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THE APPLE II MAGAZINE

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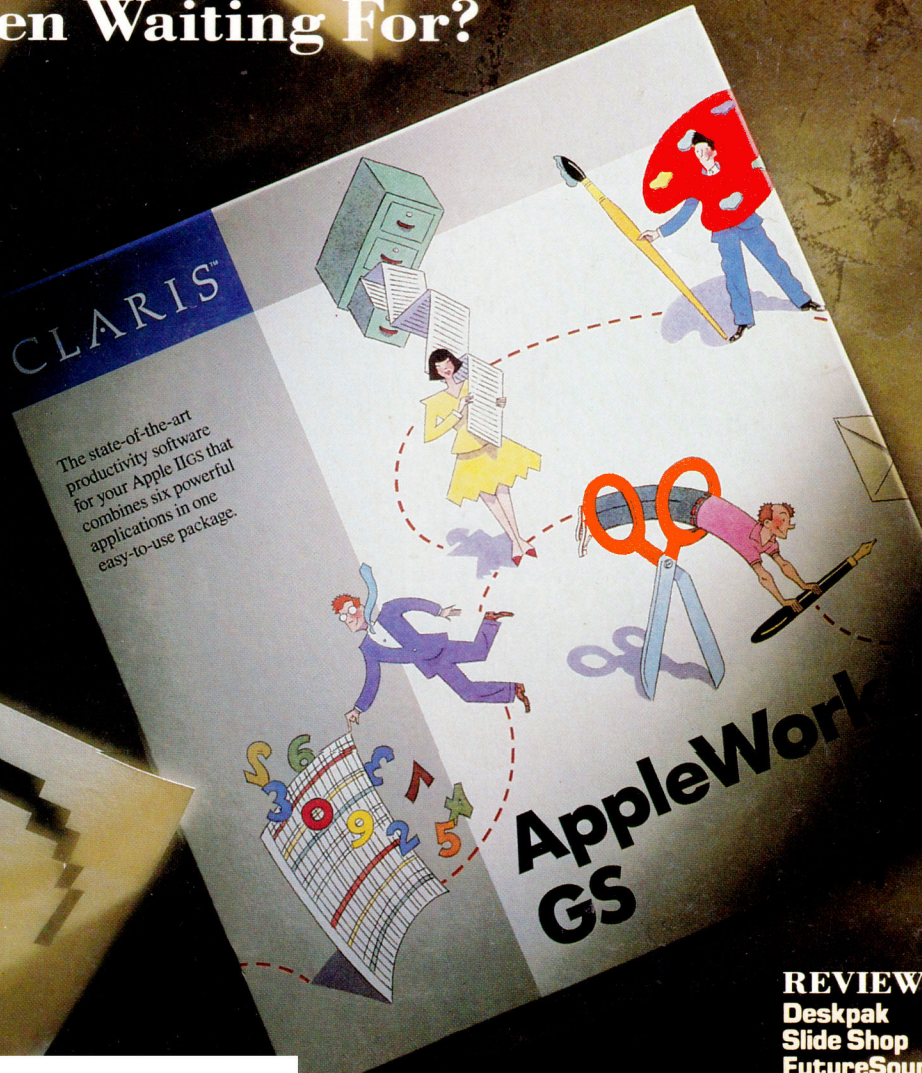
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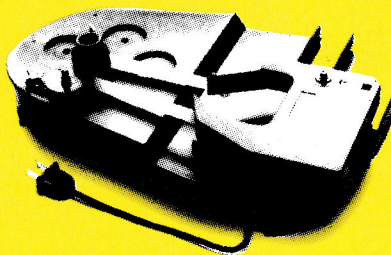


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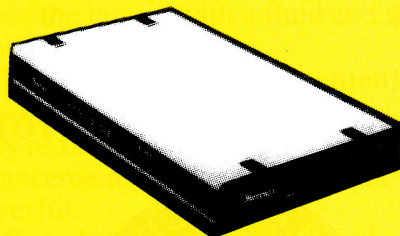
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Art Director Linda Sweeney
Senior Designer/Ad Graphics Dianne K. Ritson
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Advertising

Associate Publisher/ National Sales Manager Dale Strang (800) 441-4403
Northeast Sales Representative Peter Slinguff (800) 441-4403
Western Sales Representative James Burns 3350 W. Bayshore Rd. Suite 201 Palo Alto, CA 94303 (415) 328-3470
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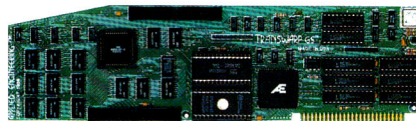
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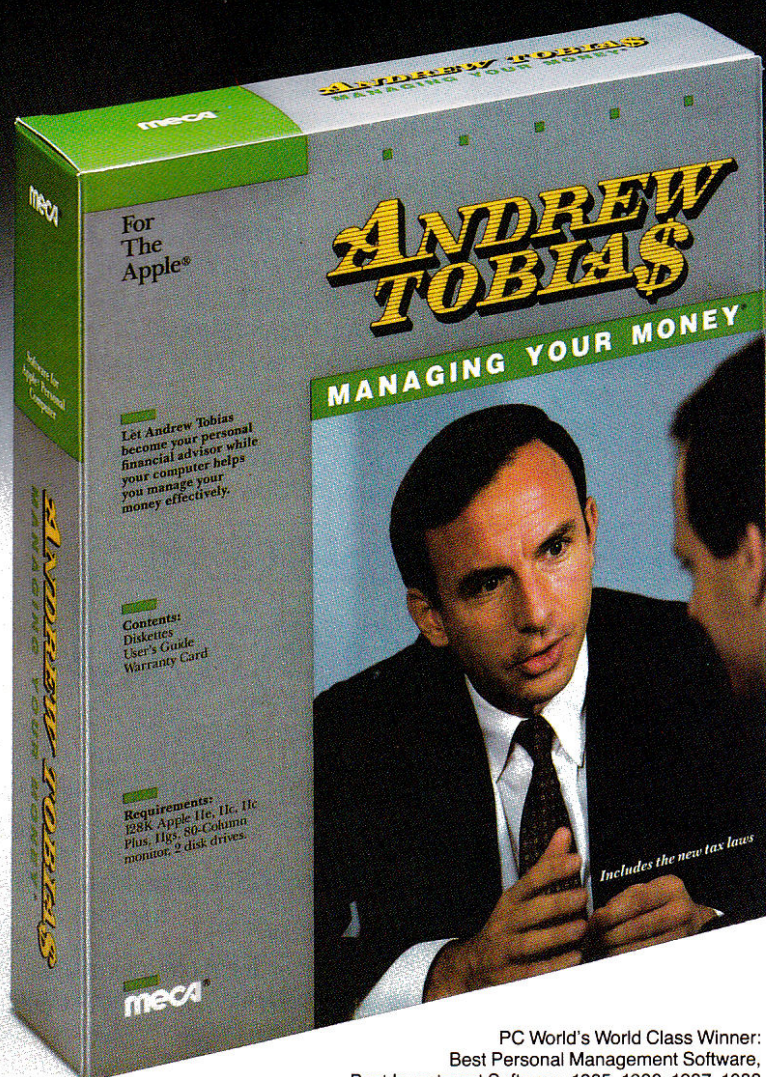
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The spotlight's on six integrated applications in AppleWorks' much-awaited 16-bit debut. Before taking a bow, though, this outstanding software package must confront the power constraints of the IIGS.

39 DB Master Pro: In a Class by Itself

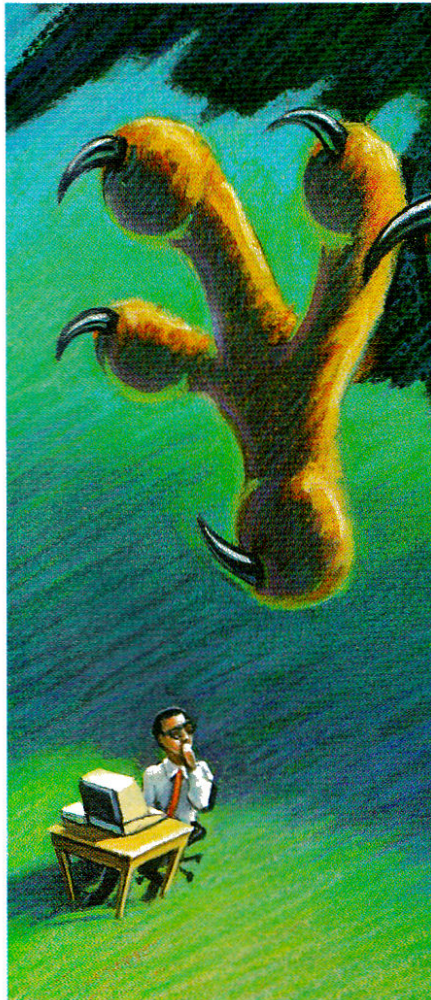
Unmatched by other Apple II database-management programs, DB Master Professional offers brawn and brain—powerful features for high-level performance *and* a sophisticated design for easy operation.

47 Do You Need a Hard-Disk Drive?

Is it time to bid farewell to your floppies? *inCider* looks at the advantages of hard-disk drives—the speed and storage capabilities that are attracting more and more Apple users.

50 Tax Time: It's Closing In

Forms, files, exemptions, and schedules—don't get tangled up in a web of paperwork and confusion this year. Apple II tax-preparation programs help you face April 15 with your records in order and the IRS at bay.



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Applesoft Adviser will return in May. Mace on Games returns next month with a look at three fantasy role-playing adventures.

East-Coast WIMPs

by Dan Muse, Editor in Chief

Our magazine's editorial offices in Peterborough, New Hampshire, are about as far away from Apple headquarters as you can get without leaving the country. The 3000-mile distance doesn't keep us from tracking down information on new Apple products, though. And as we put out this issue of *inCider* in the dead of a New England winter, there's not much else to do but ski, skate, and speculate on the next Apple II.

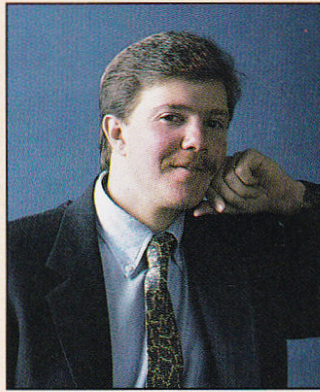
As we anticipate a new IIGS, the biggest question we're asking is how much like a Macintosh will it be. In addition to rumors of a new GS in the spring, we hear talk about a low-end K-12 Macintosh in the fall—we wonder how much like an Apple II it will be.

The lines are blurring between Apple's two computers. The lines are still there, and they're blurrier on the hardware side than on the software side, but they are blurring. You still can't run Apple II software on a Mac, or Mac software on a II. You can convert files easily, though.

Depending on how you look at things, you could draw two different conclusions. Cynics—a category we admittedly fall into from time to time—see a plot to bring death to our dear companion, the Apple II. Pragmatists, on the other hand, will argue that Apple II users have benefited from Macintosh development and *vice versa*, so there's nothing to fear.

In last month's Letters section (p. 12), two *inCider* readers took exception to comments directed at the Macintosh. Shelly Lisoskie of Lynnwood, Washington, was upset by *The Road Apple's* motto, *Sack the Mac*. "Don't Apple II users realize there was once an Apple I?" she asks.

Martin Lavoie of Montreal objected to



"Apple IIs have benefited from Mac development, so there's nothing to fear."

a tongue-in-cheek riddle asking what you call a person who use windows, icons, mice, and pull-down menus. *WIMP* was the answer, to which Martin responded, "*WIMP* was the word, but don't IIc owners, GS owners, and now IIE owners use window, icons, mice, and pull-down menus?" We thought it was cute, but the point that the II line has benefited from the Mac is valid.

The familiar Apple interface for software, which gained popularity because of the Macintosh, is now a standard for GS software as well as many programs for 8-bit Apple IIs.

Not everyone agrees, however, on whether or not that's a benefit. Many Apple II owners believe the AppleWorks file-card interface is the true standard for Apple II software. After all, AppleWorks is used by more than a million II users,

Beagle Bros has capitalized on the AppleWorks interface to build a strong line of add-on products, and several other companies have produced popular products that adhere to the AppleWorks interface.

Even if you don't like the point-and-click approach to software, it's difficult to argue that the biggest gift Apple II users can thank the Macintosh for is hardware. Apple's printers, disk drives, and modems work with both the II and the Mac. Apple wouldn't have developed a laser printer, a local-area network, or a CD-ROM drive just for the Apple II. Also, because Macs have SCSI built in and you can buy an Apple SCSI card for your IIE or GS, third-party companies that make SCSI hard-disk drives for the Macintosh have an Apple II product automatically. The availability of laser printers and local-area networks has increased the life span of the II by helping it get into markets that Apple hasn't traditionally targeted for the II—namely business.

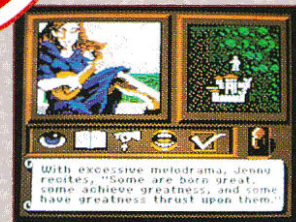
How has the Apple II helped the Macintosh? The continued success of the line reminds Apple how important expandability is. Look at the Macintosh II—expansion slots, color, modularity (keyboard, monitor, drives). The key ingredient of the Apple II—unlimited potential—went into the design philosophy of the Macintosh II.

We're learning to overcome Mac envy. We're adjusting to the fact that as the II line evolves, it will survive by incorporating Mac-like features while clinging to its own strengths. Even though we're surviving another cruel New England winter, I guess we're turning into WIMPs after all. ■

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Shareware Beware

I think readers should know about an unfortunate experience I had with a shareware developer. After a friend gave me a copy of Disk Disintegrator Deluxe, I sent a \$29.95 check to its author, Logix Innovations, in Quebec. Two weeks after mailing the check, I received a letter stating that the author received my order, but the commercial version of this software wasn't available yet. The letter also stated that I'd receive D.D. Deluxe v. 4.3 within three to four weeks and that Logix wouldn't cash my check until it shipped my order.

My check cleared two months later. After another two months I wrote again, inquiring about the software. To date, I haven't received the software or an answer to my letter.

We should be aware of the risk we take in sending money to a shareware author; there's no guarantee we'll receive the software.

Phyllis E. Delph
7414 Oakmont Drive
Santa Rosa, CA 95409-6306

Order through our Shareware Connection, and you won't get cheated (ad, p. 98).—eds.

Sad Eyes

I'm quite fond of typing in *inCider's* programs, but you printed GS BASICS' game of Life ("Life Goes On," October 1988, p. 78) in such small letters that it's impossible to read. The same problem occurred in "Labyrinthian Caverns" (Applesoft Adviser, December 1988, p. 86).

Martin A. Townsley
644 Highway 98W
Destin, FL 32541

I'm a computer teacher and was excited to read "Amazing Mazes" (Applesoft Adviser, November 1988, p. 96). It's a perfect application for my second-semester BASIC class. The listing's print

is so small, though, I couldn't read it well enough to type it in. I hope this isn't going to become standard practice.

Marilyn Hogue
5301 Aspenknoll Court
Cincinnati, OH 45230

What—no magnifying glass? We're sorry so many of you had difficulty reading the program listings in the previous issues. We goofed. We wanted to run the listings smaller to save space, but weren't farsighted enough to see the problems it would create. If you'd like copies of these listings in a readable size, send us a self-addressed envelope. —eds.

Inching Along

In October's AppleWorks Q&A, (p. 74) Brooks Weisblatt stated he can't print four characters per inch with his ImageWriter II. You responded that the printer can print only 9, 10, 12, 13.4, 15, or 17 cpi. I have no trouble printing the desired characters per inch by going to the Printer Options menu and selecting *CI* and the proper number. What's the problem?

Jack L. Oxley
4649 Twin Post Road
Dallas, TX 75244

The problem is that inCider believed the docs and not the facts. Sorry. —eds.

Proper Coverage

Since your initial review of Applied Engineering's PC Transporter (June 1988, p. 77), I've seen no mention of it in your magazine. PC Transporter is a unique device that makes the Apple II very powerful, and I'd hoped you'd continue covering this fantastic product.

Transporter is much more powerful than a PC clone, but because its manual isn't straightforward or well written, its capabilities go unnoticed. AE could have written an installation manual and a separate user's guide instead of combining

all the information into one manual.

Apple magazines should be explaining how to use ProDOS devices with Transporter and what software works with it.

Randall S. More II
HHC, 32nd Signal Battalion
Box 73
APO NY 09757

We reviewed PC Transporter because it's a product for your Apple II. Because we're not an MS-DOS magazine, though, we're reluctant to devote much regular space to a product that is in effect a PC clone. What do you think? Let us know whether or not you want more coverage of PC Transporter in inCider. —eds.

On the Radio

Why doesn't *inCider* ever mention software that can aid amateur radio operators in either upgrading or in communications? Other publications advertise IBM- and Commodore-compatible software and hardware, but no one mentions Apple. Does this mean the Apple-owner ham must break down and purchase an IBM or Commodore?

Jim Campbell
711 North Columbia Avenue
Campbellsville, KY 42718

We're afraid so—as far as we know, no radio software is available for the Apple II. We wish there were and we wish someone would tell us about it if there is. —eds.

Foreign Image

In "GS Over There" (Apple Clinic, November 1988, p. 22), Bill Kennedy wrote that generally you can use only the international version of the ImageWriter II overseas. That information, however, doesn't correspond to my experience here in Germany.

I'm using two ImageWriters—both standard 110/60 stateside models. I brought the ImageWriter I from home and purchased the ImageWriter II at our

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		SPECTRUM HOLOBYTE:	
		Gato	\$25
		Orbitor	\$33
		Wilderness	\$31
		SIERRA ONLINE:	
		King's Quest 1 1/2/3GS	@30
		Leisure Suit Larry GS	\$25
		Space Quest IIGS	\$31
		Softview Taxview GS	\$64
		Talking Textwriter GS	\$150
		TOP DRAWER GS	\$54
		Typing Tutor IV GS	\$30
		WORDPERFECT GS	\$95
		Writers Choice Elite IIGS	\$54

IIGS

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Apple IIGS mem. exp.	\$182
Apple IIGS system fan	\$39

Applied Engineering:
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 GS-RAM 256k \$183
 GS-RAM 512k \$293
 GS-RAM 1Meg \$514
 GS-RAM 1.5Meg \$747
 GS-RAM Plus 1 Meg \$519
 GS-RAM Plus 2 Meg \$899
 GS-RAM Plus 3 Meg \$1319
 GS-RAM Plus 4 Meg \$1725
 PC Trans. Inst. IIGS \$37

AST Ramstack Plus IIGS \$100
 AST Vision Plus IIGS \$203
 Kensington Sys.Saver IIGS \$79
 KURTA IS ADB Digitizing Tablet w/ stylus \$299
 Joystick for IIGS \$24

MOIDEAS
 Conservet IIGS \$124
 Professional Digitizer \$139
 Superonic (Stereo) \$50
 Superonic Digitizer \$50

ORANGE MICRO
 Juice Box GS \$62
 Gripper c/Mac/GS \$84
 Rampac 512K GS \$239

Street Elec. Echo lib for the IIC+/GS \$106

SUMMAGRAPHICS
 BH Pad Plus ADB IIGS \$329

PX. Neither printer has had a problem running from a 220/110 transformer at 50 hertz.

Robert Van Epps
 c/o Bamberg Elementary School
 APO NY 09139-0005

Abacadata Update

If you purchased or received a copy of Abacadata's Design Your Own Home/Architecture program between October 18 and December 12, 1988, the company encourages you to examine your 5 1/4-inch disk for a possible defect (3 1/2-inch disks are unaffected). To check for the error, use your mouse to go to the line icon, then try pressing Control-N (to turn off measurements) or the tab key (to show feet and inches). If the software responds immediately, your disk is okay. If the response is erratic or delayed, you'll need a new disk. (If you're not using both the mouse and the 5 1/4-inch version, you shouldn't experience any problem.) To get your free replacement, send your protected 5 1/4-inch disk only to Abacadata Ltd., P.O. Box 2440, Eugene, OR 97402. □

CORRECTION

Formula 10 in our January 1989 AppleWorks in Action spreadsheet tutorial (p. 60) contains an error. The description should read: @CHOOSE (G4, J9, J10, J11, J12). □

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

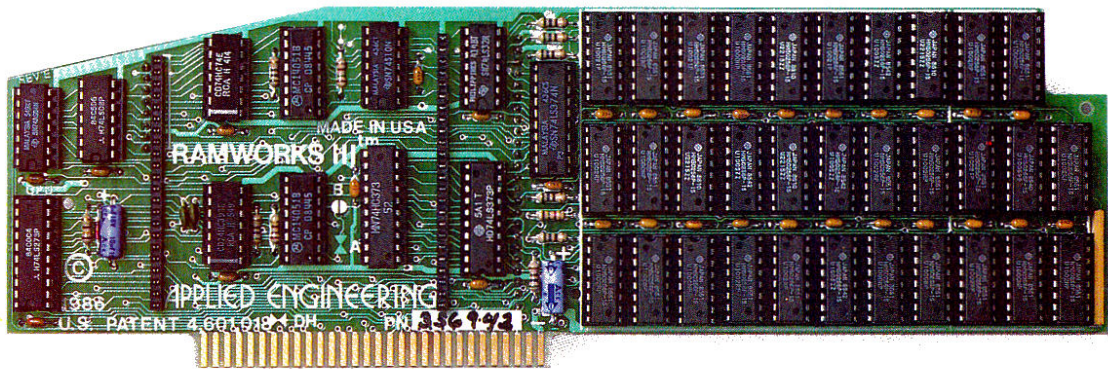
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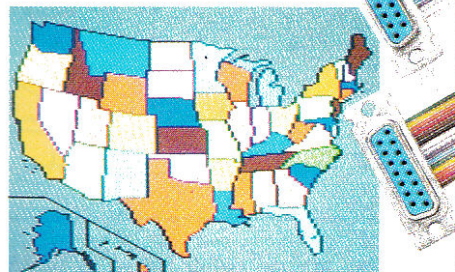
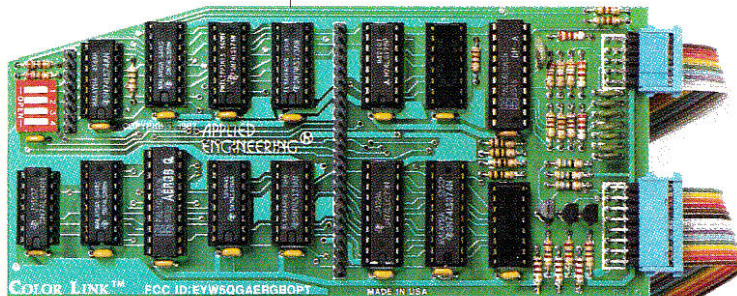
If you've got some other RAM card that's not being recognized by your programs, and you want RamWorks III, you're in luck. Because all you have to do is plug the memory chips from your current card into the expansion sockets on RamWorks III to recapture most of your investment!

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RGB color is an option on RamWorks and with good reason. Some others combine RGB color output with their memory cards, but that's unfair for those who don't need RGB *and* for those that do. Because if you don't need RGB Applied Engineering doesn't make you buy it, but if you want RGB output you're in for a nice surprise because the RamWorks RGB option offers better color graphics plus a more readable 80 column text (that blows away any

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like the product so much that I am buying one for my own system." inCider magazine said "RamWorks is the most powerful auxiliary slot memory card available for your IIE, and I rate it four stars..For my money, Applied Engineering's RamWorks is king of the hill."



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Steve Wozniak, the creator of Apple Computer

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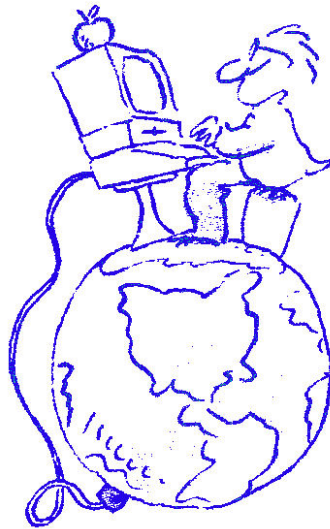
by Paul Statt, Senior Editor

NATIONAL SCIENCE

The National Science Foundation will introduce science and math teachers to computers in the classroom this summer at its Project ExCELS workshop, to be held at Indiana University of Pennsylvania near Pittsburgh.

High-school science teachers will learn how to connect their microcomputers to the "real world"—the important art of computer interfacing. Conference participants will take home an interface board, software, sensors, and electronic components to set up experiments.

The math teachers (grades 2-12) will receive, in addition to two weeks' training, math software created by the ExCELS project and \$2000 worth of commercial software to use at home. Everybody at



the program will also learn to telecommunicate by modem.

Project ExCELS runs from June 26 through July 14 and is free (excluding transportation) to accepted participants. The application deadline is March 15, 1989; contact John W. Butzow or LeeAnn Schlemmer at the College of Education, 104 Stouffer Hall, Indiana University of Pennsylvania, Indiana, PA 15705, (412) 357-2480.

A GOOD OLD COMPUTER

The New York man always seemed hopelessly behind the times. In college, he still had something called a record player when everyone else was buying a hi-fi. When he finally bought a hi-fi, he learned to his dismay that it was monaural when everyone else had stereo.

Now he has upgraded his sound system (the one that finally replaced his old hi-fi) by adding a compact-disc player. But the first time he showed it off to friends, someone remarked at the irritating brittleness of CD sound, and someone else said she couldn't wait for digital audio tape.

Personal computers produced special anxiety. The man works as a writer, one who makes a lot of typing errors, and he found himself increasingly embarrassed to

turn in typed manuscripts splotted with erasures and White-Out. Other people he knew produced pristine copy from computers. A few had forsaken paper altogether and submitted their work on disks, or over the phone by modem.

A major writing project forced the issue: He needed a computer. But he remained hopelessly intimidated by the thought of buying one—he couldn't even understand the advertising. A friend finally came to his rescue with the loan of a castoff Apple. The writer spent a weekend learning about the keyboard, the dot-matrix printer, and the old writing program, and



APPLE BITS



■ So What Software (Fountain Valley, CA) has a new **toolbox interface** for fanatic Applesoft BASIC programmers who want to use all the power of the IIGS. Call-Box is the working name.

■ Echelon (Los Gatos, CA) is a new company in the LON business—**local-operating network**. That's "home control" in English. Familiar Apple names like Mike Markkula, Wendell Sander, and Arthur Rock are on the board of directors. We wonder if Echelon got any help when the home-control company CL9 (founded by familiar Apple name Steve Wozniak) closed.

■ Techware (Miami, FL) is working with Apple as they try to iron out a deal to combine **TutorTech and HyperCard**.

■ Did AppleLink's popularity start the "**price war**" among the other national information services?

■ Berkeley Softworks (Berkeley, CA) isn't selling as much **Apple GEOS** as it did Commodore GEOS.

■ What builder of Apple II "clones" is teaming up with a developer of non-ProDOS productivity software to market an **inexpensive Apple II** solution?

■ Toshiba's latest **laptop** will take a full-sized expansion card, such as the Trackstar Apple II emulation board. Is this the "portable Apple II"? □

PRODUCT UPDATES

●MicroProse (Hunt Valley, MD) has dropped prices on its **Value Line** games—Conflict in Vietnam, Crusade in Europe, Decision in the Desert, NATO Commander, and Solo Flight—to a mere \$19.95 each.

●Fischer America's (Fairfield, NJ) new robotic construction kit, **Computing**

Experimental (\$379), teaches "methods of artificial intelligence" and much more with your Apple II Plus, IIe, or IIGs.

●Data East (San Jose, CA)—Karate Champ, Kung Fu Master, and Com-

mando—has joined up with sports-software pioneer Scott Orr, founder of **GameStar** (GFL Football, GBA Basketball, and Championship and Star League Baseball). Looks like a good blend of action and strategy.

●Facts on File (New York, NY) has shipped the first **Apple CD-ROM** product: Public Domain Software on File, almost 200 good, tested programs for all Apple IIs for only \$195. Call (800) 322-8755, (212) 683-2244 in New York, Alaska, or Hawaii, or (416) 441-2992 in Canada. □

found he liked them. When he called offering to buy the Apple, his friend was patronizing: "I couldn't take any money for it. I'm just glad it's found a good home. It's so old and

primitive. I don't think it has any value any more."

No value? The writer, working happily with 5.25-inch floppy disks, wondered what his friend could have meant. He decided that ages of computers, in a time of accelerating high tech, are calculated like dogs' ages, multiplying each year by seven. Thus his Apple might be thought of as more than 40

years old, easy to dismiss as worthless.

But the writer, also over 40, has come to understand how much value may still be found in the serviceable victims of premature obsolescence. Let his friends spend thousands on their baffling 60-megabyte hard-disk systems or spiffy laptops that store huge memories on the trim new 3.5-inch disks. Let them warn that his

5.25-inch floppies are going the way of the old 45-r.p.m. records.

So what, he says, with an affectionate eye on the out-of-date Apple. Those 45s sounded good enough on his old record player as he listened to the doo-wop music of his youth, and he still has a box of them in his closet.

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APPLE LIBRARY GROUP MEETS

inCider wasn't there and probably it's just as well. At its meeting in New Orleans, Louisiana, last June, the Apple Library User Group, according to its newsletter, discussed the Apple II often:

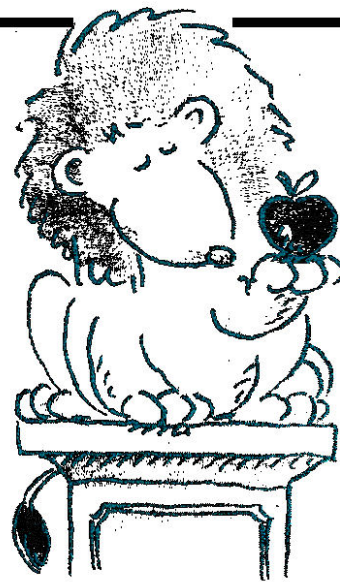
●The Academic Libraries group heard about "the transition from the Apple II to the Macintosh in [the] music library."

●The Desktop Publishing

group expressed "frustration at making the transition from Apple IIe to Macintosh, and [the wish] that Apple would make the transfer of text and data simple...."

●The Macintosh group noted that "libraries with a heavy investment in the Apple II series ... are particularly concerned over migrating to the Macintosh line in some other fashion than through telecommunications links."

It might seem that the "transitions" and "migra-



tions" would be easier if librarians simply continued to use their Apple IIs, but "most users were reporting on Macintosh applications; there was little, if any, discussion of other Apple computers."

Probably nobody dared mention Laser computers. ■

We're always looking for news of the Apple world. If you're making news, send your press releases and photographs to News Line, inCider, Elm Street, Peterborough, NH 03458.

Is Math Revolting?

by Paul Statt, Senior Editor

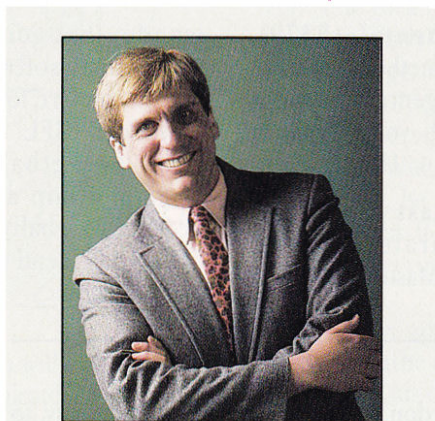
You don't need to know much math to run a computer anymore, but you'd better know how to handle a computer before you tackle modern math.

That's what I learned from *The Mathematical Tourist* (W.H. Freeman, New York 1988, cloth \$17.95), a collection of essays that Ivars Peterson, the book's author, calls "snapshots of modern mathematics." Modern math is an experimental, empirical science; it's an artistically visual science. But the key to modern mathematics is the computer: Calculating machines have radically changed the art of calculation.

Fractal geometry, for instance, is the study of objects that don't quite exist—at least not in our three-dimensional world. Fractal objects have fractional dimensions; a fractal object might not be quite as flat as a square or quite as solid as a cube. "Fractal geometry and computer graphics are inextricably linked," is how Peterson understates the matter. True fractal objects exist only on the monitors of powerful computers; they could only be imagined before computers could simulate drawings of them.

The trick is that a fractal object is "self-similar." Imagine a box of cornflakes that pictures a boy who's pouring cornflakes from a box, which pictures a boy . . . Each part looks like the whole. A fractal object, for example, might look like a triangle, every side of which is another triangle, with ever smaller triangles on ever smaller sides.

What good are fractals? That's always a reasonable question to ask a mathematician, and Peterson, the math and physics editor of the weekly magazine *Science News*, never forgets the "who" or the "why" of his story. Fractal geometry draws pretty pictures. The "beauty of mathematics" you squinted and strained



"Calculating machines have radically changed the art of calculation."

at but didn't quite see in geometry class is pretty plain in Peterson's "gallery of modern mathematics"—16 color plates.

The pictures are practical because fractal geometry can provide a "shortcut" to the creation of realistic computer graphics without dedicating megabytes of memory to storing them. Alert telecommunications programmers will recognize the concept of graphics "packing": To save disk space, send a rule for drawing the picture, not the picture itself. Fractal geometry could make photographic-quality animation possible on home computers; George Lucas of LucasFilm is fascinated by the technology's promise for the next *Star Wars* as well as the next *Maniac Mansion*.

The Mathematical Tourist covers a wider territory than fractals, but I was impressed throughout the tour that Peterson "talked to the locals"—working

mathematicians—and usually discovered some practical purpose for other abstract concepts such as number theory, higher dimensions, cryptography, topology, and chaos. These are traveler's tales: You don't need to be a native to read and enjoy them, but it helps to have studied the language in high school.

The modern mathematics you'll meet in *The Mathematical Tourist* is still the "queen of sciences," but hardly their Margaret Thatcher, rigidly enforcing "law and order" on rough, delinquent disciplines like physics and chemistry. Math's both more useful and more fun, thanks to computers.

