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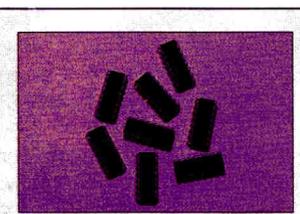
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inCider (ISSN #0740-0101) is published monthly by IDG Communications/Peterborough, Inc., 80 Elm Street, Peterborough, NH 03458. Phone: (603) 924-9471. Second-class postage paid at Peterborough, NH, and additional mailing offices. (Canadian second class mail registration number 9590.) Subscription rates in U.S. are \$27.97 for one year, \$49.00 for two years and \$59.00 for three years. In Canada, \$34.97, U.S. funds, one year only. In Mexico, \$32.97—one year only, U.S. funds drawn on a U.S. bank. Nationally distributed by International Circulation Distributors. Foreign subscriptions (surface mail), \$47.97—one year only, U.S. funds drawn on a U.S. bank. Foreign subscriptions (air mail), \$82.97 prepaid, U.S. funds drawn on U.S. bank, one year only. **Postmaster:** Send address changes to *inCider*, Subscription Services, P.O. Box 58618, Boulder, CO 80322-8618. (Send Canadian changes of address to: *inCider*, P.O. Box 1051, Fort Erie, Ontario L2A 5N8.)

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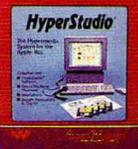
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ROGER WAGNER

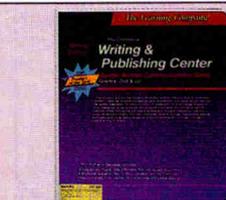
Hypermedia authoring system for the Apple IIGS that provides every-

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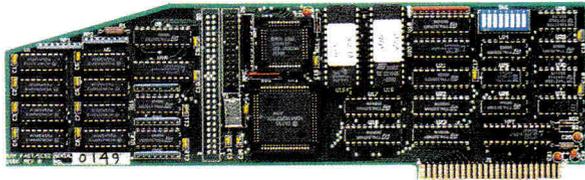
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That's why we're happy to endorse the RamFAST/SCSI interface card. Its innovation, performance and reliability make it the kind of product we are proud to carry.

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WHAT THEY'RE SAYING

"It has the performance I was expecting, but didn't get from the Apple DMA card."

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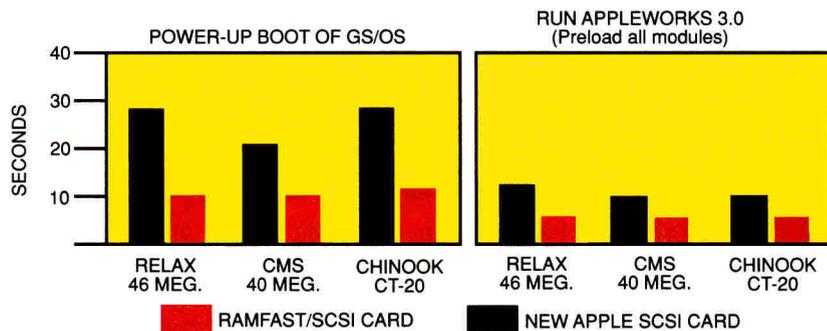
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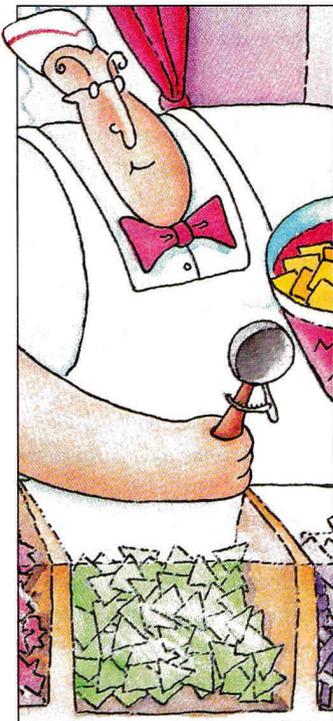
OCTOBER

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inCider's recipe for SuperWorks: topping off plain-vanilla 3.0 with an assortment of patches, utilities, and macros for enhanced power and unlimited productivity.

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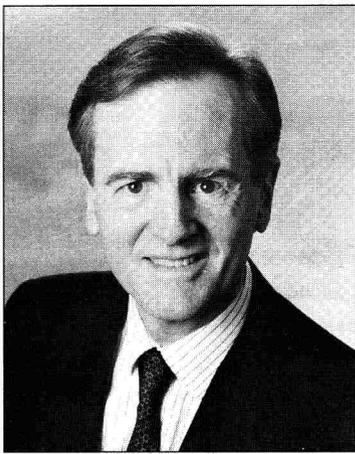
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AN OPEN LETTER FROM APPLE'S CEO

SCULLEY'S VIEW

“We value the Apple II product family as an asset, which we will continue to nourish.”

HAVE NO DOUBT, APPLE COMPUTER Inc. is committed to supporting and marketing the Apple II computer for years to come. Speculation whirling in the marketplace about the Apple II product family has users confused about Apple's commitment to the line. With this open letter to readers of *inCider/A+*, I hope to dispel concern and assure our Apple II customers that their loyalty to Apple and its products is warranted. I also will address how changes in the marketplace affect the future.

Apple II buyers are a very loyal and passionate group, and your continued appreciation of our products guides us in our decisions. It is particularly gratifying to me and to Apple II engineers, both past and present, to see that the Apple II, which launched Apple as a business, continues to be endorsed by educators, consumers, and small-business owners.

During the past few months, I've become more personally involved in Apple's product research and development efforts. Recently funds to continue to improve the Apple II product line were increased substantially. The future of the Apple II's development has been put into the very capable hands of Roger Heinen, Apple Products' vice president of software, and Ralph Russo, Apple Products' director of Apple II development, who now sees to it that the enhancements to the Apple II on the drawing board come to fruition.

Within the last year we've also added employees in both worldwide product marketing and USA product marketing dedicated to the Apple II line.

In 1989 and so far in 1990, Apple introduced a number of significant technological improvements for the Apple IIGS, IIC Plus, and IIE without increasing the price of the basic products. Currently, we are working closely with Apple II hardware and

software developers to encourage the creation of innovative products for the Apple II family and to provide them with the information they need to make decisions so their businesses continue to be viable. A number of developers in the past year introduced new software and hardware for the Apple II family, as well as made commitments to their customers to continue to introduce creative new products that support our own Apple II development.

One major step Apple made last year to ensure the longevity of the IIGS was to introduce Apple IIGS System Software 5.0, the first 16-bit operating system for the IIGS that operates over the AppleTalk network system. In response to requests from customers and developers for improved ease of use and functionality, Apple improved the system software's speed and network capabilities as well as made changes to the toolbox that enable the system to handle basic functions, including sound, drawing, scrolling, and memory management, about twice as fast as our earlier System Software 4.0. New toolbox components for developers also make programming for the Apple IIGS easier and faster.

Besides new system software, Apple last year expanded standard memory for the Apple IIGS to 1 megabyte without increasing cost and introduced the Apple II Video Overlay Card, which gives our customers the ability to use the Apple II as a basic interactive multimedia platform. In March, we introduced the Apple II High-Speed SCSI Card, which moves information up to ten times faster between Apple II computers and peripherals. This card provides the user with greater functionality at the same price as the earlier card. This new High-Speed SCSI Card is just one example of Apple's philosophy — based on customers' needs — to allow Apple II users access to

This month, Editor in Chief Dan Muse turns over his space to John Sculley, Apple's chairman, president, and chief executive officer.

At *inCider's* request, Sculley has agreed to address Apple's philosophy regarding the II family. The opinions expressed here do not necessarily reflect those of *inCider* or IDG Communications.

many of the same SCSI peripheral devices as Macintosh users. By building bridges between Apple's two product lines, our customers can take advantage of the strength of each. Taken together, our recent II products equal significant improvement in functionality and increase the value of Apple IIs for our customers and developers.

We also understand our customers' need for continued enhancements to the product line, including improvements in the way Apple II and Macintosh computers interact on the AppleTalk network. Apple II customers, particularly primary and secondary schools, want their installed base of Apple IIs to operate in concert with newer Macintosh purchases. We are currently working on a variety of "bridges" between the Apple II and Macintosh families to make that synergy even better. During 1990 and 1991, Apple will introduce several new entry-level Macintosh computers, and at least one will have Apple II emulation capabilities so the two product lines continue to work well together.

I can reassure our Apple customers that we value the Apple II product family as an asset, which we will continue to nourish. Beyond that, I am not at liberty to disclose specific product plans.

New products aren't the entire answer, and at Apple we are constantly evaluating the changing needs of the Apple II community to ensure top-notch service. We recently established a one-year warranty for new owners of Apple II computers and we continue to offer AppleCare to all owners of Apple II computers.

As tool makers of state-of-the-art personal computers, we recognize the technological limits of the Apple II line, but at the same time these products have neither lost usefulness, nor are they obsolete. Hundreds of thousands of educators, consumers, and

small-business owners worldwide rely on the Apple IIGs, IIE, and IIC Plus and will for many years to come. For those reasons, Apple Computer is committed to continuing to enhance the IIGs's functionality, improve our support to customers, and encourage developers to push Apple II technology as far as it can go. As Apple develops new entry-level products, the Apple II family will continue to be recognized for the immense value it provides our customers and our company.

We make that commitment to *inCider/A+* readers here, and we've made that same commitment to customers both in person and in a special videotape mailed to more than 10,000 education customers this spring. In addition to a videotape, customers also received a new guide to Apple II software that cited nearly 200 new Apple II education software products to add to the already extensive library of software for the Apple II family. This fall you will see from Apple a new Apple II resource that will be a comprehensive guide covering a wide range of topics, including technical product information, telecommunications, media integration, and service and support. This new guide is another in Apple's continuing efforts not only to reward your loyalty but also to make owning and using an Apple II computer the great experience it was meant to be.

Sincerely,



**John Sculley
Chairman, President, and CEO
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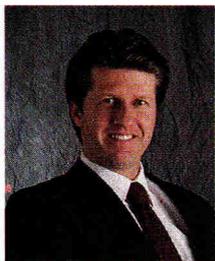
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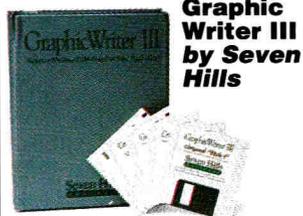
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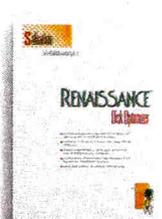
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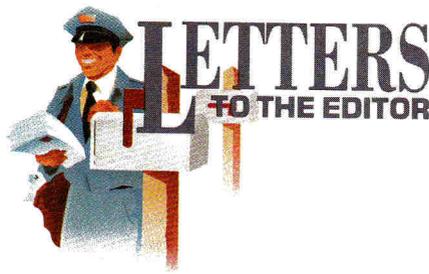
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IN THE DARK

I'M A PROUD IIC OWNER WHO'S finally decided it's time to purchase a hard drive. Unfortunately, the information in your July 1990 article "A Hard Drive Is Good to Find" (p. 42) isn't correct. You state, "Chinook Technologies is currently the only manufacturer that makes hard-disk drives that plug into the [IIC's] external disk-drive port."

Today that quote is wrong. Ingenuity has come out with a hard drive for the IIC that fits inside the machine and replaces the floppy drive — it even includes a kit so that you can transform the internal floppy into an external floppy. When will you give IIC owners a break? We want to know about *all* the hard-disk drives available for our machines.

Randy Burka
9006 Quebec
Houston, TX 77096

As of this writing (late July), the Ingenuity hard drive you mention is still in development and isn't available yet for retail purchase. Look for further coverage in upcoming issues. — eds.

WHAT'S IT WORTH?

BE AWARE THAT ACTIVISION'S latest version of Paintworks Gold, 1.5, won't work on a ROM 03 GS with less than 1.5 megabyte of RAM. When I purchased a copy for our school, I found that it ran without a problem on our 1.25-megabyte ROM 01 machines, but crashed on my ROM 03 GS with the same amount of memory. Activision's support personnel admitted that this new version needs an added 512K on the auxiliary card, but the company hasn't considered

rewriting its memory-allocation routines. The program's new features (save page 2 and a pattern palette) are nice, but not worth the \$70 a RAM upgrade costs.

Dennis Windrim
5112 13th Avenue
Edmonton, Alberta, Canada T6L 1Z6

LOGO TALK

I WAS DELIGHTED TO SEE YOUR coverage of programming languages in *inCider's* July 1990 issue (p. 56). I'm a Logo teacher in an elementary-school computer lab, I'd like to make your readers aware of some important differences between the earlier versions of LogoWriter and the newest GS edition.

The original versions of LogoWriter include powerful features for the 128K Apple II — including classic Logo programming, multiple turtles that can "wear" different shapes, and animation and music you can program. You can program the word processor to create interactive story trees, as well, and even mix text and Logo graphics on screen.

The newest version of LogoWriter contains all those capabilities, plus some other improvements, notably the screen's crispness — text and graphics show none of the usual Apple IIe "color bleed." The GS version also has 15 on-screen colors, which you can access easily to create colorful text. (The older versions have just five colors, which you use only for graphics.) The new GS version even lets you control the turtle's speed. There's also significantly more memory available in the GS version: While previous versions didn't access more than 128K, the amount of RAM in the GS edition depends entirely on your computer's memory. Note, however, that the 16-bit

version doesn't boot in older GSeS, because GS/OS needs ROM 01 or later. (See your dealer for a ROM upgrade.) I hope these observations are helpful to some of your Logo-programming subscribers.

Robert Scheinblum
Cutler Ridge Elementary School
Miami, FL 33189

LUKEWARM RESULTS?

I ENJOYED YOUR JULY 1990 article "A Hard Drive is Good to Find," but I'd like to clarify a figure listed in the table "Benchmark Test Results" (p. 46). When I turn on my GS, the InnerDrive icon arrives at the ProSel application selection screen much faster than the 11-second warmup time listed in the chart: When I park the head before the last shutdown it takes 6.75 seconds to warm up, and when I don't park it, it takes only 5.25 seconds. Why?

Bill Neef
4848 Wolf Lake Road
Grass Lake, MI 49240

As we noted in the article's sidebar "Testing the Drives," warmup times vary, depending on type of interface and the way the observer determines readiness; the discrepancy between your results and ours is fairly minor. More significant and more precise are the average times listed for the other benchmarks in the table. — eds.

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upgrade to a GS, switch to a Mac, or buy an IBM compatible. Because of my working familiarity with Apple II computers and my extensive software collection, I want to stay with the IIe. Is there some type of interface card that lets the IIe use a laser printer?

R.E. Alexander
6402 Melody Lane #3121
Dallas, TX 75231

Apple IIe users can print with a LaserWriter via an AppleTalk network; you'll need an Apple II Workstation Card (\$249). — eds.

CORRECTIONS

Two of the program listings in July's Applesoft Adviser ("Graphics Alive!" p. 74) contain inaccuracies. To correct Listing 1, omit line 556; in Listing 3, change the expression $K = K + 34$ in line 315 to $K = K + 43$; again in Listing 3, change the final data statement's line number to 626, insert it right after line 625, and renumber the following lines.

The Nite Owl Productions phone number listed in August's "Big Adventure, Small Price" (What's New, p. 15) is incorrect; the correct number is (913) 362-9898.

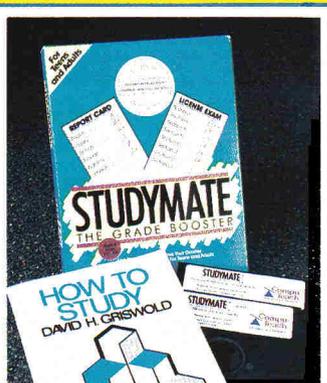
UPDATES

CompuShare has moved its offices since we printed the company's address in our July What's New column ("Guide for the Perplexed," p. 14). The new location is P.O. Box 825, Mukilteo, WA 98275, (206) 348-9626.

The Seven Hills Software phone number printed in the August feature "Publish It! Pounder vs. Kid GraphicWriter" ("Product Information," p. 46) is the customer-support line. The main number is (904) 575-0566 or (800) 627-3836.

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Programs, Peripherals



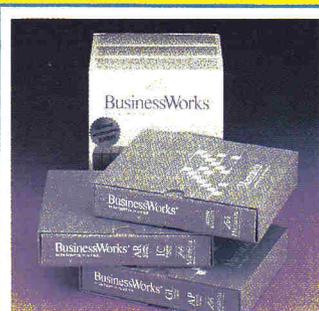
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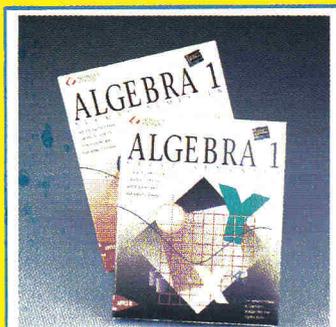
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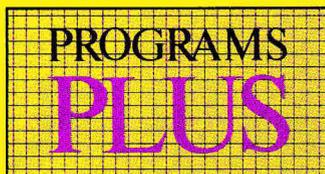
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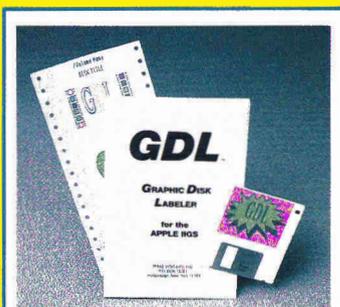
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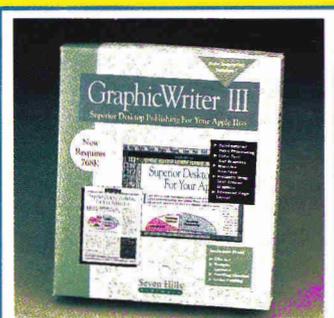
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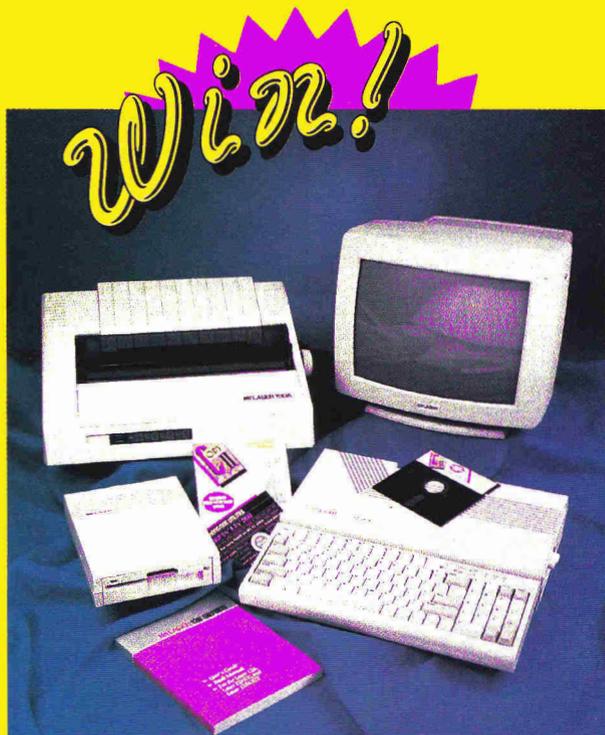
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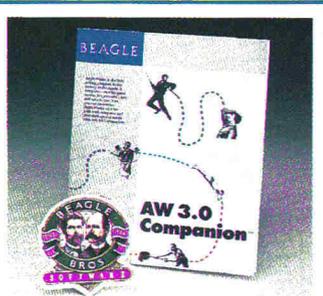
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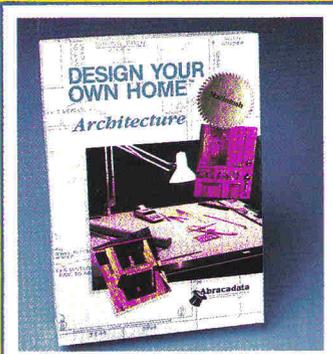
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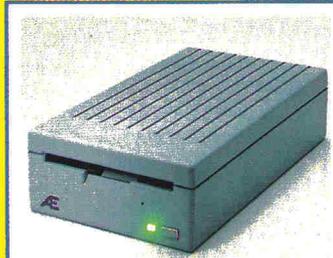
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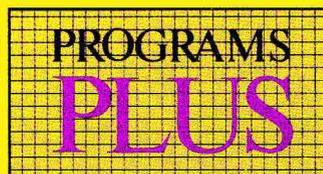
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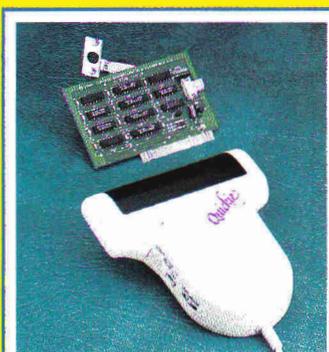
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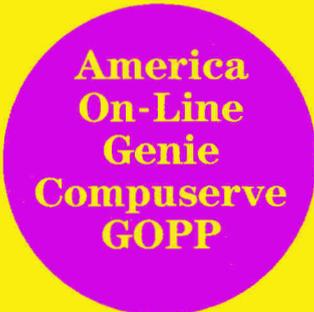
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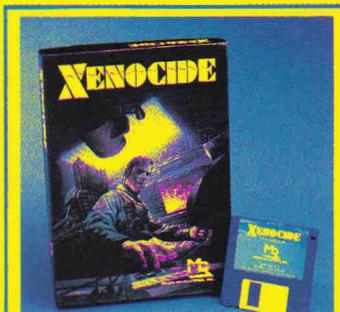
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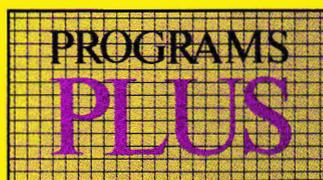
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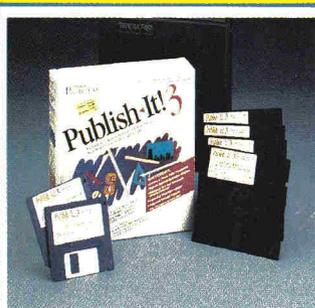
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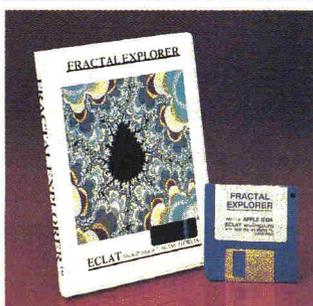
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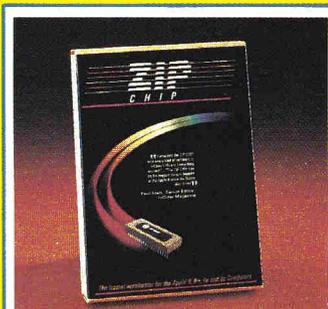
Seven Hills Software
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WHAT'S NEW

edited by Paul Statt



started as a joke: Look closely at the famous Beagle Bros logo, and you can read the date "Est. 1980." It was pretty funny in 1981. But in October 1990, the San Diego publisher of Apple II software turns 10 years old. Beagle Bros has survived by following three simple rules: Write good software, sell it cheap, and never copy-protect any of it.

When the early Beagle ads boasted "new unlocked Apple utility disks," it was a novel notion that a software publisher would trust the public not to steal its products. But according to Beagle Bros President Mark Simonsen, "It was an especially good idea when no one else was doing it." In those early, trusting days, Simonsen notes that Beagle Bros actually sold "listable source code" for its Apple utilities.

Another secret of Beagle's success has been its ability to change with the times. In the first half of the decade, when people who bought personal computers either decided to become programmers or traded their Apples for VCRs, Beagle concentrated on the utilities market.

Founder Bert Kersey had originally wanted to write games. That may explain why he named his company after a Walt Disney cartoon or his dog (depending on whom you ask) ten years ago. He said in a 1983 interview, "I didn't even know what a utility was in those days . . . Utilities didn't look like much fun. The only other thing I knew about utilities was that people would call up Beagle Bros and ask if we had any."

That extensive market research was the beginning of many Beagle utility programs that made writing software easier for everyone: ProntoDos by Tom Weishaar (who's now with A2-Central), DOS Boss by Jack Cassidy, and the ever-popular Utility City by Kersey himself.

Beagle's most famous product, however, was one it gave away free: the PEEKs and POKEs chart that came with every order and revealed the



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mysteries of the machine to a generation of BASIC programmers. It's still available.

But Beagle Bros' greatest success was to come with AppleWorks. In 1985, Mark Simonsen, with programmer Alan Bird, left Beagle Bros to form The Software Touch and market FontWorks and AutoWorks, programs that added to AppleWorks the ability to use different typefaces and to write macro-instructions to automate repetitive tasks.

"Alan's idea for AutoWorks actually came from Program-Writer," a BASIC program editor that featured macros, recalls Simonsen.

But "the most significant Beagle product ever," according to Simonsen, grew out of Alan Bird's insight: "Wouldn't it be great if FontWorks could run inside AppleWorks?" Bird developed TimeOut, the program that made it possible to add all kinds of new features to the aging AppleWorks.

Simonsen bought Beagle in 1987, at which time founder Bert Kersey left, although he still often drops in for lunch with the other Bros on Fridays. Beagle Bros' name became synonymous with AppleWorks, and in 1989 Claris Corporation, publishers of AppleWorks, introduced AppleWorks 3.0, with features added by Randy Brandt, Alan Bird, and Rob Renstrom, all Beagle Bros.

High quality and low prices helped Beagle Bros find success in a difficult market. The Beagle sense of humor has helped, too — it's almost worth buying a Beagle product just to read the manual. Beagle Bros has also changed with the times, writing games, DOS 3.3 utilities, ProDOS utilities, and finally AppleWorks utilities.

In 1990 Beagle Bros introduced its first Macintosh product: a network file sharer called Flash, which received critical acclaim. "For the future," predicts Simonsen, "Beagle Bros will be producing lots more Mac software and lots more Apple II software" — changing, as ever, with the times.

— Paul Statt



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Three times during the school year, teachers in grades 4 through 9 receive a club order kit containing an eight-page teacher's guide and take-home order brochures for students, listing more than 20 programs, at discounts of 20 to 50 percent off retail. The September brochure, for example, offers Scholastic's Slide Shop, Operation: Frog, and SuperPrint, as well as the Sesame Street Learning Library and software from other publishers. Discounted prices may be as low as \$13.95 per program; the average is around \$23. Software is also available for MS-DOS computers. Teachers can earn bonus points good for Scholastic software, subscriptions to *Microzine*, Scholastic's magazine on disk, and even items from the *Scholastic Book Club Teacher Bonus Catalog*. For details call (800) 541-4113, or write the Club at Scholastic Software, P.O. Box 7502, 2931 East McCarty Street, Jefferson City, MO 65102. Circle number 353 on the Reader Service card for more information. — P.S.



TESTING, TESTING

SOFTWARE Aside from keeping a gradebook, writing and scoring tests are probably the least satisfying among a teacher's chores. **ASK*IT**, a new teaching tool from True Basic Software, reduces the time it takes to create tests.

Ask*It organizes questions, answers, responses, and reading references into question files, called **Ask*It Packs**. You can create as many **Ask*It Packs** as you like — perhaps one for each course — or buy **Packs** from True Basic. You can even sell your testing materials to other educators through True Basic. (Call for details about "Ask*It Source" magazine and royalties.) The **Ask*It** package has three parts: the authoring program for creating and modifying the questions and answers that go into the tests; the tutoring program that converts your **Ask*It** question files into interactive tutorials, with which students teach themselves on the computer; and the reporting program that records students' performance in the tutorials.

