

Enhancing your basic productivity with AppleWorks means always having a set of useful desk accessories and utility programs available. If you can dial a phone, use a calculator, or consult an appointment book without quitting AppleWorks, then you'll get your work done that much faster.

Desktop Accessory Zipfiles

This collection of AppleWorks spreadsheet files that handle different jobs includes scientific, trigonometric, and factorial calculators; a task list; a calendar; and a

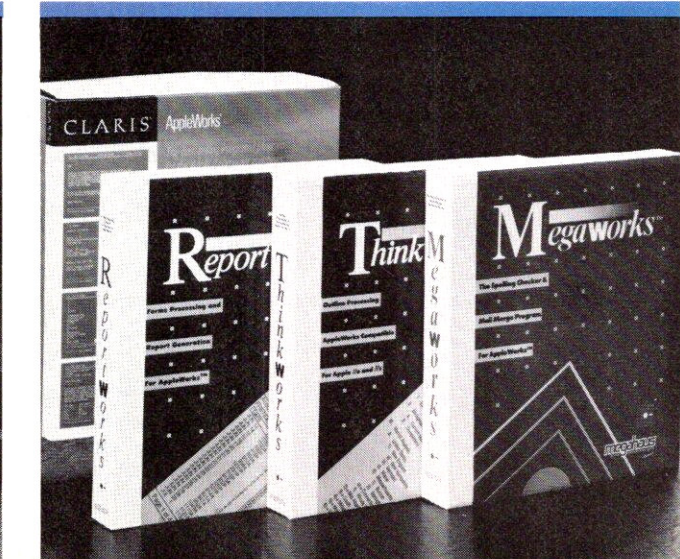
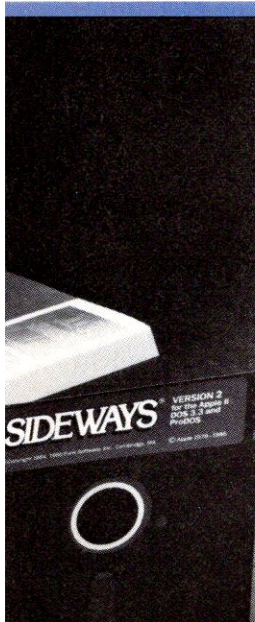
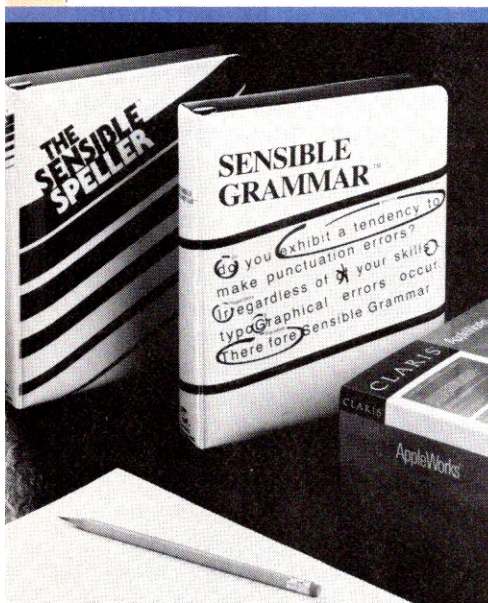
disk-catalog printer. One larger file, called Flash Pad, contains a scientific-notation converter, a telephone and address list, an envelope addresser, and a reminder list, all in one spreadsheet. By using a "map" at the top of the file and pointers in strategic locations, you can find your way through the different areas of the file. This collection of accessories isn't as powerful or convenient to use as programs from Pinpoint or Beagle Bros, but it's also much less expensive. (\$24.95)

Pinpoint Desktop Accessories

As the first successful set of desk accessories for AppleWorks, Pinpoint Desktop Accessories installs inside AppleWorks and puts eight programs at your fingertips: an appointment calendar, a calculator, a basic telecommunications program, a telephone dialer, a graphic-merging utility that lets you put graphics inside AppleWorks word-processing documents, a notepad, an envelope-address printer, and a typewriter feature that lets you print as you type. These accessories "pop up" in front of AppleWorks when you select them from the Pinpoint menu, so they run as separate programs. In addition to using the basic set of accessories, you can add a macro program (see "Automating AppleWorks" in this article) and a spelling checker (see "Writing Aids") to the Pinpoint menu. (\$89)

Programmer's Fingertips

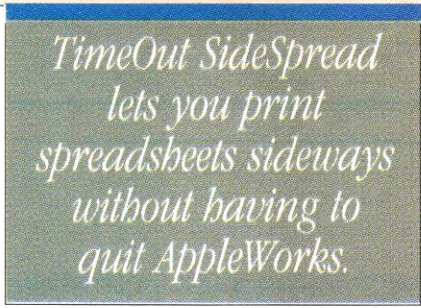
This set of desk accessories will appeal most to programmers, as its name implies. To install Programmer's Fingertips, you must boot it and load it into memory each time you start up your computer. Once it's in memory, you can access the program's menu of options from inside any DOS 3.3 or ProDOS program, including AppleWorks. Programmer's Fingertips offers ten utilities, including a calculator that lets you enter four-function math as well as expressions such as SIN, COS, ATAN, LOG, and square root; a calendar; a screen-dump feature; and a notepad. A disk-utilities option in Fingertips lets you copy disks, set ProDOS prefixes, and transfer files from disk to disk (or from memory to disk or vice versa). The disk options also let you transfer files from DOS to ProDOS or vice versa. The other features are



for programmers only: a mini-assembler; a disk editor that lets you read or write to specific blocks on a disk; a program-line editor; an operating-system monitor; and a set of ASCII, hexadecimal, and other conversion charts. (\$39.95)

TimeOut DeskTools

This collection of desk accessories from Beagle Bros also installs inside your AppleWorks program and makes several utility programs available at any time. Unlike Pinpoint's accessories, it works only



with AppleWorks version 2.0 or later and not with other ProDOS programs. The accessories include a calculator, an appointment calen-

dar, a case converter (it converts word-processing text to uppercase or lowercase), a clock/calendar display, a spreadsheet-to-database (or vice versa) data converter, a telephone dialer, an envelope-address printer, a file encrypter you can use to password-protect files, a notepad, a word-processing page previewer, a puzzle, and a word-processing word counter. The TimeOut environment is also open-ended, so you can add the TimeOut spelling program, graph program, font editor, macro program, spreadsheet-printing utility, and file-management program to its menu. (You have to buy them separately—see the descriptions elsewhere in this article.) (\$69.95)

PRINT ENHANCEMENT

Print-enhancement programs let you dress up AppleWorks print-outs, either by using different fonts or by typesyles or by rearranging data for more efficient printing.

Sideways 2.0

Sideways, a stand-alone spreadsheet-printing program that lets you print spreadsheets sideways on paper, saves you from worrying about how many columns wide your spreadsheet is. Version 2.0 of Sideways works directly with AppleWorks spreadsheet files as well as with other ProDOS files and DOS 3.3 files. The disk contains separate versions of the program for each type of file. The AppleWorks version of Sideways has an interface just like that of the AppleWorks spreadsheet. Before you print, you can specify the paper size, select from six different character fonts in different sizes, and install a header on each printed page. You can also control the size of the margins and the character and line spacing. Sideways works with 16 different types of printers. (\$69.95)

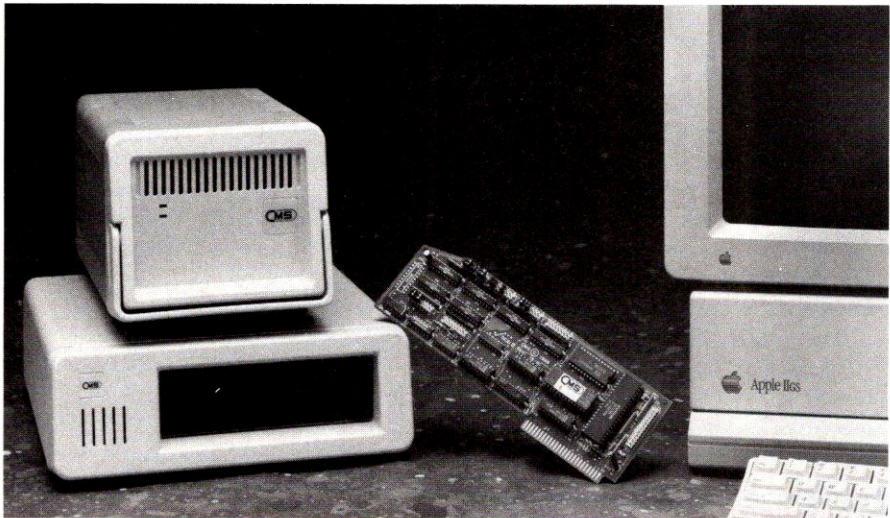
TimeOut SideSpread

TimeOut SideSpread installs in the TimeOut environment under AppleWorks and lets you print spreadsheets sideways without having to quit AppleWorks, which makes it much more convenient than Sideways. Another feature that makes it easier to use is a warning that appears when your spreadsheet contains more rows than you can fit on a page. With Sideways, you have to figure it out for yourself. In short, the TimeOut

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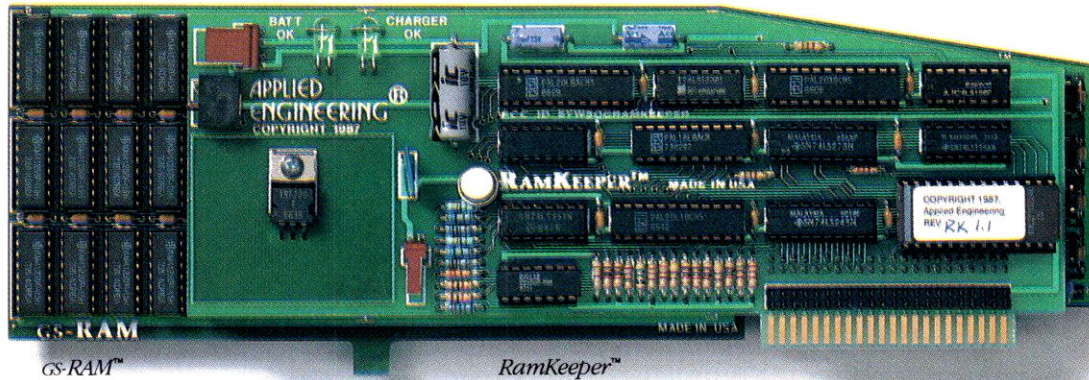


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For the "Instant On" Apple IIGs.



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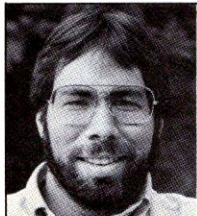
Now when you turn on your IIGs your favorite program can appear on screen in just a few seconds! With RamKeeper, your IIGs memory card will retain stored programs and stored data while your IIGs is turned off. RamKeeper allows you to divide your IIGs memory into part "electronic hard disk" and part RAM for your programs workspace—in almost any way you want and at anytime you want. GS-RAM, GS-RAM Plus, Apple IIGs memory card and most other IIGs memory cards are compatible with RamKeeper.

Supports Up to Two IIGs Memory Cards at the Same Time

If you bought your IIGs with Apple's memory card and later wished you had the GS-RAM, no problem. RamKeeper will support both cards plugged into RamKeeper simultaneously!

How it Works

Just unplug your IIGs memory card



"I've purchased several Applied Engineering products over the years. They're always well made and performed as advertised. I recommend them wholeheartedly."

Steve Wozniak, the creator of Apple Computer

from your computer, plug your IIGs memory card into RamKeeper, plug RamKeeper into the IIGs memory slot. If you have another IIGs memory card, an additional card socket on RamKeeper will accommodate your second card. That's all there is to it!

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Applied Engineering has the most experience in the industry with battery-backed memory for the Apple so you are assured of the most reliable memory back-up system available. And in the world of battery-backed memory, reliability is everything! That's why Applied Engineering uses the more dependable Gel-Cell's instead of Ni-Cad batteries (if Ni-Cad's aren't discharged periodically, they lose much of their capacity). RamKeeper has close to 6 times (about 6 hours) the "total power failure" back-up time of other systems. When power returns, RamKeeper automatically recharges the battery to a full charge. With power from your wall outlet, RamKeeper will back-up your IIGs memory cards RAM indefinitely.

RamKeeper Has and Does It All!

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(GS-RAM card shown in photo not included)

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Prices subject to change without notice.

Sidespread program is simpler to use and more capable than Sideways and sells for \$20 less. The only disadvantage is that it works only if you install it inside AppleWorks version 2.0 or later. (\$49.95)

TimeOut SuperFonts

SuperFonts, another of the TimeOut accessories for AppleWorks version 2.0 or greater, allows you to customize word-processing documents with various Macintosh-like fonts and typestyles, and it lets you merge graphics into word-processing documents as well. The SuperFonts disk comes with five fonts, and by inserting style commands into your word-processing text, you can print in bold, italic, shadow, outline, inverse, subscript, and superscript styles. You can mix fonts and styles on the same line of text, and SuperFonts works with most of the AppleWorks word-processing module's printer-option commands and formatting. Using picture commands, you can load hi-res or double-hi-res pictures into word-processing documents, using SuperFonts. This program is easy to use and comes with an excellent manual. (\$79.95)

Report generators give you extra flexibility in printing AppleWorks spreadsheet or database data.

REPORT GENERATION

Report generators give you extra flexibility in printing out AppleWorks spreadsheet or database data.

ProFiler 3.0

This stand-alone database program offers more features than does the AppleWorks database module, but ProFiler can read AppleWorks database files, so you can use it to add extra reporting or data-handling capabilities to data you originally created with AppleWorks. ProFiler uses a Macintosh-like interface, with a menu bar at the top of the screen and pull-down menus. ProFiler's data-handling features include the ability to extract data from one file to create a new file and the ability to merge data from two files into one. A file

can have up to 250 different fields and up to 65,000 records. You can search for information in the file by using a series of wild cards, in case you can't remember the exact number or word you're looking for. You can create calculated fields that combine arithmetic operators, values, and the contents of other fields to produce results. As for reporting, ProFiler lets you produce either columnar reports or free-form reports. You design free-form reports by dragging fields around on the page. (\$129)

ReportWorks

ReportWorks lets you create complex custom forms and reports by extracting information from one or more AppleWorks files. You design reports from scratch, placing fields on a screen form, naming them, determining their length, and then specifying the AppleWorks file from which data in the field will be taken. ReportWorks can draw data from either database or spreadsheet files, and it performs lookups, so the specific information drawn into one field can depend on the data that appears in another field in the report.

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1. MultiScribe GS™ 3.0 is the fastest, most powerful WYSIWYG word processor for the Apple® IIGS™. What you see on the MultiScribe GS screen is what you get when you print out—no confusing control codes on-screen, no unexpected formatting problems when you print.

2. MultiScribe GS was written especially for the Apple IIGS. So you get a word processor that will grow as your GS grows and work with new GS software and hardware enhancements.

3. MultiScribe GS is much easier to learn and use. Because MultiScribe GS follows the famous Apple Interface guidelines, the same cut-and-paste editing and ruler-based formatting that made the Macintosh™ revolutionary make MultiScribe GS easier to learn and use than old-fashioned text word processors.

4. MultiScribe GS produces the best printouts of any GS word processor. MultiScribe GS comes with an exclusive print driver that makes your ImageWriter printouts look better than anything you can create with any other GS word processor. And it prints beautifully on the LaserWriter, too.

5. MultiScribe GS now has the best on-line spell checking and thesaurus ever available on an Apple II. MultiScribe GS 3.0 features the 80,000-word Merriam-Webster/Proximity spell checker and thesaurus. An on-line spell checker that checks for misspellings in your documents and suggests a list of possible alternative spellings for each misspelled word. And a thesaurus that uses 40,000 meaning-based entry points to generate over 470,000 true synonyms.

6. MultiScribe GS reads AppleWorks files directly. Add graphics, fancy type styles, and LaserWriter fonts to AppleWorks files. And use the MultiScribe GS spell checker to make all your AppleWorks files letter perfect.

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

Nibble says that "MultiScribe GS does just about everything you would expect a

full-featured word processor to do, and then some"† —and at \$99.95, it costs less than word processing programs that don't do half as much.

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

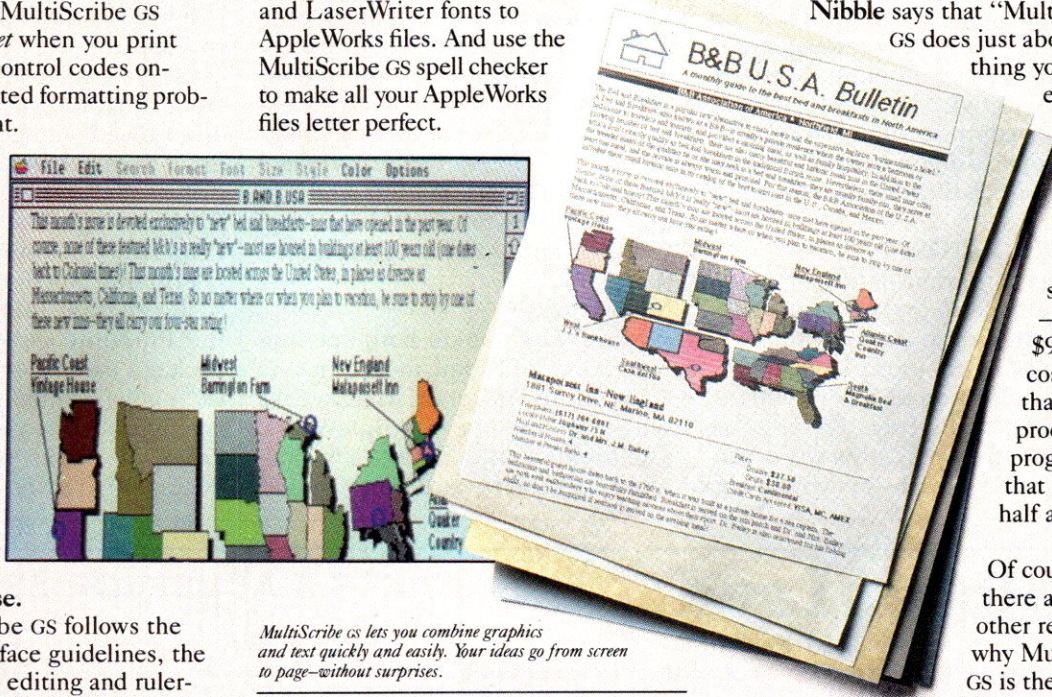
for your Apple IIGS. To find out more, just call 800/233-4088 (in Texas call 713/668-0743). Or ask your dealer for a demonstration. And see why A+ magazine called MultiScribe GS "the first IIGS word processing program to attain real stature."***

MultiScribe GS lets you combine graphics and text quickly and easily. Your ideas go from screen to page—without surprises.

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. With built-in structured drawing, you can draw lines, boxes, hollow and filled ovals, circles, and rectangles. Place graphics behind or in front of text. Use colored shapes to highlight reversed-out text. Place boxes around paragraphs and use lines to create rules and borders.

9. MultiScribe GS has complete keyboard commands. Cursor movement, scrolling, text editing, and deleting can all be done with or without a mouse—giving you the best of both worlds.



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In an invoice, for example, ReportWorks can use the item number from a sales-order file to look up the price of the item in a spreadsheet file. Along with grabbing data from several AppleWorks files (there's no practical limit to how many files you can extract from to make up one report), you can use spreadsheet-like functions to calculate fields or produce report totals or averages. ReportWorks comes with more than 30 arithmetic and logical functions. This program lets you create complex reporting and data-management applications for invoicing, inventory management, and a variety of other applications. Its only drawback is that it can be slow to compile information and print reports if you're using several AppleWorks files as data sources. (\$49.95)

WRITING AIDS

Many programs and templates are available to make writing simpler, better, or more enjoyable.

Business Letter Templates

This collection of business-letter templates from Sage Productions contains 16 AppleWorks word-processing files, each of which in-

Many programs and templates are available to make writing simpler, better, or more enjoyable.

cludes one to six letters. Categories of letters include collections, congratulations, employee information, sales, stockholder letters, and even a general business contract for services. You simply load a file into AppleWorks and then modify it to suit your needs. With a template, you rely on the author's expertise. These letters show an average (or at times, below average) grasp of business matters and English. They even have occasional spelling and grammatical errors. (\$24.95)

MegaWorks

MegaWorks offers both spelling correction and mail merge in one stand-alone program that works with any version of AppleWorks. The spelling checker uses a 50,000-word dictionary, and you can add

up to 10,000 of your own words to it. It displays words in context to let you correct them, but it does not suggest alternative spellings of words. The mail-merge option can merge a form letter containing merge fields with a list of merge data. The merge-data list must be a word-processing file, not a database file, but the manual shows you how to create lists quickly from labels in the database. MegaWorks is slower to check spelling than are some newer programs, and its mail-merging feature isn't as convenient as the one in AppleWorks version 2.0, because you have to use a data list from a word-processing file. Another disadvantage is that the program does not work with hard-disk drives. (\$49.95)

Pinpoint Speller and Pinpoint Document Checker

Pinpoint Speller is a desk-accessory program that integrates into the Pinpoint Desktop Accessories package (see "General Productivity," above). Thus, you can pop the speller up while you're working on an AppleWorks word-processing document, rather than having to

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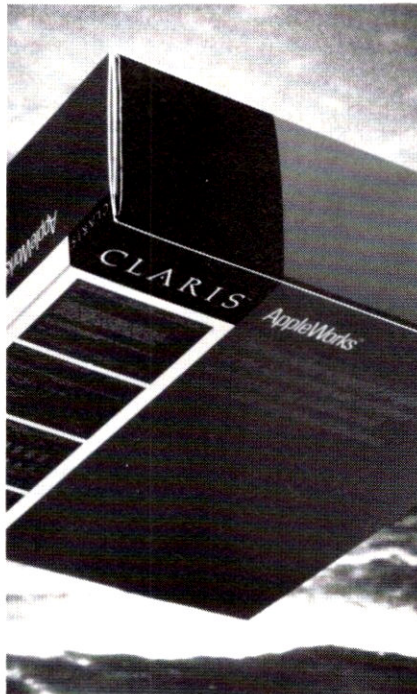
CLARIS INHERITS A *Classic*

Claris Corporation, the software company spun off from Apple Computer, Inc., now has responsibility for marketing AppleWorks and maintaining its longevity. And what does that mean? Well, for starters, it means the same software at the same price but in new packaging, with vastly improved support behind it. It also means the revival of an upgrade plan that lets you get the latest release (currently version 2.0) of the best-selling Apple II program. And, in the near future, it means a special version of AppleWorks tailored for the AppleTalk network (described in "NewsPlus" in this issue.)

Claris was formed last year to take most of Apple's application-software titles (both for the Apple II and Macintosh) off Apple's corporate hands. Of the many titles Claris is selling, AppleWorks is clearly the cash cow, bringing in more than 50% of the fledgling company's revenues. Yet, of Claris' 118 employees, only 3 comprise the AppleWorks department.

These 3 employees aren't the only ones at Claris with AppleWorks on their mind, though. The dozen or so technical-support people are all schooled in the nuances of AppleWorks as well as of the rest of the programs in Claris' product line. Just the fact that this support line exists (its number is [415] 962-0371) is a heartening show of Claris' goodwill. In previous years, AppleWorks users got zilch in terms of technical assistance from the publisher—Apple referred consumers to their local dealers and thereby washed its hands of the support issue.

You might think that with all those Mac products on their minds,



the technical-help-line people might not be too swift with AppleWorks, so we checked it out. We called twice—once to ask why our version of AppleWorks wouldn't get the date from the IIGS system clock and another time to ask how to get condensed print with the word-processing module—and both times received instantaneous, and correct, answers. Besides useful answers, the support line also provides generous hours—6:00 A.M. to 8 P.M. PST, Monday through Friday—except for a 3-5:30 P.M. break on Friday, when the entire company attends a meeting. Don't worry about whether you're a registered AppleWorks user or not when you call; Claris takes questions from anyone, at least for the time being.

Claris has also picked up where

Apple left off in terms of upgrades. When Apple brought out AppleWorks 2.0, it offered an upgrade to owners of older versions for a limited time only (the offer expired last August). Claris, though, has revived that offer and will now ship you version 2.0 if you send in your program disk and \$75. Claris plans to continually offer upgrades for all its products. To inquire about the AppleWorks upgrade, call (800) 544-8554.

Claris will also carry on the tradition of updating AppleWorks to match the latest in Apple II technology. The latest thing is, of course, the Apple II network, and Claris plans to release a version of AppleWorks modified specifically for it. AppleWorks author Bob Lissner is doing the network modifications for Claris, so in that sense Claris is carrying on in another tradition as well—relying on the original author to bring the product up to date.

All this said, the fact remains that Claris is far and away a Macintosh software company in terms of its dreams and directions. The bulk of the company's resources will go toward the Mac, rather than the Apple II.

Not surprisingly, AppleWorks is certain to be the sole Apple II product in the Claris line. It may not take much to keep the AppleWorks ball rolling, however, as evidenced by the infrastructure surrounding AppleWorks that is the subject of the three-part series that starts with this month's cover story and continues in "AppleWorks Report" in the next two issues. A million or so users (legitimate and otherwise) makes for a lot of momentum.

Lisa Raleigh and Gary B. Little

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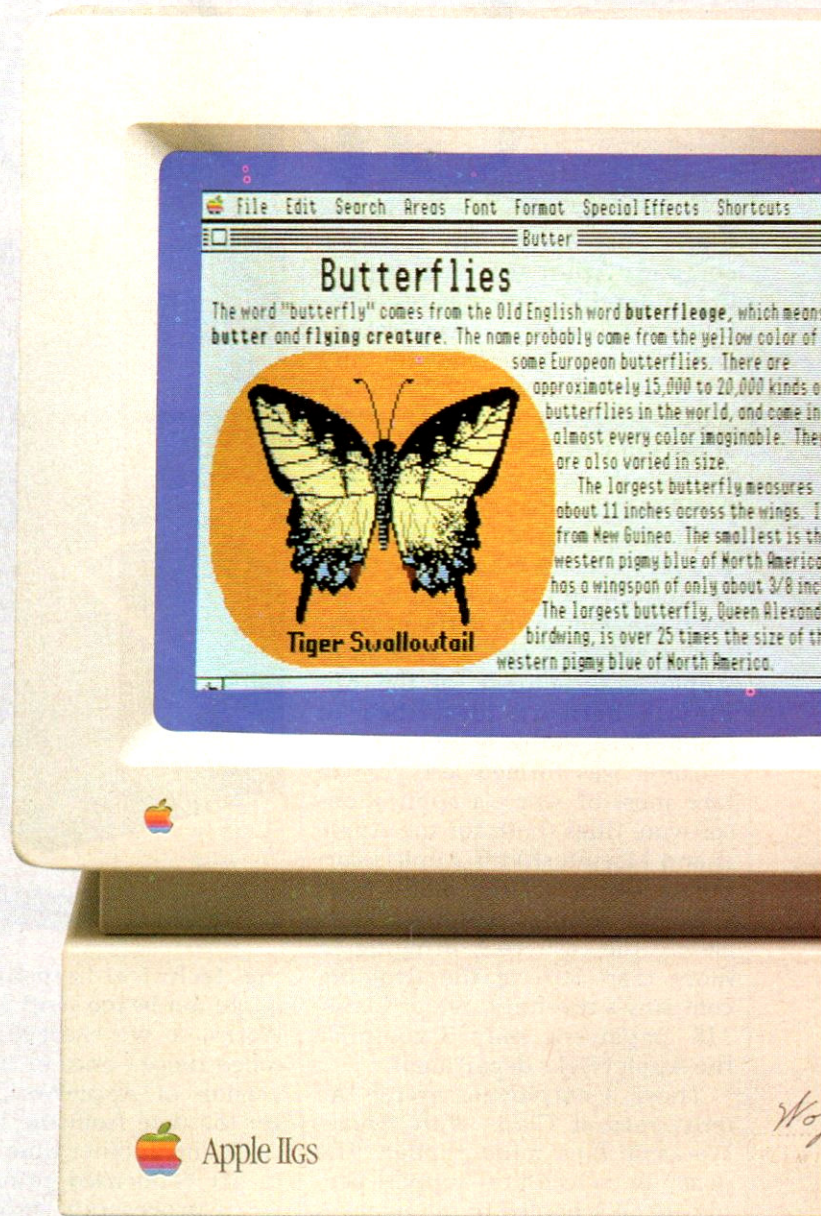
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quit AppleWorks to use it. Pinpoint Speller uses a 61,000-word dictionary, and you can create one or more personal dictionaries, with capacities limited only by disk space. It suggests alternative spellings when it finds a mistake and displays errors in context. It is, however, about the slowest AppleWorks spelling checker on the market for checking whole documents. (\$69)

Pinpoint Document Checker is a stand-alone program that checks files much more quickly than does Pinpoint Speller; it's one of the fastest programs on the market. The program checks complete files or paragraphs, and it can check spreadsheet or database files as well. Pinpoint Document Checker uses the same main dictionary as Pinpoint Speller and can also use the same personal dictionaries. One unique feature in Document Checker is its ability to check up to 16 individual files in a batch, one after the other. (\$69)

Sensible Grammar

Sensible Grammar is a grammar and style-checking program that can read word-processing files

Sensible Speller's lookup feature lets you search through any available dictionary by typing in a string to match.

from any version of AppleWorks as well as other programs. Using a file of about 2000 often misused English phrases, Sensible Grammar checks a file for wordy, pompous, vague, sexist, and other problem usages. Sensible Grammar also suggests alternative usages. Along with usage, Sensible Grammar finds punctuation errors, double words, and misused word groups such as "every thing" or "can not" and suggests corrections. You can correct all flagged errors in context. (\$99.95)

Sensible Speller

This stand-alone spelling program can check files from AppleWorks and a variety of word-processing programs. It uses an

80,000-word dictionary taken from the *Random House Dictionary*. You can set up your own custom dictionary, and Sensible Software also sells auxiliary medical, legal, and technical dictionaries. Sensible Speller counts the words in a document, lists the suspect words, and then displays the suspect words in context and lets you correct them. Its unique lookup feature lets you search through any available dictionary by typing in a string to match. You can do wild-card searches to locate, for example, all the five-letter words that start with W and end with R. Sensible Speller is the most expensive spelling program for the Apple II series, but its large dictionary, extra dictionary options, and lookup feature go beyond what other programs offer. (\$125)

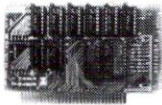
ThinkWorks

ThinkWorks is a stand-alone outline processor that can save its files in AppleWorks word-processing format for further editing in AppleWorks.

ThinkWorks lets you create outlines up to ten levels deep and then quickly rearrange outline sections

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ADD12 Disk Drive (for II, II+ and IIe). \$99.95

AAM Adapts standard Apple drives for use with IIc . . . \$4.95

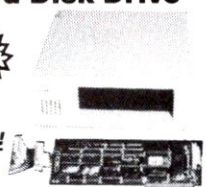
5 1/4" Half Height Disk Drive for Apple IIc

Same specs as ADD12 (above) except no controller needed.

ADD2C Disk Drive (for IIc). \$109.95

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for Apple IIe and IIGS



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ZM300. \$74.95 \$49.95

• Software enhancement for the NM300 and ZM300 modems • Allows Xmodem file transfer • Allows storage, editing and printing of files
NMS. \$19.95

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by moving them. When you move outline sections, the outline automatically renumbers itself. Outline headings can contain paragraphs of text as well, and you can merge one outline file into another. ThinkWorks works with hard-disk drives. (\$49.95)

TimeOut QuickSpell

TimeOut QuickSpell is a pop-up spelling checker that works from inside AppleWorks as part of the TimeOut series of programs. The TimeOut programs require AppleWorks version 2.0 or later. When you choose it from the TimeOut menu, QuickSpell checks the currently active word-processing document. It uses a main dictionary as well as a custom dictionary you can create. Using TimeOut QuickSpell, you can either examine and correct problems one at a time in context, or all at once by typing replacements for the suspect words displayed on a list. (\$49.95) **+**

A+ *Small-Business Editor Charles Rubin's book AppleWorks became available in an expanded second edition last fall. He writes about computing for various publications.*

VITAL STATISTICS

All products require an Apple II Plus, IIe, IIc, IIe, or IIGS; 128K RAM, and one 5¼-inch disk drive. Most also require AppleWorks (stand-alone products are indicated in the text).

