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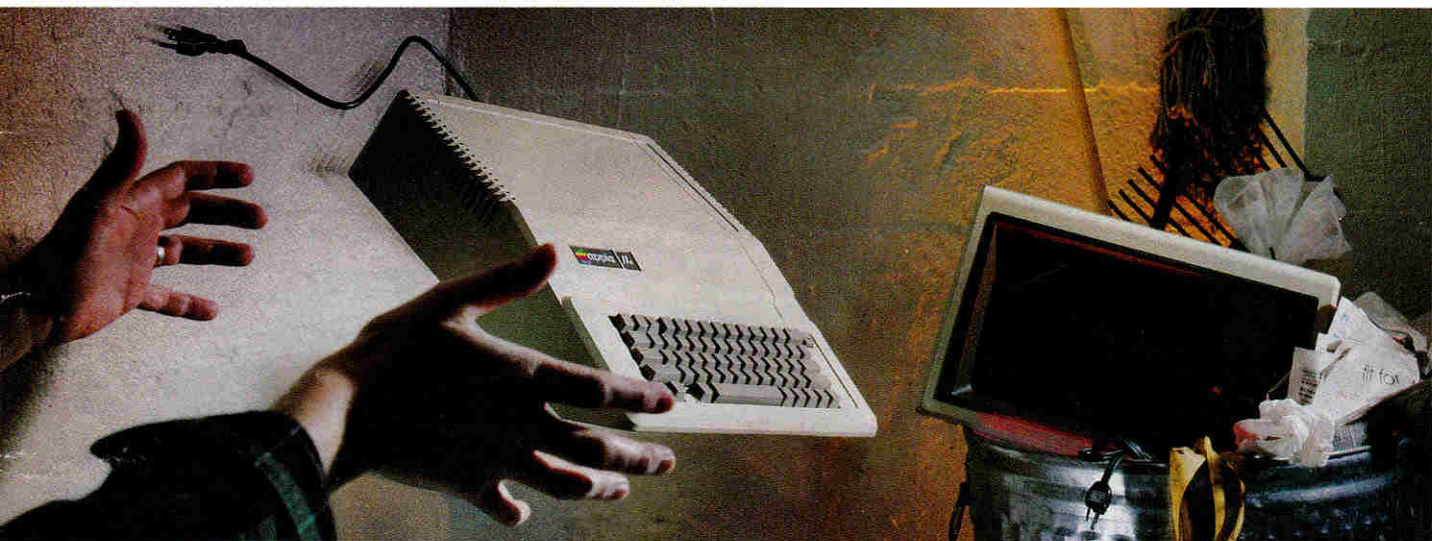
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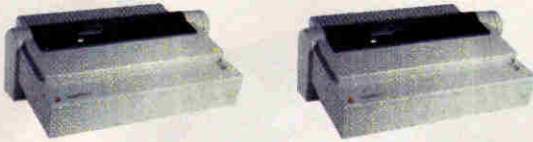
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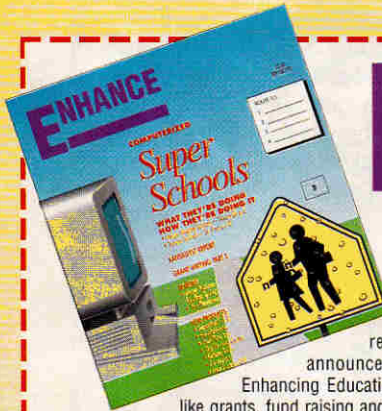
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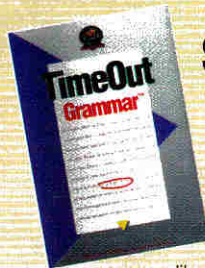
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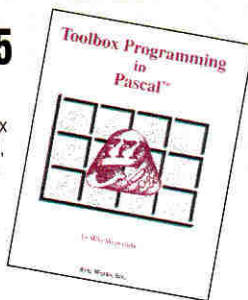
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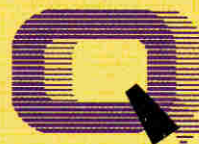


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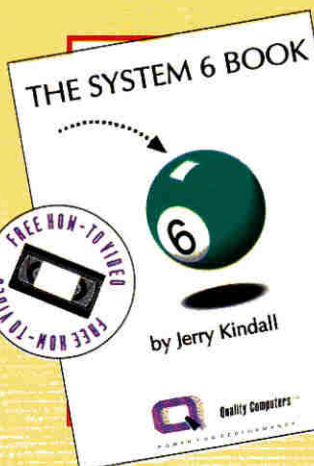
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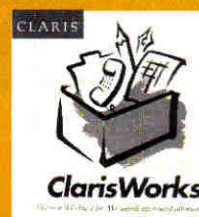
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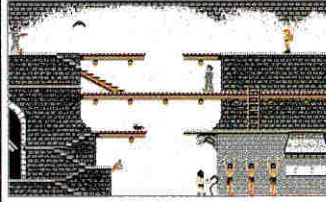
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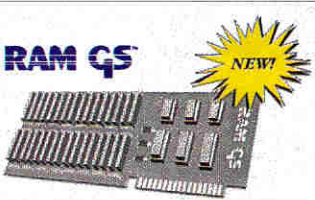
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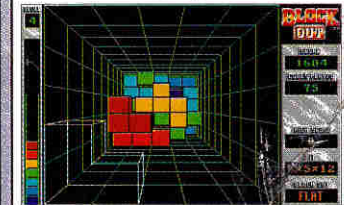
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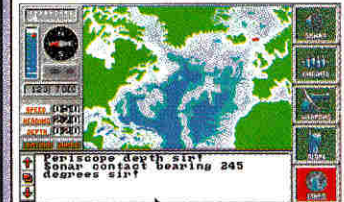
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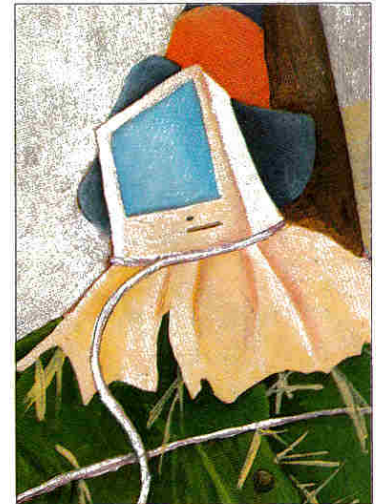
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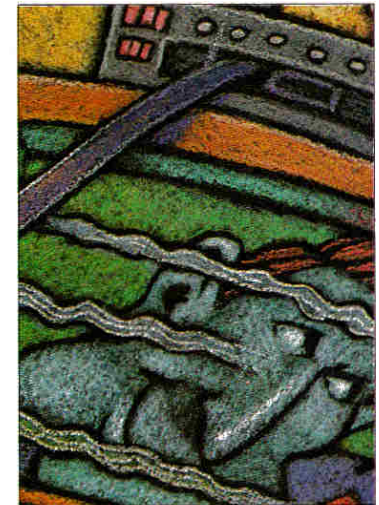
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## MOVING ON

**It's an editor's responsibility to recognize when it's time to change direction.**

**C**hange, they say, is the only constant in life. In the computer industry, though, change is not only constant, it's rapid. Hardware and software come and go at a staggering pace; today's blockbuster product may be merchandise at tomorrow's yard sale. Fortunately, editors and writers don't come and go quite as often. Still, among computer journalists, change is a constant. For me, and for *inCider/A+*, it's time for a change. After 60 issues of directing the course of the magazine, and another 16



By DAN MUSE ✪ EDITOR IN CHIEF

before that as its managing editor, it's time for me to move on. A total of 76 issues — about six and a half years — doesn't represent a significant chunk of time if you're talking about *The New Yorker* or *Time*, but in the computer world things are a little different.

Thumbing through the last several years of *inCider/A+* made me realize just how much this magazine has evolved to meet your needs. Even going way back to the beginning, the January 1983 issue, we see that *inCider/A+* adapted when necessary. And the last 76 issues have seen an entire marketplace change. You can expect more

changes in the future — it's just a fact of life.

Unfortunately, sometimes magazines change in ways some readers don't like. For some, adding GS and, later, Mac coverage was a controversial move. Without adapting to the market, though, *inCider/A+* would have died an untimely death years ago. Remember that when *inCider/A+* was born almost ten years ago, the IIe hadn't even been announced yet — Apple II and II Plus users comprised the readership. Imagine if we'd simply ignored the IIe and IIc.

Together we've seen the GS go from rumor to hot new product to neglected

sibling of a more-promising brother. We've seen products such as AppleWorks continue to improve and we've seen Macs and IIs learn to communicate better. We've seen the II community split: a bitter group on one side; a more pragmatic group contemplating their computing future on the other.

With products and technology evolving constantly, it's an editor's responsibility to recognize when it's time to change direction. As Spock once said to Kirk, "The needs of the many outweigh the needs of the few." The changes *inCider/A+* has seen have been implemented for the good of the many.

And through it all I've seen a group of dedicated staff editors, contributing editors, and free-lance writers focus on producing the best magazine possible. It's difficult for some to understand that a magazine is more than the sum of its parts. It's a life that's born out of the creativity of many writers, editors, and designers.

Editors are a funny breed — a fact not lost on most publishers. To us, magazines are living entities, not businesses that can be measured simply by comparing revenues versus expenses. While profitability is necessary to continue, many good magazines lose money and plenty of bad magazines make money. *inCider/A+* is fortunate to have maintained profitability for several years, but this magazine is more than a business.

As for me, I face my own changes with mixed emotions. I'll miss writing this column — probably more than you'll miss reading it. But what I'll miss most is the joy of watching Eileen take a writer's well-intentioned, but lacking, manuscript and craft it into an award-winning article; seeing Cameron tackle a topic and produce a sparkling cover story; listening to Paul woo a crowd at a conference with his passion for technology; observing Jan tracking down the details of obscure products; and watching John and Dianne take my ramblings about a subject and translate them into eye-grabbing covers and interiors.

I'll miss the jokes, the journalistic skepticism, the pride, the professionalism, and the friendship. I'll miss a job that really hasn't felt like work at all. And I wonder if I'll ever feel that way again. □



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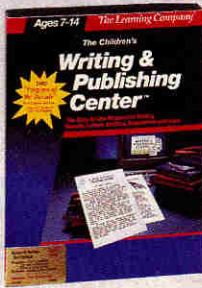
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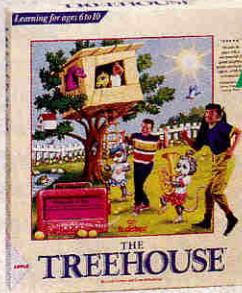
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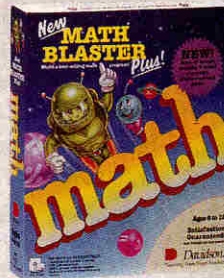
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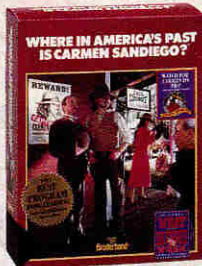
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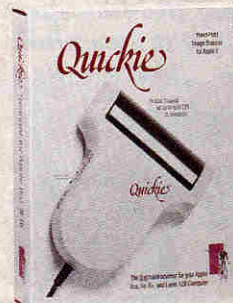
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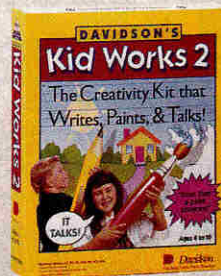
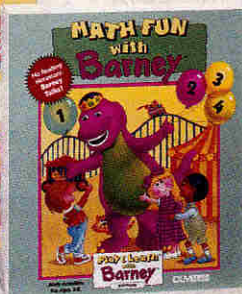
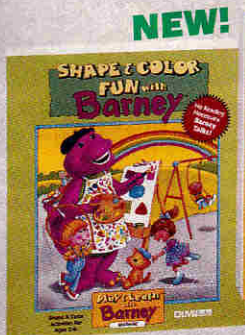
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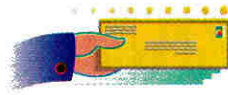
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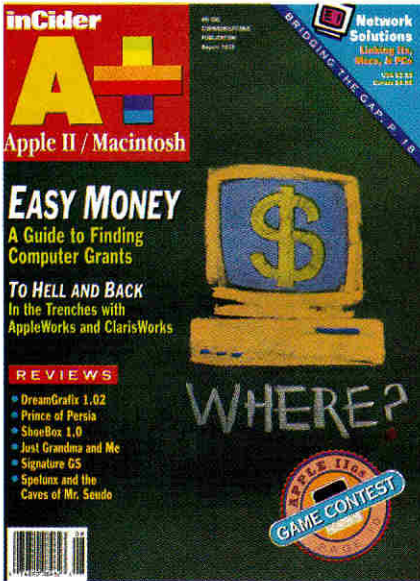
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# LETTERS



## FOUNDATION UPDATE

WE WERE DELIGHTED TO SEE the resources of The Foundation Center described so thoroughly in Cynthia Field's article "Fund Seeking" in the August 1992 issue of *inCider/A+* (p. 28). Most of the article is accurate and well researched. There are a few minor corrections/omissions, however, that I'd like to point out.

We offer no *Free Funding Information Centers* directory as mentioned in the article. Ms. Field is referring, I believe, to the address list of cooperating collections in our library network, which is available free of charge by phoning the 800 number she provides.

The *Comsearch* series no longer exists, having been replaced by a new series called *Grant Guides*, which are lists by subject of thousands of recently awarded grants of \$10,000 or more. Your readers might be particularly interested in the publications *Grants for Elementary & Secondary Education* and *Grants for Science and Technology Programs*, which are part of this series. The Foundation Center also

publishes the *National Guide to Funding for Elementary and Secondary Education*, which includes 1400 sources of funding in this field and more than 3800 grant descriptions.

Finally, custom computer searching of DIALOG Information Services is currently performed for grantmakers and associates of The Foundation Center by Associates Program staff and the manager of DIALOG/grantmaker services in New York, not by *Comsearch* support staff.

These are all minor items, which I point out just to set the record straight. We look forward to assisting some of your readers with information requests about potential sources of funding.

**Judith B. Margolin**  
Director of Communications  
The Foundation Center  
79 Fifth Avenue/16th Street  
New York, NY 10003-3050

## SYSTEM 6 TIME BOMB

IN RECENT ISSUES, BOTH *INCIDER/A+* and *A2-Central* printed subscriber letters that state that the HFS FST works fine under System Software 5.0.4. This is dangerously incorrect. While Apple tries to keep the internals of GS/OS stable from release to release to minimize the opportunity for errors, GS/OS has always required substantial internal changes when new read/write file systems are added. This was true in System Software 5.0 for AppleShare, and is also true in version 6.0 for HFS.

The HFS FST may appear to work under normal circumstances, but older versions of GS/OS don't meet the demands of the new FST. The FST will almost certainly crash if you try to initialize any disks.

Components from different system software versions don't mix and match, with the exception of GS/OS drivers — they have a stable, documented interface and will work fine with any version of GS/OS

later than the one for which they were designed, although some manufacturers may require the new features of more-recent drivers. Mixing system-software versions in general is potentially dangerous. Using the HFS FST under 5.0.4 will eventually crash your GS and may trash your disks in the process.

**Matt Deatherage**  
Apple Computer, Inc.  
20400 Stevens Creek Blvd.  
Cupertino, CA 95014

## SENDING UP BALLOONS

I'M WRITING TO THANK YOU FOR the flattering profile article about Balloons Software in the September 1992 issue ("Worthy Software," What's New, p. 10). In just a few words you captured the motivating spirit of our company.

I happened to notice that our company's phone number and address were inadvertently omitted, however. We can be reached at the address and phone number listed in this letter.

Out-of-state customers might want to take advantage of our Saturday morning hours, 9 a.m. to noon (Eastern time), to reach us by phone (202-244-2223). You can also reach us on GEnie at *p.shapiro1* or America Online at *pshapiro*.

I might also mention that our company offers an attractive site license for our new Big Text Machine software toolkit. Until February 28, 1993, schools can license this software for \$65 per school site, regardless of the number of Apple II systems (or compatibles) on site.

Thanks again for shining a spotlight on our company's new educational software. Such attention is a sweet reward for the many long hours we put into our work.

**Phil Shapiro**  
Balloons Software  
5201 Chevy Chase Parkway NW  
Washington, DC 20015



## PUSHING UP DAISIES

**R**ICHARD FITZHUGH'S LETTER in the July 1992 issue regarding the use of daisywheel printers ("Whatever Prints, We Fit," p. 8) misses an important point: Daisywheel printers aren't compatible with graphics-based word-processing programs, the *raison d'être* of Macintosh and Apple IIGs computers. You can't use software such as GeoWorks' GEOS and Beagle Bros' BeagleWrite (now marketed by Quality Computers) for the Apple IIe with a daisywheel printer, as these programs try to simulate the Macintosh climate.

When I first acquired my Apple IIe, I used Format II with a Silver-Reed EXP 550 printer. Even though I loved the word processor, using proportionately spaced fonts to add a more-professional look to manuscripts was difficult because of the differences between what I saw on screen and what actually printed. Switching to a graphics-based program and a dot-matrix printer let me closely approach letter quality, yet allowed me more flexibility with fonts. I can also dress up dry text with pictures, if need be.

**Dr. Stewart F. Gooderman**  
61A Joost Avenue  
San Francisco, CA 94131-3209

## THORN IN HIS SIDE

**W**HILE I CERTAINLY AGREE with the premise of the July 1992 Learning Curve column ("Small World," p. 64) — that we need to use technology more effectively in the classroom — I can't agree with the extent to which Dr. Thornburg seems to take it.

He cited the example of a teacher who was upset because a child alphabetized a spelling list with the sort feature of a word processor, rather than doing it by hand. Dr. Thornburg seems to agree with the child's parent that alphabetizing by hand is a thing of the past, now that computers can accomplish the same task. Are we to whip out our pocket computers every time we're asked to line up alphabetically? What if we're required to use a map? Or an index? Or a phone book?

Many "trends" are nothing more than fads. We need to make careful decisions as to when to use certain technologies and when to disallow them. Extremes in one

direction or another aren't in the best interests of our students.

**Robert C. Fischer**  
Route 2 Box 165  
St. George, SC 29477

## SYSTEM 6 HINT

**N**OW THAT SYSTEM 6.0 IS OUT (not GS/OS 6.0, as you call it), ROM 03 users can make additional room on their system disks by deleting Tool014, Tool015, Tool016, and Tool021.

**Jay M. Krell**  
145 East Lauer Lane  
Camp Hill, PA 17011-1313

*According to Apple, ROM 03 owners don't need the specified tools — the Window, Menu, Control, and Dialog Managers. Under System 6.0 (note the corrected nomenclature — *nostra culpa*), these tools run from ROM on ROM 03 machines. Apple is quick to emphasize, however, that this isn't a permanent answer. According to Matt Deatherage, "Tools that are in ROM can be replaced by RAM versions when it's more efficient than patching [the old tools]." Check the System release notes to see which tools*

*run from ROM and which run from RAM before you start pulling them off your system disks. Better yet, unless you're desperate for space, leave your system disk intact. — eds.*

## ROLL 'EM

**I**'VE JUST SEEN THE MOVIE *BATMAN Returns*. I noticed several Apple IIs on the desks at the Penguin's headquarters. How did they come to be on the set?

**Wayman A. Luy**  
575 Coconut Circle  
Ft. Lauderdale, FL 33326-3322

*Since all the Apples seem to be brand-new platinum IIs, it's safe to assume the set decorators bought them. Movie people don't end up spending tens of millions of dollars on films by getting equipment grants. — eds.*

## CORRECTION

The cost of Apple's HyperCard IIs version 1.1 is incorrect as quoted in the "Product Information" box on p. 48 of the September 1992 issue. The price is now \$69.

## YOU'RE OFF THE HOOK!

It's one of those days. The kids are restless and jittery. This topic isn't one of their favorites. You're harried and hassled. There are papers to grade.

"Now is the time," you decide, "to load the new Gamco software." Suddenly, the room is quiet; the kids are concentrating. After 10 correct answers, they get to play the arcade-style reward game. When they're done, you get a performance report.