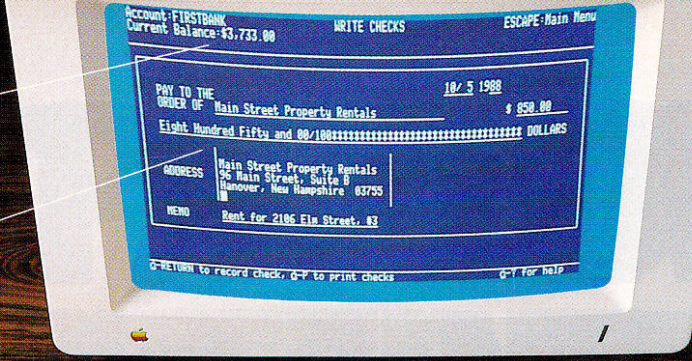
I've been hearing that the Apple II is Apple's educational computer. I hear now that "education isn't only for kids," which seems to mean that adults could learn with Apple IIs, too. The trouble is I don't want to learn to add fractions or solve word problems. (Most kids don't, either—I learned that much when I taught math.) I don't see much "educational software" for the Apple II that teaches as much math as *The Mathematical Tourist*. I wish I did. Where's the software that would encourage children—or adults—to experiment with numbers or to create pictures with them? The richest math software for the Apple II, 20 years after its birth, is Logo, the computer language that makes abstract concepts visible to the child who takes control of the computer.

A computer makes a great teaching machine; it can teach Spanish, English, or social studies. But the computer isn't shaping those disciplines anew, as it is mathematics. Teaching mathematics without a computer is like teaching home ec without a kitchen. Teaching math with a computer through "drill and practice" is like teaching home ec in the kitchen, but never turning on the oven. ■

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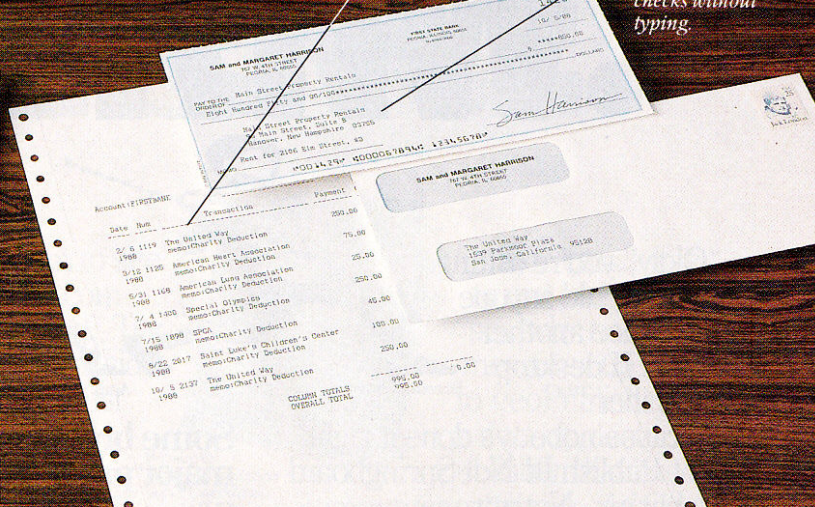
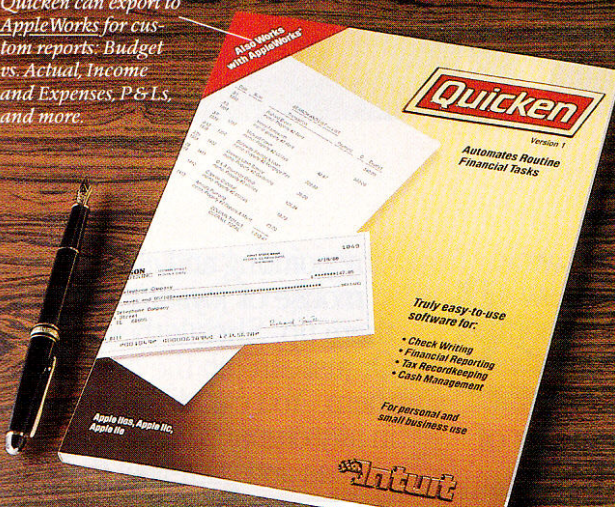


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Martin Blumenthal, in *Cider Magazine*

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Ken Landis, A+ *Magazine*

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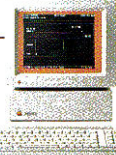
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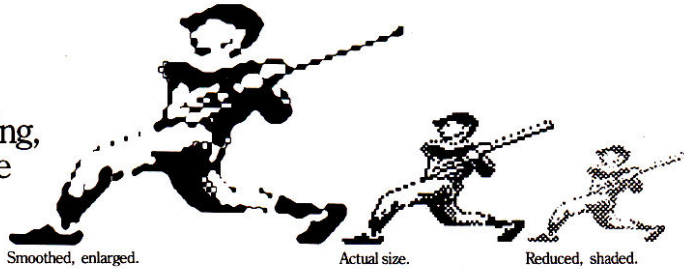
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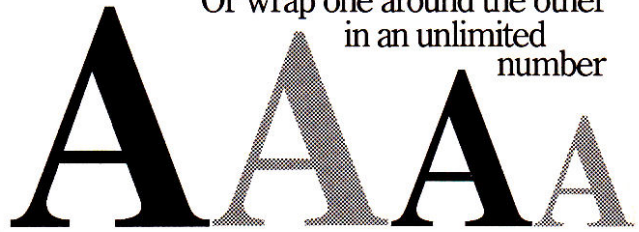
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Continued on page 6

MISSING FOUNDING FATHER FOUND!

The nation was shocked to learn today that among the country's legendary leaders, a missing founding father was discovered. Heretofore undiscovered



woodcuts, etchings, and engravings all show that in addition to George Washington, John Hancock and Thomas

Jefferson, a well-hidden but still recognizable man was present at virtually all of the historic sightings. Historians are still uncertain as to the identity of the

Unknown Father, but all evidence points to a man named "Crazy Larry" Labowitz, a printer from what is now known as the borough of Brooklyn, New York.

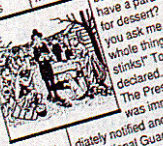
"It makes a lot of sense," noted Dr. Michael Blaney of NYU's history department. "After all, if you're going to sign a document, you're going to have to print it first, right?" Blaney went on to explain that it was

Leibowitz who invented the forerunner of instant printing—adding that this document was composed of his documents in order to "give the public a real, authentic feel."

In fact, Leibowitz laid out the entire Bill of Rights, the Declaration of Independence and the Constitution using a few recognizable fonts right out of geoPublish. Exactly where he found an Apple II during the eighteenth century is still somewhat of a mystery, but Dr. Blaney noted that it is entirely possible that the computer could have been one used by the local schools where geoPublish has become so

Thanksgiving exposed as cruel hoax.

In a communique issued by the International Order of Turkeys, the holiday of Thanksgiving was declared "a total hoax, lacking in any sort of credibility or social value." The charge was voiced by Tom, a forty pound turkey from his home in Petaluma, California.



"It's disgusting. A pathetic, unfeeling example of human insensitivity designed to fool the American public," noted Tom. When pressed further on the issue, he cited that no other American holiday

singles out any particular animal to form the destruction. "It's a freedom issue. When you ask me, the whole thing stinks!" Tom declared. The President was immediately notified and called the National Guard in to quell the uprisings which followed the announce-

Continued on page 6

Continued on page 14

FREE PRESS

SPORTS

How about those Dodgers, huh? Everyone, I mean everyone thought that they'd end up in the cellar, but not me. I was backing them all the way. In fact, I had all of my money bet on the Dodgers for

Continued on page 7

TOP PUBLISHER LE DIFFERENCE.

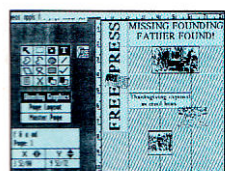
with formats intact. You just import it and pour it right in, column by column.

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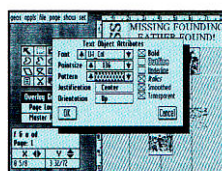
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find really big differences in even the tiniest places. For example, the zoom option gets you down to the smallest details. The smoothing option automatically irons out bumpy pixels. And then there's the feature most worth waiting for: a redraw function that doesn't make you wait an eternity for one change.



Print out poster size documents with a LaserWriter.

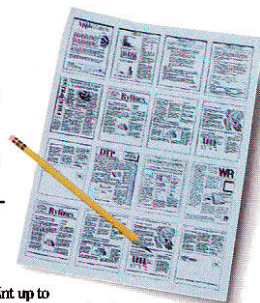
Now, you want to see how we turn the competition on its head? Try sideways text. Real sideways stuff, not just letter-stacking.

The long and the short of it.

How packed is geoPublish? Well, we've only got two pages and we're still not done. So here's a little list of things that reduces the other guys to tears: Full LaserWriter support for near typeset

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tools including lines, squares, splines, circles, ellipses and 32 different shades and patterns. A free clip art sampler. Full integration with the entire GEOS™ family of applications. And more. Add to that how



Print up to 16 pages on one sheet with a LaserWriter.

much easier it is to use and you can see why nobody measures up to geoPublish. The grown-up desktop publisher that has the competition shrinking in fear.

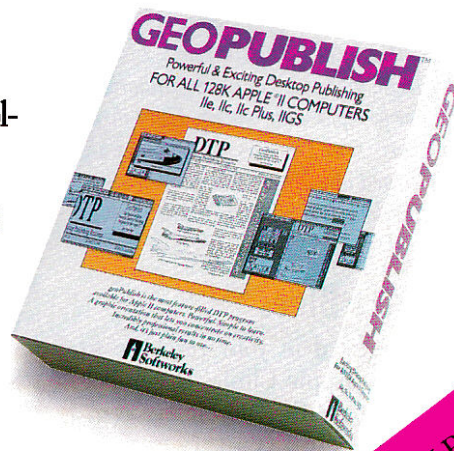
SYSTEM REQUIREMENTS: Apple IIc, IIc Plus, IIe (or compatibles; IIe need not be enhanced), IIGS, with 128K memory, double hi-res graphics capability, joystick or mouse, 5¼" or 3½" disk drive.

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by William P. Kennedy, Ph.D., Technical Editor

GS Battery

What happens and what should I do when the battery in my IIGS runs down? Is it rechargeable?

David Ellis
APO NY

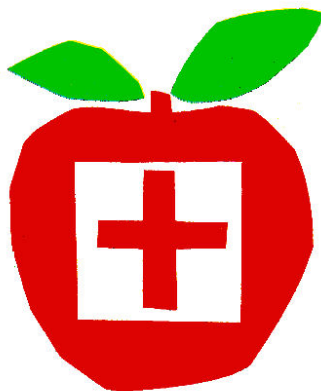
One of the cylinders soldered to your IIGS motherboard just under the power supply is a 3-volt lithium-sulfide battery. Your GS uses it to power the computer's internal clock and 256 bytes of RAM (random-access memory) that the Control Panel and other applications use. The battery is expected to wear down only after several years of normal use. Then, when you've turned off the power to your GS, the clock will stop ticking and the Control Panel's nondefault settings will disappear. You'll still be able to access the Control Panel, even set the clock to the correct time, and it'll tick along just fine when the power is on.

Unfortunately, the battery isn't rechargeable, nor does the GS charge it when it's turned on, because an overcharged battery may explode. Consequently, when the battery goes, you'll just have to take your GS to the dump and buy a new one. How's that for planned obsolescence?

No, not really. Maria Fleezer, a service technician at a local ComputerLand, assures me that you can take your GS to any authorized Apple dealer to replace the battery. Until then, remember this: Your GS uses the battery only when it's turned off. Hence, the more you use your GS, the longer the battery'll last.

No-Buffers Blues

I was interested in your response to Peter Shadix (Apple Clinic, December 1988, p. 21). I get the "no buffers available" ProDOS error when I try to run a game program using the BASIC "-" (dash) command. CLOSE doesn't help, and, with 128K of RAM in my IIE, I should have suf-



"Remember—the more you use your GS, the longer the battery'll last."

ficient memory. Besides, I can run the game from Bird's Better Bye. Why is that?

Dave Woodring
Vermontville, NY

In some cases, including yours, Dave, the error message is a bit misleading. Rather than generating a "no buffers available" error, BASIC.SYSTEM should've told you that your game program, also a .SYSTEM file, is too long to fit into your Apple's free RAM.

Here's why: ProDOS, the disk-operating system you're using with your Apple II, can load programs or data only into the first 64K of RAM, also known as the "main bank" (64K per bank), even though you have more memory. It's up to your application to move data to other banks.

After you subtract the memory ProDOS uses, along with its buffers (at least one 1K RAM buffer to load a file) and the memory your Apple uses for the text screen, and so on, less than 46K of main-bank RAM is available to

load applications. Compound that with .SYSTEM programs loading initially at address 8192, not zero, and the RAM space available to your program shrinks to less than 36K. Apple limits .SYSTEM files to 36,608 bytes (35.75K) or less. The game program you sent me on disk doesn't exceed that latter limit.

You couldn't "launch" your game using the "-" (dash) command, however, because ProDOS loaded another .SYSTEM program, BASIC.SYSTEM, into the main memory bank when you booted the disk. ProDOS needs BASIC.SYSTEM to translate BASIC commands, such as the dash, into commands ProDOS can recognize, much as BASIC translates commands into machine language, which your Apple's microprocessor can recognize. BASIC.SYSTEM uses "main bank" memory to the tune of 10.25K, leaving only about 24.5K of RAM available to load your 34K program.

You have two other ways to "launch" your game when you boot the disk, though. You've already discovered one of them: Use ProDOS' or some other "quit" routine (Bird's Better Bye is just one of several), because they don't use BASIC.SYSTEM and thus let you load and execute programs less than 36K in length.

Another way is to make your game the first or only disk file with the suffix .SYSTEM. That's because ProDOS searches for and executes the first .SYSTEM program found in the volume directory when you boot the disk. I RENAMED BASIC.SYSTEM to OLD.BS on the disk you sent me, for example, making your game the only .SYSTEM file. It worked fine. Now if I can only figure out the game.

SCSI Lost

I've got a General Computers FX-20 hard-disk drive interfaced to my IIGS via an Apple SCSI card. Everything worked fine until I upgraded to GS/OS. Not only won't the hard drive boot, but it doesn't show up on the desktop when I boot a ►

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Not Another Proofer!

Yes, folks, I've resolved to clean up some of the problems you've been having with the Applesoft Program Proofer we've published throughout 1988.

Carefully type in the Applesoft BASIC program shown in *Listing 1* (ignore the bracketed numbers!) and SAVE it on disk as MAKE.PROOFER; it POKEs the PROOFER program into memory (line 50). If you're using DOS 3.3, type in lines 100-120 shown in *Listing 2* instead of those in *Listing 1*.

Now type RUN. If you entered the program correctly, you should see the message "Proofer installed!" and a flashing cursor adjacent to the BASIC prompt (>). If not, press Control-Reset, LOAD MAKE.PROOFER, fix the problem, SAVE, and try RUNNING it again. Most often, you can find the error in one of the DATA statements.

If all's well, type LIST. An inverse number should appear following each program line; they should match those appearing in brackets in *Listing 1*. If not, make sure you typed the program correctly, then recheck DATA.

Use the Proofer to compare the numbers generated by your LISTED programs with those we publish. If they're the same, you typed the line(s) correctly and the program should work.

You can activate the Proofer each time you start up BASIC from ProDOS or DOS 3.3 by typing RUN MAKE.PROOFER. Or, once MAKE.PROOFER is RUN, you can BSAVE the machine-language program it creates as PROOFER, A\$300, L\$C5 on your disk. You then can BLOAD PROOFER and CALL 768.

Also, if you reset your Apple or use the PR# command, you'll disconnect the Proofer. Type CALL 768 to restart it. For example, to get a listing of your program with

Listing 1. ProDOS version of MAKE.PROOFER program helps debug your typed-in versions of inCider's Applesoft BASIC programs.

```
10 REM MAKE.PROOFER -- NEW ProDOS version!!! [7517]
20 REM by Bill Kennedy [3084]
30 REM Copyright 1989, inCider [4733]
40 REM [449]
50 FOR I = 768 TO 964: READ N: POKE I,N: NEXT I [2868]
60 CALL 768 [685]
70 TEXT : HOME : PRINT : PRINT "Proofer installed!" [2530]
80 PRINT "BSAVE it as PROOFER,A$300,L$C5" [6170]
90 END [1130]
100 DATA 162,29,160,3,173,48,190,141,180,3 [7683]
110 DATA 173,49,190,141,181,3,142,48,190,140 [8137]
120 DATA 49,190,169,0,133,60,133,61,96,201 [7707]
130 DATA 141,240,3,76,176,3,134,70,132,71 [1137]
140 DATA 186,138,105,7,170,189,0,1,201,214 [1252]
150 DATA 208,7,189,255,0,201,229,240,28,189 [1214]
160 DATA 253,0,201,40,208,6,169,141,201,141 [1283]
170 DATA 208,15,189,255,0,201,13,240,91,169 [1342]
180 DATA 0,133,60,133,61,240,83,165,60,5 [1201]
190 DATA 61,240,23,32,87,219,32,87,219,165 [1249]
200 DATA 50,72,41,63,133,50,166,60,165,61 [3332]
210 DATA 32,36,237,104,133,50,160,0,132,60 [3485]
220 DATA 132,61,177,155,200,17,155,240,41,200 [3748]
230 DATA 177,155,200,24,113,155,133,66,32,189 [3765]
240 DATA 3,177,155,240,25,32,182,3,177,155 [3487]
250 DATA 201,32,208,3,200,208,247,72,32,182 [3633]
260 DATA 3,104,201,58,240,231,177,155,208,243 [5893]
270 DATA 166,70,164,71,169,141,141,67,3,76 [5464]
280 DATA 7,195,69,66,133,66,24,101,60,133 [5270]
290 DATA 60,144,2,230,61,200,96 [3732]
```

Listing 2. Substitutions in Listing 1 for the DOS 3.3 version of MAKE.PROOFER.

```
100 DATA 162,29,160,3,173,83,170,141,180,3 [7698]
110 DATA 173,84,170,141,181,3,142,83,170,140 [8202]
120 DATA 84,170,169,0,133,60,133,61,96,201 [7751]
```

the proofer numbers on your printer, use the following sequence:

- 1) LOAD or type in your program.
- 2) PR#1 to activate the printer.
- 3) CALL 768 to restore the Proofer.
- 4) LIST should print your program.
- 5) PR#0 to restore printing on screen.
- 6) CALL 768 to activate the Proofer.

Those of you familiar with the older version will find that the new, improved Proofer no longer counts spaces between REM and its message or DATA and the data values. So, there shouldn't be a difference in the proofer number between

```
10 REM Only one space after REM
and
10 REM Five spaces after REM
```

Trailing spaces after a REM message or DATA list *do* count. A proofer number different from the published one by some factor of 32 is a tip-off.

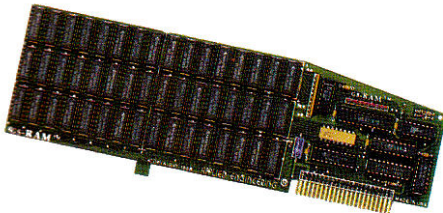
In addition, the proofer number now includes the order in which you enter a line, particularly the order of values in a DATA statement. So, 10 DATA 1,2,3 will generate a different proofer number from 10 DATA 1,3,2.

The proofer numbers published from now on *won't* match those generated by the earlier version. Drop me a line if you need that older version to help you enter programs from previous *inCider* issues. ■

Three good reasons to buy a memory card from Applied Engineering.

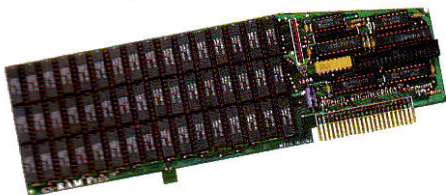
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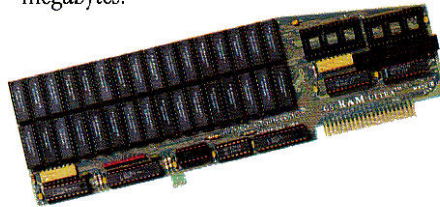
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GS/OS-based system disk from my 3½-inch drive. What gives?

John Paterson
Brampton, Ontario

Similar to an earlier inquiry concerning 5¼-inch disk drives (Apple Clinic, February 1989, p. 22), your problem is simply another case of having to tell GS/OS you've got a special device attached to your GS. Double-

click on the Installer application found on the System Tools disk that accompanies your GS/OS System Disk. Then, select to install a SCSI hard-disk driver on your GS/OS System Disk. After that, all should be well. If not, you probably need to upgrade your SCSI card to Revision C or later. Contact an authorized Apple dealer. I believe the upgrade is "on" Apple, or at least performed for a nominal fee.

Old IIc Drive, New 128EX

I own an older-model (beige) Apple IIc with an external 5¼-inch disk drive. I'm interested in purchasing a Laser 128EX/2 with built-in 3½-inch disk drive to increase my storage capabilities. Because of the extra cost of another external drive and because many of my most-used programs are on 5¼-inch floppies, I'll purchase the 5¼-inch internal-drive Laser 128EX/2 if my old Apple external disk drive won't work with the new Laser. Will the Apple drive work or not?

Harriett Smith Somerville
Northport, AL

Your external Apple 5¼-inch disk drive will work fine with the Laser 128EX/2, although models from other manufacturers may not. So go ahead and purchase the Laser 128 EX/2 with internal 3½-inch drive.

To boot a disk in that external drive, simply press P just after you turn on your Laser 128EX/2 or after you press Control-Reset. That action selects the ROM-based control panel, where you can set the boot slot—slot 6 for the external 5¼-inch drive or slot 7 for the internal 3½-inch drive for your particular configuration.

You also may want to copy the programs you've stored on 5¼-inch floppies to 3½-inch disks to take advantage of the latter format's expanded storage and access speed. The only real impediments to that transfer are copy-protected or DOS 3.3-based program disks. ■

Quickies

You can transfer Mac graphics to your GS with SHRConvert version 2.1 by Jason Harper. It's available as shareware on most major bulletin-board systems.

—Bob Johnson
Herperia, CA

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



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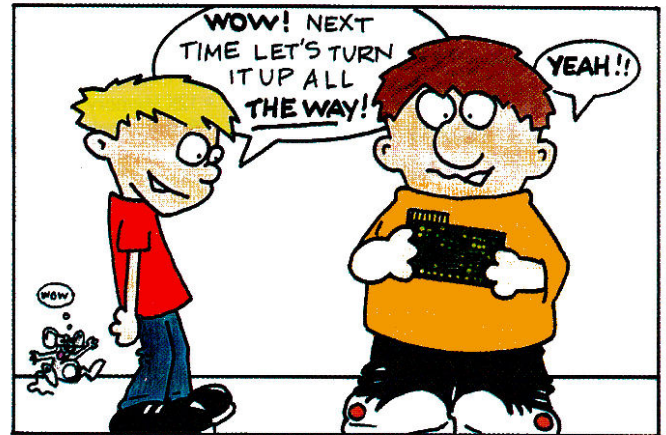
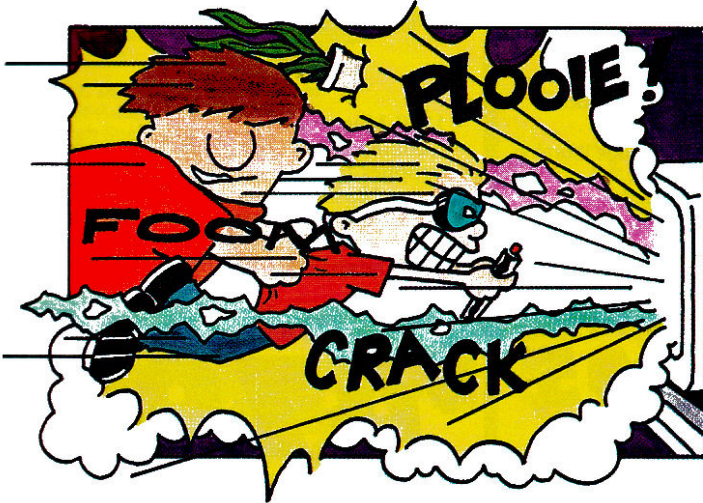
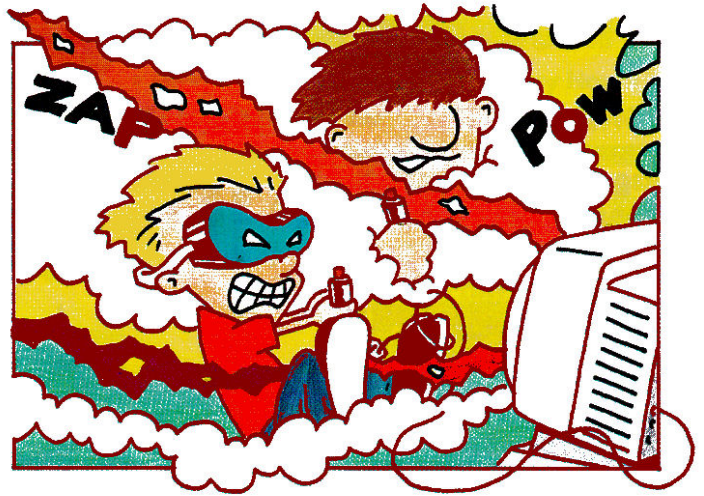
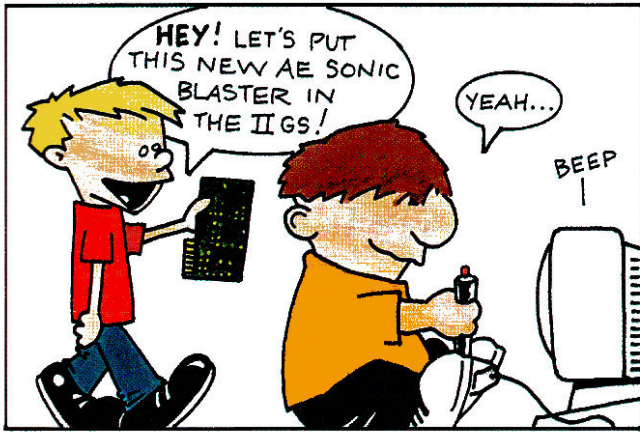
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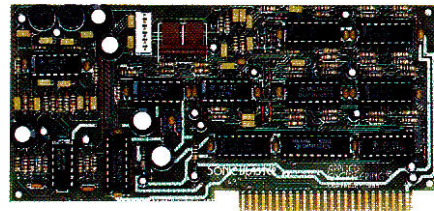
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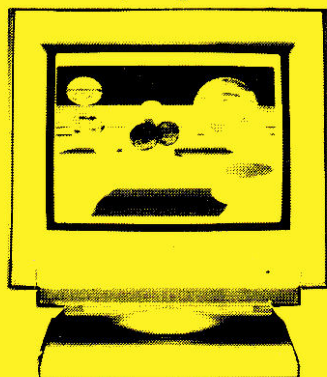
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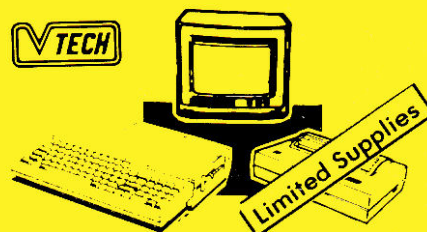
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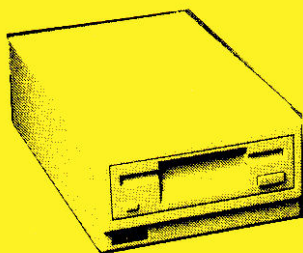
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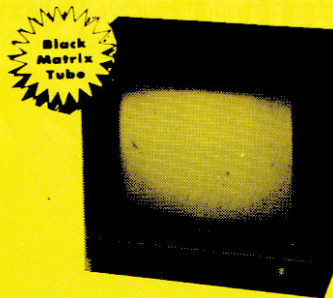
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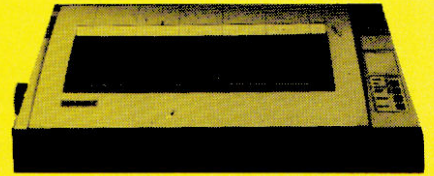


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- Volume Control
- Black Matrix Tube
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- Includes Composite Cable

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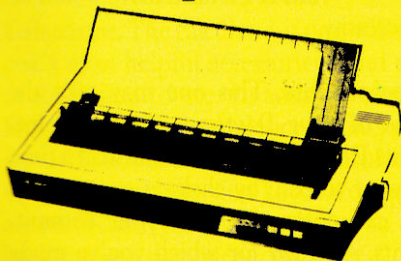
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With High Dot Resolution



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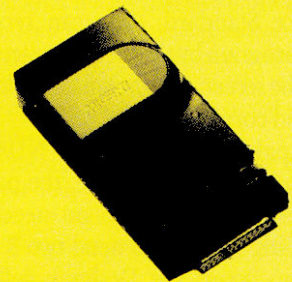
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- Easy to use; no switches to set
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REVIEWS

Deskpak; FutureSound; Slide Shop; Iconix; At a Glance; Games Editors Play: Warlock GS, Bubble Ghost GS, Arkanoid GS, Serve and Volley GS, Short Takes

In with the New

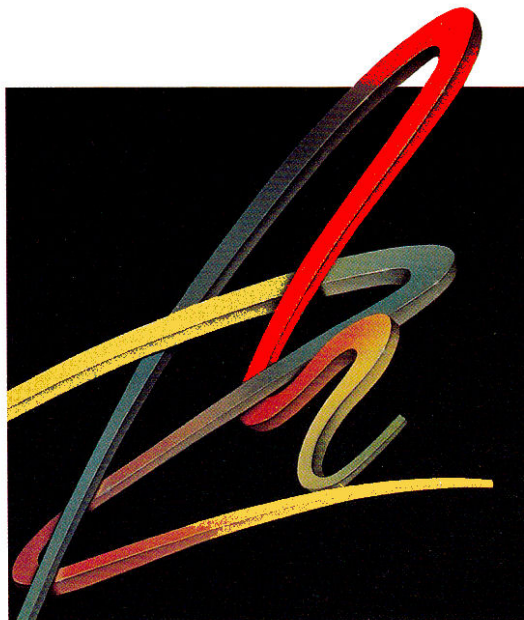
Desk accessories aren't for the faint-hearted. Installation procedures and system requirements can be confusing, and you'll need to spend some time getting used to them. Once you do, though, these handy pop-up utilities can help you get your work done quickly and easily.

The first thing you'll have to decide is what kind of desk accessory (DA) you can use. Classic desk accessories (CDAs) work with older ProDOS 8 programs, while new desk accessories (NDAs) work with ProDOS 16 or GS/OS programs. NDAs work only with GS programs that support Apple's Human-Interface Standard. (You can recognize such a program by the menu bar across the top of the screen and the small apple in the left-hand corner.)

Deskpak is a collection of NDAs. According to Simple Software, the package requires 512K, but plan on needing at least 768K. You'll also need two 3½-inch drives to access the Deskpak collection easily; otherwise you'll have to swap disks every time you want to load a DA or save a file. A hard disk is even better, but it's not essential.

Start by installing Deskpak on your program disk, the disk you use to boot your GS, by copying it into the desk-accessories file. The easiest way is to copy the Add DA accessory, which is designed to let you move other DAs into your program's desk-accessory file, located in the system folder.

Once you get over the installation hurdle, you can begin to enjoy the convenience this software offers you. Following is an overview of Deskpak's 19 DAs:



DESKPAK

Simple Software Systems, 4612 North Landing Drive, Marietta, GA 30066, (404) 928-4388, distributed by Brown-Wagh Publishing, 16795 Lark Avenue, Suite 210, Los Gatos, CA 95030, (408) 395-3838

Desk accessories for Apple IIGS programs; 512K Apple IIGS, 768K or more recommended

\$89.95

Rating: ■■

Add DA. This simple desk accessory lets you conserve RAM and storage space by adding DAs to your desktop only as you need them. Using Add DA, you can select any other desk accessory while you're in the midst of a program. Most GS packages virtually fill the disks they come on, so it's difficult to install a large number

of DAs. With Add DA, you can store them on a separate disk and add them as you need them.

When you need a DA, select Add DA from the pull-down Apple menu. Then select the disk containing your DAs (you'll only have to do this once in each session) and pick the one you need. Once loaded, the accessory you've chosen will appear under the Apple menu until you reboot. Unfortunately, you can't choose multiple accessories to load at the same time, so the process can be cumbersome. That's a small price to pay, though; without Add DA, a hard drive would be

a necessity.

Appointments. This one may take the place of your Daytimer. The Appointments DA shows you one month at a time on your screen; by clicking on any day, you can enter and view your commitments. Any day for which you've made appointments appears on the monthly calendar with a small check in the corner. One thing to remember, though: Once you've made an appointment, the check will remain even if you delete the appointment.

inCider's Ratings

Excellent—remarkable, a must buy ■■■■■
Very good—impressive and recommended ■■■■
Good—average, solid performance ■■■
Fair—flawed but adequate ■■
Poor—unacceptable or unusable ■

ASCII Chart. ASCII (American Standard Code for Information Interchange) Chart shows the decimal, hexadecimal, and mnemonic character for each ASCII code. It's a handy reference for programmers searching for the right hex-code characters; it's an application you'll either use a lot or never touch, depending on your interest in programming.

Blackout. If you leave your computer on and unattended, you can burn the screen image onto the surface of your monitor. With Blackout, you can preset your computer to blank out its screen when you haven't used it for a certain period of time.

Your GS is still working while the screen is shut down, so a complex database calculation, for example, won't be interrupted. When you want to work with your computer again, move the mouse or press any key, and the screen will come back to life.

Calculator. The calculator is one of Deskpak's most helpful accessories—and one of the easiest to use. In addition to performing standard calculations, it includes features such as cut and paste, calculation of stored numbers, and keyboard equivalents. When you're in a hurry to get back to your document, press the C key to shut off the calculator—it's quicker than sliding your mouse over to the close button.

Calendar. The calendar uses the same monthly format as the Appointments DA. It's designed to let you check a date in almost any month and year (from 1940 to 2039). Like Appointments, click on the month you want to see, then flip through the years with the yr+ and yr- keys.

Clipboard. The GS system clipboard, unlike the Macintosh clipboard, isn't accessible from every program. Instead, each program provides its own. Deskpak's clipboard DA lets you view and copy be-

tween the system clipboard and any true GS program's, making it much easier to transfer text and pictures from program to program.

Concentrate/Puzzle. No collection of desk accessories would be complete without a game. Deskpak has two, Concentrate and Puzzle. Concentrate tests your memory by having you flip tiles in search of two that match. Puzzle is a replica of the sequencing game originally supplied on the Macintosh. Both are fun and mildly addictive.