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Print-it!™

THE PROVEN APPLE COMPATIBLE PRINTER INTERFACE

The **ONLY** way to get fast, "snapshot" printouts from ANY screen, at ANY time, with ANY software program then **AUTOMATICALLY RESUME OPERATION...** at the Touch of a Button

Push the red button. Your program pauses instantly. Touch the return key and whatever is on your screen—text, graphics or both—is printed in color or black & white.

Whether you use your Apple II, II+, IIe or "look-alike" for education, business or recreation, you'll enjoy the ability to pause and take snapshots of your screen displays and then continue from exactly where you paused—in one easy step—games, business data, menus, educational instructions, logo, graphics... **Print-it!** will print your screen display at any time no matter what program you're running and then automatically resume operation exactly where the program left off.

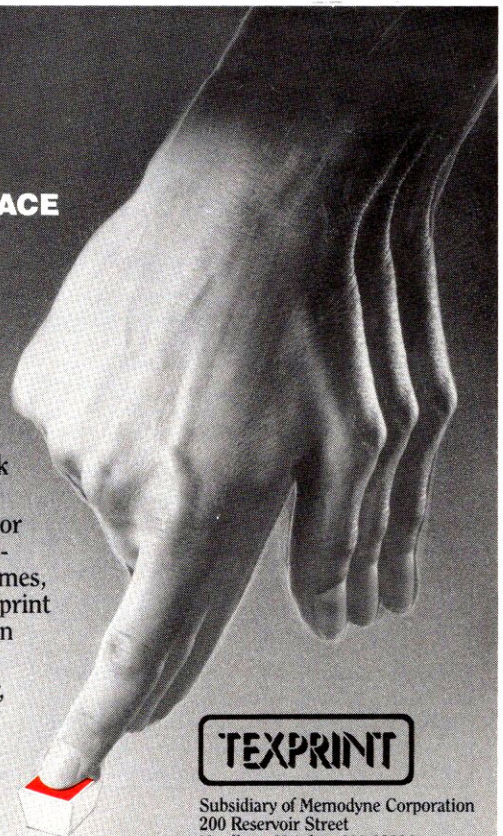
- Prints all graphics and text displays
- Supports over 50 printers¹—b/w, color, serial, parallel
- Includes 35 built-in print commands
- Operates as a normal printer interface when its snapshot features are not in use

Print-it! is available from selected mail order companies, through your favorite computer dealer or directly from TEXPRINT² and comes complete with serial or parallel cable, push button and instructions. A **Save-it!** disk for transferring screen images to disk for slide shows is available separately.

1 Apple DMP/IMAGewriter/IMAGewriter II/SCRIBE, C. Itoh, Canon, Epson, NEC, Okidata/Okimate series, Panasonic, Radio Shack, Star Micronics, and many more.

2 Qualified educational and dealer discounts available.

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(617) 449-5808

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(800) 624-8742;
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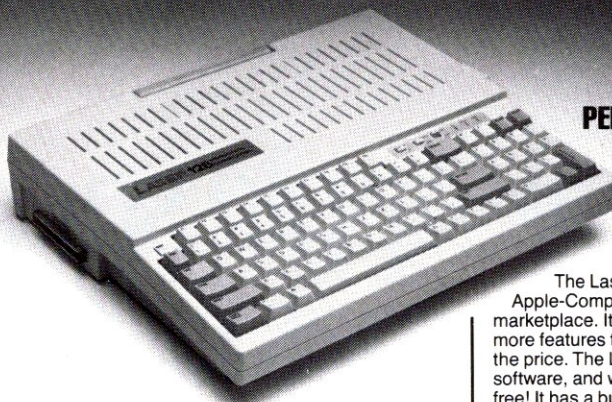
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PERSONAL COMPUTER
APPLE IIe/IIc
COMPATIBLE
\$395**

(Includes 10 free software programs)

The Laser 128 is the most affordable Apple-Compatible computer on the marketplace. It's a great little machine with more features than an Apple for about half the price. The Laser 128 runs Apple IIe/IIc software, and we give you ten programs - free! It has a built-in disk drive and features parallel, serial, modem and mouse interfaces. It even has an expansion slot to add more capabilities to your computer. The Laser 128 is a very popular machine because it's Apple compatible and it's a great deal at the low price of: **\$395**

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The Laser 128EX is a high performance Apple-compatible computer with all the features of the Laser 128, plus a triple speed processor and is internally expandable to over 1Mb. The Laser 128EX is 3 times faster than an Apple IIe or IIc and at only **\$499**

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CIRCLE 294 ON READER SERVICE CARD



Now Apple speaks IBM. Three times faster than IBM.

**Introducing
PC Transporter.[™]
The Apple[®] II expansion
board that lets you
run MS[®]-DOS programs.**

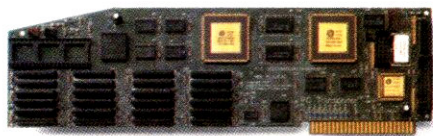
Now your Apple II can run over 10,000 programs you could never use before. Like Lotus[®] 1-2-3[®], MultiMate[®], dBASE III PLUS[®]. Even Flight Simulator[®].

With PC Transporter, MS-DOS programs run on your Apple II like they do on IBM[®] PC's or compatibles. With one important difference. PC Transporter runs most of those programs *three times faster* than an IBM PC/XT[®].

Plus, to speed through number-crunching tasks, you can use our optional 8087-2 math co-processor chip. It plugs into a socket on the PC Transporter.

Less expensive than an IBM clone.

Sure, a stripped-down IBM



clone costs about the same as the PC Transporter. But the peripherals it takes to get the clone up and running make the clone cost about three times what our American-made card costs.

You don't have to buy new hardware to use PC Transporter.

Works with the hardware you already own.

With PC Transporter, MS-DOS programs see your Apple hardware as IBM hardware. You can use the same hardware you have now.

With IBM software, your Apple hardware works just like IBM hardware. Including your drives, monitors, printers, printer cards, clock cards and serial clocks.

You can use your IIe[®] or IIgs[™] keyboard with IBM software. Or use our optional IBM-style keyboard (required for the II Plus).

You can use your Apple mouse. Or an IBM compatible serial mouse.

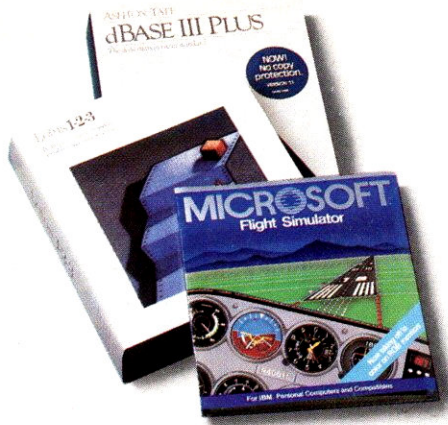
Plenty of power.

PC Transporter gives you as much as 640K of user RAM and 128K of system RAM in the IBM mode.

PC Transporter also is an Apple expansion card, adding up to 768K of extra RAM in the Apple mode. The Apple expansion alone is a \$300 value.

Easy to install.

You can install PC Transporter in about 15 minutes, even if you've never added an expansion board. You don't need special tools. Simply plug it into an Apple expansion slot (1 through 7 except 3), connect a few cables and a disk drive, and go!



PC Transporter taps into the world's largest software library. Now your Apple can run most of the IBM software you use at work. And it opens a new world of communications programs, games and bulletin boards.

A universal disk drive controller.

PC Transporter supports 3.5" and 5.25" MS-DOS and ProDOS formatted diskettes. You'll shift instantly between Apple ProDOS and IBM MS-DOS.

You'll need our versatile 5.25" 360K drive system to run IBM applications from 5.25" floppy disks. Use your Apple 5.25" drive for Apple 5.25" disks.

An Apple Disk 3.5 Drive will support the new 3.5" disks whether they're IBM MS-DOS formatted or Apple ProDOS formatted. The PC Transporter acts like an Apple Disk 3.5 Drive disk controller for IIGs, IIE, and II Plus users.

PC Transporter supports up to 5 drives in a number of combinations.

For example, you can connect a 5.25 Applied Engineering 360K dual-drive system directly to the card. Then plug two daisy-chained Apple 3.5 Drives (not the Apple UniDisk 3.5) to the dual-drive system. For a fifth drive, use a ProDOS file as an IBM hard disk.

PC Transporter controls Apple and IBM compatible disk drives. It supports 3.5" and 5.25" MS-DOS and ProDOS formatted diskettes.



Versatile data storage.

PC Transporter reads MS-DOS and translates it into Apple native ProDOS. You can store IBM programs and data on any ProDOS storage device including the Apple 3.5 Drive, Apple UniDisk™ 3.5, Apple 5.25" drive, SCSI or ProDOS compatible hard drives. (You can use the Apple UniDisk 3.5 with its own controller card for storing programs and data, but not for directly booting an IBM formatted disk.)

You can even use our 360K PC compatible drive for ProDOS

Make your Apple speak IBM.

PC Transporter memory choices.

RAM in Apple mode:	RAM in IBM mode:	Price:
384K	256K	\$489.00
512K	384K	529.00
640K	512K	569.00
768K	640K	609.00

Note: The IBM mode is 128K less because the PC Transporter uses 128K for system memory.

IIGs Installation Kit 49.00

IIE/II Plus Installation Kit 39.00

PC Transporter Accessories

5.25" IBM Format 360K

Drive Systems

Single-Drive System 269.00

Dual-Drive System 399.00

Half-Height Drive 135.00

(add to Single-Drive system to make Dual-Drive)

IBM-Style Keyboard 139.00

(required for Apple II Plus. Requires IBM Keyboard Cable.)

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(for use with Sony monitor)

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(for use with Sony monitor)

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ColorSwitch 44.00

(included with IIGs Installation Kit)

128K ZIP 40.00

PC Transporter per set

Memory Expansion

Chip Set

8087-2 Math

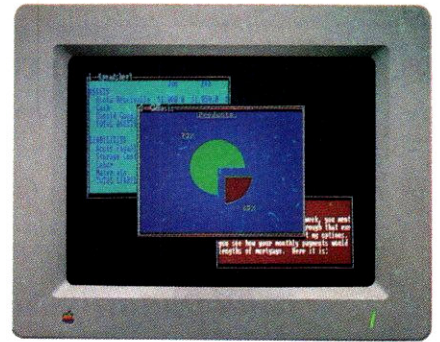
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Chip

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Power Supply
(IIE and II Plus only)

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PC Transporter produces better IBM graphics than IBM. Analog is sharper than digital. So with an analog RGB monitor, PC Transporter's CGA graphics and text are superior to IBM's digital display — even while running IBM software!

And, you can also use an Apple composite monitor in IBM text or graphics mode.

storage and a 143K Apple 5.25" drive for MS-DOS storage.

Created by Apple's original designers.

The brains behind PC Transporter were also behind your Apple II.

The PC Transporter design team includes the former project managers for the creation of the Apple IIe and IIc. The co-designer of the Apple II disk controller. And the first full-time Apple programmer and author of the ProDOS operating system.

So you know the PC Transporter and your Apple were made for each other.

Support and service from the leader in Apple add-ons.

Applied Engineering sells more Apple peripheral boards than anyone else — including Apple Computer. So you know we'll be around after the sale.

PC Transporter comes with a 15-day money back guarantee. If you're not fully satisfied after using it, return it for a full refund. PC Transporter also comes with a 1-year warranty.

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from budding carpenters
to cosmic megalomaniacs
to computer widows*

PRODUCT SPOOFLITE

CLEANLINESS IS NEXT TO GODLINESS

The typical home personal computer is besieged by threats to its computing well-being. Grimy little hands, spilled soft drinks—even everyday household dust—can turn a hardworking Apple into a useless doorstop.

The DejaVu Computer Maintenance Toolkit is designed to keep your micro in Apple-pie order for less than \$200! The handsome plasticene leatherette carrying case contains a custom roll of highly absorbent computer tissue for soaking up accidental spills, a set of machine-crafted pincers for

those hard-to-reach places, and special hand-held daubing probes designed by a noted computer-repair specialist.

Also included are a static-resistant wiping cloth made of the finest virgin cotton, a multistrand extensible cleaning probe, a break-resistant cleansing container built of surgical-quality aluminum, and a year's supply of DejaVu's proprietary semisolid sanitizing agent.

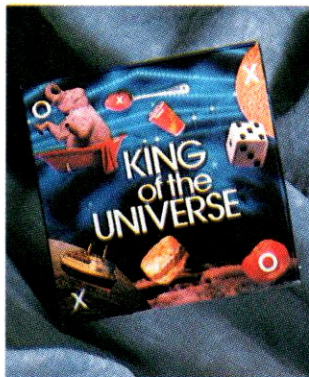
DejaVu Computer Maintenance Toolkit

List Price: \$199.95

Requires: Apple II Plus, IIe, IIc, or IIgs

DejaVu Designs
c/o Harv's Hardware
409 Formula Way
Kitchener, Ontario
Canada L6D 7H0
(519) 555-2501

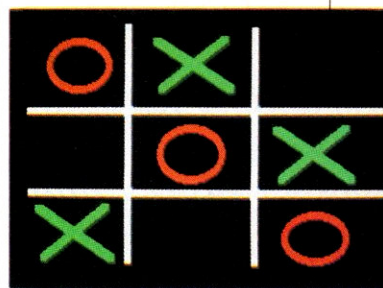
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KING OF THE UNIVERSE

In the 22nd century, man has learned to control the stars but not his will to dominate. A fusion war has decimated the solar system. Mankind escapes the glowing nuclear waste of Earth by boarding immense Star Arks and constructing vast orbiting cities at opposite ends of the Milky Way. These two emerging interstellar powers compete for dictatorship of the nine known sectors of the galaxy.

King of the Universe puts you in the midst of this conflict as Supreme Commander of one of the superpowers of the future. In this one- or two-person adventure, space-age commandos strategically position fleets of Mach 8 Orbital Destroyers, Robotic Laser Cannons, and Warp-Drive DynaFighters (cleverly represented by on-



screen Xs and Os) to extend their might across the star system.

The first Star General to achieve superiority in three contiguous sectors of the galaxy splinters the power potential of his opponent in combat and triumphantly ascends to the rank of King of the Universe.

King of the Universe

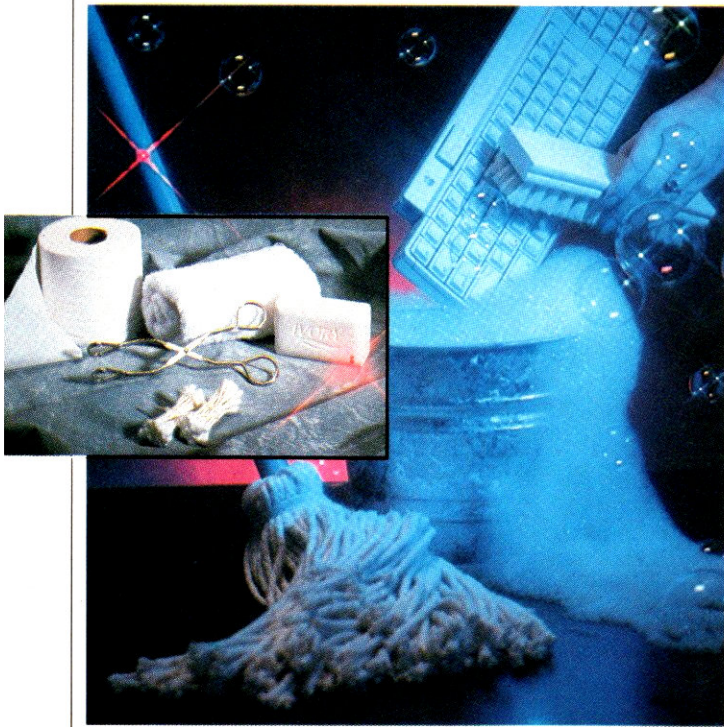
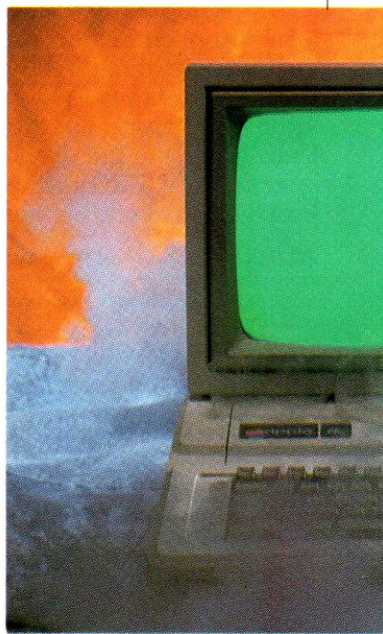
List Price: \$34.95

Requires: Apple II Plus, IIe, IIc, or IIgs; 5¼-inch disk drive; paper and pencil
TTT Enterprises
9 Checkerboard Square
Gridlock, NM 10079
(505) 555-0334

CIRCLE READER SERVICE NO. 901

QUICK AS A FLASH

Although computers frequently improve the efficiency of common office activities, they too often cause hubby and kids to neglect their daily household tasks. The Jolt Chip for the Apple II Plus/e/c/gs is a home-control accelerator that can increase the speed of domestic activities by as much as 100%.



The Jolt Chip is a replacement for the central processing unit (CPU) of the Apple II computers. A home user can install the chip in about ten minutes. An illustrated manual describes the process in detail.

When you power up the IIGs for the first time, the Jolt Chip systematically directs 120 volts of alternating current to each component on the Apple II motherboard. With the Jolt Chip in place, your computer is guaranteed to become totally incompatible with all of the thousands of software titles available for the Apple II line of computers.

Families using the Jolt Chip are guaranteed to realize a dramatic improvement in such household services as emptying the garbage, vacuuming the carpet, and cleaning the children's bedroom—or double their money back. Limited warranty.

Jolt Chip

List Price: \$179.95

Requires: Apple II Plus, IIe, IIc, or IIGs (fire extinguisher not included)

Vengeful Spouse Technologies

666 Incendiary Avenue
Ozone Park, NY 10093
(212) 555-9876

CIRCLE READER SERVICE NO. 902



DANGER! CHILDREN AT WORK

The young ones may be adept at mauling a joystick, but those computer-literate kids of the 80s are lost when it comes to a hammer and nails.

Help them learn the pleasures of Do-It-Yourself with the Construction Construction Set. This interactive educational program teaches youngsters how to follow instructions, read simple blueprints, and identify and manipulate common household tools. Using the step-by-step guide, children can complete up to eight functional projects from birdhouse to toy box. The package comes complete with plans, software, and fully equipped tool box.

The centerpiece of Construction Construction Set is the unique user-configurable training mode. Children can improve their tool-using technique with the aid of the computer. In the hammer-training mode, for example, you can configure any key on the keyboard to act as the nail. The software rates performance according to speed, accuracy, and strength of the stroke.

Construction Construction Set

List Price: \$59.95

Requires: Apple IIe, IIc, or IIGs; 5¼-inch disk drive; 64K RAM

Portwood Computer Products and Repair
67 Piecemeal Place
Smithereens, CA 93747
(415) 555-0202

CIRCLE READER SERVICE NO. 903

ALL THE SOFTWARE YOU'LL EVER NEED

Omnipotent Development has announced HyperActive, its new all-in-one home and office software for the Apple IIGs. This integrated package boasts all the features of several popular productivity packages in an easy-to-use mouse/menu desktop interface.

Nearly 200 man-years of effort went into the creation of HyperActive. The final product incorporates all the features of AppleWorks and has enhanced them with a fully integrated MacPaint-

style drawing program, a Sidekick-like time-management tool, graphics database, Excel-compatible spreadsheet, musical notating program, desktop video director, and Ernie's 3D Pancakes (a fast-paced video-arcade game).

Omnipotent Development believes it has established a new price/performance value by making HyperActive available at an affordable \$9.95. Furthermore, the user-friendly design turns HyperActive into one of the first turnkey application packages.

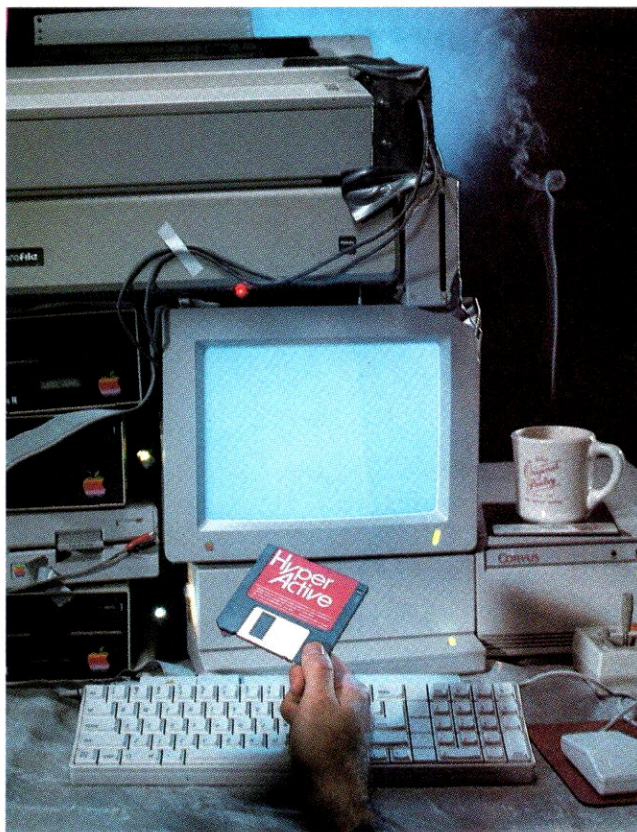
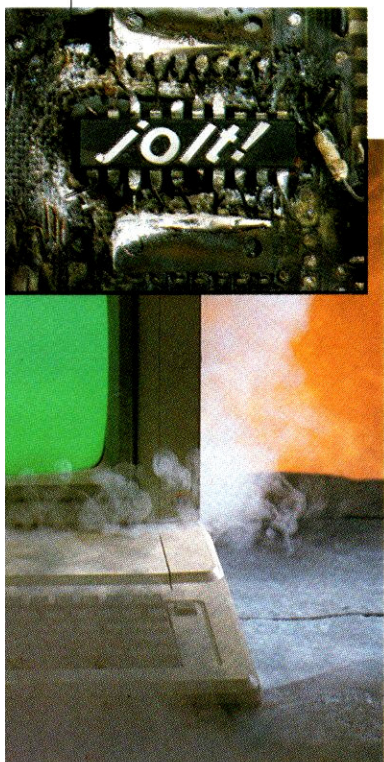
HyperActive

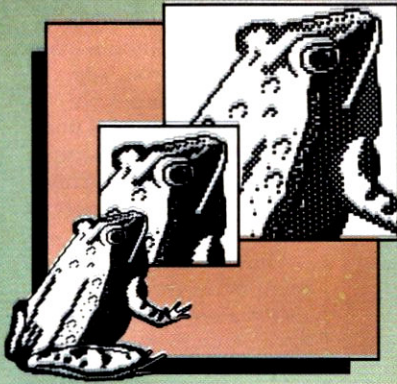
List Price: \$9.95

Requires: Apple IIGs with minimum 8 megabytes of RAM, two 5¼-inch disk drives, two 3.5-inch disk drives, 60-megabyte hard-disk drive, CD-ROM drive, ImageWriter II printer, AppleTalk network, 68020 coprocessor board, 80386 coprocessor board, modem, laser printer, two formatted 5¼-inch floppy disks

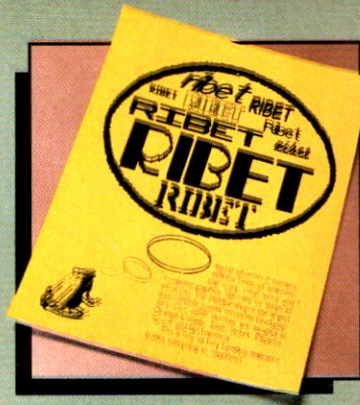
Omnipotent Development Hardware
Industrial Park
C.O.D., TX 77802
(409) 555-3987

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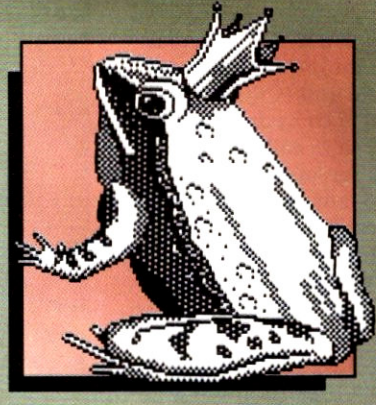




Print Magic™ high-resolution graphics are indeed riveting. And can be enlarged up to 6 times.



So flexible, you can position graphics and text anywhere on a page. Or print various typefaces on the same page.



Many images to choose from or modify. Or draw with 24 paint brushes, 5 pens, and instant geometric shapes.

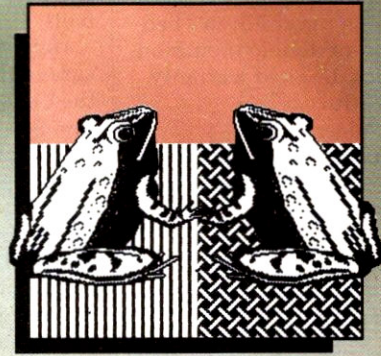
NOW THERE'S MORE THAN ONE WAY TO REPRODUCE A FROG.



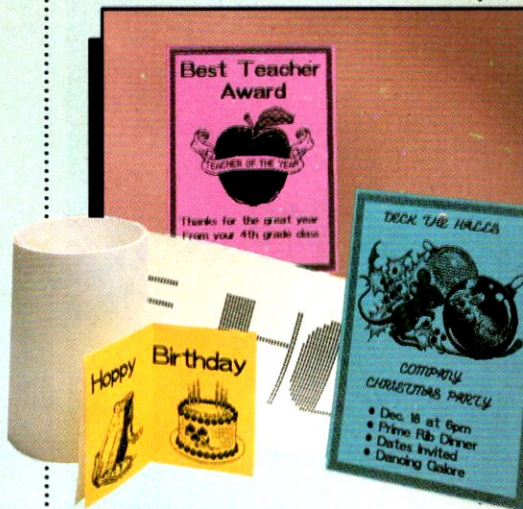
Flip it. Copy or invert it. With Print Magic, you can stand an image on its ear. And add a poem.



Zoom in close for a frog's eye view. Then, pull back to work with a full page display.



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the latest addition to the *Epyx Designer Series*™.

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And everything you print out will be exactly what you have in mind.

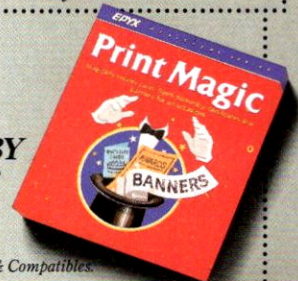
That's because *Print Magic* is nearly as powerful and

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flexible as its closest competitor: your imagination.

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*Get this versatile
word-processing program
to run, not walk.*

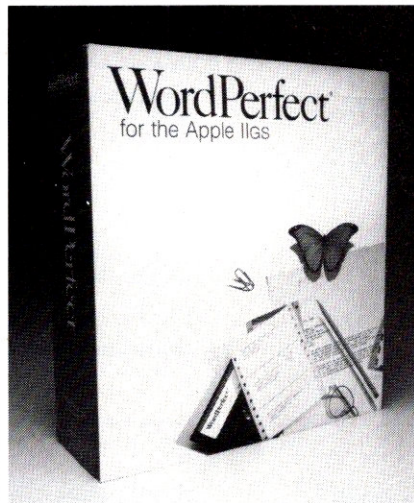
Perfecting WordPerfect

I've always listened with envy as my IBM-using friends described the wonders of WordPerfect, the Cadillac of word-processing programs in the MS-DOS world. So, when WordPerfect became available for the Apple IIe and IIc, I decided to give it a try. Even without the split screen, the thesaurus, and a few of the other IBM-version goodies, the program is positively packed with luxurious features. From automatic footnoting to complex macro chaining, from mail merge to seemingly endless formatting options, WordPerfect has it all.

I learned one other thing, though. Cadillacs are built for comfort, not speed. WordPerfect is slow—so torturously slow that sometimes I've abandoned the Caddy by the roadside and gone back to my trusty Toyota (in my case AppleWorks). Unless you really need WordPerfect's lavish features, there's much to be said for a word-processing program that does the basics, does them well, and does them quickly. But if you need or want the first-class ride, there are, I've discovered, ways (in both hardware and software) to minimize the program's sluggishness while getting the most out of its rich options.

Shopping for Speed

If you've been considering adding hardware enhancements to your system, this may be your excuse. WordPerfect is a deluxe pro-



gram, and using it to its full potential takes some fairly deluxe equipment. Technically, you can run it on any Apple IIc or 80-column, 128K IIe with a single disk drive—but technically you can scrub your floor with a toothbrush. Two drives are, in a considerable understatement, “recommended.” Of the six diskettes that make up the WordPerfect package, you typically use at least two or three, in addition to your own data disk.

With a single drive, simple operations such as saving or printing require tiresome multiple disk swaps, generally accompanied by the muttering of highly colorful language.

Even if you soup up your system with a second disk drive, some functions that should be instantaneous (such as defining and copying a block of text) take several long moments while both drives are accessed. A better (and comparably priced) solution is to invest in a memory-expansion card. With memory expanded to 640K by, say, Applied Engineering's Z-RAM Ultra (IIc) or RamWorks (IIe) or by Checkmate Technology's MultiRam, you can load the entire WordPerfect program, including speller and utility disks, into RAM and run it from there. This approach eliminates disk-access time and leaves the drive free for your data disk.

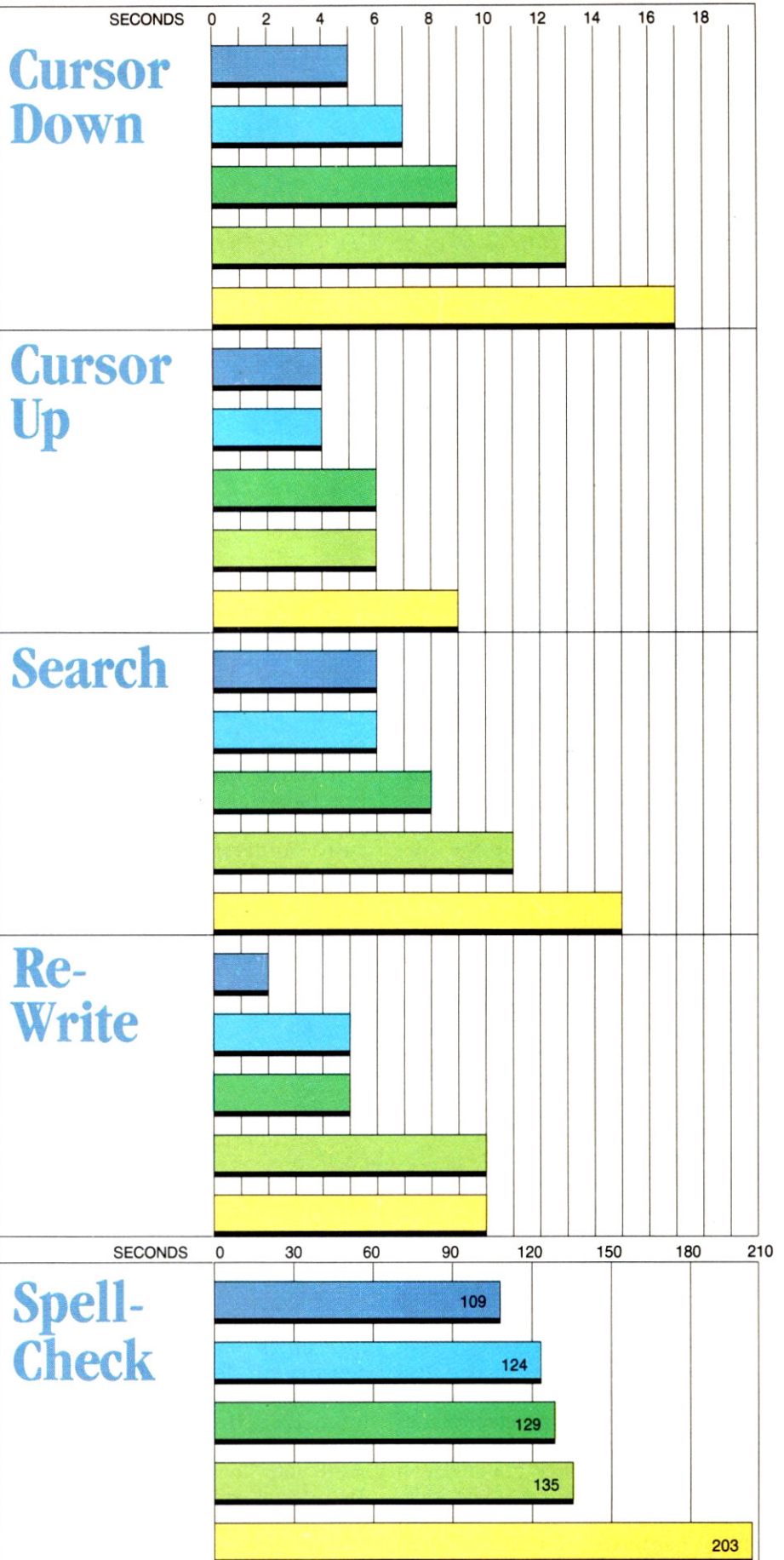
WordPerfect suffers from other, even more frustrating, sources of delay. The program is egregiously poky in executing and exiting from many functions—even in moving the cursor from one part of a document to another. (The IBM version doesn't have this problem; presumably it cropped up during

The Speed Problem

To test speed differences, I ran the accompanying article ("Perfecting WordPerfect") on three versions of WordPerfect and four different hardware set-ups. I tested IIGS versions 1.1 and 2.0 on a IIGS with the program in a 3.5-inch drive and data in a 5¼-inch drive, and I tested the IIe/IIc version in three ways: on a IIGS with two 5¼-inch drives, on a IIe with two 5¼-inch drives, and on a single-drive IIc enhanced with a 512K Z-RAM Ultra 1. (This latter configuration shows the benefits of reduced disk access.) As you can see, the GS version 2.0 offers the best performance.