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## SIGNS OF THE TIMES

### SOFTWARE ON SITE

**I**ntellimation (Santa Barbara, CA), the largest source of HyperCard and other Mac educational software developed by teachers for teachers, now offers site licenses to schools for its entire line of more than 400 exciting programs for grades K-12.

"Educators will no longer have to count the number of students or computers in their schools," explains Ron Boehm, company president. "With the new pricing policy, educators using Intellimation's **Library for Macintosh** in the classroom will need to pay only one affordable price" — one license for each program at one school. Highlights include the following:

**Grade 2.0**, a full-featured, flexible grade-keeping program: regular price \$39, site license \$159

**MacFrog**, a simulated dissection that displays information about each organ as it's removed: regular price \$55, site license \$249

**Pip**, a fun game for beginning readers that builds skills and confidence: regular price \$35, site license \$129

**Bodymapper**, an interactive look inside ourselves — body parts, systems, and functions: regular price \$65, site license \$299

**SureNameGame 2.0**, a high-energy game that gives players clues to deriving pairs of homophones: regular price \$29, site license \$99

**Educator Homecard**, HyperCard stacks that handle everything from daily and yearly planning to seating charts, gradebooks, and clip art: regular price \$29, site license \$59

For more information, or to receive the fall catalogue, contact 130 Cremona Boulevard, P.O. Box 1922, Santa Barbara, CA 93116-1922, (800) 346-1992, (805) 968-2291, or circle 350 on the Reader Service card. — P.S.

**Y**ou might call Lyn Colello a generalist — she's been a teacher and a journalist, and has degrees in language arts, English, and history from Kansas University. Now she's a software developer, too. Colello's broad skills in writing, teaching, and communicating are all plain in **Sign It**, her animated talking Signed English program for the Apple IIGS and HyperStudio 3.01. "Multimedia is a natural for this," Colello notes, "combining printed words, animations, and spoken language." Screen shots can't convey how right she is. The stack works just as you'd hope: Click on a word, see the animated graphic of a girl signing it, and hear it spoken.

Lucky for Colello it was a labor of love: Sign It took more than 14 months to complete, probably because she paid proper attention to all the details. Everything in this HyperStudio stack that *should* respond when you click *does*. "I really enjoy working in this medium," she says.

Why sign language? "I'm an educator and a communicator," Colello explains. "It just bugged me that I wasn't able to communicate with everybody. The deaf are making a real effort to communicate with us — they learn lip reading and so on. Couldn't we make an effort in their direction? I wrote Sign It for my kids — they have a friend, a neighbor, who's deaf. Now when he mows the lawn, I can chew him out even if he can't hear me."

But the reasons for creating a computer program go beyond the obvious multimedia strengths of the GS: "The machine knows no course requirements. "My youngest, who wanted to be able to sign with our neighbor," Colello recalls, "wanted to take a sign-language class

at a local college. They said he was too young." The result was Sign It, created on a home computer.

"The Apple IIGS has been great," Colello says. She adds that she wishes she could create a Macintosh version of Sign It. "I just feel thwarted by the Mac. It seems so two-dimensional compared to the GS," she reports of her efforts to create Macintosh animations.

"I'd have to buy MacroMind Director to do all this with a Macintosh. I wish Roger Wagner Publishing would write HyperStudio for the Mac. I'd like to be able to do it for under \$9 million," she quips.

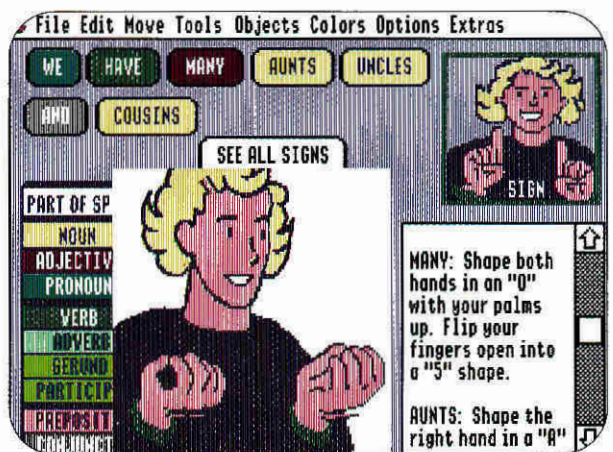
"I wrote Sign It to run on a GS with 1 megabyte and one 3.5-inch disk drive," Colello says, "because that's all I have."

That's all a great many Apple IIGS owners have. Lyn Colello proves that you shouldn't — and don't need to — rob a bank in order to communicate: "The ultimate educational success is when you create something you can share."

— P.S.

**S**uccess is creating something you can share."

*Sign It*, a set of six disks covering everyday activities, plus three testing disks and a game called *Find It*, is available for \$34.95 from Roger Wagner Publishing, 1050 Pioneer Way, El Cajon, CA 92020, (800) 421-6526.



Text, speech, and animation make Signed English available to all.



## NEW SOFTWARE

### WATCH YOUR GRAMMAR

**T**imeOut Grammar is the latest release in the TimeOut series of AppleWorks add-ons, and the first to come directly from Quality Computers. TimeOut Grammar is the only proofreading package that works within AppleWorks 3.0, eliminating the need to switch applications and load a stand-alone program.

Grammar is as easy to use as the other TimeOut products — you just call it up with a couple of simple keystrokes. It checks your writing against its list of phrases and flags embarrassing writing errors, such as noun and verb disagreement, sexist language, improper punctuation, and more. The program proposes corrections and lets you accept or ignore each suggestion, or mark the error for later revision. The software makes your changes immediately to the document in memory, so there's no need to reload the corrected file — it's polished and ready to print.

TimeOut Grammar sells for \$79.95, but is available for \$49.95 directly from Quality Computers, 20200 East Nine Mile Road, St. Clair Shores, MI 48080, (313) 774-7200. For more information circle number 351 on the Reader Service card.

### PRINT IT ALL

**N**ew from JEM, **OmniPrint** makes the ImageWriter II easy to control from within AppleWorks' word processor. It offers simple font downloading, and requires just a few keystrokes to turn mousetext on and off, change printing

colors, change the number of characters per inch — even within a single word if you want.

OmniPrint is designed to complement Beagle Bros' TimeOut SuperFonts (now available from Quality Computers). Use OmniPrint, for example, when you need only a word or a line in a fancy font, and don't want to give up printing speed as you do with SuperFonts. Or you may want to include just a handful of math symbols in an otherwise plain document.

OmniPrint, priced at \$40, is an AppleWorks INIT (startup file) available from JEM Software, which also publishes **InitCity**, a collection of other powerful AppleWorks utilities. For more information contact JEM at 7578 Lamar Court, Arvada, CO 80003, or circle number 352 on the Reader Service card.

### DO-IT-YOURSELF MULTIMEDIA

**C**reating multimedia on the Mac is now easy and fast for both teachers and students, thanks to **HowTo Multimedia**, a starter kit from Quality Computers. HowTo is designed to let everybody enjoy the benefits of multimedia without the headaches. It's perfect if you don't have the time to master HyperCard.

The heart of HowTo Multimedia is the authoring software **Q Card**. Q Card gives HyperCard a new easy-to-use interface, letting you create a stunning stack without scripting in a fraction of the time it would take to build one from scratch. Just choose a stack template, and a click of the mouse button brings in sound, graphics, video, and text. Q Card creates smooth professional stacks in minutes, not hours. But because it's

HyperCard based, you're also learning important HyperCard skills as you practice with Q Card.

The HowTo Multimedia package includes a number of templates — roughed-out stacks ready to fill in with text, sound, and pictures — and a library of clip art and clip sounds to use in your presentations.

A training video for students and teachers, an instruction manual, even lesson plans and a free HyperCard gradebook stack are all included in the \$99.95 price, from Quality Computers, 20200 East Nine Mile Road, St. Clair Shores, MI 48080, (313) 774-7200. For more information circle number 353 on the Reader Service card.



### SEASON'S GREETINGS

**T**wo of the worst holiday chores — finding the right cards and addressing the envelopes — are now easier with the **Custom Laser Greeting Card Kit** from PaperDirect and Avery. You'll soon be creating professional-looking, personalized, full-color holiday cards with your Mac and laser printer.

The kit includes card templates, Avery's MacLabelPro, clear laser labels, and 15 different laser-compatible holiday cards. With the templates, designed for use with Microsoft Word, you can easily

create a personal or business greeting for the inside of your cards. Then, using MacLabel-Pro, you can pull the names of recipients from your database file and print them on Avery's labels for a custom look.

The Custom Laser Greeting Card Kit is available from PaperDirect for \$65.95. If you already use Avery's MacLabel-Pro, you can buy the kit without the labeling software for

\$45.95. You can also buy the Custom Laser Greeting Cards separately — 15 colorful cards, plus envelopes and seals — for \$21.95; you can use them with any desktop-publishing program. For a

free catalogue, call or write PaperDirect, P.O. Box 618, 205 Chubb Avenue, Lyndhurst, NJ 07071-0618, (800) 272-7377, or circle number 354 on the Reader Service card.

### NO GROWNUPS ALLOWED

**P**arents and teachers looking for way to keep little ones out of forbidden files on their Macs now have another choice besides Apple's AtEase. Edmark's **KidDesk** protects hard-disk data from inquisitive fingers, and also provides children with a personalized computer





workspace of their own. By hiding the menu bar and requiring a secret "adult code" to exit, KidDesk gives youngsters the freedom to use the computer without help from Mom and Dad — even very young children, because using KidDesk's colorful graphics interface calls for no reading skill.

Each child in your home or classroom can choose a personal desktop — the Dinosaur, perhaps, or Hearts and Flowers, or the Executive Desk. This innovative design is ideal in situations in which kids share a single computer. The nameplate on each desk displays a name and a picture — even a scanned photograph — as well as a calculator, a talking clock calendar, and a "voice mail" machine for special messages from parents or teachers.

KidDesk requires a Mac Plus and System 6.0.7 or later, plus 1 megabyte of RAM for black-and-white, 2 megabytes for color, or 4 megabytes for System 7. It's priced at \$39.95. A free Parent's Guide to Educational Software is also available from Edmark, P.O. Box 3218, Redmond, WA 98073-3218, (206) 861-8200. For information, circle 355 on the Reader Service card.

## COOL CAT

**U**ltraCat is a comprehensive disk-catalog program for the Apple IIGS: Not only will it list all the files on all your disks, but it tells you what each file is in plain English, as well. No longer will you need a chart to interpret arcane file-type designations such as \$E1 or \$DB.

You can catalog Mac disks (if you're running System 6) as well as Apple Pascal and DOS 3.3 floppy disks, hard disks, CD-ROMs, and file servers, in addition to ProDOS and GS/OS. It's ideally suited for users of AppleShare file servers.

This handy utility will also summarize the contents of any volume, providing valuable information such as space used and space available, number of files, names of hidden files, lists of subdirectories, and even the amount of memory UltraCat itself uses. You can also load and display any file, and search for files by name, date, filetype, or contents. UltraCat sells for \$26.95, from former Apple Clinic columnist Cecil Fretwell, 2605 Highview Avenue, Waterloo, IA 50702, (319) 236-0691. Circle number 356 on the Reader Service card for more information.

## NO BUGS

### The Applesoft Debugging Environment

**T**he Applesoft Debugging Environment (ADE) is a full-featured development tool for Applesoft BASIC programmers. ADE lets you test programs by isolating errors easily in real time without disturbing the program's environment. It uses only 512 bytes of memory and is virtually invisible to other applications and utilities. You can enter ADE manually from any BASIC program or automatically from those you write. You can step through program statements one at a time, and keep constant track of variables, or modify them.

ADE requires an Apple IIGS and BASIC System. It's priced at \$49.95, from the Morgan Davis Group, 10079 Nuerto Lane, Rancho San Diego, CA 91977-7132, (619) 670-0563. For more information circle number 357 on the Reader Service card.

## DOUBLE YOUR FUN

**E**con's **AutoArc**, a completely transparent file-compression utility for the Apple IIGS, works in conjunction with System 6 to provide an automatic and seamless method of storing data files and applications in much less disk space. AutoArc promises an average reduction ratio of 50 percent: You can effectively double your disk capacity. Finder extensions ensure that compressed files are available to any "well-behaved" GS application.

AutoArc is compatible with Econ's Universe Master file-management system, as well. AutoArc is priced at \$59.95

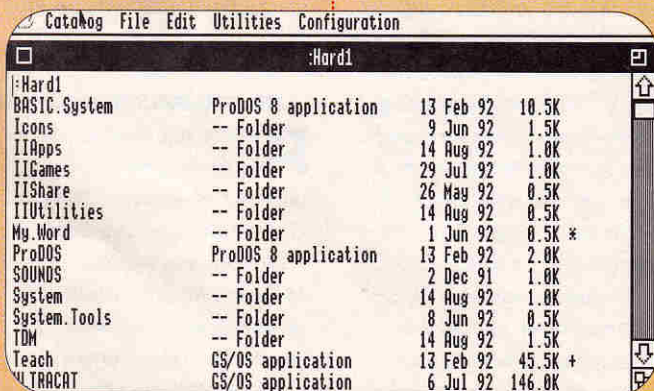


from Econ Technologies, P.O. Box 195356, Winter Springs, FL 32719, (407) 365-4209. For more information circle number 358 on the Reader Service card.

## HISTORY COMES ALIVE

**J**ust in time for the Columbus quincennial, a new series of interactive educational programs for the Mac makes its debut. K-12's **American Journals** series includes day-by-day accounts of Columbus' first voyage and summaries of the three later ones; the long trek that was the Lewis and Clark expedition; and both Mexican and Texan accounts of the battle at the Alamo. Source documents, animated maps, glossaries, calendars, footnotes, and pictures all interact to present these historical moments as fascinating fact, not fiction.

The American Journals offer a place from which students can start their own research. You can print each journal as a book, and import data and graphics into your own word-processed reports. Each journal includes a teacher's guide and a site license. For price information contact K-12 Micro-Media Publishing, 6 Arrow Road, Ramsey, NJ 07446, (201) 825-8888, or circle 359 on the Reader Service card.



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**SHAREWARE SOLUTIONS  
BY JOE KOHN**

## HIGH STAKES

**C**ard playing is wildly popular form of entertainment — probably because it challenges participants to think quickly and strategically. The heat of competition and the pressure to win are exhilarating — as well as exhausting, especially if you're gambling big. If you've got an enhanced Apple IIe, IIc, or IIgs, you can enjoy many of the most-common card games without leaving the comfort of your computer room, thanks to a variety of fun-to-play ProDOS-8-based freeware and shareware titles. You no longer have to go to Las Vegas to be a high roller — Las Vegas can come to you.

👉 **Acey Deucey.** Freeware. Played with a standard 52-card deck. Three cards are dealt, with two face up. Starting with a stake of \$1000, you'll be betting that the third card falls numerically somewhere between the other two. With a \$1000 maximum bet, you break the bank when you win \$10,000.

👉 **AppleWorks Video Poker.** Freeware, by Keith Johnson. You gotta see it to believe it — it's one of the most-innovative Apple II games ever. The graphics images may be somewhat primitive, but you play from within the word-processing module of AppleWorks 3.0, thanks to the machine's built-in mousetext display mode. The game's based on the most classic of all poker games — five-card draw. You start with a stake of \$50, and bet from \$1 to \$5 per hand. You're dealt five cards; you can discard up to five cards while trying to get the best hand. Payouts range from even money for a pair of jacks, all the way up to 250-to-1 odds for a royal flush. AppleWorks 3.0 and UltraMacros 3.1 required.

👉 **Auto Club.** Freeware. Based on the old French card game Mille Bourne. It's a text-based car-racing game played against the computer; each round ends when one driver goes 1000 miles. Starting with a deck of 100 cards, the game deals two different types: those that help you reach your goal and those that impede your opponent's progress. There are various mileage cards, and cards that let you change a flat tire, add gasoline, and make repairs. Conversely, some cards impose a speed limit on your opponent, some cause your opponent to have an accident, and still others stop your opponent in his or her tracks. Of course, the computer will also have access to cards that will hinder your progress. A combination strategy game, board game, and card game, Auto Club is a wonderfully entertaining diversion.

👉 **Bandit.** \$5 shareware, by Mark J. Wilder. A classic "one-armed bandit" slot-machine simulation with a twist. You start out broke, but can borrow up to \$1000 from the bank. You can bet from \$1 to \$25 per round; if you roll a winning combination, you're treated to a monetary payout. The twist is that you can actually lose more money than you bet if you roll a lemon.

👉 **Blackjack.** Freeware, by Darrel Raines. A colorful one- or two-player implementation of the most popular game in Las Vegas casinos. It's you against a computerized dealer. Start with a stake of \$1000 and bet up to \$500. The computer deals both you and the dealer two cards each, with both of yours face up, but only one of the dealer's up. Draw additional cards while trying to get your cards to add up to 21. Whoever gets closer to 21, without going over, wins. With sound effects and music, this version follows all the standard Las Vegas casino rules, and lets you double down and split pairs. It's a strategy game in the truest sense, as you try to out-smart your computer and amass some wealth.

👉 **Blackjack Strategy.** Freeware, by Robert Mattson. Teaches novices how to play the game. Blackjack seems like a simple game on the surface. But looks can be deceiving: This program coaches you in all the basic rules, and, more importantly, provides an accepted, standardized strategy for when to draw cards and when not to. With cards dealt randomly, of course, there's no sure bet — Lady Luck just wouldn't allow it.

👉 **Draw Poker.** Freeware, by Ken LaBou. A hi-res implementation of five-card draw, complete with animation and sound effects. Played under keyboard or joystick control, it's you against a computerized opponent. Start with \$1000; each round you and your opponent ante up \$20. Each subsequent bet is \$5. At the start of a poker session, you can decide whether you want your opponent to play conservatively or try to bluff. The system deals you five cards, and there's a bet before the draw. Playing according to Hoyle, you can draw up to five cards, while trying to put together the best hand. While going against a conservative opponent can help you learn the basics, playing against a bluffer is the real challenge.

👉 **Fizzbin.** Freeware, by Donald Brown. This one should be at least vaguely familiar to fans of the original *Star Trek* TV series. After all, it was invented by Captain Kirk himself as he tried to fast-talk his Klingon captors. The software deals six cards to every player, except the dealer and you, who get seven. There's one discard pile for every player; to play, you draw from the various piles. If you draw a king or a 2, you draw again, unless it's nighttime, when a 4 replaces the 2. You just keep drawing and discarding cards in an attempt to score a Royal Fizzbin — but of course that's different at night. If no one draws a Royal Fizzbin, players can win with a Full Fizzbin, a Three-Quarters Fizzbin, or a Half Fizzbin. Just make sure you don't draw a shonk, though — you lose automatically. Of course, that's different at night, too. Although Fizzbin began as a joke, it's really a lot of fun, and you don't even have to be a Trekkie to love it — unless it's nighttime, of course.

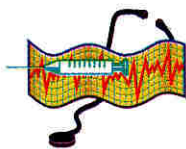
👉 **Solitaire.** Freeware, by Bob Ragsdale. This colorful variation of the One Foundation game will keep you coming back for more. Each round, the computer shuffles the deck and deals it face up into seven vertical columns of five cards each. It deals all subsequent cards one by one into an output pile at the bottom of the screen. The goal is to move all cards from the columns into the output pile. But only the bottom card of each column is playable, and you can move it to the output pile only if it's one number higher or lower than the top card in the output pile.

👉 **Uno.** Freeware, by John Thomas. It's you against your Apple II. The software deals each player seven cards, with one face up. Each player discards in turn, matching the top card's color or number. If you can't make a match, you draw a card. When you have only a single card left, you say, "Uno." If you fail to issue the warning, you draw two extra cards as a penalty; the winner is the first player to discard all his or her cards. You can choose to play against a "smart" computer or a "dumb" one. But beware — even a dumb Apple II can play a pretty mean game of cards.

Playing card games on your computer can be a great way to sharpen your math skills — or to just while away a cold winter night. Maybe they can't compete with a real trip to Las Vegas, but at least when you play at home, you'll get hours and hours of just plain fun with absolutely no chance of losing your hard-earned money.