File tools. Deskpak's set of file tools lets you lock, unlock, rename, copy, and delete files without leaving your program for the operating system. It's quick, it's handy, and it works.

Mini DB. Mini DB is, as its name implies, a small database. It's based on the concept of the Rolodex-type file card. You can store basic information about friends, clients, or products in an accessible place. You can rename each of the seven fields, arrange your card deck, add new cards, and find text within a card.

Notepad. Deskpak's notepad does exactly what you'd expect: It saves up to 25 pages of notes. You can jump to any page, as long as you remember the page number, and you can print any or all of your pages.

Password. The password function is a handy way to protect your computer system from spying eyes. It's very useful, until you forget your password. For many of us, this accessory is best left untouched.

Print It. This utility lets you send a text file to your printer. Unless you use a variety of programs and therefore create text files to transfer from one program to another, it will be of limited use.

Screen Saver. With Screen Saver, you can

At a Glance

Once Upon a Time (December 1988, p. 110, by Carol Holzberg), Compu-Teach, 78 Olive Street, New Haven, CT 06511, (203) 777-7738, \$39.95
Rating: ■■■■

Once Upon a Time is desktop publishing for kids. Children can choose the Farm, Safari, or Main Street Storybanks, and put together tales based on those picture sets. Each Storybank contains anywhere from 26 to 32 illustrations relating to that theme. The Safari collection includes pictures of an alligator, boa, elephant, giraffe, and other creatures you'd find in the jungle.

Children select pictures and position them, then add up to three lines of text at the bottom of the page. Once Upon a Time is easy to use, but somewhat limited in its scope in that children must adhere to stories relating to the Storybank picture sets. The program doesn't print in color, but includes a set of colored pencils for the "hands-on" approach.

Wordbench (December 1988, p. 28, by Patricia Payne), Addison-Wesley Publishing Company, 6 Jacob Way, Reading, MA 01867, (617) 944-3700, \$149
Rating: ■■■■

Wordbench is more a writing program than a mere word processor, adding outliner, notetaker, and brainstormer modules, plus thesaurus, spelling checker, formatting tools, print manager, viewer (to flip among documents), and macros (called *shortcuts* in this program).

The package's neatest feature is that you can categorize your jottings in the notetaker, then organize and outline, and presto—Wordbench puts it all together for a coherent first draft.

Managing Your Money 3.0 (November 1988, p. 34, by Gregory Glau), MEGA Ventures Inc., 355 Riverside Avenue, Westport, CT 06880, (203) 222-9150, \$149.95
Rating: ■■■■

The latest version of Managing Your Money builds on the program's initial strengths and successes. It now comes on both 3½- and 5¼-inch disks; you can send your financial data to other programs; and the software now incorporates the latest tax laws. There are also a newsletter and update service to which you can subscribe.

The program's structure is similar to that of a book. Each disk is like a chapter focusing on one area. The difference is that Managing Your Money gives you more than instructions—it also gives you the tools to put your financial matters in order. At the end of the year, the program

Continued

Programs & Peripherals

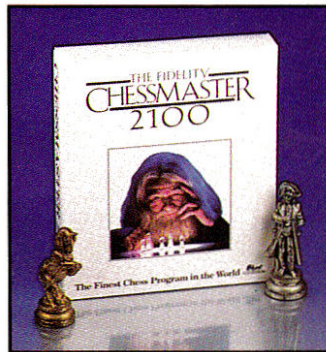
Modems

Anchor Automation 1200E 2400E	119.	159.	Practical Modem 1200 SA	109.	Practical Modem 2400 SA	189.
Applied Engineering			Prometheus Pro Modem 2400 (External)	255.	Pro Modem 2400G (Non Expandable)	179.
DataLink Modem 1200B (Int II+, IIe or IIgs)	139.		Pro Modem 2400A (Single Card)	139.	Pro Modem 1200A (Single Card)	119.
DataLink Modem 2400B (Int II+, IIe or IIgs)	185.		Pro Modem 300c	82.		
EPIC Epic 2400 Classic II Internal	179.		Supra Corporation			
Epic 2400 Mini Modem Ext.	179.		Supra Modem 2400 (Hayes Compatible)	149.		
Hayes Hayes 1200 Baud Smartmodem	299.		U.S. Robotics			
Hayes 2400 Baud Smartmodem	449.		U.S. Robotics Courier 1200	199.	U.S. Robotics Courier 2400	349.
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Practical Peripherals						
Practical Modem 1200 SA Mini	85.					

Printer Interface Cards

Apple		SMT	
Apple Super Serial Card	119.	No Slot Clock	42.
Applied Engineering BufferPro 32K	99.	Print Tech II (Parallel Interface)	37.
BufferPro 128K or 256K	Call	Thirdware	
Serial Pro (II+, IIe, IIgs)	115.	Finger Print GSI Ver 2 (Includes Desktop Accessories-IIgs)	79.
Parallel Pro (II+, IIe, IIgs)	85.	Finger Print Plus (Specify Cables: Parallel, Serial or ImageWriter II-II+ & IIe)	89.
Orange Micro Grappler C/Mac/GS	79.		
ProGrappler (Apple IIe or IIgs)	84.		
Serial Grappler Plus	62.		

Chessmaster 2100 by Electronic Arts

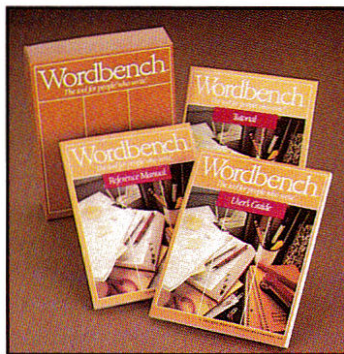


Chessmaster 2100 is the newest release of the best chess game for the Apple II. You'll find all of the powerful, impressive features of Chessmaster 2000 plus new classic games, more in-depth analysis, and triple the number of selectable skill levels. Along with the familiar 2-D and 3-D modes, you can now view all important information at once in "War Room" mode! For novices, **Chessmaster 2100** offers 'teach' and 'hint' modes that show

how to think through a chess match, and for the aspirant grandmaster, there are over 150,000 moves in the opening library and a "Rate My Play" evaluation routine. **Chessmaster 2100** comes with a U.S. Chess Federation tutorial, offers on-line help, lets you save and print games, and lets you import your own chess set from any popular paint program!

Chessmaster 2100	29.
Chessmaster 2100 for the IIgs	33.

Wordbench by Addison Wesley



Wordbench is the new way to prepare documents that goes beyond word processing. **Wordbench** lets you start your project with a full-featured Outliner and Notetaker, helping you organize your ideas, references, and notes, long before you begin to write the first draft. Then, unleash the **Wordbench** Writer to pull all of your work together clearly and effectively, without retyping. **Wordbench** lets you add creativity and correctness to your documents

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Wordbench	99.
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RoomMate Powered Speaker System	229.	Universal 3 Button Joystick (IIe or IIc)	34.
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Hayes Mach II Joystick (Beige or Platinum)	29.	Koala Pad Plus w/Graphics Exhibitor	84.
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Mirage Quad or ADB (Turns joystick into mouse)	39.	Digitizer Professional (IIgs)	139.
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Cutting Edge EADB-105 Extended Keyboard (IIgs)	125.	SuperSonic Digitizer (IIgs)	49.
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Computer Eyes (IIgs)	209.	A+ ADB Mouse (IIgs)	85.
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Epyx Epyx 500J Joystick	27.	MousePad 9" x 11" Size	9.
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Teakwood Rolltop Disk Case (Holds 50)	18.	Ribbons	
Kensington Mouse Pocket (Reg. or ADB)	8.	Available colors: black, blue, brown, green, orange, purple, red, yellow, silver or gold	
Mouseway (Mousepad)	8.	ImageWriter Ribbon-Color	4.
Apple IIgs Dust Cover or ImageWriter Cover	9.	ImageWriter Ribbon-Black six pack	20.
Mouse Cleaning Kit w/Pocket	17.	ImageWriter II - 4 Color Ribbon	9.
Disk Drive Cleaning Kit (3.5" Drives Only)	20.	ImageWriter Rainbow Pk. (6 Colors)	20.

Utilities & Languages

Absolt AC/BASIC (16-bit BASIC Compiler for IIgs)	84.	ORCA/Pascal Desktop Debugger	80.
Big Red Computer		ORCA/Pascal DeskTop (IIgs)	34.
PS Lovers' Utility Set (AP or IIgs)	29.	TML Systems	
Funk Software		TML Basic (IIgs)	84.
Sideways Prodos & Dos 3.3	45.	TML Pascal (IIgs)	84.
Roger Wagner SoftSwitch (IIgs)	39.	TML Source Code Library (IIgs)	35.
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The Byte Works ORCA/II (IIgs)	39.	Zedcor	
		ZBASIC 4.0 Interactive Compiler	39.

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A.5C Half Height (IIc)	139.	D2 20MB HD (IIe & IIgs)	509.
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Applied Engineering Transdrive 360K	219.	D4/T 40MB HD/High Perf. (IIe & IIgs)	855.
Transdrive Dual 360K	305.	D9 90MB HD/High Perf. (IIe & IIgs)	1465.
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CT-40 Hard Drive (AP & IIgs)	835.	Rodime 100 Plus Ext HD (IIe, IIgs)	1169.
CMS		Rodime 140 Plus Ext HD (IIe, IIgs)	1319.
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System Saver IIgs by Kensington

System Saver IIgs organizes your power with four outlets for your computer, monitor, and two peripherals. Two front-mounted, lighted switches put everything at your fingertips. It also protects your system from dangerous power surges, spikes and noise. It clips surges and spikes at a safe level, and filters out disruptive EMI/RFI line noise. Best of all, **System Saver IIgs** keeps your Apple cool. Its whisper-quiet fan draws cool air through the back and bottom vents of the IIgs, over the power supply (the primary source of heat), and out the top vents at the rate of 17 cubic feet per minute. Protect your investment today!



System Saver IIgs	79.
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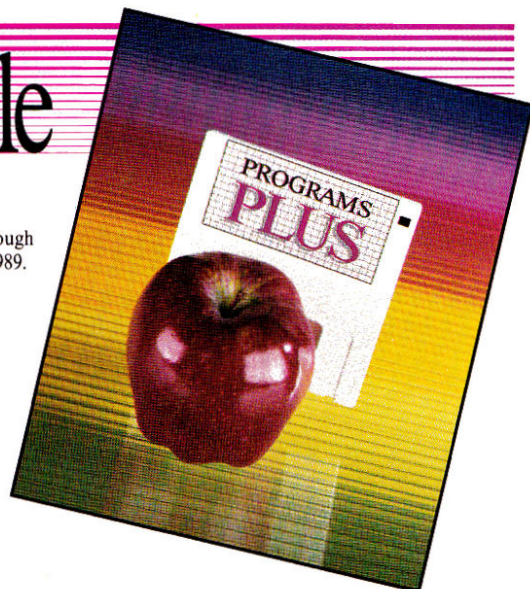
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March 31, 1989.

Communication Software

Activision		Grolier On Line Encyclopedia	32.
Teleworks Plus (IIgs)	66.	Pinpoint	
Checkmate Technology		Point-To-Point	74.
ProTERM (IIgs, IIe, IIc)	Special 95.	United Software Industries	
CompuServe		ASCII: Express Pro: Prodos or Dos 3.3	72.
CompuServe Starter Kit	24.	ASCII: Express Mousetalk 1.5	69.



ProTERM 2.0 by Checkmate Technology



ProTERM 2.0 is the professional telecommunications software for everyone who owns an Apple IIgs, IIe, IIc, or Laser 128 computer with 128K+ of RAM. Its comprehensive 170-page manual, complete Hayes compatibility, and easy-access pop-up menus make it versatile and simple. Every user will benefit from its on-screen help files, the full-feature text editor, and large assortment of error-free protocols. Professionals

will value *ProTERM's* advanced features which include Procedure Files to store macros, batch and disk transfer capabilities, and its elapsed time counter (requires clock card). *ProTERM's* simple installation, password security option, and VT-100 terminal emulation make it the only choice for communicating in home, school, or business environments.

ProTERM 2.0 95.

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Apple		FWB Software	
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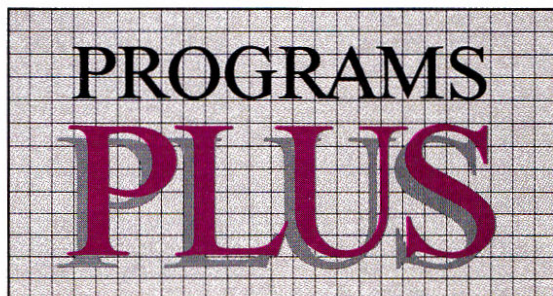
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save an on-screen graphic (320-by-640 resolution) to disk for later use. Simply select the disk to which you'd like to save.

Start Up. If you want a colorful picture to look at while your system loads, you can install one with Start Up.

Scraps. Simple Scrap and Super Scrap let you save frequently used text or graphics so that you can access them as needed without having to re-create them.

Times Three. Times Three is a clock; you can set it to show the time on the menu bar, or display the time and date elsewhere.

PROBLEMS

Deskpak's major difficulty is compatibility. When we tested Deskpak with MultiScribe GS and WordPerfect, certain desk accessories crashed the system consistently. According to Kevin Seidule, one of Deskpak's designers and Simple Software's technical-support representative, the problem lies with programs' lack of adherence to Apple's Human Interface Standard. Specifically, the Start is often removed to save space, and another file designated as the Start file.

There are two solutions, according to Seidule. One is to boot from a system disk rather than from a program disk. The other is to copy the program files to a system disk. Because the system disk has the original Start file intact, there shouldn't be any compatibility problems, says Seidule. Unfortunately, many GS programs feature a renamed Start file, so this will be an ongoing problem if you don't have a hard disk. In addition, with the original Start file back, there may be no space to install a desk accessory.

Desk accessories can be a useful addition to your computer system; a good set can help you work easily and quickly. You have to decide whether they're important enough to warrant the time and effort required to configure them correctly. ■

*Patricia Payne
Henniker, NH*



Sound and Music

FUTURE SOUND

Applied Visions, Inc., One Kendall Square, Suite 2200, Cambridge, MA 02139, (617) 494-5417

Sound-digitizer board with full stereo output; 512K Apple IIgs (1 megabyte recommended)

\$279

Rating: ■■■■

If *graphics* was the buzzword of the mid-'80s, then *sound* will be the rage during the last two years of the decade—and rightfully so. After all, that's what the *S* in *Apple IIgs* stands for. Advancements in graphics will continue, but many people are going to be looking for ways to produce high-quality sound—with products like FutureSound from Applied Visions.

GIVE AND TAKE

FutureSound pushes the capacity of the GS' multichannel digital-recording synthesizer to the limits. FutureSound can record sounds from virtually any source in true stereo and can produce stereo sound through right and left output jacks or a stereo headphone jack.

Installing FutureSound isn't difficult, but it takes some time and care. Applied Visions suggests you place the card in slot 6—a curious choice, because that slot is usually used for the almost obligatory 5¼-inch disk drive. Upon booting the system, the FutureSound software is programmed to look to slot 6 first. The first

Continued

summarizes all your transactions in as much detail as you need. Chapters include a notepad, checkbook and budget data, a tax estimator, insurance needs, a financial calculator, stock tracking, net worth, a card file, and a report generator.

The manual includes every help screen you might encounter in the program. Also, remember there will be plenty of disk swapping with 5¼-inch disks, and that can be confusing.

In all, *Managing Your Money* is an effective way to keep track of where you spend your money.

geoPublish 2.1 (February 1989, p. 88, by Carol Holzberg), Berkeley Softworks, 2150 Shattuck Avenue, Berkeley, CA 94704, (800) 443-0100 x432, (415) 644-0883, \$99.95

Rating: ■■■■

GeoPublish is a good example of the new breed of high-end desktop publishers; it offers power and sophistication you might not have thought possible on an 8-bit, 128K Apple II. GeoPublish combines word processing with "what you see is what you get" page-layout capabilities. You can mix text with graphics for placement in up to four columns on a single page.

GeoPublish also sports a Page Graphics toolbox with several object-oriented drawing tools that can import photo scraps directly from geoPublish clip art or from other programs such as The Newsroom, PrintMaster, The Print Shop, and Dazzle Draw (with help from the Graphics Grabber).

You can also draw original line objects in a variety of patterns and brush widths, sketch geometric shapes with variable border thicknesses, and fill them with patterns. The Page Graphics tools let you add text as well in a variety of fonts, styles, and sizes.

Despite a few minor inconveniences, Apple II users suffering from GS and Macintosh envy will appreciate geoPublish.

SuperPrint (October 1988, p. 30, by James Trunzo), Scholastic Software, 730 Broadway, New York, NY 10003, (212) 505-3000, \$39.95

Rating: ■■■■

Scholastic Software's SuperPrint is a useful, innovative program, with clip art, fonts, and "backgrounds" included. It offers the standard variety of options—graphics-enhanced signs, letterheads, banners, and greeting cards. It surpasses most programs, however, by printing giant posters, wall-sized calendars, and bulletin-board-sized signs.

The quality of the finished product—even at its largest—is excellent, especially if you don't print in draft mode. With horizontal and vertical scrolling, you can preview the design on screen in exactly the size the program will print it.

FingerPrint GSi (November 1988, p. 37, by James Trunzo), Thirdware Computer Products,

4747 N.W. 72nd Avenue, Miami, FL 33166, \$99
Rating: ■■■■

FingerPrint GSI lets you save a screen image quickly by printing it. This graphics-utility card has been available to IIe owners for some time; the new version is designed for the GS.

You can install the FingerPrint card in five minutes—the manual contains step-by-step directions and it's impossible to plug it in the wrong way. After running two installation tests, you're ready to print a screen. Press the fingerprint button, then click your mouse or hit Return. The screen starts to print, and that's all there is to it.

Home Video Producer (January 1989, p. 30, by James Trunzo), Epyx, 600 Galveston Drive, Redwood City, CA 94063, (415) 366-0606, \$49.95
Rating: ■■■■

It seems that Epyx wanted to make Home Video Producer (HVP) as easy to use as possible, building in numerous features that let you type in your information and let the program take over from there. The program includes a dozen templates for commonly videotaped situations (holidays, weddings, and so on).

HVP uses menus and windows for the selection process. On-screen graphics are attractive and helpful, especially when combined with the ever-present information bars. Selection icons logically represent the functions they serve and a satisfactory number of options are included.

One of the program's most outstanding features is the large number of graphics clips available to enhance your layouts. HVP includes 75 different pictures from which to choose. When you add those choices to the various borders, backgrounds, fonts, and types of transitions offered, it becomes obvious that HVP allows for a wide variety of combinations.

ShowOff (December 1988, p. 34, by Carol Holzberg), Broderbund Software, 17 Paul Drive, San Rafael, CA 94903-2101, (415) 492-3500, \$59.95
Rating: ■■■■

ShowOff may do for desktop presentation what The Print Shop did for desktop publishing. You can create overhead transparencies, a computerized "slide" show, and all sorts of other illustrations and diagrams. Compose a screen with the program's graphics tools, or arrange one from the assortment of nine clip-art stickers and 385 icons stored on disk.

After you've assembled a set of "slides," you can set them to run manually or automatically and adjust a timer to control how long each image remains on screen. You can also select the type of transition between slides—scrolling horizontally or vertically, or fading out. In addition, Broderbund is said to be currently developing a ShowOff Graphics Collection that will include more than 200 additional pictures. □

time it fails to find the board in that slot, it prompts you for the current location of the board. Thereafter, the software will check the slot you indicate.

Be careful when you're threading the cable through the vertical openings at the back of your GS; the manufacturer provides enough cable that you won't place undue strain on the connecting points, but rough handling could separate cables and connectors from each other or the board. Once you've installed the board, connect your stereo amplifiers, headphones, and microphone to the appropriate jacks.

VERSATILE SOFTWARE CONTROL

FutureSound's software is sophisticated. You determine the recording level, then set and monitor the length and quality of your sound. To run FutureSound, you must understand the program's multitude of software controls, which range from buttons indicating track selection to a visual sound graph you'll use as a barometer to determine whether other values are set correctly.

Furthermore, FutureSound lets you program sounds to as many as 15 tracks. The system treats each track independently, but because they're all co-resident in your computer's memory, you can play back any number of tracks simultaneously. Couple the number of track combinations with the ability to vary playback volume, speed, and special effects and you begin to get an idea of FutureSound's versatility.

EXTRA EFFECTS

Among the selections at the top of the menu screen is Bag of Tricks, a collection of six effects you can apply to an entire recording or any part of one. For example, you can blank out portions of your recording; make segments of your recordings softer or louder; or even play the current track backward if you like.

The software includes three other effects you can add to your recordings—they should prove to be the most popular because they're the most fun. "Stutter"

lets you create what FutureSound accurately labels the "Max Headroom" effect. For those of you not familiar with the 1987 season's popular futuristic television show or the Max Headroom commercials, Stutter produces a rapid repetition of a letter, syllable, or word ("M-M-Max Head-Head-Headroom," for example).

"Echo" reproduces your sound, while "Fade" lets you mark a segment of your recording to fade gradually in or out.

Once you've recorded something, you can edit it in a number of ways: You can erase tracks one at a time or collectively, completely or by sections; you can change and reset original values and combine portions of one recording with another ("splicing") by overwriting segments of the destination track or by inserting segments at any particular point. Just indicate beginning and end points on the counters found on the main screen and the FutureSound software does the rest. A third splicing option, "Mix," is more powerful, however. Mixing melds the digitized sounds on one track with those on another.

Take care when using any of the Splicing options, because these operations actually modify the sound you've recorded and you can't undo any changes you make.

SOUNDS GOOD

FutureSound offers numerous options and excellent performance when it comes to recording instrumental or vocal sounds; it would be worth the price if it did nothing else. FutureSound's ability to play in true stereo is just as impressive as its other features, though.

Whether you make your own recordings or simply use programs that take advantage of the GS' sound, you'll be impressed and pleasantly surprised by the beautiful music and stunning sound effects your GS can produce. Of course, the quality of the sound depends on the quality of your stereo speakers. FutureSound is certainly capable of pushing the sounds out of the computer, but your equipment at the other end must complement it.

Continued on p. 78



APPLEWORKS

With *six* applications in one smoothly integrated package, AppleWorks GS sets a new standard in 16-bit software—but does the Apple IIGS have the power to handle it?

T By **ERIC GREVSTAD**

he program you've been waiting for is now the program you'll be waiting for. AppleWorks GS, Claris Corporation's all-new, 16-bit successor to the incomparable 8-bit AppleWorks, is just as colorful, powerful, and easy to use as IIGS owners had hoped. It's a remarkable program, destined to become the standard in GS productivity software. Unfortunately, it's also destined to become the standard example of the pros and cons affecting all IIGS software: Are graphics icons and dialog boxes worth having if you must wait five seconds to scroll a page, or 30 seconds for commands to execute, as you stare at a half-drawn screen where a dialog box used to be?

AppleWorks GS' position is particularly difficult because it's not a simple software upgrade, but the rebirth of a legend—a IIGS program designed to replace the best Apple II program of all time. Given that impossible task, Claris deserves an ovation. AppleWorks GS' merit goes beyond its mouse-controlled menus and windows, or even its integration of six functions to 8-bit AppleWorks' three. New users or families will find it a true all-in-one solution. AppleWorks veterans will discover across-the-board improvements, plus the appeal of combining word processing, spreadsheet work, and database management with glamorous graphics and desktop publishing.

But veterans should think hard before making the switch. AppleWorks GS is software that strains the limits of GS hardware. While the program itself is reasonably priced (and Claris' upgrade prices more reasonable still), it takes an expensive, fully loaded IIGS system to deliver barely adequate performance—snail-like performance, to anyone used to the speed of 8-bit AppleWorks with an expanded-memory card. Macintosh and MS-DOS users will envy the power of AppleWorks GS, but Apple II buffs may feel that changing from old to ►



GS: worth the wait?





new AppleWorks is like changing from David to Goliath.

There's more depth to AppleWorks GS than one magazine feature can describe. Future articles in *inCider* will explore the strengths, weaknesses, and secrets of the program in detail. The discussion here presents an overview and first impressions from testing production copies of the software, which shipped in late October 1988.

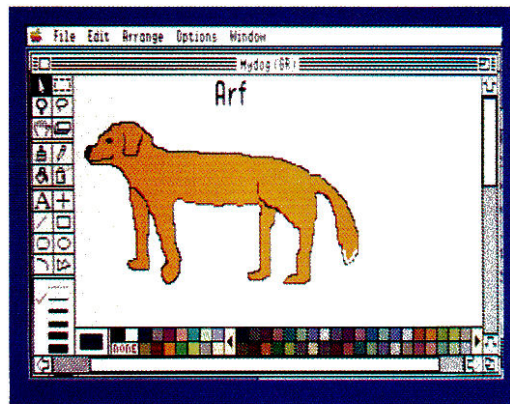
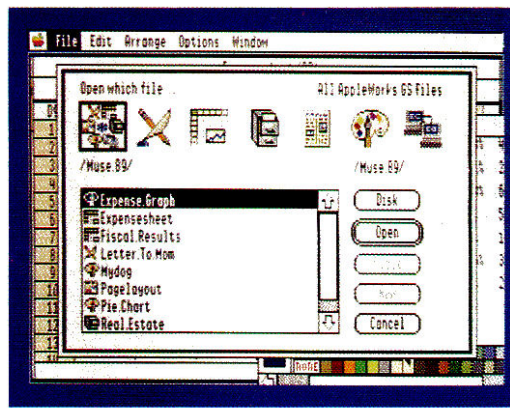
AppleWorks GS comes on three noncopy-protected 3½-inch disks—Program, Utilities, and System. The last includes GS/OS and Finder 1.2, as seen on the current IIGS System Disk, with AppleWorks GS' own optimized ImageWriter driver, as well as the other GS/OS printer drivers.

You can use AppleWorks GS with one 3½-inch drive, but it'll involve swapping the Program and System disks whenever you use a new application or a new font, with the Utilities disk for the spelling checker or thesaurus. With one drive, it takes one minute 45 seconds, including two swaps, to launch AppleWorks GS from the Finder desktop, then more time to load an application (50 seconds for the word processor or spreadsheet, two minutes for the graphics module). A Configure command lets you get the waiting over with, speeding later operations, by pre-loading your favorite applications at startup (for example, five and a half minutes to launch the program with word processor, graphics, and page layout).

A second 3½-inch drive or hard drive is clearly a good idea, but the first requirement for many GS owners will be added memory: The program needs a minimum 1.25 megabytes of RAM (random-access memory), not counting any RAM disk or ROM (read-only memory) disk. If you're starting from scratch, the list price of a IIGS system suitable for AppleWorks GS, with two 3½-inch drives, is \$3083. If you add a 5¼-inch disk drive and an ImageWriter printer, the retail price is about \$4000. While you'll pay much less at your local dealership, that's still a heavy investment.

THE NEXT GENERATION

Except for reading AppleWorks files (along with ASCII, MultiScribe GS, and most GS paint programs' files), AppleWorks GS is almost completely different from its ancestor. While there are open-apple key commands, many perform different functions from the same keystrokes in AppleWorks; most work is done with the mouse and pull-down menus. While there's a desktop, it holds up to 14



Top: AppleWorks GS' colorful icons represent the program's six modules—word processor, spreadsheet, database manager, page layout, graphics, and telecommunications. Directly above: The graphics module is an impressive cross between painting and object-oriented drawing software. As this illustration by an *inCider* editor demonstrates, however, software does not an artist make.

movable, resizable windows instead of 12 full-screen text displays. While there's a fat two-volume manual, there are no on-line help screens or sample files on disk.

The last point is a minor one, because the new interface makes AppleWorks GS' greatest strength its ease of use. Rulers, buttons, and dialog boxes are far friendlier than, say, the jumble of options that greet you in 8-bit AppleWorks when you type Open apple-O for word-processor formatting.

Data transfer is available through disk-file imports and GS/OS' cut-and-paste clipboard, but it's more fun to arrange application windows on screen, then drag information from one into the other (moving the mouse while holding the control key, which changes the pointer to a nifty lightning-bolt symbol).

The level of innovation, and the benefits of the graphics interface, vary from application to application. AppleWorks GS' communications module, for example, is definitely the junior partner of the six. It supports the transfer protocols a good telcom program should (Xmodem, Ymodem, and Binary II) as well as sending and capturing ASCII text, and its pull-down menus simplify the chore of setting parameters.

But, though it lets you enter and dial numbers from an alphabetized phone list, the module can't record log-on sequences or macros as a good telcom program should. It's adequate for occasional calls to on-line services, but serious modem owners will want a more full-featured program, while AppleLink subscribers will use that service's own, even easier software.

The word processor, by contrast, is a complete, convenient program, tracing its heritage to the programmers' pre-Claris days as the makers of MultiScribe GS. Lacking the fanciest features of WordPerfect, the word processor nevertheless provides a good mix of type styles and sizes with easy mouse-controlled text selection and editing. The paragraph-based formatting gives lots of flexibility. (After my first few files, I learned to change the default ruler's margins, tabs, spacing, and justification before I began typing, so my settings wouldn't disappear when I started the second paragraph.)

The spelling checker lacks a "replace all" function for multiple occurrences of the same error, but is otherwise solid, letting you type a correction, add a word to an editable personal dictionary, or choose from a list of accurate suggestions. The Sexist Software Award goes to the thesaurus, which is usually helpful with definitions and



synonyms but lists only one meaning for *woman*: "the female partner in a marriage." Like the spelling checker, it's also slow when using floppy disks.

An even slower performer is AppleWorks GS' "Better Text" print option: A two-page letter that printed on an ImageWriter II in 30 seconds in draft mode took more than eight minutes in Courier. (Think you'll speed printing by specifying draft mode, but setting the ImageWriter to high quality? Sorry, AppleWorks GS resets the printer.) The print speed is a disappointment, since the word processor is the only AppleWorks GS module I found to be reasonably fast—able to keep up with rapid typing, quicker than 8-bit AppleWorks in a search-and-replace test.

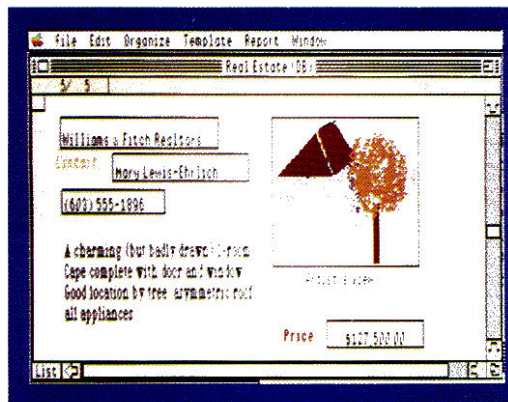
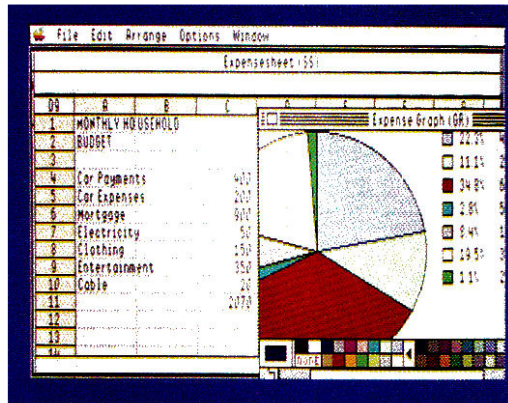
STRONGER BUT SLOWER

Patience is a virtue when using AppleWorks GS' spreadsheet, where the advantage of intelligent recalculation is destroyed by the disadvantage of redrawing graphics-based screens. My 1000-cell recalculation test, which AppleWorks 2.0 finished in 14.5 seconds, took the new program 41 seconds, almost three times as long. A simple Go To command, moving the cursor from cell T50 back to A1, took 20 seconds. Highlighting a range of cells that extends past the bottom of the screen, as you hold the mouse button and watch the display march upward line by line, is agonizing.

I was appeased, however, by the spreadsheet's 73 functions, including beefed-up features such as date math and logical functions supporting text strings: IF(D4>5000, "Credit OK", "Reject") returns a different phrase depending on the value of cell D4. Having to preface even simple formulas such as 2+2 with an equal sign is a nuisance, but picking hard-to-remember features from a scrolling List Functions box is a convenience.

So is the ability to copy a worksheet range to the graphics module, creating a colorful pie, bar, 3-D bar, line, or scatter chart. It's handy for simple charting, though graphs limited to one data range (one row or column), with no niceties such as exploded pie slices or labels (other than those you add in the graphics module), will hardly set the business world on fire.

More potent improvements, and perhaps the most major adjustments for AppleWorks owners, await in the database. It's sophisticated, but complex: Before you can see records in the traditional-form screen or spreadsheet-style list screen, you have to master the desktop-publishing-



Top: The spreadsheet is hardly a speed demon, but it does offer an impressive lineup of features, including business graphing. Directly above: You can design a database that includes text, numeric, and graphical information. If you just want a plain old address book, though, AppleWorks GS may be more than you bargained for.

style definition screen.

Here, you draw your database with the mouse, making a box to hold each field, then specifying whether it holds text, numeric, date, time, or one of two other kinds of information—static text, treated as an uneditable graphic to show fancy fonts or hold a lengthy comment, or a picture, imported from the graphics module and scaled or cropped to fit the field. You can add nearly every enhancement or embellishment you can imagine—using spreadsheet functions for calculated fields, specifying numeric formats or centered text, or adding other fields for labels such as "Name:" or report headers and footers.

This is great for creative, advanced database design, but users wanting a simple address book or record collection, as opposed to a fancy template with fields arrayed artfully beneath your company's name and insignia, may find it a bit much. Quick-and-dirty data hunters, used to AppleWorks' casual Open apple-R and "contains" operator to select records, will feel balked; while there's a Find command for occurrences of text strings, AppleWorks GS' Match Records command involves double-click-

ing on math operators and typing exact-match text in quotes.

The new database's menu-driven mail merge isn't that much prettier than old AppleWorks', either, though its reports, generated as word-processing files ready for further editing or formatting, are a plus.