The suggested retail price of the Apple II version of **Ask*It** is \$99.95. It's also available for IBM (MS-DOS) and Macintosh at the same price. For details, call or write True Basic, 21 Technology Drive, West Lebanon, NH 03784, (800) 872-3742. Circle number 351 on the Reader Service card for more information. — P.S.



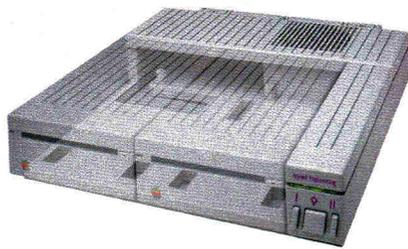
APPLE BITS

Three Beagle Bros — Alan Bird, John Oberrick, and Rob Renstrom — have joined together in a new company called **WestCode**. Their first product is **INWORDS**, a neat optical character-reading program that works with any scanner to create AppleWorks or text files from printed words. (See the story "In Others' Words" on page 23 for details.)

It's not your imagination — Apple insiders have admitted to us that the **High-Speed SCSI Card** requires 768K to work with GS/OS v. 5.02.

Steve Wozniak, cofounder of Apple Computer, has joined Lotus Development founder **Mitch Kapor** in establishing the **Electronic Frontier Foundation**, dedicated to the defense of the civil rights of hackers, according to "The Wall Street Journal."

The folks at **CirTech**, the Scottish hardware geniuses who brought us the InSyder internal hard-disk drive, claim to have built a **coprocessor card** with software that allows a GS to emulate a Mac. The **Duet** "outperforms the Mac IIcx1," they say.



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For beauty, we gave Conserver the same sleek lines of the IIGS and a perfectly matched platinum color. To reduce desktop clutter, the unit was cleverly designed to house two 3.5" disk drives, or one drive and the special diskette holder we include.

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WHAT'S
NEW



SOFTWARE

DELTA DRAWING TODAY

A new educational-software publisher, Power Industries of Newton, Massachusetts, has acquired the rights to Delta Drawing, a program for teaching children aged 3 to 10. Since Spinnaker Software first published Delta Drawing in 1982, more than 70,000 copies have been sold around the world. Power Industries thinks Delta Drawing was ahead of its time, and expects even wider distribution of its updated product, **Delta Drawing Today**. It's effective all across the elementary curriculum: It helps young learners develop the concepts of letters, shapes, numbers, and drawings, as it encourages them to explore and take risks.

Power Industries employed Jock Gill, one of the developers of the original program, to enhance Delta Drawing Today. Teachers are important consultants to Power Industries; Gill stresses that "hundreds of teachers are still using [the older version of] Delta Drawing out there. That's our most important resource, and we hope to hear from them." To support working teachers, Power will also make available new lesson plans, activity cards, posters, and other related materials.

If you're using Delta Drawing or are interested in trying it, call or write Power Industries, Two Newton Place, Newton, MA 02158, (800) 395-5009 or (617) 964-6200. Circle number 350 on the Reader Service card for more information. — P.S.



SOFTWARE

IN OTHERS' WORDS

You say you're sick and tired of retyping someone else's copy into your organization's newsletter? You're fed up with re-entering that parts list into your database? Well, your data-entry days may be over.

Thanks to INWORDS from WestCode, a company that looks a lot like a Beagle to anyone familiar with the Apple II market, you can use your Quickie (Vitesse) or LightningScan

(Thunderware) to scan text into your favorite Apple II word processor, database manager, or spreadsheet.

INWORDS is an optical character-recognition (OCR) program for the Apple IIe and IIGs that lets you scan up to 3000 characters per minute — a lot faster than anyone can type. INWORDS lets you input text as an AppleWorks word-processor file or as an ASCII text file. You can select whether you want to add returns after each line or only after paragraphs. And you can insert tabs between columns of text, making it easy to create database files.

While there's no official connection between WestCode and Beagle Bros, the unofficial ties are numerous. One of the

▲ TELECOMMUNICATIONS ▲
FOR STUDENTS & TEACHERS

▲ **E**ven if computer telecommunications were as simple as using the telephone — and it's not — its high cost would prohibit its wide acceptance in schools. Now the new **AT&T Learning Network** cuts the cost of telecommunications as only a major long-distance supplier can, providing unlimited, toll-free computer connections throughout the United States, enabling schools to send and receive messages when they want.

The AT&T Learning Network links teachers and students from elementary and secondary schools across the country. Each school joins five to eight others in a Learning Circle. Member schools in a Learning Circle work together in curricula such as Energy Works, which gets students thinking about how to best use natural resources, or Mind Works, which encourages

students' creativity by sharing their written essays, reports, stories, and poems. Six different Learning Circle curricula are available; all depend on communication among members. If your school has an Apple II, Macintosh, or MS-DOS computer handy, plus a Hayes-compatible modem, a phone line, and \$645, it can connect to an AT&T Learning Circle for a full school year (October 29 – May 17; rates for a half year are less).

If you've been looking for a low-cost way to encourage students to communicate, the AT&T Learning Network can help. Write the AT&T Learning Network, P.O. Box 4012, Bridgewater, NJ 08807-4012, or call (800) 367-7225, extension 4158 (in the USA), or (800) 387-6100 (in Canada). For more information, circle number 352 on the Reader Service card. — P.S.

principal developers of INWORDS is Alan Bird, creator of Beagle Bros' TimeOut AppleWorks-enhancement technology and programs such as QuickSpell, Thesaurus, Beagle Compiler, and Program Writer. Bird was also one the programmers responsible for Claris Corporation's AppleWorks 3.0 upgrade.

Cofounders of WestCode are Rob Renstrom (who also worked on the AppleWorks 3.0 upgrade) and John Oberrick, who has participated in several Beagle Bros projects.

With so much Apple II blood running through the company, it's not surprising that WestCode choose the Apple II as its first platform for INWORDS. "INWORDS represents our continuing commitment to provide innovative technology in high-

quality dependable software to the loyal Apple II users," Renstrom says.

According to Oberrick, WestCode has "established the feasibility of OCR technology in both the 8-bit and 16-bit environments of the Apple II."

Not only does WestCode expect to sell a lot of software, Oberrick adds, it also expects to "greatly enhance the appeal of handheld scanners to a much broader segment of users."

At press time (late July), WestCode said that it expected INWORDS to be available in September for \$129. For more information, contact WestCode, 11835 Carmel Mountain Road, Suite 1304-311, San Diego, CA 92128, (619) 679-9200, or circle number 360 on the Reader Service card. — Dan Muse



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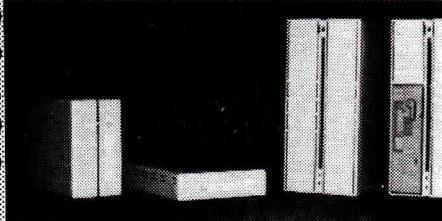
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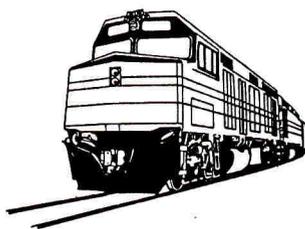
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WHAT'S
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AppleWorks Notes

From the AppleWorks Programmers Association

Users and Programmers Sharing
the Power to Create

🍏 **AW tip:** Add flexibility and ease preparation of your AppleWorks database reports by printing from the word processor. Skip the standard setup procedure in the database report format except to print the default report to "The clipboard (for Mail Merge)." Then leave the database and start a word-processor file. Go to the "Printer Options" screen (Open apple-O) and select "MM." A list of your database categories will appear on screen. Choose as many as you like, one after the other; you may select a single item more than once. Escape from the "Printer Options" menu. You'll find all database items at the top of your word-processor file. Move them anywhere within the file; add text or printer options as desired. For special effects, add fonts or pictures to your report with Beagle Bros' TimeOut SuperFonts. You may also print to an ASCII (text) file for transmission by modem or create a regular AppleWorks word-processor file. Save the files for future use. Try this method a couple of times, and you may never care to print directly from the database again.

🍏 **AW enhancement:** Outline 3.0, by Randy Brandt, is the latest AppleWorks enhancement from JEM Software (P.O. Box 20920, El Cajon, CA 92021). Outline isn't a TimeOut application, but is integrated directly into AppleWorks with a simple installation procedure. Once installed, accessing or exiting from Outline 3.0 is accomplished simply by a command within an AppleWorks word-processor file. Enter your first topic, then press Return to add another topic at the same level. Another simple command creates a subtopic. Outline offers six levels of topics, plus body text you can display or hide as desired. Labeling options include "Harvard," "Legal," "Symbol," "None," and "Custom." Outline 3.0 comes with a printed manual. Help is available via an AppleWorks-style "Help" screen listing the commands available. This exciting new product will be of special interest to writers, planners, and students who organize thoughts by outlining.

🍏 **AW personality:** A.P.A. member Beverly Cadieux lives amid the tall pine forests of East Texas and enjoys a lifestyle that includes barbecues, rose gardening, classical music, and

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Astros baseball at the 'Dome. Bev previously studied languages and medical technology at the University of Massachusetts. She makes her home in Kingwood, Texas, with her husband and son, who is attending Baylor University. Winston, a beloved blond cocker spaniel, rounds out the family. Before establishing the Kingwood Micro Software company (3103 Lake Stream Drive, Kingwood, TX 77339), Bev gained broad experience in accounting and financial applications in the banking and travel industries. She's an avid Apple IIc user with considerable experience in using AppleWorks. She's written many macro routines of value to the community and shares much of her experience freely with members of her Houston Area Apple User Group, on various on-line services, and through her published articles. Bev is a prime source of information on GS fonts and distributes major font collections. She recently released Ultimate Fonts, a macro program that makes short work of accessing the "extra characters" in GS fonts for use in SuperFonts documents.

AW macros: Here's one that will clear duplicate records from an AppleWorks database file using the data in two fields as criteria. Change your multiple-record layout temporarily so that the two subject fields are next to each other. After compiling the macro, place the cursor in the first criterion field and start the macro with Solid apple-C (Option-C). The macro will stop when the operation is complete. (Uses Time-Out UltraMacros version 3.1.)

```
<:C:<adb OA-L rtn esc rtn OA-9 OA-C rtn>1<rtn OA-9 :DB
OA-Y>ZZZ<rtn OA-A rtn rtn begin : $1 = cell tab $2 = cell
:HF OA-tab if $1 = "ZZZ" then OA-D rtn OA-1 endmacro
endif down :DB $3 = cell tab $4 = cell OA-tab if $3 = $1 and
$4 = $2 then : OA-D rtn up endif rpt>!
```

A.P.A. news: In the year since the association was formed, the A.P.A. has established a popular AppleWorks-specific public bulletin-board system networked throughout the United States and beyond. Each quarter the association mails a report on 3.5-inch disk, consisting of data files, patches, and programs of interest, to members. Members share information through the Pro-APA BBS, the quarterly report disk, and personal contact. Members participate in beta testing, share information and talent, and maintain communication with others in the computing community. The A.P.A.'s primary purpose is to promote the use of "classic" AppleWorks and its many enhancements at every opportunity.

Members contributing to this month's notes include Steve Beville, Dave Gair, and Doug Phasey. For details on membership and other information, contact the AppleWorks Programmers Association at 6531 Lexington Avenue, Los Angeles, CA 90038-1451, modem (apa@pro-apa.cts.com) (213) 463-9289, voice (213) 469-9916. The A.P.A. is an Apple user group registered with the Apple User Group Connection.

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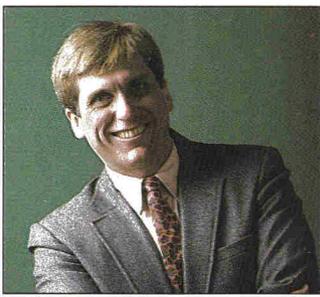


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**STATUS
REPORT**

People and profits are less agreeable to deletion and doubling than are spreadsheet cells.

PERCEPTION AND REALITY

By **PAUL STATT** * SENIOR EDITOR

A BUSINESS THAT RELIES ON SPREADSHEET software to plan its future may sacrifice the company's health for a fast profit, says Jeffrey Kottemann, an assistant professor of computer information systems at the University of Michigan, in the June 1, 1990, *Wall Street Journal*. What's worse, the company may think it's healthy as it's being sacrificed, he adds.

Kottemann staged a mock battle between two mock manufacturers. One side, played by business students, was armed with spreadsheets for evaluating alternative strategies. The second squad of students had to decide what, when, and how much to produce by "intuition and experience," not by numbers. It was economic warfare, and the computer lost. In three separate experiments, the *Journal* reports, "with the computer aids . . . people appear to have sought short-term results by understaffing and overproducing. But those decisions, over time, meant lost sales and extra costs."

Understaffing and overproducing? You'd better hope that the person who controls your job knows about this study. It could be your boss, sitting at the computer, worrying late one night. He's working on a spreadsheet. "What if we had one fewer employee?" he asks, typing Open apple-D for "delete." "And made twice as many widgets?" As simple as B14*2. But people and profits are less agreeable to deletion and doubling than are spreadsheet cells.

Perhaps the news surprises your boss: that using a computer as a crutch may someday slow the company's progress to a walk. It probably doesn't shock you. You've watched the TV weather forecaster proudly display the computer's projection of sunny skies — while you're looking out the window at the rain. The payroll computer wrote you a \$1000 check one week — and deducted \$1500. Try letting your grammar-checking software loose on Lincoln's *Gettysburg Address*. You know that computers make mistakes.

But Kottemann's students didn't. The group

that had the help of computers was surer of its decisions than the other team: "They were significantly more confident in their performance than the unaided group," the *Journal* reports. Blinded by their computers, those students couldn't see that the machines not only weren't helping, but were actually hurting, their performance.

Apple's done some research on actual versus perceived performance: It seems that when people who are accustomed to command-driven software, such as most MS-DOS programs, use Apple software for the first time, they report that the mouse and pull-down menus slow them down. But the truth — measured with a stopwatch — is that the mouse is faster. I don't believe I can use AppleWorks GS faster than I can use AppleWorks 3.0, but that just proves Apple's point.

My point is that a computer can help without necessarily accelerating your pace or bringing in more money. My writing has changed since I started using a word processor, for instance: I don't claim that I write any faster or more clearly, but the pages are neat. Spreadsheets can make recordkeeping quicker and forecasting cleaner, but they can't replace sound business sense. If you lean too hard on your crutch, you fall down. Should we unplug the computers in our businesses, schools, and homes? Of course not. The trick is to use them intelligently, not to trust them implicitly, and not to assume we're any smarter than those poor people who don't own computers.

Computer advertising wants you to think that the computer owner — the owner of a particular brand of computer, that is — is smarter, or works smarter, than the fool who won't buy a computer or buys the wrong kind. It isn't true. Ask the grad students who played manufacturers in Jeffrey Kottemann's simulation. They must chuckle whenever they see an Apple advertisement that promises the struggling business "the power to be your best." □



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Introducing the new AE 3.5 Drive — setting a new standard for basic Apple II storage. All the reliability and performance of Apple's 3.5 drive at a price approaching that of the cheapest import. Our design incorporates the same top-quality Sony mechanism that Apple uses, but instead of Apple's \$429, our drive is \$279.

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(not required for IIGS), allows the IIe to accept data from the 3.5 format. The AE drive is also Macintosh compatible and you will be able to separately upgrade to 1.44 MEG in the Macintosh format.

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CAUGHT IN THE MIDDLE

Bridge the gap between the MS-DOS and ProDOS worlds — a PC Transporter may be the link you're looking for.

By **CECIL FRETWELL**

TRANSPORTER TRANSLATIONS

IN 1985, I PURCHASED A 128K IIE with an 80-column card. After I spent two years working with it, I was transferred to a new job where I learned to use IBM-based systems. I'd like to upgrade my Iie to run MS-DOS programs, so that I can finish my office work at home.

Also, I want to add 512K and a color monitor to my system. Although my friends recommend I purchase an IBM-based system, I won't part with my Apple. I've read about Applied Engineering's PC Transporter, and I think it may solve my problem.

How does the program switch from ProDOS to MS-DOS? Will 768K be available for both? What color monitor do you recommend? What hardware do I need to hook up the PC Transporter? Can I buy this setup for under \$700?

Donald W. Crownover
Anniston, AL

If you want to bridge the gap between the MS-DOS and ProDOS worlds, Applied Engineering's PC Transporter (P.O. Box 5100, Carrollton, TX 75011, 214-241-6060, \$379) may be the link you're looking for. (See the June 1988 feature "PC Transporter: The Best of

Both Worlds," p. 77, for more information.)

First, the program switches from MS-DOS to ProDOS via a ProDOS boot disk; if you're in ProDOS mode, a software control-panel item switches you to MS-DOS. Second, although PC Transporter comes with 768K, buying this product isn't a memory expansion for your system. If you want an additional 512K, you need a memory-expansion card. In fact, with Applied Engineering's RamWorks memory-expansion card (\$349), you'll have 752K of additional memory that AppleWorks 1.3 and later versions will recognize. If you own a IIGs, this memory (the GS Ultra or GS Plus cards, \$339 each) is available as a 752K RAM disk. Third, I suggest you purchase a standard IBM digital CGA display, which costs about \$200.

The expense and difficulty of hooking up a PC Transporter depends on your system. For the CPU, you need only to plug the Transporter into the designated slot. If you work with a 3.5-inch (720K) drive, you'll almost certainly need a 5.25-inch (360K) drive, too. New MS-DOS software is available on 3.5-inch disks, but if you want to bring work home from the office you'll need 5.25-inch capability. While PC Transporter can use an Apple 3.5-inch drive as a 720K MS-DOS drive, turning a single-sided 143K 5.25-inch Apple drive into a double-sided 360K unit is beyond its powers. Unless all your MS-DOS system, program, and data disks are in 720K format, you'll have to buy a 360K 5.25-inch drive from Applied

Engineering (\$259 for one, \$399 for two).

Instead of encouraging you to spend money on drives, however, I recommend you buy a hard disk — it'll cost you about \$600 for 20 megabytes. But, even without the hard drive, the cost of this project exceeds your \$700 limit. (My thanks to Tom Milks, AE's sales manager, for his help in answering these questions.)

EXPAND YOUR MEMORY

IHAVE AN ORIGINAL IIGs WITH A 1-megabyte Apple memory-expansion card, which I'd like to enhance with another 1 or 2 megabytes. Are there any memory-expansion cards (third-party) that don't use the IIGs' slots? If I fill another slot, I won't be able to use my Apple card.

Jack Muskiewicz
Hudson, NH

In the IIGs you must access any additional memory via the special memory slot on the motherboard. I suggest you plug both the existing board, and a card such as Applied Engineering's GS Ultra (\$339) or GS Plus (\$339) into Applied's Ramkeeper (\$219). Then you'll have additional memory as well as a battery-protected disk on which to store ProDOS and so forth, so that your programs boot quickly.

IS THERE A LINK?

IWORK IN A SCHOOL OFFICE that has a Iie, a IIGs, and a Macintosh SE with a high-density floppy drive and a 40-megabyte hard disk. I use AppleWorks almost exclusively to keep records and write correspondence. I want to network these computers and, if possible, attach either a LaserWriter or an ink-jet

printer to the network. What additional hardware and software do I need? How much will it cost?

Barry Peterson
Chattanooga, TN

I forwarded your letter to Bob Consorti, co-author of the July 1990 feature "A Hard Drive Is Good To Find" (p. 42) and president of On Three, a hardware and software development company. Here's his reply.

There are a few options to consider when networking Apple IIs and Macs. If you simply want to share a LaserWriter among all the computers, the process is reasonably simple. The Apple IIGS has a built-in AppleTalk port that lets you connect to the LaserWriter exactly as you connect to the Macintosh. While the Apple IIe doesn't have such a built-in port, Apple Computer produces an Apple II Workstation card (20525 Mariani Avenue, MS 33-G, Cupertino, CA 95014-6299, 800-282-2732, \$249) that lets you connect the Apple IIe to the network and share the LaserWriter. (In fact, you can connect any number of computers to the network, so that they share the LaserWriter.)

One caveat: Your IIGS is similar to the IIe because it can print to the LaserWriter from AppleWorks, or almost any other ProDOS 8 application. These applications' type styles, however, are simple Courier monospaced. If you want to use a wider selection of styles or typefaces, convert the AppleWorks files to AppleWorks GS. (It has a built-in translator.) Then you can print your documents from AppleWorks GS with all the fancy fonts you desire. With the Apple II Workstation card, a LocalTalk connector (\$75), your IIGS system disk, and some cabling, you'll be printing in no time.

The second method is more involved and expensive, but it lets you share files as well as printers. By using the standard AppleTalk network capabilities of the Apple II and the Macintosh, you can set up a dedicated Macintosh as a file server, and share files among your systems. Then on all your computers the Finder will display the dedicated Mac's hard drive. To transfer files, simply drag the file from your disk to the Mac's, then drag the file to another computer's disk.

Apple Computer's next version of the Macintosh operating system (and possibly the Apple IIGS) won't require the dedicated Mac to act as a file server. With Personal AppleShare, you'll tell the Finder that everyone on your network can share a certain subdirectory on your hard disk. With this program you'll simply drag the file you want to see on the Mac (or vice versa) into the shared subdirectory for the other com-

puters to access. Apple should release this product for the Mac in the fall of 1990, and the GS version shortly thereafter. Because the IIe has memory constraints, even with the Workstation card, it can't accomplish the same feats as the IIGS. By the end of 1990, however, your IIGS and Mac should be able to share data files with only two AppleTalk connectors.

MYRIAD COLORS

WHAT'S THE HIGHEST RESOLUTION an Apple screen can display? How many colors can I use at one time? What's the maximum number of colors a screen can display at one time? What's the resolution necessary for this operation?

Scott Pennington
Pomfret, MD

According to the Apple IIGS Toolbox Reference, Volumes 1 and 2 (Addison-Wesley, Route 128, Reading, MA 01867, 617-944-3700), the IIGS screen displays a maximum of 640 pixels by 200 pixels. Although only four "pure" colors are available for each pixel in 640 mode, when you place small pixels of different colors next to each other on the screen, their colors blend. If you display one or more colors with adjacent pixels, you create the illusion of another color. When you use this method, called dithering, you can have 640-mode resolution for text and still display 16 or more colors.

QUADRAM QUANDARY

IHAVE AN OLD 64K APPLE IIe WITH a Quadram 80-column board. Will the new 256x8 RAM chips expand my memory to 320K if I use them to replace the older chips on the Quadram 80?

Joe Quilici
Vacaville, CA

Sorry, but I can't say "out with the old, in with the new" on this one. The new chips require more active pins than the 64K chips.

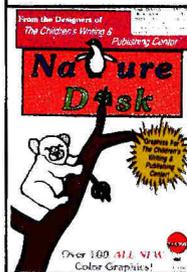
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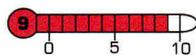
REVIEWS



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Graphics-printing program;
128K Apple II; color printer recommended,
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Though not as heralded as Broderbund's deservedly popular Print Shop, SuperPrint and now SuperPrint II from Scholastic Software are both top-flight contenders for the graphics-printing crown. In many ways, SuperPrint

II is The Print Shop's equal, and in some ways even surpasses it.

SuperPrint II is an exceptionally versatile program with which you can produce the standard array of posters, signs, calendars, cards, and banners. What separates Super-

Print II from other programs of its kind, however, is its ability to create all those items in sizes ranging from a quarter of a page to six and a half feet tall — that's two and a half feet larger than the material you could produce with the original version.

SIZING IT UP

You can select any of eight different sizes when designing posters, signs, or calendars, and three different sizes when designing banners and borders. Greeting cards come in just one size. With multiply sized printouts at your disposal, SuperPrint II becomes much more versatile when compared to similar products.

If you make a sign announcing a school activity, for instance, and print it in a standard size, it makes an excellent one-page handout. You can then print the same sign in *Tall* or *Large* mode and place it in the halls or on doors as a reminder of the upcoming event. The same sign printed again in *Super* or *Mega* mode could serve as the ultimate final announcement.

Like its predecessor, SuperPrint II is exceptionally easy and intuitive to use despite its sophistication. A series of layered menus make the creation process a simple matter of selecting options. Once you've mastered the nuances of one activity, you've effectively learned them all, because the steps are almost identical whether you're creating a sign, a poster, or a banner.

SuperPrint II's editing capabilities have also improved. The original SuperPrint offered little or no flexibility in the placement of clip art or graphics. With SuperPrint II, you can position graphics almost anywhere, then flip them, invert them, or add special effects.

The ability to edit your work completely makes the program's *Preview* option even

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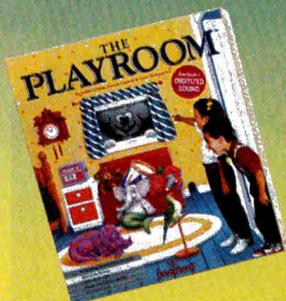


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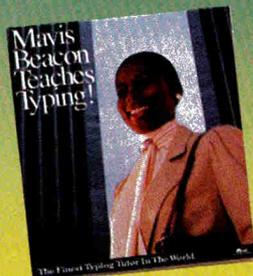
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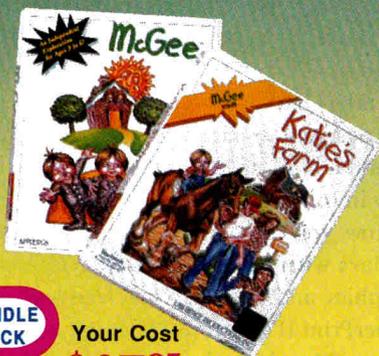
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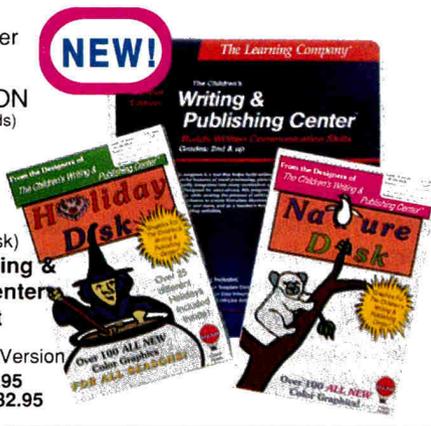
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more worthwhile. In the original SuperPrint, you could preview before printing, but you couldn't do anything about it — short of starting over — if you didn't like what you saw. Now with version II you can go back through and make changes at virtually any point in your creation.

SOMETHING FOR EVERYONE

Perhaps SuperPrint II's most impressive feature is the way its sophistication works hand in hand with its versatility. Creating calendars is a case in point. Ostensibly, you can design only two types — a single-date calendar and the monthly variety (which is new in this edition of SuperPrint).

Now, you can embellish single-date calendars with text, clip art, background graphics, and original artwork created with SuperPrint II's powerful built-in paint program. (Monthly calendars aren't quite as versatile — they accommodate only text.) That feature is nice, but not remarkable — at least not until you add the fact that you can print a single-date calendar in any of eight different sizes. This ability, found only in SuperPrint II, once again opens up a wide range of options.

You can create standard-sized, single-date calendars for each holiday, decorate them with appropriate clip art and your own drawings, and use them as flash cards, for example. Print the cards again in one of the larger formats and you've got a ready-made bulletin board; print them in miniature and bind them together for a coloring book of holiday dates.

HIDDEN COSTS?

Of course, there's a price to pay when using SuperPrint II's ability to create giant printouts — and that price is both figurative and literal.

Figuratively, you'll pay in time — the larger your creation, the more costly it is in terms of minutes. Literally, you can expect to go through ribbons fast if you plan to produce a lot of six-foot banners and life-sized dinosaur door hangings.

NEW AND IMPROVED

SuperPrint II offers all the features of the original SuperPrint — multitudes of clip art, the ability to print in reverse to make iron-on transfers for T-shirts (using a special heat-transfer ribbon you can pur-

chase separately), a wide variety of fonts and styles, a built-in paint program, and numerous theme-oriented *Graphic Packs*.