FOR A DISK OF FUN-FILLED 8-BIT CARD GAMES FOR THE IIe, IIc, OR IIgs, SEND \$5 (U.S. FUNDS) TO JOE KOHN, 166 ALPINE ST., SAN RAFAEL, CA 94901. SPECIFY 3.5- OR 5.25-INCH DISK. COST COVERS SHIPPING AND MATERIALS ONLY; YOU'RE RESPONSIBLE FOR SHAREWARE FEES WHERE APPLICABLE.





## APPLE CLINIC

# TALK IT UP

**Breaking down the language barrier between humans and computers lets you speak directly to your system.**

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

### BYTE ON A WIRE

I HAVE A ROM 1 APPLE IIGS WITH System 6. Where can I get an ANSI-compatible communications program for an **Applied Engineering Datalink 2400** modem? Also, I'd like to find a GS-specific version of a Pascal compiler that can access the GS Toolbox.

**Marc Monfalcone**  
Wicomico, VA

*Your timing couldn't have been better, Marc. **ProTerm 3.0**, InSync's newly enhanced tele-*

*communications program for Apple II (and Laser 128) computers, arrived in our office shortly after your letter did. The latest version not only supports your 2400-baud AE modem, but offers ANSI (American National Standards Institute) emulation, as well. InSync's Jerry Cline says that with **ProTerm 3.0** you can call into a VAX (a Digital Equipment Corporation minicomputer) or other ANSI/BBS environment and capture fast, legible, full-screen text. (For a more complete description of **ProTerm 3.0**, see our enthusiastic review in the June 1992 issue, p. 26.)*

*Meanwhile, we've arranged for InSync to send you a working demonstration disk. Avail-*

*able in either 5.25- or 3.5-inch format, the demo is free and includes all the telecommunications emulations **ProTerm 3.0** supports. With the demo you can do a test run on your Apple II before you purchase the complete program. At press time, Cline told us his company is working on Macintosh and PC versions of **ProTerm** with the goal of offering "the same or similar features" on all three computing platforms.*

*As for your second question, Marc, the GS Toolbox makes it easy for you to create programs featuring Apple Human Interface niceties such as windows and pull-down menus. With **ORCA/Pascal**, a GS-specific compiler from The Byte Works, you can translate high-level Pascal language code into an object program. The resulting "machine language" talks directly to your GS' processor to make your programs run faster.*

*The Byte Works' Mike Westerfield says his company has prepared a supporting 450-page notebook-style self-study guide titled **Toolbox Programming in Pascal**. (Look for a review in this month's issue on p. 56.) Sample source*

## G R A P E V I N E

### TIDBITS

✓ As a closeout special, **Kensington System Saver GSe**s, which contain surge-protection circuitry and a cooling fan, are available for just \$15 each plus \$5 shipping (check or money order only, no credit cards). Add an additional \$5 for overseas delivery. Contact Ernest Cheslow, 855 Wood Avenue, Edison, NJ 08820, (908) 382-0543.

✓ In a message posted on GENIE's Apple II area, D. Proni of Econ Technology informs us that a demo version of a slick new GS desktop-based hard-disk-drive utility system is available. For a copy of the **Universe Master** demo disk, send \$2 (add \$2 if overseas) to Econ Technologies, P.O. Box 195356, Winter Springs, FL 32719, (407) 365-4209.

### MORE MILEAGE FROM YOUR MODEM

✓ America Online and CompuServe let subscribers send and receive electronic-mail messages via the worldwide **Internet** system. Each site connected to Internet also provides an information service to off-site callers that works just like telephone directory assistance. To get a CompuServe subscriber's on-line address, send an electronic-mail message to [postmaster@compuserve.com](mailto:postmaster@compuserve.com). Just provide first and last

name, city and state, and within 48 hours, you should find out your friend's address. If you're trying to send a message to America Online, though, you're on your own. AOL refuses to disclose the electronic addresses of its customers in this fashion.

✓ If you already have access to the Internet e-mail system, you can request a file containing a listing of all public-access **Internet** and **Usenet** sites in the United States. America Online and CompuServe offer only a gateway to the Internet e-mail system, and don't provide for easy access to Usenet's special-interest forums (newsfeeds) or software libraries available via FTP (file-transfer protocol). To get a complete listing of all U.S. sites, along with modem phone numbers, hours of operation, fee schedules, and modem speeds, just address e-mail to [archive-server@cs.widener.edu](mailto:archive-server@cs.widener.edu) and request **send nixpub long**.  
— Joe Kohn, Contributing Editor

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code is included on four disks accompanying the manual. ORCA/Pascal, the Toolbox programming course, and ORCA's *Learn to Program Course for Pascal* are available from The Byte Works. Westerfield says you can also purchase these items at a substantial discount from the mail-order vendor Quality Computers.

## BACK TO BASICS

I OWN AN APPLE IIGS COMPUTER with 1.25 megabytes of RAM. Ever since I purchased my GS I've programmed in Applesoft BASIC. I don't like Applesoft in some ways, though: It can be slow, and other users can break into your programs and modify them.

I know that using another language with a compiler would solve those problems, but I don't want to learn another language. Is there any way to compile an Applesoft BASIC program into machine language? **Beagle Compiler** is said to do this, but I've heard that the program doesn't support the Applesoft STORE command, which I use heavily in my programs.

**Luke Beschta**  
**Barre, MA**

We tripled our efforts on this one, Luke. Both Quality Computers' Tammy Lynn and Beagle Bros' Jeff Jungblut confirm that Beagle Compiler does support the Applesoft BASIC STORE command. In addition, Beagle Bros' Alan Bird adds that the 64K edition of *Compiler.System*, provided on the Beagle Compiler disk, is the version you need to use. Quality Computers, the company that has taken over support for Beagle Bros' Apple II products, sells Beagle Compiler. **Resource Central** offers the compiler and other Applesoft development tools, as well.

## READ ALL ABOUT IT

I HAVE AN APPLE IIC PLUS. ARE there any books available for my machine — or the entire Apple II line for that matter? I'm interested in programming.

**Jack Schillaci**  
**Muskegon, MI**

I'M A NEW APPLE IIE and IIGS user, and I want to know what the differences are among ROM versions 1, 2, and 3. Also, where can I find detailed hardware information for these two computers?

**Alan Harris**  
**Collinsville, OK**

Apple II technical-reference books are available from a variety of sources. In addition to **The Byte Works** (mentioned in a previous letter), **Roger Wagner Publishing** and **Resource Central** sell books about programming. **Resource Central** also offers books about using Apple II computers in education. Addison-Wesley publishes the **Apple Technical Library**, the definitive source for information about Apple II hardware, system software, and Applesoft BASIC. Available books include **BASIC Programming with ProDOS** — a great launching pad for IIC Plus programmers like you, Jack. Alan, you can beef up your Apple II technical library with copies of the **Apple IIE Technical Reference Manual** and **Apple IIGS Hardware Reference**. All companies mentioned here offer free catalogues.

As for your other question, Alan, Apple actually numbered the GS' ROM versions 0, 1, and 3. (Apple says it skipped "2" to avoid confusion . . . .) Among other things, GS ROM (read-only memory) contains the system monitor, Applesoft BASIC interpreter, the Control Panel program, 80-column display firmware, and high-level software tools such as the Memory Manager.

Apple's Technical Note #26 ("ROM Revision Summary") consists of six pages of fine print describing differences among these ROM versions. For one thing, Apple IIGS system software no longer supports ROM 0. If your GS has a serial number lower than E704x your local authorized dealer can upgrade it to ROM 1 upon request. (Call Apple toll-free for dealers near you.)

ROM 1 included enhanced support for hardware peripherals such as ADB (Apple desktop bus) devices and the AppleDisk 3.5 drive. A number of RAM patches, including battery RAM routines and QuickDraw II enhancements, were moved to read-only memory in ROM 1 GSes. A GS with ROM 1 requires System Software 2.0 or later.

Twice the size of ROM 1, ROM 3 incorporates dozens of additional changes, including several new tools. Most of the improvements are transparent to the casual user. Other differences — including the new Mouse menu in the Control Panel classic desk accessory (CDA), which gives you finer control of mouse tracking — are discernible. GSes with ROM 3 require System Software 5.0 or later.

## DRIVE DISTRACTIONS

I HAVE AN APPLE IIE WITH A DISK II drive and associated interface card. Recently I purchased an Apple **UniDisk**

3.5 and a Laser brand 5.25-inch drive. In your January 1987 issue you stated that the UDC card from Laser is compatible with the UniDisk 3.5. Several mail-order companies have told me that the UDC card won't work with an Apple UniDisk, but will drive the Laser unit; others have said just the opposite, and one just didn't know. I'd like to use all three of these drives on my computer, but I don't want to use three separate interface cards. What's the story?

**Philip A. Bauser**  
**North Little Rock, AR**

According to VTech Computers' technical-support staff, the UDC (Universal Disk Controller) card supports only daisy-chainable drives such as the UniDisk 3.5. The card supports neither your Laser 5.25-inch drive nor your old Disk II drive. If you want to use a single interface card such as the UDC, VTech (formerly Laser Computer) suggests you sell your Disk II and Laser drives and upgrade to a 5.25-inch drive you can tether to the UniDisk 3.5. An alternative would be to use your existing interface card with the two 5.25-inch drives you already own and purchase a second controller for the UniDisk 3.5.

## PICTURE PERFECT

MY GS IS CONNECTED TO AN ImageWriter II. I do some of my own programming and would appreciate knowing the BASIC command required to print program-generated graphics. In other words, what program lines do I need between PR#1 and PR#0?

**Clark E. Allardt**  
**Bermuda Dunes, CA**

As you know, Clark, the commands PR#1 and PR#0, respectively, activate and deactivate your printer. Among other things, these commands make it easy to print a graphics program listing written in BASIC. But it takes more than an extra line or two of program code to print a low- or high-resolution graphics image itself. In fact, Guy Forsythe, president of Kitchen Sink Software, the Apple II CAD (computer-aided design) software company, says he can't think of anyone who's ever written a printer driver in BASIC. "Your printer would be tied up for hours," he quips, referring to BASIC's snail-like pace.

Fortunately, there's no need to test the limits of your patience when you can do what commercial



developers like Forsythe do: invest in a copy of **Triple Dump**, Beagle Bros' ageless graphics-printing utility. It's available from Quality Computers, Kitchen Sink Software, and others. Triple Dump supports virtually every printer and printer interface and provides these files on the Triple Dump disk. According to Forsythe, all you have to do is relocate the appropriate DUMP HIRES printer driver to any legal place in memory, such as decimal 2048 to 8192 (or 16384 to 38400 if you're not using hi-res page 2).

By letting you invert, rotate, magnify, or crop your design, Triple Dump gives you control over the appearance of your graphics. Just incorporate into your BASIC program some POKE commands and the data values Triple Dump supplies. Finally, add a CALL statement to turn your printer on and off. According to Forsythe, Triple Dump comes with complete instructions.

With just a bit more effort, he says, you can integrate the actual printer driver into your BASIC program seamlessly. Copyright laws, however, prohibit you from supplying Triple Dump in any form on disks you distribute, unless you pay a licensing fee to Beagle Bros first.

For generating black-and-white printouts of your graphics, Triple Dump is probably the "fix" you're looking for, Clark. On the other

hand, if you'd like to print graphics in color on your ImageWriter II, try this approach suggested by Morgan Davis, president of **Morgan Davis Group**. We think this method would appeal to teachers in particular, because it's an easy way to print students' Applesoft hi-res graphics creations.

Save your Applesoft BASIC art as a binary file, open the file into a paint program, and print the image from within the paint program. One way to save a BASIC hi-res picture as a binary file is by typing the following command line (don't use a line number): BSAVE HGRI, A\$2000,L\$2000. When you press the Return key after typing the line, your computer will save the file to disk.

Besides simplicity and convenience, Davis' method offers another advantage. You can fine-tune your image with a paint program's graphics tools. On your GS, the graphics possibilities are virtually endless if you first convert your hi-res graphics file to super-hi-res format with **SuperConvert**, an inexpensive — and indispensable — graphics utility. Save the converted file in Apple Preferred format, or use a super-hi-res format your paint program supports. After you open the graphics file, you can use the paint program's palette and tools to perfect each painting before printing it with a four-color ribbon.

## KERMIT, PHONE HOME

PLEASE TELL ME WHERE I CAN get a copy of the version of **Kermit** mentioned in the July 1992 Apple Clinic ("Kermit? Is That You?" p. 16).

**John W. Johnstone**  
Oakhurst, NJ

Among other places, Kermit version 3.87 is available from **America Online**. Download time is about 22 minutes. At AOL's hourly rate of about \$5, the cost of downloading the appropriate Kermit application files and documentation is less than \$2 (not counting telephone charges, if applicable). You'll need Andy Nicholas' **ShrinkIt** or **GS ShrinkIt** to decompress the files, but Nicholas' freeware programs are also available on line. If you don't have a modem — or you prefer to order Kermit 3.87 by mail — **Public Domain Exchange** will send you a copy for \$7. □

APPLE CLINIC IS A FORUM FOR ANSWERING YOUR QUESTIONS ABOUT APPLE II AND MAC HARDWARE AND SOFTWARE. ADDRESS YOUR CORRESPONDENCE TO APPLE CLINIC, *inCIDER/A+*, 80 ELM STREET, PETERBOROUGH, NH 03458. BECAUSE OF THE VOLUME OF LETTERS, MOST WON'T APPEAR IN PRINT, BUT WE'LL TRY TO RESPOND IF YOU ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE.

## CLINIC REFERRALS

### America Online

8619 Westwood Center Drive  
Vienna, VA 22182  
(800) 827-6364

### Apple Computer, Inc.

20525 Mariani Ave.  
Cupertino, CA 95014  
(800) 776-2333  
(408) 974-1010

### Apple IIe Technical

**Reference Manual**, \$24.95  
**Apple IIgs Hardware Reference**, \$26.95  
**BASIC Programming with ProDOS**, \$29.95  
Addison-Wesley Publishing Co.  
Retail Sales Group  
Route 128  
Reading, MA 01867  
(800) 447-2226  
(617) 944-3700  
(617) 942-1117 fax  
school and library discount 25%

### Applied Engineering

P.O. Box 5100  
Carrollton, TX 75011  
(214) 241-6060

### Beagle Compiler

Quality Computers  
20200 East Nine Mile Road  
Box 665  
St. Clair Shores, MI  
48080-0665  
(800) 443-6697  
(313) 774-7200  
(313) 774-2698 fax  
\$49.95

### Kermit 3.87

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2076C Walsh Ave.  
Santa Clara, CA 95050  
(800) 331-8125  
(408) 496-0624 CA  
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Rancho San Diego, CA  
91977-7132  
(619) 670-0563  
(619) 670-9643 fax  
(619) 670-5379 BBS

### ORCA Learn to Program

**Course for Pascal**, \$50  
**ORCA/Pascal**, \$150  
requires 1MB GS  
**Toolbox Programming in Pascal**, \$75  
The Byte Works, Inc.  
4700 Irving Blvd. NW  
Suite 207  
Albuquerque, NM 87114  
(505) 898-8183

### ProTerm 3.0

\$129.95  
**ProTerm 3.0 Demo**, free  
InSync Software  
3035 East Topaz Circle  
Phoenix, AZ 85028-4423  
(602) 992-5515 sales  
(602) 992-1345 tech support  
(602) 992-0232 fax  
(602) 992-9789 BBS  
America Online: InSync JC  
AppleLink: InSync.SW  
CompuServe: 75300,735  
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### Resource Central

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Overland Park, KS 66207  
(913) 469-6502

### Roger Wagner Publishing

1050 Pioneer Way  
El Cajon, CA 92020  
(800) 421-6526  
(619) 442-0522  
(619) 442-0525 fax

### SuperConvert

Seven Hills Software  
2310 Oxford Road  
Tallahassee, FL 32304-3930  
(904) 575-0566  
(904) 576-9415 tech support  
\$39.95

### Universal Disk Controller

VTech Computers  
800 North Church St.  
Lake Zurich, IL 60047  
(708) 540-8911  
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### Triple Dump

Kitchen Sink Software  
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DataLink 2400 bps (int.).....	\$160
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**Glen Bredon**

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**PC Globe**

GeoQuiz GS, or Geo Puzzle Ile/GS.....	\$29.95
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**Timeworks**

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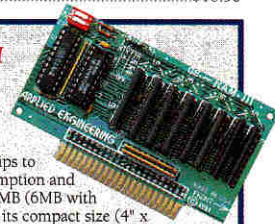
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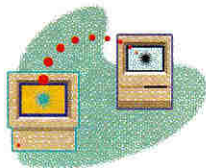
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# BRIDGING THE GAP

## TAMING THE BEAST

*inCider/A+* presents our **Top Ten** tips  
for surviving the connectivity wars.

By **GREGG KEIZER**

YOU DON'T HAVE TO BE A ROCKET scientist to bridge the gap between the Macintosh and the Apple II — anyone can do it. But experience plays a big part in making the trip from Apple II to Mac successfully, making the same trip back, and carrying all the data baggage along the way. Unfortunately, you can't just order up experience the way you call for a new piece of software.

The best shortcut to instant expertise is to use someone else as a guinea pig, then pump that person for information. How did it go? Did it work? What went wrong? What would you do differently? Was it worth all the trouble?

I'm your guinea pig. I'm the guy they throw to the connectivity wolves. I'm network bait — and I'm here to tell you the adventure's been worth it. Sure, I've been bitten a few times, but I've survived the connectivity beast. You can, too. All you have to do is grill me for the answers. And, hey, that's easy. I'll tell you everything I know for a song. After all, that's my job.

### 1. GET A MAC LC II

You can't build a bridge where there's no gap. Okay, so you know you need a Macintosh to do it, but you're not sure which Mac is the best for the job. Don't worry. It's not a tough decision.

At the moment, the best all-around Macintosh for anyone with bridging in mind is the **LC II**. This relatively inexpensive 68030-based machine is currently Apple's cheapest color Macintosh. Color's more

important than you think, even in productivity software, but it's absolutely necessary for a workable home computer.

But price and color aren't the real reasons why the LC II should be your pick. It's because the LC II (like its ancestor, the LC) is the only Mac that can run Apple II software.

Install the optional **Apple IIe Card** inside the LC II, and you can run 8-bit Apple II software (no 16-bit GS software, though) just as if the Mac had become a RAM-fat, fast IIe. You can also send hard-copy material to a printer connected to the Mac. A couple of clicks, and the Mac returns. You can bounce between Apple II and Mac modes all you want.

As you price the LC II, consider a model with as large a hard-disk drive as you can afford. An 80-megabyte hard disk — the largest that comes standard in the LC II — can hold some Apple IIGS applications as well as Mac programs. Later, after you've established file sharing, you can launch such GS software from the Mac, too.

Other Mac models may be less expensive (check out the **Classic II** for a bargain-basement machine), still others more powerful, but only the LC II has this wonderful multiple personality.

### 2. STICK TO THE GS

There's nothing wrong with older Apple IIs — in fact, the Apple IIe is still, after a decade and more, a real workhorse. But the IIe can't match the GS when it comes to connecting to a Mac.

Much of the credit goes to the GS' Mac-like operating system, but hardware is part

of the equation, too. The ports at the back of the GS are most important. While the GS has a built-in network port, for instance, the IIe needs an extra board, called the **Apple II Workstation Card**, before you can make it part of any Mac/II mix. You can share modems and printers easily between Mac and GS, too, since both computers use the same-size connectors and cables. The IIe, though, is much tougher to connect to a shared printer. Its serial port rarely finds a match on today's printers, which typically offer only two connectivity options — parallel and AppleTalk.

### 3. USE THE LATEST SYSTEM SOFTWARE

The most recent releases of system software for both the Mac and the GS stress connectivity. If you're moving data from one computer to another, make sure the Mac uses System 7 and the GS runs System 6. Anything older and you're cutting yourself off from some impressive connections.

System 7 is the more important when it comes to sharing. That's because it lets any Mac act as a mini file server, sharing files within designated folders with users working from other Macs and Apple IIs. Before System 7, you had to dedicate a Mac as a file server, taking it out of the work loop; now you can retrieve and transfer files easily from and to a System 7-equipped Mac. Other benefits of System 7 include its TrueType fonts, which you can share with any GS running WestCode's interpreter **Pointless**.