The first two tests measured how long the cursor took to jump from top of the file to the bottom (closed-apple/N) and from bottom to top (closed-apple/U). The Search test started with the cursor on the word *Caddy* (second paragraph) and measured the time for closed-apple/> to find the next occurrence (last paragraph). The Rewrite test involved inserting six words into a paragraph, pressing closed-apple/1, and waiting for the text to rejustify. For the Spell-Check test, I scanned one error-free page of the three-page article, immediately pressing 2 (Skip) for every suspect word. Spell-checking figures may not be entirely reliable, since they involve human reaction time, but they give a rough idea.

Just as a point of comparison, AppleWorks beats WordPerfect hands-down when it comes to jumping from the top to the bottom of a word-processing file or vice versa. Such a feat—on even a much larger file—would take AppleWorks a split second. Searching in AppleWorks is similarly speedy, but I was unable to compare the re-writing of paragraphs, because AppleWorks does that automatically. Also, AppleWorks doesn't have a built-in speller, so I can't compare those either.



WP-GS 2.0
 WP-GS 1.1
 WP-e/c 1.1 on IIGS
 WP-e/c 1.1 on IIc w/Z-RAM
 WP-e/c 1.1 on IIe

translation from MS-DOS.) If you have used another word-processing program that zips instantly up or down a screen (or forward or backward several pages), you'll probably be fed up with drumming your fingers and reading WordPerfect's Please wait message. Even on a document of just a few pages, the delay can be more than 15 seconds just to make the cursor jump or to do a search (see "The Speed Problem").

If you're an Apple IIe owner, you can hurry things up somewhat by adding an accelerator card, but it won't help much unless you've extended your memory enough to run everything from RAM. The truly deluxe solution is to move up to an Apple IIGS, with its fast, 16-bit-per-second processing speed. Another advantage is that you can look at a white-on-soft-blue display rather than green or white on black—much easier on the eyes if you do lots of writing. Of course, then you'll want the new WordPerfect that is designed specifically for the Apple IIGS, right? Well, maybe (see "The GS Version: How Good Is Better?" which accompanies this article).

Short of treating yourself to these hardware enhancements, here are some tips for operating more quickly inside WordPerfect documents. (All commands I cite here are for the IIe/c version; although some of these techniques also apply to the GS version, GS commands are different.)

Search High and Low

Whenever possible, avoid scrolling or jumping from screen to screen while looking for a passage you want to read or modify. Instead, think of a key word in the passage and use WordPerfect's highly convenient search function (which can go either forward or backward from any point in the text) to take you there in one step. Using solid-apple/> to begin the search is also a little faster than open-apple/2 1.

Get Me Rewrite

Press the Rewrite key (solid-apple/1) early and often. Because WordPerfect does not instantly rejustify text when you insert or delete words, you can find yourself stepping over holes or wandering through temporarily duplicated text. Eventually, as the cursor moves through the affected lines, they'll fix themselves, but you can save time and confusion by fixing them right away with Rewrite.

Often, though, especially in the middle of a long paragraph, Rewrite can take as long as ten seconds to tidy up the text up to the next hard carriage return. In such a situation, it's faster just to zip the cursor through three or four lines with the down-arrow key and then go back up again.

Block That Text

The orthodox method of deleting a block of text—Block On (open-apple/zero), move cursor to define block, Move (open-apple/9), Cut (1)—is pretty unwieldy. Unless the

passage is very long, you can take it out more quickly just by holding down solid-apple/Delete. But be careful! This one can accelerate on you and wipe out more words than you intended. For a longer passage, the fastest way is usually to make sure there's a hard return at either end; then use Move (open-apple/9), Paragraph (2), Cut (1). Note that the cursor can be anywhere in the paragraph.

Overwrite and Forget

When first booting WordPerfect and before creating or retrieving a file, you may get this message: Warning: Overflow files already exist!, followed by the choice of using another directory or overwriting the (supposedly) existing files. Don't waste time wondering what these overflow files are, where they came from, or what consequences will result from overwriting them. This situation (not adequately explained in the documentation) is usually the result of not exiting by the prescribed method (open-apple/+) the last time you used the program. Just select 2 (Overwrite) and forget about it. Another time-waster is trying to figure out what Home (solid-apple/Return) is supposed to do and why it won't do it. This Zen command accomplishes exactly nothing.

Spellbound

The Speller is one of WordPerfect's most convenient features, allowing you to check a single word, page, or entire file against a 50,000-word dictionary (115,000 in the

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IIGS version) without leaving your document. You can make it even more useful and efficient.

When the Speller stops on a suspect word, nine times out of ten you'll wind up choosing either 2 (Skip) or A (the first suggested respelling). Note that you don't have to wait for the Speller to display all your choices. As soon as you realize the word is OK (perhaps a name or some other word not in the Speller's vocabulary), you can press 2 and cruise right on to the next word. If you think your spelling may be wrong, wait for the display of suggested respellings to begin. If the first choice is correct—and it usually is—you can type A immediately, and the Speller will move along without delaying to display other choices. By keeping two fingers poised over the 2 and the A keys (ready to strike—pretend you're playing an arcade game!), you can speed up the process.

Still, spell-checking takes time, time you could spend proofreading for other kinds of errors. In fact, while you're gazing at the screen, waiting for the Speller to pounce on its next victim, you'll probably notice mistakes you want to fix or additions you want to make.

Problem: How do you get out of the spelling function, make your revision, and then get back in where you left off? Solution: As soon as the Speller stops on any word, select 4 (Edit), which allows you not only to respell the current word but also to move the cursor as far to the right or left as you like, where you can make the desired change. When you're done, press Return, and spell-checking continues. This technique does have one limitation: You can move the cursor only one character at a time—no express moving, as with solid-apple/arrow, solid-apple/G (Go to), or solid-apple/> (Search).

An unsung bonus of the Speller's wild-card feature is its ability to help you think of words that are on the tip of your tongue. Suppose, for example, you're writing a letter to your old professor Dr. Fafuffnik, and you've forgotten what subject you studied with him. All you remember is that it ends with *ology*. Just press solid-apple/+ to display the Extra menu and then 3 (Speller) and 5 (Look Up). When you're prompted to type the word pattern,

The IIGS Version:

How much better than WordPerfect for the Iie and Iic (let's call it WP-e/c) is the new release 2.0 version for the IIGS? Much better. Is it better enough to run out and buy, learn, and use it? That depends.

Last year, WordPerfect Corporation's release of WordPerfect for the Apple IIGS, version 1.1, raised great expectations. Surely the company would seize the opportunity to overcome the faults of WP-e/c and provide a new program worthy of this racy new machine. What came instead was a disappointment.

True, WP-GS 1.1 conveniently reduced the package of six 5¼-inch floppy disks to two 3.5-inch disks, and it used the GS's graphics capabilities to represent boldfacing and underlining realistically. (WP-e/c uses reverse video.) Cursor control was simplified through IBM-style use of the numeric keypad, and the spelling checker's larger dictionary (115,000 words vs. 50,000) was more serviceable.

Same Old Program?

Otherwise, though, it was the same old program, one that failed to take advantage of the GS's capabilities. The fundamental problem, speed, had still not been addressed. Although the IIGS runs WordPerfect somewhat faster than the Iie or Iic does, it runs WP-e/c 1.1 and WP-GS 1.1 at almost identically lackadaisical speeds. (See "The Speed Problem," which accompanies this article.)

Version 2.0 is, up to a point, a different story. Its execution time for many commands is still pretty slow, but it is the fastest version yet. Moreover, the program has a whole new look and feel—a true GS environment, with windows, bars, pull-down menus, and dialog boxes. You can do virtually everything with the mouse, except entering text—that makes all the difference.

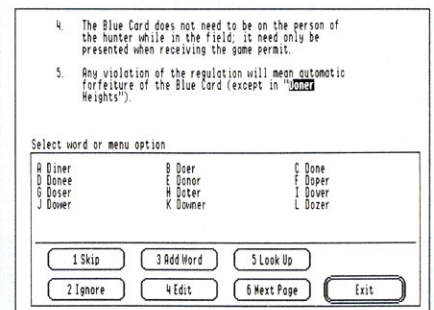
Because it does so much—because it offers so many options—WordPerfect has a complex structure, which means that doing even simple things can be complicated. The point-and-click approach at least makes one level of WordPerfect's structure simple. There are still more choices than most of us

will need most of the time, but with the mouse you can cruise quickly and easily through them.

Simple Is Better

The mouse interface also means the elimination of complicated series of keyboard commands and, along with them, of the little cardboard template that sat over the top of the keyboard in the earlier versions. (What seemed at first like a neat new toy proved to be a nuisance. I never had it when I was working away from home, and it wound up on the floor whenever my finger brushed against it.) Browsing through the manuals of the old versions could induce a severe case of I'll-never-learn-all-this-stuff blues. With the new manual, you often wonder why they bothered printing it. Almost all you need to know is: Click the mouse.

For example, suppose you want to switch from six lines per inch to eight. With WP-e/c or WP-GS 1.1, you have to press solid-apple/3 for Print Format, press 2 for the lines-per-inch feature, enter 8 for the



WordPerfect's Speller flags a misspelled word and offers alternatives from its dictionary.

number of lines per inch, and press Return to exit from the Print Format menu. With mouse-driven WP-GS 2.0, you merely pull down the Print menu and click on 8 Lines Per Inch.

The keyboard equivalents of mouse commands have some alphabetic logic to them, for the first time: open-apple/H for Header, open-apple/S for Speller, open-apple/M for Margins, open-apple/T for Thesaurus, and so on.

The 10,000-headword thesaurus is a new feature, as is the capability to generate end notes (in addition

How Good Is Better?

to improvements to the already excellent footnote feature). As with the earlier versions, 2.0 offers such spoil-yourself conveniences as vertical centering, column centering, hard and soft hyphens, right justification, an outstanding file-management system, and a binding-width adjustment (it shifts text to the right on odd-numbered pages and to the left on even-numbered pages to make room for holes on two-sided copies—clever, eh?). The program automatically takes advantage of any extra memory you have in your GS, and the windows facilitate working with multiple documents. The Clean Screen feature, which removes everything but your text and a status line indicating document number and cursor position, is handy for straight-ahead typing. This is the best of both worlds: the advantages of the GS environment without all those bars and window borders to distract you from your dissertation or sonnet.

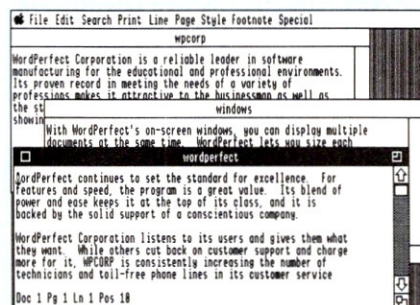
Slouching Toward Desirability

What makes a word-processing program desirable? In the formula $D = T \times U / M$, D is Desirability, T is the number of Tasks the program performs, U is the average Usefulness of each task, and M is the amount of Misery the writer must endure to learn and use the program. With WP-GS 2.0, WordPerfect is, more than ever, the hands-down champ in the Tasks division. Usefulness, though, is a highly individual consideration. Most of us can live quite happily, thank you, without nine different footnote-style options, but if you use several of WordPerfect's special features occasionally, or a few of them frequently, U goes way up.

The big question is M . Slow response time still keeps the Misery factor high. So does the annoying way the screen display responds to insertions and deletions (holes in text, duplicated text, and text marching off the right margin) until you reformat with the Rewrite command. Fast typists are now less likely to find themselves waiting for the program to catch up with them (infuriating! unforgivable!), but other imperfections persist—

the hyphenation feature, for example, still fails to recognize many words that should break.

WP-GS 2.0's intelligently applied mouse-and-menus approach gives WordPerfect such ease of use that, for the first time, Misery may fall within acceptable limits, however. For a graduate student who does extensive footnoting or for a businessperson who creates a lot of highly formatted documents, the



You may switch between multiple documents open on the desktop.

program probably more than compensates for its inconveniences.

The delays in executing commands and moving around within a file may not matter much to secretaries who type manuscripts mainly from start to finish or to users who usually work straight through a first draft before going back to edit. As a professional writer who likes to jump around, composing and revising (an obsolete distinction) in several places at once, I still find that AppleWorks, enhanced by Super MacroWorks, most comfortably meets most of my needs and fulfills the ultimate purpose of a word-processing program: helping me to forget about word processing so I can write.

WordPerfect Corporation certainly has the right attitude. Its superb customer support, via a toll-free number, is unrivaled, and it keeps churning out new and better products. It is trying, laudably, to atone for WP-GS 1.1 with a free upgrade to 2.0. Send the title page of your manual to WPCorp Software Updates, 329 North State Street, Orem, UT 84057. Upgrading from WP-e/c 1.0 or 1.1 to WP-GS 2.0 will cost you \$45.

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enter =ology. The Speller will display every word that ends in *ology*, preceded by zero or more letters. In this case, you get 46 words.

This method is also handy if you're studying English or linguistics: You can use =fect=, for instance, to find every word containing the root *fect*. (Poets can use the technique to find rhymes!) If you want a word with a specific number of letters (say for a crossword puzzle), use a dash instead of an equal sign. S---ter gives you *snorter*, *shyster*, and 19 others.

More Perfect

The richness of this program lends itself to countless applications and innovations. But the next big step in perfecting WordPerfect must come from WordPerfect Corporation. The company has made exciting improvements in its IIGS version, and its upgrade policy is commendably liberal. What we need now is something worth upgrading to. Users who have put their faith in WordPerfect's top-of-the-line reputation deserve a version that moves at an acceptable speed. In the meantime, we'll keep finding ways to run the Caddy faster and cooler—but not in the left lane, please. +

Dean Sluyter is a film critic, teacher, and free-lance writer based in New Jersey. His weekly column, "The Screening Room," appears in several East Coast newspapers.

VITAL STATISTICS

WORDPERFECT FOR THE APPLE lle AND llc, VERSION 1.1

A full-featured word-processing program with spelling checker, mail merge, footnotes, and macros

CPU: Apple lle (with Extended 80-Column Card), llc, or llgs
RAM: 128K

DISK DRIVES: one 5¼-inch; two strongly recommended

OPERATING SYSTEM: ProDOS

COPY-PROTECTION: no

LIST PRICE: \$179

WORDPERFECT FOR THE APPLE llgs, VERSION 2.0

CPU: Apple llgs

RAM: 256K

DISK DRIVES: one 3.5-inch; two recommended

OPERATING SYSTEM: ProDOS 16

MOUSE: yes

COPY PROTECTION: no

LIST PRICE: \$179

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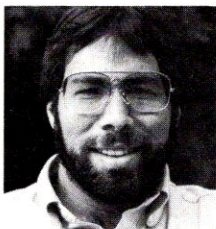


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*Steve Wozniak, the creator
of Apple Computer*

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Programs, Peripherals,

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Central Point Software		<i>Controller, Built-In Expansion Slot, and Ports for all Peripherals!</i>	
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<i>The Laser 128 includes an Expansion Slot, RGB Video Output, Parallel Printer Port, and a 10 Key Numeric Keypad!</i>		Laser 128 800K 3.5" Drive w/Controller	259.
Laser 128EX Computer	479.	Laser 128 2-Slot Expansion Box	49.
<i>The Laser EX includes a Built-in RAM Expansion Board, Universal Disk</i>		Laser 128 Cables (Parallel, Serial, RGB or Modem)	16.
		Laser 128 Mouse	49.

Backup Utilities & Boards

Alpha Logic Locksmith 6.0	36.	FWB Software	
Central Point Software		Disk Util II (IGS)	47.
Copy II Plus Ver. 8 (5.25" & 3.5" Bit Copy)	23.		


Business Software

Activision		Command.Com	42.
Writer's Choice Elite (Not Protected IIGS)	62.	Graphics Edge	54.
List Plus (Merges w/Writer's Choice IIGS)	62.	Pinpoint II Upgrade Kit	19.
Advanced Logic Systems SpellWorks	16.	PinPoint Ram Enhancement	19.
Apple Apple Works (Ile, Ilc, IIGS)	215.	PinPoint Modem Enhancement	19.
Apple Writer II 2.0 ProDos (Ile, Ilc)	125.	ProFILER 3.0	74.
Beagle Brothers Timeout Graph	55.	Random House II Write (Ile, Ilc, IIGS)	54.
Timeout Super Prodos	49.	IFile (Ile, Ilc, IIGS)	59.
Timeout QuickSpell	35.	Roger Wagner Publishing	
Timeout UltraMacros	47.	Mouse Write (Ile, Ilc, IIGS)	84.
Timeout SideSpread, FileMaster, or Desk Tools	32.	Scholastic Talking Text Writer (IIGS)	149.
BPI Systems		Sensible Software	
(Accounting Systems for the Ile, Ilc & IIGS)		Sensible Grammar ProDos (3.5" & 5.25")	59.
BPI General Accounting ProDos	139.	Sensible Speller-Dos or ProDos w/3.5 & 5.25"	69.
BPI AR/AP or Inventory ProDos (ea.)	139.	Sensible Writer (3.5" & 5.25")	59.
BPI Payroll ProDos	139.	Sierra On-Line Smart Money	54.
Broderbund On Balance	42.	Webster's Spelling Checker (ProDos)	39.
Bank Street Writer Plus	54.	Sir-Tech Software, Inc.	
Dac Software Dac-Easy Accounting	54.	The Clan Practical Accountant	42.
Datapak Graphewriter 2.0 (IIGS)	79.	SoftView TaxView Federal 1987 (IIGS)	72.
Notes 'N Files (IIGS)	69.	TaxView Planner Supplement 1987-1991 (IIGS)	49.
DHA Systems Software FastPak Mail	42.	California or New York Supplement 1987 (IIGS)	39.
Electronic Arts DeluxeWrite	35.	Software Publishing	
Intuit Quicken	35.	All Programs for Ile with 128K or 11c	119.
Manzanita BusinessWorks		PFS: Workmats (File/Report/Plan/Write)	69.
System Manager (Required)	69.	PFS: Graph	69.
GL/AR/AP or Inventory Control	139.	PFS: File/Report Bundle	69.
Payroll Module	139.	PFS: Write w/Speller	69.
BusinessWorks Bundle (Sys. Manager, G/L, A/P, A/R, Inventory)	299.	SoftView GS File	61.
MECA		StyleWare, Inc.	
Managing Your Money 3.0 (Ile, Ilc, IIGS)	99.	Softsync Personal Newsletter	39.
MegaHaus MegaWorks, Report Works or Think Works	78.	Software GS File	61.
Monogram Dollars and Sense (Ile, Ilc or Ilc)	35.	StyleWare, Inc.	
Nolo Press Will Writer (Version 2.0)	36.	Multiscribe 3.0 w/Speller (128K Ile or Ilc)	52.
Peachtree Back To Basics Accounting System: GL/AR/AP	135.	Multiscribe GS 3.0 (Apple IIGS)	65.
Pinpoint Publishing Pinpoint IIGS Starter Kit	89.	DeskWorks	39.
Pinpoint	49.	Picture Manager or Desk Accessories	27.
Pinpoint Spelling Checker	42.	Multiscribe Fontpaks 1-8 (each)	15.
Pinpoint Document Checker	49.	Timeworks Publish-It	69.
Pinpoint Speller/Document Checker Combo	52.	VIP Software	
Pinpoint Toolkit	42.	VIP Professional (Apple Ilc or Enhanced Ile)	149.
Infomerge	48.	VIP Professional (IIGS Version)	169.
Key Player	30.	Word Perfect Corporation	
RunRun	30.	WordPerfect V1.1 w/Speller (Ile & Ilc)	89.
		WordPerfect (Apple IIGS)	89.

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Accolade Mean 18 (IIGS) or Hardball (IIGS)	24.	Beyond Zork (IIGS)	34.
Famous Course Disk Vol. 2	12.	The Zork Trilogy	46.
Famous Course Disk Vol. 3 & 4	22.	Micro League Sports Micro League Baseball	27.
Hard Ball	22.	General Manager/Owner Disk	27.
Activision Aliens	24.	Microprose F-15 Strike Eagle or Silent Service	23.
Blackjack Academy	24.	Silent Service (IIGS)	28.
Firepower	18.	Mindscape	
GBA Championship Basketball (IIGS)	31.	Defender of the Crown (Apple IIGS)	34.
GFL Championship Football	27.	Balance of Power	34.
Hacker II or Hacker II (IIGS)	27.	Sub Mission	28.
Might & Magic	32.	Super Ice Hockey	28.
Portal or Shanghai (IIGS)	30.	Sinbad, S.D.I. or King of Chicago (IIGS)	34.
Star Rank Boxing II	28.	Indoor Sports, Uridium, or Xevious	21.
Tass Times In Tonetown (IIGS) or Maniac Mansion	24.	One Step Software	
Top Fuel Eliminator	21.	Golf's Best Pinehurst or St. Andrews	15.
Artwork Bridge 5.0	31.	PBI Software The Tower Of Myrarglen (IIGS)	34.
Baudville Dream Zone (IIGS)	21.	Strategic Conquest II or Cavern Cobra (IIGS)	31.
Ski Crazy or Video Vegas	19.	Sea Strike or Monte Carlo (IIGS)	25.
Broderbund 2400 A.D.	27.	Random House APBA Major League Baseball	41.
Airheart or Wings of Fury (Ile, Ilc, IIGS)	24.	Sierra On-Line	
Championship Lode Runner or Karateka	24.	Space Quest or Space Quest (IIGS)	34.
Ultima IV or Ultima V	42.	Championship Boxing	24.
Autoduel	34.	Kings Quest I, II, or III (APII or IIGS Ver.)	47.
Moebius	42.	Leisure Suit Larry (APII or IIGS Ver.)	27.
Data East Karate Champ or Kung Fu Master	15.	Thehexd (IIGS)	24.
Tag Team Wrestling or Commando	24.	The Black Cauldron	27.
Electronic Arts		3-D Helicopter Simulation (IIGS)	34.
Bards Tale (IIGS), Instant Music (IIGS), or Music Construction Set (IIGS) (each)	39.	Simon & Schuster	
It's Only Rock & Roll or Hot & Cool Jazz	22.	Star Trek (Kobayashi Alternative)	21.
Bards Tale II, or Starfleet I (each)	34.	Star Trek (The Promethean Prophecy)	21.
Amnesia, Bard's Tale, or Robot Rascals (each)	32.	Sir-Tech Wizardry	32.
Alternate Reality: The Dungeon, Arctic Fox, ChessMaster 2000, Legacy of the Ancients, Mavis Beacon Typing, Russia The Great War, Scrabble, PHM Pegasus or World Tour Golf (IIGS) (each)	29.	Knight of Diamonds	32.
EOS: Earth Orbit Station, Strike Fleet, or Marble Madness or Marble Madness (IIGS) (each)	25.	Legacy of Lilygarn	32.
Dark Lord or Force 7	16.	Return of Wera	39.
Adventure Construction Set, Lords of Conquest, Make Your Own Murder Party, or Realm of Impossibility (each)	12.	Deep Space-Operation Copernicus	27.
EPYX		Software Simulations	
California Games (Ile or IIGS Ver.), Championship Wrestling, Destroyer (Ile or IIGS Ver.), Omnicon Conspiracy, Sub Battle Simulator (Ile or IIGS Ver.), Summer Games II, Street Sports: Baseball, Street Sports: Baseball, Winter Games (Ile or IIGS Ver.), or World Games (Ile or IIGS Ver.) (each)	26.	Pure Stat College Basketball (Ile, Ilc, IIGS)	28.
Rad Warrior	18.	Baseball (Ile, Ilc, IIGS)	21.
The Movie Monster Game	15.	Football (Ile, Ilc, IIGS)	12.
World's Greatest Baseball Game or Football Game	15.	Spectrum Holobyte Gato Gato (IIGS)	25.
Hayden Software Sargon III	15.	Intrigue or Lunar Explorer	18.
Infocom		Orbiter (IIGS), Wilderness or Dondra	31.
Border Zone, Bureaucracy, Hollywood Hyiinx, Leather Goddesses Of Phobos, Moon Mist,		Strategic Simulations	

Utilities & Languages

Absoft		Roger Wagner SoftSwitch (IIGS)	39.
AC, Basic (16-bit BASIC Compiler for IIGS)	99.	Merlin 8/16 (Ile, Ilc, IIGS)	79.
Apple Computer Apple II Instant Pascal	119.	The Byte Works ORCA/Pascal (IIGS)	89.
Apple Pascal V13	215.	ORCA/Pascal Desktop Debugger	99.
Beagle Brothers		ORCA/M 4.1	72.
Beagle Screens, Big U, MacroWorks, or Pro-Byter (each)	21.	ORCA/M GS	49.
Beagle Compiler	46.	APW DeskTop	42.
Beagle G.P.L.E. or Super MacroWorks	31.	TML Systems TML Basic for the GS	89.
D-Code, Extra K, Power Print or Triple Dump (each)	25.	TML Pascal for the GS	89.
Borland Turbo Pascal 3.0 (Req. CP/M)	48.	TML Source Code Library for the GS	35.
Funk Software Sideways Prodos & Dos 3.3	47.	TML Speech Toolkit	49.
		TML Pascal APW	89.
		Zedcor ZBasic 4.0	39.

Accelerators/Ramcards/Z-80/80 Column Cards

Apple Computer		RamWorks Basic (256K or 512K)	Call
Apple IIe Extended 80 Col. Card	89.	Phaser (Ile, Ilc, IIGS)	139.
Apple IIe Enhancement Kit	49.	Pocket Rocket (16K Ram II & II+)	69.
Applied Engineering		TransWarp Accelerator (Ile & Ilc)	169.
RamWorks III (64K to 3 MB)	Call	ViewMaster 80 (Ile+)	129.
RamWorks Expander (512K or 2MB Ver.)	Call	Z-80 Plus (Ile, Ilc, IIGS)	129.
2 Meg Plus RamWorks Expander (1 or 2MB)	Call	AST Research	
PC Transporter (384K to 768K)	Call	Ramstack Plus IIGS (256K Exp. to 1MB)	105.
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 1.5Meg)	Call	RamPak 4GS	Call
GS-Ram Plus (1MB to 6MB)	Call	(512K Exp. to 4MB w/Utilities)	149.

Printer Interface Cards

Apple		Thirdware	
Apple Super Serial Card	119.	Finger Print GSi	69.
Applied Engineering		(Includes Desktop Accessories - IIGS)	
Serial Pro (Ile, Ilc, IIGS)	119.	Finger Print Plus	69.
Parallel Pro (Ile, Ilc, IIGS)	79.	(Specify Cables: Parallel, Serial or ImageWriter II-II+ & Ile)	89.
Orange Micro		FingerPrint IIc (Specify Internal or External Version)	74.
ProGrappler (Apple Ile or IIGS)	79.	Finger Print G+ (With Parallel Cable Ile, Ilc, IIGS)	55.
Serial Grappler Plus	61.		
Grappler C/Mac/GS	65.		
Hot Link	54.		

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Graphics Packages

Accolade Graphics Studio (IIGS)	42.	Show Off (IIGS)	42.
Activision		Data Transforms PrintriX 1.1	46.
Draw Plus (Not Protected IIGS)	59.	Electronic Arts	
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	26.
GameMaker Maker Bundle	34.	Seasons & Holidays (IIGS)	41.
PaintWorks Plus (Not Protected IIGS)	59.	EPYX Printmagic	17.
Postcards (IIGS)	21.	Graphics Scrapbook Chapter #1, #2, or #3	21.
Postcards (Ile & Iic)	18.	Create-A-Calendar	59.
Music Studio (IIGS)	59.	Intracorp	
Greeting Card Maker	28.	Bumper Sticker Maker	34.
Bantam Software		Business Card Maker	36.
Walt Disney Card & Party Shop	27.	The Video Wizard	42.
Walt Disney Comic Strip Maker	27.	PBI Software Visualizer IIGS	59.
Baudville		Visualizer Ile	55.
816/ Paint (Works On All Apples)	46.	Scholastic SuperPrint (IIGS)	31.
Award Maker Plus	24.	Spinnaker T-Shirt Shop	34.
Take 1 Deluxe	36.	T-Shirt Shop Graphics	15.
Beagle Brothers Beagle Graphics	19.	Springboard	
Mimpix Disk #1, #2 or #3 (each)	26.	Springboard Publisher (Ile, Iic, IIGS)	79.
Shape Mechanic	35.	Newsroom	35.
Broderbund Toy Shop	34.	Certificate Maker	26.
Animate	45.	Certificate Maker Library #1	26.
Dazzle Draw	39.	Fonts For Springboard Publisher	26.
Drawing Table (IIGS)	62.	Newsroom Clip Art Collection Vol. 1 or 3	18.
Print Shop Enhanced or Fantavision	32.	Newsroom Clip Art Collection Vol. 2	25.
Print Shop (IIGS) or Fantavision (IIGS)	42.	Graphics Expander Vol. 1 or Laser Drivers	25.
Print Shop School Edition	48.	Style Sheets/Newletters	19.
Dazzle Draw School Edition	48.	Works of Art Education, Holidays	
Print Shop Companion	25.	or Assortment (each)	59.
Print Shop Graphics Library I, II, III	16.	StyleWare, Inc. TopDraw (IIGS)	26.
or Holiday Ed.		Unison World	
Print Shop Graphics Library		Printmaster Plus	31.
Sampler Edition	24.	Art Gallery I or Art Gallery II	19.