The paint program is quite complete and is the most obvious difference between SuperPrint II and its earlier rendition. It boasts all the tools you'd expect — such as various brush sizes, a magnifying feature for detailed work, fill commands, and so on. In addition, the editing menu lets you invert images, flip them vertically or horizontally, copy, cut, paste, and undo. SuperPrint II now offers complete mouse support as well. You'll appreciate that most when working in the paint program.

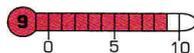
SuperPrint II offers features you won't find in any other program of its type. If you're looking for graphics-production software that is almost as unlimited as your imagination, SuperPrint II could be the answer to all your creative needs.

Jim Trunzo
Leechburg, PA

THE PLAYROOM

BRODERBUND SOFTWARE,
17 PAUL DRIVE, SAN RAFAEL, CA 94903-2101,
(415) 492-3200

Early-learning skill builder;
128K Apple II; 3.5- or 5.25-inch disk;
copy protection; \$39.95 (retail edition),
\$49.95 (school edition)



The Playroom is a fun-filled early-learning adventure for the young and the young-at-heart. It provides a variety of amusing educational activities to stimulate a child's natural curiosity, with an emphasis on exploration and some fundamental skills.

HOME SWEET HOME

A friendly animated mouse named Pepper invites your child (aged 3 to 6) to practice counting from 1 to 12, recognizing upper- and lowercase letters, working on keyboard literacy, adding, subtracting, and telling time.

Colorful graphics, animation, sound, digitized speech, and musical clips reinforce the concepts Pepper presents. The program succeeds because it provides many opportunities for open-ended investigation and creativity.

The Playroom makes children feel comfortable at the computer. The setting is a beautifully rendered full-screen drawing of a child's bedroom. At first glance, the room appears quite ordinary. It's filled with toys, stuffed animals, and pets. There's a radio on the nightstand, a clock on the wall, a bookshelf, and a computer on a kid-sized table.

If youngsters watch the screen for any length of time, however, strange things



Playtime becomes an adventure.

begin to happen. Pictures talk, clothes in the toybox wiggle, Pepper the mouse plays peek-a-boo behind the window, a teddy bear waves hello, and a mysterious pair of eyes peer out from within the mousehole.

The unusual events occurring on screen encourage children to investigate further. The Playroom offers neither on-screen instructions nor on-line help, yet the program's operation is so intuitive those options are unnecessary.

It won't take kids long to discover how to drive the program: They simply move the pointer and select items of interest. With the keyboard, they use the arrows and press Return. With a joystick or mouse, they just point and click. The mouse is the simplest and most elegant way to go. The keyboard is just as easy, but it's a bit slower. A joystick, however, requires a degree of manual dexterity that even adults will find difficult to master. Younger Playroom visitors should use the keyboard if they don't have a mouse available.

Most of the objects in The Playroom respond with audiovisual rewards when a child selects them. This reinforcement prompts children to explore the room in minute detail. The bluebird chirps; the green creature with the strange nose flashes and rolls its eye; the pink triceratops winks and beats its tail; and the



“Elegant, innovative, flexible and in all aspects the leader of the field.” — Incider Magazine

Accolades continue to pour in. Vulcan hard drives were recently awarded FIVE stars by Incider Magazine, a rating reserved for products judged “excellent and remarkable”. Incider went on to say, *“The Vulcan sets a new performance standard for hard drives . . . Applied Engineering has done it again.”*

Hard drives tremendously boost your productivity. The Apple II’s operating system, hardware and memory-gobbling software take on a new agility and finesse with the addition of a hard drive.

Speed? The IIGS Buyer’s Guide put it this way, *“Everything this drive does is fast. TimeOut modules, installed in AppleWorks and configured as disk-based, came up as fast as if they were memory-based. Graphics load almost immediately. Even that damnable lie, ‘One Moment Please’ suddenly delivers its promise. We recommend the Vulcan wholeheartedly.”*

And Incider said, *“The Vulcan walks all over the competition. Twelve seconds to the GS Finder; 10 seconds to AppleWorks GS. Sounds good doesn’t it? It is. That sizzling speed is achieved thanks to a high-quality internal tracking unit.”* Vulcan incorporates an ultra-fast 16-bit data bus controller, not the less expensive 8-bit others use.

Features? As Nibble Magazine said, *“AE drives support more operating systems and have more features in the supporting software.”* And Incider added, *“Applied Engineering has put together the most complete set of utilities to date for an internal hard drive that leads the market.”* And since Vulcan’s made by Applied Engineering, you’re assured of full compatibility with current and future AE products.

Power? Vulcan’s high-efficiency power supply is rated in excess of 70 watts, *nearly double* the capacity of other hard drives. The power supply components are heatsinked to the aluminum case for cool operation and long life. To harness all that power, Vulcan incorporates an ultra-quiet, flush mounted cooling fan, keeping the temperature inside the Vulcan, and inside your Apple lower than before.

Flexibility? Choose a Vulcan from 20, 40, 100 — all the way to 200 MEGs. Upgradeable Vulcan grows as your needs grow. And we don’t mean by daisy-chaining additional hard drives. When you upgrade Vulcan, you pop one out and *replace* it with another.

Only Vulcan lets you use virtually any operating system: GS/OS (v5.0 is included), ProDOS 8, DOS 3.3, CP/AM or Pascal 1.3. Vulcan supports them all with sixteen partitions

(access four simultaneously). Choose slot 1, 2, 4, 5, 6 or 7. Even pseudo-slot to slot 7 from elsewhere. Vulcan works on 110/220 VAC, even European 115/230 VAC at 50-60 Hz.

Ease of Use? Incider says, *“The true test of a hard drive lies in its ease of use and maintenance. In that respect, the Vulcan brings together a more complete package than any of its current competitors.”* Vulcan simply pops in; replacing the Apple power supply under your computer’s hood. Our built-in firmware automatically installs itself as a Desk Accessory for write protection and partitioning. The software we provide lets you easily park heads, back up and reformat.

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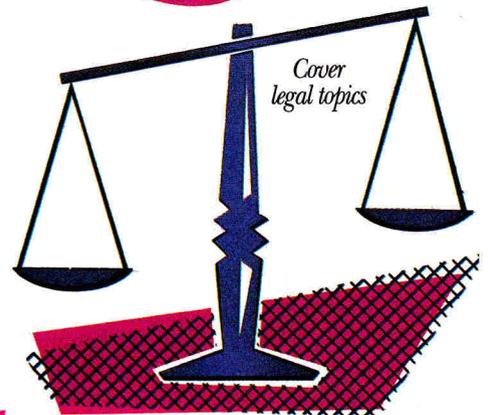
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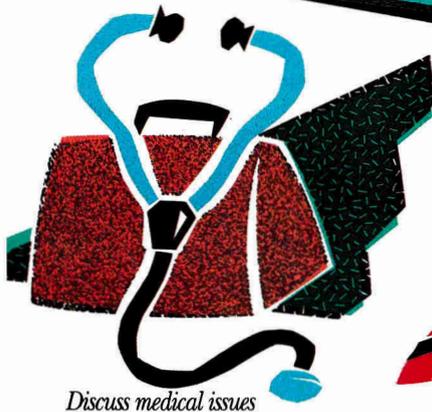
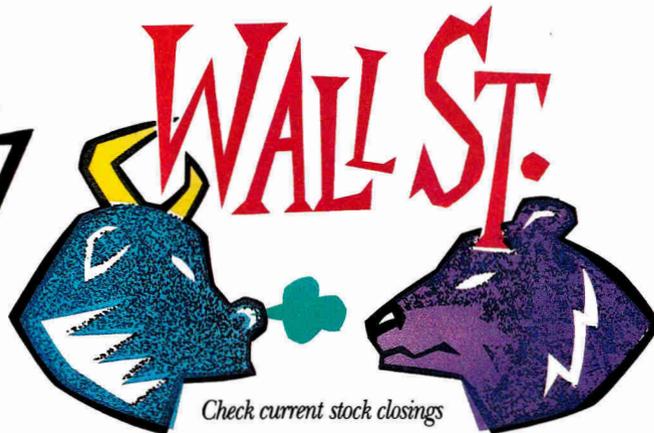
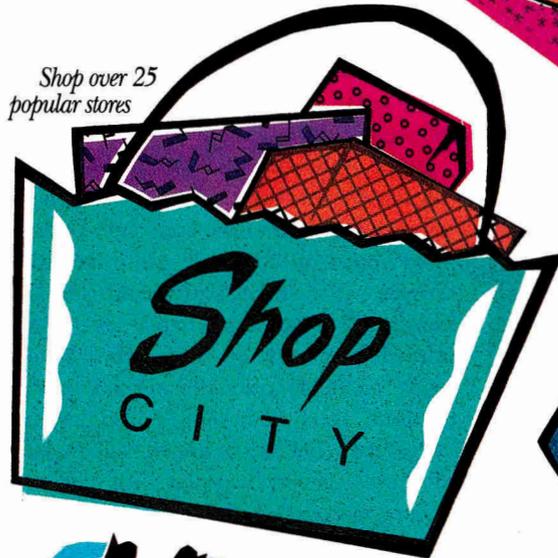
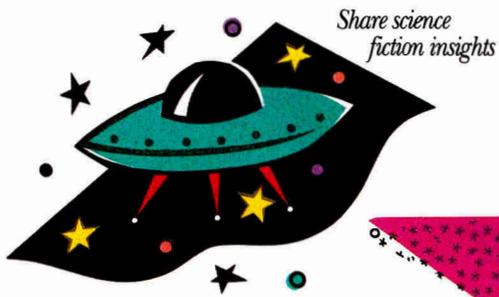
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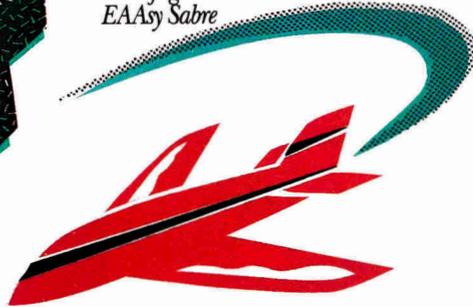
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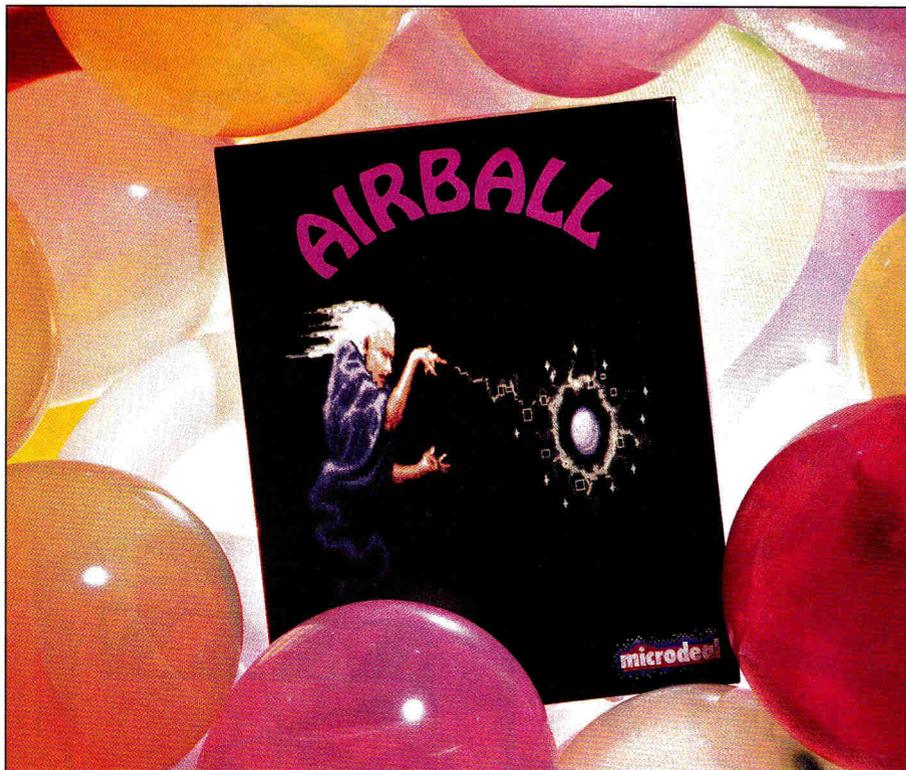
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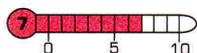


AIRBALL

MICRODEAL,

576 SOUTH TELEGRAPH, PONTIAC, MI 48053, (313) 377-8898

Arcade action; 768K Apple IIs, 3.5-inch disk drive; joystick optional; copy protection; \$39.95



Along with all those bits of age-old wisdom you learn when you're a kid — such as “Don't take any wooden nickels” and “Look both ways before you cross the street” — should be “Don't anger any evil wizards.” For if you do, you may end up as an airball. That's what you've done in *Airball* — angered the evil wizard by trespassing in his castle. In your new

form, you have to roam through his domain in search of clues and the spellbook that will help you turn yourself back into a human being.

You start off on top of a pump as you're filled up with air, but don't stay there too long or you'll burst. All the while, your air is leaking out, so don't waste too much time before you find another pump. The

yellow bar at the bottom of the screen shows you how much air you have left until you have to get a refill. The phrase “getting some air” has never been more important to your survival.

Some of the wizard's 250 rooms are simply tiny corners you can breeze through in an instant; others have convoluted stairways and dropoffs, while still others are bristling with spikes and various similar hazards that can immediately let the air out of your journey. Watch the “killer pads” on the floor, too. If you run into one of them, you'll burst and end up flailing across the room like an untied balloon. You do have a few lives to play with, but not that many considering how far you have to go — so exercise some caution.

The action is similar to that in *Accolade's* *Bubble Ghost* — but instead of assuming the persona of a ghost blowing a bubble



One wrong move and — poof!

through a maze, you *are* the bubble.

It's a lame pun, but I have to say it — *Airball* is a ball, and the graphics images are spectacular and detailed. (Hey, I could have said bumping into one of the spikes is a blast.) You'll be spending some serious time bouncing around looking for that magic spellbook.

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"It's a dynamite little modem. Now there is no excuse not to go to 2400 bps." *PC Magazine* 6/28/88

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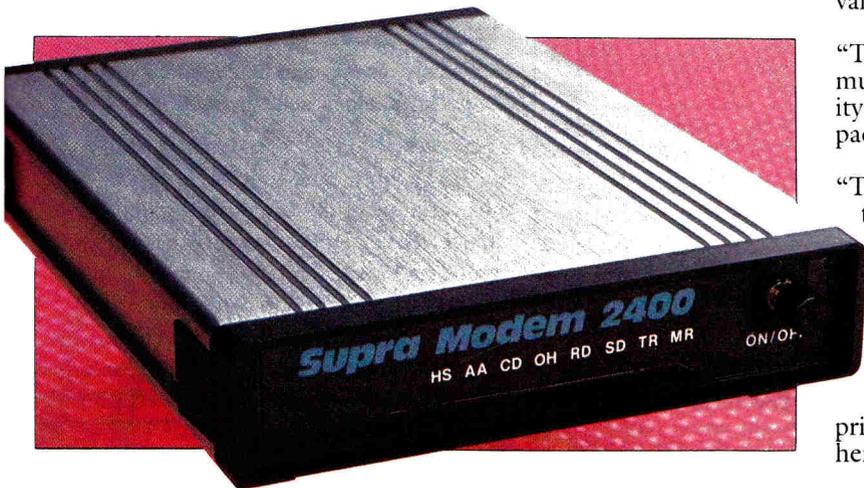
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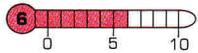
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QIX GS

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Arcade strategy;
1-megabyte Apple IIGS; joystick optional;
copy protection: \$14.95



Qix is a more enjoyable game on the GS than it is on the 8-bit IIe or IIc. The keyboard interface is easier, colors are brighter, and Qix GS will play music in stereo if your machine has an appropriate card. The joystick interface is the same.

The point is to wall off as much space on screen as you can. All the while you're under attack from Spritzes and Sparxes, which look like the firecrackers they sound like. The Qix, the deadly computer virus that looks like a bunch of moving sticks, is also out to get you. Moving the joystick fast enough to get away from the Spritzes and Sparxes, reacting adroitly to the Qix's moves, and keeping a steady hand on the fire button and a sharp eye on the screen aren't enough to win. You'll also need a strategy — a flexible one, because the Qix

will learn from your mistakes as you play.

Arcade fanatics may be disappointed that they'll need to look away from the screen for a moment, stop murdering those aliens, and actually think about what they're doing. True strategists — chess players, for instance — may be put off by the need to coordinate hand and eye well enough to negotiate Qix's dangerous domain. True Qix aficionados will be arcade fanatics who also like a bit of strategy, and



The thinking person's
arcade-action game.

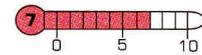
chess-playing strategists who also like to exercise their reflexes from time to time.

Paul Statt
inCider staff

SOLITAIRE: VOLUME II

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P.O. Box 6698, WESTLAKE VILLAGE, CA 91360,
(800) 248-0363

Card play;
512K Apple IIGS; mouse, 3.5-inch drive;
no copy protection; \$34.95



When you play a game on your computer, the machine usually takes on the dual role of controlling the game environment and acting as an opponent. Any lawyer would agree that that's a conflict of interest of Congressional proportions. If you're tired of living and dying by an arbitrary pixel width or playing Admiral Lord Nelson against an omniscient Napoleon, what you need is a good game of solitaire.

Solitaire: Volume II is the follow-up to CompuTrek's Solitaire/Cribbage. While they look and feel similar, this is a whole new card game. Eight options include Klondike — one-card Vegas style (\$52 for



Strategy, stats, and plenty of variety
for serious solitaire buffs.

a new deck, with each foundation card paying \$5) or three-card Tournament style — plus variations that range from games of chance, like Patience, to complex strategy games such as Calculator, in which you build each foundation in a different order.

Volume II offers both solo play and tournament mode, in which up to four people can play using the same deck order, plus games-played and -won statistics so that you can wow your buddies or keep tabs on extended competition. Bonuses include an alarm clock, a quick redeal button, and a game summary for confused players.

No-frills graphics images are a minor frustration, but overall, Volume II is an enjoyable package — intriguing games in a sensible, unobtrusive environment. □

Cameron Crotty
inCider staff

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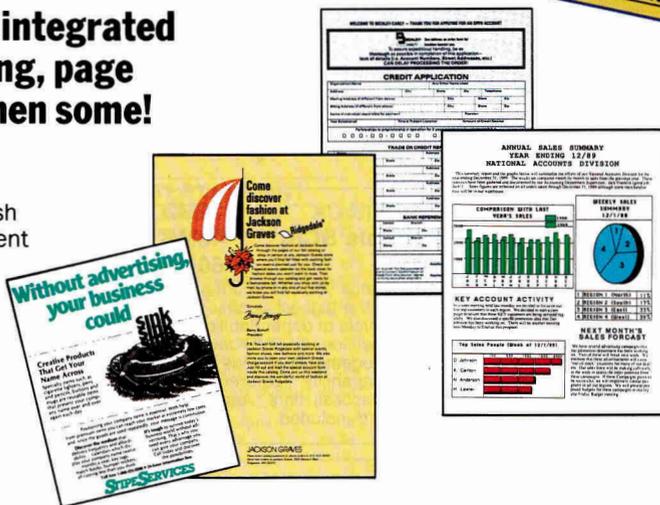
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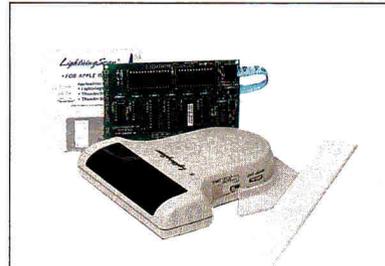
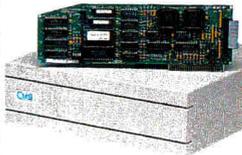
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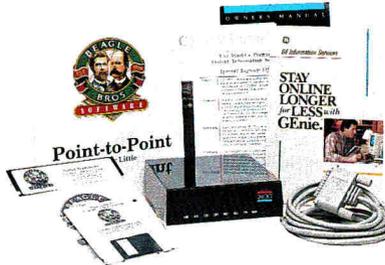
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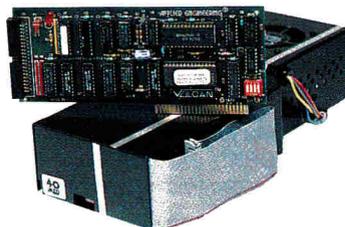
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TAKING CARE OF BUSINESS

Hang out your shingle and put that *Open* sign on the door — with an Apple II on staff your small business will be ringing up profits in no time.

SUBSTITUTING A COMPUTER FOR THE clutter of a small-business office's typewriter and adding machine has helped many an entrepreneur balance the books, compile mailing lists, and write letters. Although some "tunnel visionaries" claim that the Macintosh or the IBM PC is the only way to go, the six Apple II users profiled here by Contributing Editor Cynthia E. Field prove otherwise.

The Mac and MS-DOS crowd would have you believe that we Apple II buffs are still saving programs on cassette tape or fighting the 48K memory barrier. In reality, however, an impressive number of Apple II folks have succeeded in running a wide variety of public and private

businesses with assorted Apple II hardware enhancements and software products. In fact, some people make their Apple IIs an integral part of *what* they do, as well as *how* they do it.

Three of the businesspeople interviewed for this article use 16-bit IIGses — after all, the machine has super-hi-res and full-color capabilities, a graphics-based user interface, digitized sound generation, and laser-printer support. The others use the 8-bit IIE or II Plus, older models with hundreds of software packages available in all areas of productivity (as well as entertainment and education, for those after-5 pursuits).

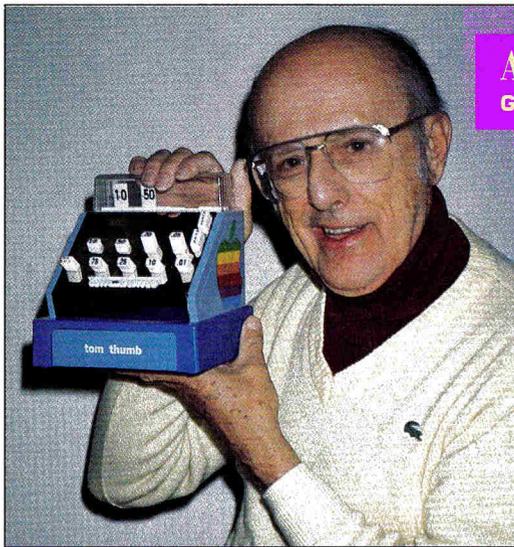
Don't forget that the Apple II's roots are deep in the small-business community — VisiCalc, the

Continued on p. 48

By the inCider staff

AUTHOR, AUTHOR

George and Kurt Herman, ComMedia Inc., Portland, Oregon



"IT'S KEPT MY KIDS IN SHOES," laughs playwright George Herman, who together with his son Kurt runs ComMedia Inc., a theatrical publishing company. Schools and colleges pay them royalties to put on plays — such as "Fraidy Cat," based on a Grimm's fairy tale.

The elder Herman, a college professor for 12 years and a retired

Hawaii State Department of Education administrator, ran the ComMedia Repertory Theater on the islands. Now, some of his plays are distributed by the Samuel French Publishing Company, but many are self-published by ComMedia.

"Like father, like son," both George and Kurt have Apple IIcses. George uses **AppleWorks GS** word processor to write plays; Kurt, a theater technician by trade, desktop-publishes the plays with the program's page-layout module. The Hermans create

artwork with **Paintworks Gold** and illustrate each script before producing laser-printed masters. Final versions are copied and pack-

aged in a plastic-comb binder.

"I also write music on the GS," George Herman adds. "With a keyboard, I can compose directly on computer with **Pyware Music Writer**. The program supports more than 15 staves, so I can do



some degree of orchestration."

With the Apple IIcs at their fingertips, this father-and-son team is a tough act to follow.

A NEW PERSPECTIVE

Ann Robinson, Ann's Transcription Service, Magalia, California

FOR BUSINESSWOMAN ANN Robinson, being successful and being self-sufficient are equally important. Robinson, who's been visually impaired since her teens, works with area medical facilities as a self-employed medical transcriptionist. Each workday when the hospital calls, Robinson picks up the dictation tapes and transcribes them in her home.

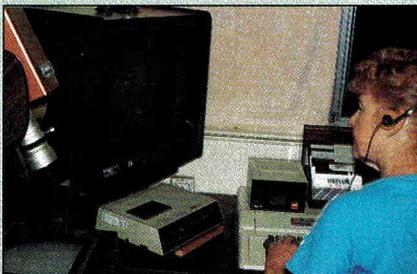
Her husband, Bill, a program-

ming consultant and owner of Paradise Custom Programs for Computer, designed the assistive hardware system that Robinson calls her "new pair of eyes." Using Telesensory's **Large Print Display Processor** and focusing a closed-circuit TV camera with a magnifying lens on an Apple II Plus monitor, Robinson sees each character 15 times larger than usual. Then she views and edits her work on a second monitor displaying 2-inch-high words. The system also requires a word processor whose cursor stays at the center of the computer screen, within the focus field of the camera: **Magic Window** fills the bill.

Robinson types a day's work, edits it, then runs it



through **Sensible Speller's** spell checker. At the end of the day, she prints everything on her Qume letter-quality printer. We're not surprised that the hospital turned this temporary assignment into a full-time proposition — giving birth to yet another Apple II-based business.



ALL IN ONE

John B. Wilson, Monsanto Chemical Co., St. Louis, Missouri

THE NEXT TIME YOU HEAR THE Pillsbury doughboy giggle in a TV commercial, think of John Wilson and his souped-up Apple II Plus. Wilson's job as production planning supervisor for the detergent and phosphates division of Monsanto Chemical Co. (which among other

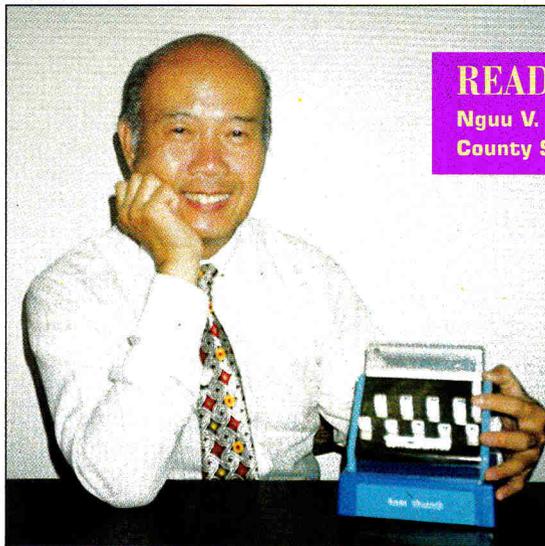
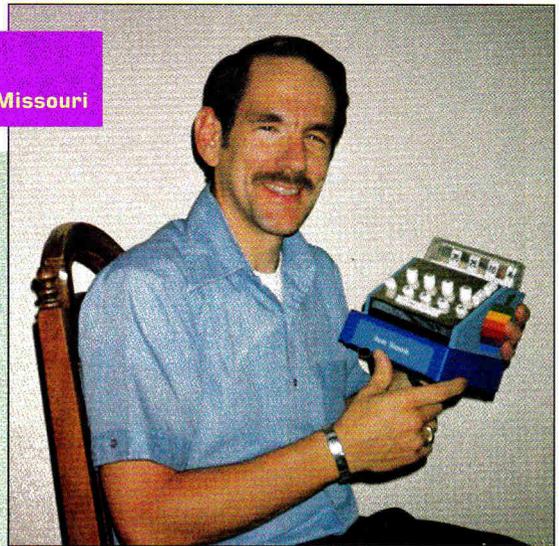
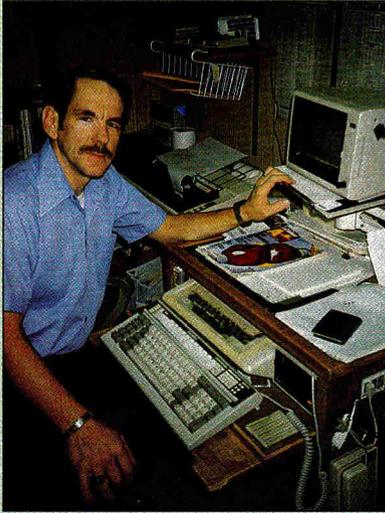
products makes leavening agents for baked goods) often means taking work overloads home, where he can write memos, build spreadsheets, answer E-mail, or design his presentation graphics in relative peace and quiet.