System 6 on the Apple IIGS is almost as dazzling. Though it offers a slew of new features, including an easier connection to AppleShare volumes on remote Macs, its strongest bridge is its **HFS File System Translator (FST)**. Once this FST is tucked in the GS' *System* folder, the computer can read Mac 400K and 800K disks inserted into its 3.5-inch drive. The effect is remarkable, for you now have a two-way bridge between Mac and GS. Save a file



on the Mac in text format to a Macintosh disk, walk the disk to a nearby GS, and **AppleWorks GS**, for example, can open that file immediately. In fact, as soon as you put the Mac disk in the GS' drive, the disk appears on the desktop, ready for familiar file-management chores such as copying and deleting.

#### 4. NEVER WALK AWAY FROM APPLEWORKS

**AppleWorks** is the rock on which the Apple II world is built. Because it's so pervasive, you have a much better chance of sharing data successfully between the Apple II and the Mac when the II's files are in AppleWorks format.

The premier Macintosh file-translation software, **MacLinkPlus/PC** (Figure 1), which depends on the XTND translator technology developed by Claris, includes several file translators for AppleWorks word-processor, spreadsheet, and database documents, but only one for AppleWorks GS (and none at all for other Apple II/c or GS software).

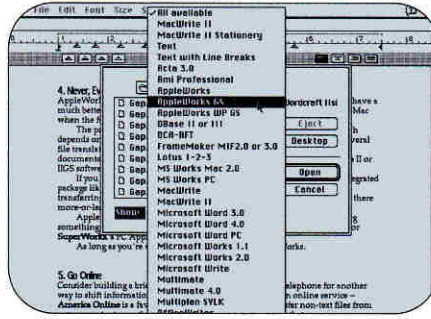
If you stay with AppleWorks, you can even make the move to a Mac integrated package like **ClarisWorks** fairly gracefully. You'll run into various problems transferring database and spreadsheet files, true, but at least you can get them there more-or-less intact. The results are less impressive from AppleWorks GS.

Apple II-to-PC bridges also depend on AppleWorks, whether you're using something like **CrossWorks**, a hardware/software file-translation system, or **SuperWorks**, a PC AppleWorks act-alike. As long as you're using an Apple II, stick with AppleWorks.

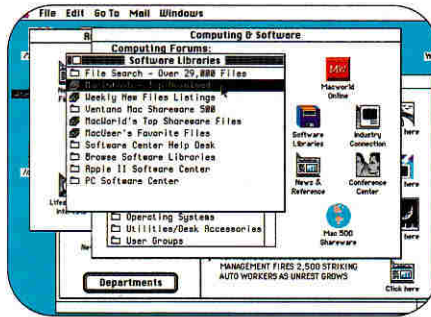
#### 5. GO ON LINE

Consider building a bridge that relies on a modem and the telephone for another way to shift information and share data. By subscribing to an on-line service — **America Online** (Figure 2) is a favorite, if only because it lets you transfer non-text files from one computer to another — you also open a door to software that can ease your bridge-building chores.

With a service like America Online, for instance, you can transfer files from an office Macintosh to your home Apple IIGS simply by sending yourself a message and attaching the file to that message. You



**Figure 1. MacLinkPlus/PC, the premier file-translation program for the Mac, lets you import AppleWorks and AWGS documents into Mac applications.**



**Figure 2. Going on line is one way to bridge the gap. America Online, with its easy-to-use graphical interface, is one popular choice for II and Mac owners.**

don't have to worry about carrying a disk back and forth. When you get home, just reconnect to America Online, read the message, and download the file. (You need a modem connected to each computer.)

An on-line service also acts as a repository for lots of shareware and public-domain software, some of which you'll need for more-obscure forms of sharing. Include among your important bridging programs **A2FX** and **HFSList**, two Mac-to-II transfer and translation utilities; **FontHack**, a utility for translating Mac fonts for the GS; and **GIFConverter**, a graphics-translation utility for the Mac.

You'll find lots of other things on line too, from Mac TrueType fonts you can use on your GS, to GIF-formatted graphics you can download to either the Mac or the GS, then run through **GIFConverter** or Seven Hills' **SuperConvert** for the GS. There's no excuse for computer isolation — go on line as soon as you can.

#### 6. COLLECT A SOFTWARE TOOLKIT

Like a good carpenter who always has the right tools at hand, a good bridge

builder has a complete software toolkit for reliable transfers and translations. Some of it consists of commercial software. Other parts will be made up of shareware and public-domain programs.

**MacLinkPlus/PC**, described above, should be one of the first packages in the toolkit. This Mac utility not only eases II-to-Mac transfers and translations, but it also comes in handy if you're moving data between Mac applications, or shifting data from the Mac to the PC and back.

Handy Apple II commercial software includes **Font Factory**, **SuperConvert**, and **Independence** from Seven Hills Software, plus **Pointless** from Westcode. These utilities help you translate fonts and graphics from the Mac to the Apple IIGS, let you use inexpensive printers with that computer, and put crisp type on the GS' screen and on paper.

On the shareware and public-domain side, you should have **A2FX**, **HFSList**, **FontHack**, and **GIFConverter** (discussed above) in your toolkit, as well as **GS Shrink-It** and Aladdin's **StuffIt**, the standard file-archive utilities for the Mac and GS. (You'll need them to decompress much of what you download.) Other programs help you bridge the gap, too, of course, but these basic tools are a great starter kit.

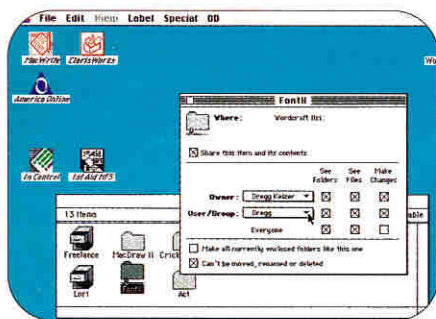
#### 7. SHARE PRINTERS

Printers may be one of the two most difficult peripherals to manage (modems are the other), but when set up properly, they can also be one of the best ways to bridge the gap between Macintosh and Apple II. The key is to select a printer that both computers can use. If you follow a few simple guidelines, you won't have any trouble picking the right one.

First, buy a printer that produces the clearest-looking type your budget allows. For some, that means a laser printer, for others a less-expensive, but still capable, ink-jet model. Still others may be able to afford only a dot-matrix printer, or require one because of some special need, such as label or multipart form printing.

Second, make sure you can connect your computers to the printer easily. The simplest way to do that is with a small LocalTalk network, with the printer as part of the chain (see below). The printer should sport an AppleTalk port. Alternatives to





**Figure 3. Sharing information via a Macintosh running System 7 is a snap.**

AppleTalk are the serial and parallel ports often built into printers, especially those typically sold to IBM PC owners.

Third, install Pointless on any IIGS connected to a non-PostScript printer. Pointless, which uses TrueType technology, can print these scalable outline fonts to virtually any printer, from laser to ink-jet to dot-matrix. Last, make sure printer drivers are available for both computers.

Affordable choices include Apple's **StyleWriter**, an ink-jet printer, and Hewlett-Packard's **LaserJet IIP+**. Color printers, whose prices have dropped dramatically during the last year, range from the HP **DeskWriter C** to the HP **PaintWriter** (now discontinued) and **PaintJet** series.

When you share one printer among several computers, you cut costs. A \$500 ink-jet model split between a Mac and a GS, for example, costs the same as two \$250 dot-matrix printers, but produces much cleaner type. In effect, you're getting more for your money.

## 8. SET UP A NETWORK

One of the most-feared techniques of sharing, networks are also one of the most effective. You don't need a degree in electrical engineering to set up a network, just some time and about \$25 per workstation or printer.

To set up a LocalTalk network, buy one **PhoneNet** connector for each computer and printer. PhoneNet connectors cost less than \$20 each when you purchase them from a mail-order company. Then head to your local Radio Shack and buy appropriate lengths of telephone cable; the kind with the modular plugs already attached is best.

Plug one PhoneNet connector into the AppleTalk port of each Macintosh, Apple IIGs, Workstation Card-equipped Iie, or printer. Next, link each connector to its neighbor with the telephone cable. Remember, don't join the network into a circle, but leave both ends free.

If there's only one printer on the network, you're ready to go. Just launch the *Chooser* from every Mac and GS, make sure the printer is highlighted in the dialog box, and print away. (If there's more than one printer, you may have to use the *Namer* first to allocate different names to each device.)

To share files between Macs, or between Macs and GSeS, you only need to set up one or more folders on one or more Macs as shared under System 7 (**Figure 3**). You can even decide which users can access which shared folders, and what actions

## FURTHER READING

- "**SuperConvert 3.01**"  
January 1992, p. 26
- "**DeskWriter C**"  
March 1992, p. 25
- "**Just Your Type**"  
March 1992, p. 48
- "**Words into Print**"  
April 1992, p. 32
- "**Working the Nets**"  
May 1992, p. 28
- "**Mac LC II: Ready for Prime Time**"  
June 1992, p. 12
- "**Looking Ahead**"  
June 1992, p. 20
- "**Round 6**"  
July 1992, p. 18
- "**Pointless**"  
July 1992, p. 24
- "**Low-Cost Power: Macintosh LC II**"  
July 1992, p. 26
- "**Smooth Operator**"  
July 1992, p. 34
- "**Teamwork**"  
August 1992, p. 18
- "**Works in Progress**"  
August 1992, p. 36
- "**Tailor-Made Type**"  
September 1992, p. 16
- "**In Search Of . . .**"  
October 1992, p. 22

they can take with the files within them. Networks can pull their weight at home, too, not just in the office or classroom. Printer sharing and file transfer are just as important in a two-computer setting as they are in a 20-computer lab.

## 9. SPEND AS LITTLE AS YOU MUST — BUT SPEND IT

Budgets always interfere with the fantasy of owning a computer. Don't be so

## PRODUCT INFORMATION

### America Online

Quantum Computer Services  
8619 Westwood Center Drive  
Vienna, VA 22128  
(703) 893-6288

### Apple IIe Card, \$199

### Apple II Workstation Card, \$249

### Macintosh Classic II, \$1699

### Macintosh LC II, \$1699/1849

### StyleWriter, \$399

Apple Computer Inc.  
20525 Mariani Ave.  
Cupertino, CA 95014  
(408) 996-1010

### AppleWorks 3.0, \$249

### AppleWorks GS, \$299

### ClarisWorks, \$299

Claris Corp.  
5201 Patrick Henry Drive  
Santa Clara, CA 95052  
(408) 727-8227

### CrossWorks

SoftSpoken  
P.O. Box 18343  
Raleigh, NC 27619  
(919) 870-5694  
\$99.95

### DeskWriter C, \$1095

### LaserJet IIP+, \$1249

### PaintJet, \$1095

Hewlett-Packard Co.  
19310 Pruneridge Ave.  
Cupertino, CA 95014  
(800) 752-0900

### Font Factory GS, \$39.95

### Independence, \$39.95

### SuperConvert, \$39.95

Seven Hills Software  
2310 Oxford Road  
Tallahassee, FL 32304  
(904) 575-0566

### MacLinkPlus/PC

DataViz  
55 Corporate Drive  
Trumbull, CT 06611  
(203) 268-0030  
\$199

### PhoneNet

Farallon Computing  
2000 Powell St.  
Emeryville, CA 94608  
(510) 596-9100  
\$59.95/connector

### Pointless

WestCode Software  
15050 Avenue of Science  
Suite 112  
San Diego, CA 92128  
(619) 487-9200  
\$69.95

### Stuffit

Aladdin Systems  
165 Westridge Drive  
Watsonville, CA 95076  
(408) 761-6200  
\$99.95

### SuperWorks

Remarkable Technologies  
245 Pegasus Ave.  
Dept. SW  
Northvale, NJ 07647  
(201) 784-0900  
\$199



taken by the promise of seamless sharing that you spend more than you can afford. Keep a weather eye out for the bargains in bridge building. And don't ignore the freebies that come your way.

**Apple File Exchange (AFE)**, a translation utility included with every Macintosh, is a good example. AFE takes Apple II files on a ProDOS and turns them into a format the Mac can understand. Scour on-line services and bulletin boards, as well, for public-domain, freeware, or low-priced shareware solutions.

But balance the price you pay for bridging hardware and software against the benefits they provide. How much is your time worth? Better yet, how much is your data worth? If you need a way to move a constant stream of AppleWorks files to a Mac, for example, you can justify a more-expensive sharing setup than if you swap files between computers only on occasion.

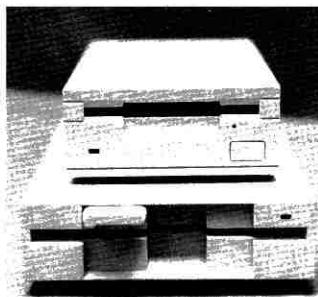
Don't spend more money than you have to to create your bridges, but if you need them, don't hesitate to lay out the cash.

**10. KNOW WHEN TO QUIT — BUT DON'T GIVE UP TOO SOON**

Computers never work right. At least, that's how it seems at times. Don't get so caught up in bridging the gap that you waste more time building than the information is worth. Do you really need more fonts for your Apple IIGS? Wouldn't it be simpler to retype that short letter than to monkey with sneakernet? It's no picnic, wrestling with IIs and Macs. Sometimes you should nod in response, and just walk away.

If you run into a roadblock during your first attempt at sharing, though, start looking for another bridge. There's almost always more than one way to move files or share peripherals. You may have to take your data on a circuitous journey (as you do when you want to move TrueType fonts from a PC working with Windows all the way to the Apple IIGS), but it'll probably be worth the trip. □

GREGG KEIZER IS A CONTRIBUTING EDITOR FOR *INCIDER/A+* AND IS THE AUTHOR OF SEVERAL FEATURES AND PRODUCT REVIEWS. WRITE TO HIM AT 4420 HILYARD STREET, EUGENE, OR 97405. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A PERSONAL REPLY.



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1 Meg . . . . . \$99.00	<b>IIE Mouse &amp; Card</b> <b>\$109.00</b>
2 Meg . . . . . \$139.00	<b>IIGS SOUND SYSTEM</b>
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<b>IMAGewriter II</b>	<b>Cables From</b> . . . . . \$9.95
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## RESOURCE CENTRAL

**Four disk publications offer a wealth of tips, templates, and low-cost software to enhance your Apple II power.**

Just because the Apple II news seems a bit thin some months, that's no reason to let the extra space in your mailbox go to waste. Want to grow a shareware or public-domain software library? Or nurture your talent for hypermedia? How about pushing AppleWorks 3.0 to its limits? If projects like these are on your short list of things to do with your Apple II this winter, consider subscribing to one or more of Resource Central's disk-based publications. Because each periodical bears the unique imprint of its

editors and contributors, the quality of some offerings is spotty. But, to borrow a '60s phrase, the company's newest publication will blow your mind.

I recently explored as many as a half-dozen issues of each of the company's four disk-based publications: A2-Central on disk, Script-Central, Studio City, and TimeOut-Central. (The programmers' publication 8/16-Central and the literary journal HyperBole have been discontinued, but at press time back issues were still available, according to Resource Central.) Here are some highlights from the four disk products tested.



★ ★ ★ ★ ★

**A2-CENTRAL ON DISK**

- monthly Apple II newsletter, shareware and public-domain software included
- \$90/year (12 issues)
- requires two 3.5" disks or one 3.5" disk and hard drive or 1MB RAM disk

One of the few remaining publications devoted exclusively to the Apple II, A2-Central is a monthly newsletter that's available both as a print publication and an electronic one. Among the more interesting pieces featured in the issues we

reviewed were a SimpleScript lesson for HyperStudio fans, a first-rate article on GS graphics, and the best-ever "how-to" on setting up an AppleTalk network. Each issue of the newsletter devotes space to technical give-and-take sessions, such as a recent discussion of the potential for CD-ROM on the Apple IIGs.

The disk version, which includes the full text of each monthly newsletter, is edited by Dean Esmay, who's also the author of *inCider/A+*'s new

HyperActivity column. The additional cost of the disk subscription brings you a collection of public-domain software and shareware programs culled from on-line services such as GENie. Most of these programs are stored in compressed format,

● **A2-CENTRAL ON DISK**  
● **SCRIPT-CENTRAL**  
● **STUDIO CITY**  
● **TIMEOUT-CENTRAL**

**Resource Central**  
**P.O. Box 11250**  
**Overland Park, KS 66207**  
**(913) 469-6502**  
**\$15 sampler set (1 issue each)**



which enables Esmay to cram as much as 1.5 megabytes of software onto an ordinary 800K disk. To run the programs on your Apple IIe/c or IIGs, you need to use Andy Nicholas' ShrinkIt or GS ShrinkIt. These utilities swell an archived (shrunken) program back to working size and are provided free on the A2-Central Starter Disk.

Esmay's rambling introductions and overuse of the word "excellent" (nine times in one instance) can be tiresome. But, to be fair, most of the public-domain and shareware software offered by A2-Central on disk is at least of good quality — and some of it is excellent (really). Karl Bunker's *Floor Tiles* game for the GS comes to mind. It's simple and fun, yet addicting. It's also shareware (\$10). That means that A2-Central disk subscribers who give the game more than just a passing glance are morally obligated to pay Bunker his due. By contrast, the public-domain offerings you receive with A2-Central on disk are indeed free. Among the niftiest are a screen blanker for the Finder (to help prevent etching of the GS' monitor) and a trash-can substitute that "nukes" a tiny desktop city.

Are files you can get elsewhere worth the additional cost of an A2-Central disk subscription? That depends. Exploring the public domain — whether by mail order or on line — qualifies as entertainment in its own right, but it can be time-consuming, and pricey when you factor in the cost of on-line time and toll calls. If you have no other means of accessing the thousands (make that tens of thousands) of public-domain and shareware files available for downloading from services such as GEnie, CompuServe, or America Online, A2-Central on disk provides a valuable service.

★ ★ ★ ★ ★

**SCRIPT-CENTRAL**

- bimonthly HyperCard IIcs electronic publication
- \$48/year (6 issues)
- requires hard-disk drive

**P**ardon me while I gush, but Script-Central — Resource Central's newest bimonthly publication — is unquestionably one of the best software products I've seen on any personal computer, including the Apple II, Mac, and PC. In a word, Script-Central's editors, Bo Monroe and

# APPLE II REPORT

-  **MUST BUY!**
-  **FORGET IT**
-  **WORTH A SECOND LOOK**

## FIRST MATH ADVENTURES

**Troll Associates Inc.**  
**100 Corporate Drive**  
**Mahwah, NJ 07430**  
**(800) 526-5289**

- new math-skills package
- 48K Apple II
- \$39.95

This package features three sequenced math activities; each uses sound and colorful animated graphics to introduce children in grades 1 through 3 to word problems involving addition and subtraction. In *Number Sentences*, kids choose pictures and numbers to help Walter Pigeon make number sentences. In *Number Stories*, children read for key words, then direct an animated pelican to add or subtract picture objects. In the final activity, *You Too Can Do Word Problems*, children read for key words to help a skateboarding bird find solutions. All activities make use of on-screen instructions and optional hints to guide student response. Teachers may specify one of five number ranges. First Math Adventures is a well-designed, inexpensive package that can supplement any early-math curriculum.

## GRAMMAR GOBBLE MECC

**6160 Summit Drive North**  
**Minneapolis, MN 55430-4003**  
**(800) 685-6322 x549,**  
**(612) 569-1549**

- new grammar-skills game
- 128K (enhanced) Apple II
- \$59

Grammar Gobble features two fast-paced "Muncher"-style games for children in grades 1 through 6. In *Fill Those Cavities*, youngsters move a set of huge teeth through a grid of words; they direct the choppers to chomp all words that correctly complete a target sentence displayed at the top of the screen. In *Eat Your Words*, kids instruct the teeth to chow down on parts of speech that match a target part of speech correctly. Games may

be played with or without a timer at six levels of difficulty. Each level uses wacky sound effects and vocabulary appropriate for a particular grade. Playing with a timer, high scorers earn a place of honor in the *Gobbler Club*. Management options let parents and teachers tailor activities to individual players. This program teaches grammar rules with entertaining gusto.