GETTING INTO GRAPHICS

While the word processor is my favorite part of the package, AppleWorks GS' brightest star is probably its graphics module. Although it omits the most exotic features of DeluxePaint II or Paintworks Gold (perspective, color cycling, turning objects into paintbrushes), it's an excellent combination of freehand painting and object-oriented drawing tools.

On the paint side, there are all the brush sizes, color palettes, and fill patterns you'd expect, with traditional tools such as a spray can and zoom (pixel-level) editing; the drawing side offers boxes, circles, and so on. The two combine after you finish painting a bit-mapped image: It becomes an object just like those created with the drawing tools, suitable for dragging, copying, rotating, or shuffling toward the top or bottom of a stack.

The kicker in the above sentence is "after you finish painting." Because I often switched to nonpaint tools such as the eraser or

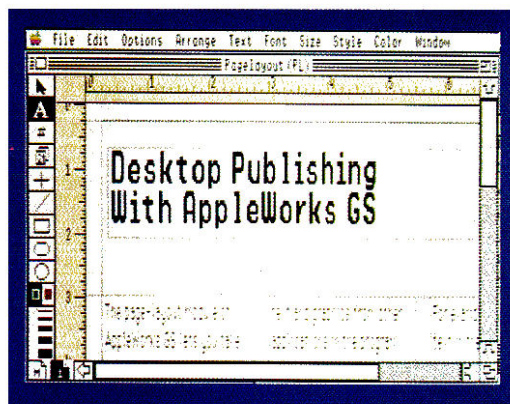
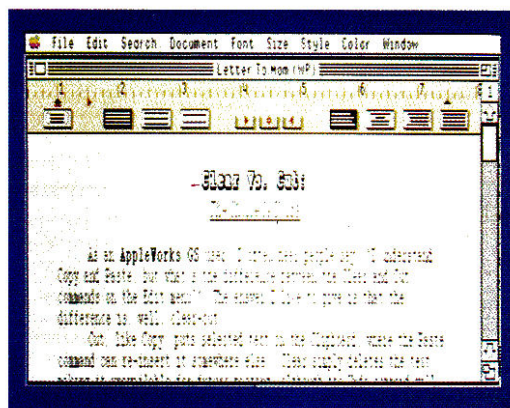


zoom editor while creating an image, I kept finding that the resulting object was five or six separate objects; when I drew a kitten and tried to drag or place it beside a tree, I yanked off its head. Luckily, a "collapse" command lets you combine selected objects into one. I also like the graphics module's keyboard equivalents to mouse commands; it's hard to move the mouse as precisely as the Nudge commands, which push an object one pixel up, down, left, or right.

AppleWorks GS' most fashionable application, the page-layout program, is a little disappointing compared to the first-class graphics module. Basically, AppleWorks GS lets you arrange graphics and text on pages with one, two, or three columns. You can see a full-page or actual-size view for overall layout or detail work, and use rulers to help draw lines or place objects. Items shared by all pages, such as column guides or headers with page numbers, can appear on left or right master pages.

Graphics objects are graphics files or selected parts thereof, imported (actual size) via disk, clipboard, or the Control-drag technique. Text objects are movable, resizable frames created to hold text, whether imported or typed in the page-layout module. You can't flow text around graphics, but a story that's too big to fit into one text object flows easily into another in a "text stream."

The text-handling features are almost as good as the word processor's, and the program works well enough for simple newsletters or memos. But it takes practice to avoid minor slips, such as imported text flooding a column instead of staying in its frame, or dragging a column guide when you wanted to resize a text box. (I wish you could hide the nonprinting frames around text objects, as you can



Top: The word processor bears a proud heritage—it's a new and improved version of Styleware's popular MultiScribe GS. Directly above: AppleWorks' six applications come together in the page-layout module. Be prepared to wait for your GS to catch up with your inspiration, though.

hide column guides; drawing boxes around headlines is tricky.)

The most frustrating part of page layout, or the graphics module once you get three or four objects on screen, is that AppleWorks GS' sluggish response cripples the whole idea of point-and-click computing. The concept encourages you to brainstorm, to work fast—drag a text object, center the headline within it, position a picture, see how it looks. But all too often, as you move the mouse pointer to click on Step 3, you'll see it change to the wristwatch icon indicating the pause for Step 1. When your ideas race, the IIGS crawls.

SHIFTING THE BLAME

Ultimately, it's the IIGS that drags AppleWorks GS down. Individual users may have individual gripes, things that got left out while flashy features were put in. (Personally, I'd trade database picture files for 8-bit AppleWorks' ability to format data disks within the program.) But the software has some splendid features, and its overall design and integration are extraordinary.

There are two companies Apple II owners have lately loved to hate, to accuse of shortchanging the II and favoring the Macintosh. AppleWorks GS redeems Claris, and lets users focus their anger squarely on Apple—for selling a computer with the price and potential of a Porsche, but the power of a Pinto.

AppleWorks GS may be a harbinger of future hardware, the way original AppleWorks appeared before many II owners had acquired 128K, let alone expanded memory. Applied Engineering, a company born to do Apple's work for it, may save the day with its TransWarp GS accelerator. I tested a preproduction model briefly, and improvements such as scrolling a layout in 2.5 seconds versus 6 seconds made the program seem truly usable. (See this month's Editors' Choice, p. 112.) But the TransWarp will push your hardware investment to about \$3500—a point at which, to say something I never thought I'd say, the Apple IIc Plus starts looking good.

For now, AppleWorks GS' fatal problem isn't Claris' fault: It's the thousands of people happily using AppleWorks, some TimeOut add-ons, and Publish It!. They don't need AppleWorks GS, and they won't wait for it. ■

Contributing Editor Eric Greustad is a free-lance journalist and political columnist. Write to him c/o inCider, 80 Elm Street, Peterborough, NH 03458.

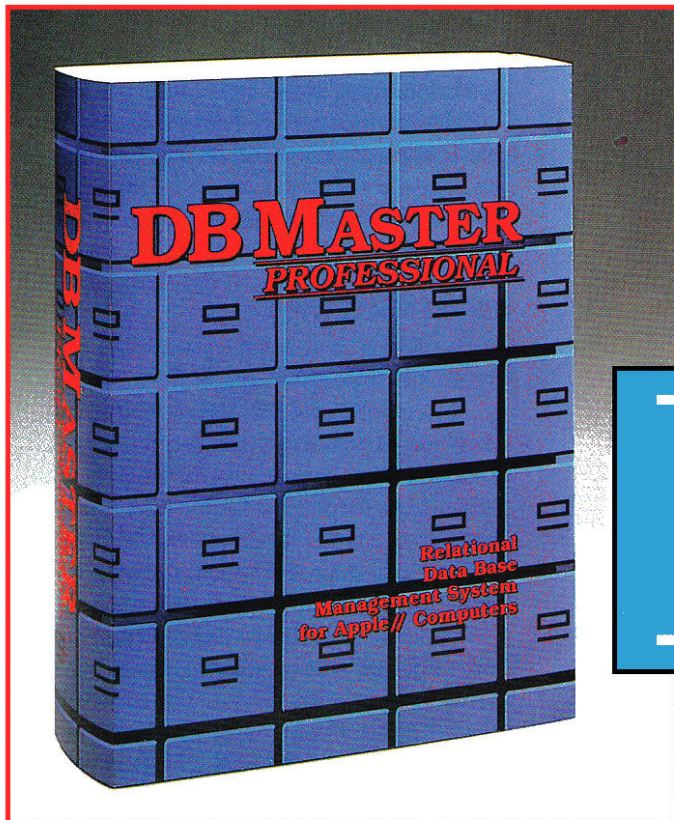
PRODUCT INFORMATION

AppleWorks GS

Claris Corporation
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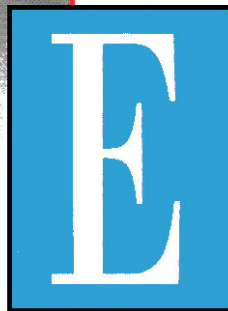
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In a Class by Itself



It's big, it's powerful, it's adaptable—yet its modular design makes DB Master Professional not only the most sophisticated database manager you'll find for your II, but one of the easiest to use, as well.

by Gregory R. Glau



Ever see that TV ad for an airline that shows a man talking on the phone, saying, "Pittsburgh on Monday? I can do that. Boston on Tuesday? I can do that. Phoenix on Wednesday? I can do that." He hangs up, then grabs for the phone again and asks, "How can I do that?" The answer, of course, is the air-

line—that it'll help this businessman get where he needs to be, when he's supposed to be there.

In the world of information management, DB Master Professional operates just that way: It helps you do exactly what you want with your data, when you want to do it. The

DB Master database manager has been around in one form or another for quite a while (see Editors' Choice, July 1988, p. 96); for the past seven years we've used it in our small heating-equipment business to track warranty records. This latest version of the program (prerelease 5.5 discussed here) shows how good software can evolve—grow more and more capable without forcing you to buy new hardware. Whether you have two 5¼-inch floppies, two 3½-inch disks, or a hard disk, whether you have a IIc, an enhanced IIe, or a new IIGS, you can take full advantage of the power of this program.

DB Master Professional is something of a study in contrasts. The documentation's an imposing 712 pages, yet you'll be up and using the program within just a few minutes. You get the dynamism of a relational database, in which one file can access and import information from other files—yet you can design screen layouts and file parameters quickly and easily. You get a sophisticated reporting capability that will summarize your data just about any way your business requires, yet it's broken down into modules that let you pick and choose among pieces of information and decide exactly how simple or complex your report will be. This software grows with your needs; you can redesign the structure of your database ►

as your business expands. The program even includes a global editor, if you want to change something in all records at the same time.

DB Master Professional claims to be the only Apple II program that lets your files extend over more than one disk—up to 50 if you need them—yet the program always knows what's where. If you have a floppy system, it usually doesn't matter which disk (program

have been broken into two or more smaller units, DB Master Professional can convert and combine them into one complete file.

The system sports a lot of nice touches—carefully designed details that make database management easier and simply more professional. For example, the software can convert dates to spell out the month—you'll never wonder whether 10/11/89 means October 11

or November 10, because DB Master Professional can show it as 10-Nov-89. If you'd like your forms to display the last date on which you edited data, DB Master Professional can do that automatically. You can scroll through your records in either direction, display them on screen, or get a hardcopy from your printer.

You can design *browse forms*, as well, which let you call up your records in any format you find useful. You can also ask DB Master Professional to pull just the statistical summaries from your files, for those times when you want to see the forest, but don't want to walk through all the trees to get there.

ON-THE-JOB TRAINING

How do you harness all this power? Start with the manual. It looks fearsome, but it's filled with good, clear examples. DB Master Professional starts you off with an introduction to records, fields, and so on. By page 10 of the 163-page tutorial section, the program has you entering and saving data in a sample file. A few pages later, you're searching for information. You learn DB Master Professional by *using it*.

One hundred thirty-five pages of reference material follow. That's not the end, though; nine pages of "things you can do" key operations you might want to perform to specific headings in the glossary, which is 373 pages long. I didn't much care for the glossary idea when I first saw it—I expected it to be just a list of definitions. This one's different, though: DB Master's glossary provides detailed information about every facet of the package—each feature and function, along with how you access it and use it.

DB Master Professional also provides what it calls *dynamic prompting*, lines at the bottom of the display listing your available options. You don't have to remember commands when you want to add a record or search for something—choices are always listed on screen.

FILE DESIGN

Its visual approach to designing on-screen forms sets DB Master Professional apart from ordinary database managers. Type a field name; then, using the arrow keys, position it exactly where you want. What could be simpler?

The program allows 2000 total bytes per record. (One byte is roughly one character.) Each record can contain up to 200 fields,

```

DB Master Version 5           Main Menu           File - (None)
Data Entry and Search       Maintenance Functions
-----
1 Add Records                21 ProDOS Functions
2 Display, Edit and Delete  22 File Statistics
  Records                    23 Backup, Copy or Merge
  Files                       Files
3 Browse Through Records    24 Restructure File
4 Default Mode: Standard    25 Convert File to DB
  defaults                    Master
5 Change Standard Defaults  26 Field Options
6 Receipts: Off              27 File Options
7 Screen Form: Main form    28 Utility Programs
8 Global Editor

Reports & Data Exchange    Change Files or Exit
-----
11 Create or Edit Report    31 Use a Different File
  Formats                    32 Create a New File
12 Print a Report           33 Exit to ProDOS
13 Data Exchange (Print
  to Disk)

Enter Your Choice (1 to 33): _ 5.3

FIND RECORDS      File: CHECKING      # of records - 17      page 1 of 2
Transaction type! _ (C-Check, D-Deposit, F-Fee, M-Misc)

Pay to (or source) ..
Amt of payment ..$ .. Amt of deposit ..$ .. Print check? (Y/N) ..
Memo for check ..

For: ..
Acct # .. Address line 1 ..
Address line 2 ..
Returned? (Y/N) .. Address line 3 ..
Address line 4 ..

CTRL: Tutor Find records Load/Save Add mode Go to p.# Next/Prev.page Quit
< > < > < > Or range - begin with (includes #doesn't include ?any char
Insert/overtyp Delete character Beginning/End of field Zap field contents

DISPLAY RECORD      File: CHECKING      # of records - 17      page 1 of 2
Transaction type! C (C-Check, D-Deposit, F-Fee, M-Misc)

Pay to (or source) Office Centers, Inc.
Amt of payment $ 1200.00 Amt of deposit $ 0.00 Print check? (Y/N)Y
Memo for check Rent for 456 Office Center Drive

For: Rent
Acct # .. Address line 1 Office Centers, Inc.
Address line 2 100 Office Center Drive
Returned? (Y/N)Y Address line 3 Anytown, PL 12345
Address line 4 ..

CTRL: Tutor Go to p.# Next/Previous page U find next record H get prev.rec.
Edit/Delete this record Find other records Add mode Quit (return to Menu)

```

Top, choices are grouped for convenience on DB Master Pro's main menu. Middle, design your own screen: Place any field in any position. Bottom, completed record shows a variety of data formats.

or data) you put into which drive. On a hard disk (DB Master is non-copy-protected), you can access files as large as 10 megabytes.

If you've been using an older version of the program, it's good news that DB Master Professional has the same command structure: <Control-A> adds a record, <Control-F> finds a record, and so on. You can also update your existing DB Master Version 3, 4, 4 Plus, or 5 files to fit the new software. The program converted 369 of my DOS 3.3 warranty records to the new format in just a few minutes, and the process was completely menu-driven.

DB Master Professional will also convert your AppleWorks files, and can exchange data with programs that can save their information as DIF (data-interchange format) or ASCII files. If your files

spread over as many as 30 pages (screens). The sequential-page concept is particularly useful when you need to separate data—job costs on one page and all retail information on another, for example. That makes it easy to print only those data you want your customer to see.

A "sales-receipt" option prints a copy of the record, which you can also include in any other report format, immediately after you enter it into the system. DB Master Professional also provides several levels of password protection, so you can restrict who's allowed to read your files and write to them.

If 2000 characters per record isn't enough, you can use DB Master Professional's relational capabilities to send data from one record to another. That lets you store things that don't change—names and addresses, for instance—in one place, and transfer that information somewhere else when you need to.

DB Master Professional allows computed, or calculated, fields, up to 99 per file: Just enter the formulas and the program recalculates automatically. To put 6 percent sales tax into field 7, based on a number in field 4, for instance, enter $F7 = F4 * .06$. The figure in field 4 can itself be a computed field.

The software also allows user-defined fields, which let you prescribe in exact detail what will be allowed (or not allowed) in a particular field—only numbers or letters, for instance, or only uppercase.

Other options include date fields (your choice of 11 formats), fields that accept only a yes or no answer, fields that display in dollar-and-cents format, even fields that allow entries only within a user-specified range of data (either numeric or alphabetical). DB Master Professional even gives you complete control over the way the cursor skips from field to field as you enter data: sequentially from first to last field as each appears on screen, or any other order that's more efficient.

DB Master Professional also lets you work with lookup tables—asking the program to display an item's description, wholesale price, and retail price, for example, all when you enter just the inventory number. For payroll, you could ask the system to look up a worker's name, wage, and other data when you enter that person's employee number.

The program provides two types of defaults—one in which a standard item is put into every field you specify, and one in which your last entry is duplicated in the current record. If you want to design a file in which the city, state, and zip code will usually be the same, DB Master Professional will enter those data for you. The program can copy all or just selected data from one file to another, as well as make a blank copy of the record format (without any data), which you can then use for a different purpose.

Perhaps DB Master Professional's most powerful feature is its relational capability, which lets you import or export data from one file or several to another, or to a report. A file can have up to 50 relational rules, involving up to nine other files. The process is surprisingly easy—it's all menu-driven. The only thing you really have to remember is that field lengths and types must

Chk #	Date	Item #	Payee or Source of Deposit	Amount of Check	Amt of Deposit	Book Balance	Statement Balance	t
-	30-MAY-87	1	Initial Deposit	-	10000.00	\$10000.00	\$10000.00	Y
101	01-JUN-87		Office Centers, Inc	1,200.00		8,800.00	8,800.00	Y
102	01-JUN-87		General Office Supp	37.50		8,762.50	8,762.50	Y
103	05-JUN-87		Anytown Power Co.	310.76		8,451.74	8,451.74	Y
107	01-JUL-87		Office Centers, Inc	1,200.00		7,251.74	7,251.74	Y
108	03-JUL-87		General Office Supp	15.00		7,236.74	7,251.74	Y
109	15-JUL-87		David Smith	717.87		6,518.87	6,533.87	Y
110	15-JUL-87		Meg Stevens	698.76		5,820.11	6,533.87	Y
111	15-JUL-87		John Doe	1,200.15		4,619.96	5,333.72	Y
112	15-JUL-87		Elizabeth Kent	1,176.75		3,443.21	4,156.97	Y
114	15-JUL-87		Anytown Power Co.	351.00		3,092.21	3,805.97	Y
-	17-JUL-87	1	Misc. Sales	-	3,315.97	6,408.18	7,121.94	Y
113	01-AUG-87		Office Centers, Inc	1,200.00		5,208.18	5,921.94	Y
115	15-AUG-87		David Smith	717.87		4,490.31	5,211.94	Y
116	15-AUG-87		Meg Stevens	698.76		3,791.55	5,921.94	Y
Press <Return> to continue, <Esc> to quit								
117	15-AUG-87		John Doe	1,200.15		2,591.40	5,921.94	Y
118	15-AUG-87		Elizabeth Kent	1,176.75		1,414.65	4,745.19	Y
Ending date: 15-AUG-87				Ending Balance:	1,414.65	Total Deposits:	13315.97	
				Statement Balance:	4,745.19	Total Payments:	11901.32	

Line:	in body	Page
1		1
2		No.
3		
4		Date
5		
6		
7		
8	Payto(orsource)	***Amtof
9		
S	10***F204-INT andFF/100 Dollars	30.....40.....50.....60.....70..
1	Transaction type	9 Memo for check
2	Check #	10 For:
3	Date	11 Acct #
4	Item #	12 Address line 1
5	Pay to (or source)	13 Address line 2
6	Amt of payment	14 Address line 3
7	Amt of deposit	15 Address line 4
8	Print check?	16 Returned?
		45 Date of entry
		46 Time of entry
		47 Comments
		48 Balance
		201 F201-10*(F6-INT(F6))
		202 F202-INT(F201)
		203 F203-10*(F201-INT(F2
		204 F204-INT(F6)

File Name	Type	Blocks	Modified	Created
PRODOS	SYS	32	30-JUN-88 14:30	30-JUN-88 14:30
AECLE	SYS	4	30-JUN-88 14:31	30-JUN-88 14:30
BASIC	SYS	21	30-JUN-88 14:31	30-JUN-88 14:31
PRODRIVE	BIN	4	30-JUN-88 14:31	30-JUN-88 14:31
DBMASTER.SYSTEM	SYS	14	12-AUG-88 09:13	12-AUG-88 09:12
STARTUP	BAS	1	30-JUN-88 14:35	30-JUN-88 14:35
V5.OFS	DIR	4	12-AUG-88 10:32	01-JUL-88 14:59
PRINTER.DRIVERS	DIR	3	12-AUG-88 09:22	01-JUL-88 14:59
V5.UTIL	DIR	1	01-JUL-88 15:18	30-JUN-88 12:17
UCOPY	BIN	11	25-JAN-88 09:35	08-APR-88 16:15
FILER	SYS	51	08-APR-88 00:00	08-APR-88 16:15
CHECKING.01	DBM	65	16-DEC-88 15:16	08-APR-88 16:15
INVOICES.01	DBM	48	15-DEC-88 09:17	08-APR-88 16:15
MAILING.LIST.01	DBM	50	05-MAY-88 09:25	08-APR-88 16:15
PROGRAMS.01	DBM	49	15-DEC-88 15:27	08-APR-88 16:15
CLIENT.LIST.01	DBM	48	15-DEC-88 15:18	08-APR-88 16:15
INVOICE.ONE.01	DBM	48	05-MAY-88 09:31	08-APR-88 16:15
INVOICE.TWO.01	DBM	48	05-MAY-88 11:52	08-APR-88 16:15

Top, spreadsheet-style report format with calculated fields. Middle, print checks, point-of-sale receipts, and other financial documents. Bottom, with its impressive array of ProDOS utilities, anything the Filer can do DB Master Pro can do better.

match in both files. It's cumbersome with floppy disks; the manual recommends a hard disk if you're to use relationals effectively.

DB Master Professional includes form-letter mail merge that lets you send personalized letters to just those people in your files you designate. It's as easy as typing in your text. The system includes "conditional" printing, as well, which lets you send all or parts of personalized letters to different people in your files, depending on the information in their records. It's also quick and easy to design and print mailing labels (one or more across).

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database, can be only as useful as your information and your forms are organized. In some database programs, the report process is awkward, especially if you have to design a complete format, including sorting and selection conditions, for each report. DB Master Professional, however, splits the process into four modules, an approach that lets you pick and choose exactly

<	less than
>	more than
=	equal to
>=	greater than or equal to
<=	less than or equal to
#	does not include
{	includes
*	begins with
?	any character
^	range (user-specified)
CD	current day
CM	current month
CY	current year
PD	previous day
PM	previous month
PY	previous year

Table. DB Master Professional sort criteria.

what you want to display or print, without designing a huge number of individual report formats.

First, the reporting part of the package is similar to form design: You see a window on screen, with a list of field names below it, and you select what you want the report to print and where on the page you'd like to see it. You can add comments, headers, footers, and the current date to any report. You can also request that specific information be printed in italics or boldface, or that numbers print in a dollars-and-cents format. You can specify the number of trailing zeroes, or what to print if a field is empty. The report-layout function also allows conditional printing, using if/then/else logic. In an accounting system, this lets you print one message on a customer's statement if the account is current, or else print another if it's past due.

The second part of any report is the sorting format—the way you want your information ordered. You can sort on any field (up to nine at a time) and even specify case sensitivity.

In DB Master Professional's third report module you tell the software the data you want to select. Do you want to examine or print all records, or just specific ones? And if you want to look

at and pull out only certain records, what are they and how do you want to select them? See the accompanying **Table** for a partial list of selection conditions.

Finally, select a print format. Tell the software the slot in which you've installed your printer and choose a printer driver—type of printer and print mode.

Once you've defined any number of each of these four modular formats and named each one, you're ready for a master report format. From a list of the "module names" the program displays, mix and match print-layout, sort, selection, and printer formats. You can save up to 255 master report formats for each file.

What this flexibility means is that you can create any number of any type of format, and mix and match them any way you need to. If you want all reports printed one way, create just one print-layout design and use it with any number of, say, selection formats, or any number of sort formats. You don't have to re-create a whole report each time you want to change one thing. In the end, this results in better data management: You won't hesitate to examine your information in different ways,

because you can get your data from the system whatever way it's most useful to you.

THE BOTTOM LINE

You'll be hard-pressed to find any real weaknesses in DB Master Professional. It could use more-detailed on-line help screens, perhaps; what you get now when you ask for assistance is a small box showing the page number in the manual where information is located. I did get lost now and again when I asked to change files and pulled the wrong floppy out before the prompt. To the program's credit, it never lost any data—I just had to get back to the main-menu screen and open the file again.

Every application has its own quirks and capabilities. Rarely, though, will you encounter a program as powerful yet easy to use as DB Master Professional. The bottom line? For data management on your Apple II, it's in a class by itself. ■

Gregory Glau is co-owner of Glau Heating and Air Conditioning and is a free-lance writer specializing in technology and computer-related topics. Write to him at 461 Canyon Springs, Prescott, AZ 86303.

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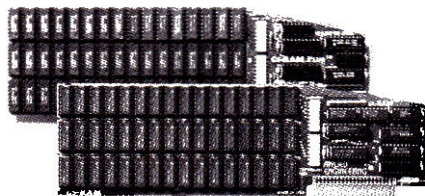
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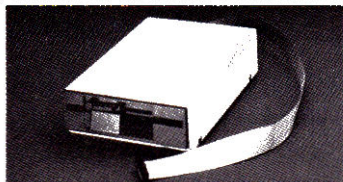
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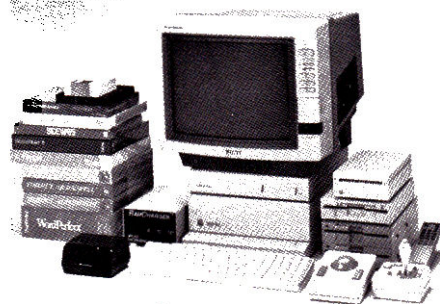
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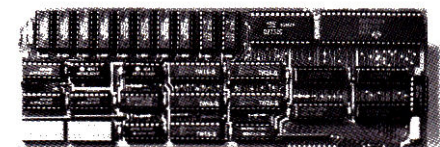
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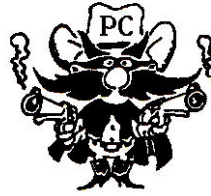
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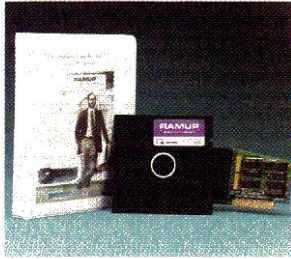
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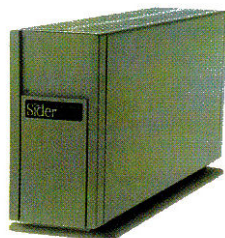
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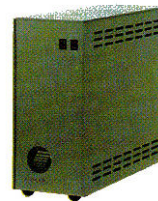
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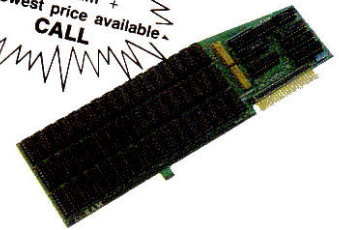
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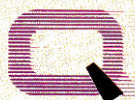
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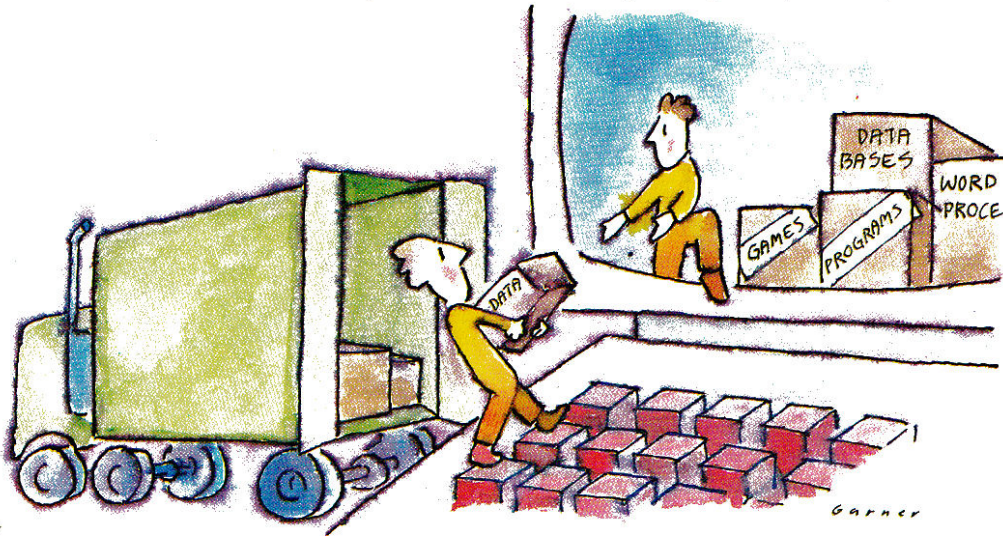
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Do You Need a HARD-DISK DRIVE?

Serious Apple II users need the speed, storage, and organization a hard-disk drive offers. In part 1 of a three-part article we'll show you what to look for before you buy.



By JEFF CABLE

Remember the first time you saw a 5¼-inch floppy disk? How could that little piece of plastic store more than 70 pages of information? You probably thought you'd never need another disk drive. Then you discovered 3½-inch disks, to the tune of 800K apiece—about 400 pages of text. If you're racking up thousands of pages, though, it might be time to take the next step—a hard-disk drive.

No one disputes the *convenience* of a hard-disk drive, but when does it become a *necessity*, not just a luxury? If your collection of program and data disks has swamped your computer table and you're constantly searching for a misplaced floppy, or your AppleWorks database has just grown to 450K, you're a candidate for a hard-disk drive. If you're saying to yourself, "I don't have anywhere near 20 megabytes of programs and data," remember that a hard-disk drive is like a garage: No matter how big you *think* it is, it always seems to fill up fast.

AT YOUR FINGERTIPS

Whether you own an Apple IIe, IIc, IIc Plus, or Apple IIgs, a hard disk makes your computing life easier in six ways. First is the convenience of putting the various parts of a multidisk program all in one place (if it's noncopy-protected). As Apple II software grows more and more

sophisticated, the complex code that gives you all those extra functions is taking up more and more space. It's particularly noticeable with GS programs, but even the latest 8-bit programs, such as Timeworks' Publish It!, may come on as many as four double-sided floppies. And if you're an avid AppleWorks user, you'll find you can add only so many accessories before you start to fill up even a 3½-inch disk.

Perhaps the most obvious example of a program crying out for a hard-disk drive is AppleWorks GS. Thousands of people have recently purchased or upgraded to Claris' six-in-one integrated package. When booting AppleWorks GS with only one disk drive, you have to swap between the system and program disks constantly. It's even worse if you're using the spelling checker or thesaurus—you have to insert a *third* disk, the one containing the dictionary. Using a hard drive, though, you just open the package, install it on the disk, and start working without swapping anything.

Second, if you use several programs often, you can load them onto your hard drive and then forget about having to find the floppy disks you need. If you own an Apple IIe and IIc, for example, you might have ProDOS as well as software such as AppleWorks, BusinessWorks, Beagle Bros' TimeOut Series, Pinpoint Desk Accessories, and Copy II Plus among the programs installed on your hard disk. If you have an Apple IIgs, you might install GS/OS, AppleWorks GS, Paintworks Plus, AppleWorks 2.1, some games, MultiScribe GS, GraphicWriter, and Medley, as well as a selection of fonts and desk accessories. ▶

HARD-DISK DRIVES

When you install several software packages on a hard disk, it's a good idea to create a new folder (or *subdirectory*, a file containing the names and locations of other, related files on disk) for each. This organizes your hard disk and creates a logical structure within which you'll distribute your data files. Without folders or subdirectories, you'd end up with hundreds of data files on the hard disk's main directory and you wouldn't know which ones belonged to which program.

A related advantage is the instant availability of fonts and desk accessories. You'd have to install them on each startup floppy, but a hard disk uses only one system folder, and therefore carries the proper additions into each program you enter from the drive. (If you've installed more than one system folder your hard drive won't know which to access and will respond with system-error messages.) For example, if you install 30 fonts or desk accessories on a hard disk for your Apple IIGS, you then have them available in all standard GS programs (those with the Apple menu bar at the top of the screen), from paint packages to word processors.

THE ELECTRONIC FILE CABINET

Fourth, your hard disk is ideal for storing large data files—customer or mailing-list databases, for instance, that would each exceed the size of a floppy. What's the difference? The capacity of floppy disks is measured in *kilobytes* (1K is approximately 1000 bytes). A 5¼-inch disk holds 143K; a 3½-inch disk holds 800K of information. Hard disks, on the other hand, are measured in *megabytes* (1000K of memory). Three years ago the most common hard disks were 5 and 10 megabytes. Common sizes today are 20 and 40 megabytes; many companies also sell 30-, 60-, 80-, and 150-megabyte hard disks, as well.

Until recently, ProDOS recognized only 32 megabytes of disk space. (GS/OS, a 16-bit ProDOS-type operating system for the IIGS, lets the machine handle larger-capacity hard disks with no problem.) To overcome this limitation you can "partition" a hard disk into multiple *volumes* of less than 32 megabytes each. A 60-megabyte hard disk, for instance, becomes two 30-megabyte volumes or three 20-megabyte volumes—one for games and entertainment software, another for utilities, and a third for productivity software and its related data files, say.

Fifth, your hard disk's multimegabyte capacity means you can stash large *numbers* of data files there, as well. If you're using your II to run a business, for instance, you can't do without a hard disk—storing information for hundreds of clients would leave you swimming in a sea of floppies. Again, it's important to set up organizational folders or subdirectories, perhaps one for each client or family member. Using a hard-disk drive without subdirectories is like trying to find an unfamiliar city without a map.

The sixth major advantage is the time you'll save in disk access. Unlike floppy-disk drives, hard disks remain fixed in their cases; you never see or remove them (although this is changing with the introduction of removable hard disks). Inside the casing is a large, rigid disk that spins continuously at high speed while read/write heads hover over the surface. (See the accompanying **Figure**.) The process is similar to floppy-disk access, except that the cylindrical hard disk and the read/write heads operate at a much faster rate. A hard-disk spindle rotates at upwards of 3600 revolutions per minute (rpm), while a floppy disk, after taking a second to get started, spins at only 360 rpm.

What does 3600 rpm mean for the user? Information access on most 20-megabyte hard disks takes approximately 65 milliseconds (thousandths of a second), while 40-megabyte drives average 25–40 milli-

seconds. That's three or four times the speed of Apple's 3½-inch drive. In general, the higher the disk capacity, the faster the drive.

WHICH ONE?