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.
Baudville Guitar Wizard	19.	Bumble Plot, Reader Rabbit or Magic Spells	26.
Ted Bear Discoverers...Rainy Day Games	19.	Gertrude's Puzzles or Secrets	30.
Broderbund		Word Spinner	23.
Science Tool Kit Master Module	46.	Math Rabbit	26.
Science Tool Kit Module I or II	27.	Moptown Hotel or Moptown Parade	26.
Type!	31.	Robot Odyssey I or Rocky's Boots	32.
Variable Feasts	35.	Mindscape Crossword Magic,	
Where in the World is Carmen Sandiego?	26.	Drug Alert, or Brainstorms	34.
Where in the USA is Carmen Sandiego?	29.	Perfect Score SAT	48.
Compu-Teach Once Upon A Time	25.	Principal's Assistant	42.
Stepping Stones Level 1	25.	Peachtree/Eduware Algebra 1, 2, 3, or 4	25.
Stepping Stones Level II	25.	Algebra 5 & 6	31.
See the U.S.A.	36.	SAT Word Attack Skills	31.
Davidson & Associates		PinPoint Micro Cookbooks (Ile or Iic)	19.
Apple II and GS Versions Available:		Bon Appetit	37.
Algebra-Blaster, Classmate or Math Blaster Plus	30.	Simon & Schuster	
Grammar Gremlins or Read 'N' Roll	30.	Speed Reading Tutor IV (Ile or IIGS Ver.)	27.
Homeworker	55.	Typing Tutor IV (Ile, Iic, or IIGS)	34.
Speed Reader II	41.	Spinnaker Kindercomp Gold	29.
Spell-It or Word Attack!	30.	Homework Helpers Writing or Math (IIGS)	32.
Math & Me	25.	Typing Made Easy	32.
Designware Grammar Examiner	25.	Facemaker: Golden Edition	27.
Remember SAT Bundle or		Kidwriter	27.
W.O.R.K. At Home	31.	Terrapin Enhanced Terrapin Logo V3.0	69.
Spellchecker or Math Maze	25.	Weekly Reader	
States & Traits or Mission Algebra	25.	Stickybear Series: Sticky Bear ABC, Car	
First Byte/Electronic Arts		Builder, Codes & Cypfers, Basic, Drawing,	
MathTalk I, Kidtalk, First Shapes, Speller		Math I, Math II, Math Word Problems,	
Bee, or Smoothtalker (IIGS) (each)	36.	Music, Music Library, Numbers, Opposites,	
MathTalk Fractions or First		Parts of Speech, Pic. Builder, Picture	
Letters & Words (IIGS)	36.	Printer Library I, Printer, Reading, Reading	
Great Wave Kidstime II (IIGS)	24.	Comprehension, Shapes, Spellgrabber,	
SpaceLace	21.	Typing, Townbuilder, Word Problems	
Harcourt, Brace, Jovanovich Computer SAT	27.	or Writer (each)	25.

Modems

Anchor Automation Signalman Express 1200	185.	Practical Modem 2400 SA	199.
Signalman Lightning 2400	299.	Protheus Pro Modem 1200 (External)	239.
Applied Engineering		ProModem 1200G (Non Expandable)	149.
DataLink Modem (300/1200 Baud		Pro Modem 2400 (External)	309.
Internal Modem IP, 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/ Smartmodem 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.

Disk Drives & Hard Disk SubSystems

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 (Ile)	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 1/4" & 3 1/2" 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.
Universal Disk Controller/800KB		Half Height 5 1/4" Drive Platinum for IIGS	169.
Drive Bundle	259.	Apple Ile Drive Adaptor	15.
First Class Peripherals		Mitac	
Sider 20MB Hard Drive	549.	AD-3C Slimline Iic	129.

Accessories

Apple Computer		Kraft	
Apple Mouse Ile	125.	Kraft Universal 3 Button	
Apple Mouse Iic	89.	Joystick (Ile, Iic)	34.
Applied Engineering		Koala Technologies	
TimeMaster H.O.	85.	Koala Pad Plus w/Graphics Exhibitor	84.
Iic System Clock	55.	MDideas	
AST Research		Conservar (IIGS Switched Surge	
AST-VisionPlus Digitizer (IIGS)	219.	Suppressor w/Fan)	119.
CH Products		SuperSonic (Stereo Card for IIGS)	52.
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 (Iic)	69.
Curtis		A+ ADB Mouse (IIGS)	89.
Curtis Diamond	29.	MouseTrak	
Curtis Emerald	36.	MousePad 7"x9" Size	8.
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Curtis Sapphire	47.	MousePad L/F (Low Friction)	9.
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DataDesk ADB-101	159.	Justice Box (IIGS Switched Surge	
Enhanced Keyboard (IIGS)		Suppressor w/Fan)	69.
Kenington		SMT	
Mouse Pocket (Reg. or ADB)	8.	No Slot Clock (Ile & Iic)	42.
Mouseway (Mousepad)	8.	Street Electronics	
Apple IIGS Dust Cover	10.	Echo IIB Speech Synthesizer	
Mouse Cleaning Kit w/Pocket	17.	(Ile, Iic, IIGS)	109.
Disk Drive Cleaning Kit (3.5" Drives Only)	20.	Crickit Iic	129.
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Verbatim 5.25" SS/DD (box of 10)	10.	Sony 3.5" DS/DD (box of 10)	18.
Sony 5.25" SS/DD (box of 10)	9.	Fuji 3.5" DS/DD (box of 10)	20.
Maxell 5.25" SS/DD (box of 10)	10.	Maxell 3.5" DS/DD (box of 10)	20.
3M 5.25" SS/DD (box of 10)	11.	Verbatim DS/DD (box of 10)	20.
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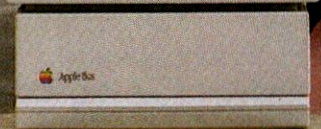
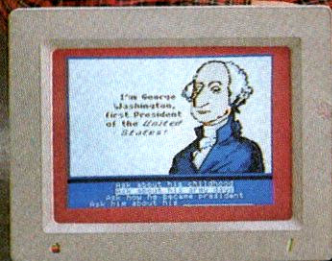
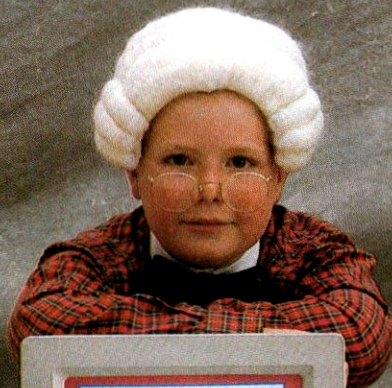
A look at several simulation programs for the Apple II that can help instructors bring history alive in their classrooms.

Would you like to have your students experience life on the Oregon Trail, participate in the Constitutional Convention, interview Christopher Columbus, or debate how to prevent a revolutionary war? Well, roll a computer into your classroom and start looking at what the newest crop of history software has to offer.

Organizing sufficient material to keep an entire class on a topic for even one period, much less for several weeks, is almost impossible. It is worth doing, though, because it gives students the opportunity to

experience history from a personal perspective, to discover for themselves how difficult some decisions are to make, even when they start off knowing the "right" answers. Wouldn't it be wonderful to obtain these benefits with less ground-work? All the programs I discuss here can help you do exactly that. They provide the materials you need to run excellent simulations, and, although they do require some preparation, they make it easy to give your students an opportunity to participate in making history happen.

Teaching Early American HIS



ADVENTURE GAMES

Adventure games provide a universe of rules, people, and places to discover. In historically based adventure games, you choose a period, cast students in appropriate roles, and challenge them to accomplish a specific task. Their goal might be to lead the French in racing the English to the New World (Quest for Canada), survive a trip through the American wilderness (The Oregon Trail), or discover gold in California (The 49ers). Guided by directional commands (N, S, E, or W), characters are free

to move around and "experience" life. In many adventure games, the rules are not clearly stated, and part of the realistic flavor is in the challenge of determining the rules while gaining familiarity with the terrain.

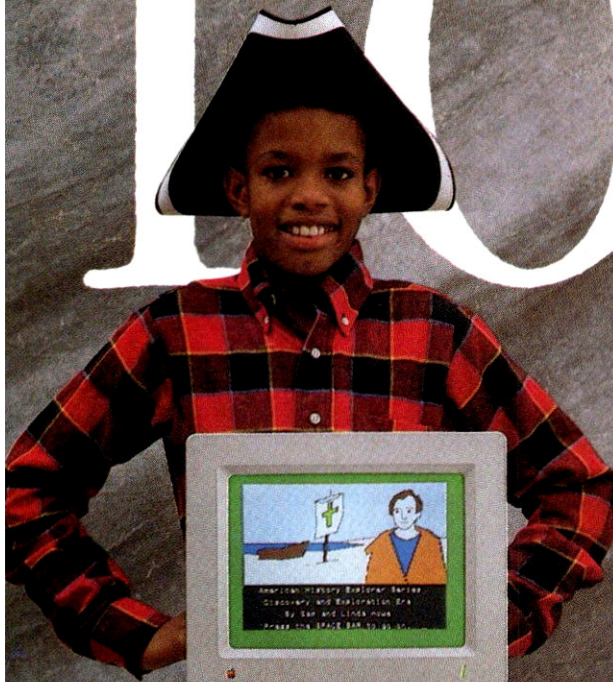
Entrex Games

Four historical adventure games that have a great deal in common are Quest for Canada (Scholastic-Tab), Pacific Nor'Westers (Scholastic-Tab), Race for the West (Hartley), and The 49ers (Hartley). Even though they are available from two different publishers, all four pro-

grams were written by Entrex Software, a Canadian company that specializes in simulations. The layout and interfaces are quite similar—the major differences are in content rather than style.

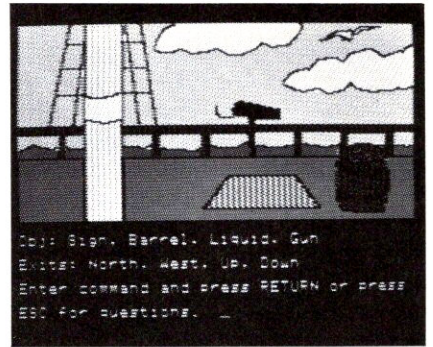
All four programs divide the computer screen into three sections. The bottom left is reserved for terrain graphics and the method of transportation: canoes, sailing ships, keel boats—even ox-drawn wagons emblazoned with the word GOLD. At the top of the screen is a map of the route already traveled, showing only explored

TORY

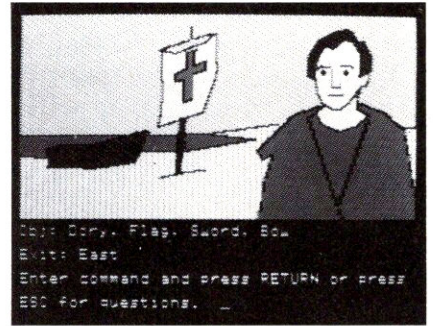


territory. This area is completely black at the beginning, and only as the characters explore the environment does their knowledge of the territory grow. On the right of the screen is the command list, which you use by pressing arrow keys to highlight various options and then pressing Return to select a specific choice. Movement commands such as Drive, Walk, Portage, and Paddle are available, as are direction options such as North, South, Downstream, and Southeast.

You can interrupt travel to hunt for food, trade with other travelers, scout out territory, build forts or camps, or consult detailed maps of the entire territory as it is known today. A bird's-eye view of a river can help a navigator avoid wrong forks or spot an upcoming fort. Although hardly historically accurate, this kind of information encourages students to learn how to read maps and helps them avoid frustration in reaching the real goal, education. On-line reference



Revolution and Constitution



Exploration and Discovery

material is in the form of short essays on various topics and a nice glossary of unusual words.

To be sure that students don't forget to consult these materials, multiple-choice questions periodically interrupt travel. After consulting the subject-based reference works and glossary of words, students must answer the questions correctly to continue moving.

Extensive teacher controls make these excellent simulations even more attractive. You get options for changing the level of play to make it more challenging and for changing the text of the multiple-choice questions (you can rewrite the ones that come with the program or develop your own) or using the simulation without them. If an adventure-game simulation sounds right for your classroom, these are superb. Be aware, though, that the four programs bear a close resemblance to each other. Use only the one that best fits your classroom situation.

Mindscape Games

Revolution and Constitution, and Exploration and Discovery, both from Mindscape, are a different type of adventure-game simulation. The general idea is the same—explore an environment using directional commands—but these programs are for younger students and thus severely limit the size of the universe they are to

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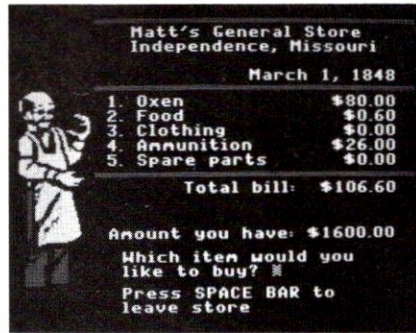
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explore. Each package contains seven different "environments," each of which comprises a network of five to nine linked locations. Thus, teachers can strictly control the amount of exploration time and keep it well within a 45-minute class limit. By looking, listening, and asking questions at each location, students can identify the characterized event. For an exploration to be successful, students must correctly identify events, after which a multiple-choice system asks them to indicate how they unearthed their information. Simplified teacher controls include a management system as well as level adjustment.

The Oregon Trail

In an impressive update of *The Oregon Trail* by MECC, excellent graphics (some of the best in all the history simulations I reviewed for this article) make the visuals appealing and interesting. Every rest stop on the trail offers an opportunity to talk with local people and pick up advice from more-seasoned travelers. Trading, a common practice, is always under player control. Each landmark you pass has a de-



The Oregon Trail

tailed graphic, but looking at it is an option—nice when you play for the second or third time. Variables under user control include the amount of food consumed (you can choose from three different levels of food consumption), pace, and amount of rest.

The hunting routines are fairly standard amusement routines but have one particularly nice touch. Although you can, with practice, get good enough to shoot lots of animals, only 100 pounds of meat can be carried back to the camp. This proviso helps discourage students from wanton slaughter and parallels historical fact.

Forts provide breaks in the trail,

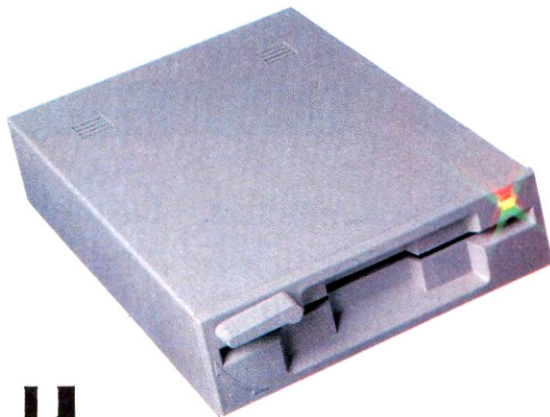
and, as leader of your family, you can decide whether to follow the more popular routes or try an alternative path. This program has no question-and-answer component, but it's fun to use—an effective way of getting students to appreciate how hard travel must have been in the days before Howard Johnsons and McDonalds!

ROLE-PLAYING

All adventure games require role playing, but some role-playing games are not adventure games. Creating the U.S. Constitution and Washington's Decisions by Educational Activities, Settling America from World Book, Interviews with History from Educational Publishing Concepts, and Indian Wars by Hartley are all good examples of this type of simulation.

In all five programs, students pretend that they are specific characters, but the total freedom of the adventure-game format is missing, replaced by greater structure. In *Interviews with History*, for example, each student is a reporter interviewing a well-known historical figure. By asking skillful questions and reading the answers carefully,

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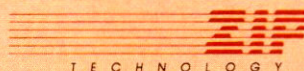
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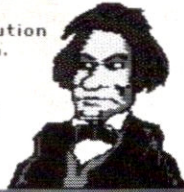
students can fill in a fact sheet about their subject, eventually writing a "report." What makes this program extraordinary is the amount of information available for discovery. Three different interviews with the same character may yield completely different perspectives, depending on the questions.

In *Creating the U.S. Constitution*, students have a choice of characters to portray and are graded on their ability to behave consistently. As the characters participate in the Constitutional Convention, the students are exposed to opposing points of view and can decide how their character would have voted. Regardless of the students' decisions, the program doesn't change history.

The idea of allowing students freedom of choice while not letting them affect history is most clearly evident in *Washington's Decisions*. This easy-to-use and fascinating simulation consists of a series of situations describing key points in Washington's life. The program asks students what they would do, and, after they enter their choice,

When I was born in South Carolina, the American Revolution was still going on.

My father fought in it.



Ask "When was that?"
ACT Impressed
Ask what his father did
Ask what his mother was like

Interviews with History

gives the historically accurate answer, along with a brief discussion of the ramifications of Washington's actual decision. Despite the predictable outcome, young testers found this program worth delving into several times, just for the unusual insight it gave into that great man's life.

Settling America is yet another variation on the role-playing theme but one that gives users more freedom than does either *Creating the U.S. Constitution* or *Washington's Decisions*—still without allowing history to be affected, however. Students get a taste of pioneering in the Ohio Valley by helping a family of four try to

build a new life. Deciding how to charge for the use of a gristmill, what to plant, how to cure snakebite, and even whom to call for help during childbirth, students constantly face decisions that affect the health, happiness, financial status, and popularity of the adopted family. A wide variety of outcomes is possible, but the family always survives, making this program a good choice if your students have a low frustration threshold.

Indian Wars, from Hartley Courseware, differs from all the others because it is a war-game simulation. Half the class is cast as the leader of the Indians, and the other half becomes the leader of the U.S. Army. Despite the clearly stated goals (the Army is to wipe out the Indians; the Indians just want to survive), this program is not a simple, easy-to-use simulation. Luck never enters into the picture; strategy and skill are all-important if the Indians want to defeat the Army. Although you can "change history" with this program, most students discover that the Indians never really stood a

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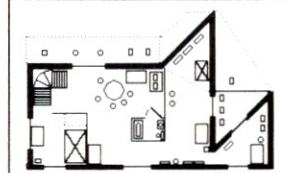
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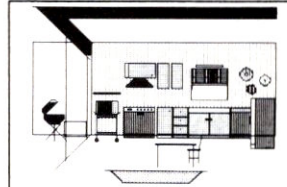


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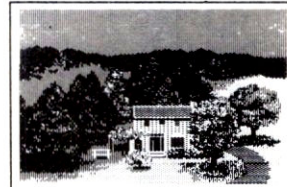
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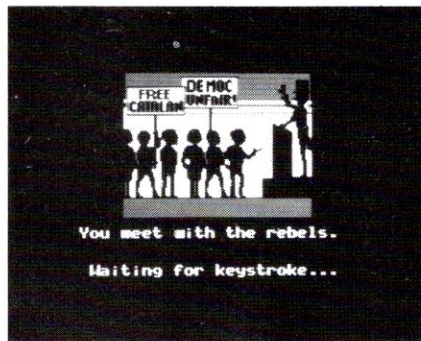
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chance. This program provides a huge on-line reference library and ensures that students consult it by making them answer questions, correctly of course, before moving armies or fighting battles. This program is not for casual use, but it is perfect if you really want your students to explore this tragic chapter in our history.

DATABASES

One popular way to liven up a history class has always been with large-scale simulations. Everyone in the class gets a role, and consen-



Revolutionary Wars

sus discussions achieve specific goals. Unfortunately, this type of teaching requires huge amounts of

preparation time—each student's role has to be sufficiently detailed to permit the student to operate effectively. The teacher also has to moderate the discussion and be prepared with new information as necessary. Is it any surprise that few teachers actually manage to pull off a simulation every year?

The Decisions, Decisions Series

Two publishers have come up with high-tech solutions to these problems. The Decisions, Decisions series by Tom Snyder offers two simulations that are appropriate to current American history: Revolutionary Wars and Colonization. The Decisions, Decisions series is specifically for one-computer classrooms. Every student gets a booklet containing a synopsis of the situation and almost 50 different commentaries listed by keyword.

In Revolutionary Wars, a group of dissidents wants to have control over its own trade and taxes and is becoming increasingly dissatisfied with the central government. In Colonization, a company wants funding to establish a colony on the moon and approaches the government to arrange a deal.

Students, as a group, play the role of the head of government in each of these simulations and must start by specifying the relative importance of their goals. Once they have done so, the program presents them with a choice of actions, plus four keywords (help from four different advisers). The teacher has



Colonization

the students read the advice from the booklets and then coordinates discussion until they have reached a decision. When they've selected an action, the computer determines a reaction, and the whole procedure repeats. After four or five such cycles (encompassing a class period or even several days), the computer holds an election and

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.

Il cue #44

A number of AppleWorks users have reported problems with AppleWorks 2.0 refusing to load databases created with version 1.3. We don't know why yet, but a bug somewhere is deleting report formats and not telling the file about it. The files can be loaded after correcting the 38th byte in the file to reflect how many report formats are left. For more, see "Database crash lead" in December, page 3.87, and "More database crashes" in January, page 3.96. **Open-Apple**, of course.



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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then rates the head of state on popularity and success at meeting the goals the students selected at the beginning of the simulation.

The exciting aspect of these programs is clearly the improved opportunity for discussion and reading. With the Apple computer coordinating the materials and monitoring results, teachers are free to run the simulation. One caution: Revolutionary Wars and Colonization are not game-like programs—they aren't fun to play by yourself. These programs are powerful classroom tools that can turn an ordinary presentation into a heated debate.

The U.S. Constitution Then and Now (consisting of AppleWorks database files) and the U.S. Government Data Base (which works with pfs:File) provide all the materials you need to run super simulations of the Constitutional Convention right in your own classroom. Students are assigned a specific role and are asked to become familiar enough with their character to present their point of view in the classroom discussion. Both packages furnish excellent resource materials and provide fascinating insights into the political process.

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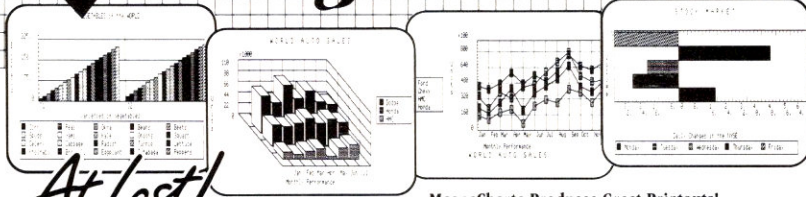
An Immigrant Experience

Immigrant, the Irish Experience, is an AppleWorks database that provides the materials for a close look at the difficulties of surviving and building a good life in Boston in the 1840s and 50s. For it to work well, a lot of teacher involvement is necessary, but the results can be rewarding. I found this package captivating, but when I tried it with young people, they found it a

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
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Leslie Eiser holds Master's degrees in both education and computer science. She is a lecturer in the Faculty of Education, McGill University and a freelance writer for several computer magazines.

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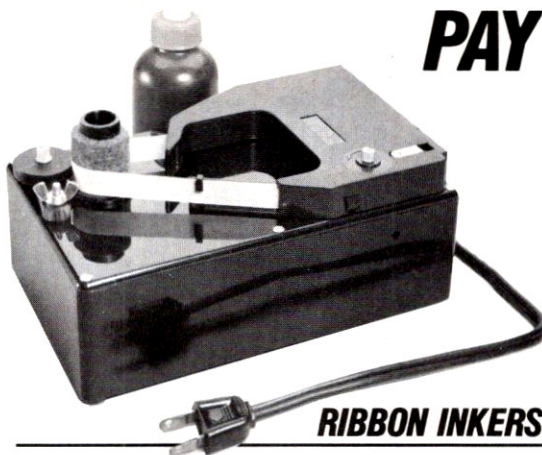
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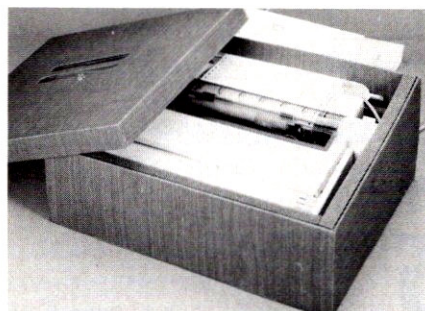
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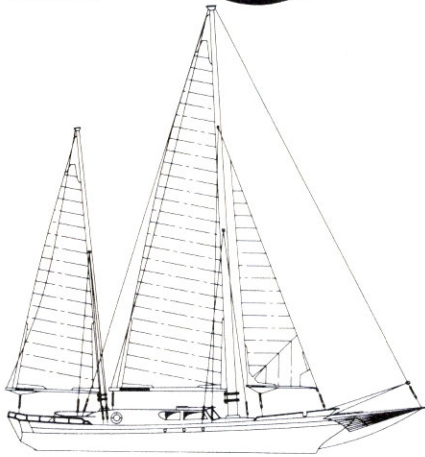
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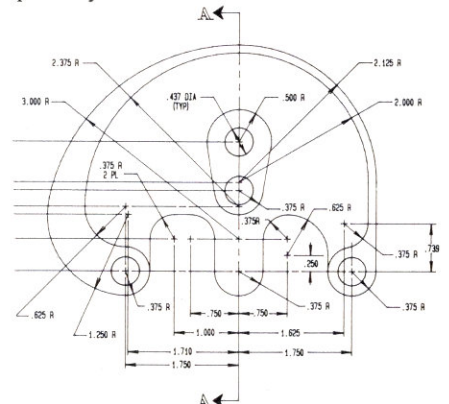
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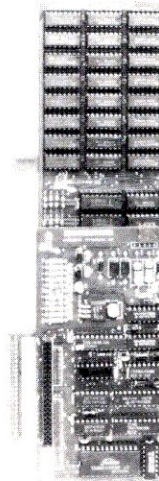
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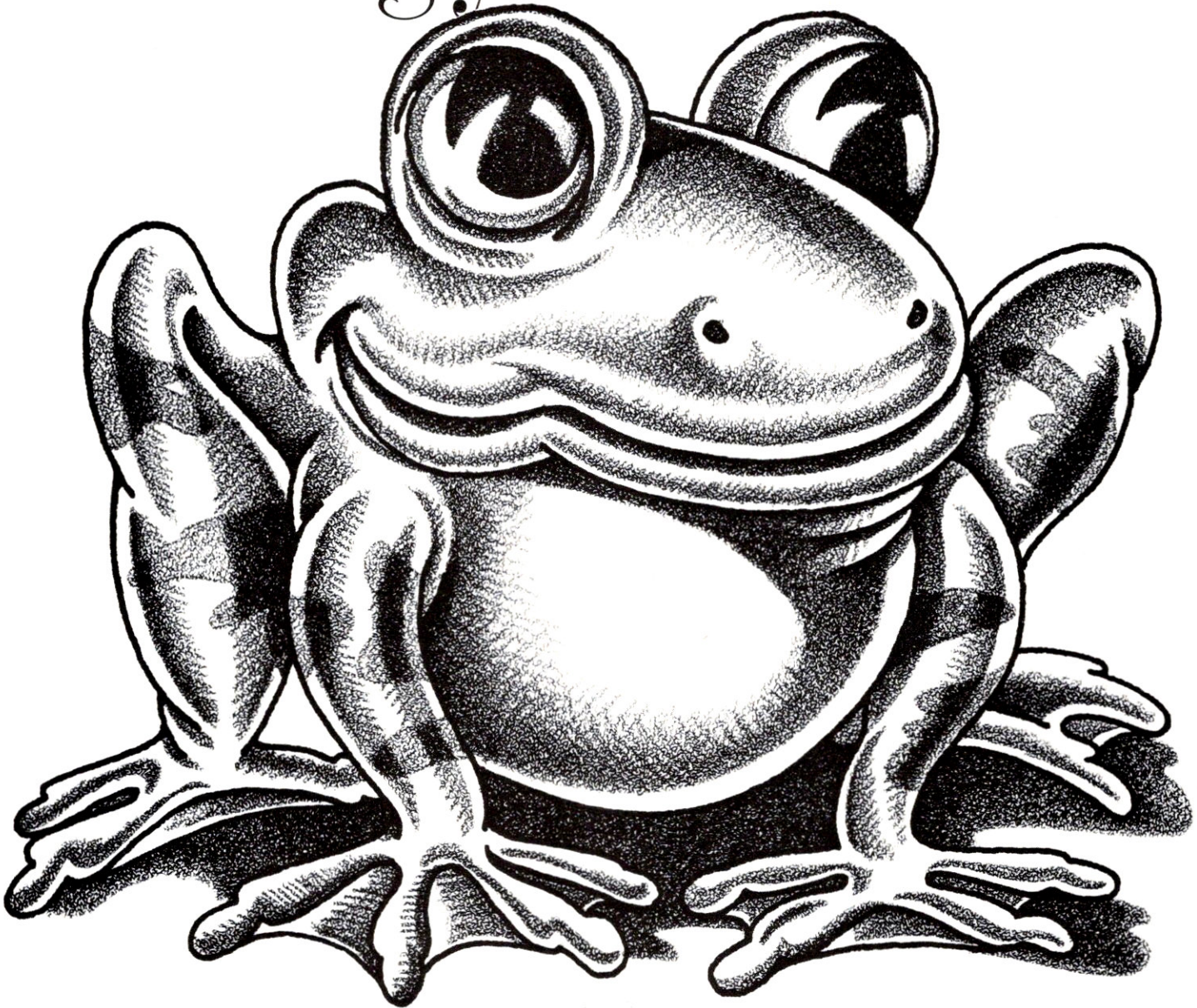
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Free disk. Yes, I'd like the free demonstration disk of the Mastery Arithmetic Games. Please allow 4-6 weeks for delivery. No phone orders accepted. Games run exclusively on Apple II+, e. c. gs. Send coupon to: Mastery Development, P.O. Box 8460, Mesa, AZ 85214.

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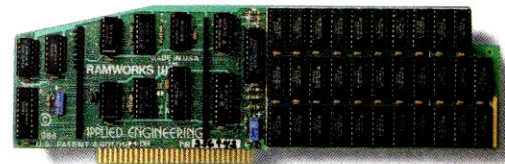
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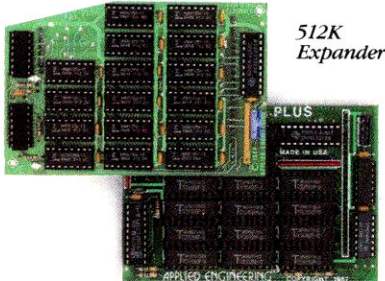
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2 MEG plus Expander

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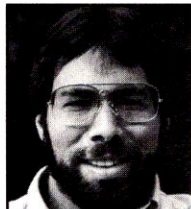
Truly compatible.

RamWorks III is compatible with more off-the-shelf software than any other RAM card. It is recognized by all memory intensive programs.

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RamWorks III is compatible with most hardware add-ons like ProFile and Sider hard disks.

Of course, RamWorks III is fully compatible with all IIs — enhanced or unenhanced, American or European.



"I wanted a memory card for my Apple that was fast, easy to use, and very compatible; so I bought RamWorks"

Steve Wozniak, the creator of Apple Computer.

Easy to install and use.

RamWorks III quickly plugs into your Ii's auxiliary slot. You get memory expansion and super-sharp 80 column text (U.S. Patent 4601018).

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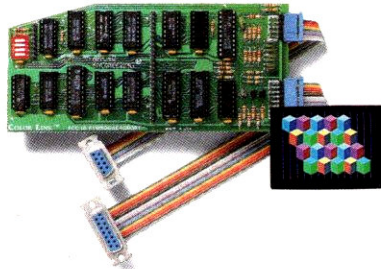
It meets all Apple standards for RGB output control. So it's compatible with more off-the-shelf software.

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.

You can order ColorLink with your RamWorks III board or add it later.



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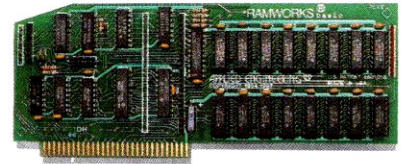
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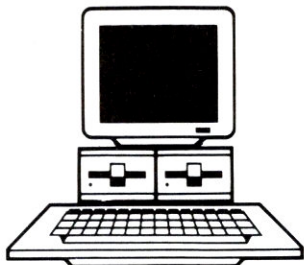
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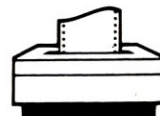
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Diversi-Key is a keyboard-macro utility for the Apple IIGs. It is specially configured to enhance AppleWorks Version 2.0, but you can use it with earlier versions of AppleWorks and with many other ProDOS, Pascal 1.3, and DOS 3.3 applications. Its ability to work with applications other than AppleWorks distinguishes it from macro programs such as Beagle Bros' MacroWorks and AutoWorks. Pinpoint's Key Player works with other applications, too, but only after a special installation step.

Diversi-Key is published as "shareware" on an unprotected 5¼-inch disk—you can print out 26 pages of documentation by selecting a menu option.