Wilson's everyday tool is **AppleWorks 1.2**. And, thanks to **PlusWorks** and expanded RAM, Wilson enjoys a 136K AppleWorks desktop, about twice as large as the desktop many Apple II fans use. Another workhorse in Wilson's home office is the telecommunications program **Softterm II**.

According to Wilson, "Softterm II emulates the Hewlett-Packard 26/22 terminal, so everything I can do at the office, I can send to my [Epson MX-100] printer or to a disk at home. If I'm on vacation or sick, I can just go down [to the basement office] and submit

jobs, send reports to the plant, or write memos."

Wilson purchased his Apple II Plus in 1979. More than a decade later, he's still finding ways to enhance and expand his system. "I just haven't been able to outstrip it in terms of the tasks I use it for. The GS opens up a whole new area of pursuit, but I don't see giving up the II Plus!"



READY FOR ANYTHING

Nguu V. Tran, Emergency Services Coordinator, Alameda County Sheriff's Department, San Leandro, California

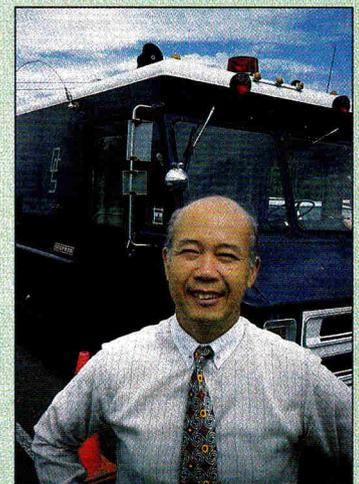
WHEN THE BAY-AREA EARTHQUAKE stunned the San Francisco region last October, Nguu V. Tran, emergency services coordinator for the Alameda County Sheriff's Department, flew into high gear.

"We received reports from all the cities in our county, and put

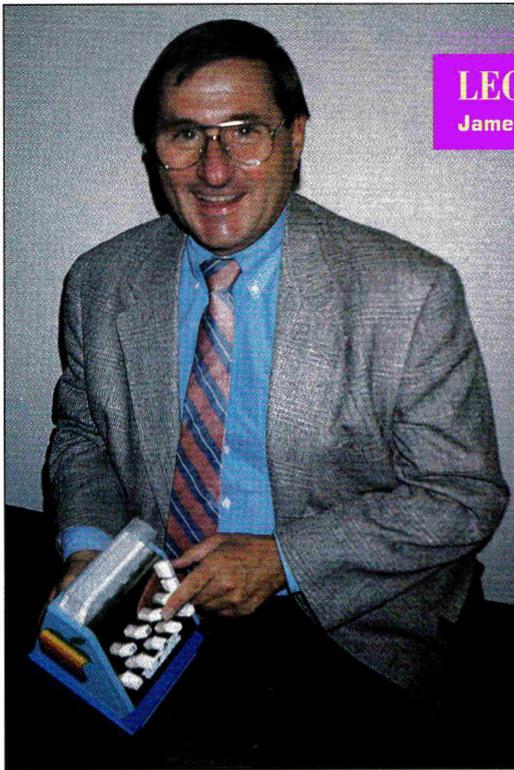
the information into two **AppleWorks** databases. One covered displaced people; the other assessed property damage." Tran's office, along with others in the Sheriff's Department, coordinates efforts among city, county, regional, state, and federal agencies.

On a daily basis, Tran builds and maintains AppleWorks spreadsheets to handle departmental accounting needs. The database helps him track the availability of resources, while the word processor serves as "a substitute for the typewriter to create internal reports and correspondence."

According to Tran, "We're an underground facility that's ready for all kinds of emergencies, not



just earthquakes." Until now, perhaps few people realized that "we" includes Tran's Apple IIe!



LEGAL AID

James P. Hilliard, Attorney at Law, Chicago, Illinois

IF YOU TALK WITH ATTORNEY James P. Hilliard, you'll never tell another lawyer joke. Like most of his colleagues, Hilliard bills clients for each increment of an hour he works in their behalf. Although his hourly rates (up to \$275) may seem steep, Hilliard squeezes so

much productivity into each minute that his services begin to look like bargains.

A solo practitioner, Hilliard shares a suite of offices with other attorneys. But unlike his colleagues, Hilliard doesn't employ secretaries; instead, he has two Apple IIcses, one at the office and one at home.

Point-to-Point, a communications program, and **AppleWorks Classic**, a standard in any Apple II software library, are Hilliard's tireless assistants. He has even equipped his home-based GS with a modem for accessing the Westlaw legal database.

Not only does Hilliard use the AppleWorks database to keep track of important engagements such as appointments and court dates (and Notre Dame football games, too), he also uses it to generate bills for his clients.

"I recently finished a 3-year-old divorce case and sent a seven-page bill for \$8000, itemized to the tenth of an hour," Hilliard

explains. "Also, the first of the month I sent 65 bills, representing about \$55,000. It took four minutes of my time and 40 minutes printing time."

A series of AppleWorks spreadsheet files provides Hilliard with up-to-the-minute checkbook balances, and even helps him manage his clients' child-support payments. A host of word-processing templates, such as wills, powers of attorney, notices of motions, corporate minutes, and divorce forms, simplify many of his tasks. In addition to filling out legal forms — which he prints on a Diablo 620 daisywheel printer — Hilliard writes about 13 letters per day.

Although the files and features of AppleWorks Classic are an integral part of Hilliard's business, he scoffs good-naturedly at the mention of graphics-based programs such as AppleWorks GS: "What's the Appellate Court going to say to me — nice fonts? Lawyers don't use a lot of graphics — we just underline stuff."

PRODUCT INFORMATION

AppleWorks 3.0, \$249
AppleWorks GS, \$299
 Claris Corporation
 5201 Patrick Henry Drive
 P.O. Box 58168
 Santa Clara, CA
 95052-8168
 (408) 727-8227

DP-10 Large Print Display Processor
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 Burbank, CA 91505
 (818) 985-2922
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 \$49.95 Ite version

Paintworks Gold
 Mediagenic
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 Applied Engineering
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 Carrollton, TX 75011
 (214) 241-6060
 \$399

PlusWorks III
 Norwich Data Services
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 (201) 679-0594
 (800) 221-3826
 \$49.95

Point-to-Point
 Beagle Bros, Inc.
 6215 Ferris Square
 Suite 100
 San Diego, CA 92121
 (619) 452-5500
 \$99.95

Pyware Music Writer
 Pygraphics
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 Grapevine, TX 76051
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 \$119 for 3 staves
 \$295 for 6 staves
 \$595 for 32 staves

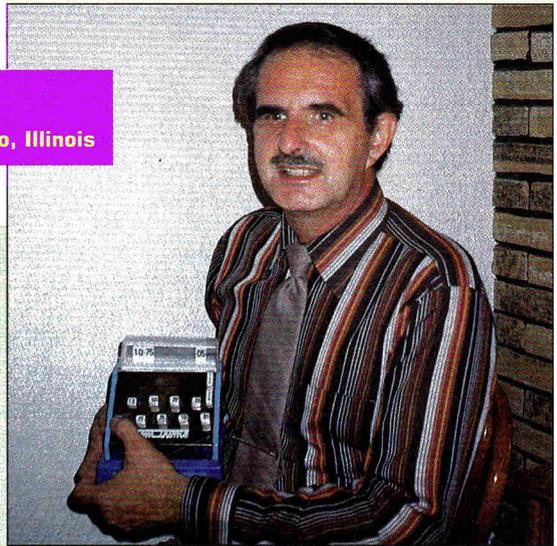
Quickie
 Vitesse, Inc.
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 La Puente, CA 91744-
 1669
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Sensible Speller
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 335 East Big Beaver
 Suite 207
 Troy, MI 48083
 (313) 528-1950
 \$125

Softerm II
 Softronics
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 Colorado Springs, CO
 80920
 (800) 225-8590
 (303) 593-9540
 \$195

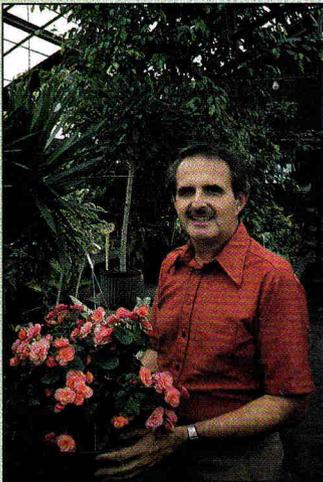
CROSS-CULTURAL EXCHANGE

Thomas E. Ihle, Ihle Florists & Greenhouses, Murphysboro, Illinois



"IF I CAN'T DO SOMETHING RIGHT, I don't want to do it at all," says Thomas Ihle, a fourth-generation grower and florist whose great-grandfather served as landscape gardener for Kaiser Wilhelm in turn-of-the-century Germany.

Make no mistake: Ihle's resolve isn't limited to his six greenhouses, or to the retail shop he runs with nine part- and full-time employees. He demands particular quality from his computer system — a 3-megabyte Apple IIgs with a 40-megabyte Ehman hard drive, an Ehman expanded keyboard,



assorted disk drives, and a **PC Transporter**. "My general dislike for MS-DOS isn't exactly a secret," says Ihle, the co-editor of "AppleWords," the official newsletter of the Little Egypt Apple Users Group.

"Unfortunately, all business software specific to the florist and greenhouse business is available only for MS-DOS," Ihle adds, "so I recently installed a PC Transporter in my IIgs."

Although dumping the GS and buying an IBM may have been simpler, Ihle refused to do it. Besides citing his already substantial software and hardware investments, he remarks, "The Apple's interface is so easy and comfortable to use, I never want to leave it."

With **The Print Shop GS** Ihle creates promotional banners and signs, and with **AppleWorks GS** he develops information files on his plants. From poinsettias to geraniums to spring bedding varieties, he's got them all organized.

"My memory isn't what it used to be," Ihle explains, "so when I encounter a problem with a crop, I go back to my computerized notes and see if I've experienced the same problem before. If not,

I go to the growers' manuals."

Among other GS enhancements on his wish list, Ihle wants **HyperStudio** — so that he can develop information-filled stacks his customers can peruse to find the plant varieties they're interested in — and a **LightningScan** or **Quickie** hand-held scanner to help catalog and identify plant diseases and pests, such as the California thrip that's sweeping the country and threatening to decimate tomatoes, impatiens, and chrysanthemums, among others.

With his PC Transporter and the Apple IIgs, Ihle may represent the first wave of a newly emerging trend — small-business computer users who are bridging the gap between seemingly disparate computing worlds.

Continued from p. 44

revolutionary spreadsheet program that was introduced in the early 1980s, turned the Apple II from an arcane machine for hobbyist programmers into an easy-to-use, accessible tool for businesspeople who needed to crunch those numbers fast.

And when AppleWorks came along a few years later, its triple integration (word processor/spreadsheet/database manager) and simple file-card menu interface made that program the most popular piece of software ever written.

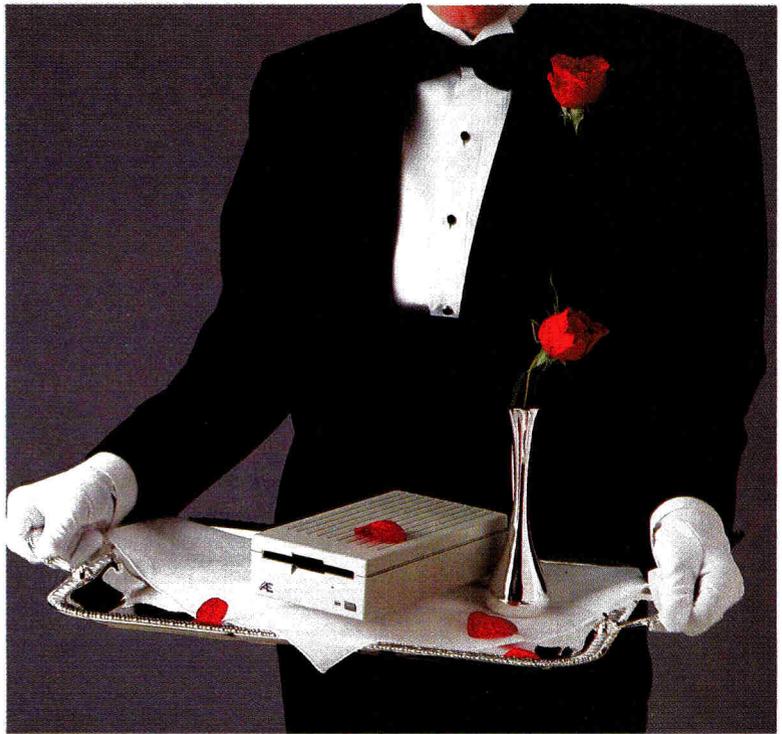
These days, scores of add-on products mean that AppleWorks' power continues to grow and that it continues to meet small-business needs in innovative, unique ways. (See "AppleWorks

with the Works," p. 51 in this issue, for details.)

Whatever the software you choose, whatever the system you're most comfortable with, whatever the setting — from the hectic atmosphere of a lawyer's office to the serenity of an author's study as he turns fantasy into the pages of a children's play — today's Apple II can play any number of different roles as it helps people get down to business. □

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Apple II Software

Beagle Bros

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Roger Wagner

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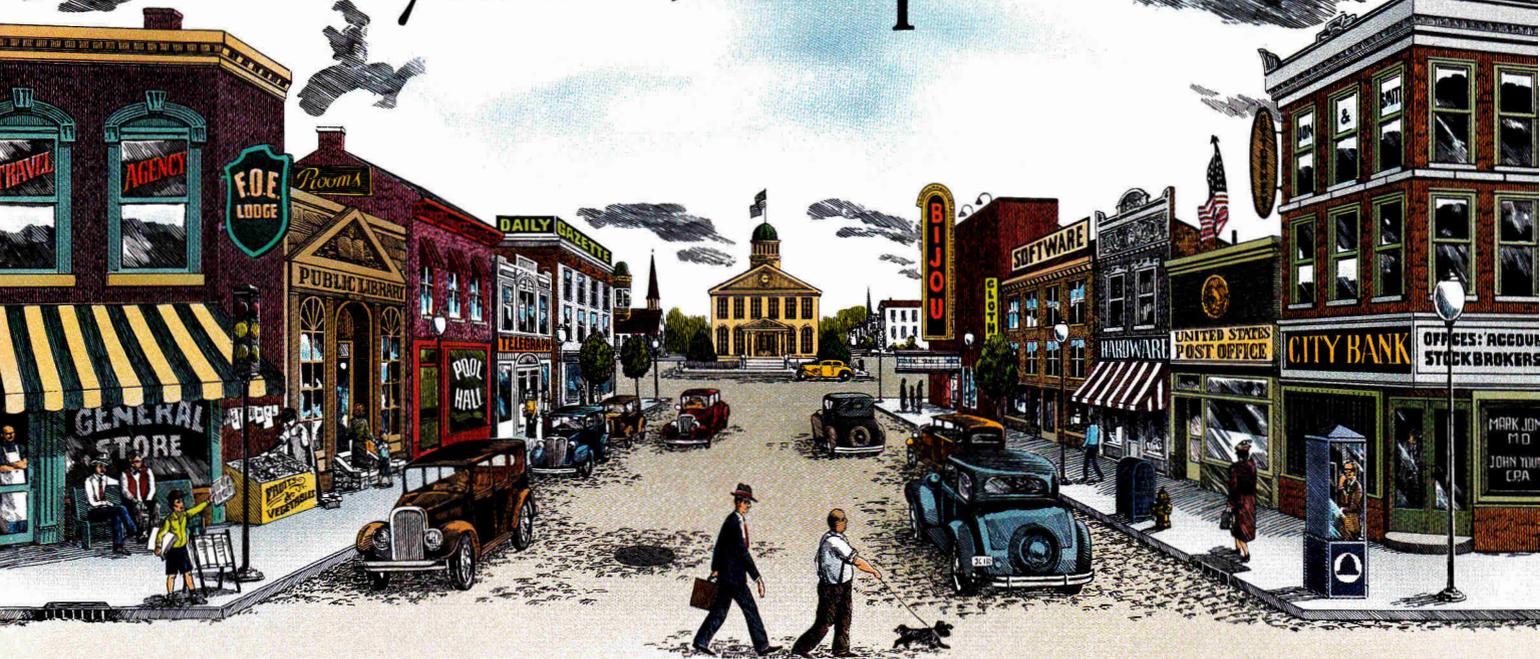
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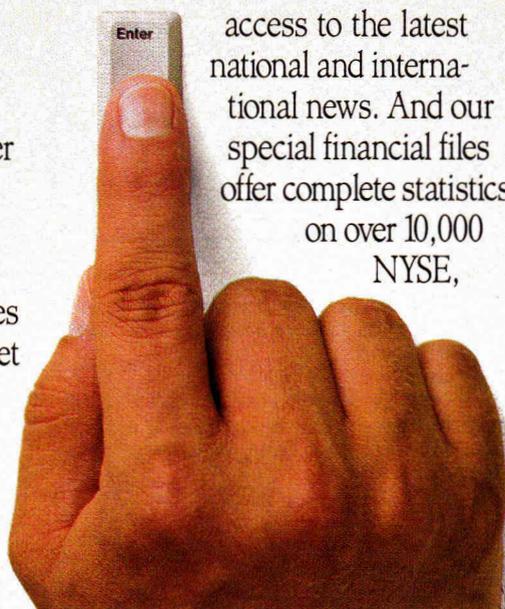


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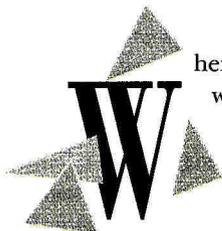
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By MARC APFELSTADT

APPLEWORKS WITH THE WORKS



***inCider's* recipe for SuperWorks: topping off plain-vanilla 3.0
with an assortment of patches, utilities, and macros
for enhanced power and unlimited productivity.**



When you want powerful, fast, versatile software for the Apple II, there's no better choice than **AppleWorks 3.0** — this classic integrated program *could* be all the software you ever need.

But it doesn't *have* to be. While you probably can't do much to improve on a classic car or a classic book or movie, AppleWorks 3.0 is one classic you *can* enhance.

THREE ROADS TO APPLEWORKS POWER

Claris Corporation didn't hold back in its recent AppleWorks upgrade, version 3.0. First of all, it hired the people who — next to Robert Lissner, AppleWorks' original developer — know AppleWorks better than anyone: Alan Bird, Randy Brandt, and Rob Renstrom, Beagle Bros all. By now, many of the enhancements in version 3.0 are old news.

For the \$79 upgrade price, existing AppleWorks got a spelling checker, support for "true tabbing," the ability to print mailing labels in three- and four-across formats, more spreadsheet functions, horizontal scrolling in the database manager, and, in general, easier formatting and file handling, plus better integration among the spreadsheet, database manager, and word processor.

Still, if one phrase could describe AppleWorks users, it would be "power hungry." No one upgrade could possibly handle the insatiable hankerings of the AppleWorks community. Fortunately, Beagle Bros and other third-party software developers offer a smorgasbord of patches, applications, and macros to feed even the healthiest of appetites.

You can enhance the features and power of AppleWorks 3.0 in three ways: with patches, with Beagle Bros' TimeOut applications, and with macros. A *patch* changes AppleWorks' program code in some small way. The *TimeOut* series uses a ↻

method devised by Alan Bird to halt the operation of AppleWorks (using the open-apple and escape keys) and run another program that can use AppleWorks desktop files. Macro programs, such as TimeOut UltraMacros, let you write a "program" that uses AppleWorks' functions in any way you choose: Instead of typing the same series of commands each time you want to perform a certain operation, you just type a one- or two-stroke sequence to tell AppleWorks to execute some function. One simple macro, for example, sets up a command to add your return address to a letter.

PATCH IT UP

SuperPatch 6.1, distributed by Quality Computers, and **AppleWorks 3.0 Companion**, from Beagle Bros, let you customize items within AppleWorks. Each utility offers unique options, so you might want to view a complete list of these programs' features and make a decision based on your needs. (See the accompanying Table.) One major difference to note is that SuperPatch works with all versions of AppleWorks, while the Beagle Bros program works only with version 3.0.

AppleWorks 3.0 Companion offers a number of options for personalizing displays and operating characteristics. Of particular interest are features that let you automatically keep the names of text files you import into AppleWorks, save the cursor position in word-processor and database files, and omit the colon after field names in database reports. Another selection unique to Companion is a patch that lets AppleWorks run from a write-protected disk.

There's also a patch that prints screen dumps (OA-H) while converting mousetext to caret symbols. If you've ever typed OA-H accidentally while using a non-ImageWriter printer, you've seen what the hidden control characters in mousetext display can do — red print, reverse form feeds, and so on. With this patch in place, though, you shouldn't have any problems. In addition, Companion uses the standard AppleWorks file-card interface for operation, making navigation as simple as possible.

SuperPatch 6.1, designed by John Link, a professor of art at Western Michigan University, offers a massive set of patches for all versions of AppleWorks. Many overlap with the Beagle Bros set in functionality, but others are distinct. A few are whimsical; you'll enjoy your friends' double-takes when they see *Carelessly saving this file* appear on screen. SuperPatch is careful to avoid stepping on the toes of other patches, too: Before it makes a change, SuperPatch examines AppleWorks to make sure you haven't already patched the area in question; in the event of unexpected data in the target patch area, SuperPatch flags the area as "Unknown" and refuses to alter it.

As in AppleWorks Companion, many SuperPatch options concern display characters and messages on screen. One popular change is to add a "bent arrow" for the return symbol, which appears in zoom mode. Another useful patch is an option to allow a printer and a "phantom disk" to share a common slot designation. If your printer is connected to slot 2 and a full complement of drives in your GS, AppleWorks will see the second 3.5-inch drive as occupying slot 2, as well. Under those circumstances, AppleWorks won't let

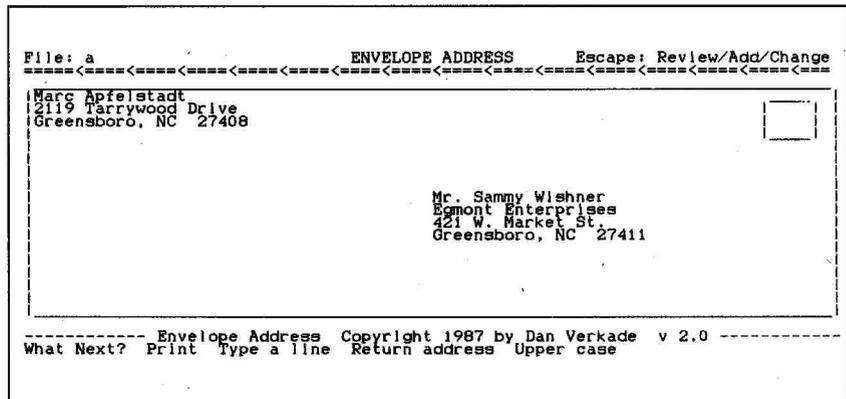


Figure 1. TimeOut DeskTools' Envelope Addresser utility.

you print to that slot. That's a good idea normally: As the documentation clearly explains, sending "printer initialization information" to a disk interface will cause a reboot, so AppleWorks forbids the process. In this case, however, you don't really have a drive there, so SuperPatch allows a drive in slot 2 and a printer, as well.

SuperPatch's documentation is complete and thorough. Not only does it list the patches available, but it explains carefully how each one works and what problems you might encounter. SuperPatch menus are organized so that each segment of AppleWorks is modified separately. Although this structure is logical, it means that you'll probably reread the documentation several times to make sure you've installed everything you want, because you'll have to install similar patches for different segments individually. In an integrated environment, we tend to think in terms of "if only the database would do this," not "oh, patch SEG.DB."

How do you choose between these two patch programs? AppleWorks Companion's modifications are more practical, and the program also includes a new TimeOut utility called *TextLoader Plus*, which simplifies the process of creating word-processor files from text files by letting you convert up to 12 ASCII files to AppleWorks in a single operation. Companion also offers far more choices for changing default settings for files (margins, characters per inch, and so on). It works only with AppleWorks version 3.0, however.

SuperPatch, on the other hand, works with versions 2.0, 2.1, and 3.0 and offers more patches for display characteristics and printer-driver modifications. Ideally, the most powerful solution is a combination of both programs. Be

THE WORKS

careful, though — some patches are incompatible with others. In general, try to patch AppleWorks as little as possible, as slowly as possible.

GOOD TIMING

If you've been using AppleWorks for any length of time, you've undoubtedly heard about Beagle Bros' TimeOut enhancements. Many of you have probably become so dependent on these utilities that you've forgotten what life

some of these utilities, making them even more affordable. **PerformancePack** contains DeskTools, **DeskTools II**, and **PowerPack**, for instance; **StylePack** contains SuperFonts, **Thesaurus**, and **FileMaster**. **DecisionPack** puts **Graph**, **SpreadTools**, and **SideSpread** into a single unit.

REPORTING IN

Several new additions have recently joined the TimeOut family, but **ReportWriter** is perhaps the most complex and

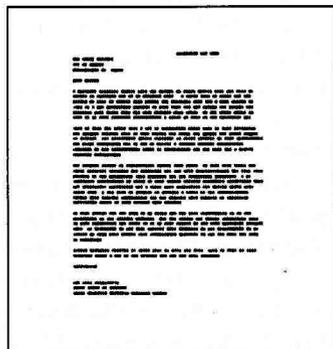


Figure 2. TimeOut DeskTools' Page Preview utility.

WEEK - MAR. 12 to MAR. 18		
12) MONDAY	SPECIAL DAY - first day of class after break	MONDAY
THINGS TO DO	HOURS	APPOINTMENTS
- Observe student teachers	6	
- practice quietet music	7	- drop off kids at school
- division meeting at 12	8	- see Lisa C. in Kernersville (2nd observation)
- woodwind pep preparation	9	
- mark class woodwind exams	10	- return to Greensboro
- symphony rehearsal (Auditorium)	11	- prep time for W Pedagogy
	12	- Division meeting (room 154)
	1	
	2	- see Janet in High Point (3rd observation)
	3	
	4	- take Christopher to choir (4:45)
	5	
	6	- pick up Christopher
	7	- Symphony rehearsal (7:30 - 10)
	8	

Figure 3. FlexiCal daily appointment calendar, from JEM Software.

was like without them. The release of AppleWorks 3.0 made this point especially clear. It was ready about two months before the compatible TimeOut series, so many users had to go back to "naked AppleWorks" — no mouse or anything. Two features that were sorely missed were **TimeOut DeskTools' Envelope Addresser** and **Page Preview** utilities.

Envelope Addresser (**Figure 1**) can pick up an address within your word-processing document, place it on a picture of an envelope, and print it — all without creating a separate document with funny margins. You can amaze your Mac-owning friends with that one. (Microsoft Word doesn't do envelopes very easily.) Page Preview gives you a miniature graphics image of your document (**Figure 2**) — no more page-break calculation with OA-K. Although you can't read the text, of course, it's easy to see where page breaks are misplaced, tabbing is off, and so on. As a bonus, when you return to your document, the page breaks still show (as if you had done an OA-K), so finding the location of a format correction is a breeze.