The particular Apple model you use narrows your range of choices among hard disks; the IIc and the IIc Plus can't use the same disks as the expandable IIe and GS. Because the IIc is a closed system, you can't add the interface cards that are necessary for many of the drives on the market. If you own a IIc, you need to find a drive that attaches to one of the computer's built-in ports.

In addition, you'll find two types of interfaces: proprietary and SCSI (pronounced *scuzzy*, small-computer-systems interface). A proprietary

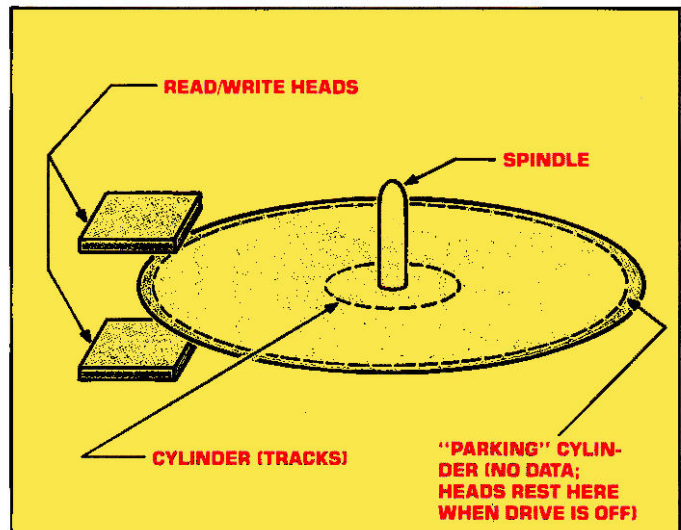


Figure. Anatomy of a hard-disk drive.

interface (in the form of a plug-in card) usually works only with that manufacturer's hard-disk drive and only in your Apple II or II compatible. If you buy a Macintosh or an MS-DOS computer, for example, you can't just plug in the hard disk unless the manufacturer also makes an interface card for that particular system.

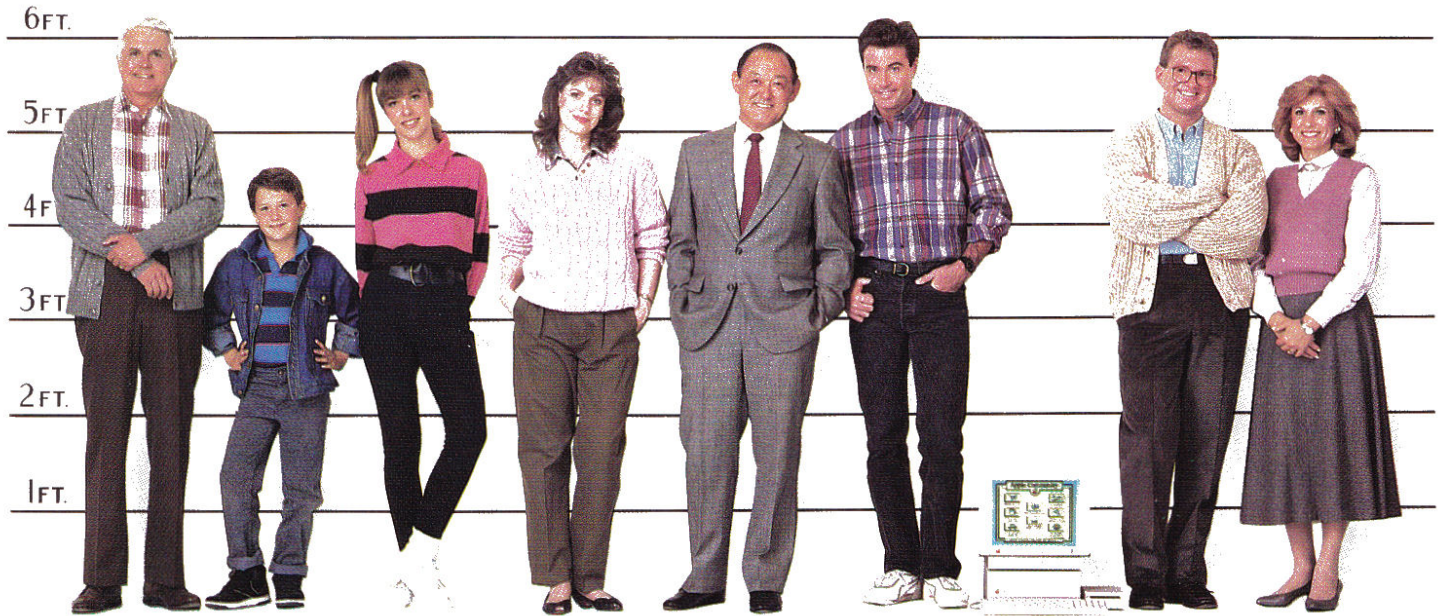
SCSI is a standard that comes in different flavors. If you think that sounds contradictory, you're right. In theory, any computer equipped with a SCSI interface will work with any SCSI hard-disk drive. Some companies, however, have developed proprietary versions of SCSI. You may have to buy a company's SCSI card with the drive.

One example of a SCSI standard is Apple SCSI. If you buy a hard-disk drive that follows the protocol for Apple SCSI, the drive will work with both the Mac, which has a built-in SCSI port, and your II if it's equipped with an Apple SCSI card. If your friend says he'll give you the SCSI drive he's using with his IBM PC, though, don't expect it to work with your Apple system.

In the next issue of *inCider* we'll explore the differences among drive models and compare SCSI and proprietary hard disks from ten manufacturers. If you're ready to opt for the convenience and speed of mass storage, take a look at part 2 and we'll help you make some decisions. ■

Jeff Cable, inCider's West Coast editor, is an application specialist and free-lance computer consultant. Write to him at Wolf Computer, 105 North Santa Cruz Avenue, Los Gatos, CA 95030. Enclose a stamped, self-addressed envelope if you'd like a personal reply.

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TAX TIME

As the IRS swoops down for the kill, smart Apple II users take shelter—in tax-preparation programs that'll help you organize your records and fill out those forms.

By CYNTHIA E. FIELD



IT'S BEEN CENTURIES SINCE SHAKESPEARE'S Macbeth uttered the timeless sentiment "If it were done when 'tis done, then 'twere well it were done quickly." But in 1989 those words still ring true, whether you're contemplating some vengeful act—or your annual income-tax return.

Most of the dozen time-saving tax-preparation programs reviewed here are geared toward the do-it-yourself taxpayer, but some of these products also offer quick data entry or batch-processing options that make them suitable for professional preparers. (We used "year-old" versions; 1989 updates should be available now.)

Like other types of productivity software, tax programs vary in performance, hardware requirements, and price. See the accompanying **Table** for a detailed program comparison and a checklist of the IRS forms and schedules each supports.

About half the products we looked at are spreadsheet templates requiring a separate program (**AppleWorks** or **Multiplan**) to run. Templates use the same commands as the "host" software; because they're files and not programs in their own right, templates are usually inexpensive, too.

With an AppleWorks template, for example, type in tax data where appropriate, press Open apple-K a few times, and watch calculated values fill in automatically. Formula-containing cells are tamper-proof, so you needn't fear deleting critical mathematics. Printing a tax form is as easy as using the Block command to highlight the area, then pressing Open apple-P to print it.

While tax-preparation software in general performs automatic, speedy calculations according to the regulations spelled out in the Tax Reform Act of 1986, few programs provide tax advice, though at least two software publishers package respected tax handbooks with their programs.

Some products offer planning features, as well—built in or available at extra cost—for performing tax projections during the year. The home-accounting program **Managing Your Money** offers a tax-planning module, but doesn't complete or print actual returns. In addition, some tax packages import information from AppleWorks spreadsheets or home-finance programs *if*

IT'S CLOSING IN



they're configured properly to smooth the transfer of data.

Tax programs print your individual federal income-tax return (few programs offer state modules) and usually provide several options for completing this task. Ordinarily, the IRS requires you to submit an original Form 1040, not a computer-generated facsimile. Most programs

can fill in the blanks on an original Form 1040 or print data on blank paper. Overlay this printout with a Form 1040 transparency and make a photocopy. An alternative for professional preparers is the tractor-fed Form 1040 business stationers sell. Most tax-preparation programs print nonsignature forms and schedules in IRS-acceptable style on green-bar or lined paper of minimum 18-pound weight.

If you don't own a printer, consider using a tax program to perform calculations even though you'll have to transfer data manually from the computer screen to the appropriate IRS form.

Here's a brief look at the dozen "something for everyone" tax-preparation programs available this season.

1040WORKS

If you already know your way around AppleWorks spreadsheets, save time and money with templates such as **1040Works** or **1040Works X**. (For a preview of an AppleWorks spreadsheet template that assists in completion of Canadian personal income-tax returns, see the accompanying sidebar, "Tax Analysis Canadian-Style.")

Developed by Phineas R. Fiske, a certified financial planner, **1040Works** (128K required) and **1040Works X** (256K required) help you prepare nearly 20 of the most commonly required federal tax forms

and schedules and generate printouts of nonsignature forms in IRS-acceptable format.

According to Fiske, about half his customers opt for **1040Works X** with its main, integrated, 78K spreadsheet module containing Forms 1040, 2441, and 6251, as well as Schedules A, B, D, E, and SE. The ►

	EZ Tax- Prep 1040	KFS/Tax	Swiftax	Tax Command Professional	Taxmaster	Tax- master.Pro	Tax Preparer
Price	\$95	\$24.95 5 1/4" \$27.95 3 1/2"	\$89.95	\$49.95	\$50	\$75	\$250
Discount annual update	40%	\$10	50%	50%	50%	50%	\$75
Copy protection?	N	N	N	N	N	N	N
Media in package	5 1/4"	5 1/4" or 3 1/2"	5 1/4" (3 1/2" swap)	5 1/4"	5 1/4"	5 1/4"	5 1/4" & 3 1/2"
Minimum hardware	128K	128K	128K	64K	128K	128K	64K
Operating system	DOS 3.3	ProDOS	ProDOS	ProDOS	ProDOS	ProDOS	ProDOS
Software required	Multiplan	AppleWorks	—	—	AppleWorks	AppleWorks	—
Prints client letter?	Y	N	N	N	N	N	Y
Batch printing?	Y	N	N	N	N	N	Y
Tax guide included?	N	N	Y	N	N	N	N
Multiyear planning?	N (extra cost)	Y (2 years)	N	N	N (extra cost)	N (extra cost)	Y (beyond 1990)
Total # forms	27	19	17	15	19	19	24
Form 1040?	Y	Y	Y	Y	Y	Y	Y
Form 1040A?	N	N	Y	N	N	N	N
Form 1040EZ?	N	N	Y	N	N	N	N
Form 1040ES?	Y	N	N	Y	N	N	Y
Schedule A?	Y	Y	Y	Y	Y	Y	Y
Schedule B?	Y	Y	Y	Y	Y	Y	Y
Schedule C?	Y	Y	Y	Y	Y	Y	Y
Schedule D?	Y	Y	Y	Y	Y	Y	Y
Schedule E?	Y	Y	Y	Y	Y	Y	Y
Schedule F?	Y	N	Y	Y	N	N	Y
Schedule R?	Y	N	Y	Y	Y	Y	Y
Schedule SE?	Y	Y	Y	Y	Y	Y	Y
Form W-4?	N	N	N	N	Y	Y	N
Form 2106?	Y	Y	Y	Y	Y	Y	Y
Form 2119?	Y	Y	N	Y	Y	Y	Y
Form 2210?	Y	N	N	N	N	N	Y
Form 2441?	Y	Y	Y	Y	Y	Y	Y
Form 3468?	N	N	N	N	N	N	Y
Form 3800?	Y	N	N	N	N	N	Y
Form 3903?	Y	Y	Y	Y	Y	Y	Y
Form 4562?	Y	Y	Y	N	Y	Y	Y
Form 4684?	Y	N	N	N	N	N	N
Form 4797?	Y	N	N	N	N	N	Y
Form 4868?	N	N	N	N	N	N	N
Form 4952?	Y	N	N	N	N	N	N
Form 4972?	Y	Y	N	N	N	N	N
Form 5329?	N	Y	N	N	N	N	N
Form 6251?	Y	Y	Y	N	Y	Y	Y
Form 6252?	Y	N	N	N	N	N	Y
Form 8582?	Y	Y	N	N	Y	Y	Y
Form 8598?	Y	Y	N	N	Y	Y	Y
Form 8606?	N	Y	N	N	Y	Y	N
Form 8615?	Y	Y	Y	Y	Y	Y	Y
Form 8801?	Y	N	N	N	N	N	N
Form 8283?	N	N	N	N	N	N	N



KEY

- Form 1040** = individual income-tax return
- Form 1040A** = simplified individual income-tax return
- Form 1040EZ** = shortest individual return, no deductions
- Form 1040ES** = estimated tax
- Schedule A** = itemized deductions
- Schedule B** = interest and dividend income
- Schedule C** = profit/loss from business or profession
- Schedule D** = capital gains/losses
- Schedule E** = supplemental income
- Schedule F** = farm income and expenses
- Schedule R** = credit for elderly and disabled
- Schedule SE** = Social Security self-employment tax
- Form W-4** = withholding tax
- Form 2106** = employee business expense
- Form 2119** = sale/exchange of principal residence
- Form 2210** = underpayment of estimated tax
- Form 2441** = credit for child and dependent care
- Form 3468** = investment credit
- Form 3800** = general business credit
- Form 3903** = moving expenses
- Form 4562** = depreciation and amortization
- Form 4684** = casualties and thefts
- Form 4797** = gains/losses from sales/exchanges
- Form 4868** = application for automatic extension of time to file
- Form 4952** = investment interest expense
- Form 4972** = tax on lump-sum distribution
- Form 5329** = Individual Retirement Account and retirement-plan taxes
- Form 6251** = alternate minimum tax
- Form 6252** = installment-sale income
- Form 8582** = passive-activity loss limit
- Form 8598** = deductible home-mortgage interest
- Form 8606** = nondeductible IRA contributions
- Form 8615** = tax for children under 14
- Form 8801** = minimum tax credit
- Form 8283** = noncash contributions

Table. Feature-comparison chart for 12 Apple II tax-return-preparation programs. Y = yes; N = no; K = kilobytes; MB = megabytes; N/A = information not available.

Tax Spreadsheet	TaxView Federal GS	1040Works	1040Works X	Tax Advantage
\$19.95	\$119	\$24.95	\$27.95	\$59.95
\$10	N/A	15%	15%	"substantial"
N	N	N	N	N
5 1/4"	3 1/2"	5 1/4" or 3 1/2" (\$3 extra)	5 1/4" or 3 1/2" (\$3 extra) ProDOS	5 1/4" DOS 3.3, 5 1/4" ProDOS, 3 1/2" ProDOS
48K	768K & two 3 1/2" drives, or 1.25 MB	128K	256K	48K
DOS 3.3	ProDOS 16	ProDOS	ProDOS	DOS 3.3 or ProDOS
—	—	AppleWorks	AppleWorks	—
N	N	N	N	N
N	N	N	N	N
N	Y (2)	N	N	N
N	Y (5 years, extra cost)	N	N	N
11	29	18	18	12
Y	Y	Y	Y	Y
Y	Y	N	N	N
N	Y	N	N	N
N	Y	N	N	N
Y	Y	Y	Y	Y
Y	Y	Y	Y	Y
Y	Y	Y	Y	Y
Y	Y	Y	Y	Y
Y	Y	Y	Y	Y
N	Y	Y	Y	N
Y	Y	Y	Y	Y
N	N	N	N	N
Y	Y	Y	Y	Y
N	Y	N	N	N
N	Y	N	N	N
Y	Y	Y	Y	Y
N	N	N	N	N
N	N	N	N	N
N	Y	Y	Y	N
N	Y	Y	Y	Y
N	Y	N	N	N
N	Y	N	N	N
N	Y	N	N	N
N	Y	N	N	N
N	N	N	N	N
N	N	N	N	N
N	N	N	N	N
N	Y	Y	Y	Y
N	Y	N	N	N
N	Y	Y	Y	N
N	Y	Y	Y	N
N	Y	Y	Y	N
N	Y	Y	Y	N
N	N	N	N	N
N	Y	N	N	N

Some tax products are templates — files that use the same commands as their 'host' software.

the schedules and forms most taxpayers require and fits easily on an unexpanded AppleWorks desktop running on any 128K Apple II.

Separate templates, Business.Tax and Suppl.Income, handle business-related forms (Schedules C and SE and Form 4562) and rental real-estate-related forms (Schedule E and Forms 8582 and 4562), respectively. Less frequently used forms are included as individual templates.

KFS/Tax comes with two Planner spreadsheets for forecasting taxes for the current year and one year hence. You also receive enough green-bar paper to prepare your return and a utility for generating lined paper. One significant feature that's hard to beat is Kronk's "satisfaction guaranteed" refund policy.

TAXMASTER

Oriented vertically instead of horizontally, **Taxmaster** and **Taxmaster.Pro** templates work more or less like those previously described, but they don't yet match the standard of quality set by 1040Works, 1040Works X, or KFS/Tax.

Taxmaster's computer-generated forms and schedules print in elite type size and don't resemble IRS-approved forms closely enough. At press time, product developer Douglas M. Smith of Island Computer Services indicated that the company was correcting this deficiency and improving the program's loosely written documentation.

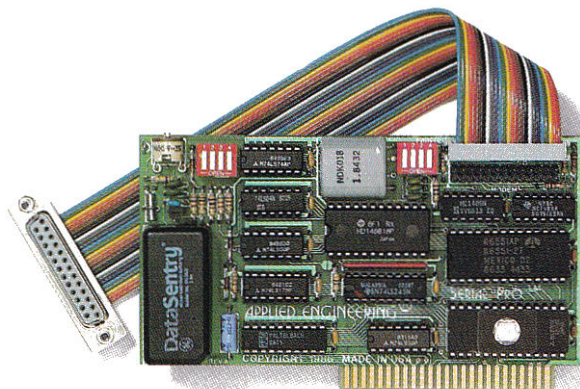
These criticisms aside, Taxmaster and Taxmaster.Pro aren't without merit. Taxmaster.Pro offers one particularly nice feature: separate templates for clients with differing tax needs. One template, for the "average" taxpayer, contains Form 1040 and Schedules A and B; another, for a self-employed individual, groups the 1040 with Schedules A, B, C, and SE. Yet at \$50 and \$75, respectively, Taxmaster and Taxmaster.Pro seem overpriced and underfeatured compared to the competition. ▶

ers and notes tell you where to enter data.

Like the U.S. tax-preparation programs described in the accompanying article, Tax Analysis automatically handles the calculations that determine your tax liability and can be ideal for making tax projections during the year. It prints working facsimiles you use as references when transferring data to the actual government forms you submit.

Available in 5¼-inch format, Tax Analysis runs on the Laser 128 as well as the Apple IIc, enhanced IIe, or IIgs. It's priced at \$27.50. According to Granite Software, any version of AppleWorks will do. □ —C.F.

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
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- 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.

Clock Calendar Features

- ProDos, DOS and AppleWorks compatible. Displays time and date on the AppleWorks screen
- Automatically time and date stamps AppleWorks files
- 20 year auto recharging nickel-cadmium battery
- 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 and instructions for interfacing to all the leading printers and modems.

Serial Pro **\$139**

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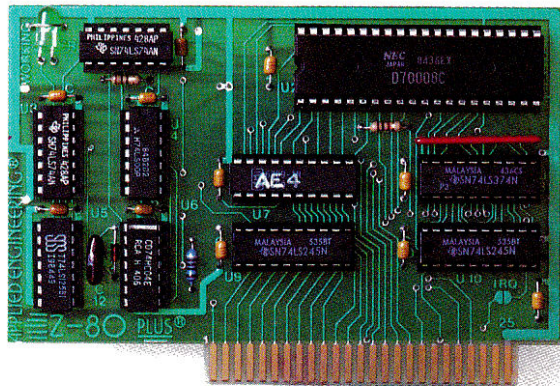
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The new 5.1 boasts advanced features like built-in disk emulation for popular memory expansion boards, boosting both system speed and storage capacity. And menu-driven utilities that let you get to work faster. The Z-80 Plus also lets you run older CP/M programs—all the way down to Version 1.6 (2.2 is the most popular).

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CPM is a registered trademark of Digital Research.



Most programs are geared toward the do-it-yourself taxpayer,

EZTAX-PREP 1040

The most powerful of the tax template packages, **EZTax-Prep 1040**, is weakened by its dependence on the now-discontinued spreadsheet program Multiplan. If you own Multiplan, however, take a close look at this product, especially if you're a professional tax preparer. (According to EZWare Corporation, about 58 percent of its customers are.)

EZTax-Prep 1040 completes nearly 30 forms and schedules and includes professional tax-service features such as batch processing, a client letter, and a tax-organizer data form. Audit Alert, a function unique to EZTax-Prep, compares itemized deductions on a given return to those taken by an average taxpayer with the same adjusted gross income, as reported by the IRS.

PRODUCT INFORMATION

AppleWorks 2.0, \$249

AppleWorks GS, \$299

Clarix Corp.
440 Clyde Ave.
Mountain View, CA 94043
(415) 960-1500

Reader Service No. 321

AutoWorks, \$49.95

MacroWorks, \$17.50

Super MacroWorks,

\$49.95

Beagle Bros
6215 Ferris Square
San Diego, CA 92121
(619) 452-5500

Reader Service No. 322

Dollars and Sense

Monogram Software

531 Van Ness Ave.
Torrance, CA 90501
(213) 533-5120

\$119.95

Reader Service No. 323

EZTax-Prep 1040, \$95

EZWare Corp.
29 Bala Avenue
Bala Cynwyd, PA 19004
(215) 667-4064

Reader Service No. 324

The Home Accountant

Arrays Inc.
6611 Valjean Ave.
Van Nuys, CA 91406
(818) 994-1899

\$99.95

Reader Service No. 325

KeyPlayer

Pinpoint Publishing
5865 Doyle Street
Emeryville, CA 94608
(415) 654-3050

\$49.95

Reader Service No. 326

KFS/Tax

Kronk Financial Services
7172 Muirfield Lane
Eden Prairie, MN 55346
(612) 937-0389

\$24.95 plus \$2, 5¼"

\$27.95 plus \$2, 3½"

Reader Service No. 327

Managing Your Money

MECA Ventures
355 Riverside Ave.
Westport, CT 06880
(203) 226-2400

\$219

Reader Service No. 328

On Balance

Broderbund Software
17 Paul Drive
San Rafael, CA 94903
(415) 492-3200

\$59.95

Quicken

Intuit
540 University Ave.
Palo Alto, CA 94301
(415) 322-0573

\$49.95

Reader Service No. 329

but some also offer batch-processing options for professional preparers.

Some include tax handbooks."

TAX PREPARER

A powerhouse program, **Tax Preparer** from HowardSoft features an incomparable level of automation. With some two dozen built-in forms, the program performs up to 300 automatic transfers of data, negating the need for duplicating entries manually. The latest restyled version of the program exploits memory beyond the minimum 64K required and processes calculations at the speedy machine-language level.

Accommodating various working styles, Tax Preparer offers a Road Map entry path for beginners. Branch off sequentially to appropriate forms and schedules from the on-screen facsimile of the 1040. An alternative mode lets you select any schedule or form at will.

A special utility translates data from a previous year into a format

Swiftax

Timeworks
444 Lake Cook Road
Deerfield, IL 60015
(312) 948-9200
\$69.95
Reader Service No. 330

The Tax Advantage

\$59.95
California Tax Advantage, \$39.95 plus \$2.60 CA sales tax and \$2.50 shipping
Double Eagle Software
2340 Plaza Del Amo
Torrance, CA 90501
(213) 212-6611
Reader Service No. 331

Tax Command Professional

Practical Programs
P.O. Box 93104
Milwaukee, WI 53203
(414) 272-7227
\$49.95
Reader Service No. 332

Taxmaster, \$50

Taxmaster.Pro, \$75

Taxmaster Planner, \$50

Island Computer Services
3501 East Yacht Drive
Long Beach, NC 28465
(919) 278-9483
Reader Service No. 333

Tax Preparer \$250 California Supplement, \$95

HowardSoft
1224 Prospect St.
Suite 150
La Jolla, CA 92037
(619) 454-0121
Reader Service No. 334

Tax Spreadsheet for the Apple II

Steven Karasek
855 Diversey Drive
St. Louis, MO 63126
(314) 961-2052
\$19.95 plus \$2 shipping
Reader Service No. 335

TaxView Federal Iics, \$119

State Supplements (CA or NY), \$65
TaxView Planner, \$119
SoftView Inc.
4820 Adohr Lane
Suite F
Camarillo, CA 93010
(800) 622-8829
(805) 388-2626
Reader Service No. 336

1040Works, \$24.95,

\$27.95 3½-inch disk

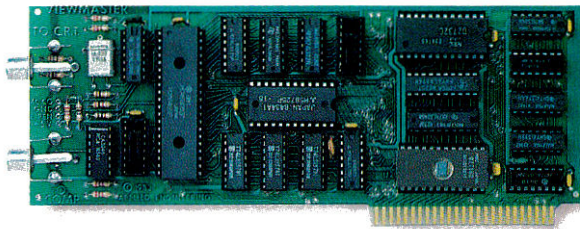
1040Works X, \$27.95,

\$30.95 3½-inch disk

Personal Financial Services
P.O. Box 1401
Melville, NY 11747
(516) 261-8652
Reader Service No. 337

FOR THE II+

There used to be a dozen 80 column cards . . . only the best survived



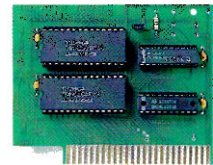
Viewmaster 80™

There's a good reason why Viewmaster 80™ has left the competition in the dust . . . total compatibility. From our free AppleWorks enhancement software to our famous warranty and complete technical support, Viewmaster 80 stands head and shoulders above any other 80 column card.

The powerful software we include allows your II+ to run AppleWorks with as little as 64K (or more) of memory. (We recommend the RamFactor memory card, but any compatible Apple memory card will work). AppleWorks runs with expanded records and word processor lines, and added features like multi-disk savings, time and date display with any ProDOS clock and many, many more.

16K Pocket Rocket™

Also for II+ owners, our Pocket Rocket expands your internal memory 16K to 64K and allows your II or II+ to run ProDOS. It's fully compatible with Applesoft, CP/M and Pascal and the low chip count reduces power requirements.



Lowercase ROM Chip™

Add lowercase capability to your II or II+ with AE's Lowercase ROM Chip. Fully supported by AppleWriter and other word processing programs, the chip makes communicating easier. Also supported by AE's On Line 64 communications software, included with our DataLink™ modem.

Viewmaster 80	\$159
16K Pocket Rocket	\$89
Lowercase ROM Chip	\$24

Applied Engineering also makes a complete line of II and II+ compatible memory cards, accelerator cards and other peripherals.

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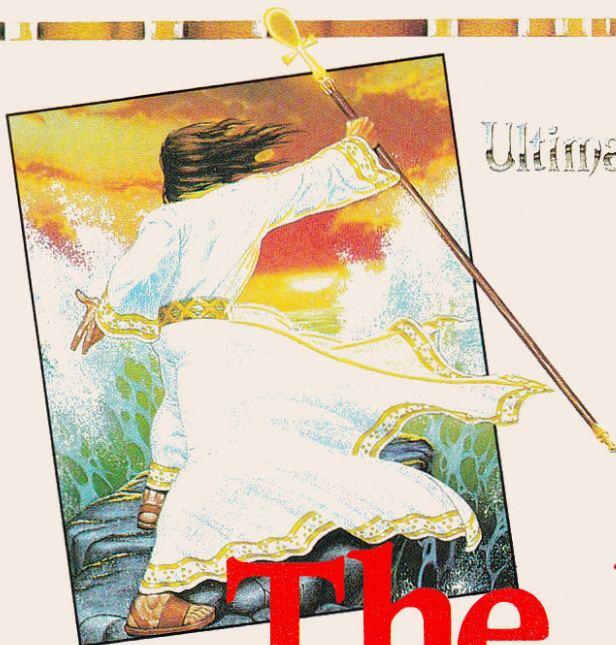
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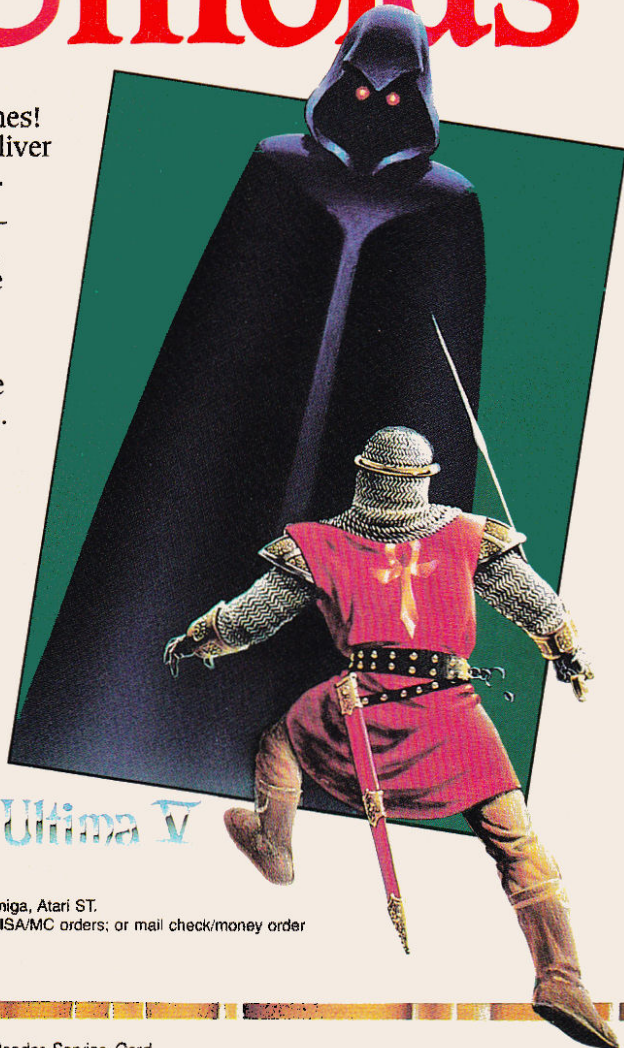
In *Ultima IV* and *Ultima V*, Lord British weaves the spellbinding tale of the Avatar – a quest for spiritual enlightenment and a test of virtue gone awry. It's one incredible story in two captivating games! And while each stands alone, together they deliver unparalleled intensity and incomparable depth.

The Avatar's epic tale expands the world of Britannia. While it still contains demons and devils, puzzles and pitfalls, and magic and myths, the heroes now face difficult moral decisions . . . and true character is revealed.

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nce you've found a tax-preparation program that suits your style, you won't greet each New Year as the beginning of some sort of communal death row."

consistent with the current year's version. Consequences of the Tax Reform Act of 1986 are built in past 1990, letting individuals or professionals create instant "what if" scenarios with their own or their clients' tax situations.

Two high-volume methods of data entry are also available. A professional or a clerical employee can enter information for as many as 15 clients at a sitting and print the tax returns in a single batch, complete with client letter and billing statement—all unattended. Clearly not designed for the average individual, Tax Preparer works best for investors with complex tax lives and for professional preparers with high-volume businesses.

TAX SPREADSHEET

Tax Spreadsheet for the Apple II, the least expensive program reviewed here, is also the least capable. Type in an unanticipated entry and you're likely to get the unexplained message "***File Error 6." Taxpayer information entered at the outset can't be edited later without losing data. Here's an example of the manual's somewhat less-than-comprehensible style: "If you have a multiple-sheet printer which will do a form feed when ascii [sic] code 12 is sent to it, answer Y."

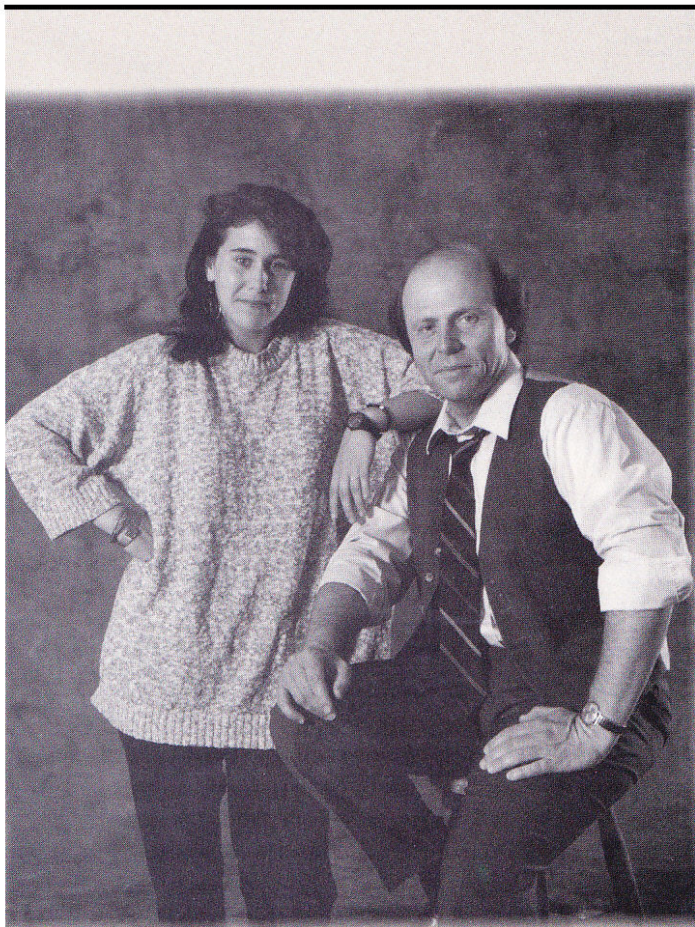
The program overly "condenses" IRS instructions. You'll need to cross-reference screen lines with actual government forms to answer even simple questions such as "Filing Status (1-5)?"

With Tax Spreadsheet's unsatisfactory error handling, "techie" documentation, and operational quirks, you may be better off doing your taxes the old-fashioned way—with a pencil, calculator, and a bottle of Excedrin.

TAX COMMAND PROFESSIONAL

Better still, take a look at **Tax Command Professional**, a menu-driven program that requires only 64K and performs calculations for more than a dozen forms and schedules, including two Schedule Cs and SEs for self-employed spouses or single taxpayers who run two businesses. For all taxpayers, the program determines automatically whether taking the standard deduction or itemizing on Schedule A is more favorable. Other automated features include reduction of medical expenses by 7.5 percent of adjusted gross income on Schedule A and disallowing more than \$3000 for a capital loss on Schedule D.