## LEARN ABOUT THE HUMAN BODY

**Wings for Learning/Sunburst**  
**1600 Green Hills Road**  
**Scotts Valley, CA 95067**  
**(800) 321-7511**

- new science-education program
- 128K (enhanced) Apple II
- requires color monitor
- mouse recommended
- \$75

This highly interactive science package for children in grades 1 through 3 features six delightful activities focusing on different parts of the human body. Colorful animated graphics (but limited sound effects) help kids learn how skin serves as a protective covering, how bones safeguard internal organs, how lungs breathe, how joints and muscles help us move, how the heart pumps blood, and lots more. Some activities compare organs and functions of the human body to those of other animals, or common everyday objects like squeeze bottles and food processors. Kids feed a person a piece of pie and watch what happens; they time the heartbeat of a person at rest and compare the result with the heartbeat of a person who's exercising; and they "peel" away various body layers to uncover what's inside. The program comes with a well-written manual containing lesson plans and suggested off-line activities. *Learn About the Human Body* is expensive, but worth the price.

## MARTY'S FAMILY READER

**Micrograms**  
**1404 North Main Street**  
**Rockford, IL 61103**  
**(800) 338-4726,**  
**(815)965-2464**

- new vocabulary-skills builder
- 128K Apple II
- \$29.95/grade level

Continued on p. 26



HangTime (a.k.a. Bruce Caplin), are geniuses whose masterful HyperCard IIGs creations educate, enrich, and entertain. (Script-Central, like HyperCard IIGs itself, requires a hard-disk drive.)

A two-story brick building serves as the metaphor or "front end" for Script-Central. After the stylish title screen fades, you knock (click) on the front door. The 65816 building address — the same as the GS' microprocessor — is just one of the countless clever touches Monroe and HangTime employ. In the foyer hangs a portrait of Tom Weishaar, founder of Resource Central. The portrait not only changes with the seasons (often comically so), but it also talks. When you click on the information plunger button, Script-Central provides an overview of the disk's contents — not to mention some light-hearted animation and sound effects.

The rooms on the first floor include the *Tips and Tricks* auditorium and *Q&A* classroom, where you'll learn a heap more about HyperCard IIGs than you probably will from the program manuals. Sashay into the lounge to join Script-Central's monstrously ugly Fly on the Wall as he eavesdrops on transcripts of hypermedia repartée from GENIE's A2 Roundtable. In the mailroom, you can read letters to the editor before sending them to the Script-Central furnace.

No visit to the Script-Central building would be complete without a pit stop in the unisex, blue-ceramic-tiled bathroom where the Rum-R-Matic dispenses snippets of news and innuendo like paper towels. You can choose unbleached (brown) or, for the environmentally uncouth, bleached (white). Either way, text is crisp and clear, though the white background is easier on the eyes.

Dash into the *Office* for information about subscribing— or submitting HyperCard IIGs stacks for possible monetary reward. You'll find more than a few secret surprises as you click on Script-Central's hidden buttons. On the productivity side, the *Scripter's Workshop* — which would look like an honest-to-goodness woodworking shop if it weren't so darned neat — stocks XCMDs (*extended commands*), XFCNs (*extended functions*), scripts, icons, sounds, and buttons. All you have to do is copy or install these ready-mades into your own stacks.

Take the elevator (or use the Script-Central floor-plan blueprint) to visit upstairs rooms containing each issue's feature stacks, which you can use as is or modify. Recent stacks included a Haiku writer, recipes from an amateur brewmeister, a sliding puzzle, and a Faces-like game.

## APPLE II REPORT

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Marty's Family Reader consists of several short electronic stories about a "nerdy"-looking character named Marty Matthews and his quaint (but lovable) relatives. This software series is designed to encourage students in grades 2 through 5 to practice independent reading and build comprehension skills. It includes an option for vocabulary testing. The package provides four sets of ten stories for each grade level. Every story features specific vocabulary words, a glossary, and an optional controlled reading pace. Once children complete a story, they answer four questions that test comprehension. A limited number of amusing sound effects combined with colorful animated graphics reinforce ideas presented. Special options let adults monitor a child's performance. Marty's Family Reader is a competent, but somewhat uneventful, literacy-skills builder; youngsters may be looking for more-exciting "bells and whistles."

### PARTS OF SPEECH: FUN WITH VERBS

**Troll Associates Inc.**  
100 Corporate Drive  
Mahwah, NJ 07430  
(800) 526-5289

- new grammar-skills package
- 48K Apple II
- \$39.95

Fun with Verbs uses colorful animated graphics and a television-station setting to teach children in grades 3 through 5 a variety of verb topics. Youngsters join anchorwoman Ann Anchor, Herb the Verb Man (sports-caster), Adam Bomb (movie reviewer), Wir Lee Bird (in the Traffic Copter), and other personnel at the Parts of Speech Network to review and answer questions in six verb areas. Topics include action verbs, subject/verb agreement, linking verbs, helping verbs, regular/irregular verbs, and verb tense. An optional Name That Verb game tests players on materials learned. Challengers may play the game alone or with a friend. Fun with Verbs is a great grammar package — it packs a unique "plot" with a huge number of solid educational activities, all for an economical price.

### THE QUARTER MILE 4.0

**Barnum Software**  
2201 Broadway  
Suite 201  
Oakland, CA 94612  
(800) 553-9155,  
(800) 553-9155

- math-package upgrade
- 128K Apple II
- 64K version available
- \$50

Contestants, start your math engines — The Quarter Mile drag race is about to begin. In the newest edition of Barnum's math-skills builder, challengers race an animated dragster while solving math problems and answering keyboarding questions. (The 64K version offers fewer options.) The car accelerates with each correct answer; youngsters compete against their own five best previous races. In keyboarding, the program's self-paced, self-competitive teaching style targets the location of all keys and numbers. In the math portion of the game, questions focus on whole numbers, fractions, decimals, percentages, integers, and equations. Problems may be tailored to specific age levels; contestants can save their best five scores to disk and replay previous races. This package is both entertaining and educational.

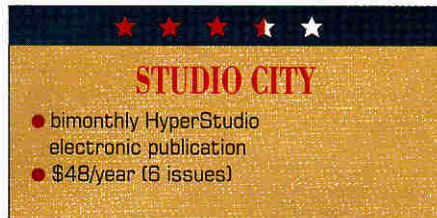
### QUENTIN AROUND THE HOUSE GRADE 1

**Pelican/Queue, Inc.**  
338 Commerce Drive  
Fairfield, CT 06430  
(800) 232-2224

- new interactive reading-comprehension package
- 128K Apple II
- Echo or Cricket speech unit optional
- \$49.95



Each two-disk issue is packed with 1.5 megabytes of HyperCard IIGs treasures, wacky humor, and astounding graphics. The April/May 1992 issue also included a nice surprise bonus: the latest version of HyperCard IIGs 1.1 (no manuals or extra goodies, though).



**S**tudio City, the HyperStudio aficionado's answer to Script-Central, needs to mature somewhat before I can give it a rousing thumbs-up. Although I couldn't preview the new front end in time for this review, Resource Central's Ellen Rosen-

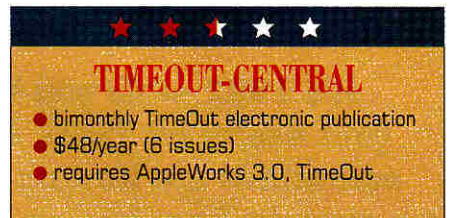
berg describes the publication's latest look, with its city skyline and muted grays and purples, as "more uptown" compared to the cartoonish city I saw.

In the issues I reviewed, for example, I'd click on the puckish *Post Office* to read letters to the editor or click on the whimsical *Clip Art Shop* to preview M.A. Trzyna's outstanding artwork. Rosenberg says that under Bo Monroe's artistic leadership, "you can probably expect an ever-changing front end." As Studio City — a bimonthly, dual-disk publication — evolves, it should continue to provide nifty ready-to-use HyperStudio tools (buttons, sound effects, and so on), as well as tips and tutorials.

Recent stacks included *Dungeon Animations*, an impressive piece of work by Jeff Fisher, and *Puppiano*, a musical keyboard composed of dog bones. When you click on the bones, your GS "arf-arfs" musical

tones. It's a howl to hear the canine rendition of *Jingle Bells*, for instance. (Both Script-Central and Studio City commonly offer interactive demonstrations.)

Because a run-time version of HyperStudio 3.0 is included on each Studio City disk, you can boot up and interact with stacks such as *Puppiano* without owning the full HyperStudio authoring program. (But you won't be able to create your own stacks without it.)



**A**s a resource for AppleWorks 3.0 power users, TimeOut-Central offers

Continued on p. 54

Beginning readers keep company with an animated Quentin Rabbit in this new interactive reading program from Pelican. The software consists of a single story with four chapters, each featuring several colorful screens with friendly characters and large-print text. Youngsters scroll through story "pages" by clicking on forward or backward arrows at the bottom of each screen. Text is highlighted at a controlled pace as kids read. The program speaks words aloud if you've installed an Echo board or Cricket speech synthesizer. After completing a page, the program may ask readers to answer questions that test comprehension or involve decision making. Several screens promote discovery-based learning; they contain hidden "hot" spots that respond with a sound effect, song, animation, or message when selected. The package includes a comprehensive Teacher's Guide with reproducible activity sheets, follow-up questions, and program script, plus a Quick Reference Key card summarizing all keystroke commands. It's an enjoyable package for young children just learning to read.

**WINDY CITY**  
MECC  
6160 Summit Drive North  
Minneapolis, MN 55430-4003  
(800) 685-6322 x549,  
(612) 569-1549

- new reading-comprehension games
- 128K (enhanced) Apple II
- \$59

Windy City consists of two "Muncher"-style educational games designed to strengthen reading skills. Players move an animated character called Scrappy through a series of town streets, collecting wind-strewn papers lying scattered about. A dual approach combines fun and learning and keeps kids coming back for more: As they travel, they must avoid potential mishaps such as White Sweepers, Blue Devils, and Twisters; then after youngsters pick up a paper and read it, they answer questions that test comprehension. In Calm Day, the first activity, challengers answer questions before they can mail the paper to its appropriate destination. In Windy Day, the second activity, kids can answer questions at any time. Both activities award points for correct answers. Players forfeit a stamp when they answer incorrectly; the game ends when all stamps are gone. High scorers earn a place of honor in Scrappy's Hall of Fame. Management options let teachers or parents control the number and types of questions, set printer options, and view or delete student records. Windy City's fast-paced arcade games provide an entertaining setting that motivates children to read for details.

**WOOLLY'S GARDEN**  
MECC  
6160 Summit Drive North  
Minneapolis, MN 55430-4003  
(800) 685-6322 x527,  
(612) 569-1527

- new early-elementary science program
- 128K Apple II
- \$59

Children conduct horticultural experiments in this open-ended science simulation designed for kindergarten through grade 2. Youngsters help a friendly animated creature called Woolly choose seeds from a store, then watch fruits and vegetables grow. Next, they decide how much water, light, and warmth to give the plants and note how their decisions affect plant growth. The object is to figure out the right combination of variables to make plants produce the largest possible crop. Woolly's Garden encourages young children to ask "what if" questions about real-life events. It introduces experimentation and the scientific method — the importance of making observations, analyzing results, and drawing conclusions. Four levels of difficulty make this program suitable for a wide range of ages and abilities. A well-written teacher's manual provides lesson plans and activity suggestions.

— Carol S. Holzberg, Ph.D.



# IF I ONLY HAD THE DOCS

**It's 1992 — do you know where your dealer is? These days, Apple II enthusiasts are turning to grass-roots organizations and on-line services for the advice, repairs, news, and updates they need.**

**I**t's the deal of the century, you're thinking — a used Apple IIGS, complete with monitor, keyboard and mouse, GS RAM III memory card with 4 megabytes and accompanying software, 3.5- and 5.25-inch disk drives, cables, everything — for 600 bucks. Well, not quite *everything* — there's no documentation for any of this stuff. But who's quibbling?

So you take your system home and plug it in. You take one look at all that memory and figure it'll be a piece of cake to set up a RAM disk for temporary file storage. Just follow the prompts, right? Then you try stashing that spreadsheet and — it disappears into the ozone.

What now? If you think your local dealer'll save you, you may be out of luck. An Apple IIGS is a specialized machine, and the number of service reps familiar with the intricacies of its hardware are few and far between.

But you're not out there on your own, either. Your first

step? Call Apple's **User Group Locator Service** to get the name and phone number of the authorized Apple computer club nearest you. Then go to the next meeting — you'll find detailed answers to many of your basic questions, you'll get the latest version of the Apple IIGS system software, you can browse the group's freeware/shareware library, and, perhaps most important, you'll be put in touch with a knowledgeable volunteer who can run a series of diagnostic tests on your system whenever you need it.

Remember that RAM-disk problem? A few minutes with

**BY JOE KOHN • CONTRIBUTING EDITOR**









# IF I ONLY HAD THE DOCS . . .

the local techno-wizard, and you'll probably discover that a chip on the memory-expansion card was inserted improperly. A little tinkering, and your GS is up and running fast and smoothly.

## TEAMWORK

User groups exist in hundreds of communities across the nation, staffed by eager volunteers who want nothing more than to help you gain a greater understanding of your Apple II computer. If you're fortunate enough to live in an area with an Apple user group, joining it could be the wisest computer-related decision you've ever made.

Most community-based Apple user groups hold a monthly general-interest meeting for the membership at large, and most host several meetings each month for *SIGs* — special-interest groups, whose members share a common focus, such as education, music, AppleWorks, hypermedia, or spreadsheets. By attending general meetings and SIGs, user-group members can usually find answers to just about all their computer-related questions.

Most user groups publish informative newsletters, as well, and also maintain extensive libraries of public-domain, freeware, and shareware software. The **Gravenstein Apple IIcs User Group**, based in Petaluma, California, is typical. The club's library now numbers over 250 disks chock full of free and low-cost GS software — everything from AppleWorks GS templates and clip art, to games and entertainment, utilities, fonts, and just about every other conceivable category. Members can purchase these programs and add-ons for only a little more than the cost of the disks themselves. Your local organization may prove to be the single most valuable resource center you can find.

## AROUND THE WORLD

What if you live in a rural area where there are no user groups? Then a modem becomes the single most important computer peripheral you can purchase. A modem lets you connect your computer to the telephone lines — it's your link to the rest of the Apple II community, with its millions of members. You can get a dependable high-speed modem for less than \$100 now; communications software has become so simple to use that even schoolkids can "go on line" and tap into electronic encyclopedias, news resources, and databases containing Apple II technical information.

Many Apple user groups maintain free bulletin-board systems (BBSes) that anyone with a modem can access. These BBSes contain a wealth of information about Apple II computers, and most clubs maintain part of their software library on line for downloading. If you're a teacher, for instance, you might want to link up with students and educators from around the globe via the free networked BBS **FrEdMail** system. With sites in more than 200 schools in the United States, Australia, Canada, and Ireland, FrEdMail lets you share information with thousands of other users. And best of all, it doesn't cost a penny to use. Many an international group project has been started via FrEdMail, and numerous

electronic pen-pal arrangements have been spurred on by easy access to telecommunications-equipped classrooms across the country.

If you can't locate a free local Apple II-oriented BBS, there are always commercial on-line information services — such as **America Online**, **CompuServe**, and **Genie**. These giant networks, accessible from all corners of the globe, are the electronic version of the town-meeting hall. Every day, thousands of avid users dial up these subscription-based systems. Each network maintains a sizable area devoted to the Apple II, along with libraries containing thousands of high-quality Apple II freeware and shareware programs available for downloading.

In addition, electronic mailboxes and message centers offer countless communiqués, posted by fellow Apple II enthusiasts — a wealth of technical data, hints and tips, and all the latest news of the Apple II world. Activity is so brisk that when a subscriber asks a technical question, one or more responses appear within just a few hours. If you need quick answers, a modem and a subscription to an on-line service will provide you with a bounty of information.

Each service also provides an on-line area where Apple II users can question software and hardware manufacturers' representatives. Applied Engineering, Vitesse, Seven Hills, WestCode, Roger Wagner Publishing, TMS Peripherals, and CV Technologies are among the many Apple II-oriented companies you can contact directly.

## LONG-DISTANCE CONTACTS

If you're wary of telecommunications or working from a tight budget, you may want to try staying in touch with the rest of the Apple II community by mail. You'll note, however, that most long-distance clubs have a specialized focus. The **Apple Librarians User Group** (ALUG) — organized originally by Apple employees and serving the needs of educators and related personnel — is one such association. Four times a year, an expertly prepared 100-page newsletter is mailed free of charge to anyone who requests it. Each issue contains valuable hints and tips and timely reviews of Apple II hardware and software products.

The **National AppleWorks Users Group** (NAUG) is another example. Each month, NAUG's newsletter, *The AppleWorks Forum*, is filled with informative articles, step-by-step tutorials, special money-saving offers for members, and information on new AppleWorks Classic-related template disks available from NAUG's extensive library.

In addition, the group's *Members Helping Members* volunteer service bureau offers NAUG insiders free worldwide telephone technical support. Each month, it publishes a list of more than 100 people with a particular area of expertise who are eager to share their knowledge — hardware technicians, for example, or TimeOut buffs. *Members Helping Members* is by no means limited to AppleWorks and related products. If you need unbiased advice on what hard drive or accelerator to purchase, just give a NAUG volunteer a call, and you'll get an earful of useful advice.



Still another NAUG specialty is data rescue — it recently published a series of articles on recovering files from unreadable disks. As a bonus for members who aren't handy with zap programs and sector editors, NAUG has even organized a group of techno-whizzes who offer their disk-recovery services for very low cost.

## LOOKING GOOD IN PRINT

In addition to user groups and computer clubs, a number of other types of organizations and publications have sprung up over the years to offer support for various popular software programs. For example, **TEXAS II**, an inexpensive bimonthly publication written by Bev Cadieux of Kingwood Micro Software (also available from **Charlie's AppleSeeds**), is filled with a wide array of hints and tips for AppleWorks users and reviews of AppleWorks add-on products. Cadieux is an expert on UltraMacros (Beagle Bros' powerful macro-language add-on, permitting customized automation of AppleWorks) and has published a number of macro-driven programs that work within AppleWorks to push it to the limit.

TEXAS II subscribers learn from practical projects — such as creating multiple-choice tests within AppleWorks — and discover work-around solutions to common AppleWorks problems. If you have an interest in AppleWorks, take advantage of Cadieux's special offer to *inCider/A+* readers: two years of back issues on disk for \$5 plus \$3.50 postage.

Randy Brandt, the programmer who created UltraMacros for Beagle Bros, also edits a bimonthly magazine on disk: **TimeOut-Central** (published by **Resource Central**). It's directed toward AppleWorks power users (and wannabe power users).

Since Brandt knows more about UltraMacros than anyone, each issue of TimeOut-Central is filled with an amazing number of hints and tips for creating UltraMacro-driven utilities, programs, and even games, all designed to run from within AppleWorks. Many sample macros are included, with complete instructions on installing them and using them. With each issue, you'll be thinking, "I didn't

know you could do that with AppleWorks" — but Brandt will take you where no AppleWorks user has gone before.

AppleWorks-using educators have a choice of several subscription-based magazines on disk that can help them in their day-to-day classroom work. **The AppleWorks Educator**, for example, published since 1986, is a bimonthly publication devoted exclusively to AppleWorks-using teachers. Its contributors are leading educators around the country; its editor is David Chesebrough, a noted AppleWorks instructor, author, and consultant. A special **AppleWorks Teacher Resource Disk**, containing ideas, articles, and tips, is also available.

**The Teachers' Idea and Information Exchange (TI&IE)** is another subscription-based organization providing an exchange of educationally oriented Apple II materials and information. Each month, TI&IE prepares an AppleWorks disk of lesson plans, library applications, software reviews, spreadsheets, and databases, plus information on **StoryWorks**, TI&IE's 8-bit hypermedia program, which works in conjunction with AppleWorks Classic.

Among other Apple II products, **The HyperStudio Network** is a membership organization whose goal is promotion and support of Roger Wagner Publishing's popular hypermedia-authoring program for the GS. The group provides its membership with access to a library of public-domain stacks and other low-cost HyperStudio accessories, such as disks of clip art and digitized sound files. All available stacks are educationally oriented, with many directed at elementary-aged students. Members receive a quarterly newsletter, an annual sampler disk, and discounts on commercial and public-domain stacks.