A keyboard macro is a sequence of keystrokes that you trigger by pressing a simple combination of keys. Diversi-Key uses the Option (or solid-apple) key, since AppleWorks doesn't use it for any other purpose. Macros can be tremendous labor savers. For example, you can define a macro that types *Very truly yours*, skips three lines, and then types your name and title. It makes 1 keystroke combination do the work of about 35.

Since the keyboard has only 96

keys (the program does not distinguish between uppercase and lowercase letters), you might expect an upper limit of 96 keyboard macros. Diversi-Key breaks through this barrier, however, by letting you define "numeric macros" from 1 to 9999. To use a numeric macro, you hold down the Option key and type the number on the numeric keypad (not the row of numbers above the letter keys). The macro is triggered when you press the keypad's Enter key or let up on the Option key.

If you use a IIE upgraded with the new IIGs motherboard, you don't have the numeric keypad. You can still use Diversi-Key numeric macros, by holding both apple keys down simultaneously and then typing the appropriate digits. The program offers a similar fix for owners of Pinpoint, AutoWorks, or MacroWorks (which also use the Option key as a trigger), so that the two products will not conflict with each other.

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One of the hardest things about using keyboard macros is remembering what combinations produce what results. Diversi-Key provides a variety of ways to display your current macro definitions, by turning them into a word-processing file, which can include comments. You can save the current macro file to disk by entering a special macro from the BASIC prompt. Macros in Diversi-Key have no length limit, as long as you have enough memory and disk space.

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Advanced features for programmers include pausing in the middle of a macro for keyboard input, displaying a message during the execution of a macro, conditional branching (IF/WHILE/TEST), and calling macros from a machine-language program. You can also create up to ten macros that are triggered by mouse movements.

The program disk also includes Diversi-Hack, a programmer's utility that is installed as a desk accessory. It lets you interrupt any program, enter the IIGs monitor, print the text screen or send control characters directly to the printer, and then continue from where you left off.

Diversi-Key is not as elegantly packaged or documented as the competing products from Pinpoint and Beagle Bros, but it is elegantly programmed and reasonably priced. The documentation could be improved with more examples of typical applications. The user interface is a bit austere, but it does the job. You need some knowledge of DOS and BASIC to use Diversi-Key and to get the most out of it. +

Mike Markowitz is a computer engineer for a Southern California aerospace firm. He has been writing about Apple II computing since 1983.

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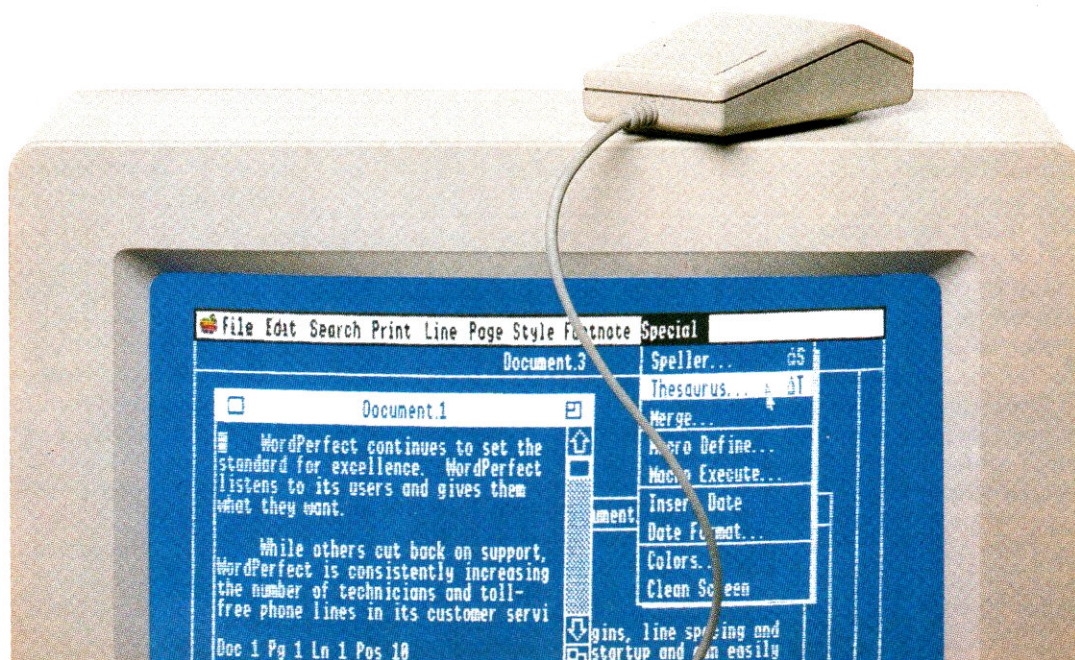
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TELECOMMUNICATIONS

*Use your modem to access
a wealth of resources.*

BY MICHAEL FISCHER

AppleWorks is not likely to bring the subject of telecommunications to mind immediately, particularly since its three modules don't include communications capability. You can actually find many connections between these two subjects, however.

You can find a lot of support for AppleWorks users once you go searching for it with your modem. National on-line services and local bulletin boards offer help files and answers to questions, not to mention public-domain programs and templates that enhance the program's utility.

CompuServe

The Micronetworked Apple Users Group (MAUG) Apple II Forum on the CompuServe Information Service has an area on its bulletin board devoted to AppleWorks and its sister Apple III program 3EZ Pieces (Topic 11). The two unofficial leaders of this board are Dave Gair (CIS Number 71260,2752) and Rick Oshlo (CIS Number 72247,1577). Gair and Oshlo don't operate the board but do tend to appear quite often, either in questions or answers.

The last year has seen a great increase in AppleWorks traffic on MAUG. On any particular day you are likely to find a sixth to a quarter of the messages on MAUG related to AppleWorks. The AppleWorks library (DL 11) has more than 125 files, including reviews of AppleWorks add-on products, macro

files, "how to" articles, templates, and patches to apply to AppleWorks to allow such things as more than one custom printer. The library is strong in such matters as patches, reviews, and macros but is fairly sparse in templates, although it does have a 1987 Federal Income Tax template.

An unusual AppleWorks application in the MAUG library is MBE

Genie and Other Services

The American Apple Roundtable (AART) on GENie (General Electric Network for Information Exchange) has one category on the bulletin board for AppleWorks (#16) and two different libraries, one for templates and one for accessories. There are more than 100 files in the templates library, more than 10 in the accessories library, and more than 15 in other AART libraries.

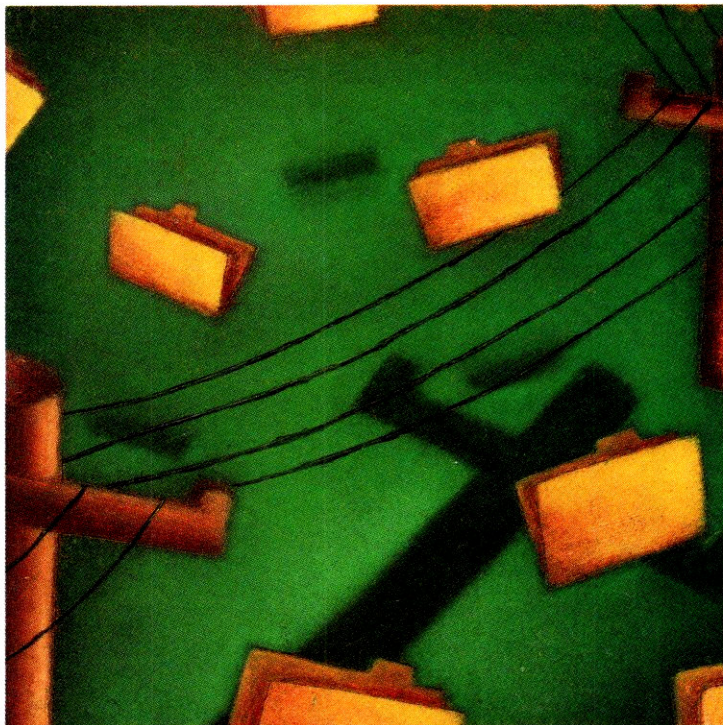
The AART message-board area has more than 30 different topics, with more than 700 messages. The subjects include printing with AppleWorks, tips and techniques, templates, accessories, macros, and "power usage." The area was formerly led, on a volunteer basis, by Oliver (Oli) Roosevelt, but he has recently left that position to officially host an AppleWorks forum on a new national network that will debut in May. Word has it that the National AppleWorks User's Group will also be involved in that forum.

The AART AppleWorks group has hosted periodic on-line chats to discuss various AppleWorks related issues.

As of this writing, new management has just taken over AART, and the plans for a continuation of these chats are unknown.

The recently revived AppleSIG on The Source has one topic on the Post Plus bulletin board devoted to AppleWorks, with more than 50 messages on more than 20 subjects. The subjects include printing, tem-

APPLEWORKS ON-LINE



(Message Board Editor) by Dave Gair. This macro file uses AppleWorks and either Super Macroworks or Ultra Macroworks from Beagle Bros. The program allows you to review and reply to MAUG messages off-line, in a manner similar to MAUG Message Manager (see "A + All-Stars," December 1987).

plates, and auxiliary programs such as spelling checkers.

The library on The Source has almost 40 AppleWorks files with nearly 25 templates, 5 programs, 3 patches, and 5 how-to articles. Some of these files—such as the 12 that each contain an entire disk of templates from The AppleWorks Users Group (TAWUG)—are quite extensive.

The Apple Group of the Delphi service has an AppleWorks area on its bulletin board, as well as a library database for AppleWorks. The traffic in these areas is fairly slow, with about six items in the library database.

Local Bulletin Boards

In addition to the national on-line services, several bulletin boards scattered throughout the country provide substantial coverage of AppleWorks. Unlike the national networks, these boards cannot normally be accessed by a local call from anywhere in the country, but, other than the long-distance charges, you won't incur a fee for their use. Several of the boards can be reached through PC Pursuit, which I discussed in my August

1987 telecommunications column. The list of areas that you can reach through PC Pursuit is rapidly changing. If you use PC Pursuit, you should check to make sure you can access these boards through that service.

The most significant AppleWorks bulletin board is that run by the National AppleWorks Users Group (NAUG) in Michigan. The board is cosponsored by the Ypsilanti Public School System, which supplies the hardware on which the board runs.

You don't need to be a member of NAUG to use the board, although membership information is available on-line. Among the benefits of NAUG membership is access to the volunteer list of experts whom you can reach either by voice telephone or on various local bulletin boards nationwide.

The NAUG board, which contains more than 200 messages, has several message boards related to AppleWorks generally, AppleWorks applications, and AppleWorks add-on programs. You can also download files from the board in such areas as databases, spread-

sheet templates, and product reviews. Templates from TAWUG are available here.

The sysop (system operator) of the NAUG Board is Richard Lewandowski. The NAUG President, Warren Williams, is also active on the board. You can reach the NAUG board 24 hours a day at (313) 482-8090; if you want to speak to someone, call (313) 397-1594. You can also get a list of board commands by sending a self-addressed, stamped envelope to NAUG, P.O. Box 87453, Canton, MI 48187.

Lissner's Board

A very technical bulletin board for AppleWorks is run by Bob Lissner, the author of AppleWorks. The main attraction of this board—indeed its only feature other than electronic mail—is a 20-file section called "Literature," which is the most complete documentation of the internal workings of AppleWorks that is publicly available. The section contains large portions of the source code for AppleWorks version 2.0, including file formats, printer code, and hooks for tying AppleWorks accessory programs

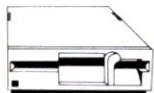
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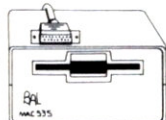
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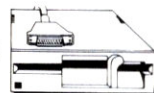
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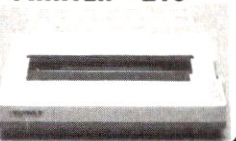
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into AppleWorks.

The Lissner board, according to its own introduction, is "designed for software engineers." Anyone with an interest in the subject is welcome to call the board and download information from it. A substantial part of this board's files is also available in the GENie Apple 2 Programmers and Developers' Roundtable. You can reach Lissner's board at (702) 831-1722.

And Several Others

Several other bulletin boards

provide significant support:

•Boardworks ([313] 421-9144). Sys-op Joe Connelly says he plans to devote a significant portion of this new board to AppleWorks.

•ProBeagle ([619] 452-5565), an official support bulletin board of Beagle Bros Software, developer of the Timeout series of AppleWorks-enhancement programs. A rumor on this board is that Beagle Bros is planning a telecommunications program that will work from within AppleWorks. The board con-

tains areas for discussing Beagle Bros programs, including each member of the Timeout series.

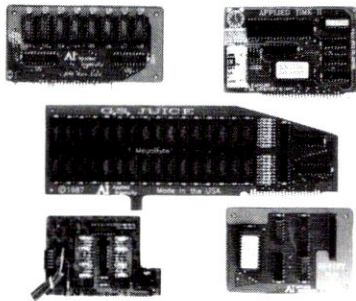
•ProColony ([214] 370-7056), a board run by Dale Therio, an employee of Applied Engineering. Applied Engineering makes memory-expansion boards for the Apple II family of computers; the boards come with software that overcomes many of the limitations of AppleWorks.

•ProSol ([619] 281-7222), a board run by Morgan Davis, author of the Proline BBS software, which ProBeagle and ProColony, among others, also use. This board averages 70 calls per day and has an AppleWorks conference with more than 100 messages. Among the participants on the ProSol board are programmers from Beagle Bros and Applied Engineering. Relatively few AppleWorks items are available for downloading from the board, although it offers a wealth of information about Apple II computers generally. +

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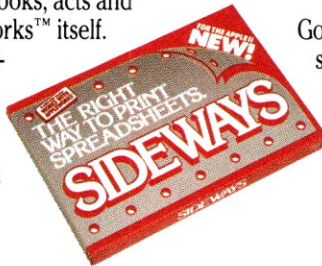
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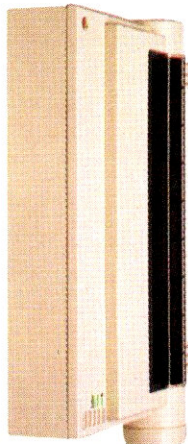
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LEARNING CURVE

Overcoming doubts about technology in the classroom

BY DAVID D. THORNBURG

Last December I attended the annual meeting of the California Mathematics Council in Pacific Grove, California. The evening's special event was a debate on the use of calculators in mathematics education. Because the state of California has endorsed calculator use in math education (through its new mathematics framework), I was interested to see what perspectives would be aired and how people would respond.

The proponent of calculator use was Dr. Elizabeth Stage, one of the architects of the math framework. The opposing view was expressed by John Saxon, a textbook author who feels that children in grades K-8 should not use calculators to perform arithmetic in school.

The highly charged exchanges between the speakers and extreme quiet of the intensely attentive audience evidenced the concern that many of us who believe that technology has a proper role in education believe: Namely, supporting technology use is easy when the scale of a project is small or when the technology is available only to a few students for a limited period of time. When technology is available to all, however, we must face irreversible changes, changes whose consequences may not be obvious at the time we are making them.

Given the rate at which technological advances have allowed

price reductions in computer products, it won't be long before the current debate about calculators applies to computers. Thus, I think an examination of the current debate on calculator usage is worthwhile.

The Obvious Arguments

One of the major arguments against calculator use is that it reduces children's need to have a

master these skills, having them spend a lot of time doing hand calculations makes little sense. They argue that students can better spend this time by solving more complex problems. Fourth-graders throughout the country learn that "dead mice smell bad" (divide, multiply, subtract, bring down), but I assume that most students who know this algorithm have no idea why it works.

Those who oppose calculator use were once able to assert that the cost of this technology prohibited equitable access. Anyone who has looked at the racks of \$4 calculators in the local drugstore knows that price is no longer an issue, though.

A favorite query is: "What do you do when the battery goes dead?" As Elizabeth Stage says, you should use this argument only if you keep a horse in your garage. In fact, most of the new inexpensive calculators are solar-powered and work well in the lighting of normal classrooms.

The Real Arguments

The foregoing arguments, stated with deep conviction and concern, are probably just

cloaks that cover a deeper worry. By placing calculators in the hands of every schoolchild, we open a Pandora's box, changing forever the way mathematics is taught. Irrevocable changes must be made with care, and the public, at one point or another, has to trust that those who mandate calculator use know what they are doing.

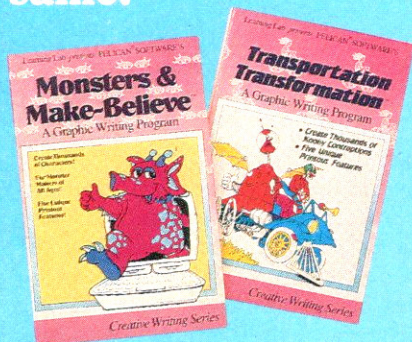
THE GREAT CALCULATOR DEBATE



fundamental grasp of basic math skills. Many people think that children should know their "tables" and should master the long-division algorithm rather than rely on calculators for doing arithmetic problems.

Calculator proponents agree that basic mathematics skills are important but contend that once children

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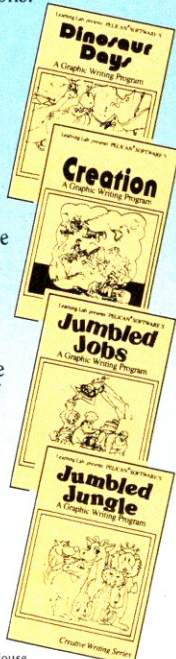
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CIRCLE 275 ON READER SERVICE CARD

The world into which our children graduate is one in which calculators are as commonplace as watches. I remember (many years ago) learning an algorithm for extracting square roots. As I recall, the method looked a lot like long division.

I'm sure that, within a few months, I had completely forgotten how this algorithm worked—I certainly can't remember it now. By the time I needed to calculate square roots, I had learned about slide rules and had access to some good math tables.

On those rare occasions when I needed to find a square root and didn't have access to my tools, I used the following method: I found the roots of the perfect squares on either side of the number I was working with and did a linear interpolation to get a first guess. For example, If I wanted the square root of 20, I knew that the result fell between 4 (whose square is 16) and 5 (whose square is 25). Since 20 is almost halfway between 16 and 25, my guess for the square root of 20 would be 4.5. As it turns out, this result is close. A much better guess is 4.47, but 4.5 is probably close enough for most applications.

Incidentally, estimation skills (exemplified by my "quick and dirty" square-root trick) are of critical importance to those who favor increased calculator use. Although my emergency algorithm wasn't precise, it was fast and good enough. Of far greater concern to me (and to most math teachers) is knowing *when* to extract a square root, not knowing *how* to do it!

This issue is foremost in the minds of math teachers who think that calculators should be used in the classroom. Once children have developed an understanding of numbers and the basic operations, it is time to help them develop problem-solving skills that take advantage of this knowledge. If a child thinks that a certain word problem requires addition rather than multiplication, calculator use won't make any difference.

By spending years having children master their number facts, we turn mathematics into a boring topic in which numbers appear completely out of context. It makes as much sense to have children repetitively add up long columns of

Our technology does not exist to 'make life easy' for students; it exists to free them to develop their minds, to explore new domains.

numbers as to teach writing by having them write out long lists of words that don't form sentences or express ideas.

It is little wonder that few children have a deep love for mathematics. They've been too busy playing the role of a machine to ever get to enjoy the topic!

Computers in Education

Given the anxiety that comes with the increased use of calculators in the classroom though, what arguments will soon lie like boulders on the path of universal computer use?

Will some argue that children need to write their essays in long-hand rather than use word-processing programs? Some have already advanced this argument, but it will become even more commonplace as computers show up in more children's backpacks. If children can use word-processing programs, what about spelling checkers? On-line thesauri? Style checkers? Where will it stop?

Hopefully it won't ever stop.

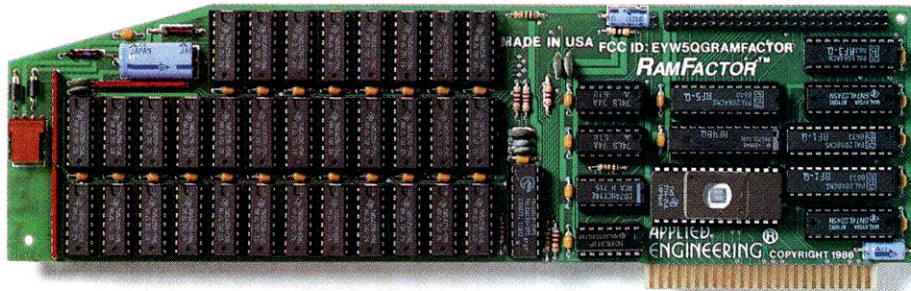
The detractors of educational technology are missing an important point. Our technology does not exist to "make life easy" for students; it exists to free them to develop their minds, to explore domains that were unknown to their parents and to move forward, unencumbered by the limitations of the past.

It is good that we debate the merits of educational technology, choosing our tools with concern for their long-term impact and not restricting their use just because we didn't have access to them when we were young.

Many years ago Bob Dylan wrote, "The times they are a'changin'." They still are changing, and—if we are fortunate—they always will be! **+**

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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.

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- 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
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BY JENNIFER BRAWER

*An introduction to
educational database
programs*

A+ TEACHERS' TOOLBOX

Today database programs hold the educational promise that once belonged to programming languages. They are gaining acceptance as an effective means to develop higher-order thinking skills. To use these programs, students need to formulate questions about the information in the data files and figure out appropriate search-and-sort strategies to answer their questions. Once they've reorganized the information, students can analyze, interpret, and ultimately draw conclusions based on their findings.

What's especially interesting is the evolution of the programs for teaching database design and management to students. A few years ago, the first programs to catch the attention of educators were create-your-own-database programs such as Scholastic's pfs: File/Report, and The Bank Street Filer.

These educational database classics eventually inspired publishers to create a variety of add-on curriculum-based data disks. Why? Because teachers complained about the time investment necessary to design a usable database. Today the availability of large data files to use with introductory database programs increases the popularity of these programs because they create a unique educational situation—students combine learning subject-

area content with developing their information-management skills. Here is a look at several of the latest educational database programs.

*Today database
programs hold the
educational promise that
once belonged to
programming languages.*

Dataquest Composer

A relative newcomer on the classroom database scene and a good example of the current state of the create-your-own-database programs is the Dataquest series from MECC. The core program, Dataquest Composer, is a teacher utility that produces read-only database diskettes. Students search, sort, and report information but can't edit the disks. Dataquest Composer is easy to understand, so when students are ready, they too can use Dataquest Composer to create and edit custom databases.

With Dataquest Composer you create databases with simple keyboard commands; they can contain as many as 254 records, up to 64 categories per record, and a maximum of 64 entries within each cat-

egory under a single record. Dataquest Composer uses four types of data: words, numbers, dates, and short text paragraphs. You can get around quickly in your newly created database by using the Find command or the ruler, which allows you to move through the file with a special combination of keyboard commands. The program accepts multiple entries within categories as well as data from transfer files.

MECC also provides databases for the Composer, including The World Community, The Dataquest Sampler, The Presidents, and The Fifty States. You can edit the Dataquest databases, using Dataquest Composer.

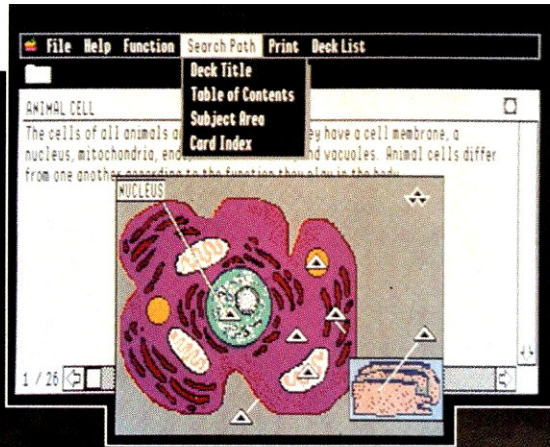
Because the files are so large, you have to delete existing data if you want to add information. One other feature worth noting is the availability of network versions of the Dataquest Composer and the other MECC databases.

BookBrain 4-6

Once educational database programs made curriculum-based data files a standard, teachers started voicing a new complaint: Database programs are boring. Most recent database-program releases reflect developers' response to this complaint. In general, they incorporate graphics and are either read-only or have some degree of interactivity. Of the newer educational database products, I have two personal favorites: BookBrain from Oryx Press and Life Science Information Laboratory Software from Addison-Wesley (see below).

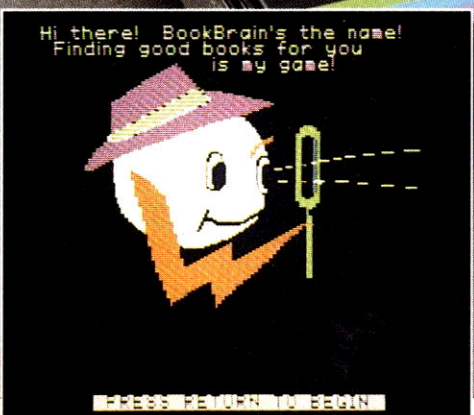
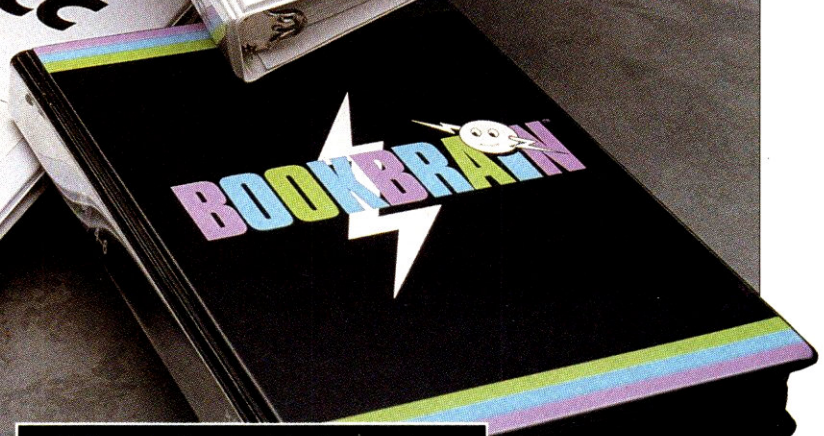
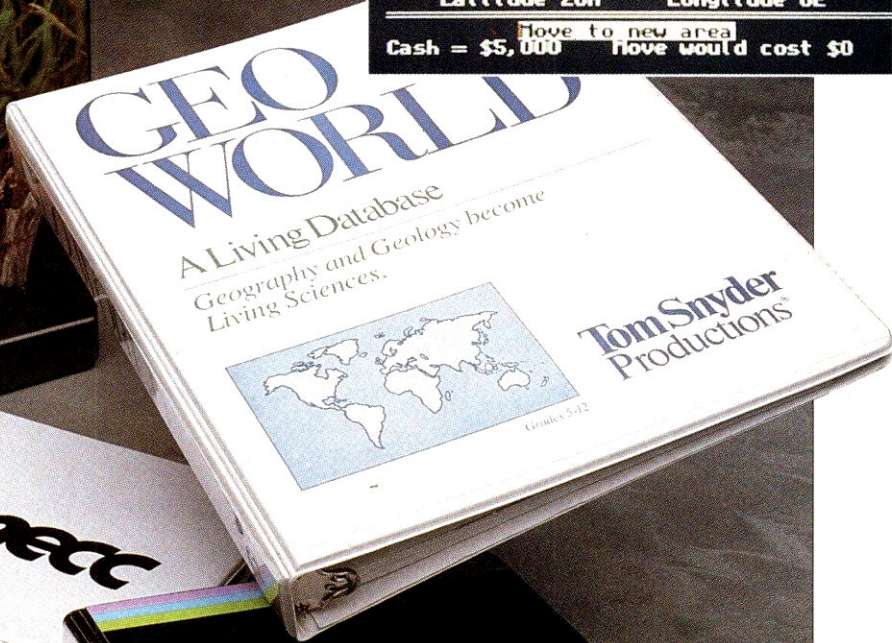
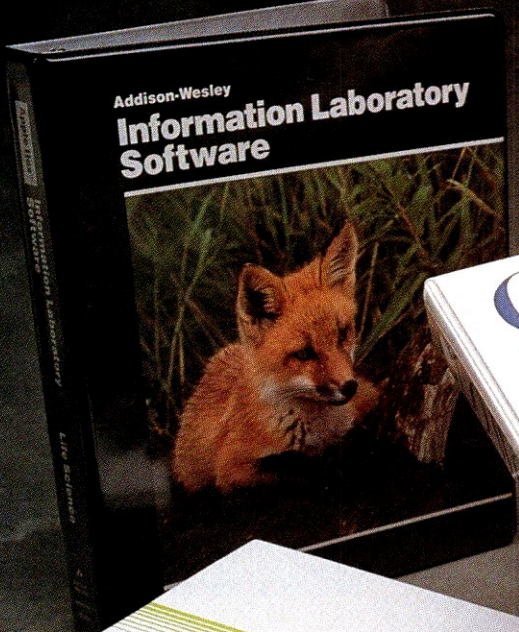
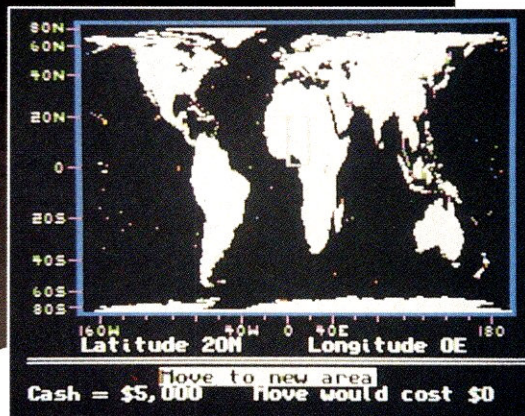
BookBrain's manual describes BookBrain as an interactive, reading-incentive database of children's book titles. BookBrain is also a simulation of a library card catalog. The disk stores more than 2100 book titles, 765 of which are annotated, selected from several library and reading-resource guides for children in grades 4-6.

At the program's most creative



Addison-Wesley's Life Science Information Laboratory Software

GeoWorld from Tom Snyder Productions



BookBrain from Oryx Press



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level, children interact with a smiling Book Detective who asks a series of questions to help children locate books that interest them and suit their reading level. At the practical data management skill level, BookBrain allows children to conduct standard library searches by author, title, keyword, or subject. BookBrain also provides children with the opportunity to make comments about a particular book. The comments become part of a permanent set available as reference for other students interested in the same book.

Other features include the design of personalized book lists and a customizing feature for teachers or librarians that allows them to mark titles already owned by the school. BookBrain generates book-ordering lists, complete with ISBNs as well as usage statistics on how many children use the program, their grade and interest level. If you have a printer, you can print book lists for students, book-ordering lists for teachers or librarians, and usage statistics. Oryx Press plans to release BookBrain 1-3 and 7-9 in the near future.

Life Science Information Laboratory

The Life Science Information Laboratory is a huge read-only database designed for the IIGs (there is also an Earth Science Information Laboratory). The program covers 18 life-science subject areas, including cell biology, human anatomy, plants, and animals. All information is presented on cards that reside within decks of related cards, some accompanied by beautiful illustrations. Information is organized hierarchically, and you can search topics from a table of contents or a card index, by subject area, or from the illustrations.

The Life Science Information Laboratory is definitely limited by its read-only status. Because of the underlying structure of the information, the program's educational value is higher than that of other read-only databases, however. In terms of conceptual-mapping techniques, the program has an underlying open structure based on a conceptual map of life-science subject matter. The documentation includes information on the mechanics of using the database as well as search sheets to guide students

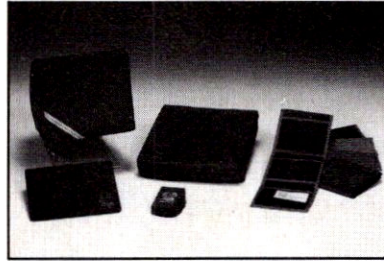
through the information hierarchy in a way that increases their understanding of the facts as well as of conceptual relationships between subjects.

GeoWorld

So now that you have data files to search and pictures to make them more interesting, what do you do when your students master the basics of the introductory database programs and are ready to ask deeper questions and design their own variables? Introductory in-

structional programs lack the power and flexibility to get beyond the basics of alphabetic, numeric, or chronologic searching and sorting of all or a subset of the data. What these activities amount to is the simple reorganization of information—they don't provide the means to design a search for hidden relationships among the data with customized variables.