Tax Command Professional has a handy, four-function "calculator" built in. The program prints data directly on official IRS forms, but ▶



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"I'm in a drug information program in school, and have gotten a lot of information on CompuServe. I start with the online encyclopedia for specific information, and branch out from there."

— Jaime Lewis, High School Student
Steve Lewis, Computer Consultant



ou may even be able to coax Uncle Sam into underwriting the cost of this addition to your software library. Maybe revenge can be sweet."

you'll have to enter noncomputed information manually. Despite this minor inconvenience, Tax Command Professional's \$49.95 price tag makes it one of the least expensive stand-alone programs for Apple IIs with less than 128K.

THE TAX ADVANTAGE

Another easy-to-use menu-driven program, **The Tax Advantage**, comes with a self-running demonstration on disk to give you a feel for the program's operations.

Select from crystal-clear menu options and, when working on individual forms and schedules, use the command keys listed at the bottom of the screen: E to enter a value, I to itemize any line, H to access the program's on-line help. About the only awkward feature is the program's lack of support for the arrow keys; use the D (down) or U (up) keys instead.

The Tax Advantage prints directly on an original Form 1040 and underlines every other line on nonsignature forms to comply with IRS regulations. The program doesn't prepare completed forms, however. It prints a "greater than" sign in the margin of each form or schedule to remind you about information you need to fill in manually.

Designed for do-it-yourselfers, The Tax Advantage is nevertheless

suitable for small-scale tax professionals, even someone with a 48K, DOS 3.3-driven Apple II or II Plus. Not that The Tax Advantage hasn't kept up with the times: ProDOS versions in both 5¼-inch and 3½-inch format are also available. The Tax Advantage offers an added bonus for home users—it imports data from **The Home Accountant**.

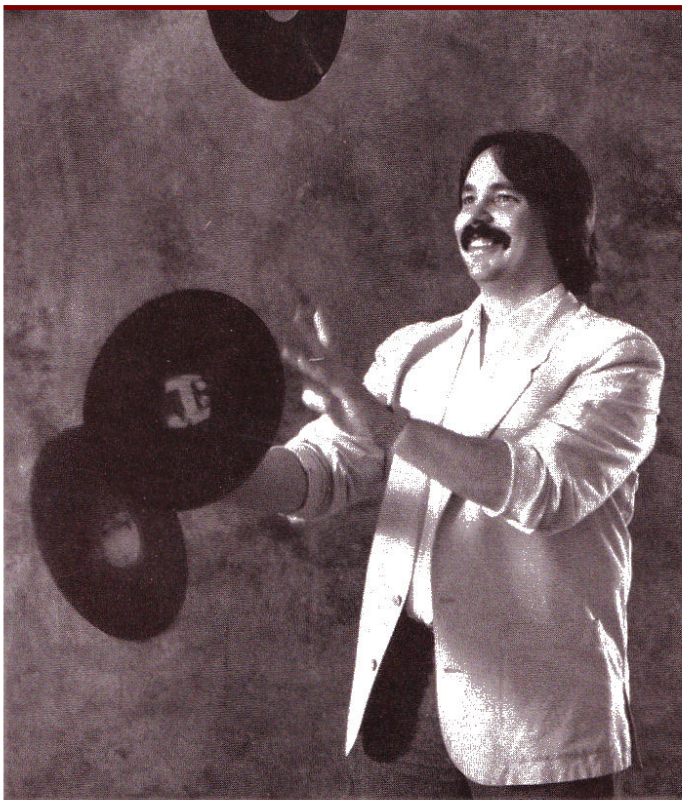
SWIFTAX

Those who eschew both spreadsheets *and* menu-driven interfaces might prefer **Swiftax** with its nonstandard pull-down menus: Press the right- or left-arrow key and the menu automatically pulls down; use the up- and down-arrow keys and Return to make selections. Swiftax doesn't support the mouse, though. Speedup keys, including Open apple-Up arrow and Control-S combinations (for moving to the top of a form and saving data, respectively) make Swiftax swifter.

Unfortunately, the two double-sided floppies packaged in the retail version demand a fair amount of disk swapping on one-drive systems. Users with higher-capacity drives can swap the 5¼-inch disk for a 3½-

At press time Swiftax '89 was slated for a number of improvements, including screen facsimiles that mirror actual IRS forms more closely. The *Price-Waterhouse Personal Tax Advisor*, an easy-reader tax guidebook, is included free. ▶

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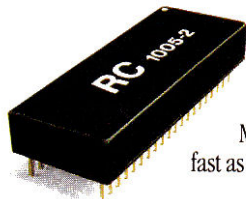
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"



f there's such a thing as love at first sight in the world of tax software, TaxView Federal IIGS will steal a GS owner's heart."

TAXVIEW FEDERAL IIGS

If there's such a thing as love at first sight in the world of tax software, **TaxView Federal IIGS** will steal a GS owner's heart.

With its pull-down menus, windows, dialog boxes, and mouse support, TaxView Federal is also startlingly WYSIWYG (what you see is what you get): Forms and schedules that appear on screen are identical to their IRS counterparts. And TaxView is the only program we know of that prints IRS-acceptable signature forms, including the 1040, 1040A, and 1040EZ. The program is powerful with a capital *P*, handling some 29 forms and schedules. To fill in a form, just click on a data area and type.

Unfortunately, all this elegance comes at a heart-breaking price—TaxView Federal IIGS takes more than six minutes to load, and that's lightning fast compared to its printing speed.

To generate a completed Form 1040EZ (the one that probably takes no more than a few minutes to fill out with a hand-held calculator and ballpoint pen) in IRS-acceptable, graphics mode monopolizes an ImageWriter II for more than 11 minutes. (Printing just the data on an original IRS form takes less than three minutes.) According to program documentation, it "may take several hours to print a complete, moderately complex tax return." TaxView could be the excuse you've

been waiting for to invest in a print spooler.

Despite its lethargy, TaxView is attractive and deserves consideration by GS users who are willing to sacrifice speed for the pleasure of working in the graphics environment.

READ MY DISKS

Once you've found a tax-preparation program that suits your style, you won't greet each New Year as the beginning of some sort of communal Death Row sponsored by the IRS. Depending on your final tally of miscellaneous Schedule A deductions and your adjusted gross income, you may even be able to coax Uncle Sam into underwriting the cost of this newest addition to your Apple II software library. Maybe revenge *can* be sweet. ■

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



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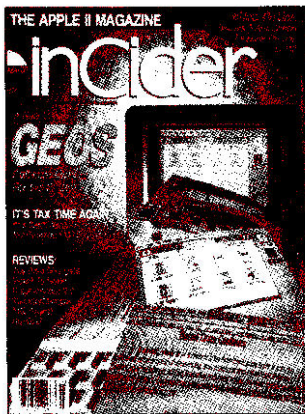
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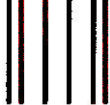
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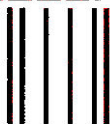
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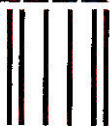
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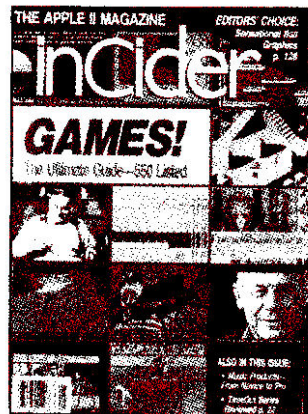
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Go Bananas.



Spreadsheet Billing System

Turn to *AppleWorks'* spreadsheet for tailor-made customer statements.

by Ruth K. Witkin

Charges and payments determine the success of any business. If you run a small business and don't need a full-blown accounts-receivable program, look closely at this month's spreadsheet, which lets you send timely statements to customers and maintain internal records of accounts.

A small landscaping business called Nature's Garden uses the customer statement shown in **Figure 1**. Because the company does lawn and garden maintenance only, this spreadsheet's designed to handle services performed. With only slight modification, you can make it work equally well for products sold (as you can see in **Figure 2**).

Nature's Garden operates in three counties with three different sales-tax rates. The easy approach is to assign a number to each county, create a lookup table (shown in rows 45 through 47) containing the numbers and corresponding sales-tax rates, then use a lookup formula to select the proper rate. You'll learn more about this operation below, in the explanation of the spreadsheet's formulas.

A SPREADSHEET FROM SCRATCH

Use the AppleWorks Startup and Program disks to make a new file for the spreadsheet. Name this file **STATEMENT**. You should now see the spreadsheet Review/Add/Change screen with the cursor in A1. Now use the following summary to start the spreadsheet.

Long lines. Enter a double line across row 16 in columns A through F: Place the cursor on A16 and type quotation marks; hold down the equal-sign key until the sign reaches the right edge of F16, and hit Return. Leave the cursor on A16, and copy the row to the clipboard: Press OA-C to start the Copy command; type T to select *To clipboard*, and press Return.

Next, copy the row containing the line from the clipboard into rows 18 and 30: Place the cursor on A18; press OA-C and type F to select *From clipboard*; now place the cursor on A30; again, press OA-C and type F.

Column width. Each column is now nine characters wide. Use the Layout command (OA-L), *Columns* option, and *Col-*

umn width option to adjust column widths as follows: Reduce columns A and B to five characters each; increase column C to 13 characters and column D to 21 characters; increase columns E and F to 11 characters each.

In the statement, column B provides a narrow column for the area numbers in the lookup table (rows 45 through 47). ▶

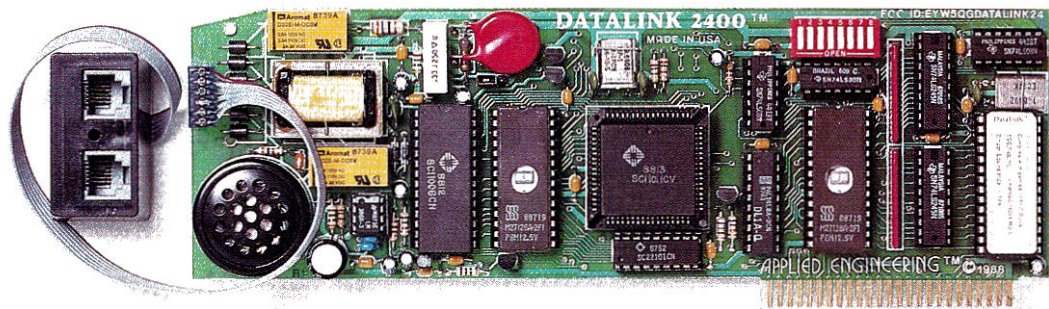
```

=====A=====B=====C=====D=====E=====F=====G=====
1|                                     NATURE'S GARDEN
2|                                     178 ELMWOOD STREET
3|                                     ABNER, NEW YORK 17787
4|                                     (515) 555-0321
5|
6|
7| JUNE 6, 1989                                     STATEMENT #       776
8|
9|
10| STATEMENT TO:                                     **** JUNE SPECIAL ****
11|
12| ROBERT WETHERILL                                     THREE PLANTINGS OF
13| 110 COUNTRY LANE                                     IMPATIENS, ANY COLOR,
14| ABNER, NEW YORK 11723                               ONLY $32. CALL TODAY!
15|
16|=====
17| REF #   DATE   SERVICE   PAYMENTS   CHARGES
18|=====
19| 1       1     BALANCE FORWARD-----> $42.48
20| A0170   APR 5, 89  CLEAN UP                                     $110.00
21| A0212   MAY 6     LAWN MAINTENANCE                             $21.50
22| A0251   MAY 13    LAWN MAINTENANCE                             $21.50
23| A0304   MAY 13    TREE SPRAYING                                 $14.00
24|        MAY 19    PAYMENT                                     $32.48
25| A0337   MAY 21    LAWN MAINTENANCE                             $21.50
26| A0359   MAY 25    GRUB CONTROL                                 $19.00
27|
28|
29|
30|=====
31|                                     SUBTOTAL                                     $217.50 1
32|                                     SALES TAX 2 8.25%                             $17.12 3
33|
34|                                     AMOUNT DUE                                     $234.62 4
35|
36|
37|
38| THANK YOU.
39|
40| ** DO NOT PRINT **
41|
42| SALES TAX TABLE
43| AREA     RATE
44|-----
45| 1         8.25%
46| 2         7.50%
47| 3         6.75%
48|

```

Figure 1. AppleWorks spreadsheet designed as statement of services to customers.

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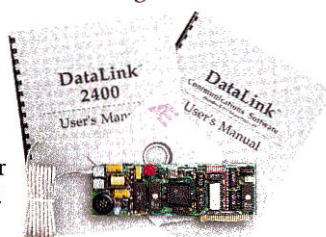


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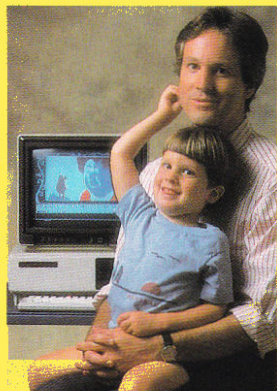
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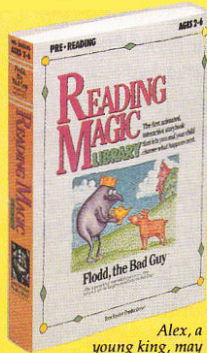
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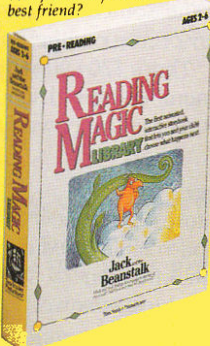
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In the invoice (Figure 2), it serves as a buffer between the right-justified numbers in column A and the left-justified labels in column C.

Short lines. Enter the short line in row 34: Place the cursor on F34 and type quotation marks; press the spacebar twice, type eight minus signs, and move the cursor to B44; type quotes, then 18 minus signs (to bring the sign to the right edge of C44), and hit Return.

Labels and other information. Referring to Figure 1, enter labels, letterhead information, statement date, customer information, promotional blurb, reference numbers, dates, services, payments, charges, and lookup table—in other

words, everything but the numbers in E33, F32, F33, and F35, which the formulas generate. Cell A19 holds the area number: 1 means our hypothetical Mr. Wetherill lives in an area where the sales tax is 8.25 percent.

Before you start, read these few notes about cell locations and other matters to guide you along the way:

- 1) In D2 and A13, type quotation marks first to tell AppleWorks the street address is a label, even though it starts with a number.
- 2) In D4 type quotation marks first to tell AppleWorks the phone number is a label, even though it starts with a parenthesis.
- 3) In E10 type quotation marks before

A	B	C	D	E	F	G
11			GARDEN SUPPLY COMPANY			
21			178 ELMWOOD STREET			
31			ABNER, NEW YORK 17787			
41			(515) 555-0321			
51						
61						
71	JUNE 6, 1989			INVOICE #	776	
81				YOUR P.O. #	1234	
91						
101	BILLING ADDRESS:			SHIPPING ADDRESS:		
111						
121	WETHERILL HARDWARE			WETHERILL HARDWARE		
131	110 COUNTRY LANE			258 IMPATIENS DRIVE		
141	ABNER, NEW YORK 11723			REDFORD, NEW YORK 11806		
151						
161						
171	QTY	STOCK #	DESCRIPTION	UNIT PRICE	TOTAL	
181						
191	1		BALANCE FORWARD		\$42.48	
201	12	A0170	OML-ON-GUARD	\$4.20	\$50.40	
211	3	A0212	SEED/BLUE GRASS	\$27.50	\$82.50	
221	24	A0251	LEAF PLASTIC BAGS	\$2.75	\$66.00	
231	6	A0304	BIRD BATH/FEEDER	\$32.75	\$196.50	
241	1	B1409	FLEXA-LADDER	\$89.80	\$89.80	
251	12	A0337	POOL LINER/PRINT	\$17.50	\$210.00	
261	6	A0359	SPRINKLER/OSCILLATING	\$12.75	\$76.50	
271						
281						
291						
301						
311						
321			SUBTOTAL		\$814.18	
331			SALES TAX	8.25%	\$63.67	
341			FREIGHT		\$2.66	
351						
361			AMOUNT DUE		\$877.85	
371						
381			THANK YOU.			
391						
401						
411			** DO NOT PRINT **			
421						
431			SALES TAX TABLE			
441	AREA	RATE				
451						
461	1	8.25%				
471	2	7.50%				
481	3	6.75%				

Figure 2. Statement converted to invoice for products sold.

**** JUNE SPECIAL ****.

4) In D19 type **BALANCE FORWARD** followed by 16 minus signs and a greater-than sign (>). The arrow is a gentle reminder to enter the balance forward.

5) Type payments and charges without a dollar sign; when you format, AppleWorks will insert the dollar sign for you.

6) Type **SUBTOTAL** in D32, **SALES TAX** in D33, and **AMOUNT DUE** in D35. You'll be right-justifying these labels so that they look like the ones in **Figure 1**.

7) In the sales-tax table area, type **** DO NOT PRINT **** in B40 (type quotes first), **SALES TAX TABLE** in B42 (type quotes first and press spacebar twice), **AREA** in

B43, and **RATE** in C43. (You'll right justify it shortly.) Type the rate numbers as decimals: **.0825** in C45, **.075** in C46, and **.0675** in C47. They'll become percentages after you format their cells.

Don't bother to press Return after typing each entry. Simply move the cursor away from the cell to enter what you typed. After the last entry, hit Return.

Formats. Use the Value command (OA-V) to set a standard *Value format of Dollars* with two decimal places. Use the Layout command to reformat the following cells for Appropriate with zero decimals: F7, A19, and B45 through B47. Reformat the following cells for Percent with two decimal

places: E33 and C45 through C47.

Now for the labels formats: Center the letterhead in D1, D2, D3, and D4. Right justify **PAYMENTS** in E17, **CHARGES** in F17, **SUBTOTAL** in D32, **SALES TAX** in D33, **AMOUNT DUE** in D35, **AREA** in B43, and **RATE** in C43. Press OA-S to store all your work on disk.

Next, enter the formulas that perform your calculations. First, read how the formula works, then place the cursor on the cell receiving the formula. Move the cursor to the cell locations shown in the formula description and type everything else.

When the formula is complete, compare each character on your screen with the description here. If everything agrees, press Return. If something's amiss, press Escape and start again.

FORMULA 1: SUBTOTAL

Formula 1 adds the charges in column F, rows 19 through 29 (including the balance forward), subtracts the sum of payments in column E, rows 20 through 29, and enters the subtotal in F32. The formula includes the dashed line in row 30, which creates a solid range of cells. This lets you conveniently insert rows before row 30 if you need more room. This way, when you do insert rows AppleWorks will adjust the cell references in Formula 1 to include those rows.

Cell location: F32
Description: @SUM(F30.F19) - @SUM(E30.E20)

FORMULA 2: SALES-TAX RATE

Formula 2 uses the LOOKUP function to enter the sales-tax percentage in E33. The formula first looks at the customer-tax area number in A19, then scans cells B45, B46, and B47 in the lookup table for the matching number. When it finds the proper number, the formula retrieves the tax rate from the corresponding cell in column C and enters it in E33.

Cell location: E33
Description: @LOOKUP(A19,B45.B47)

FORMULA 3: SALES-TAX DOLLARS

Formula 3 adds the numbers in column F, rows 20 through 29, then multiplies the result by the sales-tax percentage in

REF #	DATE	SERVICE	PAYMENTS	CHARGES
1		BALANCE FORWARD		
		SUBTOTAL		\$0.00
		SALES TAX	8.25%	\$0.00
		AMOUNT DUE		\$0.00

AREA	RATE
1	8.25%
2	7.50%
3	6.75%

Figure 3. Blank master statement awaiting new entries.

E33 to produce the dollar amount of the sales tax in F33. The spreadsheet calculated the sales tax on the balance in F19 in the previous month, so it excludes that amount from this calculation. Again, you're including the line in row 30 in case you insert more rows for additional charges or payments.

Cell location: F33

Description: @SUM(F30.F20)*E33

FORMULA 4: AMOUNT DUE

Formula 4 adds the subtotal in F26 and sales tax in F27 to produce the amount due this month in F35.

Cell location: F35

Description: +F32+F33

Your results should now match those in **Figure 1**. Press OA-S to store the formulas on disk.

PROTECTING FORMULAS

After all that work, 'twould be a pity if you or someone else working on the spreadsheet changed the formulas accidentally, so protect them: Place your cursor on E32 (an empty cell) and press OA-L to start the layout command; type **B** to select *Block*; move the cursor to F35 and hit Return. Type **PN** (for *Protection Nothing*).

PRINTING THE STATEMENT

This statement is 66 characters wide and prints at the standard ten characters to the inch. Increasing the left margin positions it well: Press OA-O to bring up the Printer Options screen; type **LM** to select *Left Margin* and press Return; type **.7** and hit Return again. Now increase the top margin: Type **TM** and press Return; type **1** and hit Return again.

A filename is inappropriate on a statement sent to customers, so change the *Print Header* setting from Yes to No: Type **PH** and press Return. All the other print settings are fine. Press OA-S to save your settings and return the spreadsheet to the screen.

Now turn on your printer. Leave the cursor where it is and press OA-P to bring up the Print screen. Press Return to confirm *All*, and press it again to identify the printer (or type a number, then Return).

Hit Return again to confirm one copy. The printer whirs and here's your customer statement.

PRINTING YOUR OWN STATEMENTS

When you print statements for customers, you want to be sure to exclude the lookup table. Simply define the print area ahead of time: Place your cursor on A1; press OA-P; and type **R** to Select *Rows*. Press OA-7 to jump the cursor to row 35; press the down-arrow key three times to extend the cursor's highlight to row 38; and hit Return. Hit Return two more times, and the printer produces a tableless statement.

CREATING A MASTER SPREADSHEET

Now imagine you're about to prepare a new statement. You have several approaches to choose from. You can type over the old information, but that's risky because you may miss a few numbers. You can blank out the old information, but doing this repeatedly is a bother.

The best solution is to create a master spreadsheet, copy it when you have new billing or a new customer, make your entries, then print one statement for your customer and another for your records if you don't have a copy machine. When you're done, you can delete the file. For the next customer, copy the master again and follow the same procedure.

Here's how to create the master spreadsheet shown in **Figure 3**. Leave the cursor where it is and give this spreadsheet another filename: Press OA-N, and the filename appears at the bottom of the screen (be sure you're using the blinking insert cursor); type **MASTER** so that the filename becomes *MASTERSTATEMENT* and press Return.

Next, blank out the customer information in A7 through C14: Place your cursor on A7 and press OA-B to start the *Blank* command; type **B** to select *Block*; move the cursor to C14 and hit Return.

Follow the same procedure, using *Entry* for single cells and *Block* for contiguous cells, to erase these entries: statement

number in F7; balance forward in F19; and, in one large block, reference numbers in column A, dates in column C, services in column D, payment in E24, and charges in column F.

The tax code is the only remaining bit of customer information. It's a good idea to leave it—the standard value on this spreadsheet is Dollars, but the format in A19 is *Appropriate*. Blanking a cell with a nonstandard format makes the format revert to the standard value, which means you'll have to reformat each time. It's easier to overtyping.

All you need to do is change the promotional message (E10 through E14) from time to time. Press OA-S to store *MASTERSTATEMENT* on disk.

FROM STATEMENT TO INVOICE

It's easy to transform the statement of services performed by Nature's Garden into an invoice of products sold by the Garden Supply Company, as shown in **Figure 2**. All you'll do is change some labels and create a new formula in F20 to multiply quantity by unit price. The new formula appears as +A20*E20, which you then copy into F21 through F26, or as many more cells as you have items. A side-by-side comparison of **Figures 1** and **2** shows where you make changes.

Other ideas for customizing a statement or invoice include using the lookup table to hold sales taxes in other states, and modifying it into a table of freights or discounts. You can even merge a statement or invoice with a promotional message created on the word processor.

Next month you'll create another spreadsheet, this one calculating interest earned on any amount of money invested at any interest rate for as many years as you care to consider. A neat feature lets you see how long the money will last if you withdraw a constant amount annually—great for retirement planning. ■

Write to Ruth Wilkin at 5 Patricia Street, Plainview, NY 11803. Enclose a stamped, self-addressed envelope if you'd like a reply.

Easter Parade

by Cynthia E. Field, Ph.D.

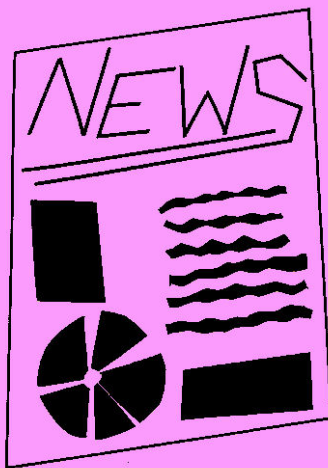
Looking for ways to enhance Easter or Passover celebrations this year? Look no further than your Apple II! Instead of depending on commercial card and party shops to supply you with invitations and decorations, try adding your own creative touch to the holidays. With a little cleverness—and perhaps a bit of cutting and pasting—there's practically no limit to the kinds of publications you can create: dinner menus, holiday placemats, personalized place cards, and decorative banners. Best of all, you can create these items with software you probably already own.

Broderbund's **Print Shop** and **Print Shop GS** let you create, among other items, cards, banners, and posters. Ditto for **Print Magic** from Epyx, a desktop-publishing program that offers strong layout capabilities and attractive graphics illustrations.

Polarware's **Electric Crayon Deluxe: Holidays & Seasons** is another banner maker, but it also generates calendars and posters. Scholastic's **SuperPrint** lets you generate holiday or special-occasion creations such as placemats and giant-sized decorative posters.

You can design stylish holiday-dinner menus with Claris' **AppleWorks** enhanced with fancy typefaces from Beagle Bros' **TimeOut SuperFonts**. Or try **II Write** or **MultiScribe GS**, two MacWrite-like word-processing programs that have attractive fonts built in.

With page-layout programs, including **GraphicWriter**, **Medley**, **AppleWorks GS**, **Personal Newsletter**, **Springboard Publisher**, and **Publish It!**, your options are even wider. Besides publishing a holiday newsletter for your senior-citizens group or religious organization, you can create party announcements, banners, place cards, or dinner invitations.



Use Publish It! to add a personal touch to holiday affairs.

A RAINBOW OF COLORS

Even if your desktop-publishing program *does* support multicolor printing on the ImageWriter II, you might still opt for other, more attractive or creative choices.

Use continuous-form paper in "spring-like" pastel colors, or ask your local copy center to duplicate your creations on one of the many kinds of paper stock he or she offers.

Some copy machines, such as Canon's personal copiers, use single-color toner cartridges, which let you duplicate publications in green, brown, blue, or red.

Likewise, instead of using a black ribbon in your printer, choose another color. Single-color ribbons—brown, purple, blue, and other hues—are available for popular printers from a variety of sources, including Ribbonland and Computer Friends.

Still other options exist: Prepare your

publications in black ink or toner on white paper and splash on color with wax crayons, oil pastels, color pencils, fine-tip markers, or watercolors.

Whatever the approach, using your Apple to design holiday creations and your favorite art medium to personalize them is an enriching way to let the whole family share in holiday-planning activities.

BE MY GUEST

Well before the banners go up and the table is set, you'll want to send invitations to your holiday dinner guests. Let's create a dinner-invitation card with **Publish It!**

Start up the program and select Size to Fit mode. You can access this program feature, like many others, with easy-to-remember, keyboard-equivalent commands. For example, **Publish It!** offers four page-viewing modes: close-up (Show Full Size), zoom (Show Double Size), half page (Show Half Size), and whole page (Size to Fit). Instead of using the mouse to select these options from the Special menu, become familiar with the equivalent commands: Open apple-1 through Open apple-4.

Once in Size to Fit mode, select the text tool and rubberband (hold down the mouse button and drag) the area taking up the bottom-right quadrant of the page as shown in **Figure 1**. Pull down the Objects menu and select Show Specifications (or press Open apple-M) to check your text object's dimensions. Use the accompanying **Table**, which lists the specifications for the dinner-invitation card, and refer to **Figures 2** and **4** to edit your object's values correspondingly.

My invitation has a front panel and an inside-right panel; you'll create two separate pages to accommodate them. Be sure the text area you just created is activated; it should have "handles" in its

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WHICH VERSION IS FOR ME?

It depends on your equipment. **1040Works** requires an Apple II or compatible with at least 128K RAM and any version of **AppleWorks**. A printer is recommended. If you have a IIGS or other Apple or compatible with at least 256K RAM, you can use **1040Works-X**, which takes advantage of the larger **AppleWorks** Desktop to do the job even quicker and more conveniently. (Runs with Three Easy Pieces on an Apple III computer, too.)

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PRESS ROOM

	Object	Left Start	Top Start	Width	Height	Frame Border	Transparent
A	Page 1: Main text area	4.25	5.5	4.25	5.5	N	N
B	Utensils graphics area	4.758	6.036	1.311	1.165	Y	
C	Top-right border	6.126	5.586	1.961	1.343	N	
D	Rectangle #1 "eraser"	5.815	5.537	1.5	1.704		
E	Rectangle #2 "eraser"	7.194	6.186	1.111	1.037		
F	Text area	4.552	7.731	3.501	2.186	N	N
G	Bottom-left border	4.106	9.329	1.959	1.341	N	
H	Rectangle #3 "eraser"	4.043	9.106	2.069	0.994		
I	Rectangle #4 "eraser"	4.984	9.926	1.737	0.830		
J	Page 2: Main text area	4.25	5.5	4.25	5.5	N	N
K	Page 2: Graphics area	5.006	6.927	4.25	3.365	N	
L	Page 2: Text area	5.656	8.811	1.509	1.025	N	N

Table. Specifications for dinner-invitation card (all dimensions in inches).

corners. If it doesn't, select the pointer tool (the upward-pointing arrow at the top of the tool palette) and click on the text area.

Now select Copy from the Objects menu. Click on the right-arrow icon at the bottom left of the screen and add another page to your document.

With page 2 on display, select Paste from the Objects menu. A duplicate text area appears. Using the mouse, drag it into position in the bottom-right quadrant of page 2. For this and any other objects in this project use Show Specifications and the accompanying Table for precise positioning.

Save this file as CARD.A. Use the File menu option Save As or the quicker Open apple-A. This file, consisting of two identical pages with one text area each, is your basic template. You can use it to create fold-in-fourths thank-you cards, notecards, birthday greetings, or any other publication of this size.

JUST A FONT

Flip back to page 1 by clicking on the left-arrow icon in the lower-left-hand area under the tool palette. Switch to Show Half Size mode (Open apple-3) and

use the scroll bars to display the lower-right quadrant of your page.

Select the graphics tool and rubberband an area in the upper-left corner on top of the original text area. Insert a clip-art disk into the data drive, pull down the File menu, and select Import Picture.

For this Easter-dinner invitation, I selected the "utensils" graphic from Timeworks' **Symbols & Slogans** clip-art disk. Publish It! 2 supports Print Shop graphics, a feature that lets you select from perhaps thousands of illustrations available at low cost or no cost in the public domain.

Use Show Specifications to orient the graphic. Add a frame by clicking on the Frame Border "radio button" in the Show Specifications dialog box.

If you want more freedom in moving a message around and playing with the position of its individual words, create a new text area with the text tool. Select the I-beam tool and position it inside this text area. Pull down the Font menu and choose Select Font.

For large text, I selected Kenilworth 36 (from the **Font Pack 1** disk, available separately) and opted for Bold by checking that style under the Font menu.

Flight notes

5B

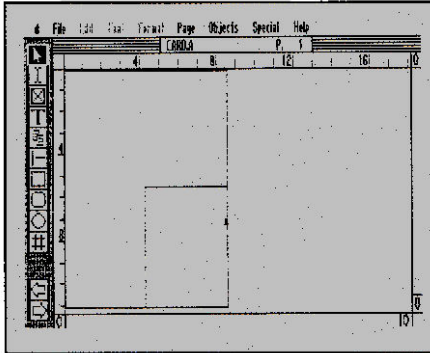


Figure 1. Basic template for invitation card.

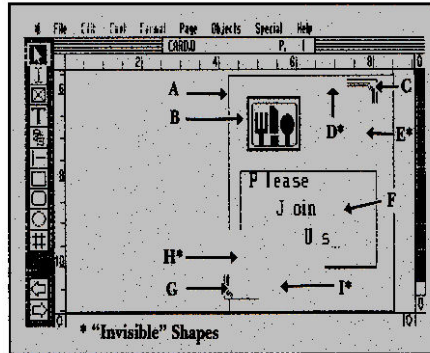


Figure 2. Screen shot page 1.

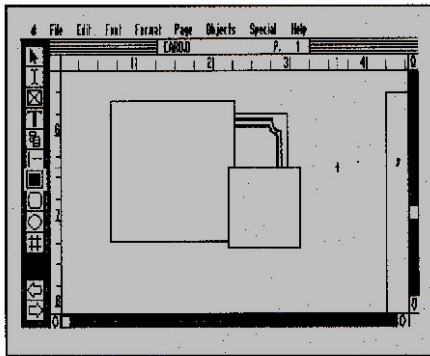


Figure 3. Use rectangles to "erase" parts of graphic.

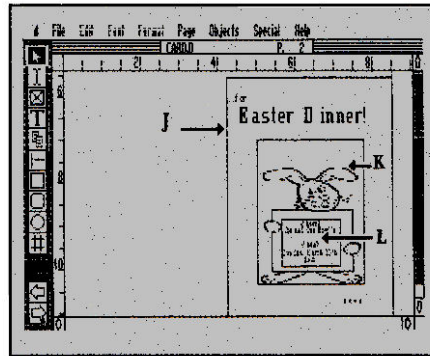


Figure 4. Screen shot page 2.

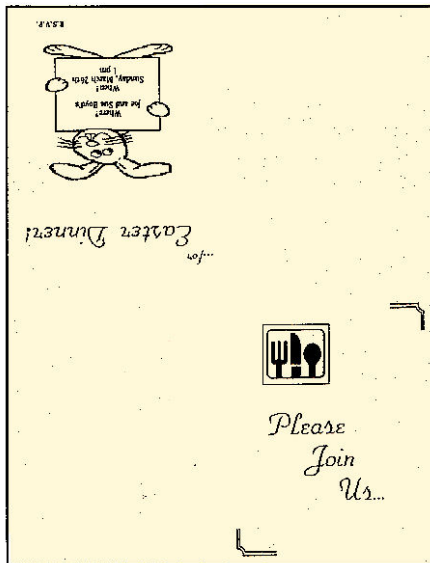


Figure 5. Completed invitation before folding.