**Resource Central**, the folks who publish TimeOut-Central (discussed above) and other disk-based periodicals and who sponsor the annual Apple II Developer Conference in Kansas City, has recently expanded its focus as it strives to become a one-stop shopping center for Apple II books and a general clearinghouse for all Apple II information. In many ways, Resource Central has become an Apple II publishing

## SOURCES

**Alliance for Technology Access**  
1307 Solano Ave  
Albany, CA 94706  
(510) 528-0747

**America Online**  
8619 Westwood  
Center Drive  
Vienna, VA 22182  
(800) 227-6364

**Apple Customer Assistance**  
(800) 776-2333

**Apple Librarians User Group**  
Monica Ertel  
Apple Computer Inc.  
10381 Bandy Drive  
Cupertino, CA 95014  
(408) 974-2552

**Apple User Group Locator Service**  
(800) 538-9696 x500

**The AppleWorks Educator**  
P.O. Box 72  
Leetsdale, PA 15056  
(412) 741-4110

**Charlie's AppleSeeds**  
9081 Hadley Place  
San Diego, CA 92126  
(619) 566-1297

**Closing the Gap**  
P.O. Box 68  
Henderson, MN 56044  
(612) 248-3294

**CompuMentor**  
89 Stillman St.  
San Francisco, CA 94107

(415) 512-7784  
(415) 512-9629 fax

**CompuServe Information Service**  
P.O. Box 20212  
Columbus, OH 43220  
(800) 848-8199

**FrEdMail Foundation**  
PO Box 243  
Bonita, CA 91908  
(619) 475-4852

**GENie**  
General Electric  
Information Services  
401 North Washington St.  
Rockville, MD 20850  
(800) 638-9636

**Gravenstein Apple IIcs User Group**  
P.O. Box 75154  
Petaluma, CA 94975

**GS+**  
P.O. Box 15366  
Chattanooga, TN  
37415-0366  
(615) 843-3988

**HyperStudio Network**  
P.O. Box 103  
Blawenburg, NJ 08504  
(609) 466-3196

**National AppleWorks Users Group**  
P.O. Box 87453  
Canton, MI 48187  
(313) 454-1115  
(615) 359-8238 BBS

**Quality Computers**  
20200 Nine Mile Road  
P.O. Box 665  
St Clair Shores,  
MI 48080  
(313) 774-7200  
(313) 774-2652 BBS

**Resource Central**  
P.O. Box 11250  
Overland Park, KS 66207  
(913) 469-6502

**TEXAS II**  
Kingwood Micro Software  
2018 Oak Dew  
San Antonio, TX 78232  
\$12/6 issues  
\$5 plus \$3.50 shipping  
12, 1991/1992 issues  
specify 3.5" or 5.25"



# IF I ONLY HAD THE DOCS . . .

empire. The company now carries the entire line of Apple II programming and technical guides previously available from the Apple Programmers and Developers Association (APDA), along with copies of just about every book ever written about the Apple II.

In addition to running GENie's Apple II areas on line, Resource Central also produces several publications, as noted above. Its flagship product, *A2-Central*, has been published monthly since January 1985. Each eight-page issue is filled with a combination of reviews, how-to articles, technical features, question-and-answer columns, and news of interest to the Apple II community. *A2-Central* is highly regarded; it won Apple's 1990 Achievement Award as best Apple II periodical. *A2-Central* started out as a programmer's journal, but it has become more mainstream over the years. Articles are still technically oriented and quite detailed. One recent feature, for example, included an extensive step-by-step guide to setting up an Apple II network, while another story described the technical ins and outs of GS System 6's SynthLAB music-composition, editing, and performance application.

Resource Central publishes two bimonthly hypermedia-based magazines, as well. *Script-Central* is a HyperCard IIGS publication; *Studio City* is for HyperStudio users. Both offer tutorials, sample XCMDs (*extended commands*) you can use with your own hypermedia projects, clip art, digitized sound files — and a wild and wacky sense of humor. *Script-Central* subscribers were among the first to get the recent HyperCard IIGS version 1.1 update, on disk as a special bonus. (Resource Central is now the only company carrying the upgrade.) Each issue of *Studio City* comes with the HyperStudio "run-time module": You don't even need to own the HyperStudio program itself to enjoy and learn from *Studio City*. (For details on all four Resource Central publications, see the review in this issue, p. 24.)

More-traditional forms of Apple II support come from **Quality Computers**. When Quality went into business in the mid-1980s it was just one of a number of mail-order vendors. Over the years, it has expanded and today publishes books and software. Among its publications are a free newsletter, *Enhance*, which is of interest to all Apple II users, especially teachers; the *Apple II Enhancement Guide*, which answers virtually any question about Apple II peripherals; a *Hard Drive Buyer's Guide*, which will teach you all you'll ever need to know about hard-disk drives; and the *System 6 Book*, 150 pages of useful information, hints, and tips covering all the nuances of GS/OS 6.0 operation. Quality Computers has proven itself a class act, offering friendly and knowledgeable technical support for its products, along with competitive pricing.

On the programming side, GS techies can glean lots of useful information and insights from *GS+* magazine. A bimonthly available in print and on disk, *GS+* offers a somewhat irreverent perspective on the Apple II programming world. Among its many highlights are source-code listings, articles on using the GS/OS toolbox, and evaluations of technical materials.

## COMMUNITY SERVICE

You'll also find a wealth of Apple II technical support for teachers at all levels, parents and instructors involved in special education, and users who work in non-profit social-service organizations.

**CompuMentor**, for example, is a San Francisco-based organization offering free hands-on computer consultation to any non-profit organization in its geographic area. CompuMentor's volunteer computer experts will make on-site visits to evaluate needs, troubleshoot equipment, and make recommendations. The project has been so successful it has spawned a nationwide group of affiliates located in major metropolitan areas. (See the accompanying sidebar.)

## COMPUMENTOR AFFILIATES

### CONNECTICUT

Nonprofit Computer Consultants  
David Teten  
70 Audubon St.  
New Haven, CT 06510  
(203) 772-1345  
(800) 788-5598

### GEORGIA

2000 Club  
Steven Arkin  
123 Abercorn St.  
Savannah, GA 31401  
(912) 232-0475

### ILLINOIS

CompuMentor Chicago  
Deborah Strauss  
59 East Van Buren  
Suite 2020  
Chicago, IL 60605  
(312) 939-8050

### LOUISIANA

Computer Mentors  
David Clark  
1250 Podras St.  
New Orleans, LA 70112  
(504) 529-7248

### MAINE

Alexey Pismenny  
194 Massachusetts Ave.  
Portland, ME 04102  
(207) 775-0394

### MARYLAND

Maryland CompuTeer  
Barbara Sweeney  
Governor's Office  
on Volunteerism  
State Office Building  
15th Floor  
301 West Preston St.  
Baltimore, MD 21201  
(301) 974-3594

### MASSACHUSETTS

Nonprofit Assistance Program  
Boston Computer Society  
Jeff Behrens  
One Center Plaza  
Boston, MA 02108  
(617) 252-0600

### MONTANA

Desktop Assistance  
Marshall Mayer  
23 South Last  
Chance Gulch  
Helena, MT 59601  
(406) 442-3101

### NEW HAMPSHIRE

Information Technology Assistance Program  
Marlene Archer  
P.O. Box 1195  
Concord, NH 03302  
(603) 266-4827

### NEW YORK

CompuTutor  
David Hannay  
Computer Science Dept.  
Union College  
Schenectady, NY  
12308-2311  
(518) 370-6530

### DIS

David Kaburski  
28 West 44th St.  
New York, NY 10036  
(212) 719-9696 x257

### OHIO

Peter Goldstein  
Nistar Data Systems  
13878 Cedar Road  
University Heights,  
OH 44118  
(216) 321-2679

### PENNSYLVANIA

CompuMentor  
of Pittsburgh

Steve Shafer  
209 London Town Drive  
Pittsburgh, PA 15226  
(412) 268-2527

Delaware Valley  
CompuMentor  
Steven Hazzard/  
Mike Feagans  
4101 Kelly Drive  
Philadelphia, PA 19129  
(215) 951-0300

### TEXAS

Executive Service Corps  
Sterling Lauer  
3100 South University Drive  
Fort Worth, TX 76109  
(817) 924-5393

### CANADA

The Syntech Group  
Arne Hermann  
328 West Hastings St.  
Vancouver, BC V6B1K6  
Canada



The **Alliance for Technology Access (ATA)** oversees nearly 50 non-profit computer labs around the nation, each equipped with Apple II systems that have been adapted with special-needs hardware devices for use by people with disabilities. Many ATA sites are also Apple user groups. Each carries an array of literature, special-needs catalogues, public-domain software modified for speech synthesis, and a selection of adaptive hardware devices.

If there are no ATA sites near you, get ahold of a copy of *Closing the Gap*, a bimonthly publication for computer users with special needs. In addition, one 200-page issue per year includes a comprehensive resource guide to all special-needs hardware and software available. Filled with informative articles, question-and-answer columns, reviews, editorials, and step-by-step tutorials, *Closing the Gap* is probably the single most important resource for the computer-using special-education community.

### RIGHT TO THE TOP

In addition to the assistance offered by the independent organizations and publications discussed above, corporate support is also available to Apple II users. Apple Computer offers a selection of publications available free of charge to anyone who calls the company's **Customer Assistance Center**. Among them is *The Apple II Guide* (part number A0243LL/B), a comprehensive 200-page resource complete with the story of the evolution of the Apple II, an array of valuable hints and tips, detailed explanations of hardware and software function, a glossary of technical terms, and a listing of current third-party hardware and software products for the Apple II.

Apple also makes its quarterly *Apple II Software* newsletter (part number L0052LL/B) available to users who call the Customer Assistance Center. Edited by *inCider/A+* Contributing Editor Cynthia Field, the publication includes news, tips, product listings, and vendor names and addresses.

Most major third-party companies are responsive to users' needs as well. If you're having problems with a program or hardware device, check the product manual first to find the number of the company's technical-support hot line. In addition, a number of Apple II companies have taken technical support a few steps further. **Seven Hills Software** and **Vitesse**, for example, have instituted *Partner* programs; **Beagle Bros** has its *Buddy* program (now

administered by Quality Computers). In both cases, local volunteers offer free product assistance as well as free or low-cost updates to ensure that you're using the latest software revision. Contact Seven Hills, Vitesse, and Quality headquarters to learn the name of your local contact person.

Getting help with your system is often just a phone call away. Thanks to a dedicated community of volunteers and a rich variety of resources, Apple II users everywhere have many more years of power computing to look forward to. After all, for millions of Apple II enthusiasts who rely on their computers every day for work and play at home, in school, and at the office, "Apple II Forever" isn't just a slogan — it's a way of life. □

CONTRIBUTING EDITOR JOE KOHN IS VICE-PRESIDENT OF THE GRAVENSTEIN APPLE IIGS USER GROUP, AND ALSO BELONGS TO THE NATIONAL APPLEWORKS USERS GROUP. HE SUBSCRIBES TO AMERICA ONLINE, COMPU-SERVE, AND GENIE, AS WELL AS THE RESOURCE CENTRAL MAGAZINES AND GS+. HE'S A SEVEN HILLS PARTNER AND IS AN ACTIVE COMPUMENTOR VOLUNTEER. WRITE TO HIM AT 166 ALPINE STREET, SAN RAFAEL, CA 94901. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A PERSONAL REPLY.



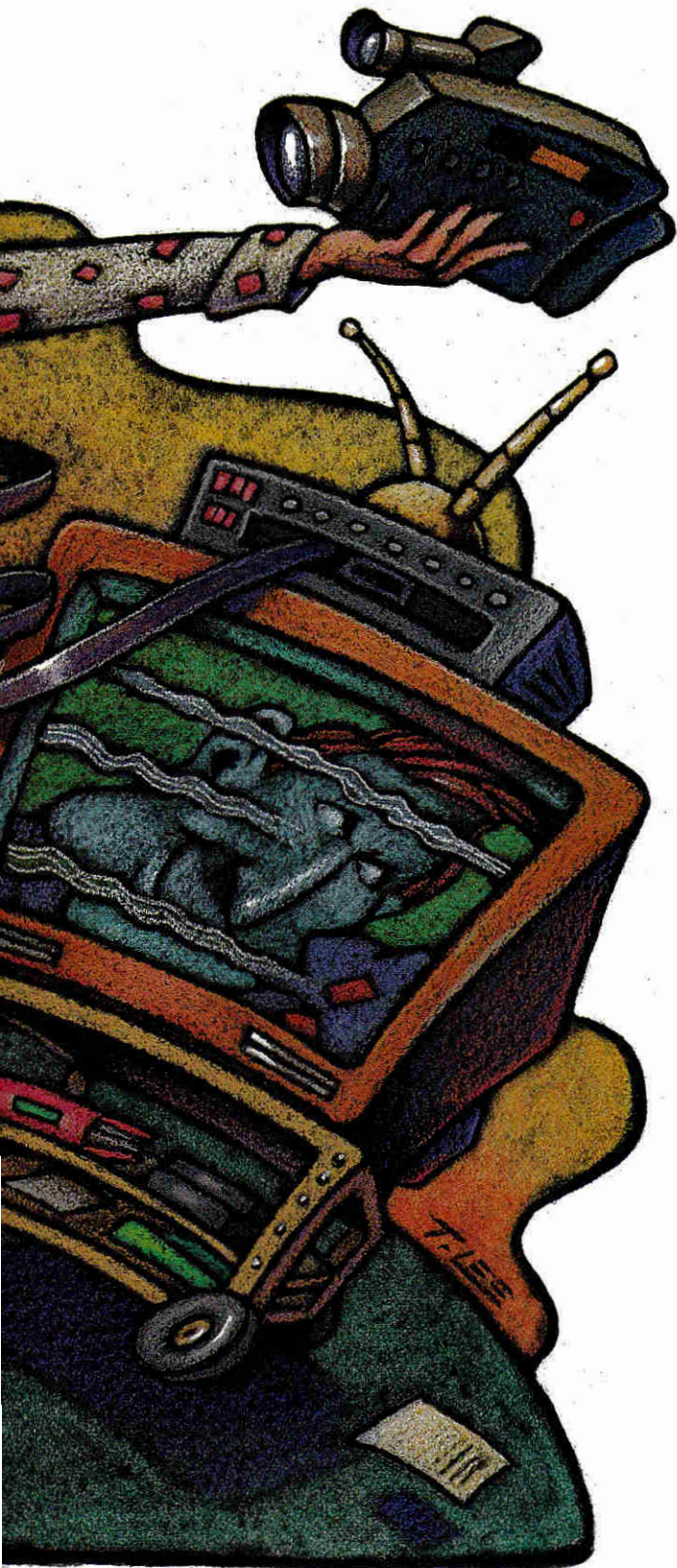




# Big Pict

Illustration • Tim Lee





**Apple IIs go Hollywood:  
Capture the imagination of the  
MTV generation with big-screen  
presentations and videos in your  
own home, office, or classroom.**

If Murphy had written a law about contemporary computing, it would probably go something like this: *Bigger is better*. Just take a moment to consider your Apple's incredible shrinking hard disk or available RAM (*random-access memory*) and you'll see what I mean. Not surprisingly, bigger is almost always better when it comes to computer displays, too. That's especially true if you want to share projects you do on your Apple II or Macintosh with family, friends, business associates, or students — without calling them into a huddle around your desk.

#### **TURN 'EM ON**

Teachers have been using ordinary televisions with Apple IIs since the early 1980s. But even today, a TV with a 19-inch or larger screen can serve as a low-budget, big-screen presentation device for classrooms or small, informal gatherings. Anything you can display on a relatively small computer monitor you can enlarge on a TV screen for all to see. If you'd like to perk up a tired lesson plan, try perching a color television on a tall, rolling cart. Attach the TV to an Apple II and fire up one of those impressive "groupware" programs from Tom Snyder Productions, such as **Decisions, Decisions: The Environment**. (See the accompanying "Product Information" box for resources mentioned in this article.) Taking your class on a cooperative learning adventure is easy when everyone can see what's going on. 🖱️

# ure Show





The Apple II line is uniquely suited to such mental field trips because among today's most popular personal computers, the II is the only model that's NTSC (*National Television Standards Committee*) compatible. An inexpensive RF (*radio frequency*) modulator, which converts line-level video to VHF (*very high frequency*) signals, is the missing link that gets Apple IIs and TVs talking. Those of us who bought Apple IIs in the early days considered RF modulators standard equipment. (They were even bundled with some Apple IIs.) Nowadays you can purchase RF modulators through electronics catalogues and retail stores. For example, the **Archer Video/Computer RF Modulator** costs less than \$30 at Radio Shack.

Slightly larger than a computer mouse, this particular modulator includes video and audio-input and RF-output jacks on the back panel. Insert one end of a composite-video cable, with its RCA-type plugs, into your Apple II's video-output port and the other end of the cable into the video-input jack on the back of the RF modulator.

If your Apple II has an audio-output port (look for the headphones icon), you can play computer sound effects and music through the TV, as well. Use an audio cable with a mini-phono plug at the computer end and an RCA-type plug at the RF-modulator end. (You can purchase necessary cables and connectors for just a few dollars at your local Radio Shack.)

Attach one end of a standard 75-ohm coaxial cable with F-type connectors to the *RF Out* port on the back of the Archer RF modulator. Attach the other end of the coaxial cable to the VHF-input port on your TV. Many older TVs have only VHF screw terminals, so you'll have to use a 75- to 300-ohm adapter as a coupling device. Radio Shack sells that, too.

The Archer RF modulator includes a channel-selector switch on the front and a video-input impedance switch on the back. Set the channel selector to a nonbroadcast channel (3 or 4) as you would to use a VCR (*videocassette recorder*). Then turn the TV set to the same channel as the RF modulator. After you make the connections and your Apple's up and running, flip the video-input impedance switch to the setting that provides the best picture.

Some less-expensive RF modulators handle video only and, therefore, lack an audio-input jack. For your audience's listening pleasure you can increase the volume of your Apple's audio output in various other ways: by rotating the volume dial on the Apple II's speaker, by pushing the volume slider to the right in the GS' Control Panel, or by turning up the volume manually on external speakers connected to your computer.

You can purchase inexpensive amplified speakers from Radio Shack, spring for stylish computer speakers such as those manufactured by Bose, or run a cable from the computer's audio output to a stereo system's tuner/amplifier.

## THE RIGHT CONNECTIONS

If you have an Apple II Plus, IIe, or IIc and you want to use your monitor at the same time as you use a TV, a shielded Y-adaptor cable (Radio Shack catalogue number 42-2436) will do the trick.

Insert the stem of the adapter into the video-output port on the back of your computer. Attach an RCA-type cable to each of the two branches of the Y. Attach one of the cables to your computer monitor's video port. Connect the other cable to the RF modulator's video-input jack. (Thanks to the icons Apple etches on its hardware components, you almost can't mess up — but as a general rule, it's healthy to turn off your computer and its peripherals before plugging and unplugging cables.)

Because the Apple IIGS generates both RGB (*red/green/blue*) and composite-video signals, you probably won't need to use a Y-adaptor on that machine. Just continue using your RGB monitor as usual and attach an RF modulator to the composite-video port.

Take a few seconds to access the GS' Control Panel by pressing Control-Open apple-Escape. Be sure the display is set to *color*. If it's set to *monochrome*, you'll see only black-and-white pictures on your TV.

TV smarts are built into the Apple II. Not so the Macintosh or PC, however: With those machines you must first convert video signals to NTSC if you want to use a TV as a presentation device. Units such as ComputerVideo's \$395 **TV Encoder** and Boffin Limited's **PC-Video Converter**

(\$199) let you view Macintosh and PC displays, respectively, on a television set.

## INSTANT REPLAY

Thanks to NTSC compatibility, you can record your computer creations on videotape as well as view them in real time on a television set. All you need are the appropriate cables to connect the Apple II's composite-video and audio outputs to their respective inputs on a VCR.

Because videocassette recorders differ with respect to the jacks they provide, your best bet is to take the VCR's manual to your local electronics store, where a sales representative can set you up with the cables you need.

Although lacking the immediacy of a "live" presentation, a videotape is an inexpensive way to demonstrate your work to those who live at a distance or who don't have access to the same kind of computer you use.