To do such designing, you need to take your class to a more sophisticated and powerful database



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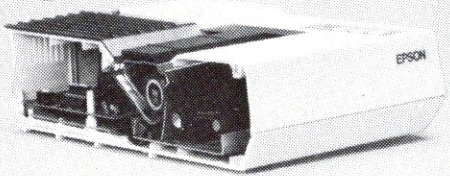
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Students can transfer the GeoWorld database over to AppleWorks and have a field day.

product that accepts a greater variety of data types and custom mathematical functions and allows more control over the design of data fields and display formats. Once you've taken your students beyond the introductory database, you run into the old problems: no curriculum-based data files and boring display formats. What can you find that has the flexibility to serve as an introductory as well as an advanced database program, has reasonably large data files, and is also interesting?

In my opinion, GeoWorld from Tom Snyder Productions is an example of what the next wave of educational database products should strive for. This product is fun and visually exciting, teaches the basics of information management, provides opportunities for engaging in sophisticated cognitive tasks, and can be used in conjunction with a more powerful database program.

GeoWorld combines a natural-resource database with a geological-exploration simulation. The simulation can be played as a game or be treated as a research exercise by single students, teams, or entire classes. The program makes you think. You can search for only one resource at a time and have to make decisions based on geochemical measurements, charts of an analysis of the earth's core, and diagrams of cross sections of the earth's core. Once you think you've located the resource you're looking for, you mine the area to see if you're right. As you mine, you also create a database of the information you collect during your expeditions.

The unique feature that makes GeoWorld an exceptional product is that students can transfer the GeoWorld database over to AppleWorks and have a field day with their information. For example, the documentation describes how to transfer a file to AppleWorks and includes examples of some elementary AppleWorks functions such as

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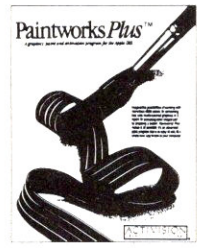
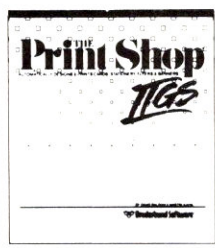
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calculating column totals and how to use a simple mathematical function to create a new variable out of existing information. Students can also use the AppleWorks word-processing and spreadsheet modules to manipulate their data, useful options for generating reports. Compatibility with AppleWorks makes GeoWorld an excellent choice for teaching introductory and advanced information-management skills. +

VITAL STATISTICS

Dataquest Composer, The Presidents, The Fifty States, The World Community

MECC
3490 Lexington Avenue North
St. Paul, MN 55126
(612) 481-3500

List Price: \$55 each; Dataquest Sampler, \$45

Requires: Apple IIe, IIc, or IIGs; 128K RAM; 80-column display; one 5¼-inch disk drive (two highly recommended); printer recommended.

CIRCLE READER SERVICE NO. 358

BookBrain 4-6

Oryx Press
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Suite 103
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(602) 254-6156

List Price: \$195

Requires: Apple IIe, IIc, or IIGs; 64K RAM; printer recommended.

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Life Science Information Laboratory

Addison-Wesley Publishing Co.
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Menlo Park, CA 94025
(415) 854-0300

List Price: \$80

Requires: Apple IIGs; 512K RAM; color monitor; one 3.5-inch disk drive (two recommended).

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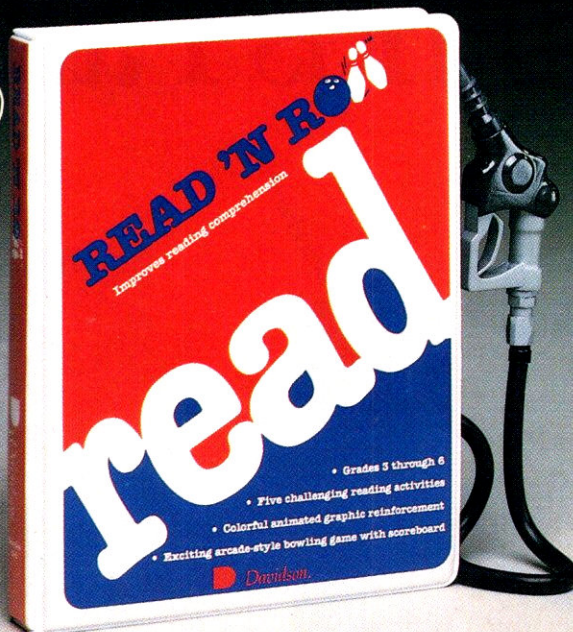
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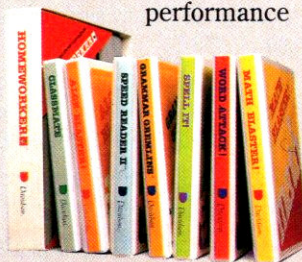


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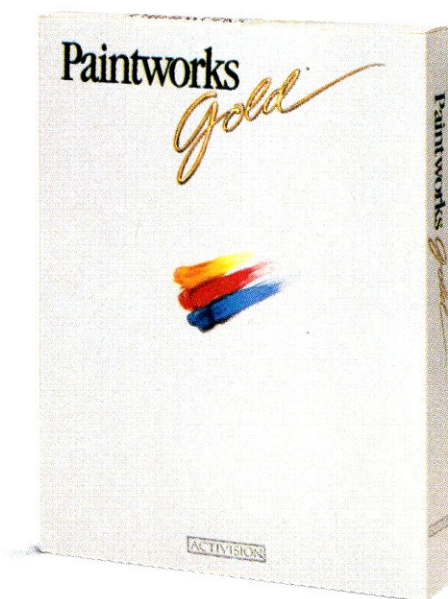


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Automatic gradient color palette	✓		
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Mask objects	✓		
Mask colors	✓	✓	✓
Slippy colors for lasso	✓		
Variable-zoom FatBits	✓	✓	✓
Built-in patterns	✓		
Independent gradient fills	✓		
Resize & bend objects	✓	✓	✓
Distort objects	✓		
Anything can be a brush	✓	✓	✓
Variable speed animation	✓		
Color cycling (simulated animation)	✓	✓	✓
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Smooth edges	✓		
Lasso and constrained lasso	✓		
On-line Help	✓		
Total	21	9	



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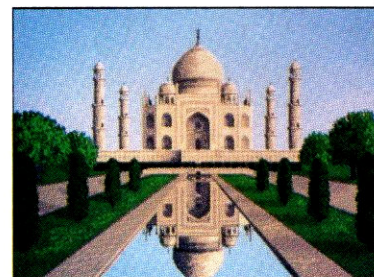
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Upgrade from any IIGs paint program for just \$40 (Paintworks Plus owners, only \$20 if you respond by May 31, 1988).

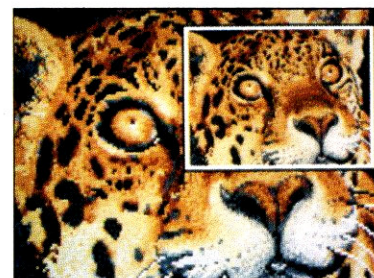
Send page 1 from your manual (originals only) and a check or money order to: **The Gold Standard, P.O. Box T, Gilroy, CA 95021-2249.**

Please add \$3.50 for shipping and handling. (For orders shipped to CA, add 6.5% sales tax.)

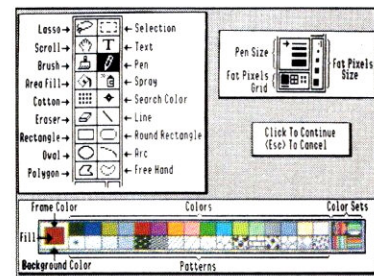
Paintworks Gold requires an Apple IIGs with minimum 1.25 Mb RAM.



Two styles of 3-D put your pictures in perspective. To create the reflection, just rotate the Taj Mahal, mask all but the water, and use the palace itself as your brush. Fill the skies with gradient color for a setting fit for a king.



The variable-zoom FatBits editor lets you magnify up to 4X, then use any tool in either window. Here you can see the smoothing effects used to create the subtleties in the leopard's face.



Over 80 new features, including on-screen gradient fill tools and variable FatBits controls. And if you forget the commands, three help screens like this one are just a click away.

ACTIVISION

SPEAKING OF GRAPHICS

April's bonus: an enlightening look into our mailbag

BY ROBERTA SCHWARTZ AND MICHAEL CALLERY

Baudville's 816/Paint is finally shipping in its full version: a 3.5-inch disk contains the total package for the Apple IIGS, and a 5¼-inch disk holds the standard- and double-hi-res versions for the Apple IIe and IIc.

If you're looking for 3-D perspective, anti-aliasing, two drawing pages, and other deluxe features, you'll not find them here. What you will find is all of the standard features you have come to expect in paint software, along with several unique features, in a solid, easy-to-use program.

Perhaps the most significant advantage of 816/Paint over its competition is that it includes versions that work in all the Apple graphics modes, from standard hi-res up to the super-hi-res 640 mode. The standard- and double-hi-res versions lack some of the features of the super-hi-res versions, but they look and function in pretty much the same way.

The only competition for a standard-hi-res, ProDOS paint program is MousePaint; 816/Paint (in the standard- and double hi-res versions) works with the Apple Graphics Tablet and the KoalaPad in addition to the Apple-Mouse. Unlike with MousePaint, you can remove the menus and tools to work on the entire screen and easily use standard colors and dithered mixes. We were never too fond of MousePaint (except for the

price: free when you buy an Apple-Mouse II), so we feel that 816/Paint serves a useful function at the hi-res level alone.

We appreciate the file-utilities program that comes in the package. It allows you to convert standard- and double-hi-res files to super hi-res and can even read DOS 3.3 disks directly, although you can save only to ProDOS disks.

NEW ACTORS ON THE GRAPHICS STAGE



Other features are more subtle, but they make 816/Paint an interesting product. The color-mixing module in the super-hi-res mode offers eight palettes to work on simultaneously, and you can spread the colors across all eight palettes. Other products on the market at this writing offer editing of only the current palette. 816/Paint also

handles color cycling differently than do other products. Rather than cycle within a palette, 816/Paint cycles through different palettes, with up to eight palettes in the cycle. This method of color cycling allows beginners to employ color cycling much faster than they can with the more complicated method of DeluxePaint II. Finally, the 640 mode uses a dithered palette rather than requiring you to create your own pattern mixes to achieve the appearance of 16 colors on the screen.

So, although it's lacking in power, 816/Paint has some distinct advantages over other paint programs; we think it belongs in the libraries of serious Apple IIGS graphics people. We do wish, nevertheless, that it were not copy-protected or that an unprotected version were available at extra cost. You can, however, install 816/Paint on a hard disk, even though it's protected.

By the way, we want to call your attention to a new adventure game from Baudville called *The Dream Zone*. We don't review game software, but we're mentioning this program because of its impressive graphics—all created with 816/Paint. We'll leave it to "GamePort" to run it through its paces, but we're rating the graphics: A+.

More Paint Programs

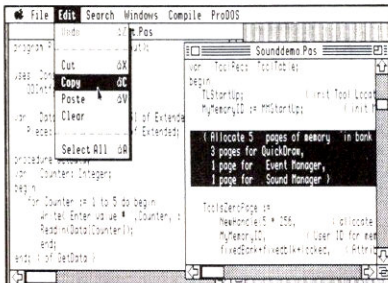
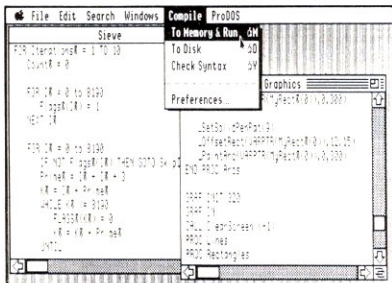
We were privileged to try out an early version of Activision's new GS paint product, *Paintworks Gold*.

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- Advanced statements like PRINT USING, IF/THEN/ ELSE, DO/WHILE/UNTIL and more ...
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Although we'll reserve our final opinion for the released version of the product, we were impressed. The program offers all the abilities of DeluxePaint II but with a standard Apple interface. You won't find yourself poring over a manual to use the advanced features (such as 3-D distortions) of this program. If you're new to the Apple IIgs and have heard that DeluxePaint II is the program to get, you may want to take a close look at Paintworks Gold; it's much more than an upgrade of Paintworks Plus—it's a whole new product.

We also recently received Accolade's The Graphics Studio and will discuss it next month. For the time being, suffice it to say that the program generated a debate between us. Are the program's features worth the overhead of learning a new interface? Stay tuned.

From Our Mailbag

Here's a letter we'd like to share with you.

Dear Roberta and Michael,

Every month in your column, it's GS this and GS that, super-hi-res here and super-hi-res there. With all the excitement over GS palettes, color cycling, and the like, however, my husband and I feel a bit left out. Well, maybe I'd better start at the beginning and see if I can reach a resolution.

We've both been in the computer-graphics business a long time—more than ten years. We met back in the days of the original Apple II and didn't have a lot in common. My husband has a very changeable nature, and I never know when he's going to

VITAL STATISTICS

816/PAINT
 This multiple-program package provides standard-, double-, and super-hi-res paint programs and a file-utility package to transfer pictures from standard or double hi-res to super hi-res.

CPU: Apple IIe, IIc, or IIgs
RAM: 128K for standard and double hi-res; 512K for super hi-res
DISK DRIVES: one 5 1/4-inch for Apple IIe and IIc; one 3.5-inch for IIgs
OTHER: Mouse required for IIgs; optional for 5 1/4-inch version (5 1/4-inch version also works with KoalaPad and Apple Graphics Tablet)
OPERATING SYSTEM: ProDOS
COPY PROTECTION: yes (hard-disk-installable)
LIST PRICE: \$75

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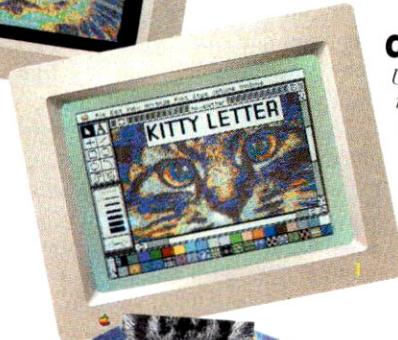
HEP CAT

Use painting software like DazzleDraw,™ DeluxePaint™ II and PaintWorks Plus™ to turn an ordinary house cat into a hep cat.



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be a character or a blockhead. He's the hearty type and likes to work hard—down at 1024 Memory Lane.

When we first met, I worked only occasionally. I worked just down the street from him at 8192 Memory Lane, but customers couldn't afford the bus fare to reach me. As the years passed and fares got cheaper, I got much busier. In fact, at one point, I was working so much that my husband would get a bit depressed—you might say that my husband was low and I was high.

You see, when he first got his job, he was working day and night. He loved it. When I became the breadwinner, he could barely believe what was happening. No one seemed to want him to do any of the fun stuff anymore, even though he had 16 different colored uniforms and worked much faster than I did. Some people claimed his work was too coarse, too crude to be of any use. It was a shame, because he really could be a lot of fun if you gave him a chance.

Anyway, my boss put in some new equipment a few years back, and I got a 16-color wardrobe to match my husband's. I was having all the fun. My husband still got lots of work, but it was the boring stuff—he always had to stay in character and never got to wear his colorful outfits anymore.

But alas, now we're both nearly unemployed. That super new gal down the block seems to have stolen the show. She does have a stunning wardrobe, and she can sing great too, but I can't help thinking that my husband and I have still got a lot to give.

I was hoping that you might tell your readers that we're looking for work and will do our best to keep them happy. We're easy to contact; you can reach us from Applesoft—just try to contact that new gal from Applesoft (she's unlisted)! To put my husband to work, just type GR at the Applesoft prompt; you can reach me by typing HGR. We'd love to hear from your readers! Thank you for listening.
Sincerely,
Mrs. Pixel

Well, readers, it's up to you. Although we feel a certain captivation with super hi-res, we think that standard hi-res and low-res still have a lot to offer. Let's put them back to work. +

Roberta Schwartz and Michael Calery are the A+ graphics editors.

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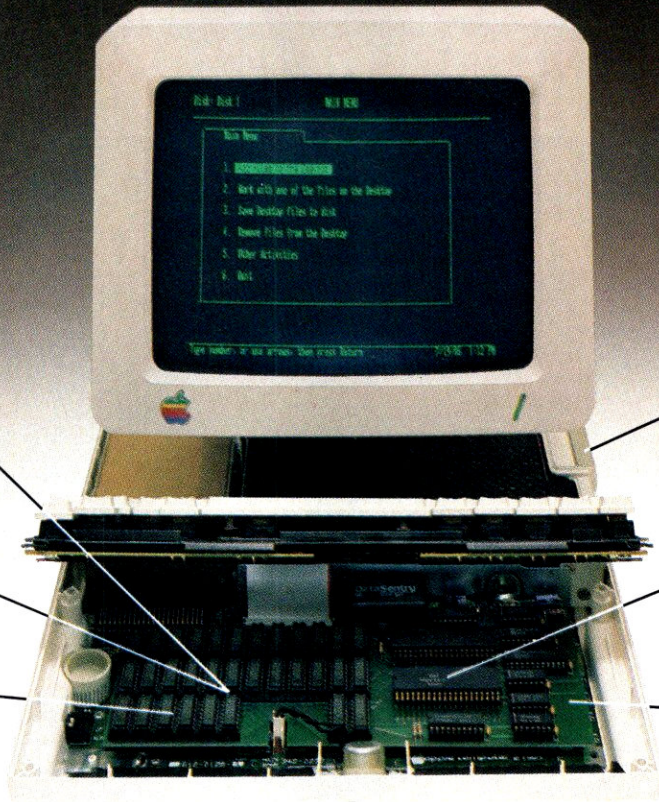
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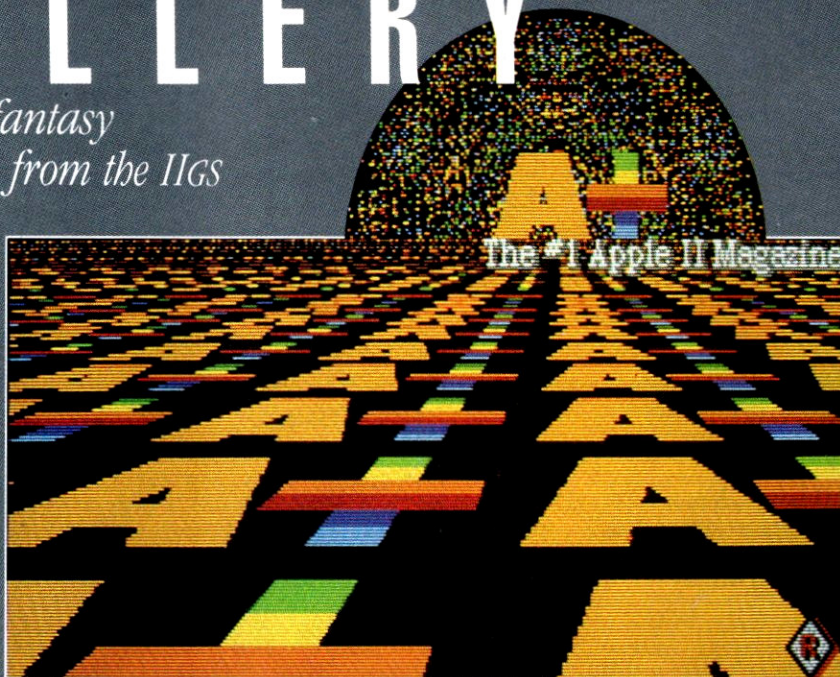
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SPEAKING OF GRAPHICS GALLERY

*Images of fantasy
and fiction from the IIGs*

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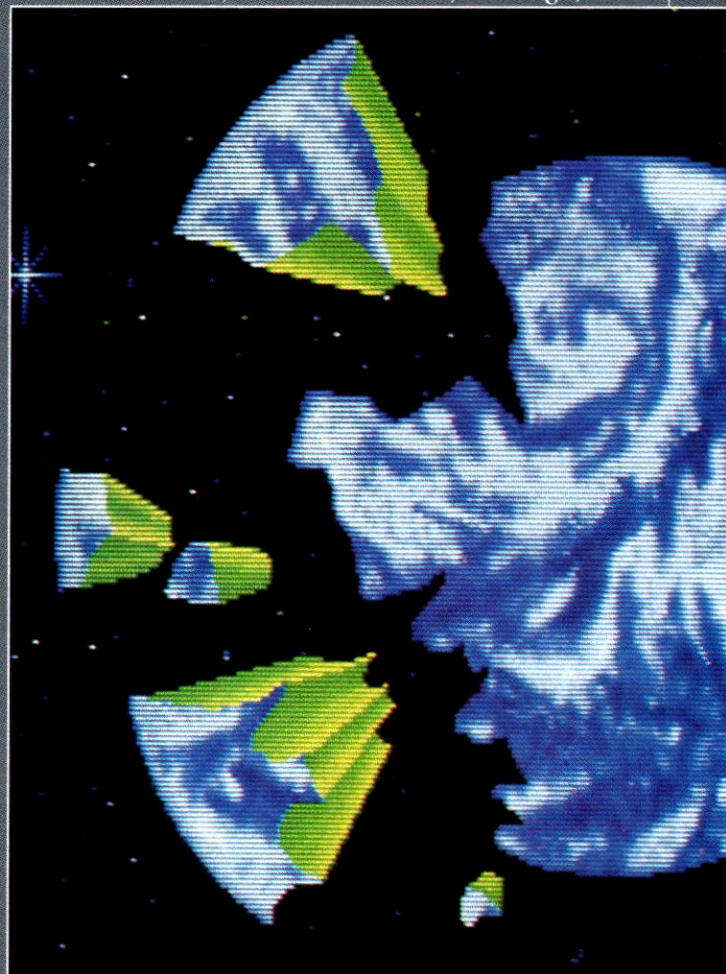
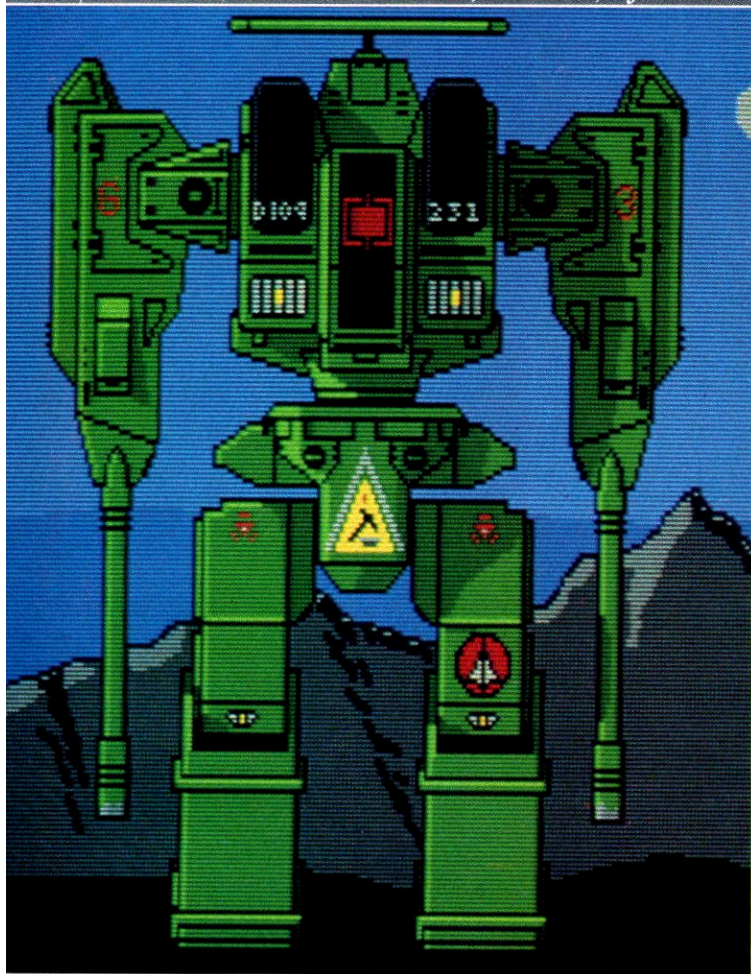
Science-fiction and other realms of fantasy inspire this month's artists. All of the creations here are products of the Apple IIGs. "A+," "Space 10," and "Furry Demon" were all created with DeluxePaint II, and "Darth Vader," "Coming of Ages," and "Rifleman" were drawn with Paintworks Plus.



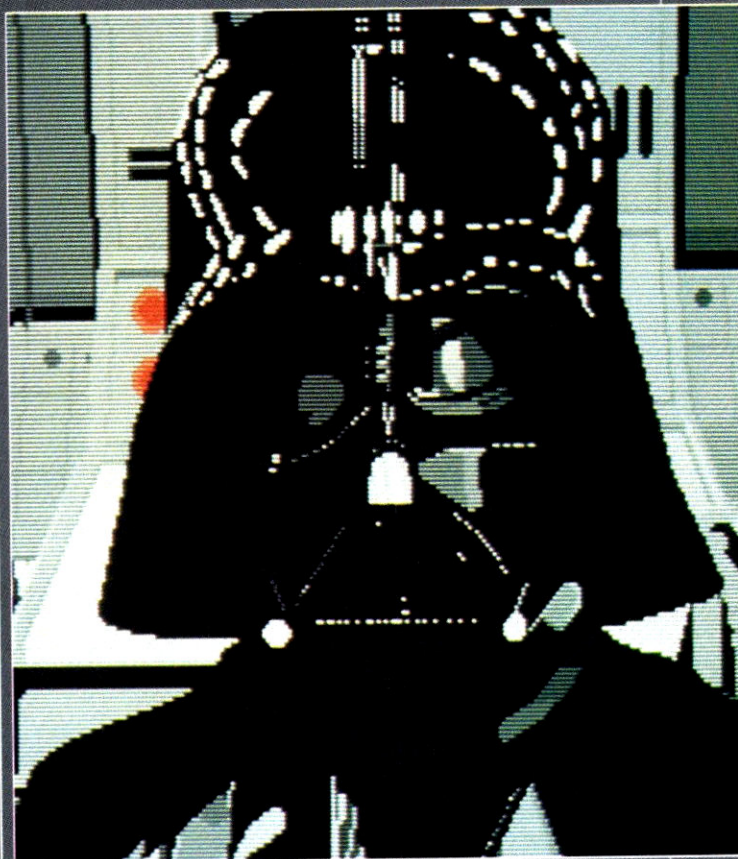
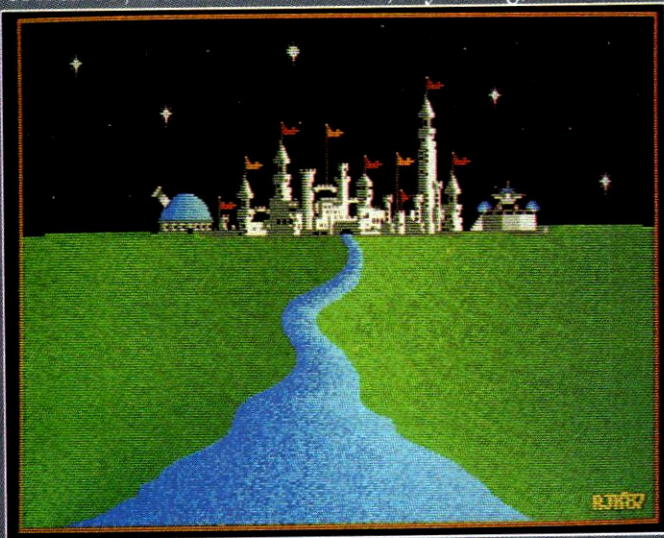
A+, **ALLAN REICHERT**, *St. Augustine, FL*

RIFLEMAN, **FRANCIS WESNER**, *Freehold, NJ*

COMING OF AGES, **DAVE TRIPLETT**, *Saratoga, CA*

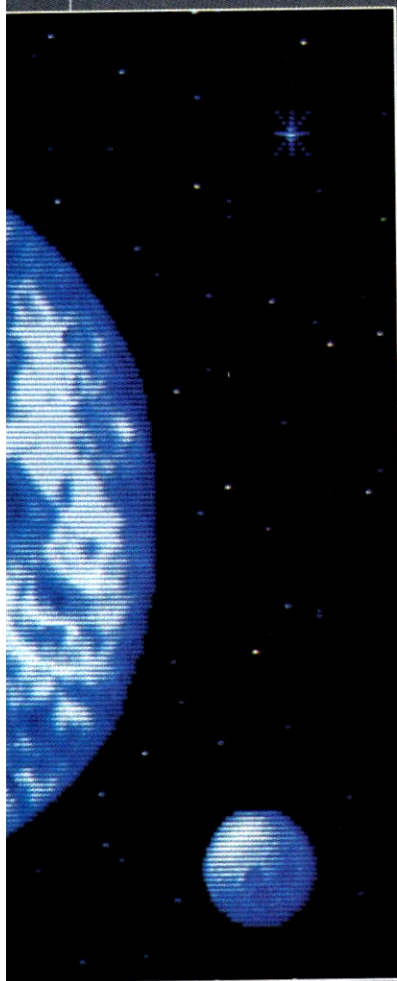


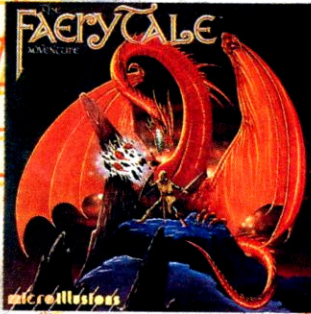
SPACE 10, **ROBERT KUBASKO**, *Wyoming, PA*



DARTH VADAR, **PETER STEINER**, *West Germany*

FURRY DEMON, **JIMMY YEO**, *Brentwood, NY*





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Alms for the poor

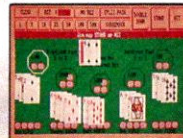


Julian finds a cave

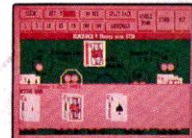


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Game in play

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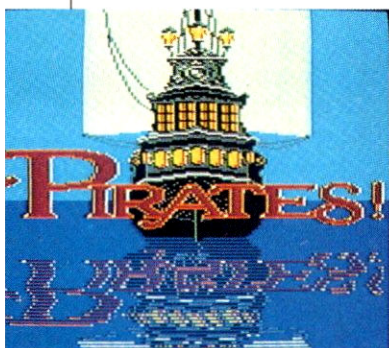
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ENTERTAINMENT GAMEPORT

BY BOB LINDSTROM

*Sailing
across several
game-design styles
with Pirates!—
and a preview
of coming
attractions*



PIRATES!

It's the nefarious tale of a gang of heartless software thieves armed with nibble copiers and sector editors. On their copyright-violating raids, they steal with impunity and pillage the income of decent programmers everywhere.

No, wait a minute. That's not a game. That's a real-life scenario.

What we're really here to discuss this month is MicroProse's Pirates!, designer Sid Meier's romantic, marauding action/adventure game of booty hunters on the historic high seas.

To get into the spirit of 17th-century oceangoing larceny, I'm going to put on this pocket protector, glasses, and a white cotton shirt. No, wait a minute, that's the reality

again. Better make that an eye patch and a parrot.

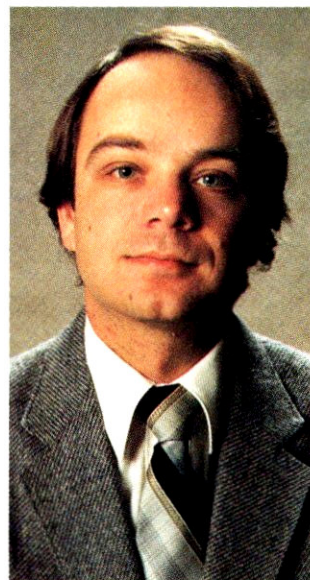
In Pirates!, you are a scurvy but ambitious captain on a quest for plunder and prestige in the golden age of Caribbean piracy, 1650-1700. England, France, Spain, and Holland are jostling for control of the New World. Riches and power await the knave who has a cargo of courage and a conscience light enough to flap in the political breeze.