Type each word (*Please*, *Join*, and *Us...*) on a separate line. Leave the word *Please* alone, because it's left-justified by

default. Drag the mouse across the word *Join* to highlight it, then select Justification from the Format menu. Click on the Center radio button. (Turn off the Use Page Standard feature.)

Highlight the word *Us...* and right-justify it by using the appropriate radio buttons in the Justification dialog box (Figure 2).

A FIELD FUDGE FACTOR

I decided I wanted a border on the face of my invitation—not a full one, just "corners" like the stick-on photograph holders you see in scrap books. Unfortunately, none of the ready-made graphics suited me, but I devised my own solution.

Create two graphics areas: one in the lower-left corner of the panel; another in the upper-right. Next, select the border pattern you like best. (I used one from Timeworks' **People, Places & Things**.) Import into both graphics areas. ►

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 New York, NY 10016
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 (800) 392-2179 (MO)
 (314) 636-5271
 (800) 541-5513 (software)
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 (800) 992-4022 (CA)
 (619) 452-5500
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Mac II to ImageWriter I	A303M2	\$9.95
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Using the rectangle shape tool, rubberband rectangles over the parts of the graphic you want to obliterate. You'll need two rectangles to do the job. See **Figure 3** and the **Table** for details.

But wait! You can see the rectangles, right? For now, keep them this way to make page editing easier. Later, before you print the invitation, activate each rectangle, choose Set Pen Pattern from the Objects menu, and click on the white square. That's right—make the rectangles invisible.

Turn to page 2 by clicking on the right-arrow icon. Select and position the I-beam in the upper-left corner of the lower-right quadrant (the text area you originally created for your template). Select a font and type the rest of your message. I used Kenilworth 18 Plain for the word . . .for and Kenilworth 36 Bold for the words *Easter Dinner!*.

Rubberband a graphics area approximately in the center of the panel. I selected the "billboard bunny" from the Symbols & Slogans disk. Using Publish It! 2, you can enlarge the graphic to the size shown in the **Table**.

Next, create a text area on top of the bunny's billboard. Place the I-beam in this area, select a font, and type the specifics about your get-together.

For this area, I used Barrington 12 Plain, a font included on the Font Pack 1 disk. I centered (Format menu) all information about the party's location, date, and time. Placing the I-beam tool in the bottom-right area of the panel, I added an *R.S.V.P.* message in Barrington 10 Plain (**Figure 4**).

Try different fonts and graphics and experiment with layout. Always remember, though, to save your progress at each important step along the way.

When you print your invitation, you'll get two pages, each with a completed panel in the lower-right quarter of the page.

If you need only a half-dozen or so invitations, print six copies of your invitation to generate 12 continuous sheets of printed pages. Remove the 12 pages as one continuous stack. Turn the packet 180 degrees and insert the last page you just printed. After you roll the paper into

the printer, you should see the upside-down "rabbit" panel in the upper-left-hand corner (**Figure 5**).

Now print six more invitations. Page 1 (with the "utensils") will print in the lower-right corner of the first piece of paper (creating the first complete invitation). Page 2 (with the "rabbit") will print in the lower-right corner of the second piece of paper (creating the second completed invitation). And so on.

If your press run is larger, save wear and tear on your printer and duplicate the invitation on a copy machine. Make as many copies of page 1 (with the "utensils") as you need. Then turn these pages 180 degrees and reinsert them into the copy-machine feed bin. Copy page 2 (with the "rabbit").

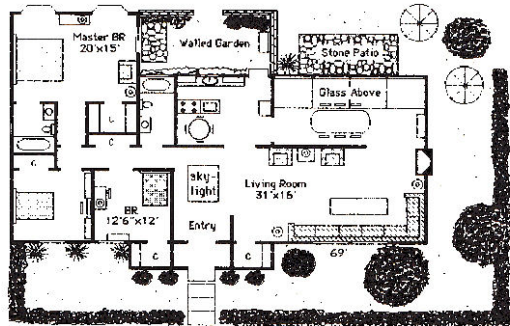
Fold the invitations in quarters so that the utensils appear on the cover and the bunny appears on the inside right-hand

page. That's all there is to it!

With page-layout programs such as Publish It! the sky's the limit. Start with paper, pencil, and ruler to set up the basic shape and size of your publication, then add text and graphics that meet your requirements. Use keyboard-equivalent commands to make your work even more pleasurable and let "invisible" shapes act as erasers for cropping artwork as needed. In no time you'll feel as I do that every day's a Field day when it comes to designing publications with your Apple II! ■

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

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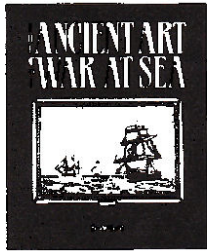
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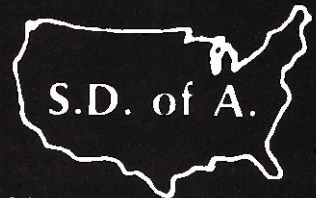
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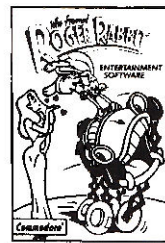


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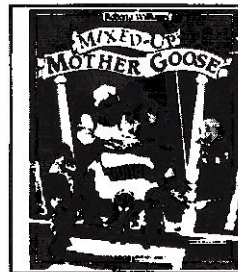


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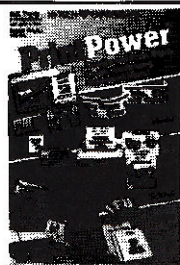
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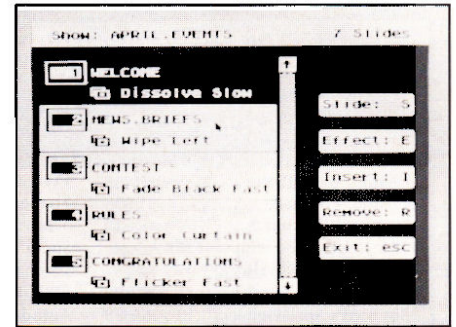
Is the system practical? For some, simply getting full value from a commercial package is enough reason to buy the FutureSound board. You can use it in a variety of ways, limited only by your creativity. You can even use sounds you've recorded in other programs. For instance, teachers and parents can write simple programs that help teach spelling, with FutureSound pronouncing the words or letters correctly as they appear on screen. You can also incorporate verbalized instructions in homemade programs. You can use music to provide positive reinforcement following a correct response or just as background to enhance a program.

Most music programs currently on the market can import digitized sounds, then let you modify them in any number of ways. Broderbund's Fantavision, for example, can import voice or music re-

corded by FutureSound to give a new and exciting dimension to the animation you create. And, of course, anything created by other programs—whether imported from FutureSound or not—will play back in full stereo for maximum enjoyment of IIGS sound.

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*James Trunzo
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On with the Show

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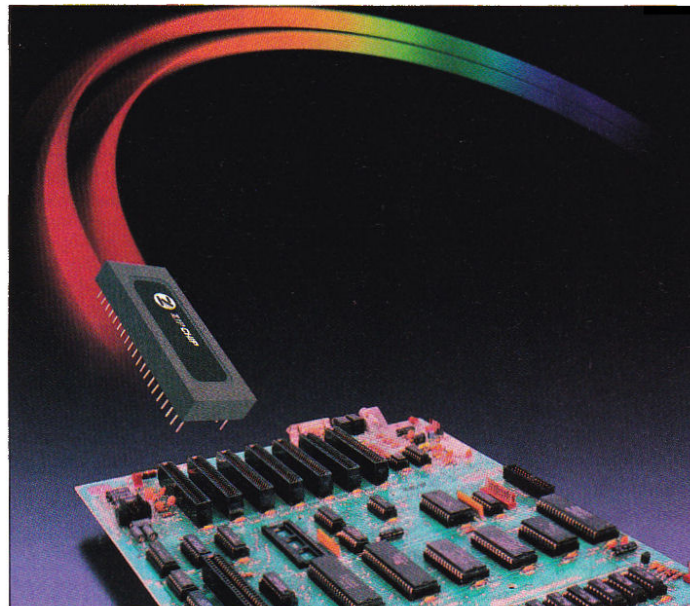
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We know what you're thinking. A product that turns your Apple II into a *slide projector*? Come on, family slide shows are boring enough—there can't be much of a market for it. There's more to Slide Shop than meets the eye, though. Who wouldn't appreciate a greeting card with sound and graphics, for instance?

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CREATIVE JUICES

Slide Shop's easy to use, too. Commands (in pull-down menus) are logical and directions are simple. Except for an

occasional reference, you'll hardly need the 128-page manual; a disk tutorial gives you all the intellectual ammunition you'll require to begin working on your own slide shows. If you have any problems, there's also an on-screen help feature.

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If you create a text slide, you can dress it up with a border from a library disk. Add music, sound effects (such as drums, a helicopter, or a train), or speech to jazz up your presentation. The program includes an undo feature, so making corrections is easy.

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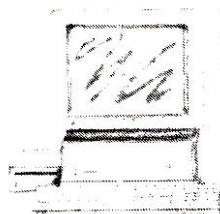
ence class. Slide Shop comes with 72 clip-art images. You can also import Print Shop graphics, or use anything you've created with any hi-res paint program.

Slide Shop incorporates many paint-program features—such as brush, pen line, frame, block, and ring—so you can customize your slides. You can also fill in and color your drawing, copy any part of a slide and stamp it to another slide, move it within the same slide, or save it for use as clip art later.

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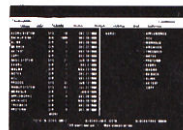
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for 1-29 seconds. You can also present slides manually, one at a time.

One particularly nice feature is that the program lets you create *show disks*, which contain whatever slides you prefer, but don't require the master program disk to run.

A printer option lets you make hard-copies of slides. Slide Shop supports most common printers and interface cards. (I used a vintage Gemini 10x with Graphstar interface card.) You can use this feature to create overhead transparencies or make copies of a particularly important slide for everyone in your audience.

Slide Shop is a versatile, simple-to-operate program that's more practical than you'd guess. Best of all, it's also a lot of fun. ■

Ken Carlson
Joliet, IL

Picture Programming

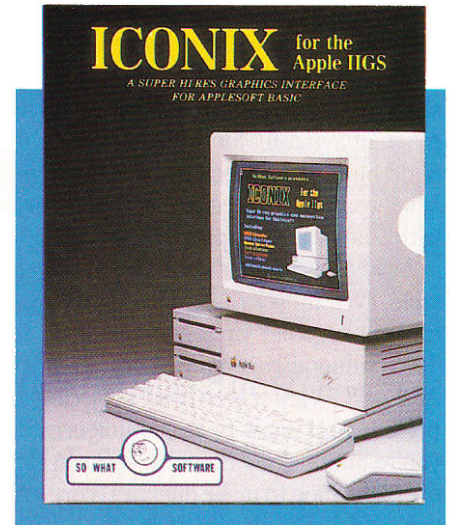
ICONIX

So What Software, 10221 Slater Avenue, Suite 103, Fountain Valley, CA 92708, (714) 964-4298

Super-hi-res graphics-programming routines for Applesoft BASIC; 512K Apple IIgs, RGB monitor, printer \$39.95

Rating: ■ ■

Many programmers who cut their teeth on Apple IIs have now upgraded to the IIgs—but until recently, those GS programmers who use BASIC found that many things are just not accessible from standard Applesoft, most notably the machine's spectacular 256-color super-high-resolution graphics mode. Now a product



called Iconix gives you access to the graphics abilities of your GS, as long as you're programming in Applesoft BASIC.

THE GRAPHICS ROUTINE

The Iconix machine-code module must be the first program you load into your GS. Once you've done that and the software has allocated the machine's memory successfully, you can begin creating programs that use this collection of graphics routines. Iconix covers five basic areas—screen and color, mouse, text, icons, and support programs, accessed through the Applesoft commands PEEK, POKE, and CALL. (Use CALL with each routine's entry address and PEEK or POKE with one or more data addresses.)

To control your super-hi-res graphics (SHRG) screens, use Iconix's clear-screen routine. Its format is simple—just POKE the color you want into the color-byte address, then CALL the clear-screen routine; Iconix clears your screen with the color you indicated. Normally you have a choice of 16 colors, but with a technique called *dithering*, you can get up to 256 apparently different colors or shades.

Another routine lets you fill a rectangular area of the screen with a specified color, good for simple windows or backdrops. A similar routine reverses the colors in a designated rectangular area. When repeated several times, it creates a flashing effect that draws attention to buttons or other types of selectors.

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The other two screen routines BLOAD and display SHRG screens. The documentation suggests you load all screen or graphics data at the beginning of your program, but you can load them as needed within a program, as well.

TEXT AND ICONS

Iconix has two basic text functions: You can plot a single character on screen by POKEing the ASCII value of the character you want, along with the character's color and X-Y coordinates; to print a complete string of characters, you'll have to use the variable name SG\$ (reserved for that purpose by Iconix) to define the string, then POKE the color and position information and CALL the routine.

One routine reads your mouse's X-Y location and the status of the mouse button (whether or not you're pressing it). You can then pass these values to the mouse-cursor routine to place the pointer on screen or move it around.

Naturally, the major graphics object in Iconix is the icon. Icons are rectangular areas of the SHRG bit-map screen that you can copy from a background and paste to the current view screen. Using four icon-control routines (Open Icon, Put Icon, Pull Icon, and Close Icon) you can manipulate even large areas of the screen easily.

Perhaps the best feature of these routines is that when you place an icon on top of the screen, the software saves the area beneath it automatically and restores it when you remove the icon.

UTILITIES

Iconix comes with three utility programs designed to help you create or modify icon or color data. The first is the Icon Editor. It's not a graphics editor like the ones you'll find in paint programs. Instead it lets you design an *icon sheet*, an SHRG display containing the images you want to use in your program.

To achieve the maximum number of colors, Iconix's Palette Editor lets you define up to 16 color palettes for an SHRG screen. This color-palette information is stored in a special location on

the SHRG screen, and is BLOADED and BSAVED with the image.

The final utility is the SCB (scanline control byte) Editor, which specifies the palettes used by each part of the screen. With this utility, you can designate all 16 possible palettes to be used in a particular display, giving the picture a total of 256 simultaneous colors. You can also change the horizontal resolution (320 or 640 bits wide) to different values on the same screen.

PROGRAMMER'S CHOICE

For a long time, there was no way for the experienced Applesoft programmer to exploit his or her GS' super-hi-res graphics abilities without delving into the fairly complex Apple Toolbox routines. For taking care of that, So What Software should be commended.

For most programmers, however, Ico-

nix would be a vastly superior package if the routines were available in the form of commands with parameters instead of unwieldy PEEK, POKE, and CALL techniques, which offer little to the beginner or intermediate programmer.

Unfortunately for Iconix, there are now BASIC languages for the GS that offer direct support for many graphics routines—and they use easy-to-understand commands, not Applesoft's cryptic POKES and PEEKs. And because these new BASICs are generally superior to Applesoft in other aspects, as well, they may be a better choice. All things considered, I recommend Iconix only to the "hard-core" Applesoft programmer who doesn't want to switch to one of the newer implementations of BASIC. ■

Lou Wallace
Peterborough, NH

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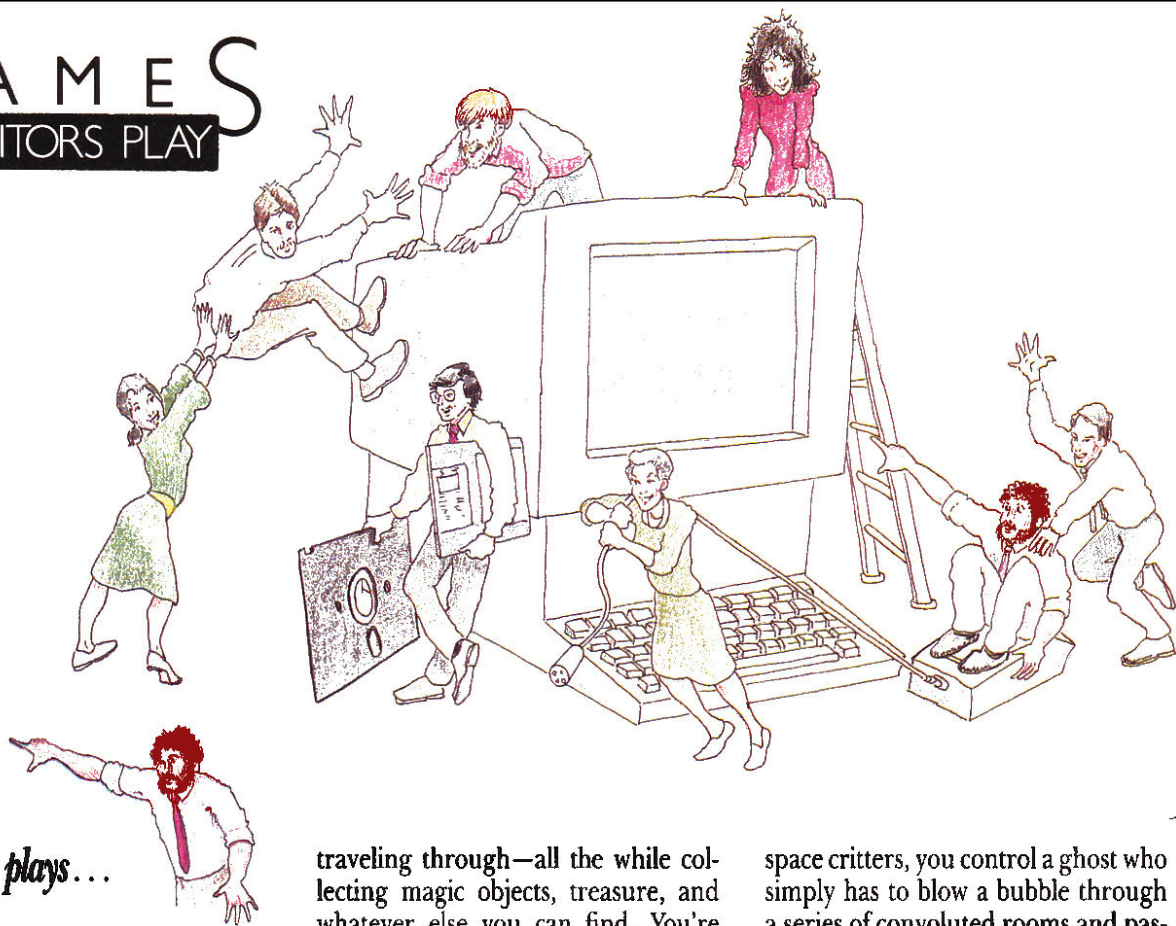
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GAMES

EDITORS PLAY



Lafe Low plays...

Warlock GS, *Three-Sixty Pacific, Inc.*, 2105 South Bascom Avenue, Suite 290, Campbell, CA 95008, (408) 879-9144, \$39.95

'Tis the season for arcade follies, fa la la la la, la la la la. Time for kids to get their jollies, fa la la la la, la la la la. It was December when we were working on this installment of Games Editors Play, and from the looks of things, kids across America (not to mention the kids at *inCider*) must have had a great Christmas. Arcade aficionados particularly had some great choices to satisfy their cravings.

One of the newer selections for action fanatics is Warlock. It's pretty slick. The theme is the standard "you against the evil whatever it is that threatens the world" that's central to so many fantasy role-playing games, but unlike other games, which take you deep into someone's imagination, Warlock lets you get right into blasting away at denizens of the underworld.

You're up against whatever grisly creature resides on the level you're

traveling through—all the while collecting magic objects, treasure, and whatever else you can find. You're armed only with a scepter that fires magic bolts—guaranteed to turn your foes into cosmic dust. Pick up the required eight magical objects, and you'll win the chance to do battle with the great evil It and save the world. Lucky you.

The world of Warlock looks (and sounds) as gruesome as the real thing (if there were the real thing). As soon as you start out, hordes of zombies crawl up out of the ground and start at you, so keep that scepter ready. On other levels you'll encounter ghosts, fire-breathing stone giants, piranhas, and a floating eye that can literally kill you with its looks. It's a scary place, but someone has to explore it.

...and plays...

Bubble Ghost GS, *Accolade*, 550 South Winchester Boulevard, San Jose, CA 95128, (408) 985-1700, \$34.95

Bubble Ghost is odd, yet it represents an interesting approach to arca-
cading—guaranteed to captivate you. Rather than firing photon torpedos at

space critters, you control a ghost who simply has to blow a bubble through a series of convoluted rooms and passageways. Piece of cake, you say? Wait.

You can spin your ghostly accomplice in any direction—even upside down—then blow the bubble with a long gasp or a short puff, depending on how far you want it to go. That may sound easy, but you have to negotiate this delicate floating bubble around corners and various other hazards.

In some of the rooms you won't get far unless you figure out how to disable a trap. For instance, in one room you have to blow into a switch to turn off a fan. In another, you have to blow out a candle before passing over it. In an even more bizarre room, you have to blow into a trumpet to get a statue to lie down, letting you pass.

Bubble Ghost is definitely not standard fare. Dazzling graphics and weird sound effects make the maze-like rooms look and sound like a bad dream. Should you puff too hard and pop the bubble, your friendly ghost loses his Casperish smile and shakes his fist at you. You start out with five bubbles, though, so you'll get another chance if you "blow it."

Paul Statt plays . . .



Arkanoid GS, Taito Software, 267 West Esplanade, North Vancouver, BC, Canada V7M 1A5, (604) 984-3344, \$29.95 (requires a mouse)

Should you buy Arkanoid? Take a quarter to the place in your neighborhood where the kids park their skateboards after school—the pizza parlor, the mall, or the arcade. Find the video games. Disperse the mob around the most crowded one, and you'll be sure to find Arkanoid.

Drop in your two bits, and bounce the silver ball off your rocket-shaped paddle against a wall of day-glo bricks. Enjoy the slick sound effects and bright colors as long as you can, because you'll eventually miss the silver ball and you'll have to insert another quarter to keep playing.

If you feel like spending another 25 cents, ask yourself, "Could I play Arkanoid 120 times?" If you answer, "Heck, I could play this 120 times on

my lunch hour" (as I did), then buy Arkanoid for the IIGS. It's the same furiously addictive game you've played in your local video arcade. After all, you already spent \$3000 for the computer. Now go home, leave the kids alone, and play.

. . .and plays . . .

Serve and Volley GS, Accolade, 550 South Winchester Boulevard, San Jose, CA 95128, (408) 985-1700, \$39.95

I play a good inner game of tennis. That means my outer game—the serve, backhand, forehand, lob, smash, topspin, and leap over the net—is bad. But I'm great at watching the pros on TV. I always know exactly what they should be doing. Serve and Volley is like that. It's a great tennis game for players who always know what they should be doing, but don't always have the skill to do it.

Serve and Volley is like a video arcade game—you can watch little ten-

nis players running around the computer court. But I promise your opponent will smash you if you waste time watching the action. You need to monitor your position, your choice of shot, and your aim constantly. A small screen, inset in an upper corner of the game display, requires your undivided attention.

Accolade mastered the sports-game interface with bars and meters on Hardball! and Mean 18. One drawback, though, was that the interface made it too easy for your opponent to see what you were doing—Hardball! in particular required blindfolds, two joysticks, or more trust than I have in my friends. But Serve and Volley fixes that neatly: You're so busy concentrating on your game you don't have time to worry about watching the split screen in your opponent's corner.

Serve and Volley is complex—I played two games before I returned a serve—but tennis isn't simple, either. It's worth the inner effort. ■

Short Takes . . .

California Games GS



Epyx, P.O. Box 8020, 600 Galveston Drive, Redwood City, CA 94063, (415) 366-0606, \$44.95

Super graphics and radical music make the GS version of this old favorite cooler than ever. Surfing's the best, but you've also got half-pipe skateboarding, roller-skating, footbag, bicycle motorcross, and flying disk. The only things missing are sunburn and salt spray. (See Games Editors Play, February 1989, p. 90.)

Fourth and Inches



Accolade, 550 South Winchester Boulevard, Suite 200, San Jose, CA 95128, (408) 985-1700, \$44.95

If you're looking for elaborate simulations of intricate formations, this one's not for you. Fourth and Inches is a simple, fast-action arcade game; you can select plays and defenses, but that's as detailed as it gets. So far it's the best football game for the Apple II, though; ease of use, basic strategy, and entertainment go a long way here. (See Games Editors Play, February 1989, p. 90.)

Mini-Putt



Accolade, 550 South Winchester Boulevard, Suite 200, San Jose, CA 95128, (408) 985-1700, \$39.95

To the best putter go the spoils. Mini-Putt's four minimalist courses of nine holes each sport windmills and elephants in addition to rolling hills and deep lakes. It's not as whacky as Zany Golf, and the game screen's just a two-dimensional map, but it's a tougher athletic challenge all around. (See Games Editors Play, February 1989, p. 90.)

Skate or Die



Electronic Arts, 1820 Gateway Avenue, San Mateo, CA 94404, (415) 571-7171, \$39.95

Skate or Die's got all the "rad" happenings—twist and turn in a downhill run through the park, crank out some outrageous aerials in the half pipe, soar in the high jump. It's great to try all this stuff without worrying about losing your knees. Skate or Die will bring back a lot of memories—even if you never wore spiked leather gloves or a fuchsia mohawk. (See Games Editors Play, January 1989, p. 88.)

Tomahawk GS



Datasoft, 19808 Nordhoff Place, Chatsworth, CA 91311, (818) 886-5922, (800) 245-4525 (orders only), \$39.95

Tomahawk simulates the complex controls and intricate maneuvers required to fly an Apache attack helicopter. The game has plenty of authentic details, including especially realistic sound effects. (See Games Editors Play, October 1988, p. 106.)

Alien Mind



PBI Software, Inc., 1163 Trilon Drive, Foster City, CA 94404, (415) 349-8765, \$54.95

Everything's out to get you as you blast your way through the corridors and levels of a space station. Along the way you log onto terminals to get clues and passwords from your friend, who's hiding somewhere deep in the station. Alien Mind is exciting action that will keep you occupied for a good long time. Joystick recommended. (See Games Editors Play, September 1988, p. 42.) □

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Welcome to the Real World

by Cynthia E. Field, Ph.D.

Tsk, tsk. Here you are swigging Mylanta and grappling with the prospect of filling out your 1988 tax return, while your children contentedly play computer games. Thanks to the half-dozen programs reviewed here, you can now make economic interests a family affair and introduce kids to the "real" world. Don't worry—you won't be the family spoiler. Playing these educational games and simulations is entertaining in its own right, and an absolute blast compared to completing the dread Form 1040.

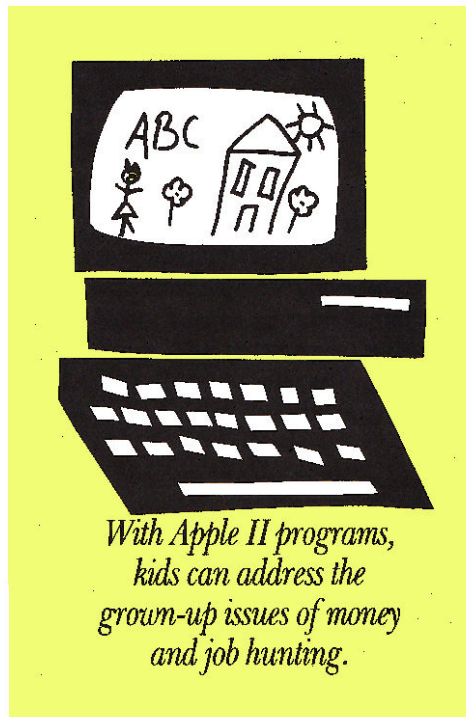
BASIC MONETARY SKILLS

Want to get a jump on things and teach your kids the value of money *before* they become teenagers? You can do it with **Money Works** from MECC.

Money Works includes four games: How Much Money?, Money Machine, Counting Change, and Money Mint. Unlike some other programs I've seen, this one lets children aged 6-9 explore the appearance and value of either U.S. or Canadian money and appreciate its worth—or lack thereof—in foreign currency.

In the first game, crack the safe and count the money inside. Each variety of coin or denomination of paper currency looks like its real-life counterpart: nickels like nickels, dimes like dimes.

The graphics in Money Machine, the second game, may remind you of the coin changers amusement-park attendants wear. The program displays a certain monetary amount in words or in numbers on screen. Match the amount by using the arrow keys and the spacebar to dispense look-alike money from the Money Machine. You'll have to be astute: There may not be enough quarters, so you'll need to dispense a combination of dimes, nickels, and pennies instead.



*With Apple II programs,
kids can address the
grown-up issues of money
and job hunting.*

Counting Change, the third activity, uses the "money machine," too. In this game, you're a cashier. The program displays a picture of a familiar item, its cost, and the amount of money the "customer" has given you. You make the correct change.

Money Mint, the fourth game on disk, strays from the drill-and-practice scenarios presented in the first three. Design your own paper money by determining the visage it'll carry and its value. Move over, George Washington! In Money Mint, you can select the image of a white, black, or Asian child.

Moreover, you can see your currency's worth in English, French, German, or Japanese money. You can also print play money. Parents or an older brother, sister, or babysitter can use Money Works' built-in utility to enter current exchange rates for the pound, franc, mark, and yen. This feature alone could be a springboard for discussing a real or make-

believe trip and for getting the kids involved in planning it.

PROTECTING YOUR ASSETS

House-a-Fire! teaches an economic skill of a different sort: protecting home, hearth, and human life. This program, from E. Nelson Publishing, includes a database of information about, among other topics, Heat Transfer, Types and Causes of Fires, Firefighting Substances, and Leaving a Burning House. Learning or reviewing information contained in the database, children participate in two simulations: Make It Safe! and Firefighter!

Make It Safe! challenges you to avoid fire hazards as you move into your new, make-believe, two-story home. The program lets you furnish one or more rooms in the floor plan displayed on screen. Select and position your choice of graphics icons representing typical room furnishings: paper towels in the kitchen, a blow dryer in the bathroom, a computer in your bedroom. You might decide to place a fire extinguisher in the kitchen and maybe another in your living room, because of its fireplace.

When you're finished, the program assesses the home's fire safety. If your layout doesn't pass muster, fire breaks out. Even if your layout is safe, the program may generate a random fire. Try to put it out within the time limit or at least be sure to escape safely. Unlike real life, the program helps you undo the damage and learn to avoid fire hazards in the future.

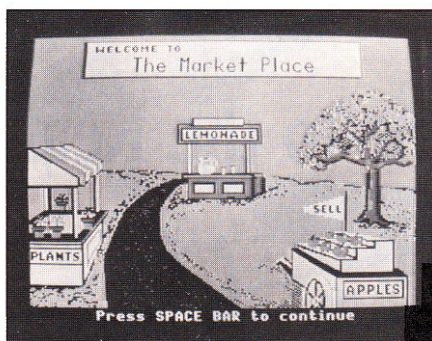
The second simulation, Firefighter!, teaches you about the six tasks firefighters must perform before they attempt to extinguish a fire. Not only do you learn to recognize types of fires, but you also become more aware of the effects of weather on firefighting and the necessity of turning off utilities, including gas, water, and electricity. ▶

House-a-Fire! is an educational program with highly practical, if not life-saving, application. Use it as an impetus to beef up fire safety in your home. Otherwise, you could find yourself making an unpleasant entry relative to "casualties" on Schedule A.

CAVEAT EMPTOR

If you want to help your kids avoid getting "burned" in the figurative sense, take a look at MCE's **Buyer Beware**, the teenager's survival guide to avoiding consumer rip-offs.

This unique program offers illustrated, interactive tutorials in five areas: Door-to-door Sales, Consumer Complaints, Mail-Order Fraud, Teens as Victims, and Sales Techniques. Parents already know about exaggerated advertising and high-pressure sales pitches. On the other hand, teens can be too trusting.



Kids learn business-management techniques with The Market Place from MECC.

Buyer Beware gives them consumer "smarts," including common-sense tips about handling salespeople and seeing through the mind games some of them play with their customers. The program includes information about protective legislation such as the "cooling off pe-

riod" and explains your options when you want to file a complaint.

The section on Teens as Victims really hits home. It teaches young people how unscrupulous advertisers and salespeople can exploit kids' concerns about their looks and dreams for the future. If Buyer Beware helps your child avoid even one costly mistake, the program will have paid for itself.

FOR YOUNG ENTREPRENEURS

If your children aged 8-13 dream of someday making it on their own, **The Market Place** from MECC and **The Cactus Factory** from Exsym provide good basic training. Both programs are business-management simulations in which you don't have to worry about tax returns or Chapter 11 bankruptcy.

The Market Place's measured approach to teaching business skills involves

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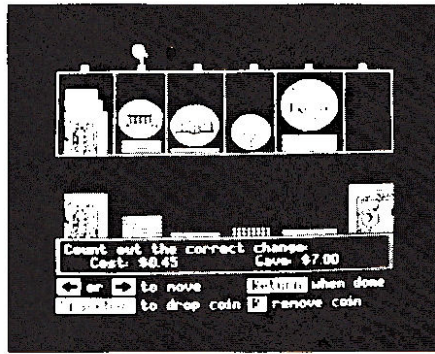
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three types of retail businesses: Sell Apples, Sell Plants, and Sell Lemonade.

The object of Sell Apples is to determine optimum pricing for each piece of fruit. During your one-month stint as an apple hawker, you select various prices from 1-50 cents. Responding to the program's prompts, you calculate daily profits. The program transforms this cumulative information into a bar graph. Watch trends carefully, and you'll soon determine the price that has the best effect on your bottom line.

In Sell Plants, you move up in the world—your class has elected you business manager. Your job is to market the tomato plants the class grew as a science project. The goal is to make enough money for a field trip. Select a slogan, determine the number of signs to make, and use your math skills to help fill in the daily sales report on the computer screen.



Money Works teaches children the value of currency.

Sell Lemonade is the most complex simulation of the three on this MECC disk. Not only do you have to make business decisions about prices and signs, but you also have to determine how many glasses of lemonade to make each day.