Roger Wagner, president of the software company that bears his name, is an unabashed proponent of such low-cost presentation technology. He calls the VCR "the printer of the '90s." Graphically rich multimedia-authoring programs such as HyperStudio routinely incorporate sound effects, music, and animation, and sometimes boast full-motion video to boot, but, as Wagner asserts, "a printer can't capture all that" on paper. As if to further demonstrate the point, Wagner recently created a multimedia "video letter-to-the-editor" in response to an article published in *Upside* magazine, a computer-industry journal.

Among other things, Wagner's video features special effects created with the **Apple II Video Overlay Card (VOC)**. A "genlock" card for the Apple IIe and GS, the VOC lets you superimpose custom text and or graphics onto full-motion video playing from a VCR or laser videodisc.

Watching a home-made videotape on your computer screen is mind-bending enough, but being able to add titles, credits, and captions is truly empowering. (Virtually any graphics program will do.) Capturing your edited creations on tape is as easy as pressing the *Record* button on a second VCR.

Earlier this year I developed a HyperCard IIGS stack starring McGruff®, the National Crime Prevention Council's



(NCPC) spokesdog. Because McGruff illustrations and the McGruff slogan ("Take a Bite Out of Crime") are registered marks of NCPC, I needed permission to use them in the program. (I imported McGruff clip art with a **Quickie** hand-held scanner.) Reviewers at NCPC didn't have immediate access to an Apple IIGs, so I created videotapes of both the prototype and the finished stack.

While the videotape's quality placed a distant second to the quality of the GS' RGB display, the demonstration tapes — complete with McGruff's *Winners Don't Use Drugs* theme song and HyperCard IIGs sound effects — provided NCPC with the preview they sought.

### MONEY TALKS

For many educators and computer buffs alike, the convenience of using a TV and the ability to make inexpensive videos compensate for the relatively poor resolution that results when you record directly from the Apple II's composite-video port. The grainy appearance and color distortion are particularly apparent when you display text that's smaller than 18-point.

For those who demand it, higher quality is possible, though pricey. Mitsubishi's **Diamond Scan 33** and **Diamond Scan 37** presentation monitors, for example, with their respective 33- and 37-inch screens, are compatible with all current IBM and Apple graphics standards, including VGA (*video graphics adapter*), SVGA (*super VGA*), Macintosh II, and Mac LC. According to the company, Diamond Scan monitors also feature inputs for analog RGB, TTL (*transistor/transistor logic*, another PC standard), SVHS (*super VHS*, generated by camcorders and VCRs), composite video, and stereo audio.

Unfortunately, many schools may find the \$5000 to \$7000 cost of such devices prohibitive. Comparatively speaking, presentation monitors are cheap — color video projectors cost anywhere from \$8000 to \$100,000 and up.

Luckily, there's an affordable alternative: LCD (*liquid-crystal display*) panels. These high-resolution, portable screens offer tremendous value for teachers, lecturers, and businesspeople who want to incorporate professional-level presentations into their lesson plans and demon-

strations. Although the technology differs somewhat from one model to the next, LCD panels share one enticing feature: They work with standard overhead projectors like the ones you probably already use in school.

What sold me on LCD panels is the opportunity I had recently to test Proxima Corporation's new **ColorWorks sx** with a Mac LC. The package includes a VGA adapter, and you can purchase optional adapters for the Apple IIe/c and IIGs. By swapping cables as needed, virtually every teacher in your school can share a single panel, no matter what his or her computer preference may be.

Setting up a ColorWorks panel takes just a few minutes — it's basically plug-and-play. First, remove the monitor cable from your Mac (or other personal computer) and attach the **ColorWorks Y-Cable** adapter instead. Plug your monitor into one branch of the Y; plug the LCD panel's cable into the other branch. The LCD panel requires its own power supply, so you'll need an extra electrical outlet. (Better yet, pack a power strip with the LCD unit.) Weighing in at just 6 pounds, the ColorWorks panel is a real lightweight.

But there's nothing lightweight about its capabilities. An LCD panel acts like a second, albeit transparent, monitor. Everything that appears on the Mac's RGB screen appears in equally brilliant color and resolution on the ColorWorks panel. The overhead projector upon which you lay the LCD panel illuminates, magnifies, and projects the computer image onto a slide or movie screen.

ColorWorks models use *passive-matrix* technology to turn pixels on and off. (*Pixels* are the individual *picture elements* — or "dots" — that make up a computer display.) Passive-matrix LCD panels are appropriate for computer presentations featuring text, graphics, and simple animations. A full-motion video presentation, by contrast, requires an active-matrix panel such as Proxima's **Ovation** model.

### POINTERS TO PONDER

With ColorWorks' optional **Cyclops Interactive Pointer System**, you can pull down menus, click on buttons, and perform other neat tricks — on the movie screen instead of the computer screen.

### NOW PLAYING

#### **Apollo A/V**

60 Trade Zone Court  
Ronkonkoma, NY 11779  
(516) 467-8033

#### **Boxlight Corp.**

17771 Fjord Drive Northeast  
Poulsbo, WA 98370  
(800) 762-5757

#### **Chisholm**

910 Campisi Way  
Campbell, CA 95008  
(800) 888-4210  
(408) 559-1111

#### **Dukane Corp.**

Audio Visual Division  
2900 Dukane Drive  
St. Charles, IL 60174  
(708) 584-2300  
(708) 584-5156 fax

#### **InFocus Systems**

7770 Southwest Mohawk St.  
Tualatin, OR 97062  
(800) 327-7231  
(503) 692-4968

#### **nView Corp.**

11835 Canon Blvd.  
Newport News, VA 23606  
(800) 736-8439  
(804) 873-1354  
(804) 873-2153 fax

#### **Proxima Corp.**

6610 Nancy Ridge Drive  
San Diego, CA 92121  
(800) 582-2580  
(800) 582-0852 CA  
(619) 457-5500  
(619) 457-9647 fax

#### **Sayett Technology**

17 Tobey Village  
Pittsford, NY 14534  
(800) 678-SHOW  
(716) 264-9250

#### **Sharp Electronics Corp.**

LCD Products Group  
Sharp Plaza, MS 1  
Mahwah, NJ 07430  
(201) 529-8731  
(201) 529-9636 fax

#### **Telex Communications**

9600 Aldrich Ave. South  
Minneapolis, MN 55420  
(800) 828-6107  
(612) 887-5531

#### **3M Corporation**

3M Austin Center  
P.O. Box 2963  
Austin, TX 78769  
(512) 984-1800



# Big Picture Show



Just point and click with a special stick or laser pointer. The Cyclops stick pointer is a high-tech version of a classroom pointer, with an infrared transmitter in its tip and a mouse button on its handle.

When you stand in front of the movie screen and point the tip of the wand at the *Apple* menu, for instance, you can press the pointer's button to pull down the menu. Drag the pointer near the movie screen to scroll through the menu. Release the button to select an option.

Proxima's **Cyclops Laser Pointer** works like a remote-control mouse that lets you walk around the classroom while you point and click "on the fly" from as far as 25 feet away. If that performance doesn't keep your class awake, nothing will.

How does it work? The Cyclops camera unit attaches to the back edge of the ColorWorks LCD panel. Four LEDs (*light-emitting diodes*) shining on top of the camera head make calibration a cinch. The Cyclops camera transfers stick- or laser-pointer signals to your Mac via the Cyclops CDEV (*control-panel device*) software. Installing the CDEV is no work at all — just drag it into the *System* folder on your hard drive. With the appropriate software driver — available from Proxima for less than \$50 — you can use the Cyclops Interactive Pointer System with a GS, too.

## ALTERNATIVES

Like most LCD-panel manufacturers (see the accompanying sidebar "Now

Playing" for additional sources of LCD panels and other video-projection systems), Proxima offers a monochrome LCD panel, as well. The company's **MultiMode** unit projects computer displays in 16 shades of magenta.

Other LCD panels include the **InFocus 1600GS** black-and-white model and the color **InFocus 1600LC PC Viewer** (reviewed in September 1992, p. 52). While monochrome panels cost a lot less and may suffice in the boardroom, color panels are probably the way to go when you're trying to capture the attention of the MTV generation.

## SEEING IS BELIEVING

If your work requires state-of-the-art presentations, breaking the bank for an active-matrix LCD panel, a large-screen color monitor, or even an RGB video projector is money well spent.

But for teachers and families who just want to hook up a large-screen color TV — or set up an amateur video-production studio at home or in the classroom — dropping a few bucks at an electronics store makes more sense.

Many schools, however, may discover that their most-attractive option lies between these two extremes. A full-color, passive-matrix LCD panel like Proxima's ColorWorks sx, together with an assortment of Apple II, Macintosh, and PC adapter cables, won't just help your students and coworkers get the picture —

## FURTHER READING

"Roll Video" May 1989, p. 42

"Reel-World Images" July 1989, p. 40

"A Fish Called Herman"  
April 1990, p. 51

"Making Movies with Your Apple II"  
April 1990, p. 44/May 1990, p. 45

"The Apple IIcs:  
What the Mac LC Should Have Been?"  
February 1991, p. 13

"Forever Amber" February 1991, p. 19

"Cyclops by Proxima"  
February 1991, p. 19

"Off the Wall" May 1991, p. 11

"True Colors" September 1991, p. 14

"MTV Comes Home" April 1992, p. 64

"InFocus 1600LC PC Viewer"  
September 1992, p. 52

it'll turn them on to learning the way Boyz 2 Men turns them on to hip-hop. □

CYNTHIA E. FIELD IS A PRODUCT REVIEWER AND CONTRIBUTING EDITOR. WRITE TO HER C/O *INCIDER/A+*, 80 ELM STREET, PETERBOROUGH, NH 03458. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A PERSONAL REPLY.

## PRODUCT INFORMATION

### Apple II Video

**Overlay Card**, \$549  
**HyperCard IIcs**, \$99  
Apple Computer, Inc.  
20525 Mariani Ave.  
Cupertino, CA 95014  
(800) 538-9696

### Archer Video/Computer

**RF Modulator**  
Radio Shack  
700 One Tandy Center  
Fort Worth, TX 76102  
\$27.95 #15-1273A

**ColorWorks 11"**, \$4995  
**ColorWorks sx 9"**, \$3995  
**ColorWorks Y-Cable/**  
**Apple II Composite Video**,  
\$39.95  
**ColorWorks Y-Cable/**  
**Apple IIcs Analog RGB**  
**Video**, \$79.95

### Cyclops Interactive

**Pointer System**, \$749  
**Cyclops Laser Pointer**,  
\$295

### Cyclops Software

**Driver/Apple IIcs**, \$49.95  
**MultiMode**, \$2199  
**Ovation**, \$8495  
Proxima Corp.  
6610 Nancy Ridge Drive  
San Diego, CA  
92121-3297  
(800) 582-2580  
(800) 582-0852 CA  
(619) 457-5500  
(619) 457-9647 fax

### Decisions, Decisions:

**The Environment**  
Tom Snyder Productions  
90 Sherman St.  
Cambridge, MA 02140

(800) 342-0236

(617) 876-4433

(617) 876-0033 fax

\$119.95

**Diamond Scan 33**, \$4999

**Diamond Scan 37**, \$6999

Mitsubishi Electronics

America

Information Systems

Division

5665 Plaza Drive

Cypress, CA 90630

(800) 843-2515

### HyperStudio

Roger Wagner Publishing  
1090 Pioneer Way  
Suite P  
El Cajon, CA 92020  
(800) 421-6526  
(619) 442-0522  
(619) 442-0525 fax  
\$179.95

**InFocus 1600GS**, \$1695

**InFocus 1600LC PC**

**Viewer**, \$2695

education discounts

available

InFocus Systems

7770 Southwest

Mohawk St.

Tualatin, OR 97062

(800) 327-7231

(503) 692-4968

**PC-Video Converter**

Boffin Limited

2500 West County

Road 42 #5

Burnsville, MN 55337

(612) 894-0595

(612) 894-6175 fax

\$199

### Quickie

Vitesse, Inc.  
13909 Amar Road  
Suite 2A  
La Puente, CA 91746  
(800) 777-7344  
(818) 813-1270  
(818) 813-1273 fax  
\$299

### TV Encoder

ComputerVideo  
215 Salem St.  
Suite 5  
Woburn, MA 01801  
(617) 937-0888  
(617) 937-0893 fax  
\$395  
education pricing available



# We have books & tools!



## Resource Central

By Special Arrangement with Addison-Wesley and Apple Computer  
**Apple IIgs Technical Library Set — \$49.95**

Offer expires Oct 31, 1992 — Available only to Resource Central subscribers  
 Get the six books at the heart of the Apple IIgs technical library — a \$148.70 value — for just \$49.95 plus shipping. Call for details. The six books are marked (•) below:

### Classic Apples

#### Technical references

##### • Apple II-Plus

QS-002 Sather: Understanding the Apple II \$14.95

##### • Apple IIe

QS-003 Sather: Understanding the Apple IIe \$14.95

AW-003 Apple: Apple IIe Technical Reference \$24.95

##### • Apple IIc

DA-007 Apple: Apple IIc Tech Reference, 2nd Ed \$30.00

DA-008 Apple: Apple IIc Memory Card Reference \$15.00

#### Applesoft

##### • Books

AW-010 Apple: Applesoft Tutorial (w disk) \$29.95

AW-021 Apple: Applesoft Programmer's Reference \$22.95

AW-040 Critchfield Dwyer: Bit of Applesoft \$9.95

AW-039 Myers: Graphics for the Apple II \$9.95

##### • Tools

BB-003 Beagle: Program Writer (Applesoft program editor) \$37.50

BB-002 Beagle: Beagle Compiler (Applesoft compiler) \$59.00

MD-004 Davis: ModemWorks \$49.95

KS-001 Microdot (Basic system replacement) \$29.95

IS-002 Basic Help (Online Reference & Help) \$29.95

DA-001 Apple: Apple Filecard Toolkit \$19.00

#### Pascal

##### • Books

AW-037 Seiter Weiss: Pascal for Basic Programmers \$12.95

##### • Tools

DA-024 Apple: Apple II Pascal v1.3 \$69.00

DA-032 Apple: Apple II Pascal LabPak (10 copies on 3.5) \$69.00

#### ProDOS 8

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QS-004 Worth Lechner: Beneath Apple DOS \$12.95

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##### • Technical references

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##### • Toolbox manuals

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AW-006 Apple: Apple IIgs Toolbox Reference, Vol 2 \$26.95

AW-036 Apple: Apple IIgs Toolbox Reference, Vol 3 \$39.95

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CB-007 Davis Gookin: Advanced Prog Tech IIgs Toolbox \$19.95

##### • GS/OS

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AW-041 Apple: Apple IIgs GS OS Reference \$28.95

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BW-001 ByteWorks: ORCA Pascal \$90.00

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##### • C

BW-003 ByteWorks: ORCA C \$90.00

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MS-001 MICOL: Micol Advanced BASIC for the IIgs v4.0 \$99.00

#### Assembly language tools

CB-002 Wagner: IIgs Machine Language for Beginners \$19.95

DS-005 disk for this book (3.5) \$15.95

SS-005 Lighty Eyes: Prog the IIgs in Assembly Lang \$29.95

DS-009 disk for this book for Merlin \$10.00

DS-010 disk for this book for Orca C \$20.00

##### • Assemblers

RW-002 RWP: Merlin 8.16 (DOS 3.3, ProDOS 8, GS OS) \$99.00

BW-005 ByteWorks: ORCA M Assembler v2.0 \$90.00

BW-008 ByteWorks: Merlin to Orca Source Converter \$18.00

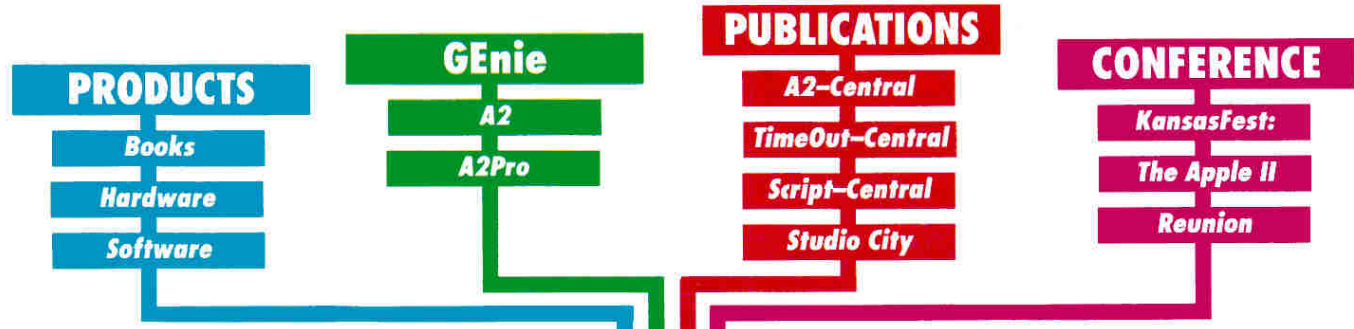
##### • Disassemblers

BW-007 ByteWorks: ORCA Disassembler \$30.00

##### • Debuggers

BW-010 ByteWorks: ORCA Debugger \$39.95

DA-015 Apple: GS Bug and Other Debugging Tools \$30.00



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# BANK ON IT

Here's the bottom line: For home finance, school budgeting, or small-business planning, AppleWorks GS creates easy-to-read spreadsheets that pack a bounty of hidden power.

By CYNTHIA E. FIELD, Ph.D. \* CONTRIBUTING EDITOR

Whether you'd like to draft some fresh new lesson plans, publish a newsletter, track your ancestors, chat on line with Apple II compatriots, or manage your personal finances, Claris' best-kept secret, **AppleWorks GS**, is all the program you need. Maybe that's because it's actually six programs in one — a word processor, painting/drawing module, page-layout designer, database manager, communications utility, and spreadsheet. That's a lot of bang for the buck. (Looking for a low-cost GS system for home or school? See "Deals, Deals, Deals," March 1992, p. 26, for details.)

Let's go all out for productivity — we'll use AppleWorks GS, combining the color and convenience of the Apple II with the consistent look and feel of the Macintosh, to create the **Debt.Analysis** spreadsheet in **Figure 1**. Among other things, this worksheet can help you determine whether your existing (or newly planned) mortgage and other debts are getting a bit beefy for your budget. We'll begin by creating a layout that fits the width of the screen (no horizontal scrolling for us, thank you) and prints on one page.

## FORM AND FUNCTION

Power up your GS with the GS/OS System Disk. Needless to say, a hard-disk drive makes AppleWorks GS — and many other programs — a pleasure to use. (For additional suggestions on enhancing your enjoyment of this multitasking program, see the accompanying sidebar, "Ten Tips for AppleWorks GS.")

Launch AppleWorks GS and start a new spreadsheet file by double-clicking on the spreadsheet icon. (It looks like a miniature piece of graph paper.) If, like me, you prefer an uncluttered spreadsheet screen display, choose *Hide Cell Lines* (Options menu).

Move the crossbar cursor to the yellow column-headings area (A, B, C, and so on) near the top of the spreadsheet document window. If you place the cursor carefully on the vertical column boundary (dividing line) separating the column A label from the column B label, the crossbar cursor changes to a double-arrow cursor. Press the mouse button and drag the column divider left to narrow column A, as shown in **Figure 2**. Now move the cursor to the column boundary between B and C. Drag the divider right until the width of column B on your screen approximates the width in the screen dump. Use the same method to adjust the widths of columns C and D to match **Figure 2**.

In our sample worksheet, columns A, B, C, and D accommodate approximately 4, 43, 13, and 7 characters, respectively. Keep in mind that these numbers are guidelines only.

For one thing, the number of characters that fit in a spreadsheet cell varies, depending on the size of the characters themselves. An *m* takes up more space than an *i*, for instance. What's important is achieving in your template the same relative widths I've used in this one.

Experiment a bit, and when the basic worksheet layout looks good to you, save it with a unique (but meaningful) filename such as **SS.Template**.

As **Figure 3** demonstrates, each of the four columns in this spreadsheet template has a specific purpose. Column A ensures that printed worksheets have a sufficiently large left margin for binding, or merely for good looks. You might use the cells in this column to place flags or special symbols to pinpoint-important data. In **Figure 3**, you can see one of five bullets I've incorporated as visual cues in column A of **Debt.Analysis**. (Create a bullet by pressing Option-8.)