If you're still using plain AppleWorks without TimeOut, do yourself a favor and add **UltraMacros** (details below) and **SuperFonts** to your program disk. As a basic configuration, you'll add mouse support for cursor control, macros, a copy of the **TimeOut Paint** program, and the ability to print pictures and GS fonts within a text-based application. And if you're still using AppleWorks 2.0 or 2.1, **QuickSpell** gives you an internal spelling checker.

Beyond this basic expanded setup, you can use the other TimeOut programs as your needs demand. Incidentally, Beagle Bros recently announced a bundling program for

powerful member of the series yet. It offers the chance to leave the limitations of the AppleWorks database report format far behind in many respects, while still letting you use the database module for easy entry and file maintenance.

To begin with, ReportWriter lets you draw data from more than one file, breaking AppleWorks' 30-field limit for the first time. You can extract information from as many as 11 different files, up to a total of 250 categories. In addition, the report generator can use table look-ups so that you can print state abbreviations in your master file, for instance, as full state names simply by referring to another file to retrieve the additional information. ReportWriter can also post (add or change) information to other files, so automating your accounting applications, for example, is now feasible. The program can also edit in formats of up to 240 columns across, so that you can set up wide layouts, multiple-column mailing labels, and so on.

Be prepared to spend some time getting comfortable with this TimeOut product. It's earned high marks, but you'll want to sit down and work through the documentation's examples before striking out on your own to do custom designs. Creating your own personal applications is straightforward, but you need to follow the steps outlined for consistent output.

Do you need ReportWriter? If you've bumped up against the 30-field limit of regular AppleWorks database files or want more customized output from the database manager without going to the trouble of printing to a word-processing file and editing the resulting text by hand, the answer is yes. ReportWriter is intense, but it's also extremely powerful.

THE WORKS

Speaking of accounting, check out TimeOut SpreadTools. If you're a diehard AppleWorks spreadsheetophile, SpreadTools adds the ability to copy specific blocks of data, rather than the full rows or columns earlier versions of AppleWorks force you to manage. (If you're using AppleWorks 3.0 you already have this capability.) You can also analyze your files for errors, and the cross-reference tool lists all cell references. Another efficient tool is the row-to-column converter. If you have specific spreadsheet needs that AppleWorks doesn't address, SpreadTools will undoubtedly help.

ON LINE WITH APPLEWORKS

What else can we add to AppleWorks? For one thing, **TimeOut TeleComm** provides a powerful communications capability within the program. TeleComm addresses two major concerns: macro scripting for the log-on process and terminal emulation. With log-on scripting, you use a particular process to sign on automatically, instead of being forced to type every entry every time you go on line. With TeleComm, you can log on easily to mainframes, as well, and even use VT-52 terminal emulation (one of seven modes available). In addition, TeleComm also offers the ability to trap incoming text to a variably sized buffer or to copy it directly to a file on the desktop. The program supports a variety of upload and download protocols, and also includes built-in support for Gary Little's Binary II standard.

TimeOut TeleComm has one minor quirk, similar to a problem in Point-to-Point, Beagle Bros' excellent stand-alone communications program. Specifically, TeleComm doesn't like to operate at 2400 baud through the GS modem port with port buffering turned on. Nevertheless, TeleComm still offers a great combination of powerful features and the flexibility of working within AppleWorks.

MACRO POWER

An entire subculture of AppleWorks programmers has erupted thanks to the power of TimeOut UltraMacros. UltraMacros lets you use a *task file*, a special set of run-time macros, to design sophisticated commercial-quality applications. **AlphaCheck**, from ACTAsoft, is one of the better-known examples. This program prints checks automatically and enters them into the appropriate database file after you fill in a blank check form on screen. You can also assign and track tax categories, so that end-of-year reports can tell you exactly the amount you donated to charity, for example. Set up your categories by building a list from the federal Schedule A itemized-deductions form; then at tax time, use the printout to supply figures for your tax form.

The best way to use AlphaCheck is to buy custom check forms and write all checks from the computer, though you can also enter checks, debits, and so on by hand. If you don't want to use check printing, the program still does an excellent job of keeping your account in balance and tracking category data. A new version of the program, **AlphaCheck Plus**, adds double-entry bookkeeping capabilities.

Okay, so all of this talk about the powerful things people are doing with macros has you salivating. You want to do some macro work of your own, but you have no idea where to begin? Your first step should be to get a copy of the **UltraMacros Primer**, published by the National AppleWorks Users Group (NAUG). The book's roots are in a series of columns that macro whiz Mark Munz wrote for the *AppleWorks Forum* newsletter. For the book, all material has been revised and expanded. An excellent introductory section explains in detail how to install UltraMacros — it's a model of complete and concise information. The rest of the book proceeds step by step through the various possibilities UltraMacros offers, with chapters on "Macros That Read the Screen," "Executing Repetitive Tasks," and more. There's

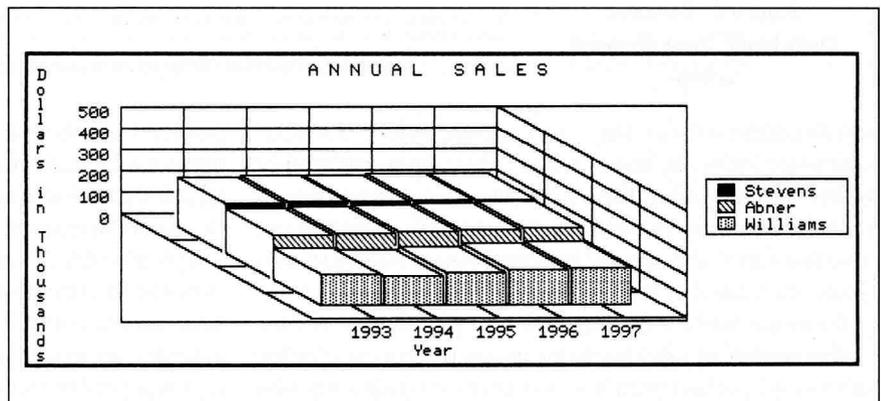


Figure 4. Graph It!'s 3-D option, from Timeworks.

also a special chapter on features that have been added with version 3.0 and later. Think about joining NAUG; your fellow members and the club's publications are great resources. You might also contact Dave Gair, coordinator of the **AppleWorks Programmers Association (APA)**. There's no better source of information on bugs, problems, and work-arounds than the APA.

If you're thinking of writing your own macro applications, be sure that you're using version 3.1 or later of UltraMacros; version 3.0 contained some minor, but annoying, bugs that were fixed in later releases. You should also consider Beagle Bros' **MacroEase**, a TimeOut application that helps you write macros.

APPLEWORKS GEMS FROM JEM

JEM Software is the "corporate child" of Beagle Bros author Randy Brandt. One of the company's recent releases is **SpellCopy**. Although it's simple and inexpensive, Spell-

Copy is invaluable if your system includes a RAM disk. Specifically, the program copies the AppleWorks 3.0 dictionary files to a RAM disk at startup, and also modifies AppleWorks to use dictionary files from the new location. SpellCopy operates by moving the dictionary files to your RAM disk (/RAM5), then starts UltraMacros, which loads AppleWorks and your other TimeOut utilities. (Thank goodness for hard disks.) The most recent version of SpellCopy also lets you specify up to 20 other files to transfer to RAM, as well — anything from AppleWorks itself to the TimeOut Thesaurus' word list to typefaces you'll use with SuperFonts.

Another interesting JEM Software product is **FlexiCal**, a specialized set of macros and master calendar spreadsheet templates. In short, FlexiCal lets you maintain an appointment calendar through a special set of solid-apple commands. You can easily create daily schedule sheets containing a combination of your hourly schedule and a to-do list.

Figure 3 shows a typical work day, entered via macros. If you've stumbled along for years with a simple monthly calendar instead of a full daily schedule at your fingertips, entering one month's worth of information will show you

keystroke, the program can generate an invoice by retrieving information from customer and inventory-item information. Watching it work is fascinating, as the program skips automatically from file to file on the desktop, grabbing data from fields with incredible speed. Before you know it, the completed invoice is in view, ready for printing. Another slick part of the process is the way in which the startup task file loads all appropriate data files automatically from your disk.

Items to be billed on the invoice are selected from your inventory file in another automated procedure. Because few people can remember all the material in a business inventory, Mr. Invoice macros accept either a stock number or a find command that lets you search through the inventory file and select an item. After you locate it, you enter a quantity and any additional items. When you finish, the program fills in the rest of the information automatically and even calculates sales tax. In the process, the inventory file is updated to reduce the quantity on hand by the number sold. The program creates a back-order condition if there isn't enough product on hand to fill the order. The current version of Mr Invoice handles only single-page invoices, but the program

is satisfactory for most Apple II-based small-business applications.

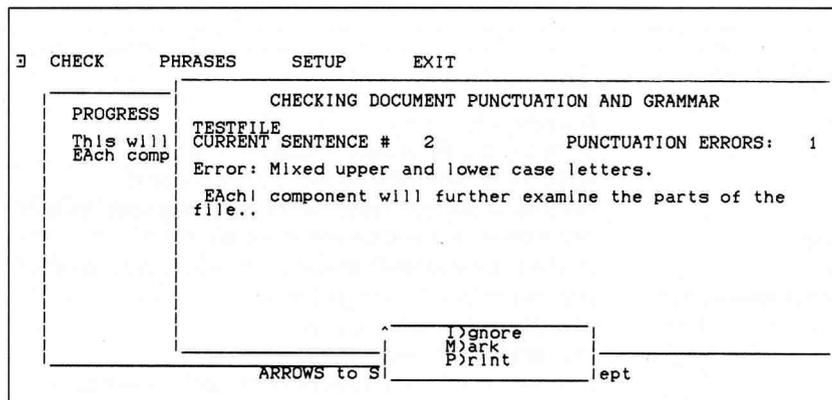


Figure 5. Highlighting a potential style problem with Sensible Grammar, from Sensible Software.

just how much detail, and convenience, you've been missing.

Is it bothersome keeping a manual record so that you can update a computer file? The process works best if you set aside a regular "calendar update" time each week — perhaps first thing every Monday morning. You *could* do the same thing yourself through a database file, but not with the same ease, consistency, and professional-looking output.

DoubleData is a JEM product that lets AppleWorks store up to 60 categories in a database record, using a solid apple-J command to jump between the two halves of the data file. You can combine any 30 of the categories into a report or use them in mail-merge documents. As with all of JEM's products, documentation is provided on disk.

Mr. Invoice is another JEM "macro plus data file" package, but this one stretches the possibilities of the automated AppleWorks environment furthest of all. It's an integrated set of data files for invoice, customers, inventory, and sales, with a special file for back-order information. With a single

ACCESSORIZING APPLEWORKS

Two stand-alone programs deserve mention because they fill special needs for AppleWorks users.

Graph It!, from Timeworks, is an option if TimeOut Graph doesn't offer the flexibility you need. You may remember Graph It! as MagnaCharta from Thirdwave Technologies; this new version has benefited from a few enhancements, but maintains its superb printed output and, compared to other Apple II graphing programs, still offers

the most flexible set of options for placing objects on a page. Graph It! doesn't work directly with AppleWorks files, but the documentation explains clearly the process of creating a text data file from the AppleWorks spreadsheet module.

Figure 4 shows a sample of Graph It! output; the 3-D graph option is particularly unique and effective for certain types of data. Graph It! offers a wide variety of options for varying the display of your data — for business presentations, you can't go wrong here.

Sensible Grammar, from Sensible Software, has been updated recently to work with files from AppleWorks 3.0. It's a unique program: It searches through your word-processing files for the things you didn't really mean to say. Sensible Grammar compares your document against a master list of common errors and phrases, identifying sexist remarks, wordiness, pomposity, and so on. It also spots potential punctuation and capitalization errors. Each problem is shown on screen (as in **Figure 5**), and you can elect to take

SUPERPATCH 6.1

General Features

AppleWorks 2.0 and 2.1 compatible
 changes "more" to mousetext down arrows on menus
 customizes top data line in several screens
 customizes bottom data line in several screens
 changes date separator to period or dash
 changes "type number or use arrows" message
 disables all thermometer displays
 disables the thermometer display only on startup
 displays "tragically empty" when desktop is empty
 changes "carelessly" to "carelessly" on file-save screen
 continuous display of desktop space
 clears all screen messages from top of screen
 disables error beep
 return not required when making menu choice
 allows slot 1/2 printers with pseudo disks
 customizes "add files" menu defaults
 restores simple <cr> to type in directory paths
 disables file display sorting
 quick quit from AppleWorks
 customizes quit menu defaults
 disables quit option

installs advanced Diablo print driver
 installs slashed zeros for ImageWriter I, II, and LQ
 resets ImageWriter I, II, and LQ to default settings
 unidirectional printing for ImageWriter I, II, and LQ
 installs half-height printing for ImageWriter I, II, and LQ
 removes all printer information from SEG.ER
 removes unwanted printer data from SEG.ER

Word Processor

corrects tab and open apple-tab help entries

Database

customizes column underline character
 automatic date insertion in all reports
 changes printer default to no report header

Spreadsheet

customizes column overflow character
 automatic date insertion in all reports
 changes printer default to no report header
 installs date/time display, any ProDOS clock
 installs date/time display including seconds, GS only
 control-character stripper (requires UltraMacros)
 carriage-return stripper (requires UltraMacros)
 bank sizer

AW 3.0 COMPANION

General Features

eliminates "no/yes" questions
 custom-places open apple-Q menu
 lets program run on write-protected disk
 uses standard "getfile" commands in file listings
 swaps open apple-S and control/open apple-S
 allows open apple-H printing of screen containing mousetext
 marks imported text files as unchanged
 text filename becomes AppleWorks filename

Word Processor

changes tab-ruler markers
 restores cursor position when loading file
 open apple-tab moves to previous tab, ctrl-T moves forward
 cancels default "find text"
 changes new-file default settings

Database

removes colon after category name

changes total marker ("**")
 changes/cancels default "category 1" label
 tab from last category moves to next record
 remains at current record after canceling open apple-R
 restores cursor position when loading file
 changes open apple-F default to "in a specific category"
 changes default column width
 changes default label format
 changes default value format
 changes default recalculation order and frequency
 restricts spreadsheet to 999 rows (increases speed)
 sets direction GS enter key moves

Spreadsheet

TimeOut Pathologist (requires additional TimeOut program)
 TimeOut TextLoader+ (requires additional TimeOut program)
 TimeOut PathMan (requires additional TimeOut program)
 fixes some AppleWorks 3.0 problems

BOTH PROGRAMS

General Features

force GS to use "slinky" RAM for desktop
 use memory as RAM disk and extra desktop
 disable open apple-H form feed
 disable changes to default settings
 "yes" highlighted at AppleWorks prompts
 change file-listing priority (WP, DB, SS, other, subdirectories)
 change "—>" to mousetext checkmark
 change "pathname" to mousetext file folder
 change "disk" to mousetext disk symbol
 change "subdirectory" to mousetext file folder
 change cursor blink rate
 change cursor character
 change "|" character (mostly used for borders)

choose insert or overstrike on startup
 change AppleWorks error-bell sound
 use GS system beep instead of AppleWorks bell

Word Processor

change <cr> symbol
 change zoom tab character
 change tab fill
 keep file unchanged after printing

Database

eliminate "at end of records" query

Spreadsheet

replace "na" with blank spaces

Table. SuperPatch 6.1 (Quality Computers) vs. AppleWorks 3.0 Companion (Beagle Bros).

suggestions, replace, or mark it. The program takes the extra step of saving your original file and creating a new one containing the corrections. Sensible Grammar works with files from most word processors, and any program that can save a text file can produce checkable files. You might be surprised at the mistakes your writing contains — Sensible Grammar will inform you accurately and politely.

NEVER BEYOND REPAIR

What's left? Damage recovery, of course. If you haven't needed **RepairWorks** from Quality Computers, consider yourself lucky. While **AppleWorks** is a relatively stable environment, versions 2.0 and 2.1 contain a couple of annoying problems that can render files unreadable. And with any version of the program, events can occur while you're saving a file (a power blink or bad disk block, for example) that can damage the disk structure enough to prevent **AppleWorks** from reading the file. What to do when the dreaded *Getting errors trying to read DON.TLOSEIT.DOC* appears?

RepairWorks is designed specifically to recover as much data as possible from damaged **AppleWorks** word-processor and database files. The program is straightforward; the documentation thoroughly explains the whys and wherefores of every step of the process. If you have an emergency crash, Quality Computers will even ship next-day or second-day air for an additional charge. No one who depends on **AppleWorks** should turn on the computer without having this program around — just in case.

Another utility to hang onto "just in case" is **ProSel/ProSel 16**. Any number of file-manager programs are available for folks who choose to avoid the Finder or are using an enhanced Iie or Iic. **ProSel** offers a number of additional

benefits, however. *Mr. Fixit*, one of its utilities, is a disk analyzer and repair program of immense power. It can analyze any ProDOS device (3.5-inch or hard drive) for errors — and, better yet, fix almost any error it finds. It can even restore most information after a crash, except for some files in the root directory. As a standard practice, consider running a program like *Mr. Fixit* weekly to flag potential problems before you begin backing up files. Without a doubt, the other **ProSel** utilities are terrific, but *Mr. Fixit* is totally indispensable for protecting your data.

For total data integrity, though, get a battery-backup unit to power your monitor, central processing unit, and hard disk for 15 minutes after the power fails. This option lets you save opened files. Remember: If the power blinks during a save, your entire disk could easily become unreadable. A loss of electricity while working on a file, or even loading, isn't fatal, but during a disk-write operation, poof! A 200-watt uninterruptible power source (UPS) will cost you \$250–\$300 from mail-order outlets, and may be one of the best investments you could make to protect your system.

What do all these enhancements and accessories add up to? Your options for expanding **AppleWorks** and tailoring it to your own specifications are almost *limitless*. Given the program's speed, reliability, and flexibility, nothing else can match the "SuperWorks" environment for total productivity output. The motto among true Apple II believers is "AppleWorks Forever!" □

MARC APPELSTADT IS A PROFESSOR OF MUSIC AT THE UNIVERSITY OF NORTH CAROLINA/GREENSBORO. WRITE TO HIM AT 2119 TARRYWOOD DRIVE, GREENSBORO, NC 27408. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A PERSONAL REPLY.

PRODUCT INFORMATION

AlphaCheck, \$49.95
AlphaCheck Plus, \$68
 ACTAsoft
 19700 Wells Drive
 Woodland Hills, CA 91364
 (818) 996-6731

AppleWorks Programmers Association
 6531 Lexington Ave.
 Los Angeles, CA 90038-1451
 (213) 469-9916

AppleWorks 3.0
 Claris Corp.
 5201 Patrick Henry Drive
 Santa Clara, CA 95052-8168
 (408) 727-8227
 \$249

AppleWorks 3.0 Companion, \$39.95
TimeOut DeskTools, \$49.95
TimeOut DeskTools II, \$49.95
TimeOut FileMaster, \$49.95
TimeOut Graph, \$89.95

TimeOut MacroEase, \$39.95
TimeOut MacroTools, \$25
TimeOut MacroTools II, \$25
TimeOut QuickSpell, \$69.95
TimeOut Paint, included with SuperFonts & Graph
TimeOut PowerPack, \$49.95
TimeOut ReportWriter, \$79.95
TimeOut SideSpread, \$49.95
TimeOut SpreadTools, \$59.95
TimeOut SuperFonts, \$69.95
TimeOut Telecomm, \$69.95
TimeOut TextTools, \$49.95
TimeOut Thesaurus, \$49.95
TimeOut UltraMacros, \$59.95
TimeOut DecisionPack, \$149.95
TimeOut PerformancePack, \$109.95
TimeOut StylePack, \$129.95
 Beagle Bros
 6215 Ferris Square,
 Suite 100
 San Diego, CA 92121
 (619) 452-5500

Graph It!
 Timeworks
 444 Lake Cook Road
 Deerfield, IL 60015-4919
 (708) 948-9200
 \$69.95

DoubleData, \$30
FlexiCal, \$30
Mr. Invoice, \$40
SpellCopy, \$12.50
 JEM Software
 P.O. Box 20920
 El Cajon, CA 92021

ProSel, \$40
ProSel 16, \$60
 Glen Bredon
 521 State Road
 Princeton, NJ 08540

RepairWorks, \$39.95
SuperPatch 6.1, \$34.95
 Quality Computers
 20200 Nine Mile Road
 St. Claire Shores, MI 48080
 (800) 966-1508

Sensible Grammar
 Sensible Software
 335 East Big Beaver
 Suite 207
 Troy, MI 48063
 (313) 528-1950
 \$99.95

UltraMacros Primer
 National AppleWorks
 Users Group
 Box 87453
 Canton, MI 48187
 (313) 454-1115
 \$17.95 members
 \$19.95 nonmembers
 plus \$3 shipping
 \$29 yearly membership



IN THE BALANCE

Create a balance sheet, add an income statement, and bring your business finances under control.

By RUTH K. WITKIN

THE *BALANCE SHEET* AND THE *income statement* are a company's financial report card. Because they summarize daily accounting records, both statements give management a way to evaluate itself, reveal shortcomings that need correction, and act as a basis for planning and budgeting.

This month we'll help you set up your own balance sheet. Your customized spreadsheet will list what your company owns (*assets*), what it owes creditors (*liabilities*), and how much investors' money is in the business (*stockholders' equity*), and present this information in the form of $Assets = Liabilities + Stockholders' Equity$. The sides of the equation match because it's a *balance sheet*.

You'll also design an income statement, also called a *profit-and-loss statement*, to summarize business activities. You can list what came into the business (*sales*), what went out (*cost of goods sold and operating expenses*), what remained after costs and expenses were paid (*operating income*), and what remained after taxes and interest were paid (*net income*).

The accompanying **Figure** shows BALINCRAT, a spreadsheet that combines a balance sheet (in the upper half) and an income statement (in the lower left). Because each statement gives figures for

more than one year, it's *comparative*. Tucked in the lower right of the spreadsheet are financial ratios that express the relationship between items on the balance sheet and the income statement. So here's BALINCRAT, a true aristocrat: *BAL* (balance sheet), *INC* (income statement), and *RAT* (financial ratios). This month you'll create the BAL and INC parts, and next month you'll add the RAT portion.

A SPREADSHEET TO CALL YOUR OWN

Load AppleWorks and create a new spreadsheet file from scratch named **BALINCRAT**. You're about to enter a great deal of information on this spreadsheet, so turn off automatic recalculation to speed things up: Press Open apple-V (OA-V) and type **RFM** (for *Recalculate, Frequency, and Manual*).

Now enter a double line in row 2: With the cursor on A2, type quotation marks, type 9 equal signs, and hit Return. Leave the cursor on A2 and copy the line into B2 through K2: Press OA-C and hit Return twice. Move the cursor to B2, then type a period, move the cursor to K2, and press the return key.

Now copy that entire line to the clipboard: With the cursor still on A2, press OA-C, type **TR** (for *To clipboard and Rows*), and hit Return. Move the cursor to A30

and copy from the clipboard: Press OA-C and type **F**. Now copy again from the clipboard into row 52. (Yes, 52 is correct.)

In the same way, use minus signs to create a single line from A5 through K5. Then copy the line to the clipboard by pressing OA-C and typing **F** again. Now move the cursor to A33, and copy from the clipboard. Type a quotation mark, and enter one vertical character (it shares the backslash key) in F31, then copy it into F32 through F52. Your lines should now match those in the **Figure**.

ADJUSTMENTS

Follow these instructions to set up the rest of the spreadsheet:

Column width. All columns are now 9 characters wide. Use OA-L and follow screen prompts to increase the width of columns A and G by 23 characters (to 32 characters each); reduce columns B, D, H, and J by 4 characters (to 5 characters each); increase C, E, I, and K by 2 characters (to 11 characters each), and reduce F by 3 characters (to 6 characters). Press the return key after you change each column's width.

Number formats. Use OA-V to set a *standard value* format of *Commas* with no decimal places.

Labels formats. Now move the cursor to F31, press OA-L, choose *Block*, and highlight the cells from F31 through F52. Press Return, choose *Labels Format*, hit Return, choose *Center*, and press Return again. In a similar manner, right-justify B7, which will soon contain a dollar sign.

FORM AND FUNCTION

When you use underlines, dollar signs, and label indentations on the balance sheet and income statement, you must follow standard accounting practice:

Short lines and underlines. Single lines underline subtotals; double lines underline grand totals. In C12, type quotation marks followed by 10 minus signs, and hit Return. Use *Block* to copy this single line to the clipboard, even though C12 is only one cell. Now copy the single line from the clipboard to each of these cells: C14, C18, C20, C24, C26, C36, C38, C44, C46, C49, I11, I13, I16, I18, I24, and I26. Now, in C28, enter 10 equal signs. Copy this double line to the clipboard, then from the clipboard to C51 and I28.

Dollar signs. A dollar sign precedes the first amount in each column and each total amount. Each dollar sign has its own cell, so you get dollar signs aligned perfectly, unlike the staggered signs in a dollars format. Now enter a dollar sign in B7. (Type quotation marks first.) Copy the dollar sign to the clipboard, then from the clipboard to B13, B19, B25, B27, B34, B37, B45, B47, B50, H7, H12, H17, H25, and H27. Press OA-S to store BALIN-CRAT on disk.

ENTERING LABELS

The next step is entering the balance-sheet and income-statement labels shown in the **Figure**. (Don't enter the labels in the financial-ratio area — you'll enter them next month. Besides, you have enough work already.) Remember, you don't have to press Return after typing a label — simply move the cursor to the next cell that needs a label and you'll save a few keystrokes.

Note that we indented several labels. To indent, type quotation marks, then press the spacebar the proper number of times:

*Indent one space before typing the spreadsheet title in E1.

*Indent two spaces before typing the dates in B4, D4, H4, J4, B32, and D32.

*Indent three spaces before typing **Year Ended** in B31 and D31.

*Indent one space before a label under a general heading, such as *Cash* in A7, which follows the heading *Current assets*. Indent two spaces before a subtotal, such as *Total current assets* in A13. Indent three spaces before a final total, such as *Total assets* in A27. After the last label, press the return key, then press OA-S to store the spreadsheet on disk.

BALANCE-SHEET TERMS

You're about to enter the balance-sheet formulas. Here's a description of terms, so

that you can become familiar with some concepts in this area:

**Current assets* are cash and assets that can be converted to cash during the normal operating cycle of the business, usually no longer than a year. The spreadsheet lists assets in order of liquidity: *Cash*, *Marketable securities*, *Inventories*, and *Prepaid expenses*, such as insurance and rent, appear first.

**Fixed assets* and *other assets* are the least liquid, so they appear last. *Goodwill* is an intangible asset that reflects the value of the company's name and reputation in the marketplace.

**Current liabilities* are debts due for repayment within one year. Payments for these obligations are usually taken from *Current assets*. *Long-term liabilities* are debts not due in the current year.

**Stockholders' equity* shows the components of the owners' share in the business: *Common stock outstanding*, *Paid-in capital*, and *Retained earnings*.

ENTERING THE FORMULAS

The unshaded areas in the **Figure** show the formula locations. Read the next section, which describes the formulas, before you place the cursor on the cell that receives the formula. Now move the cursor to the cells shown in the formula, and begin typing.

When you've entered the formula, compare each character on your screen to the printed formula in this column. If everything agrees, press Return. If something's amiss, press Escape and start again.

Protect each formula immediately after creating it: With the cursor on the formula cell, press OA-L and hit Return to confirm *Entry*. Type **PN** to select *Protection Nothing*. (When you copy the formula, AppleWorks copies the protection.) Now enter the balance-sheet formulas.