Watch weather predictions and track

the progress of the road construction going on near your location. At first, your parents give you the sugar you need, but, like other venture capitalists, they expect your business to become self-sufficient. Your overall goal is to earn \$100, after expenses, of course. Because the program lets you operate up to three lemonade stands at one time, brothers and sisters, relatives, and friends can enter the competition.

An individual mogul-to-be or a group of young entrepreneurs can also turn to The Cactus Factory. The overall object of this simulation is to sell 20 cacti in a minimum amount of time by determining the variety of cactus and the type of flower pot customers like best.

The menu in this colorfully illustrated program provides a logical business plan: Buy Seeds, Buy Pots, Grow Cacti, and Sell Cacti. Seeds cost \$1 per package of ▶

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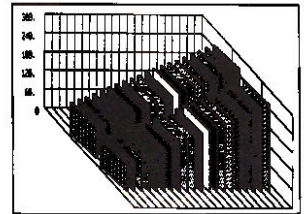
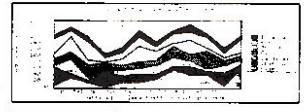
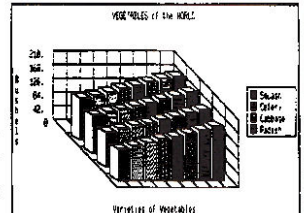
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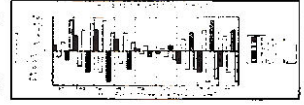
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FIELD TRIP

five for all three cacti (Beavertail, Pin-cushion, and Woolly Torch), but planter prices vary: Plain ones set you back \$3 each; fancy ones, \$6! No matter, though, the right cactus in a fancy pot can bring in \$10.

The Cactus Factory provides on-screen business reports such as Daily Inventory and bar charts representing the number of cacti sold and your enterprise's cash flow. Successful proprietors enter the Cactus Factory Hall of Fame, a disk-based list of business standouts.

The Cactus Factory documentation deserves special mention for its "Cactus

Curriculum" activities. Though seemingly geared toward the classroom, these activities are nevertheless suitable for family discussions (free enterprise versus socialism, supply versus demand) and projects (a decision-making planner for purchasing a car). Three of the manual's reproducibles are shapes children can use as fabric patterns for creating soft-sculpture cacti.

WHAT DO YOU WANT TO BE?

Not yet realizing that a particular job doesn't have to be an irrevocable commitment, kids often agonize over what

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Reader Service No. 319

they want to be. This decision can be especially difficult for teenagers who won't be attending college and need to make what they see as an all-important choice at the ripe old age of 18.

Sunburst's **The Right Job** can help noncollege-bound and special-education students assess their skills and interests and compare them to those required by various occupations in areas such as sales, service, or the building trades.

The program helps teens master job jargon such as *seasonal work*, *references, Inc.*, and *receptionist*. Moreover, the program shows kids how to read classified

SHARE AND SHARE ALIKE

Truth is kids can use many educational products such as **The Right Job** successfully both in school and at home. If you'd like to help the children in your community enjoy the best of both worlds, consider acting as a catalyst for a home/school software partnership.

In my town at least one school maintains a software lending library that loans out programs (which the school has purchased or parents or the PTA have donated) on weekends and during vacations. Not only does this kind of partnership help forge a closer link between parents

Fielding Questions

The "New" GS

We just purchased an Apple IIGS for our daughter. I've inquired about some programs only to learn they won't run on the IIGS. Is this only because the GS hasn't been around as long as the IIe and IIc?

J.R., Amarillo, TX

Because the GS is a 16-bit machine and much more powerful, there are bound to be some misconceptions and fears about its compatibility with programs designed originally for 8-bit IIs.

All but one or two of the educational programs I've seen have loaded and run properly on the GS. I, too, have heard "stories" of in-

compatibility, but I haven't found this to be a widespread problem.

If your dealer stocks a program you're interested in, ask him or her to let you try running it on an in-store GS or borrow a demo version, if available, to try at home. If you're concerned that your existing software may become quickly obsolete by upgrading to a GS, bring the software to your dealer and ask to test it. If you intend to order the program by mail, call the program's publisher and ask whether the software has actually been tested on the GS. Many of these publishers have toll-free numbers. □

ads, fill out job applications, take part in an interview, and behave appropriately on the job.

The Right Job costs nearly \$200, so this probably isn't a product you'd purchase for your own home. Nevertheless, it's one you might suggest your school consider adding to its computer lab or lending library. (Sunburst lets schools preview this program and others in their catalogue free for 30 days.)

and teachers, it provides children with an opportunity to further expand their computing horizons. ■

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

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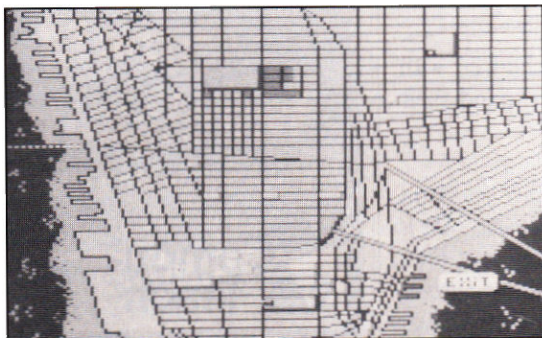
edited by Paul Statt **FAMILY FRIGHT**

Software

I LOVE N.Y.

You're a **Manhunter** in Manhattan, two years after aliens have invaded and conquered earth. "Thrust into a post-apocalyptic world, you must wear the designated brown robe and avoid conversation with other humans or face death," according to Sierra On-Line's (Coarsegold, CA, 209-683-6858) press release.

Authors Dave, Barry, and Dee Dee Murray created *The Ancient Art of War* for Broderbund; for Sierra they take the "Animated Adventure" technology responsible for the look of *Leisure Suit Larry*, *Police Quest*, *King's Quest*, and other games to its limit. Priced at \$49.95, *Manhunter's* full-color graphics—250 scenes—and gruesome sound effects fill four 3½-inch disks. (Don't despair—it runs on your hard-disk drive.) Circle Reader Service number 350 for more information.



Full-color graphics and gruesome sound effects make for an unforgettable trip to NYC in the animated fantasy *Manhunter*.

Warlock is grisly fun. The first Apple IIGS offering from *Three-Sixty* (Campbell, CA, 408-879-9144) combines humor and arcade action in a game for the whole family.

If you thought *Friday the 13th* was a funny movie, *Warlock*, priced at \$39.95, will have you rolling in the aisles. Imagine the slick graphics of *Thexder* combined with the wit of *Leisure Suit Larry*, and you've got a good idea of *Warlock's* looks.

"Save the Karna," using your head, your heart, and just a little hand-eye coordination. For details, circle number 352 on the Reader Service card.

SAY IT IN COLOR

After setting the standard for Apple IIGS paint programs with *DeluxePaint II*, Electronic Arts hopes to provide "the complete solution for papers and reports" with its new **word processor**, *DeluxeWrite*.

DeluxeWrite supports all Apple IIGS type fonts, sizes, and styles on screen and in



Turn in your scalpel: Optical Data offers bloodless dissection in its new videodisc slide collection, *The Frog*.

print. It's fully AppleWorks compatible, which means you'll keep all your AppleWorks formatting commands if you choose to compose with AppleWorks and print with *DeluxeWrite*. It also has a 90,000-word spelling checker.

But the greatest strength of *DeluxeWrite* is its easy integration with *DeluxePaint II*. Your word-processor documents can include any *DeluxePaint* image, including clip art. You can resize and crop the images for the best fit in your document, and use all the original colors from *DeluxePaint II*.

DeluxeWrite sells for \$79.95; the "DeluxeWrite/DeluxePaint II combo" is only \$129.95, from Electronic Arts, San Mateo, CA, (415) 571-7171. For additional information, circle Reader Service number 354.

KERMIT EXCLUDED

Don't dare dissect? *The Frog*, the latest addition to the *Living Textbook* videodisc series from Optical Data (Warren, NJ, 201-377-0302) does the job bloodlessly.

The Frog is a collection of more than 200 slides and 34 movie clips stored on two sides of a videodisc. Material covers

embryology, development, and anatomy of the frog, and includes films of frogs in their natural habitat. For biology classes that go ahead with dissection experiments, there are also detailed instructions.

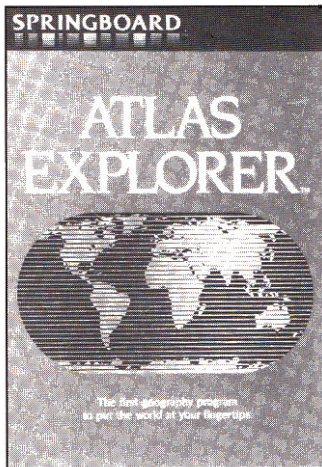
The *Frog* videodisc costs \$195; it's also available for \$395 in an *Interactive Multimedia Package* that adds an image directory on either an AppleWorks database file or a Macintosh HyperCard stack. Contact the company, or circle Reader Service number 355 for more information.

AROUND THE WORLD

Could you find Maputo on the map? Americans know too little about the world. At teachers' conventions across the country, the hot topic is **geography**.

Atlas Explorer, from Springboard Software (Minneapolis, MN, 612-944-3915) is like an atlas on disk, and its quizzes and games make geography fun. It works on two levels: first as a digital reference work, and second as a programmed learning experience. Teachers can replace the traditional geography class with *Atlas Explorer*, or simply use it as an ancillary reference work.

Atlas Explorer costs \$49.95 for the Apple IIc, IIe, and IIGs. A lab pack is also available for \$100. For more information, see if you can find number 356 on the Reader Service card.



Your Apple's your ticket to exotic lands as Atlas Explorer takes you around the globe.

DOWN AND OUT IN CHIBA CITY

You can be a **Neuromancer** when you play the first cyberpunk computer game. The plot of this fantasy role-playing adventure, created by the guys who brought you *Wasteland* and *Bard's Tale*, is lifted from William Gibson's best-selling sci-fi novel of the same name.

You're a cyberspace cowboy on the skids in Chiba City. That is, you're a professional computer hacker in the 21st century, when everything's done on a mega on-line network, and you're out of work. This one requires brains and skill. And it wouldn't hurt to

read the book first, either.

Neuromancer from Interplay Productions (Costa Mesa, CA, 714-549-2411) costs \$44.95 and includes the original soundtrack by Devo. For more information, circle Reader Service number 351.

NEW WISHES

- **Mathematica** (Wolfram Research): a "whole new way of doing mathematics with a computer." But you need a Mac II with megabytes to show it off.

- **AccuWeather** (AccuWeather): on-line weather maps from the same people who probably report the weather for your local radio station—if you have a Mac or IBM PC. But look for the National Geographic Society's "educational" on-line weather maps in April.

Hardware

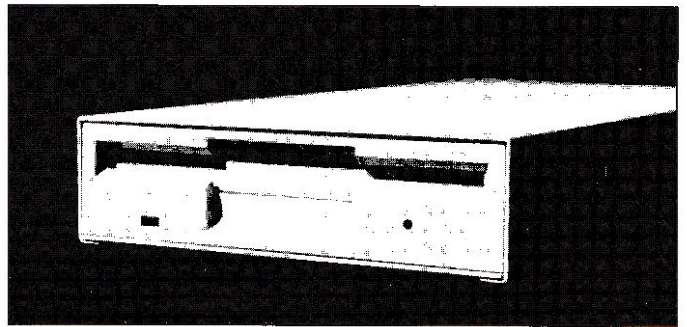
DISK DATA

Here are the facts about the SystemGate M300 **3½-inch, 800K floppy disk**:

- The M300 measures an inch high, four inches wide, and less than eight inches long. (Apple's is 2 by 5 by 8 inches.)

- The M300 works with the Apple IIGs, Apple IIc Plus, and the Laser 128EX/2, alone or in daisychain with other drives (just like Apple's drives).

- The M300 is warranted for one full year (Apple's drives



SystemGate's M300 3½-inch disk drive takes on Apple's popular model in the mass-storage marketplace.

for 90 days).

- The M300 doesn't have an "eject" button; you have to remove the disk by software or paper clip. (Apple's disk has a button.)

- The M300 costs \$259. (Apple's costs \$425.)

Get a disk drive (and a paper clip) from SystemGate, Monterey Park, CA, (818) 282-4720, or circle number 353 on the Reader Service card.

Resources

THE FUTURE IS NOW

Stewart Brand, founder of *The Whole Earth Catalog*, takes a tour *Inside the Media Lab* (Viking Penguin, New York, NY, 212-545-7433) at the Massachusetts Institute of Technology. All the nifty "technology of the future" is here today in this \$10 paperback: holography, talking computers, computer music and art, artificial realities, and first-graders programming robots with Logo and Lego. You'll need to be a knowledge navigator to find your way through Brand's excited, wandering prose; it's nonlinear. But the pictures are worth ten bucks.

For more information, circle Reader Service number 357.

APPLEWORKS GOES TO SCHOOL

The AppleWorks Resource Guide for Teachers and Parents, priced at \$12.95, might interest some students, too. It's a comprehensive list of more than 125 AppleWorks templates—AppleWorks disk files in which useful information has already been entered.

Jim Carlisle, founder of the Teachers' Idea and Information Exchange and the country's foremost template collector, was a major contributor; Claris Corporation (Mountain View, CA, 415-960-2790), publisher of AppleWorks, produced this official guide to AppleWorks for education. Call the distributor, Scholastic Software, at (800) 631-1586, to order, or circle Reader Service number 358 for more information. ■

Product descriptions contained in this section are based on information supplied to us by the respective manufacturers. These announcements are provided solely as a service to our readers and do not constitute endorsement by inCider of any given product.

HINTS/TECHNIQUES



Apple users know there's always an easier way to get the job done. A shortcut here, an elegant twist there—that's what *Hints/Techniques* is all about. It's an information swap for readers who want to share their programming pointers, DOS tips, hardware secrets, AppleWorks applications, and all those other insights. Bracketed numbers in listings refer to new Applesoft Program Proofer, p. 24.

Apple Macros

by Andy Haas

Wish your Apple II had definable function keys? Now you can create your own macros with the accompanying programs, Macro Driver (**Listing 1**) and Apple Macros (**Listing 2**). You'll reduce keyboard activity by defining 16 control keys capable of reproducing up to 31 characters each.

Type in **Listing 1**, SAVE it, and RUN. Then type BSAVE Macro.Driver,A\$9300,L\$300 to save the binary program and macro-definition file the program creates. Be sure to use that name, because **Listing 2** looks for it.

Now type in, SAVE, and RUN **Listing 2**. Apple Macros is the editor you use to personalize the macros you define in Macro Driver.

After a brief pause, during which Apple Macros BLOADs Macro Driver, you'll see a list of macro keys followed by their character-output definitions. The program prompts you to press the key corresponding to the macro you want to edit.

Next, type in any Applesoft or ProDOS command as the macro's definition, such as LIST for the macro Control-L. Press C to clear all macro definitions if you want to start with a clean slate. Press Q to quit, and use the macros you saved most recently in subsequent programs. Once installed, you'll now have a collection of commands waiting at your fingertips.

While listing definitions, be aware that

Listing 1. Macro Driver defines keystroke equivalents.

```
10 REM Make Macro.Driver [3537]
20 REM by Andy Haas [2402]
30 REM Copyright 1988, inCider [4735]
40 FOR I = 37632 TO 37877: READ N: POKE I,N: NEXT I [3276]
50 FOR I = 37878 TO 38399: POKE I,0: NEXT I [2771]
60 PRINT "Macro driver code in memory. BSAVE it as:"
   [9132]
70 PRINT "MACRO.DRIVER,A$9300,L$300." [5633]
80 END [1050]
100 DATA 186,142,226,147,162,27,169,147,142,242 [8857]
110 DATA 3,141,243,3,73,165,141,244,3,44 [7244]
120 DATA 31,192,48,3,76,98,250,174,226,147 [7741]
130 DATA 154,169,0,133,115,169,147,44,0,191 [1214]
140 DATA 48,2,169,143,133,116,162,76,169,147 [1284]
150 DATA 134,56,133,57,44,0,191,16,3,76 [1102]
160 DATA 191,157,44,31,192,16,6,142,50,190 [1272]
170 DATA 141,51,190,76,0,190,142,225,147,186 [1362]
180 DATA 142,226,147,44,227,147,16,4,145,40 [1281]
190 DATA 48,105,44,31,192,16,6,32,5,195 [1186]
200 DATA 76,106,147,32,27,253,201,145,208,18 [3624]
210 DATA 141,12,192,162,191,169,157,44,0,191 [3626]
220 DATA 48,142,162,0,169,190,208,136,201,157 [3732]
230 DATA 208,31,173,229,147,73,128,141,229,147 [3839]
240 DATA 72,162,144,138,202,208,253,170,44,48 [3772]
250 DATA 192,202,208,245,104,10,176,238,177,40 [3885]
260 DATA 76,92,147,162,15,221,230,147,240,5 [5873]
270 DATA 202,16,248,48,46,138,10,10,10,10 [5306]
280 DATA 10,141,204,147,169,149,176,3,56,169 [5793]
290 DATA 148,141,205,147,110,227,147,174,228,147 [6408]
300 DATA 238,228,147,189,0,148,208,13,141,227 [5962]
310 DATA 147,141,228,147,44,229,147,16,195,169 [6099]
320 DATA 141,174,225,147,96,1,240,0,0,128 [7432]
330 DATA 129,130,133,134,135,137,140,142,143,144 [9034]
340 DATA 146,148,150,151,153,154 [5431]
```

End

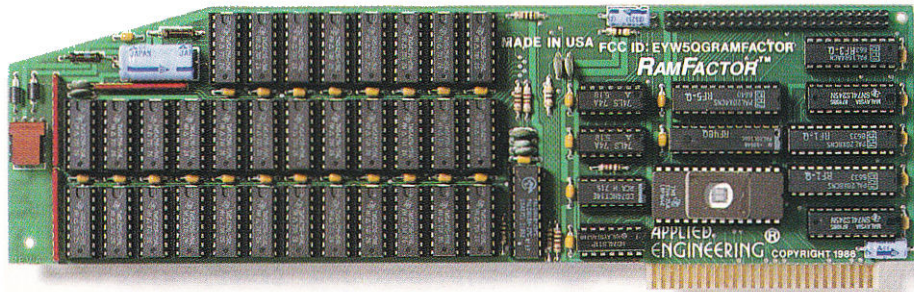
Listing 2. Apple Macros works as a macro editor.

```
10 REM Apple Macros [2602]
20 REM by Andy Haas [2402]
30 REM Copyright 1988, inCider [4735]
70 REM [831]
80 ONERR GOTO 340 [722]
100 HIMEM: 36608: TEXT : HOME : DIM M$(15),K$(15): FOR
   Y = 0 TO 15: READ K$(Y): NEXT : DATA A,B,E,F,G,I,
   L,N,O,P,R,T,V,W,Y,Z: VTAB 12: HTAB 7: PRINT "Load
   ing macros from disk...": PRINT CHR$(4);"BLOAD
   MACRO.DRIVER" [18612]
110 A = 37888: FOR Y = 0 TO 15:M$(Y) = "": FOR X = 0 TO
   31: ON NOT PEEK (A + X) GOTO 130:M$(Y) = M$(Y) +
   CHR$( PEEK (A + X) - 128): NEXT [10758]
130 A = A + 32: NEXT Y [1222]
140 HOME : HTAB 15: PRINT "APPLE MACROS": HTAB 15: PRINT
   "-----" [4422]
150 FOR Y = 0 TO 15: VTAB 3 + Y: PRINT "CTRL-";K$(Y);
   ">";M$(Y): HTAB 40: PRINT "<": NEXT : VTAB 21: PRINT
   "<>quit <C>lear macros from memory" [11913]
170 PRINT : VTAB 20: PRINT "Edit which macro key? CTR
   L-"; GET I$: PRINT I$:X = ASC (I$):I$ = CHR$(
   X - (X > 96) * 32): FOR Y = 0 TO 15: ON I$ = K$(Y
   ) GOTO 220: NEXT : IF I$ = "Q" THEN 300 [10766]
```

Continued ▶

RamFactor™

The Ultimate Slot 1-7 Memory Card



RamFactor is automatically recognized as additional workspace memory by AppleWorks 1.3, 2.0 and 2.1. In addition, RamFactor's memory can be used for creating the ultimate in program speed—a lightning-fast RAMdisk for the Apple IIGs, IIe, II+, Franklin and Laser 128. A RAMdisk does not depend on the slow moving parts of a conventional floppy drive. RAMdisks eliminate wear and tear on your disk drive plus your programs run up to 20 times faster! When a program is in RAM, your computer won't have to search for it in the mechanical disk drive during program operation. With RamFactor, you can have up to 9 separate simultaneous RAMdisks—even in different operating systems! Now you can instantly switch from one program to another or even switch from AppleWorks to DOS 3.3 to CP/AM to Apple Pascal 1.3 to ProDOS.

Apple Memory Expansion Card Compatible

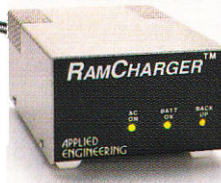
RamFactor is 100% Apple Memory Expansion Card compatible. This means that software designed for Apple's card is automatically compatible with RamFactor. Thousands of software programs—including AppleWorks, Pinpoint, MacroWorks, MultiScribe, and Managing Your Money—can take advantage of the speed and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

2.0 AppleWorks Power

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

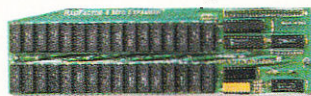
eliminating the time required to access the program disk. It will even display the time and date on the AppleWorks screen with a ProDOS clock. RamFactor will automatically segment large files so they can be saved on multiple 5¼" and 3½" floppies or a hard disk. All this performance is available for the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

The "Electronic Hard Disk"



RamCharger is an optional battery back-up device, (about the size of a disk drive), that can plug into a connector on RamFactor. With RamCharger added to RamFactor, your program will appear almost instantaneously when you turn on your computer. RamCharger contains LED's that let you know RamFactor's reserve power status. Since RamCharger has its own built-in power supply, it can retain RamFactor's memory indefinitely. Plus, RamCharger's battery will continue backing up RamFactor's memory for up to 10 hours during power failures. An optional "Y" cable is also available that allows one RamCharger to power two fully expanded RamFactors.

If 1 MEG Isn't Enough



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

Features

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

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

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

RamFactor with 256K	\$299
RamFactor with 512K	\$439
RamFactor with 1 MEG	\$719
RamFactor Expander with 1-4 MEG	CALL
RamCharger backup option	\$179
"Y" cable	\$24
<small>(Allows one RamCharger to power two RamFactors.)</small>	

Order RamFactor today... with 15 day money back guarantee and our five year warranty. See your dealer or call (214) 241-6060, 9 a.m. to 11 p.m., 7 days, or send check or money order to Applied Engineering, MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10.00 if outside U.S.A.

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Prices subject to change without notice.

Macro Driver records all keys except Control-H (left arrow), Control-U (right arrow), and Control-M (Return) as output. Use a backspace-arrow key combination to delete errors.

To install your macros in other programs without using the Apple Macros editor, simply BRUN MACRO.DRIVER, which reserves two control keys as commands. Press Control-Q or use the IN# or PR# command to deactivate Macro Driver and reset your Apple to its standard state. Type CALL 37632 to reactivate it. Press Control-] to switch the two entry modes: Mode 1 allows for more input after each macro entry, while mode 2 sends a carriage return. Macro Driver defaults to mode 2. Each time you press Control-], you'll hear a chirp-like sound. If mode 1 is active you'll hear it once, otherwise twice.

Macro Driver is located at \$9300-

Continued

```

180 IF I$ = "C" THEN A = 37888: FOR Y = 0 TO 15: M$(Y)
    = " ": POKE A,0:A = A + 32: NEXT : GOTO 140 [6309]
210 FOR Y = 1 TO 3: FOR X = 1 TO Y:A = PEEK (49200):
    NEXT : NEXT : GOTO 170 [5182]
220 M$(Y) = "":X = 1 [1724]
230 VTAB 3 + Y: HTAB 8 + X: GET I$: IF I$ = CHR$(13
    ) THEN PRINT SPC(32 - X): GOTO 270 [5538]
240 IF I$ = CHR$(8) THEN PRINT " ":X = X - (X > 1)
    : ON X GOTO 220:M$(Y) = LEFT$(M$(Y),X - 1): GOTO
    230 [7503]
250 IF I$ = CHR$(21) THEN I$ = " " [1688]
260 PRINT I$:M$(Y) = M$(Y) + I$:X = X + 1: IF X < 32 THEN
    230 [4719]
270 A = 37887 + 32 * Y:X = 1: IF LEN (M$(Y)) THEN FOR
    X = 1 TO LEN (M$(Y)): POKE A + X, ASC ( MID$( M$
    (Y),X,1)) + 128: NEXT [11384]
280 POKE A + X,0: GOTO 170 [1762]
300 HOME : VTAB 12: HTAB 6: PRINT "Save macros to dis
    k? (Y/N): ";: GET I$: HOME : IF I$ = "Y" OR I$ =
    "y" THEN VTAB 12: HTAB 16: PRINT "Saving...": PRINT
    CHR$(4);"BSAVE MACRO.DRIVER,A$9300,L$300" [9932]
310 VTAB 12: HTAB 13: PRINT "Macros installed.": CALL
    37632 [5532]
340 CALL 54915: ON PEEK (222) = 255 GOTO 140: HOME :
    PRINT "Insert disk with the Macro Driver": PRINT
    "program, then press a key.": GET I$: PRINT : RESUME
    
```

End

The Sider™ Storage Solutions

The PRAISES.

It seems like it happens year after year. The leading publications to the Apple II marketplace, in product reviews and round-ups, single out First Class Peripherals and *The Sider* for special praise.

This year, the accolades read like this:

#1 INDEPENDENT MASS STORAGE SUPPLIER.

1988 APPLE II USERS BRAND PREFERENCE STUDY

1988 READERS' CHOICE AWARD, STORAGE PERIPHERALS.

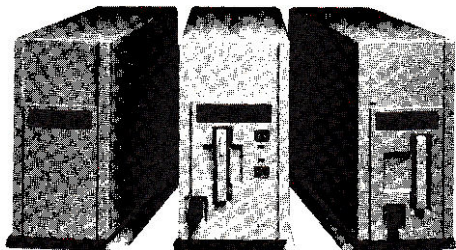
A+ MAGAZINE

1988 "DREAM MACHINE" SELECTION, HARD DISK STORAGE.

A+ MAGAZINE

"ALL TIME BEST"/TOP TEN APPLE II HARDWARE PRODUCTS.

INCIDER MAGAZINE, DECEMBER 1988



We think the reason is simple enough. Value. *The Sider* gives you more reliable hard disk, tape and tape/disk combo subsystem hardware, more capacity choices, easier-to-use software, comprehensive documentation, and on-line help and diagnostics, and warranty protection. We give you smart-looking packages with

Listing 3. Auto Quit.

```

10 REM BINARY TO SYSTEM CONVERSION PROGRAM [6932]
11 REM BY HAROLD PORTNOY [3476]
12 REM COPYRIGHT 1989, INCIDER [4903]
40 PRINT CHR$(4);"PR#3": PRINT [1854]
50 VTAB 6: HTAB 5: PRINT "Enter name of binary file:
   ";: INPUT "";N$ [7600]
60 PRINT CHR$(4)"Blood";N$;" ,a$2100" [1764]
70 BLN = 256 * PEEK (48858) + PEEK (48857):PG = PEEK
   (48858) + 35 [7124]
80 VTAB 9: HTAB 5: PRINT "Enter name of system file
   to be created: ";: INPUT "";N$ [10445]
90 PRINT CHR$(4)"Create";N$;" ,tsys" [1739]
100 RESTORE : FOR I = 8192 TO 8447: READ N: POKE I,N
   : NEXT I: POKE 8192 + 64,PG [4951]
110 VTAB 12: HTAB 5: PRINT "Enter name of system fil
   e to follow (RTN for none): ";: INPUT "";M$ [12307]
120 ON NOT LEN (M$) GOTO 160: POKE 8198, LEN (M$) [2699]
130 FOR I = 1 TO LEN (M$) [1597]
140 A$ = MID$(M$,I,1): POKE 8198 + I, ASC (A$) [4091]
150 NEXT [599]
160 PRINT CHR$(4)"Bsave";N$;" ,a$2000,1":BLN + 256;
   ",tsys" [7116]
180 PRINT : PRINT : PRINT "   DONE" [1044]
190 END [7507]

```

Continued

\$95FF. To use those memory locations for other purposes, it's important to deactivate Macro Driver with Control-Q to avoid hanging or crashing your system. When you first install it, Apple Macros prevents BASIC, DOS 3.3, or ProDOS from interfering with these locations. ■

Write to Andy Haas at 313 East 9th Avenue, Coal Valley, IL 61240.

Auto Quit

by Harold D. Portnoy

Auto Quit (**Listing 3**) converts any binary program to a ProDOS .SYSTEM file containing the quit code that passes control directly to another designated system file. If you place your newly created .SYSTEM program as the first file in the volume directory, ProDOS will execute that program immediately after bootup.

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1000 DATA 76,236,32,238,238,49,0,0,0,0 [3039]
1010 DATA 0,0,0,0,0,0,0,0,0,0 [2165]
1020 DATA 0,0,0,0,0,0,0,0,0,0 [2135]
1030 DATA 0,0,0,0,0,0,0,0,0,0 [3190]
1040 DATA 0,0,0,0,0,0,0,0,0,0 [3395]
1050 DATA 0,0,0,0,169,33,133,61,169 [4501]
1060 DATA 32,133,67,169,36,133,63,160,0,132 [5496]
1070 DATA 60,132,62,132,66,32,44,254,32,0 [5191]
1080 DATA 32,174,0,31,240,91,189,0,31,157 [5165]
1090 DATA 128,2,202,16,247,32,0,191,196,212 [7663]
1100 DATA 31,176,74,172,216,31,200,208,68,32 [7883]
1110 DATA 0,191,200,184,31,176,60,173,189,31 [7876]
1120 DATA 141,191,31,141,196,31,32,0,191,209 [7898]
1130 DATA 190,31,176,43,173,194,31,208,38,173 [8134]
1140 DATA 193,31,201,152,176,31,141,200,31,173 [8414]
1150 DATA 192,31,141,199,31,169,32,141,198,31 [1249]
1160 DATA 32,0,191,202,195,31,176,9,32,0 [1107]
1170 DATA 191,204,176,3,76,0,32,32,0,191 [1100]
1180 DATA 204,203,31,32,0,191,101,205,31,0 [1189]
1190 DATA 3,128,2,0,26,0,2,0,0,0 [905]
1200 DATA 0,4,0,0,32,0,0,0,0,1 [882]
1210 DATA 0,4,0,0,0,0,0,0,10,128 [938]
1220 DATA 2,0,0,0,0,0,0,0,0,0 [2102]
1230 DATA 0,0,0,0,0,0,162,0,189,6 [2481]
1240 DATA 32,157,0,31,232,208,247,76,49,31 [3338]
1250 DATA 0,0,0,0,0,0 [1370]
    
```

End

Converting a binary file to a .SYSTEM file is easy. Just RUN the program in Listing 3 (AUTO.QUIT) and follow the on-screen directions. Auto Quit first requests the name of the machine-language program you want to convert, then asks you to name the newly converted program. Lastly, it asks for the name of the .SYSTEM file that will run after yours is finished. ■

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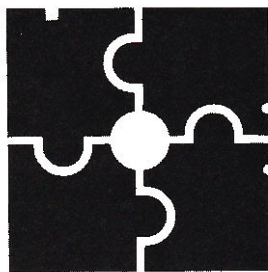
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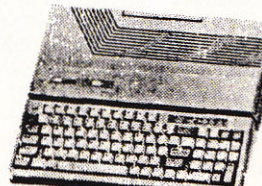
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Now the GS has its own accelerator card—a new engine that boosts program speed two and a half times, from 2.8 megahertz to 7. Think it's a bit pricey? Wait 'til you see it perform. Folders and icons open from the Finder like lightning; text wraps instantly around graphics in your favorite desktop-publishing program; documents scroll at a reasonable rate in any graphics-based word processor. "TransWarp makes the GS as good as the Mac, because it's fast and it's still in color," declares Technical Editor Bill Kennedy.

Installation's straightforward—even easier than plugging in the IIe TransWarp, because you won't be fooling with DIP (dual in-line package) switches. Inserting the board adds a classic desk accessory automatically to your array of GS tools, as you'll see when you press Control-Open apple-Escape to bring up the Control Panel. You can configure TransWarp (determine whether you want the startup graphics and sound), perform a self-test, and adjust the speed. You can even disable the card, though why you'd want to is beyond us, unless you can't keep up with your favorite arcade game anymore. There's also an interrupt-logic option that runs AppleTalk on your GS.

"Applied Engineering's RamWorks memory-expansion cards transformed the Apple IIe into a serious machine by fixing its most obvious fault—a mere 128K of RAM (random-access memory)," recalls Senior Editor Paul Statt. "The most obvious fault of the GS is its 2.8-megahertz microprocessor: It's slow.

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"You're probably thinking, 'I just paid more than two grand for my IIgs. Why should I spend another \$400 on an accelerator card?'" observes Editor in Chief Dan Muse. "Unless you enjoy looking at watches and spinning wheels on your GS' screen, though, TransWarp GS will be the best \$400 you ever spent." ■

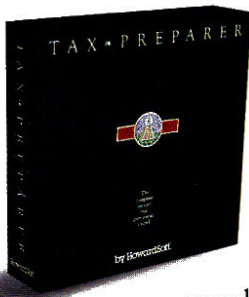
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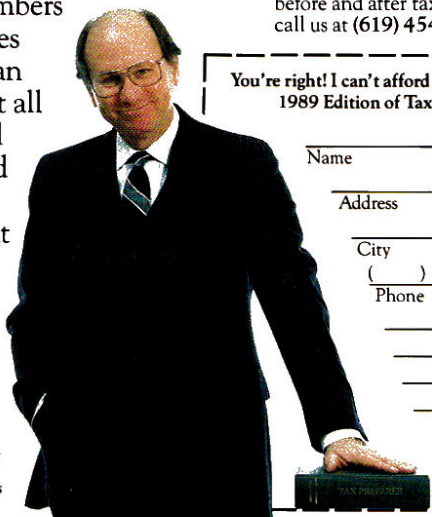
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