MicroProse's Pirates! captures the kind of hybrid amusement that is growing more and more popular in computer games. Instead of walking the narrow plank of pure text adventure or role playing, Pirates! sails across several game-design styles. It anchors itself in strategic waters; tacks through sea and land battles; navigates into the shoals of trade, politics, and commerce simulation; and even gets the wind at its back in a lively arcade-like dueling sequence.

Although the arcade/strategy/simulation-style game is rapidly gaining popularity with designers, it seemed an unusual prospect from Meier and MicroProse, the simulation specialists who created F-15 Strike Eagle, Silent Service, and Solo Flight.

"The game design basi-

cally flowed from the idea," says Pirates! designer Meier. "The idea of pirates conjures up a lot of fantasies and visions in people's minds: sword fighting, ship battles, running around town. We tried to bring the most fun to people by putting all these parts together. We didn't try to

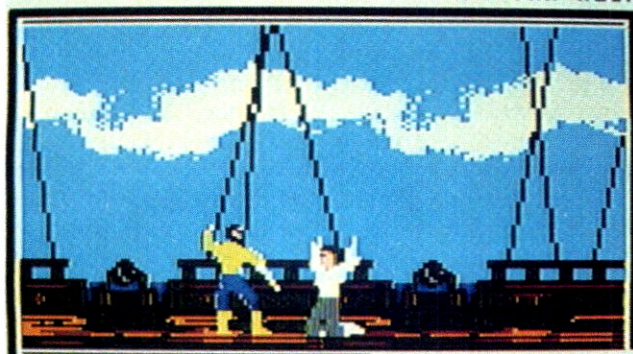


SID MEIER

make the subject fit the formats we knew how to do. It is a MicroProse game, though, in the sense that it has a lot of depth and that a lot of work went into it."

In fact, as with a well-edited movie that leaves plenty of unused footage on the cutting room floor, Meier and his MicroProse team programmed more than twice the code they used in the final version of the

SMITH VS. BARON VAN HECK

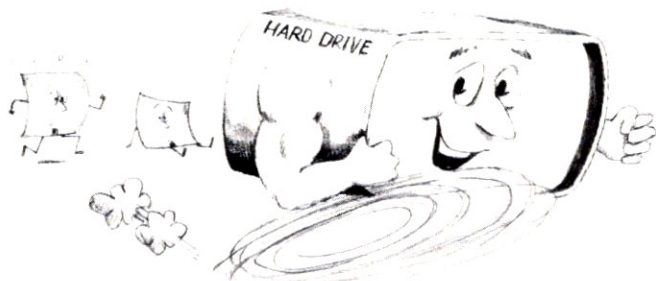


FORCE: 112 MEN
MORALE: WILD!

SMITH
20 MEN
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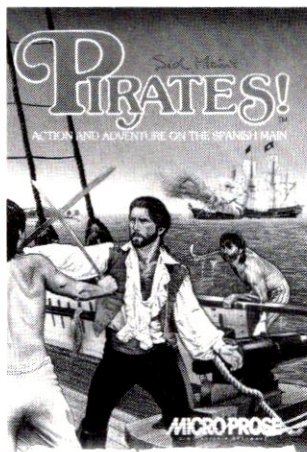


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GAMEPORT



game. The response of play testers led to several design changes and resulted in the game's multifaceted nature.

"We initially saw Pirates! as more of an adventure game with dialogue and inner negotiating, talking with merchants, haggling over prices. It slowed down the game, though. We found it was more fun to do the action things of being a pirate.

"I'm not a fan of games where you have 13 agility points and 14 body points," Meier confesses. "That distances you from the game. You're not playing it yourself. You're playing it as a puppet with 12 intelligence points.

"In Pirates!, we tried to let you apply your own skills directly as a player. If you're good at sword fighting, you win. It's not because your character has 12 sword-fighting points. We put you directly in contact with the situation, but we also designed the action sequences to have enough simulation that they

aren't limited to learning a few tactics."

So, when you face off with the captain of a rival ship, you are personally wielding a joystick saber against the various fencing techniques of your opponent. When the enemy fleet comes into view, you are pulling the sails, riding the wind, and maneuvering yourself (you hope) into a perfect "crossing the T" battle position.

And while we have you at the short end of the gangplank, Sid, how about giving us a few tips on how to win?

"A couple of concepts underlie Pirates!," Meier explains. "One is the idea that four countries have relations among each other that vary over time. You should learn how to feel that and play off it to your advantage. If everybody hates the Spanish, you can attack the Spanish. Then, just the Spanish don't like you, and the rest do like you. Or if one country is rich and the others poor, you can try to improve your standing with the rich country because it will pay more for goods.

"There's also the treasure fleet and silver trade. You can try to decipher where the ships will be (and capture them). They're the juicy targets, but they're very difficult to find."

So, yo, ho, ho and a double-sided flippy, me hearties. Yer galleon awaits. Pirates! is \$39.95 from MicroProse for Apple II computers.

GAMEPORT

NEW STUFF

Magnetic Scrolls, that devilish purveyor of The Pawn and Guild of Thieves, has another text-adventuring challenge on the horizon. Jinxster, published by Rainbird, is destined to make Murphy's Law ("If anything can go wrong, it will.") look like a sunny weekend at Cabo San Lucas. In this comic text adventure for the Apple II line, you are a luckless adventurer trying to overcome adversity in a jinxed land where good fortune is running out.

Also from Rainbird is Knight Orc, another adventure in which you assume the role of a friendly orc who suddenly appears in an unfamiliar locale—a strange stranger in an even stranger strange land.

Epyx continues to please Apple II game fanatics with first-rate new products. Now available is the Apple II version of Street Sports Basketball, a grass-roots gathering of well-intentioned dribblers who aren't quite ready for prime time. The down-home abilities of these homegrown hot-shots add a delightful new twist to sports simulations.

Epyx also is scheduled to release the Apple II conversion of its Sub Battle Simulator this spring, along with SpiderBot, a fast-paced arcade game in Epyx's mid-priced Maxx Out line of software.

Jinxster from Rainbird is destined to make Murphy's Law look like a sunny weekend at Cabo San Lucas.

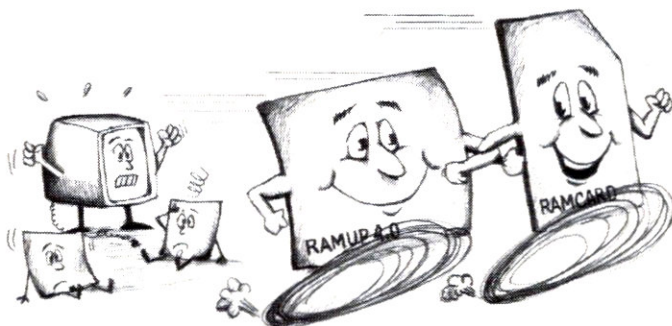
ERROR-PROCESSING DEPARTMENT

In my entertainment picks for the Apple All-Stars in the December 1987 issue of *A+*, I identified subLogic's Flight Simulator II as being compatible with the Apple IIgs.

"GamePort" reader and IIgs owner Dale Garvey of New London, New Hampshire, wrote in to complain, however. Seems he's been distressingly earthbound since getting his IIgs, since FSII doesn't run properly on the system.

Initial compatibility tests at subLogic showed that FSII did work on the IIgs. That was the information subLogic provided to me in September, but company spokesperson Holly G. Hardyman now says that the company has discovered that FSII works "only sporadically" on the IIgs. As a result, Hardyman states, subLogic may be motivated to write a IIgs-specific version of the popular flight simulator. +

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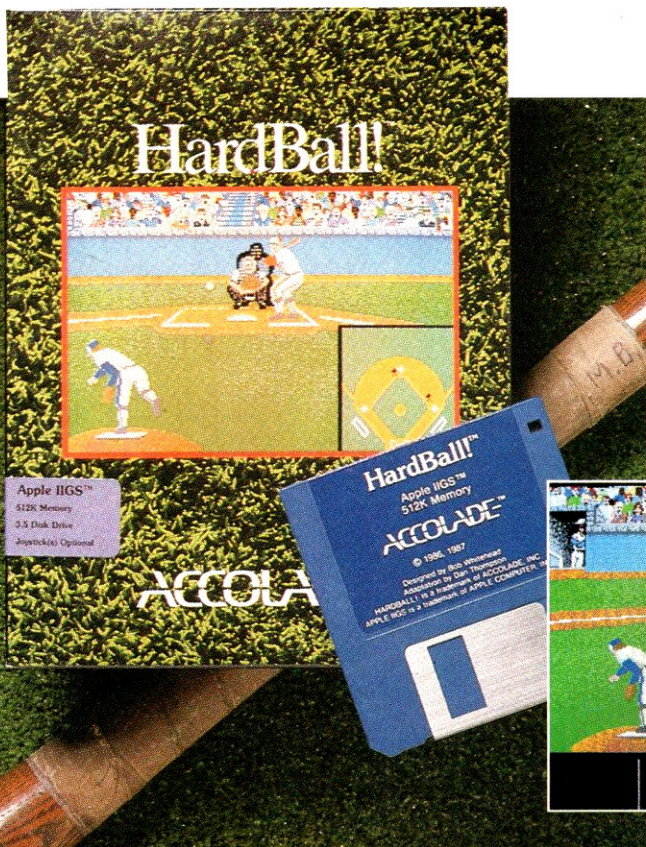
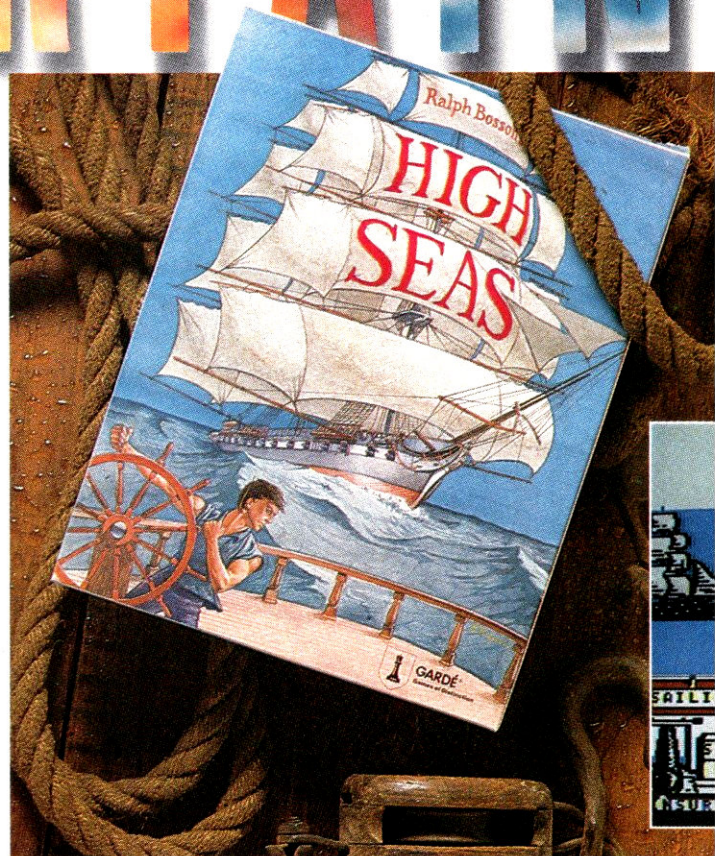
ENTERTAIN

This month's games let you fight a naval battle, take yourself out to the ballgame, and contend with a campus computer gone awry.

SUSPENDING THE LAWS OF PHYSICS

From deep right field, Miller scoops the horsehide out of the crabgrass and tenses his biceps to rocket the ball into second base for a possible putout. His mighty muscles spring the orb into the ozone, and the crowd waits in hushed hope. And the crowd waits some more. And then a little longer.

While the crowd watches in a state of Newtonian befuddlement, the ball drifts lazily

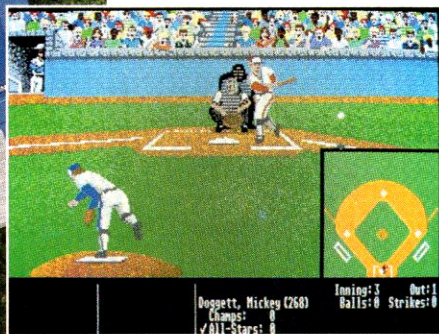


toward second, hovering over the backfield like a Spielberg alien. How could it be? Not to worry, this seeming suspension of the laws of physics isn't real, it's just a "simulation," courtesy of Accolade's baseball arcade/strategy game Hardball!

It's hard to argue with the well-deserved success of designer Bob Whitehead's Hardball!. This

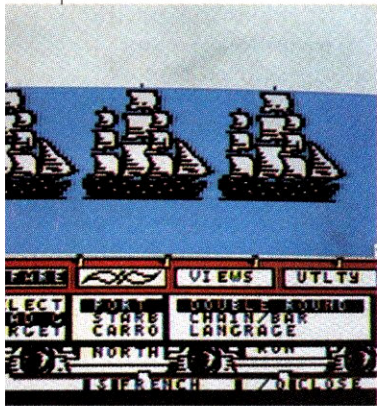
graphically vivid sports game has sold more than 200,000 copies in versions for a variety of computers, including the Apple IIe/c. The newest version for the Apple IIcs makes the audiovisual most of that computer's sound and graphics.

Aside from the fast-paced arcade-style sports action of Hardball!—a real joystick slugger's delight—great graphics make Hardball! a heavy hitter. The eavesdropping view over the pitcher's right shoulder and the TV-like shot of the playing field pack a you-are-there wallop. On the Apple IIcs, the ball diamond shines like a real diamond from the mottled turf of the backfield to the smoothly realistic



MENT REVIEWS

animation of pitcher and batter. And the digitized IIGs sounds of howling umpires, raucous crowds, and cracking bats take the illusion all the way home.



Aside from the visual embellishments, other elements of Hardball! on the IIGs help it retain its best-selling status. The pitching/batting screen displays full-size figures, while a small inset window provides a schematic overview of the field showing "who's on first." When the ball is hit, the display cuts to a view of either the left or the right half of the field (depending on where the ball goes), along with the same overhead diagram of the field.

At all times, a command window sits patiently at the bottom of the screen waiting for player input. It allows the pitcher to choose fast-ball, curveball, change-up, or slider and aim his pitch at one of nine locations, from high and out-

side to low and inside. Batters can place their swing over the same range of locations or opt to bunt.

When fielding the ball, the computer automatically chooses which player is active, a sometimes frustrating situation when the computer's defensive decision differs from your own. Throwing the ball requires moving mouse or joystick in the direction of the desired base (an on-screen display indicates which one you've chosen) and then pressing the fire/mouse button. Overall, Hardball! still has one of the most logical and easy-to-master solutions to joystick/mouse control.

On the strategic side, managerial options include determining player lineup, substituting players, changing player positions, issuing intentional walks, and setting the location of outfield and infield players. The fictional players on the roster have been assigned some statistics, but the absence of real player stats dilutes the strategic aspects of the game. Accolade's Hardball! is a brilliant arcade baseball game with little interest as a statistical simulation.

Despite its many home-run features, Hard-

ball! on the IIGs often makes you wish you were back in the dugout. Somehow, the timing is off. Runners charge swiftly around the plate while fielders lob a suspended-animation ball to the infield—fine when you're pummeling them on offense, but frustrating when you're on defense. The opposing team skips rapidly toward home while your ball grinds arduously through the air. Although this disparity may be an attempt to simulate real-world conditions, the conflict between reality and computer il-

lusion grows irritating. Interestingly enough, other conversions of Hardball! do not share this quirk.

Hardball! plays equally well under mouse or joystick control, and you can take on the computer or another human player. Its graphics and sound place it solidly in the big leagues. The eccentricity of the timing and ball handling, though, make you long for the sandlot.

Bob Lindstrom

HARDBALL!

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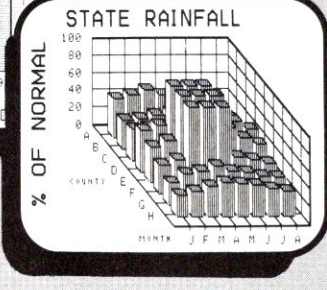
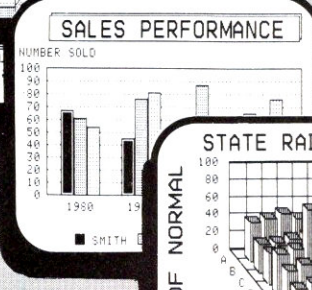
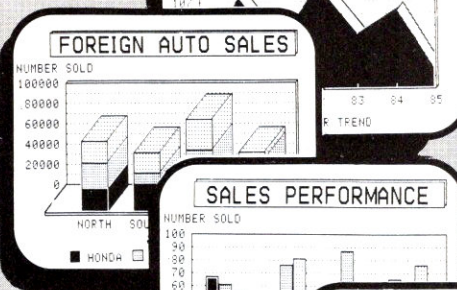
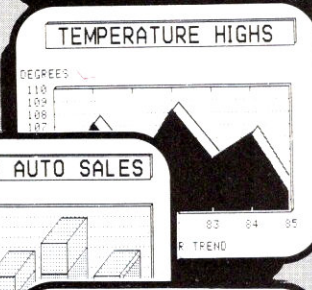
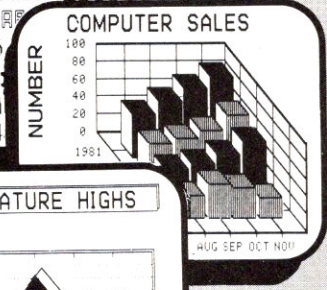
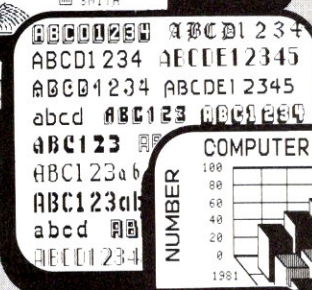
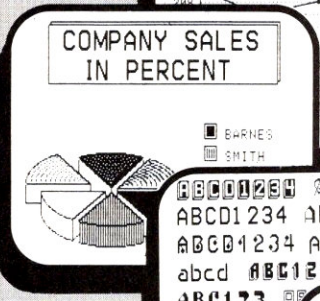
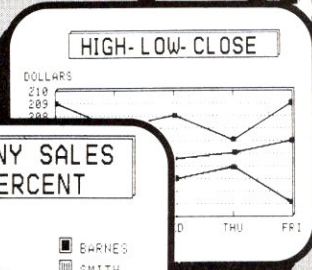
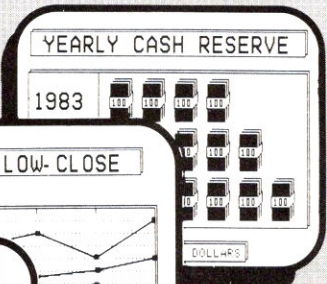
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REVIEWS

PROUD VESSEL RUNS AGROUND

"No captain," said Admiral Nelson, "can go far wrong if he lays his ship alongside that of an enemy."

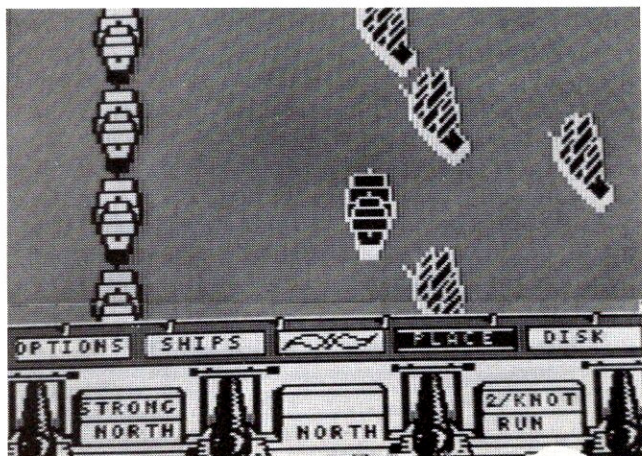
Naval tactics in the Age of Sail were pretty crude. Battles were usually won by excellent seamanship, superior gunnery, and the fierce discipline that enabled crews to endure hour after hour of horrible casualties from cannonballs and flying splinters. These ships were tough—the USS Constitution ("Old Ironsides") was launched in 1797 and is still afloat in Boston Harbor. Being made of wood, warships of this era were hard to sink. Many fights ended with sword and musket, as boarding parties slugged it out across shattered decks.

Ralph Bosson's High Seas is a detailed simulation of ship-to-ship combat during the late 18th

Naval tactics in the age of sail were pretty crude. Many fights ended with sword and musket.

and early 19th century—the Napoleonic wars, the American Revolution, and the War of 1812. A player takes the role of an individual ship captain or the admiral of a small fleet. The game system allows up to 68 ships in a scenario, but more than 10 on a side would slow the action to a crawl. Eleven historical and hypothetical scenarios come on a separate disk.

The game models three kinds of ships: The "ship of the line," or battleship, is ponderous and thick-skinned, mounting 64-130 guns; frigates are more maneuverable and carry 24-50 guns; and merchant ships are virtually unarmed and serve as helpless victims in the



A CHART VIEW FROM HIGH SEAS

Adventure Gamers Applaud *Pirates!*

⚓ "Excellent... enormously good fun"

⚓ "Magnificent game"

⚓ "Exceeded my wildest expectations"

⚓ "You've done it again"



"*PIRATES!* is excellent... a great swashbuckling game, enormously good fun... it should keep you playing for months."
(Popular Computing Weekly, U.K.)

"... your game has exceeded my wildest expectations... I have run up more game time on the computer in 3 days than in the entire month previous."
(C.J.M., Buffalo, N.Y.)

"This is one of the most magnificent games I have ever had the pleasure of playing! It has exactly the balance of realism, playability and silliness that I most adore."
(J.P.S., San Diego, CA)

"*PIRATES!* is a big hit in the Dallas area. This game is one of your best efforts. The graphics on all screens are excellent! You have done it again, Microprose."
(Larry Medlin, DallasGamers, in Game News)

PIRATES! It's another winner from Sid Meier, author and designer of the award-winning F-15 STRIKE EAGLE and SILENT SERVICE. His creative genius has combined the best of simulation, role-playing and strategy games in this high seas adventure.

You're a 17th century privateer captain in the thick of the action on the Spanish Main. **PIRATES!**

challenges your reflexes in simulated sailing, sea and land battles and swordfights. It tests your cunning in bargaining with merchants and negotiating with government officials. From the romance and intrigue of more than 50 foreign ports to the thrill and excitement of buried treasure, **PIRATES!** takes you on an exhilarating quest for power and prestige.

PIRATES! is available at your local "Valued MicroProse Retailer" (VMR). Call for locations nearest you. Get it today for Commodore 64/128, IBM-PC/compatibles and the Apple IIc and 128K IIe. Call or write for MC/VISA orders if product not found locally.



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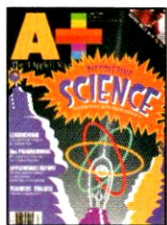
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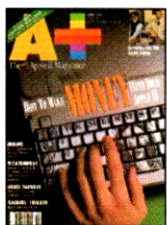
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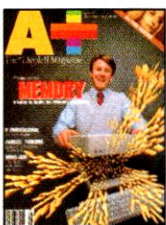
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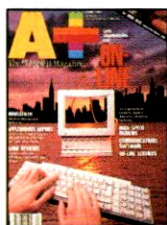
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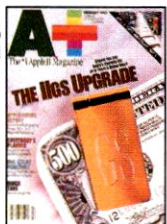
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REVIEWS

Unfortunately, High Seas was too ambitious and complex a design for the skill of its programmers.

game. You can create new ships or "edit" existing ones and store them on a specially formatted "shipyard disk."

The game uses an elaborate system of nested drop-down menus. The menu bar is a representation of the view from the deck of a ship. You see one set of menus during the game setup and another set during the actual course of play. By using the joystick or arrow keys to select menu items, you control maneuver, combat, displays, and status reports.

You can call up a view looking out in any direction from a selected ship and choose any ship in sight as a target. There is a map view (a section of ocean seen from above) and a chart view (a much larger section of ocean). The game reflects the effects of wind direction on maneuvers. The time necessary to reload guns and change sails is accurately modeled. The 43-page, illustrated manual is nicely printed and provides well-researched background information on the period, but the explanations of the game's mechanics are confusing in many places.

Unfortunately, High Seas was too ambitious and complex a design for the skill of its programmers. I found the game virtually unplayable. Even with seven ships in a scenario, on a IIGs at the fast system speed, the game is painfully slow. You cannot get a good grasp of the battle, since the graphics are rather limited and hard to interpret. Ship silhouettes, for example, do not change to reflect damage or change of ownership. When more than a few ships are involved, the map view is too constricted to show more than a part of the action. The symbols on the chart view are blurry and often overlap. In short, High Seas suffers all the symptoms of a game that was written for the Commodore 64 and converted to run on the Apple II without sufficient thought about the limitations of Apple graphics.

The designers at Gardé Games are talented people, with a rare devotion to historical accuracy, but they need to remember that computer games, above all, must be fun to play.

Mike Markowitz

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REVIEWS

CAMPUS CONUNDRUM

Just when you thought it was safe to turn on your computer, Infocom has released the first interactive-fiction horror story, entitled, appropriately, *The Lurking Horror*. Written in the style of Stephen King and H.P. Lovecraft, the new tale was penned by Dave Liebling, coauthor of the classic *Zork* series.

The Lurking Horror is set at G.U.E. Tech, a fictitious university whose geography bears more than a passing resemblance to M.I.T. (I have this on good authority). You take on the persona of a student who's waited until the last minute to finish an important term paper.

You've stored your working copy on the university's mainframe computer, and in the middle of the night before it is due, just as you're ready to finish—wouldn't you know—a blizzard is raging outdoors, and all the computer terminals in your dorm are occupied. So you brave the elements to go to the computer center—and what do you discover when you arrive? A computer glitch has rendered your partly finished work unintelligible. Dumbstruck, you stare at the curious melange of nonsense on the PC screen. Suddenly and inexplicably, you faint.

Now as if you haven't been through enough al-

ready this evening, you awaken to find yourself in a dense black void, amidst a surging crowd, facing a foul creature whose tentacles reach out in an effort to engulf you in its maw. At the moment you think you're done for, you mysteriously snap back to your seat in front of the computer screen. Was it all a dream? Or did it really happen? Wait a minute—what's that in your hand? A stone, inscribed with strange symbols. The very same stone you found in your vision! Tangible evidence—but of what?

By the time you're through with the game, you will have found several uses for the strangely inscribed stone and will know the answer to the question of what is really going on at G.U.E. Tech and who (or what) is behind it. But in the meantime, being the resilient sort, you ignore the stone (and your nightmare) for the moment. You continue with your quest to find the term paper, pursuing a clue that you should check out the computer in the Department of Alchemy. Uh-oh, on account of the blizzard, you cannot traverse the campus on the outside; you must use the large, dark, lonely, spooky, underground tunnels that connect most of the buildings.

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REVIEWS REVIEWS

Several scenes in *The Lurking Horror* have the breathless rush of movie scenes.

the top of the great dome to the bottom of the elevator shaft. And although not many students are awake at this hour in the morning, you'll meet up and interact with several strange people and creatures, from a nerdy computer hacker to a thieving street urchin with a sus-

piciously lumpy parka.

Speaking of films, several sequences in *The Lurking Horror* have the breathless rush of movie scenes, and I defy you to get through the episode with the alchemy professor without your spine tingling and your heart beating faster.

One hint: Don't even think of traveling around the school without a passkey—you won't get very far, as many doors are locked, in traditional adventure-game style.

Since Infocom no longer grades the difficulty levels of its games, it's up to me to tell you that *The*

Lurking Horror is not the hardest game yet devised, nor the easiest. Players with some experience at interactive fiction will enjoy the brain teasers, and novice players should be able to plow through the adventure, enjoying the stretching of their mental muscles.

As is usual with Infocom games, you will spend many challenging hours playing *The Lurking Horror*, and since you are unlikely to finish the game in one sitting, you can save your place, using the standard eight-position routine.

So go ahead, get *The Lurking Horror*. Then, if you dare, turn on your computer. You don't have to be afraid. The horror lurks inside your computer, not outside. Or is that the other way around?

Donald Oliver

THE LURKING HORROR

Infocom, Inc.
125 Cambridge Park Drive
Cambridge, MA 02140
(800) 262-6868, ext. 17A
(617) 492-6000

LIST PRICE: \$39.95

REQUIRES: Apple II Plus, IIe, IIc, or IIgs;
48K RAM; one 5¼-inch disk drive. Not copy-protected.

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Applied Engineering is seeking an experienced 6502 and 65816 machine language programmer. 2 years minimum programming experience is required. We offer an exciting opportunity for the experienced programmer to take his skills to the limit. Applied Engineering offers an excellent compensation package including paid vacations, 11 paid holidays per year, health insurance program and more.

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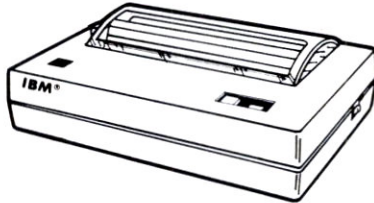
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A collection of interesting products for you and your Apple II-series computer

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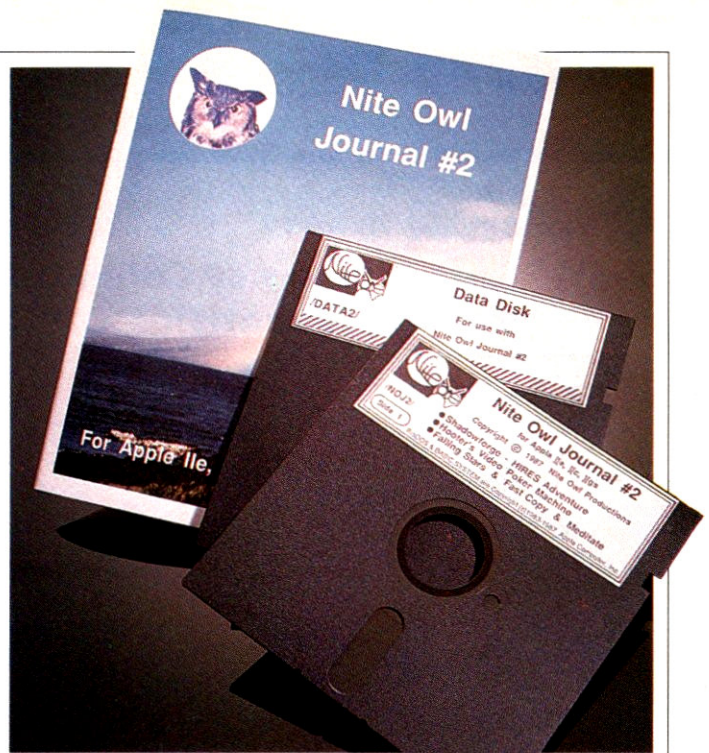
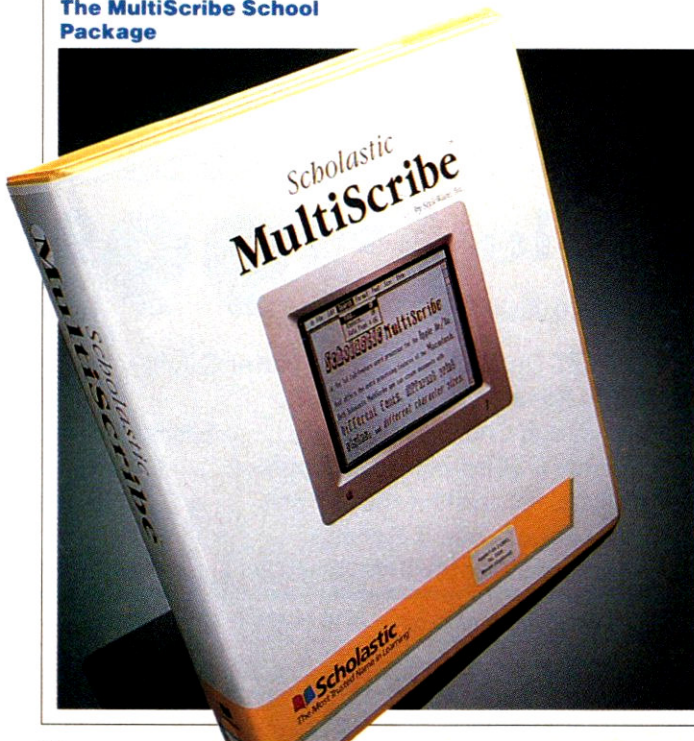
MULTISCRIBE SCHOOL PACKAGE

This classroom desktop-publishing system provides Macintosh-like capabilities such as pull-down menus; dialog boxes; scroll bars; quick file access; windows; and multiple fonts, sizes, and

styles. The program is fully compatible with The Bank Street Writer III, AppleWorks, and pfs:Write.