FORMULA 1: TOTAL CURRENT ASSETS

Formula 1 adds the categories *Cash*, *Marketable securities*, *Accounts receivable*, *Inventories*, and *Prepaid expenses* (rows 7 through 11 in column C), and enters the value into *Total current assets*, C13. As in every other SUM formula, Formula 1 includes the line below the last cell and the blank cell above the first cell in the group. If you later insert rows between these cells, AppleWorks adjusts the cell references to add the new entries. Remember, protect this and every other formula.

Cell location: C13

Formula: @SUM(C12.C6)

FORMULA 2: TOTAL FIXED ASSETS

Formula 2 deducts *Accumulated depreciation* (C17) from *Plant, property, and equipment assets* (C16), and enters *Total fixed assets* in C19.

Cell location: C19

Formula: +C16-C17

FORMULA 3: TOTAL OTHER ASSETS

Formula 3 adds *Investments* (C22) and *Goodwill* (C23) to produce *Total other assets* in C25.

Cell location: C25

Formula: +C23+C22

FORMULA 4: TOTAL ASSETS

Formula 4 adds *Total current assets* (C13), *Total fixed assets* (C19), and *Total other assets* (C25) to produce *Total assets* in C27.

Cell location: C27

Formula: @SUM(C25,C19,C13)

FORMULA 5: TOTAL CURRENT LIABILITIES

Formula 5 adds *Notes payable (current portion)*, *Accounts receivable*, *Accrued taxes*, and *Other accrued liabilities* (rows 7 through 10, column I), and enters *Total current liabilities* in I12.

Cell location: I12

Formula: @SUM(I11.I6)

FORMULA 6: TOTAL LIABILITIES

Formula 6 adds *Total current liabilities* (I12) and *Long-term liabilities* (I15) to produce *Total liabilities* in I17.

Cell location: I17

Formula: +I15+I12

FORMULA 7: TOTAL STOCKHOLDERS' EQUITY

Formula 7 adds *Common stock*, *Paid-in capital*, and *Retained earnings* (rows 21 through 23, column I) to produce *Total stockholders' equity* in I25.

Cell location: I25

Formula: @SUM(I24.I20)

FORMULA 8: TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY

Formula 8 adds *Total liabilities* (I17) and *Total stockholders' equity* (I25) to produce *Total liabilities and stockholders' equity* in I27.

Cell location: I27

Formula: +I25+I17

COMPARATIVE BALANCE SHEET							
	June 30, 1990	June 30, 1989		June 30, 1990	June 30, 1989		
ASSETS			LIABILITIES AND STOCKHOLDERS' EQUITY				
41							
51							
61	Current assets:		61	Current liabilities:			
71	Cash	\$ 185,890	\$ 182,506	Notes payable (current portion)	\$ 447,500	\$ 355,670	
81	Marketable securities	36,503	30,090	Accounts receivable	152,897	140,800	
91	Accounts receivable	771,080	807,289	Accrued taxes	41,234	110,560	
101	Inventories	1,234,567	1,115,876	Other accrued liabilities	185,670	159,323	
111	Prepaid expenses	19,880	16,540				
121				Total current liabilities	\$ 827,301	5 \$ 766,353	
131	Total current assets	\$ 2,247,920	1 \$ 2,152,301				
141				Long-term liabilities:			
151	Fixed assets:			Notes payable (long-term)	626,017	829,371	
161	Plant, property, and equipment	1,579,150	1,494,235				
171	Less: Accumulated depreciation	876,820	766,031	Total liabilities	\$ 1,453,318	6 \$ 1,595,724	
181							
191	Total fixed assets	\$ 702,330	2 \$ 728,204	Stockholders' equity:			
201				Common stock (\$10 par value, 40,000 shares outstanding)	400,000	400,000	
211	Other assets:			Paid-in capital	344,350	344,350	
221	Investments	63,589	0	Retained earnings	1,015,971	740,231	
231	Goodwill	200,000	200,000				
241				Total stockholders' equity	\$ 1,760,521	7 \$ 1,484,781	
251	Total other assets	\$ 263,589	3 \$ 200,000	Total liabilities and stockholders' equity	\$ 3,213,839	8 \$ 3,080,505	
261							
271	Total assets	\$ 3,213,839	4 \$ 3,080,505				
281							
291							
301							
311							
321	COMPARATIVE INCOME STATEMENT			** FINANCIAL ANALYSIS RATIOS **			
331		Year Ended	Year Ended		1990	1989	
341	Sales	\$ 3,895,870	\$ 3,694,760	CURRENT RATIO	2.72	13	2.81
351	Cost of goods sold	2,528,090	2,423,800	QUICK ASSETS OR ACID TEST RATIO	1.20	14	1.33
361				CASH RATIO	.27	15	.28
371	Gross profit	\$ 1,367,780	\$ 1,270,960	NET WORKING CAPITAL (\$THOUSANDS)	1,421	16	1,386
381				DEBT TO ASSETS RATIO	.45	17	.52
391	Operating expenses:			DEBT TO EQUITY RATIO	.83	18	1.07
401	Selling expense	377,295	334,890	LONG-TERM DEBT TO EQUITY RATIO	.36	19	.56
411	General & admin expense	326,780	292,230	TIMES INTEREST EARNED RATIO	5.92	20	4.31
421	Depreciation	110,789	107,324	AVG COLLECTION PERIOD (DAYS)	72	21	80
431	Interest expense	93,350	124,406	RECEIVABLES TURNOVER RATIO	5.1	22	4.6
441				INVENTORY TURNOVER RATIO	2.0	23	2.2
451	Total operating expenses	\$ 908,214	10 \$ 858,850	ASSETS TURNOVER RATIO	1.2	24	1.2
461				GROSS PROFIT MARGIN	35.11	25	34.41
471	Operating income before taxes	\$ 459,566	11 \$ 412,110	NET PROFIT MARGIN	7.11	26	6.71
481	Income taxes	183,826	164,844	RETURN ON ASSETS	8.67	27	8.01
491				RETURN ON STOCKHOLDERS' EQUITY	15.71	28	16.71
501	Net income	\$ 275,740	12 \$ 247,266	EARNINGS PER SHARE	\$6.89	29	\$6.18
511							
521							
531							

Figure. The powerful BALINCRAT spreadsheet, combining balance sheet, income statement, and financial ratios.

COPYING THE ENTRIES

Now copy all your entries — dollar signs, lines, and formulas — from the 1990 columns to the 1989 columns.

First, the *ASSETS* section: Place the cursor on B7, press OA-C, and hit Return. Press OA-5 to move the cursor to B27, then Down Arrow to reach B28. Hit Right Arrow to block out column C, and hit Return again.

Now press Right Arrow twice, and hit Return. Every cell reference in each formula is *relative*, so press OA-R. Boy, these new copy features (block copy and relative-reference copy) in AppleWorks 3.0 are terrific, aren't they?

Now for the liabilities section: Place the cursor on H7, then press OA-C and hit Return. Press OA-5, then Down Arrow to reach H28. Hit Right Arrow to block out column I, and hit Return again.

Now press Right Arrow twice and hit Return. Every cell reference is once again

relative, so press OA-R. Press OA-S to store the spreadsheet on disk.

Use the **Figure** as a reference to type the practice numbers that appear in the unshaded areas of the balance sheet. These entries are values, so don't type any commas — AppleWorks produces them automatically.

You turned off automatic recalculation, so the formulas can't calculate your entries. Feel free at any time to press OA-K to recalculate, then compare your results with the **Figure**.

When you're finished, press OA-S to store the spreadsheet on disk.

INCOME-STATEMENT TERMS

Now turn your attention to the spreadsheet's income-statement formulas. Here's a description of some terms you'll need to know:

**Sales* include all sales of company products, adjusted for returns and allowances.

**Cost of goods sold* is the total of the expenditures needed to produce the products — including the cost of raw materials, factory overhead, factory labor, subcontracting, and freight.

**Gross profit* is the difference between *Sales* and *Cost of goods sold*.

**Operating expenses* include *Selling expense* (salaries and commissions for the sales force, advertising), *General and administrative costs* (rent, utilities, salaries, supplies, and other operating costs needed for overall administration of the business), *Depreciation* (allocation of an asset's cost over its estimated useful life), and *Interest expense* (cost of borrowing funds used in business operations).

**Net income* is the difference between *Gross profit* and *Operating expenses* after deduction of taxes.

Now enter the income-statement formulas. As before, protect each formula immediately after creating it.

FORMULA 9: GROSS PROFIT

Formula 9 deducts *Cost of goods sold* (C35) from *Sales* (C34) to produce *Gross profit* in C37.

Cell location: C37

Formula: +C34-C35

FORMULA 10: TOTAL OPERATING EXPENSES

Formula 10 adds *Selling expense* (C40), *General and administrative expense* (C41), *Depreciation* (C42), and *Interest expense* (C43), and enters *Total operating expenses* in C45.

Cell location: C45

Formula: @SUM(C44.C39)

FORMULA 11: OPERATING INCOME BEFORE TAXES

Formula 11 deducts *Total operating expenses* (C45) from *Gross profit* (C37) to produce *Operating income before taxes* in C47.

Cell location: C47

Formula: +C37-C45

FORMULA 12: NET INCOME

Formula 12 deducts *Income taxes* (C48) from *Operating income before taxes* (C47) to produce *Net income* in C50.

Cell location: C50

Formula: +C47-C48

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Now copy the income-statement entries from the 1990 to the 1989 columns: With the cursor on B34, press OA-C and hit Return. Press OA-9 to move the cursor to B53, hit Right Arrow to block out column C, and hit Return again. Press Right Arrow twice, hit Return, and press OA-R.

Once again, use the **Figure** as a reference and enter the practice numbers that appear in the unshaded areas of the income statement (again, no commas). Press OA-K at any time to recalculate, and compare your results with the accompanying **Figure**.

PRINTING THE SPREADSHEET

BALINCRAT is 134 characters wide and prints 17 characters per inch, letting it fit compactly on one page. Press OA-O to bring up the *Printer Options* screen. Now type **CI** (for *Chars per Inch*) and press Return. Type **17** and hit Return again.

To get a good balance, we'll change the margins: Type **TM** (for *Top Margin*) and press Return. Type **.3** and hit the return key again.

Now type **RM** (for *Right Margin*) and press the return key. Type **.1** and hit Return once again.

Press OA-S to store the spreadsheet on disk and return it to the screen.

Now turn on your printer. Press OA-P to start the *Print* command. Press Return to confirm *All*, then select the printer or type your printer number, and hit Return.

Enter the date, or, if your computer has a clock, type @ (the "at" sign) and hit Return twice. BALINCRAT rolls off the printer in all its glory.

Next month you'll enter the formulas that produce BALINCRAT's financial ratios and get a short course in what they mean. If you consider your new information in light of a company's past performance, trends over time, and industry norms, ratios can provide a quick way to assess a company's financial condition. □

CONTRIBUTING EDITOR RUTH K. WITKIN IS THE AUTHOR OF THE TEMPLATE/HANDBOOK SERIES *SUCCESS WITH APPLEWORKS* (inCIDER, IDG COMMUNICATIONS/PETERBOROUGH), *THE BEST BOOK OF APPLEWORKS* (HOWARD W. SAMS & CO.), AND *PERSONAL MONEY MANAGEMENT WITH APPLEWORKS* (JOHN WILEY & SONS). WRITE TO HER AT 5 PATRICIA STREET, PLAINVIEW, NY 11803. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A REPLY.

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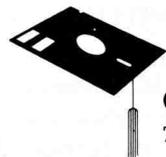
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ALL THE NEWS THAT FITS

With this handy technique and your favorite desktop-publishing program, you can transform words into type in no time.

By **CYNTHIA E. FIELD, Ph.D.**

INCORPORATING THAT ESSAY OR feature article into your newsletter's format is a desktop publisher's ultimate challenge — the prose may be brilliant, but it's usually too short or too long.

Instead of adding clip art to fill blank spaces, or using a smaller type size to squeeze your material into text frames, this month we'll show you how to determine the amount of text that will fit into any desktop publication before you begin writing. You'll not only avoid some of the hassles, but your publication will look more professional.

JUST MY TYPE

Start up **Publish It! 3** and go into *Size to Fit* mode by pressing Open apple-4 (OA-4) or pulling down the Special menu. (Although we designed and tested this technique with Publish It! 3, you can adapt the procedure to work with your favorite DTP program.)

Next, press OA-Z to open a new file, and name it FONT.TEST. Select the text tool and use the program's screen rulers as guides to create a text frame about four inches wide by four inches high.

Now insert the I-beam into the text area, and choose the font you want to use in the actual publication. Press OA-W to select the

font, then begin typing a writing sample with Publish It! 3's word processor.

For most publications, type the body of the text in 10- or 12-point size, because that's what your readers are accustomed to. The Publish It! 3 font library offers 10- and 12-point type sizes in three distinct faces: Deerfield, Desplaines, and Wilmette.

If you want to add some variety to your publication, choose a different font. In addition to Publish It! 3's fonts, you can buy any of hundreds of inexpensive GS typefaces (file type \$C8 or FON) through public-domain software sources.

Some fonts may be too stylish or distracting to use for the body of your text, but others, such as Bookman and Palatino, are traditional looking, and quite readable. Such typefaces add a sense of understated authority to your publications.

THE SWITCH

If you're using an earlier version of Publish It!, you must first convert a type \$C8 font to Publish It!-compatible format (\$F7 or IMG file type). Publish It! 3, however, can use GS fonts directly, without any conversion.

Conversion programs are available in the public domain — check with your local user group, or refer to *inCider's* recent article on public-domain software for more information. (See "Pick a Winner," June

1990, p. 36.) If you'd like to try your hand at a bit of typeface creativity, you might also be interested in a new kind of utility program — the *font editor*. (See "Face to Face," March 1990, p. 61, for details.)

Using alternative type styles with Publish It! is easy because options for removing or adding selected fonts are listed under the Apple menu. Some users "de-install" font families they use rarely to make room for those they employ on a day-to-day basis.

SAMPLING YOUR PROSE

Whenever we need to type in hypothetical text to test projects such as this one, we enter part or all of the *Gettysburg Address*. (Aren't you glad you memorized it in eighth grade?) President Lincoln's speech contains some 271 words, a reasonably long sample.

For more precise results, however, we suggest you type a representative paragraph or two of your original prose. You could select some lines from an editorial you wrote for the latest issue of your club newsletter. Or perhaps you could use a couple of paragraphs from that letter you sent to the editor of your local paper.

Whatever you choose to type, print the sample, then save the FONT.TEST file (OA-S) to a data disk.

If you want to test another font, place the I-beam at the beginning, and select the text either by pressing OA-E and choosing *Select to End* from the Edit menu, or by using the mouse to drag the I-beam across the text. Press OA-W and choose the next font you want to evaluate from the font directory that appears on screen.

MEASURE FOR MEASURE

Using a ruler as your guide, make pencil marks at one-inch intervals across the width of the printed text, then make



The IIGS just got up to speed.

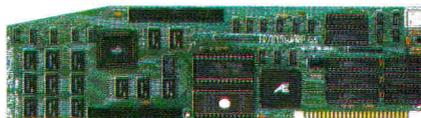
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similar marks at one-inch intervals down the length of the text.

Draw vertical and horizontal lines through the marks to create a grid composed of one-inch blocks with words trapped inside.

Now count the number of complete words that occupy the first block. When a grid line bisects a word, include the word in your count only if the majority of the word's letters fit within the block. Write down the word count for the first block.

Repeat this procedure on two additional text blocks, then calculate an average by adding the three word-count values and dividing the result by 3. This average equals the number of words you can print with a particular font in one square inch of a printed page.

ADD IT ALL UP

Now open your publication's DTP template file. There are two methods for determining the total area of your publication's text frames, so choose the one that fits your style and project best.

With the first method, you need to place a border around each text frame: Select the text, press OA-M, and click on the *Frame Borders* check box.

Do the same for each remaining chunk of text in your publication. Print a copy of all pages comprising your blank template. With a ruler, measure the width and height of each text frame.

The second and easier method lets you use Publish It's width and height measurements from each text frame's *Show Specifications* dialog box.

If you incorporate this project into a classroom exercise, you may want students

to try the first method, then check the accuracy of their measurements against the values given in each *Show Specifications* dialog box.

With a calculator, or paper and pencil, multiply each frame's width by its height to determine its area. Then add the areas of all the text frames to determine the total amount of space that's available for text in your publication.

Next take the average number of words per square inch that you calculated during the font test and multiply that number by the total text area that's available in the publication's template.

The result yields the total number of words that fit into the allocated space.

Multiply the total word count by 0.9 to allow for a 10 percent margin of error. Experience may prompt you to edit this fudge factor as necessary to give even more precise counts. Here's the template equation:

$$\frac{\# \text{ of Words}}{\text{Square Inch}} \times \frac{\text{Square Inches}}{\text{Publication}} \times 0.90 = \frac{\# \text{ of Words}}{\text{Publication}}$$

KEEP IN MIND

When you adopt our text-fitting protocol, don't forget that certain variables can alter anticipated results.

For one thing, the number of words that occupy a given text frame varies if you suddenly begin incorporating shorter or longer words than you used during the font test. An essay written by the average second-grader, for example, includes more words per square inch than an essay written by a high-school senior.

Moreover, switching to a different type size can change a words-per-square-inch value dramatically.

When we used the 12-point Deerfield font, for example, we fit the *Gettysburg Address* three times into a 68.6-square-inch text area.

With the 10-point Deerfield font we fit the speech four times into the same space. The 9-point Deerfield font accommodated President Lincoln's immortal prose a whopping six times!

READY TO ROLL

Coping with variables is easy if you calculate word counts for all the typefaces, sizes, and styles you'll eventually use.

For optimum efficiency, perform all font-test calculations during a single work session, and store the results in a handy quick-reference table printed on an index or rotary-file card.

Thanks to a new generation of modern Apple II word processors — such as **AppleWorks 3.0** with its built-in spell-checking accessory — you can generate document word counts on command.

Type your article, press OA-V to select the program's spell-checking function, then select *Options*, *Summary*, and *Screen* (unless you want a printout of the results). After you spell-check the document, the on-screen summary provides a running word count.

Adjust the size of your AppleWorks document so that it conforms to the result of the template equation above.

If you discover that you have room in your desktop publication for additional text, find a paragraph that could benefit from more development or clearer explanation.

If you still have space left over, consider adding a sidebar to the main article. In either example, determining the amount of text ahead of time lets you fill the extra space with interesting information instead of superfluous clip art.

If you find that your document is too long, instead of manipulating type sizes and fonts to fit it into a text frame, shorten the text by excising any "fat."

By using a grammar checker to prune wordiness, for example, you'll not only shorten the piece, but probably make it more comprehensible.

PLANNING AHEAD

Above all, don't feel enslaved by any word-count guidelines you've calculated. Just try to stay within a hundred words of the target value.

That way you'll have a minimum of editing and formatting to perform after the word-processing file's been imported into your DTP template. □

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SHELL SERVICE

Now that you're acquainted with shells, learn to fill them with desk accessories and initialization files and create programs that aren't simply "routine."

By JOE ABERNATHY

IN OUR PREVIOUS COLUMN, "Fundamental Tools," August 1990 (p. 68), we presented shells for writing GS desktop applications. *Shells*, or *templates*, contain those parts of programs common to a particular type of software — you simply fill in the details for each new application of the shell. This month we present templates and strategies for creating three other types of GS programs: *classic desk accessories* (CDAs), *new desk accessories* (NDAs), and *GS/OS initialization* (INIT) files.

NDAs are the shared system utilities whose names you see when you pull down the Apple menu. In most GS desktop programs this menu appears in the top-left corner of the screen.

CDAs are system utilities, too. To bring them into view you must press the open-apple, control, and escape keys simultaneously. Although the IIGS Control Panel was developed as a CDA, with the release of GS/OS version 5 it's available as both a CDA and an NDA. The only similarity between the two utilities, however, is that you can execute them while you run another program. Also, NDAs can function in tandem with other programs.

INIT files are programs you can execute automatically when using GS/OS to start up your GS. This property offers all sorts

of possibilities — GS BASICs enthusiast Jeff Noxon designed the indispensable BufferInit printer buffer as an INIT file.

NEW DESK ACCESSORIES

Whatever function or feature you're trying to program, you can't ignore the GS desktop. NDAs must function within the GS desktop environment, taking into account all aspects of that environment, including window creation. Therefore, NDAs exercise your ability to use the built-in GS Toolbox and its related data structures as you build your program.

Listing 1 contains the minimum requirements for an NDA. Although your NDA doesn't have to use a window, we set up our template so that it does. To make the NDA listing readable, we used the programming language Pascal. To follow along with another language, print an example NDA supplied with your compiler. (All compilers that create NDAs, such as **Merlin** and **ORCA/M**, have these examples.)

The second line in **Listing 1** tells the **ORCA/Pascal** compiler the names of the four routines (*Open*, *Close*, *Action*, *Init*), its frequency of execution, its event mask, and its name. The frequency, 60 in our example, means that GS/OS checks in with the NDA every 60 ticks, or once a minute. Of course, you can change this if you need to update some portion of the NDA. The

event mask describes the action codes that should pass to the NDA. (See the *Apple IIGS Toolbox Reference Volume 1*, Addison-Wesley, pp. 5 – 6.)

The *uses* statement lists the NDA's internal toolsets and header files, or its common libraries of routines. Our statement includes the minimum number of toolsets, files, and libraries within any desktop-windowed environment.

The *Common* command provides the program's definition for data. You may want to print this if you're not familiar with Pascal data structures.

When you select the NDA from the Apple menu, you call up the *Open* function simultaneously. To ensure that your NDA hasn't already been activated, however, the Boolean on/off flag, *NDAActive*, is tested. If it's not activated, a standard window-definition template for the Toolbox creates the NDA's window, and the *Open* function returns a pointer to that new window. To close the NDA's window, simply use the *Close* procedure.

The *Action* routine interprets the "action code" that the Toolbox Desk Manager passes to the NDA. *EventAction* can be the mouse's *ButtonDown* or *ButtonUp*, the keyboard's *KeyDown* or *AutoKeyDown*, or other general actions, including *Update* and *Activate*. By calling *MyNDAProc*, *Update*, or *RunAction*, you invoke the NDA's action.

Another point of interest is *MyNDAProc* — the location of the original programming that makes your NDA shell come to life. Most examples are clocks or QuickDraw graphics. (See your compiler's examples.)

After you've created your NDA, change the compiled program's filetype to *NDA* (GS/OS type \$B8), and copy it to the *system/desk.accs* directory of your boot disk. Then simply restart your GS and your new NDA will appear under the Apple menu.



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CLASSIC DESK ACCESSORIES

Unlike NDAs, CDAs use the GS' text screen; therefore, programming CDAs is less complicated because you have to provide only two routines, *Start* and *ShutDown*. *Start* can be almost any binary program, and *ShutDown* is usually empty. It's easy to create an NDA: Simply copy an old program into the *Start* function and you'll get a new classic desk accessory. If you use an old program, however, make sure your variables are arranged properly — if they aren't, you'll make an error in the conversion process.

Listing 2 uses the language C for our CDA shell. You can find examples of CDAs with all compilers that support CDA creation — the trick is you need only a small amount of extra code to create a CDA. As with NDAs, if you want CDAs to appear on the CDA menu, you must place the CDA files (GS/OS type \$B9) in the *system/desk.accs* directory of your startup disk.

If you use **Micol Advanced BASIC** (IIGS version) you can create CDAs without manipulating their compiled BASIC programs. Just run the finished copy through the conversion utility included with the Micol compiler. Similar to the Micol tool for creating launchable .SYS16 files, the only down side to this approach is that all of Micol's runtime library of internal procedures is added to your new CDA — your programs become much larger than usual.

INIT FILES

Listing 3 hardly needs an explanation — there's nothing special about these handy files. You can find examples of the two types of INIT files — *temporary* (GS/OS type \$B7) and *permanent* (GS/OS type \$B6) — in your startup disk's *system/system.setup* directory.

When you start up your GS with GS/OS, you execute all INIT files. The temporary INIT is removed immediately from memory to make room for other programs and data. Temporary INITs are used by Apple to "patch" the Toolbox with the latest updates.

There are occasions when you want a loaded program to remain active each time you start up your GS. Permanent INIT programs do just that: When you boot your computer these programs are loaded and executed, then remain protected in your GS' memory until you remove them. CDALock, a program that disables access

Listing 1. IIGS new desk accessory (NDA) shell.

```

{$keep 'myfile'}
{$newDeskAcc Open Close Action Init 60 -1 '-MyNDA\H***'}

program MyNDA (output);

{ ----- }
{ New Desk Accessory Shell }
{ By Joe Abernathy. }
{ Copyright 1990, inCider }
{ Compiler: ORCA/Pascal for Apple IIGS. }
{ Based on an example by The Byte Works. Used with permission. }
{ ----- }

uses
    Common, QuickDrawII, EventMgr, WindowMgr, DeskMgr, MscToolSet;
var
    MyStr:    pString;           { scratch string }
    NDAwinptr: grafPortPtr;     { desk acc window pointer }
    NDAwin:   paramList;       { window parameter list }
    NDAActive: boolean;        { tracks nda status }

{ ----- }
{ Open - activate the NDA if needed. }
{ ----- }

function Open: grafPortPtr;
begin
    if not NDAActive then begin
        MyStr := 'MyNDA';           { assign the window title }
        with NDAwin do begin
            paramLength := 78;
            wFrameBits := $FFFFCOA0;
            wTitle := @MyStr;
            wRefCon := 0;
            wZoom.v1 := 0;
            wZoom.h1 := 0;
            wZoom.v2 := 0;
            wZoom.h2 := 0;
            wColor := nil;
            wYOrigin := 0;
            wXOrigin := 0;
            wDataH := 0;
            wDataW := 0;
            wMaxH := 0;
            wMaxW := 0;
            wScrollVer := 0;
            wScrollHor := 0;
            wPageVer := 0;
            wPageHor := 0;
            wInfoRefCon := 0;
            wInfoHeight := 0;
            wFrameDefProc := nil;
            wInfoDefProc := nil;
            wContDefProc := nil;
            wPosition.v1 := 50;           { your window dimensions here }
            wPosition.h1 := 50;
            wPosition.v2 := 100;
            wPosition.h2 := 200;
            wPlane := pointer (-1);
            wStorage := nil;
        end; { ndaWin }
        NDAwinptr := NewWindow (NDAwin); { open a window }
        SetSysWindow (NDAwinptr);      { set it to the system window }
        NDAActive := true;              { Set boolean status flag }
        Open := NDAwinptr;              { return window pointer }
    end; { if not NDAActive }
end; { Open }

{ ----- }
{ Close - deactivate the NDA when it's time to do so. }
{ ----- }

```

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```

procedure Close;
begin
if NDAAActive then begin
  CloseWindow (NDAwinptr);
  NDAAActive := false;
  end; { if NDAAActive }
end; { Close }

{ _____ }
{ Action - Handle an action call. }
{ _____ }

procedure Action (code: integer; param: longint);
var
  evPtr: eventRecPtr;
  currPort: grafPortPtr;
begin
case code of
  eventAction: begin
    evPtr := pointer (param);
    if evPtr^.eventWhat = updateEvt then begin
      BeginUpdate (NDAwinptr);
      MyNDAProc; { call your code here }
      EndUpdate (NDAwinptr);
      end; { if updateEvt }
    end; { eventAction }
  runAction: begin
    currPort := GetPort;
    SetPort (pointer (NDAwinptr));
    MyNDAProc; { call your code here }
    SetPort (currPort);
    end; { runAction }
  clearAction: code := 1;
  otherwise: ;
  end; { case code of }
end; { Action }

{ _____ }
{ Initialize }
{ _____ }

procedure Init (code: integer);
begin
  if code = 0 then begin
    if NDAAActive then Close;
    end
  else
    NDAAActive := false;
  end; { Init }

{ _____ }
{ MyNDAProc }

{ _____ }

procedure MyNDAProc;
begin;

{ your code should do something here }

end; { MyNDAProc }

{ _____ }
{ Body of program is null for NDAs. }
{ _____ }

begin
end.

```

to the Control Panel CDA, is an example of a permanent INIT file. (See Apple Clinic's "Control-Panel Update," July 1990, p. 24.)

Listing 3 displays the shell for a temporary or a permanent INIT program in Merlin assembly language. INITs operate in full 16-bit mode, and you must set the filetype of your finished program and copy it to the *system/system.setup* directory of your startup disk.

If you have Byte Works' **Merlin-to-ORCA Source-Code Translator**, you don't have to learn a second compiler to convert assembly-language source-code listings from Merlin to either **Apple Programmer's Workshop** or its cousin ORCA/M. If you don't have this converter, or if you have trouble running a conversion, here are some common resolutions.

You must convert Merlin's data directives — such as *ASC*, *STR*, *DS*, and *DA* — to APW's *DC x* or *Declare Constant* (or *DS*, *Declare Storage*) syntax, where *x* represents a data type. Also, change the *SAV* directive (shown at the end of **Listing 3**) to *KEEP filename* and move it to the top of the APW source-code file. Replace any of Merlin's *DO* conditional compilation commands with APW's *AGO* or *AIF* constructions. Also, replace any compiler directives, such as *include* statements, with their APW equivalents, then rewrite *USE* statements in *USES* format, and change *PUT* to *COPY*.

One program module, Merlin 16+, includes "intelligent" macros, which push result space for Toolbox calls onto the stack automatically. You can get a similar set of macros as shareware for APW. If you don't have them, modify all tool calls that begin with a tilde (~) to push their own result space.

Use ASML to compile and link your APW program, then enter *TYPE filename filetype* to filetype-cast your file. For example, enter

Listing 2. IIGS classic desk accessory (CDA) shell.

```

/* _____
Classic Desk Accessory Shell
By Joe Abernathy.
Copyright 1990, inCider
Compiler: ORCA/C for Apple IIGS.
_____*/

#pragma keep "myfile" /* Your file name */
#pragma cda "MyCDA" Start ShutDown /* Your CDA Name */
#include <stddef.h> /* Other include files add here */
#include <stdio.h>
#define ESC 0x1B /* Add'n'l constants defined here */

int myvar; /* More variables get defined here */

/* _____
Start - standard entrance point for a CDA
_____*/

void Start(void)
{
/* Your program code goes here */
}

/* _____
ShutDown - CDA exit usually is not used.
_____*/

void ShutDown(void)
{
}

```




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nightstand drawer opens to let a red balloon escape to follow the cursor around the screen and pop when selected, only to reappear in the nightstand drawer.

OTHER WORLDS

Seven of the objects on screen respond with more than just simple sound and animation — they're gateways to other Playroom worlds. The cuckoo clock on the wall cycles through a 24-hour period, showing Pepper performing a variety of activities depending on the time of day.

For example, when youngsters point at the number 4 on the clock, an animated bird appears and cuckoos four times. If it's 4 in the afternoon, we see Pepper busy at piano practice. If it's 4 o'clock in the morning, we can watch Pepper asleep in his bed.

Kids see a digital representation of the hour and can link it conceptually with the corresponding analog time on the clock face. The hour is also written out in word form. Clicking on the middle of the clock face or pressing the spacebar instructs the computer to select a random time.

If children choose the computer on the table, they can practice with upper- and lowercase letters. Selecting an uppercase letter from the computer keyboard displayed on screen prompts it to display the corresponding lowercase letter.

Truly adventurous souls can try to spell simple words with Pepper's assistance. When youngsters complete a word, they receive a friendly animated reward. Adults can make the game more difficult by determining the number of letters that will show on the keyboard as a child spells the word.

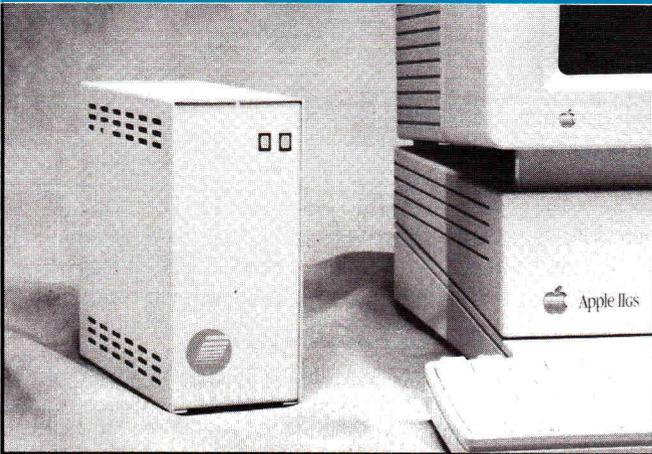
One special Playroom toy has the head of an elephant, the body of a penguin, and the legs of a fish. When kids select this strange mixed-up toy, they can create new character combinations. Clicking on the head changes that portion of the body. Clicking on the icon of the mixed-up toy, located in the upper right corner of the screen, produces a random combination of all parts simultaneously. A printing option lets youngsters generate a hardcopy of their mixed-up creatures. The Playroom supports a wide variety of printer models.

My 7-year-old daughter's favorite Playroom activity is *The Mousehole*. It's a counting game (with three difficulty levels) she can play with a friend or against the computer. Contestants race along a numbered board; a throw of electronic dice determines the number of spaces they move. When players land on a white square, they receive a bonus move. If they land on a black square, they get bumped back. The object of the game is to be the first to reach the finish. Kids will need to use their counting skills to win.

Another interesting activity in The Playroom involves a painting hanging on the wall. It's no ordinary framed portrait, because it talks. If children select the picture with the pointer, they can listen to (and learn to read) important safety words, such as *poison*, *danger*, *walk*, and *don't walk*. Clicking on the picture's corner flap cycles through the word list.

The on-screen spinner toy reinforces counting from 1 to 12 as children learn to associate numbers with their conceptual representation. To activate the spinner,

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youngsters choose a number and a screen graphic. For example, if they choose a top hat and the number 12, 12 top hats appear on screen. Meanwhile, a sleeping Pepper rests quietly on screen. When youngsters wake him up (by pointing and clicking), he places a random number of objects on screen and asks, "How many?" You can configure the difficulty level of this activity and change the maximum number of objects Pepper will place on screen to three, six, nine, or 12.

My favorite game in The Playroom is *The ABC Book*. It lets children compose a scene with either a fairy-tale or a farm motif. Youngsters place objects on screen by pointing and clicking on a letter of the alphabet.

In the farm scene, selecting the letter *T* calls up a picture of a tractor. The word *tractor* is then printed beneath the picture. Clicking on the letter *S* will call up a picture of a scarecrow. Once a graphic is on screen, kids can place it anywhere, including in the trash. In this activity, youngsters come to associate a familiar object with its

beginning letter. You can also print the completed scenes.

The Playroom is great amusement, but it's more than simple entertainment — it's a well-designed skill builder. Kids won't tire of it quickly because the program provides a number of activities to experience.

The graphics interface makes the software simple enough for even the youngest preschoolers to enjoy. The absence of written on-screen instruction means that kids can navigate through the different scenes with a minimum of adult supervision.

The Playroom is challenging and lots of fun. The manual contains suggestions for several off-line activities, plus reproducible worksheets for added enjoyment. A pint-sized plush Pepper toy and keyboard stickers are also included.

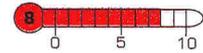
All things considered, Broderbund's newest Apple II skill builder is a must for any early-learning software library. It should certainly become one of the all-time Apple II classics.

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

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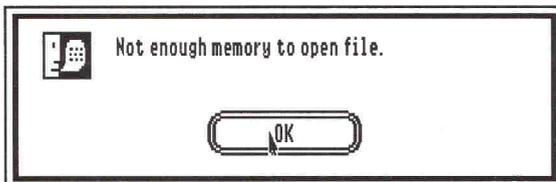


It's a simple matter of logistics — you have ten Little League teams, each of which plays the others twice. You have two fields, each of which you can use three times a week; and you can play two games on each field each night. Now, create a schedule for the upcoming season — right.

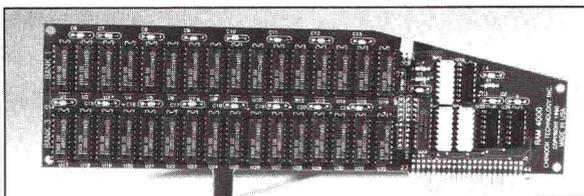
Granted, any reasonably intelligent person could do the job — given enough hours, pencils, and paper. But if you think it's *easy*, then you've probably never volunteered to make a schedule before — or perhaps you were naive enough to have just done so.

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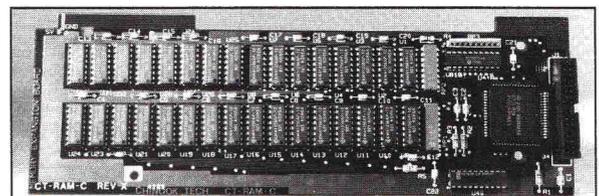
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tournaments, midget football, or whatever. Sports Scheduler is a powerful program that can handle entire seasons for up to 22 teams and up to 231 games per league.

BATTER UP

Using a menu-based interface, Sports Scheduler takes you through the process of setting up a league, creating and printing worksheets to aid in scheduling, creating the actual schedule for the league, and editing the schedule if necessary.

The advertisements for Sports Scheduler state that you can create schedules in "just a few short minutes." While the program does indeed create a schedule in short order, it does so only after you've done all the preliminary work — creating the league files, printing and filling out the *League Layout Worksheet*, and entering the data into the computer.

Once you've finished that, then in "a few short minutes" you'll have a complete schedule ready to print or edit. Other

factors that will affect the amount of work that goes into the scheduling process and the amount of time it will take for the machine to create a final schedule include the number of teams in the league, the number of games being played, and so on.

That doesn't mean that the program doesn't do what it claims to; it does, and it does so in an exemplary fashion. You'd need to do all the ground work mentioned above, regardless of whether you were scheduling by hand or using Sports Scheduler — you just have to realize that the real time savings takes place once your data are in the machine.

Note also that if you play the same type of schedule year after year, your time investment is virtually nil for every season after the first. Simply edit the beginning and ending dates and the program will calculate all the other required dates to fill the schedule.

The program can schedule across calendar years, allow for leap years, and schedule up to the year 2084. It also lets you designate arbitrarily up to 15 dates to leave blank as it calculates your schedule dates automatically. For example, if June 20th is the league picnic, or if you want to be sure to leave July 4th open, simply answer yes when the program asks whether you want to skip any dates on the schedule, and type in the selected dates.

THERE'S MORE

Sports Scheduler includes a number of other features, as well — it can schedule leagues with an even or odd number of teams; assign "byes" (when a team passes on the first round of a tournament) for each team, and print the word *BYE* on the schedule where necessary; save files in either ASCII or DIF format so that you can read them into most word processors or spreadsheets for easy editing; and produce a very useful *League Information* form listing each team's name, colors, coach, assistant, and addresses.

Incidentally, regardless of the type of schedule you're generating, Sports Scheduler does its best to work in an unbiased fashion — producing equal home/away dates and a fair distribution of time slots, playing fields, and so on.

The program runs into some problems when trying to create non-standard sched-



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ules in which a different number of fields are available on an irregular basis. As the manual states, however, "No scheduling program could cover the multitude of scheduling variables associated with all the different types of leagues or sports."

In cases in which your schedule requires manual input, Sports Scheduler still simplifies your work by scheduling the home team, visitor, and game number and leaving blanks under the date, day, time, and location slots for you to fill in by hand.

EXTRAS

Sports Software Associates also produces two stand-alone companion packages — *League/Team Standings*, which generates win/loss records, team standings, results of most recently played games, and other miscellaneous data; and *Referee/Facility Scheduler*, which produces a master schedule of events (up to 22,000 in a given year), listing the date, day, time, location, level, and a blank space for the referee or official. Each program sells for \$39.95.

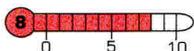
Sports Scheduler specifically addresses the needs of community-league team sports, but you can adapt it easily for bowling leagues, statistical replay leagues, and other uses. The program definitely takes much of the drudgery out of what can be (and often is) a pretty time-consuming and frustrating task.

Jim Trunzo
Leechburg, PA

SUPER STORY TREE

SCHOLASTIC, Inc.,
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Interactive writing program;
128K Apple II; no copy protection; \$79.95



Eighty dollars? That was my first reaction when I received a copy of Super Story Tree. I couldn't believe that whatever was inside this box could be worth that much money. I was wrong.

Super Story Tree is far more than a watered-down kid's word processor with a few graphics thrown in. It's a powerful, creative tool with enough versatility to function in a number of ways. You can use Super Story Tree to design illustrated

works complete with sound effects, music, interaction, special effects, even speech.

STORY TIME

The process of creating a story can be exceptionally simple or mildly difficult with Super Story Tree, depending on the number of program features you want to include. After working through the tutorial and creating several stories on their own for practice, however, most school-aged children will be able to use

Super Story Tree without any problem.

Creating a story with Super Story Tree hinges on designing single pages and linking them together in one of several ways. Individual story pages can be either all text or a blend of text and graphics.

All-text pages can include sound effects and music. Graphics pages can incorporate clip-art graphics, multiple fonts, borders, drawings, and colors, as well.

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Circle 297 on Reader Service Card.

REVIEWS

commands — *continue*, *choice*, or *chance* — and that's where the interactivity comes in.

HAPPY ENDINGS

If you choose the *continue* command, the page "turns," revealing the next one in the created sequence.

If you use the *choice* command at the end of a page, the reader will be able to choose from up to eight different options to continue. Each choice takes him or her to a different page and therefore a different plot line or solution. *Choice* gives you the chance to create a truly interactive story in which the reader's decisions affect the outcome directly. This feature alone justifies the price of the program, because of the flexibility and uniqueness it offers.

The final link command, *Chance*, is just what it sounds like: The program selects randomly from either of two different pages (each of which you designate), making the story potentially different each time it's read.

Continue, *choice*, and *chance* aren't mutually exclusive, so you can use them all at one time or another throughout the story. The sheer number of combinations you can create with just the three link commands provide you with enough flexibility to create anything from straightforward



Multimedia storytelling for kids.

nonfiction stories to reader-involved fictional tales. Add the graphics and sound facilities in Super Story Tree and you begin to get some idea of the scope of this full-featured program.

ARTISTIC LICENSE

You can select graphics images from those contained within the program or from a compatible program, or you can create them yourself with the drawing and painting module included with Super

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SILICON EXPRESS

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Story Tree. You can use clip art from Scholastic's own Slide Show program or from any Print Shop-compatible disk, as well. Considering how extensive the Print Shop libraries are, that amounts to a lot of pictures from which to choose. If they aren't enough, however, feel free to create your own.

FOR ARTISTIC TYPES

The drawing and painting module that comes with Super Story Tree is powerful enough to let you create more-than-respectable pictures. It includes the standard draw, shape, and fill commands and more than 30 brush types and five line widths.

You can also import artwork from major paint programs such as 8/16 Paint, Mouse-Paint, Blazing Paddles, and a host of others. You can even use digitized images from ComputerEyes or ThunderScan.

SPECIAL EFFECTS

You can add sound to your pages just as easily as pictures. The *Sound Library* includes 33 musical scores, 34 sound effects, and ten speech clips. The music and sound effects are quite good, but the speech clips range from passable to poor. Still, the judicious use of sound will augment your story quite well.

Super Story Tree also "turns the pages" with flair. The program lets you dictate which of ten "wipe" effects it should use to traverse from one page to another. For example, you might have the current page dissolve, revealing the page "behind" it as it does so. You could also program the page to scroll from right to left or simply cut immediately to the next page.

PROGRAM OPERATION

Naturally, you have to use the keyboard for the actual writing in Super Story Tree. All other aspects of the program, however, can be accomplished with the keyboard, the joystick, or the mouse.

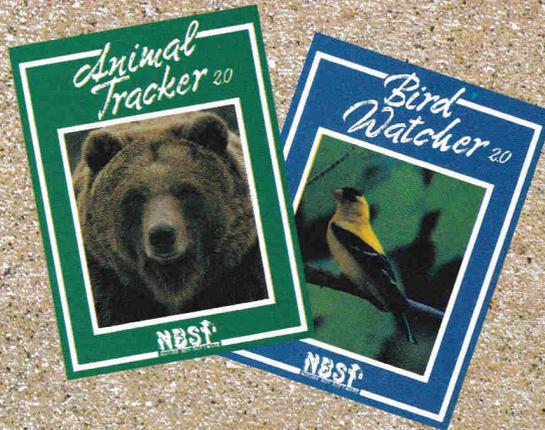
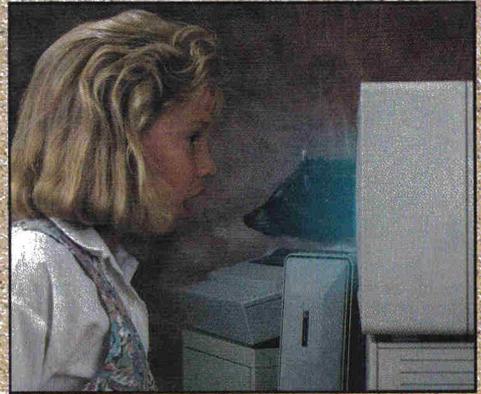
The mouse seems to work best in most cases, with the joystick a close second. The keyboard isn't used to its best advantage, with several natural key combinations missing from the command options. While manipulating mouse and joystick is natural for younger users, good typists will be frustrated. ➔

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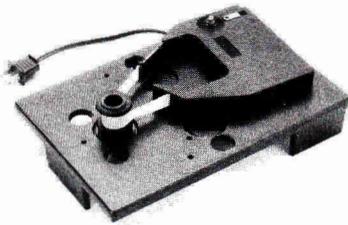
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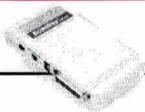
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Super Story Tree also uses windows, dialog boxes, pull-down menus, scroll boxes, and point-and-click screens, all of which make the program intuitive.

THE CREATIVE PROCESS

Editing features abound — with one notable omission. While you can preview a page and edit its graphics images, type font, color, and so on, you can't delete a page once you've created it.

You can ignore a page by simply not linking it to any other pages when you put your story together, but the page will still exist and be cited on your *Load Page* screen. If it isn't linked, though, it won't be part of your finished product.

Super Story Tree has many features that are admirable, but what really won me over was the program's free-standing stories. You can save them to disk and let someone else — a friend, a teacher, or a classmate — look at your story even if that person doesn't have Super Story Tree. (You can also send your stories to a wide variety of printers.) This concept once again enhances the value of the package and justifies its price.

DETAILS

Super Story Tree comes on either one 3.5-inch disk or two 5.25-inch disks. If you're running the program from the 5.25-inch disks, you should have two drives to reduce the amount of disk swapping you'll have to endure.

Neither version of the program is copy protected, and Scholastic Software even encourages you to make working disks, going so far as to label the original disks as archival — but the company also includes enough anti-copy literature, agreements, copyright laws, and so on to make casual software pirates feel both guilty and paranoid.

Super Story Tree is a first-rate program in every aspect — from its 160-page manual to the way it works, emphasizing strong educational concepts in its encouragement of creative thinking, organizational planning, and conceptualization.

This package also taught at least one surprised reviewer not to judge a program by its cover — or its price tag. □

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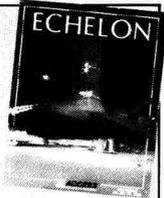
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"Computer technology is here to stay. It is imperative that we prepare our children to use the tools of their times. ...[Technology] should be fully integrated into our educational methods if we are to realize its many benefits."
--BUSINESS WEEK (special section article by Sally Bowman, Computer Learning Foundation Director)

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The real challenge in educational technology is getting people to accept that we live in an era different from the one in which we grew up.

KEEPING PACE WITH TIME

By **DAVID D. THORNBURG, Ph.D.**

DO YOU REMEMBER WHEN THE FIRST pocket calculators came out? As I recall, they sold for a few hundred dollars. At that time, the world was filled with bulky mechanical monsters, and although pocket calculators offered a convenient alternative, that hefty price tag kept many people from buying them. When calculators broke the \$10 barrier, however, the market suddenly blew wide open. Now you can get a decent solar-powered calculator for under five bucks — including tax. Is there a lesson here for computer manufacturers?

DEAD MICE SMELL BAD

When calculators were expensive, no one worried about their role in education. After all, most students couldn't afford these tools, so educators continued to teach kids long division (divide, multiply, subtract, bring down, or "dead mice smell bad"). With the advent of low prices, however, there isn't a child in school who can't afford a calculator. For the one-time price of a hot lunch, even the poorest of students can let modern technology remove the drudgery from what is really a beautiful science.

Although most kids own calculators, pitifully few school programs in this country incorporate these tools into their lessons. In fact, some educators are horrified at the thought of teaching a student to rely on a calculator. "What will the child do when the batteries go dead?" replied one such neo-Luddite. Although I explained patiently that solar-powered calculators don't use batteries, she was still concerned: "Well, suppose the child needs to do a calculation in the dark," she responded. Sure. When is the last time you were in a house without power in the middle of the night and someone made you divide 786 by 27?

The low cost of calculators helps identify the real challenge in educational technology: getting people to accept that we live in an era different from the one in which we grew up. And as the "calculator in the classroom" battle

continues, I see another philosophical war looming on the horizon.

PERSONAL WORD PROCESSING

Thanks to the **Laser PC-3** (Laser Computer, 800 North Church Street, Lake Zurich, IL 60047, 708-540-8086) and its built-in word processor, I wrote this column on a plane somewhere over the California coast.

If you haven't seen this little gem, it weighs about a pound, runs for ages on four penlight cells, has 32K of RAM, a built-in spell checker, a calculator, a communications package, and a bunch of other programs I haven't even tried yet. Its only drawback is the two-line display that shows only 20 characters per line. This computer even has a full-sized keyboard (similar to the one on the Apple IIc), yet it's only about the size of a hardback book.

But the best news is the price. For about \$150 you get the computer, the software to port your text over to your main computer, a complete set of cables for serial file transfer, and a parallel printer.

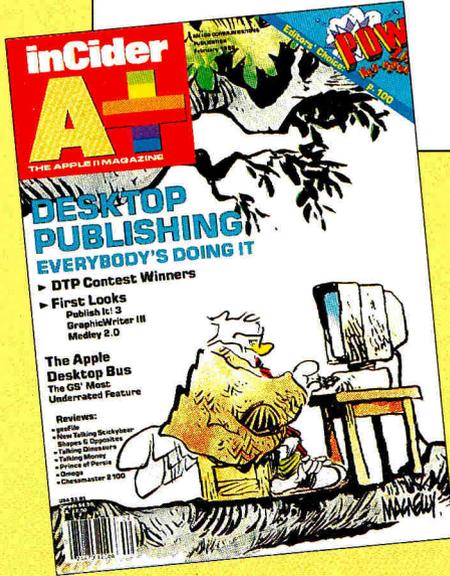
Years ago I pleaded with Apple (in this column, in fact) to create an inexpensive laptop like this one that children could own — a computer they could use under the shade of a tree, at a desk in school or at home, or in the car on the way to Aunt Gertrude's for the holidays.

I envisioned that this computer would be available universally — every school-aged child in the country would have one. Well, that time is coming, even if the label isn't going to be Apple's.

When I get back to my office in a few days, I'll dump this file to my Apple computer and tweak it with AppleWorks — just as I expect kids will do when they have their own notebook-sized computers. The classroom computer can and should have all the "bells and whistles." Kids should be able to upload their stuff to a computer with a high-quality display for refinement,

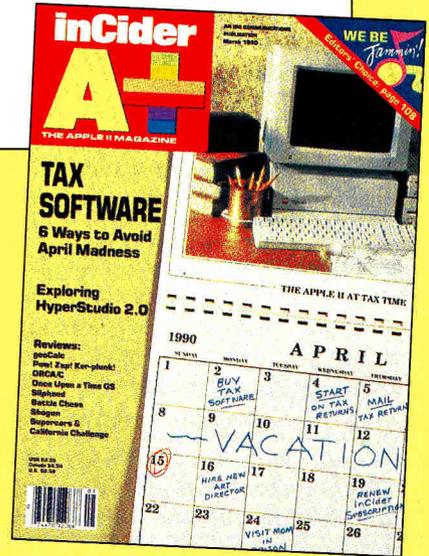
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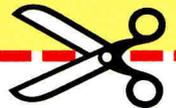
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but to capture young ideas as they develop, kids also need access to laptops.

WHAT ABOUT COST?

Just as with early calculators, a word processor similar to mine is too expensive to supply to every child. But think about this: If I bought a computer with the file-transfer software for my desktop machine and two interface cables for \$150, what would the computer cost by itself?

Also, remember that I bought only one. I bet the dealer's margin is high enough that I could buy a quantity of these computers for under \$100 each. If a school district wanted 16,000 of them, imagine the bulk price.

My guess is we're quickly approaching the time when we'll put a computer with the power of the PC-3 into the

hands of every kid in the country for only \$50, while still leaving enough incentive for the manufacturers. Let's see now, fifty bucks times 100 million kids — that's about \$5 billion. These days we spend that much propping up the Kingdom of Spudonia.

THE WRITTEN WORD

I leave it to Laser, Tandy, and the other makers of notebook computers to decide who wants this phenomenally large market. I'm more concerned with those educators who still resist any technology in their classrooms. I admit that children won't learn good penmanship from a computer, nor will they need to learn the spelling of *pneumonia*. But if each child has his or her own laptop computer, maybe we can get to the real purpose of writing —

expressing ideas and communicating with others.

I know one child in particular who'd benefit from one of these computers. She's a tremendously creative fourth-grader whose everyday speech is filled with rich metaphor — she's a born storyteller. She's also tremendously dysgraphic, even though she can read quite well. Still, her *ds* sometimes look like *bs*, or *gs*, or *qs*, and writing is a painful experience for her. To deny her access to a low-cost word processor is tantamount to child abuse.

The only way to become a good writer is to write. When writing is physically painful (some students clutch their pens so hard they leave marks on their hands), or frustrating (some students must completely recopy their manuscripts with each revision), it's

difficult to entice them to express their ideas.

When I was young I didn't have these fancy tools. In fact, my desk had an inkwell in it. But we're not living in anyone's past. A \$50 computer that's lighter than a dictionary should be in the bookbag of every kid in the country. Period.

Now, what are we going to do about it? □

DR. THORNBURG'S PERSPECTIVES ON OTHER EDUCATION-RELATED TOPICS APPEAR IN THE AUDIO-CASSETTE NEWSLETTER *SOUND EDUCATION*. IN ADDITION, PRINCIPALS OF SCHOOLS WITH STUDENTS IN GRADES K THROUGH 6 ARE INVITED TO WRITE TO HIM REGARDING A SCHOOL DONATION PROGRAM HE HAS ESTABLISHED WITH ROYALTIES FROM THE AUDIO TAPE *SUNSHINE THOUGHTS*, PRODUCED BY THE THORNBURG CENTER FOR PROFESSIONAL DEVELOPMENT, P.O. BOX 1317, LOS ALTOS, CA 94023-1317. ENCLOSE AN SASE IF YOU'D LIKE A PERSONAL REPLY.

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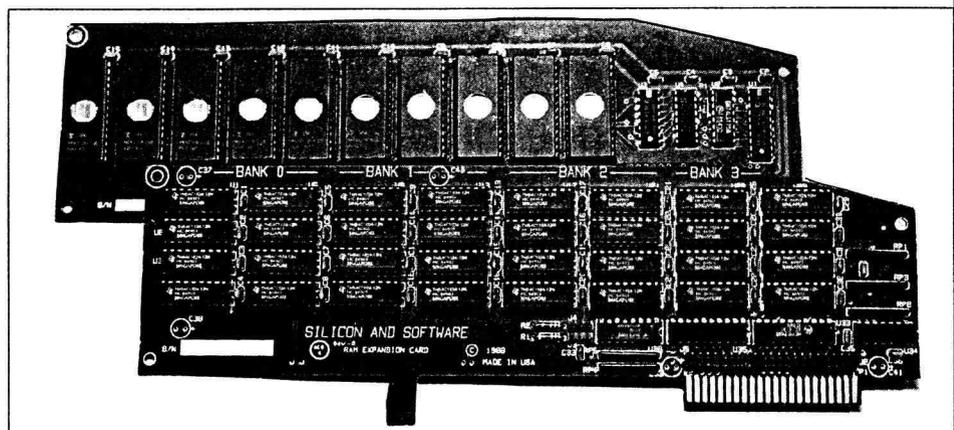
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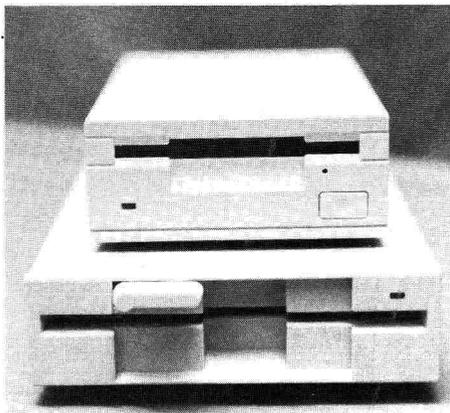
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For your copy, send a self-addressed, stamped envelope to Proofer, c/o *inCider*, 80 Elm Street, Peterborough, NH 03458.

TIMEOUT TEXT DISPLAY

By Gordon Macfarlane

IF YOU USE TIMEOUT ULTRA-Macros (Beagle Bros, 6215 Ferris Square, Suite 100, San Diego, CA 92121, 619-452-5500, \$59.95) with AppleWorks 3.0, you've probably manufactured

several homemade macros from time to time. Although some folks keep track of these typing shortcuts by either dumping them to paper or using *Display Current Macro* in the *Macro Compiler* section of the program, the technique outlined here gives you access to that information almost instantly.

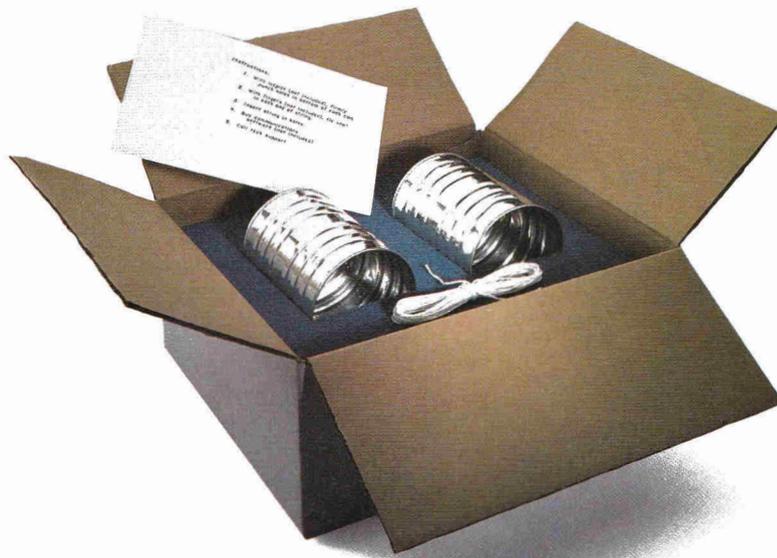
Here's what you have to do: Make an ASCII text file containing all data you want to display. Your best bet is to start with an AppleWorks database. Create a database file called DISPLAY.TEXT with only one category per record; each record will contain one macro. The screen can display only 54 files at a time: Column 1 contains the first 18 entries, column 2 contains entries 19 through to 37, and column 3 holds entries 38 to 54. Note that the third column's entries must be less than 19 characters wide or they'll wrap around the screen into column 1. If you want to separate pieces of data on screen, use a blank entry.

Now type the macro keys and a short description of what they do. To display the open and closed apples in your list of macros, use the tilde (~) and "at" (@) keys — they convert to apples when displayed

Program listing. TimeOut UltraMacros reminder file.