Included in the school package are the Spell Checker, with a 50,000-word dictionary, and the Picture Manager, com-

The MultiScribe School Package



Nite Owl Journal #2, a collection of nine games and other computer programs ranging from strategy to computer-aided meditation

patible with major graphics programs such as Dazzle Draw and Mouse Paint. Font Pak (a package of ten additional fonts) and a Desk Accessories disk are available separately.

List Price: School Package, \$124.95 (includes word-processing program, Spell Checker, Picture Manager with Picture Disk, User's Handbook with Teaching Guide, and Activities Book and Activities Disk); MultiScribe word-processing program with Spell Checker, \$99.95; Picture Manager, \$49.95; Font Pak, \$24.95; Desk Accessories, \$49.95

Requires: Apple IIe, IIc, or IIgs; 128K RAM (IIe or IIc), 512K RAM (IIgs); one 5¼-inch disk drive (IIe, IIc), one 3.5-inch disk drive (IIgs). Copy-protected.

Scholastic, Inc.
P.O. Box 7501
2931 East McCarty Street
Jefferson City, MO 65102
(800) 325-6149
In MO (800) 392-2179

CIRCLE READER SERVICE NO. 501

NITE OWL JOURNAL #2

This collection of nine games and other computer programs is contained on a double-sided master disk and a data disk. Programs include Shadowforge, a fantasy game; Hooter's Video Poker Machine, a Vegas-style video poker game; Block Busters, a strategy game for two to four players; Word Chase, a word-puzzle game for two to four players; Hooter's Joke Parlor, a program that judges your jokes; BUD, an educational program that creates poems; Falling Stars, which explains the myth behind falling stars; and Meditate, a program that provides a lesson in computer-aided meditation.

List Price: \$39.95
Requires: Apple IIe, IIc, or IIgs; 64K RAM; one 5¼-inch disk drive. Not copy-protected.

Nite Owl Productions
5734 Lamar Avenue
Mission, KS 66202
(913) 362-9898

CIRCLE READER SERVICE NO. 502

THE PRINT SHOP GRAPHICS LIBRARY SAMPLER EDITION

The Print Shop Graphics Library Sampler Edition features more than 180 graphics, borders, fonts, and full-panel designs to complement and enlarge the IIGs Print Shop's basic collection.

List Price: \$34.95
Requires: Apple IIgs; 512K RAM; one 3.5-inch disk drive (also works with 5¼-inch disk data). Not copy-protected. Brøderbund Software 17 Paul Drive San Rafael, CA 94903-2101 (415) 492-3200

Evolutionary Trail is a simulation for students in grades 6 and up. Students use 48 records to compare, sort, and classi-

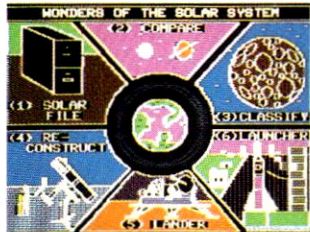


Battle of the Dinosaurs

fy life forms and to test principles of eugenics and eugenics by controlling environment. A student workbook covers survival of the fittest and why certain organisms became extinct.

The Wonders of the Solar System, for grades 6 and up, has a large database of facts about celestial bodies of the solar system. Students can compare and classify these bodies by such categories as size and orbital radius. The program additionally lets students update database records as new information on the solar system becomes available.

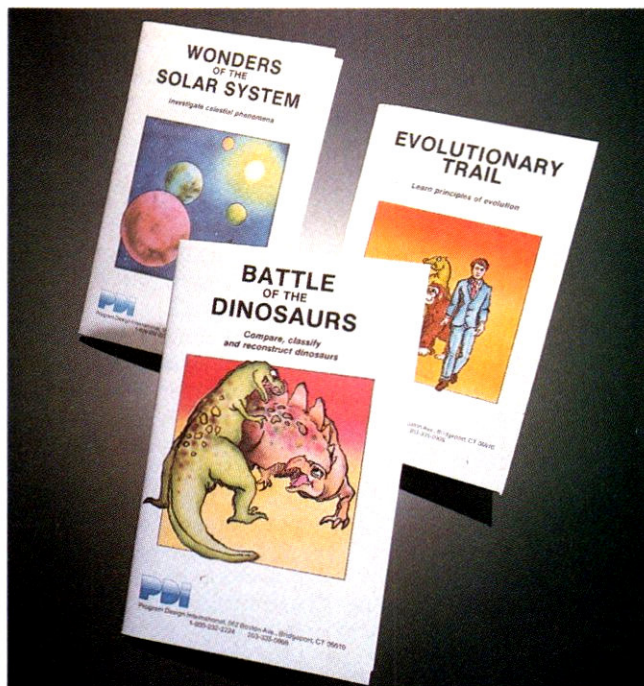
List Price: \$59.95 each
Requires: Apple II Plus, IIe, IIc, or IIgs; 48K RAM;



Wonders of the Solar System

one 5¼-inch disk drive or one 3.5-inch disk drive (request 3.5-inch disks when ordering); joysticks or paddles recommended; printer recommended. Copy-protected. Program Design International, Inc. 562 Boston Avenue Bridgeport, CT 06610 (800) 232-2224 (203) 335-0908

CIRCLE READER SERVICE NO. 504



Program Design International's three new educational programs

POWER-PACKED NUTRITION

This educational program for students in grades 6-8 shows the relationship between calories and nutrients in food. The program contains an interactive tutorial, a database of 135 common food items, and a Nutrient Density Game with three levels of play. The package includes a teachers' guide, three black-line masters for

off-computer activities, and a classroom poster with additional information on nutrient density.

List Price: \$14.95
Requires: Apple II Plus, IIe, or IIc; 48K RAM; one 5¼-inch disk drive. Not copy-protected. National Live Stock and Meat Board Education Department 444 North Michigan Ave. Chicago, IL 60611 (312) 467-5520

CIRCLE READER SERVICE NO. 505

Power-Packed Nutrition, an educational program for students in grades 6-8, shows the relationships between calories and nutrients in food.



The Print Shop Graphics Library Sampler Edition

SCIENCE SERIES

Program Design International (PDI) has released three new educational programs as part of its Science Series: Battle of the Dinosaurs, Evolutionary Trail, and Wonders of the Solar System.

Battle of the Dinosaurs, for grades 3 and up, has a database of 60 dinosaur records, which students can use to compare, sort, classify, and reconstruct dinosaurs. Program material covers some of the reasons dinosaurs died out. Just for the fun of it, you can match dinosaurs against each other in battle.

PRODUCT ROUNDUP

teachers can add, edit, delete, and save stories. The editor allows children to enter their own stories, facts, and headlines.

List Price: \$49.95; Lab Pack, \$20 per disk (set of six or more)

Requires: Apple II Plus, IIe, IIc, or IIgs; 48K RAM; one 5¼-inch disk drive.

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Building 3, Suite 301
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CIRCLE READER SERVICE NO. 508

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The Speech/Language Screening Disk is a guide to help teachers and administrators identify possible speech/language problems in children and communicate effectively with speech/language specialists. It was developed by a licensed, certified speech pathologist.

Each disk contains a speech-screening guide with instructions; a speech/language-test request form; and a parent guide, "10 Ways to Improve Speech Skills at Home." All items have on-screen/hard-copy options.

List Price: \$15

Requires: Apple IIe, IIc, or IIgs; 48K RAM; one 5¼-inch disk drive. Not copy-protected.

Hilltop Speech and Language Services
3330 Lewis Avenue
Long Beach, CA 90807
Written inquiries only

CIRCLE READER SERVICE NO. 509

PRIVEN LEARNING SYSTEMS (PLS) PROGRAMS

Two new educational programs, Living History and Julius Caesar, have been released by PLS.

Living History, for junior high and high school, presents famous American documents, speeches, and historical literature in a way that allows students to understand their meaning and importance. Follow-up games reinforce the text.

Julius Caesar, part of the Living Shakespeare series, guides readers through this play, providing introductions to each scene, definitions of difficult vocabulary, follow-up questions, and reinforcement games.

List Price: \$49.95 each

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Priven Learning Systems
11 Strawberry Patch Lane

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CIRCLE READER SERVICE NO. 510

JOB SUCCESS SERIES

The Job Success Series is designed to help secondary-school and adult students prepare for their first job. The four-program package includes: Your Personal Habits, Your Work Habits, First Days on the Job, and Looking Good.

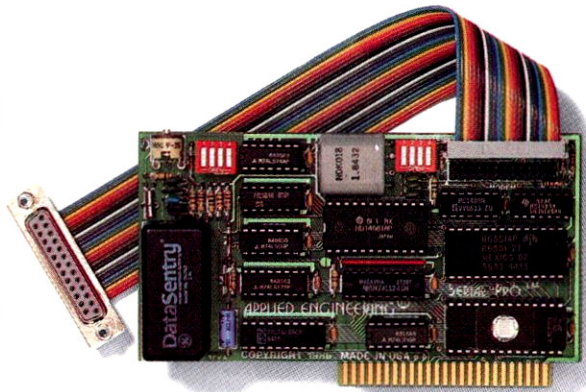
List Price: \$59.95 each; complete package, \$219.95

Requires: Apple IIe or IIc; 64K RAM; one 5¼-inch disk drive. Copy-protected.

MCE, Inc.
157 South Kalamazoo Mall
Suite 250
Kalamazoo, MI 49007
(800) 421-4157
(616) 345-8681

CIRCLE READER SERVICE NO. 511

Serial Pro® The intelligent multifunction card from Applied Engineering.



Serial Pro is a powerful multifunction card for the Apple IIe, II+, IIgs and compatible computers. Serial Pro combines a powerful serial port for interfacing to a printer, modem or other serial device, with a full function clock/calendar. Serial Pro's serial port is compatible with virtually all letter quality and dot matrix printers, including Apple's Imagewriter and Imagewriter II, and can communicate with the fastest external modems at baud rates from 50 to 19,200.

Set up is easy, because unlike other cards, there are no switches to program serial parameters or disks to use. Serial Pro has a built-in setup screen that allows all parameters to be set. And on-screen help that makes it super-easy. An on-board battery stores your selections for over 20 years, but you can change them at any time. Serial Pro is the perfect upgrade for Super Serial card owners looking for more performance or a built-in clock.

Serial Port Features

- Fully Super Serial Card compatible but more versatile and easier to use
- Compatible with printers
- Compatible with modems
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- Variable word length, number of stop bits and parity selection
- Crystal controlled circuits are used to provide ultra accurate baud rates.

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- Realtime interrupts
- Built-in on screen time and date settings (no software needed)
- Does not use phantom slots.

Serial Pro is perfect for Apple IIe, II+, IIgs or compatible owners in need of a serial port or clock/calendar or both. But unlike other multifunction cards on the market, Serial Pro does not use phantom slots, so all the slots in your computer are useable.

Serial Pro comes complete with manual, cable and instructions for connecting to all the leading printers and modems.
Serial Pro \$159

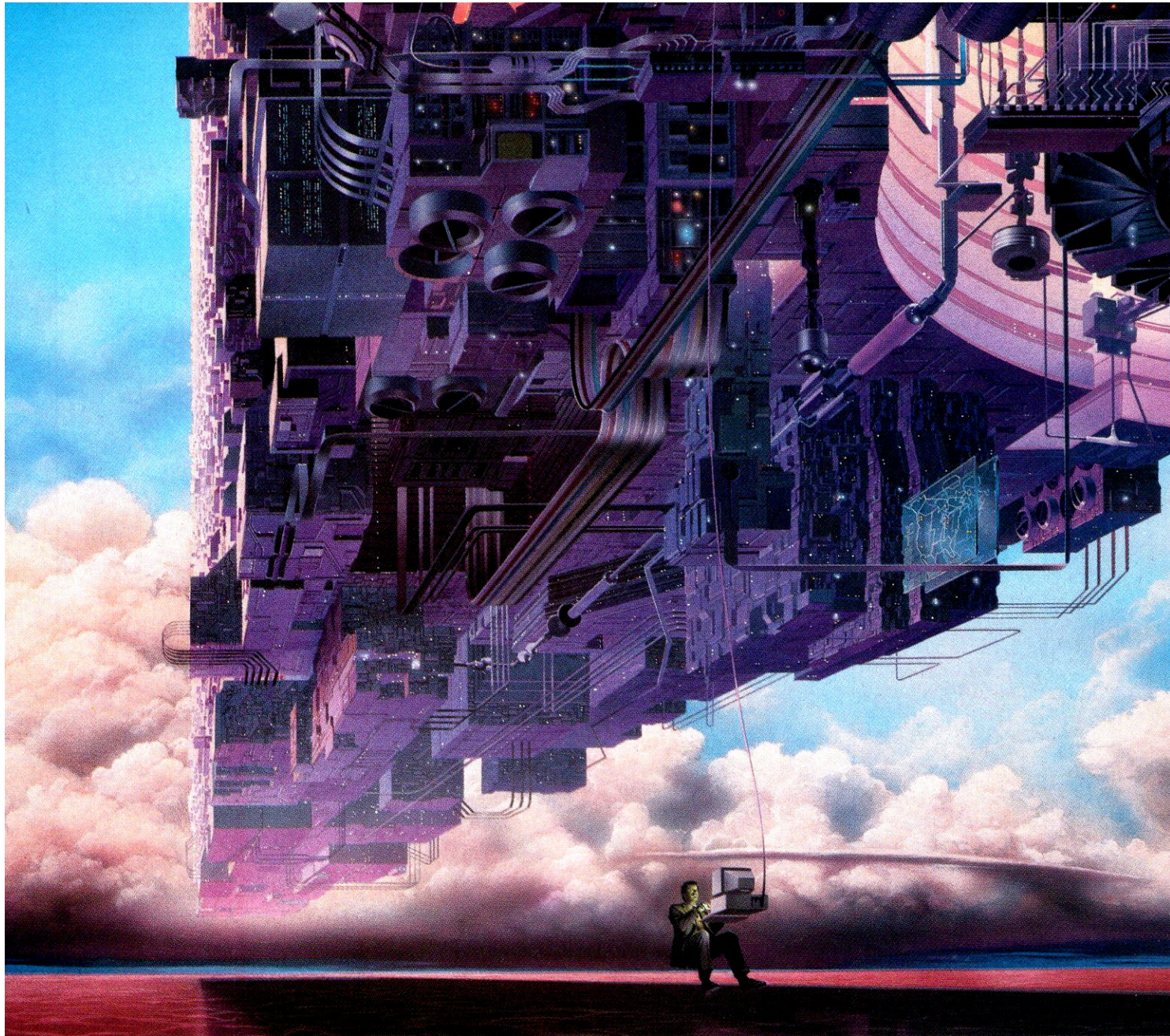
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PRODUCT ROUNDUP

ASTER-PRO

Aster-Pro is an astrology program that contains Natal, New Location, Compatibility, and Progression reports. The database in the Logistics disk can maintain names and birth data for thousands of people. The optional Research disk allows you to store natal and compatibility results in two large databases. The USA Longitude/Latitude disk contains 2778 localities in the United States and has room for 122 additional entries. The astronomy sections cover all years from 1890 to 2101.

List Price: total package (includes database chart and table), \$200; Research disk, \$50; USA disk, \$25

Requires: Apple II Plus, IIe, IIc, or IIGs; 64K RAM; one 5¼-inch disk drive. DOS 3.3; not copy-protected.

Astroresearch
1500 Massachusetts
Avenue NW, Suite 764
Washington, DC 20005
(202) 775-9423

CIRCLE READER SERVICE NO. 515

MCE INC. PROGRAMS

MCE, Inc., has released two new educational programs for secondary-school and adult learners: Making the Grade and Learning Improvement Series.

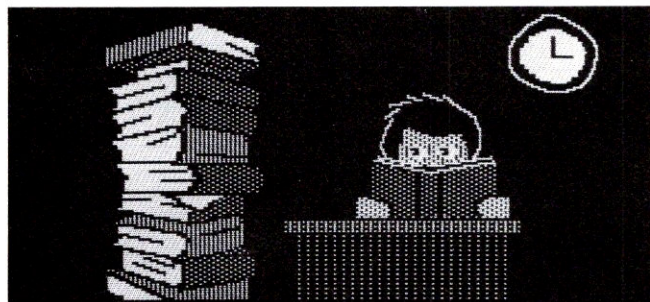
Making the Grade is a package that teaches students strategies for performing well in college. The programs in the package are Study to Succeed, Skills for Successful Test Taking, and Building Memory Skills. A minimum 5th-7th-grade reading level is required.

The Learning Improvement Series improves students' ability to learn and is designed for junior-high regular education or junior-high through adult special education. The programs in the package are Following Directions, Study Skills, and Test Taking Made Easy. A minimum 3rd-4th-grade reading level is required.

List Price: \$59.95 per program or \$164.95 per three-program package
Requires: Apple II Plus, IIe, IIc, or IIGs; 48K RAM; one 5¼-inch disk drive. Copy-protected.

MCE, Inc.
157 South Kalamazoo
Mall, Suite 250
Kalamazoo, MI 49007
(800) 421-4157
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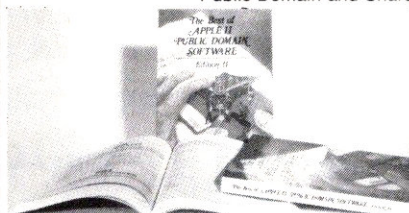


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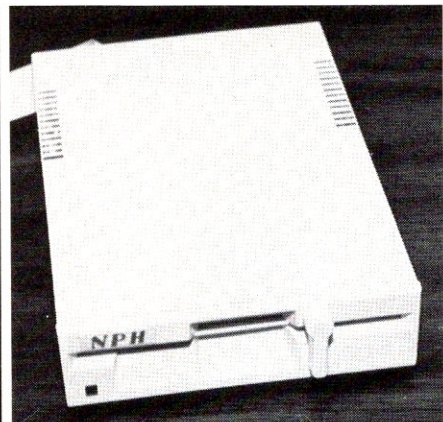
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PRODUCT ALL-STARS

Every three months, *A+* will publish summaries of its Product All-Stars—those hardware and software products that *A+* editors and contributors consider exceptional. Watch for this quarterly guide beginning in June. Here's a list of products that will be covered in detail in the All-Stars guide.

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TIPS AND TECHNIQUES

Readers share tips for the II

LOCK INSPECTION

If you need to determine whether a given file on a ProDOS disk is locked or not, use the following program fragment:

```
100 PRINT CHR$(4); "VERIFY MY FILE"
110 LK = PEEK(48823)
120 IF LK = 33 OR LK = 1 THEN PRINT "File
is locked."
```

The access code of the file is stored at location 48823 after you use the VERIFY command. Files you lock with the BASIC.SYSTEM LOCK command have an access code of 1 or 33, which means they can't be deleted, renamed, or rewritten, but they can be read. Hence the test in line 120.

VINCENT D. O'CONNOR
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3. Continue to fold the strip over and over until you reach the end, folding it tightly each time.
4. Use a small piece of tape to keep the pad from opening up.

5. Attach the pads to the bottom of the appliance.

Do not tape the sides of the pad closed. For thicker pads, use longer strips of perforation.

CHRIS HARPER
BROWN SUMMIT, NC

WORD WRAP MADE EASY

I've developed a short subroutine you can call from an Applesoft program to display long text strings on the screen with full word wrap. That is, the subroutine prevents words from splitting across the end of one line and the start of the next.

To enter the subroutine, type CALL-151 from the Applesoft Command mode and enter the machine-language program in figure 1. Then type Control-C and save the subroutine to disk with BSAVE WORDWRAP, A\$300, L\$61. To test it, enter the following short program:

```
0300: A0 04 B1 69 85 07 88 B1 69 85 06
030B: 88 B1 69 85 08 85 FF A4 24 84 FE
0316: 38 A0 00 B1 06 09 80 C9 A0 D0 02
0321: 84 FF C9 8D D0 02 84 FF C9 DE D0
032C: 02 A9 A2 99 00 02 C8 E6 FE 38 98
0337: E5 FF C5 21 F0 12 A5 21 C5 FE D0
0342: 0C A9 8D A4 FF 99 00 02 C8 A9 00
034D: 85 FE C4 08 90 C6 A0 00 B9 00 02
0358: 20 ED FD C8 C4 08 D0 F5 60
```

Figure 1: Subroutine for displaying long text strings with word wrap

```
10 PRINT CHR$(21)
20 PRINT CHR$(4); "BLOAD WORDWRAP"
30 A$="WORDWRAP is an extremely useful
subroutine"
40 PRINT A$:REM Normal print job
50 CALL 768:REM This prints A$ with word
wrap
```

Notice how the word-wrap subroutine keeps the word *subroutine* from splitting across two lines. It also converts each caret in the string into a quotation mark.

Use CALL 768 to call the subroutine. It prints out the first string variable the program defines—in this case A\$. To print another string, simply redefine A\$.

ALEXANDER EULENBERG
EAST LANSING, MI

Please send your Apple II tips to A+, 110 Marsh Drive, Suite 103, Foster City, CA 94404; ATTN: Tips and Techniques. We pay \$25 for each tip we publish, so be sure to include your name, address, and Social Security number.



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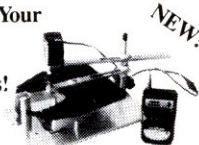
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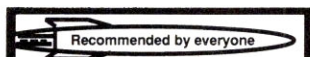
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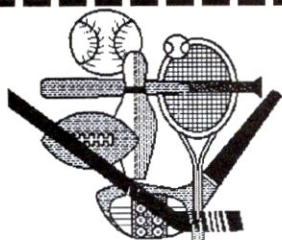
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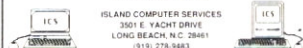
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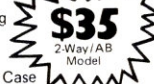
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RESCUE SQUAD: GS PRINT BUFFER

(Continued from page 138)

```

2018: 8D 93 20 36      STA  CMD_CODE    ;GetOutBuffer
201B: A9 92            LDA  #<CMDLIST   ;low
201D: A2 20            LDX  #>CMDLIST   ;medium
201F: A0 00            LDY  #0           ;high
2021: 20 00 C1 40      PATCH2 JSR  $C100
41
2024: A9 FF            LDA  #$FF        ;Check to see if the buffer
2026: CD 9A 20 43      CMP  BUFF_SZ     ; size is $FFFF.
2029: D0 0F            BNE  ALLOCATE
202B: CD 9B 20 45      CMP  BUFF_SZ+1
202E: D0 0A            BNE  ALLOCATE
2030: F0 05            BEQ  ERROR2
48
2032: 38              49      ERROR1 SEC
2033: FB              50      XCE
2034: 20 DD FB 51      JSR  BELL        ;Two bells: out of memory
2037: 4C DD FB 52      ERROR2 JMP  BELL        ;One bell: already installed
53
203A: 18              54      ALLOCATE CLC
203B: FB              55      XCE           ;Enable 65816 native mode
203C: C2 30           56      REP  $30      ;16-bit registers
57
58      * Request a new UserID:
59
203E: 48              60      PHA           ;Space for result
203F: F4 00 80 61      PEA  $8000      ;Type = firmware
2042: A2 03 20 62      LDX  #$2003     ;GetNewID
63      JSL  $E1;0000
2045: 22              63      DFB  $22       ;opcode for JSL
2046: 00 00           63      DA  0000      ;Bank offset address
2048: E1              63      DFB  $E1       ;Bank number
63      <<<
2049: 68              64      PLA
204A: 8D 90 20 65      STA  MYID
66
67      * Allocate a 64K block of memory as the buffer:
68
204D: 48              69      PHA           ;Space for result (long)
204E: 48              70      PHA
204F: F4 00 00 71      PEA  $0000      ;BlockSize = $0000FFFF
2052: F4 FF FF 72      PEA  $FFFF
2055: AD 90 20 73      LDA  MYID       ;UserID
2058: 48              74      PHA
2059: F4 08 40 75      PEA  $4008      ;Fixed/no special memory
205C: 48              76      PHA           ;(Location is irrelevant here)
205D: 48              77      PHA
205E: A2 02 09 78      LDX  #$0902     ;NewHandle
79      JSL  $E1;0000
2061: 22              79      DFB  $22       ;opcode for JSL
2062: 00 00           79      DA  0000      ;Bank offset address
2064: E1              79      DFB  $E1       ;Bank number
79      <<<
2065: 68              80      PLA
2066: 85 06           81      STA  TO_BLOCK
2068: 68              82      PLA
2069: 85 08           83      STA  TO_BLOCK+2
206B: B0 C5           84      BCS  ERROR1
85
86      * Dereference the handle to determine buffer address:
87
206D: A7 06           88      LDA  [TO_BLOCK]
206F: 8D 96 20 89      STA  BUFF_LOC
2072: A0 02 00 90      LDY  #2
2075: B7 06           91      LDA  [TO_BLOCK],Y
2077: 8D 98 20 92      STA  BUFF_LOC+2
93
207A: A9 FF FF 94      LDA  #$FFFF
207D: 8D 9A 20 95      STA  BUFF_SZ     ;Set up buffer size
96
2080: 38              97      SEC
2081: FB              98      XCE           ;Back to emulation mode
99
2082: A9 13           100     LDA  #$13
2084: 8D 93 20 101     STA  CMD_CODE    ;SetOutBuffer
2087: A9 92           102     LDA  #<CMDLIST   ;low
2089: A2 20           103     LDX  #>CMDLIST   ;medium
208B: A0 00           104     LDY  #0           ;high
208D: 4C 00 C1 105     PATCH3 JMP  $C100
106
2090: 00 00           107     MYID  DS  2      ;UserID for buffer block
108
2092: 04              109     CMDLIST DFB  4      ;Number of parameters
2093: 00              110     CMD_CODE DS  1      ;Command code
2094: 00 00           111     DS  2      ;Result code
2096: 00 00 00 112     BUFF_LOC DS  4      ;Buffer address
2099: 00
209A: 00 00           113     BUFF_SZ DS  2      ;Buffer length

```

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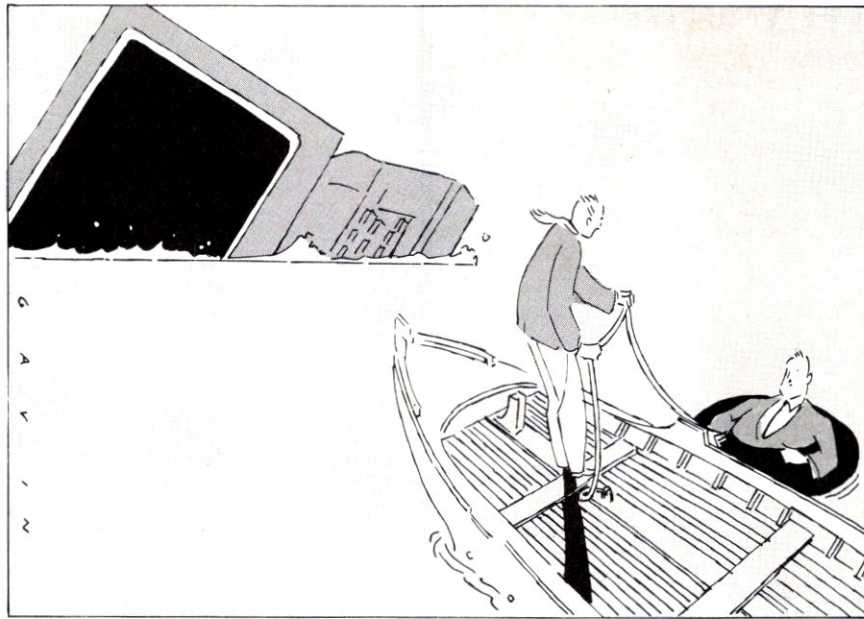
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CIRCLE 124 ON READER SERVICE CARD

APRIL 1988



RESCUE SQUAD

BY GARY B. LITTLE

INCREASING THE IIGs PRINT BUFFER

Q. I have a IIGs with 1.5 megabytes of memory, and I'm driving an Image-Writer I printer, using the built-in serial printer port. I've used the Control

Panel to turn print buffering on, but it seems to allocate only 2K for the buffer. How can I increase the size of this buffer?

CRAIG PETERSON
SANTA MONICA, CA

```

1      XC          ;Permit 65816 opcodes
2      XC
3      *****
4      * This routine is for setting the size *
5      * of the GS port 1 print buffer to 64K. *
6      * [Merlin Pro assembler format] *
7      * by Gary Little, A+ Magazine *
8      *****
9      TO_BLOCK EQU $06          ;Space for 4-byte handle
10     BELL EQU $FBDD          ;Ring the bell
11
12     * Define a macro for the 65816 JSL instruction:
13
14     JSL MAC
15         DFB $22          ;opcode for JSL
16         DA ]2          ;Bank offset address
17         DFB ]1          ;Bank number
18         <<<
19
20         ORG $2000
21
2000: AD 0D C1 22     INSTALL LDA $C10D          ;Get initialization offset
2003: 8D 14 20 23     STA PATCH1+1
24
2006: AD 12 C1 25     LDA $C112          ;Get control routine offset
2009: 8D 22 20 26     STA PATCH2+1
200C: 8D 8E 20 27     STA PATCH3+1
28
200F: A2 C1 29         LDX #$C1          ;$Cn
2011: A0 10 30         LDY #$10          ;$n0
2013: 20 00 C1 31     PATCH1 JSR $C100          ;Initialize the port
32
33     * Check to see if a 64K buffer is already installed:
34
2016: A9 11 35         LDA #$11

```

Figure 1: This program increases your IIGs print-buffer size to 64K (listing continues on page 137).

A. The default print-buffer size on the GS is only 2K, and, unfortunately, you can't change it with a simple Control Panel command. You can, however, increase the buffer size to a maximum of 64K by running a program that invokes a special serial-port firmware command called SetOutBuffer. For a detailed explanation of how to issue this command, consult Chapter 5 of *Apple IIGs Firmware Reference* (Addison-Wesley, 1987).

If you have at least 512K in your GS, use the program in figure 1 to increase the print-buffer size to 64K. You have to BRUN the program from Applesoft under ProDOS 8. Once installed in this way, the buffer survives until you turn off the GS or perform a "cold" reset (Control/open-apple/Reset). If you BRUN the program and hear one beep, a 64K buffer has previously been set up, so another one is not created; two beeps means that you do not have enough memory to create the buffer.

In order to ensure that the serial port uses the buffer, be sure to turn buffering on with the Control Panel. Choose the Printer Port command in order to access the buffering option.

Note that if you BRUN the program while a job is printing, the job is suddenly aborted because of the initialization call the program makes. Therefore, don't put the BRUN command inside a start-up program that might get control after you leave an application that has commenced printing.

Another caveat: Once the 64K buffer is installed, don't attempt to boot a ProDOS 16 disk with a PR# command.

When you warm-boot ProDOS 16 in this way, ProDOS 16 purges the memory the buffer uses but forgets to tell the serial-port firmware. If you try to print something, you will overwrite any data that may be occupying the area where the buffer once was. Use a cold reset instead. **+**

Gary Little is A+'s editor and the author of Exploring the Apple IIGs. Please send your questions and problems to "Rescue Squad," A+, 110 Marsh Drive, Suite 103, Foster City, CA 94404. Because of limited space, we aren't able to publish responses to all of the inquiries we receive.

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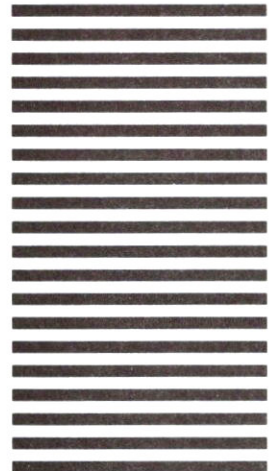
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