```
50 D$ = CHR$(4) [759]
100 PRINT D$"PR#3": PRINT [1881]
110 HTAB 20: PRINT "CONSTRUCT A TIMEOUT APPLICATION":
    HTAB 20: PRINT "=====":
    POKE 34,3: HOME [9105]
130 DIM N$(100) [791]
140 PRINT : PRINT : PRINT : INPUT
    "Enter name of text file-> ";A$ [7097]
150 IF A$ = "" THEN END [1157]
160 ONERR GOTO 190 [814]
170 PRINT D$"VERIFY"A$ [882]
180 GOTO 200 [330]
190 PRINT : PRINT "SORRY NO FILE": END [4172]
200 ONERR GOTO 260 [1187]
210 PRINT D$"OPEN"A$ [978]
220 PRINT D$"READ"A$ [953]
230 A = A + 1: INPUT N$(A) [1735]
250 GOTO 230 [606]
260 PRINT D$"CLOSE"A$ [2526]
270 POKE 216,0 [975]
280 A = A - 1:G = 4:F = 1: IF A > 54 THEN A = 54 [2562]
300 HOME : FOR Z = 1 TO A: VTAB G: HTAB F: PRINT N$(Z):G
    = G + 1: IF G > 21 THEN G = 4:F = F + 30 [6284]
```

```
310 NEXT [236]
320 VTAB 23: INPUT "Enter name for TIMEOUT file
    for this data? TO.":BG$ [5139]
330 IF BG$ = "" THEN END [1288]
340 IF LEN (BG$) > 12 THEN 320 [1446]
350 HOME : VTAB 6: PRINT "Place your TIMEOUT
    Application disk in one of your drives.": PRINT : PRINT
    "Enter name of disk and directory if applicable." [22349]
360 VTAB 15: PRINT "Default name ->
    /APPLEWORKS/TO/" [2778]
370 PRINT "Press Q return to quit." [5764]
380 VTAB 10: INPUT "Press ? for catalog. -> /";J$ [2826]
390 IF J$ = "?" THEN 760 [1382]
400 IF J$ = "Q" THEN END [1321]
410 IF J$ = "" THEN J$ = "APPLEWORKS/TO" [4065]
420 ONERR GOTO 450 [819]
430 PRINT D$"VERIFY"/J$ [986]
440 POKE 216,0: GOTO 460 [1024]
450 POKE 216,0: VTAB 22: HTAB 10: PRINT "SORRY,
    CAN'T FIND THAT DISK.": GET R$: GOTO 350 [9318]
460 ONERR GOTO 490 [1211]
470 PRINT D$"VERIFY"/J$/TO."BG$ [1819]
480 POKE 216,0: VTAB 22: HTAB 10: PRINT "SORRY,
    THERE IS ALREADY IS A FILE BY THAT NAME.": GET R$:
    PRINT : GOTO 320 [13035]
490 POKE 216,0 [795]
```



Not all modems are created equal.

The right modem can change the way you use your computer. Modems allow you to step outside the limitations of your own hardware and software. But the degree to which you are benefitted by your modem is directly proportional to the quality of modem you select.

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Hardware considerations:

While most people just plug the DataLink 2400 in and go, advanced users will find a host of sophisticated features like the ability to select firmware defaults of baud rate, data format, parity and control interrupts. Other modems require a set of obscure commands when running from firmware or don't allow you to disable interrupts.

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configurations. It saves you the hassle of setting up configurations every time. We also included the ability to save phone numbers in non-volatile ROM, so you don't have to hunt for often-called numbers.

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*OnLine 64 and DataLink have most, but not all the features of DataTerm and DataLink 2400 respectively.

Listing continued.

```

500 HOME : VTAB 7: PRINT "WORKING"; SPC( A + 1)".<-":
      VTAB 7: HTAB 9 [4025]
510 GOSUB 730 [652]
520 POKE 8460, LEN (BG$) [1534]
530 FOR Z = 1 TO LEN (BG$): POKE 8460 + Z, ASC
      ( MID$ (BG$,Z,1)): NEXT [3481]
540 BG$ = "TO." + BG$ [1661]
550 B = 8568:D = 8574:X = 3:Y = 0 [2419]
560 POKE B,32: POKE B + 1,0: POKE B + 2,17 [3736]
570 B = B + 3 [655]
580 FOR Z = 1 TO A: POKE B,32: POKE B + 1,111: POKE B
      + 2,17: POKE B + 3,0: POKE B + 4,0: POKE B + 5,0:
      POKE B + 6,0:B = B + 7: NEXT [5461]
590 POKE B,32: POKE B + 1,81: POKE B + 2,17:
      POKE B + 3,96 [4084]
600 C = B + 4 [641]
610 FOR Z = 1 TO A: PRINT ".": [1821]
620 POKE D,Y: POKE D + 1,X: POKE D + 2,C - INT (C / 256)
      * 256: POKE D + 3, INT (C / 256) [6973]
630 LE = LEN (N$(Z)): IF LE = 0 THEN LE = 1:N$(Z)
      = " " [3656]
640 POKE C,LE: FOR ZZ = 1 TO LE:C = C + 1 [2888]
650 E = ASC ( MID$ (N$(Z),ZZ,1)): IF E = 64
      THEN E = 128 [2701]
660 IF E = 126 THEN E = 129 [2011]
670 POKE C,E: NEXT [592]
680 C = C + 1:D = D + 7:X = X + 1: IF X > 20
      THEN X = 3:Y = Y + 30 [5068]
690 NEXT [234]
700 POKE 8564,C - INT (C / 256) * 256: POKE 8565, INT
      (C / 256) [4487]
710 PRINT D$"BSAVE"/"J$"/"BG$",a$2100,"E"C [2446]
720 END [292]
730 FOR Z = 8448 TO 8475: READ ZZ: POKE Z,ZZ: NEXT [3058]
735 FOR Z = 8476 TO 8544: POKE Z,0: NEXT [2863]
736 FOR Z = 8545 TO 8567: READ ZZ: POKE Z,ZZ: NEXT :
      RETURN [3326]
740 DATA 76,120,33,11,2,225,38,68,16,0,0,0,4,77,73,78,69,68,97,
      116,101,32,38,32,66,101,108,108,14,10,0,0,0,0,0,0,0,0,0,0,
      1,0,0,0,0,52,2,0,0 [13319]
760 PRINT : PRINT "Enter slot #";: GET S$:
      PRINT S$:S = VAL (S$): IF S = 0 THEN 350 [6805]
770 PRINT "Enter drive #";: GET SS$: PRINT SS$:
      PRINT :SS = VAL (SS$): IF SS = 0 THEN 350 [6559]
780 ONERR GOTO 810 [307]
790 PRINT D$"CATALOG,S"S",D"SS: PRINT "Press a key";:
      GET R$ [6017]
810 POKE 216,0: GOTO 350 [1279]

```

on screen. Save this file as a text file called DISPLAY.TEXT by printing it to disk.

Now run the accompanying BASIC Program listing and enter the name of the text file when the program prompts you. The program then asks you where you keep your TimeOut applications, then creates a TimeOut file called TO.DISPLAY.TEXT automatically.

Now run AppleWorks and you should see TO.DISPLAY.TEXT on your TimeOut menu. This program is designed to display text with the AppleWorks word processor, but it can display text with the database and spreadsheet, as well. If you experiment with all three modules, however, you'll discover that your macros look best on the word-processor screen.

You can even use the program to display much more than UltraMacros information — type a quick note to yourself, copy your favorite poem, or jot down an important business date. Whatever you include, make sure it's an ASCII text file. □

Write to Gordon Macfarlane at 16 Namao Drive, Trenton, Ontario, Canada K8V-1C2.

QUICKIES

Modify the UniDisk 3.5 (mid-1988 or later model) to work like a standard Apple 3.5 drive. First check inside your UniDisk to make sure the mechanism is a Sony model #F51W-xx or -xxx. If so, connect your cables as described in the June 1990 Apple Clinic ("Operating on the UniDisk," p. 22). Unplug the interface cable from the lower circuit board and the jumper cable from its socket on the upper board, then reconnect the interface cable into the upper circuit board and let the jumper cable dangle.

— Ronert Smith
Arminius Publications

Here's a Paintworks Gold modification in Applesoft BASIC that can speed up a slow mouse when the program is adapted to launch under GS/OS version 5.0.2:

BLOAD pathname,A\$300,Bn,L1

Provide the full pathname for the Paintworks Gold program and for n substitute the number 51698 or 51717 for version 1.0 or 1.5, respectively. Then POKE 768,1 followed by this: BSAVE pathname,A\$300,Bn,L1

Use the same pathname and n as described above.

— Richard March
Chagrin Falls, OH

AppleWorks 3.0 has lots of new whistles, but the same old error bell. You can change it with the following modification: BLOAD APLWORKS.SYSTEM,A\$2000,TSYS

POKE 9926, P

POKE 9928, D

P and D are new pitch and duration values, respectively, between 1 and 255. To make the change permanent, add this to the program on your backup disk:

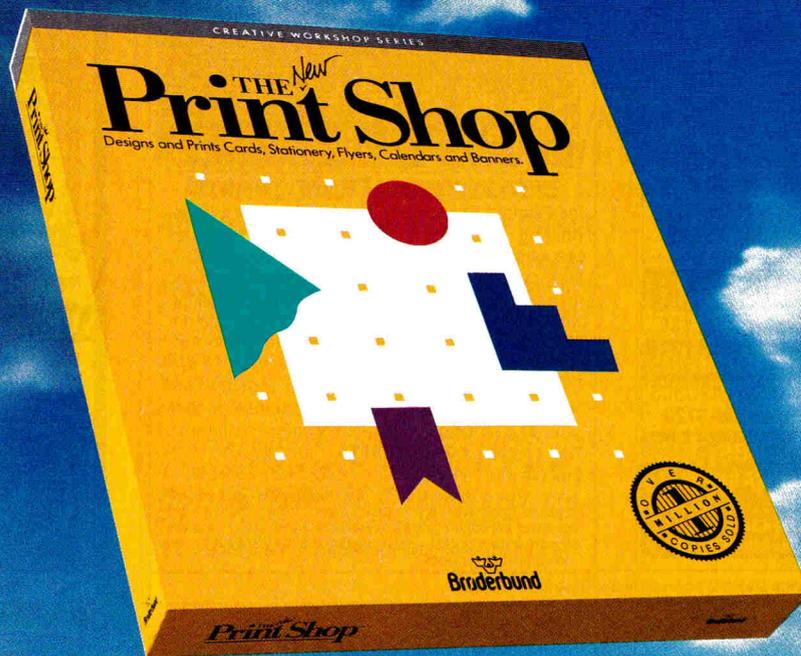
BSAVE APLWORKS.SYSTEM,A\$2000,TSYS

— Bill Knepper
Sandpoint, ID

ThunderScan's cable is pretty short. Extend it with a Tandy cable, part #26-257, available at your local Radio Shack outlet.

— Ralph Mooers
Belle Vernon, PA

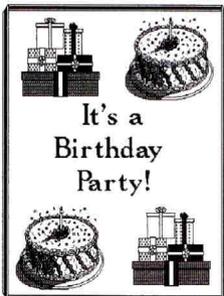
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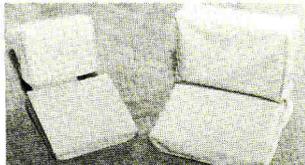
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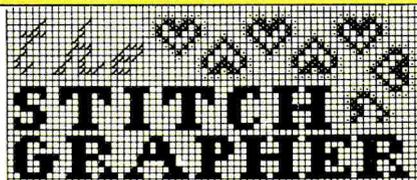
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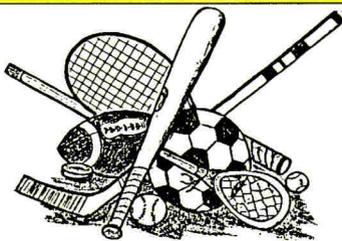


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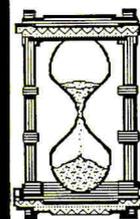
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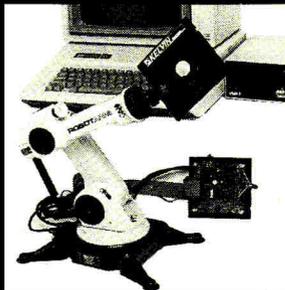
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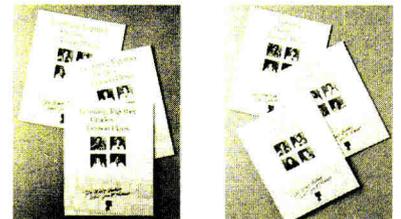
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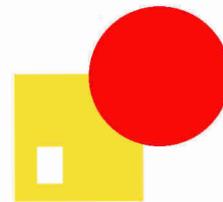
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In with the New: Broderbund's New



PRINT Shop



That ever-popular desktop-publishing program, The Print Shop, has gotten a facelift. Broderbund's **New Print Shop** boasts more features than its predecessor, with the same easy-to-use interface. Now this new-and-improved version should attract legions of converts and rekindle the interest of established fans.

We wrote about The New Print Shop in August 1989 (What's New, p. 17) after it was first announced, and a year later it's finally here. Was it worth the wait? See for yourself: It'll crank out beautiful greeting cards, invitations, announcements, stationery, letterheads, banners, certificates, signs, posters, and calendars in glorious living color.

The new program's roster of enhancements includes higher-resolution graphics, preview mode, combination graphics and fonts, and special effects such as flipping, resizing, and 3-D, with multiple page printing, better print quality, and multihued graphics.

Although you can't use the projects you created with the older edition of The Print Shop, you can run its pictures, borders, and fonts



Improving on a classic: adding color and a host of other major enhancements within the same easy-to-use interface.

through the new program's graphics converter — just once, then use those elements as you please.

"It's hard to believe that the folks at Broderbund could improve on something like The Print Shop. After all, why mess with success?" says Review Editor Lafe Low. "But they've certainly done a nice job. The New Print Shop is more flexible and feature-laden than any previous edition of the program, yet it's just as easy to use."

"With a program that has sold as well as The Print Shop, it makes sense for the Broderbund developers to want to enhance it," says Senior Editor Paul Statt. "They'll probably do well with the upgrades alone."

If you purchased your copy of The Print Shop after May 25, 1989, the upgrade is free. If your copy is older than that, the upgrade will cost you \$20. (See the phone number listed below for upgrade information.) If you

have The Print Shop GS, you don't need to worry about upgrading, as the GS version already contains the multi-colored graphics and text features of this new 8-bit edition.

Broderbund is publishing three graphics libraries to accompany The New Print Shop: a School and Business Edition, a Sampler Edition, and a Party Edition. Each package includes more than 100 pictures, borders, fonts, and full-panel graphics for use with The New Print Shop and sells for \$24.95. The New Print Shop isn't copy protected, so you can install it (along with any extra graphics collections you use) on your hard drive.

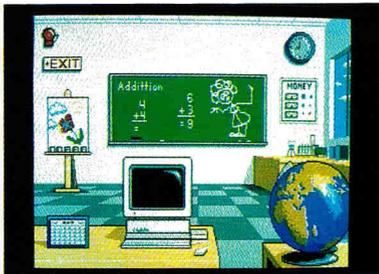
The New Print Shop is priced at \$49.95, from Broderbund Software, 17 Paul Drive, San Rafael, CA 94903-2101. For upgrade information, call the New Print Shop hotline at (800) 999-3256, or (800) 521-6263 if you're an educator interested in school editions or lab packs. □

Editors' Choice singles out one product each month that the inCider editors feel is a significant addition to the Apple II family of products. The products evaluated in Editors' Choice are among the most recent releases and may not be available yet for retail distribution.

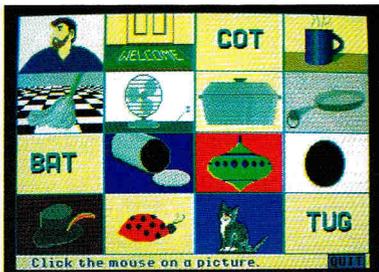
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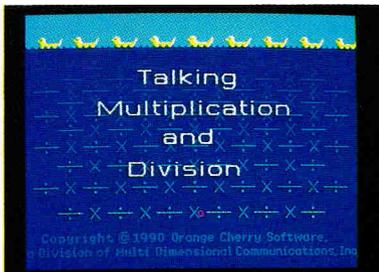
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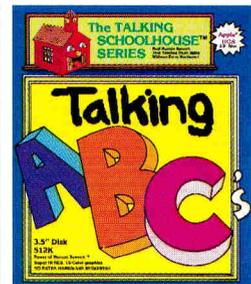
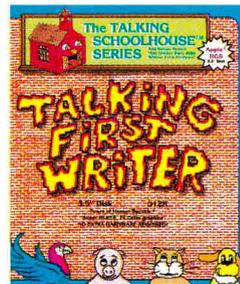
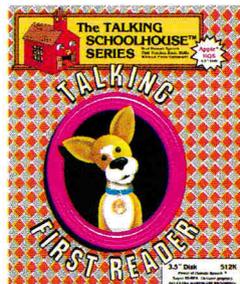
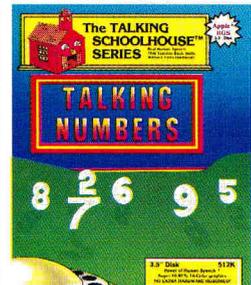
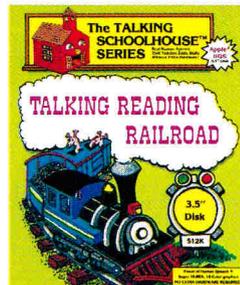
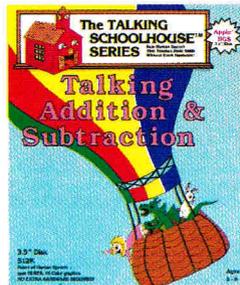
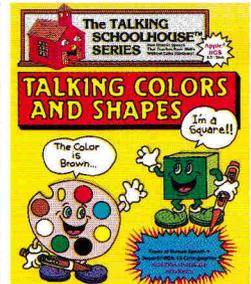
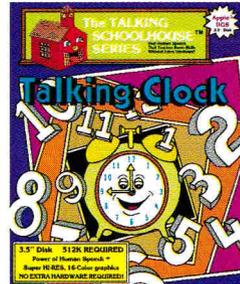
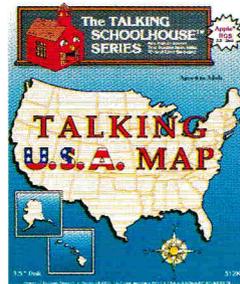
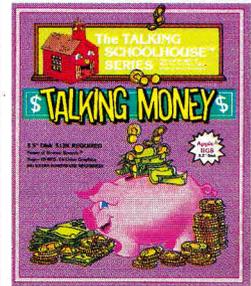
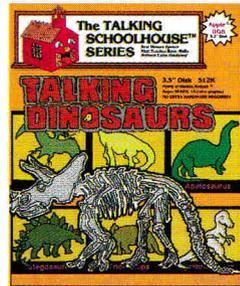
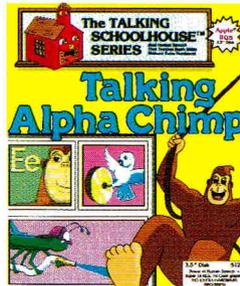
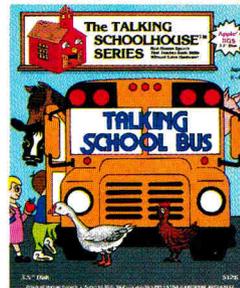
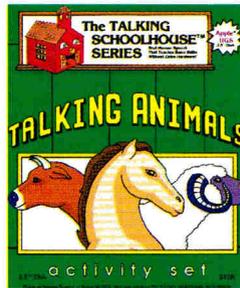
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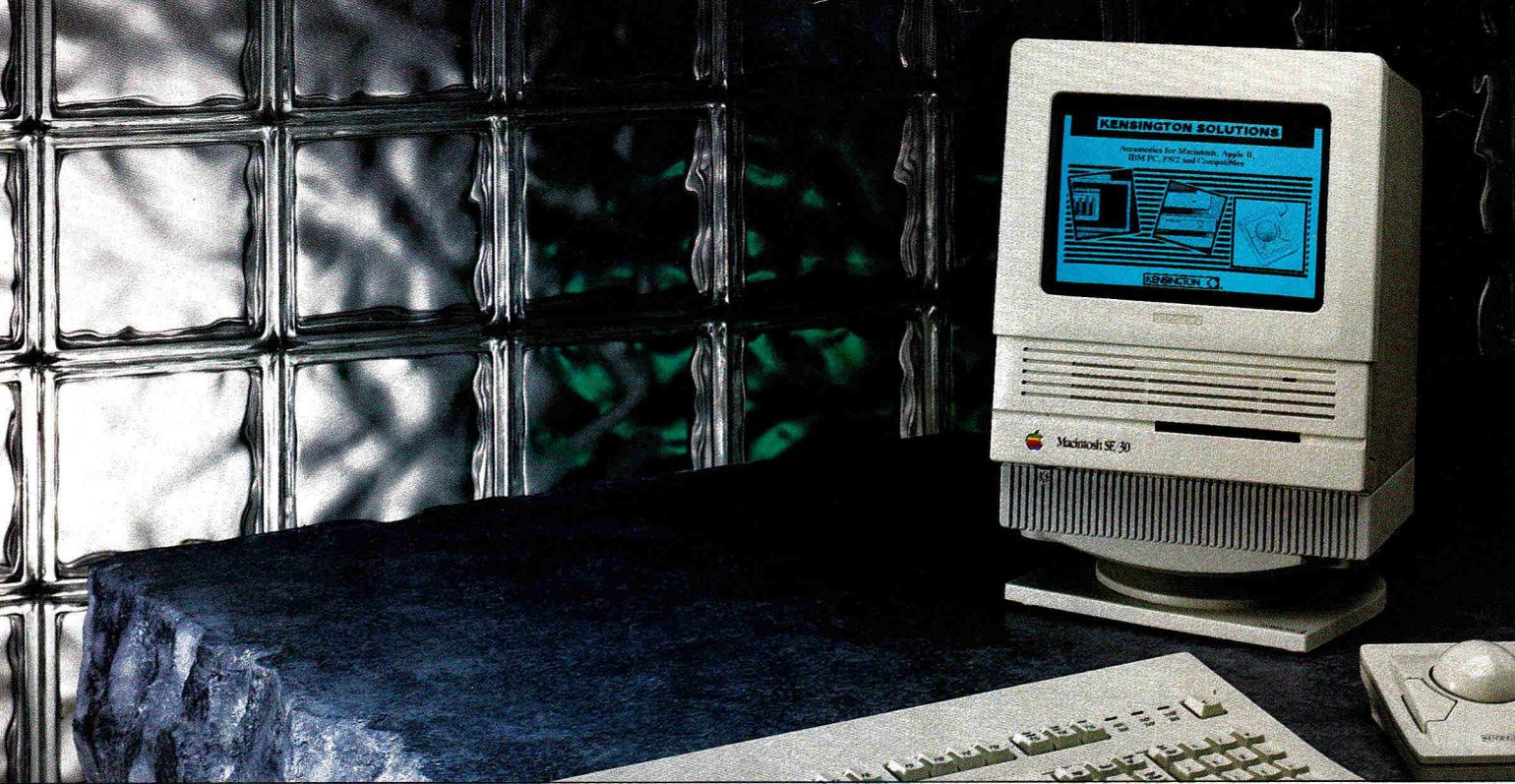
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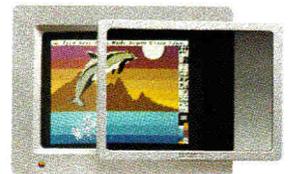
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