Thanks to its width, column B can hold introductory text and descriptive data-entry labels. I routinely allocate rows 1 through 6 for the spreadsheet's title and a brief description of the worksheet's purpose. The sample worksheet (**Figure 1**) includes two lines of introductory text in rows 4 and 5.



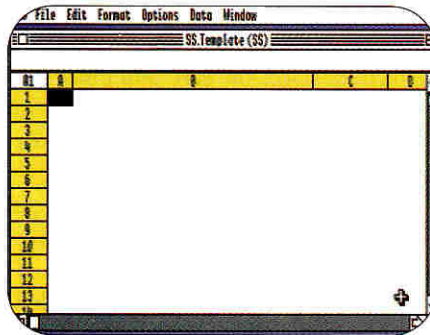
For appearances' sake I allowed the introductory text to span columns B and C. AppleWorks GS will overflow text automatically into subsequent cells to the right of your work area. That means that if you exceed the limits of columns A through D, the contents of the document window will expand right, defeating the purpose of setting up a worksheet that fits across one page. To keep text in check, restrict each line to 40 characters or so. If you want to type additional text, click the cursor into column B in the next row and enter another line of text.

If your spreadsheet requires a longer introduction, insert additional rows. Click the crossbar cursor in the appropriate row heading in the vertical yellow band on the left-hand side of the spreadsheet document window. Press Open apple-I (OA-I), or choose *Insert* from the *Edit* menu, for each additional row you need.

In *Debt.Analysis*, rows 7 and beyond feature worksheet labels. Depending on the nature of your project, they could include the names of budget categories, students, stocks you own, or inventory items.

AppleWorks GS' spreadsheet module offers a surprising number of text formatting features. Listed under the *Format* menu, they let you add boldface or underline selected text, as well as center it or shift it left or right. As you can see from *Figure 1*, I like to use bold uppercase letters for worksheet titles. For important subheadings I use bold mixed-case letters. I prefer plain text for data-entry labels, and I usually right-justify labels that describe "totals." To right-justify a label, select the cell and then choose *Align Right* from the *Format* menu. As a rule, you should try to be consistent in formatting the elements that make up your worksheets.

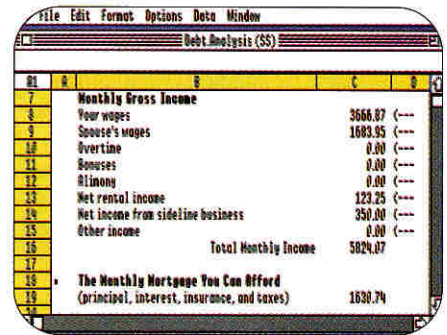
If you can restrict a worksheet to about 50 rows (*Debt.Analysis* uses 45), the finished document will fit on a single piece of paper. Just be sure to select the *Vertical Condense* check box in the *ImageWriter II Page Setup* (*File* menu) or the *Intermediate* or *Condensed* radio button in the *LaserWriter Page Setup* dialog box.



**Figure 2. Screen dump of basic AppleWorks GS spreadsheet template showing column widths.**

Column C in *Debt.Analysis* is the data and formulas column. Its width can accommodate large numbers. If you work with extremely large numbers, reduce the width of column B and expand column C further — or pull down AppleWorks GS' *Format* menu and choose the *Scientific Notation* option.

In column D I typically use arrows to point to data-entry cells in column C. These pointing cues can make the worksheet easier to use later on, particularly if you share it with someone else. You can create a left arrow by typing Shift-, (Shift-Comma) to create the < (less than) sign. Now follow that with three dashes (hyphens). Thanks to AppleWorks GS' *Copy/Paste* capabilities, you don't even have to type



**Figure 3. Screen dump showing debt-analysis spreadsheet layout. Note variable column widths and arrows in D.**

each pointer from scratch. Create the first, select the cell it's in, and press OA-C (or pull down the *Edit* menu and choose *Copy*). Copying stores a replica of the cell's contents in your GS' clipboard memory.

Now click the mouse on a destination cell and paste a copy of the pointer there by pressing OA-V (or choose *Paste* from the *Edit* menu).

## DEBT REDUCTION 101

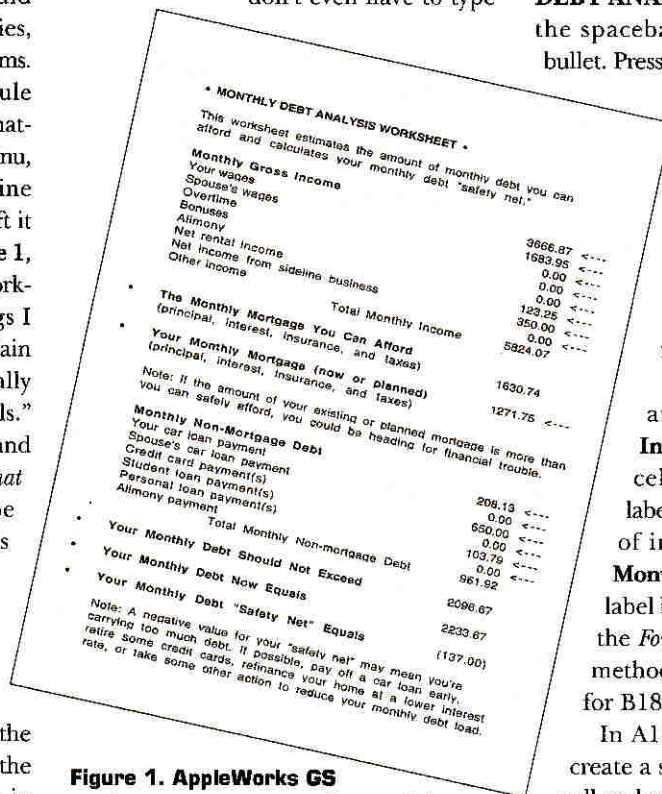
Reproducing the *Debt.Analysis* worksheet described here is easy. Start with the *SS.Template* you just created. In cell B2 (the cell at the intersection of column B and row 2), type a bullet, press the spacebar twice, and type **MONTHLY DEBT ANALYSIS WORKSHEET**. Press the spacebar twice and type another bullet. Press Return. Select B2, pull down

the *Format* menu, and choose *Bold*.

Select B4 and type the first line of introductory text as shown in *Figure 1*. After you type the word **can**, move the cursor to B5 and finish entering the remainder of the text.

Move the cursor to cell B7 and type **Monthly Gross Income**. Make the text bold. In cells B8 through B15 type labels representing various forms of income. In B16 type **Total Monthly Income**. Right-justify the label by choosing *Align Right* from the *Format* menu. Using the same methods, create the labels and text for B18 through B45.

In A18, A21, A36, A38, and A40 create a single bullet by selecting the cell and pressing Option-8. The fastest way to move to a particular cell is to use



**Figure 1. AppleWorks GS produces an easy-to-read spreadsheet that packs a lot of hidden power.**



AppleWorks GS' *Go To* command. Press **OA-G** and type the coordinates (cell address) of the destination cell. Typing **A1**, for instance, is an exceptionally fast way to get back to the top of your worksheet.

In C8 through C15 type a zero. In D8 create a pointer according to the instructions provided above. Copy and paste the pointer to D9 through D15.

In C16, enter the following formula: **=Sum(C8.C15)**. This formula tells AppleWorks GS to add up the range of numbers found in C8 through C15. To test the formula's accuracy, type a number (10, say) in C8. The value in C16 should change to 10. (If it doesn't, pull down the *Options* menu and deselect *Manual Calculation*.) Type 10 in each of the next seven cells (C9 through C15). As you do, the value in C16 should increment by ten. The final total should equal 80.

When you're satisfied that the formula works properly, select C16, pull down the *Data* menu and choose *Protect*. That way you won't be able to change the formula,

or indeed edit the cell in any way, without unprotecting it first. To remove protection, select the cell, pull down the *Data* menu and select *Protect* again to remove the check mark appearing next to the feature's name.

In C28 through C33 enter zeros, and in D28 through D33 create pointers. While you're at it, paste a pointer into D21.

In C34 enter, test, and protect this formula: **=Sum(C28.C33)**. Then enter and protect the following formulas: in C19 **=C16\*0.28**; in C36 **=C16\*0.36**; in C38 **=C21+C34**; in C40 **=C36-C38**.

Here's what the formulas do. First, most banks insist that your monthly housing costs (mortgage principal, interest, insurance, and property taxes) not exceed 28 percent of your gross income. The formula in C19 takes gross income from C16 and multiplies it by 0.28.

Banks have another rule of thumb: Your total debt shouldn't exceed 36 percent of your gross income. The formula in C36 multiplies your gross income (C16) by 36

percent. The formula in C38 adds up your housing costs and non-mortgage debts to provide a total monthly debt load. The formula in C40 subtracts your total monthly debt (C38) from the maximum debt allowed (C36).

If the result is a positive number, your finances may be in good shape (although being totally debt-free is something many of us only aspire to). If, however, the value in C40 is a negative number, you may be carrying too much debt for your own good. AppleWorks GS can display negative numbers in various ways — with a minus sign, in parentheses, or colored red. Choose the style you want from the *Format* menu.

For best appearance, the values in column C should probably share a consistent format. Click the mouse in the C label in the yellow column heading to select the column in its entirety. Pull down the *Format* menu and choose *Fixed*. Pull down the *Format* menu again and select *Set Decimal Places*. Choose 2 places for

## 10 TIPS FOR APPLEWORKS GS

**A**lthough program manuals, quick-reference cards, and "how-to"s like this one are a help, firing up your computer and exploring AppleWorks GS free-style is the best way to learn the software's countless features. While we can't discuss every program nuance in this sidebar, here are ten tips to get you pointed in the right direction as you explore the power of AppleWorks GS.

**1 Like other graphics-based programs, AppleWorks GS can make your GS come up short on memory.** At about \$40 per megabyte, memory for your GS is cheaper now than ever. If you can afford it, upgrade to at least 2 to 4 megabytes. If not, close unnecessary AppleWorks GS documents to preserve memory as you work.

**2 If your GS has a minimum 1-megabyte configuration, AppleWorks GS may occasionally present you with an "out of memory" message when you attempt to print a file.** According to Claris Corporation, the problem is fragmented RAM (random-access memory). The company offers this solution: Hold down the option key while you choose *About AppleWorks GS* (Apple menu); simultaneously hold down the option and control keys while you click on the **OK** button in the memory-configuration dialog box that appears.

**3 Technical information like the procedure described above for defragmenting RAM is just a toll-free phone call away, 24 hours a day.** If you have a fax machine and a touch-tone phone, call Claris technical support's **Fax AnswerLine** at 1-800-800-8954 to receive answers to common AppleWorks GS questions. At last check, some two dozen "documents" in all were available, including "Database Template Won't Load"

and "Printing Red Negative Numbers in the Spreadsheet to a LaserWriter." A voice prompt walks you through the process of selecting documents and entering your fax number. Within minutes (seconds, usually) the information rolls out of your fax machine. Don't have a fax machine? Not to worry — you can listen to recorded answers on Claris' 24-hour **Voice AnswerLine** (1-800-735-7393).

**4 If you haven't already invested in a hard-disk drive for your GS, time's a-wastin'.** You can get a feel for the benefits a hard drive offers by contacting Quality Computers (1-800-777-3642) and ordering **The Apple II Enhancement Guide and Q Drive Interactive Demo** (\$6, refundable with purchase of a hard drive or other selected hardware). This stylish HyperStudio-based software tour includes a look at hard-drive anatomy as well as an explanation of terms such as SCSI (small-computer-systems interface). A convincing simulation lets you experience firsthand the speed improvements a hard drive affords. It's like virtual reality for AppleWorks GS users.

**5 Whether or not you spring for a hard-disk drive, consider enhancing AppleWorks GS with Pointless from WestCode Software.** Pointless substitutes TrueType fonts for the bit-mapped fonts that came with your GS' system software. Because TrueType font characters are scaled mathematically, the result is smoother-looking text both on screen and in non-PostScript printouts. **NAUG** offers some two dozen disks containing Pointless- (and AppleWorks GS-) compatible TrueType fonts. (See "Just Your Type," March 1992, p. 48; "Pointless," July 1992, p. 24; "Tailor-Made Type," September 1992, p. 16; and "In Search Of . . .," October 1992, p. 22, for details.)



precise values; choose 0 for rounding to the nearest dollar.

When you select *Dollars* format, AppleWorks GS adds a dollar sign automatically to each value. Used prudently, this formatting option can make worksheet values more meaningful. If every value sports a dollar sign, however, the worksheet can look cluttered.

If you plan to share the worksheet with other users, it may be a good idea to protect everything except the data-entry cells in column C.

In addition, during its development, and especially when you complete it, be sure to save the spreadsheet with a memorable name such as **Debt.Analysis**. AppleWorks GS adds a spreadsheet icon automatically to the name, so it's easy to remember the filetype next time you want to cast a watchful eye on your finances.

## SUMMING IT UP

The project described here is both enlightening and easy to construct. Despite

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

**Pointless**  
WestCode Software  
15050 Avenue of Science  
Suite 112  
San Diego, CA 92128

## PRODUCT INFORMATION

(619) 679-9200  
(619) 451-0276 fax  
\$69.95

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Users Group  
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Canton, MI 48187  
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(313) 454-1965 fax  
(615) 359-8238 BBS  
\$1 plus self-addressed,  
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\$6 per disk  
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**SuperConvert 3.0.1**  
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2310 Oxford Road  
Tallahassee, FL  
32304-3930  
(904) 575-0566  
(904) 576-9415  
(904) 575-2015 fax  
\$39.95

its simplicity, **Debt.Analysis** features many of AppleWorks GS' powerful spreadsheet capabilities, including variable column width, abundant text and data formats, copy/paste options, and cell protection.

Although contributing editors are sometimes paid by the word, I'll refrain from waxing on about the Apple IIcs' two-for-the-price-of-one (16-bit GS and 8-bit IIe) microprocessors, colorful GUI (*graphical user interface*), and powerful new system

software. (For an in depth look at GS/OS System 6.0, see "Smooth Operator," July 1992, p. 34.) Suffice it to say that this month we can sum up the GS' allure in one simple phrase: *AppleWorks GS*. □

CONTRIBUTING EDITOR CYNTHIA FIELD IS A FREE-LANCE JOURNALIST SPECIALIZING IN COMPUTER-RELATED TOPICS. WRITE TO HER C/O *INCIDER/A+*, 80 ELM STREET, PETERBOROUGH, NH 03458. ENCLOSE AN SASE IF YOU'D LIKE A PERSONAL REPLY.

### 6 If you use an ImageWriter II with AppleWorks GS, you know how time-consuming it can be to print even a simple one-page letter, let alone a term paper or business report.

There are at least two ways to speed up the process and still generate good-looking documents. If the ImageWriter printer driver you use offers draft mode, try pressing the open-apple key or the option key while clicking on the **OK** button in the printer dialog. According to Claris, these commands generate correspondence-quality and near-letter-quality printouts, respectively. If you use an ImageWriter driver that offers a **Text Only** feature, try that. Shortcuts like these mean sacrificing fancy type faces, sizes, and styles. But for purposes of editing or for printing routine correspondence, the ImageWriter's built-in fonts may suffice.

**7 Creating so-called "extended" characters — like bullets — is easy with AppleWorks GS.** First, check to be sure that the font you're using includes the extended characters you need. The graphics-conversion program **SuperConvert** prints font-key charts showing all available characters. Short of testing all the fonts you use with AppleWorks GS, stick with Geneva. And be sure to open the **General Control Panel** (Apple menu) to make sure that **Translation** is set to **Standard** (not **None**).

**8 There are at least two ways to create lines (for signatures and the like) in the AppleWorks GS word processor.** You can create a line the typewriter way by pressing a series of Shift- characters. Problem is, lines created with this old-fashioned method sometimes exhibit small breaks, creating a dashed-line effect when printed. To overcome the problem, try creating lines the electronic way: Press the spacebar to create the line length needed; select the range of spaces

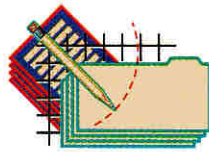
with the mouse as you would any other "text"; press **⌘-U** (or select **Underline** from the **Style** menu). Although lines created either way look identical on screen, those created the electronic way are smoother when printed.

**9 The AppleWorks GS database is probably unlike any 8-bit database you've ever used.** For one thing, field names don't appear in **Show Form** mode, so you have to create a label for each field if you hope to fill in records efficiently. When you're designing a new database, the tendency is to create fields first and then labels to accompany them. Problem is, the order in which you create fields determines the order in which the data-entry cursor moves when you press the tab key. For best results, draw database labels first. Move them around to create the most pleasing and efficient form design. Then create fields to match.

**10 One of the neatest AppleWorks GS add-ons is a freebie that Senior Editor Paul Statt recently shared with me.** The name's a mouthful, but **Super-Hi-Res Timed-Delay Screen-Saving CDA** (classic desk accessory) works great. This public-domain find installs easily and appears in the text-based GS Control Panel — the one you access with Control-Open apple-Escape. Ten seconds after you invoke the CDA, the GS takes a snapshot of whatever appears on screen and saves it as **Screen.X** (where X is a letter of the alphabet). Now here's a classic case of great integration: You can open **Screen.X** in the AppleWorks GS graphics module for fine-tuning or cropping; then copy and paste the graphic to the page-layout module for resizing. Thanks to this nifty CDA, it's easier than ever to incorporate screen shots into classroom handouts, in-service training manuals, school newsletters, and other AppleWorks GS publications.

— C.F.





# APPLEWORKS IN ACTION

## HOLIDAY GREETINGS I

**Keep those cards and letters coming: This mailing-label database gets your correspondence records in shape.**

**BY RUTH K. WITKIN**

WHEN I STARTED WRITING THESE AppleWorks in Action columns seven years ago, my very first topic was mailing labels. Many things in the computing world have changed since then, but not the need for labels. During the holiday season, your labels can start cards, letters, and packages on their way to friends and family. Yes, labels lack that certain finesse you get with handwritten addresses, but they're perfectly proper nonetheless — and they'll save you countless hours at the busiest time of the year.

This month's tutorial, the first of a two-parter, explains how to create a database to print mailing labels and records. In the second part next month, you'll select

database records based on letter codes, create a chatty holiday letter with placeholders for database categories, then mail-merge those selected records.

You won't need actual mailing labels in this session — your regular printer paper will do. If you want to get serious right away, though, load your printer with continuous-feed, one-across, pressure-sensitive labels 3 and a half inches wide by 15 sixteenths of an inch high.

### CUSTOMIZING THE DATABASE

Now create a new AppleWorks database file named **MAILING**. The *Change Record/Layout* screen appears with the cursor on *Category 1*. **Figure 1** shows the categories in this database — 15 actives and five spares. The spares will hold entries you want to

include later when you make this database your own. Creating spares now avoids having to insert categories later, which would erase any custom screen layouts and report formats you designed in the meantime. (On the *Change Name/Category* screen, simply overtype the spare name with the category name, then make your entries in the records. You can get to this screen from just about anywhere in the database by pressing Open apple-N.)

Now press Open apple-Y (OA-Y) to erase *Category 1*. Type **COURTESY** and press Return. Type **FIRST MI** and press the return key. Referring to **Figure 1**, type the other category names, pressing Return after each one. *CAT* holds alphabet codes that let you select only those records for which you want mailing labels. The letter *F* stands for *friend*; *R* for *relative*; *C* for *business contact*; *B* for *birthday card*; *A* for *anniversary card*; and *X* for *Christmas card*. (I'm sure you can think of more as needed.) *SALUTAT* holds the name that appears after *Dear* in the salutation (such as "Dear Johnny" or "Dear Liz and Bunky").

Now check all category names for accuracy. If you've omitted or mistyped any-

File: MAILING		CHANGE NAME/CATEGORY		Escape: Review/Add/Change	
Category names					
COURTESY	SPARE2				
FIRST MI	SPARE3		Options:		
LAST NAME	SPARE4				
COMPANY	SPARE5		Type category name		
TITLE			Up arrow Go to previous category		
STREET					
CITY					
STATE					
ZIP					
CAT					
HOMEPHONE					
OFFPHONE					
SALUTAT					
FAX					
SPARE1					
Type entry or use @ commands				B61K Avail.	

CATEGORY	RECORD 2	RECORD 3	RECORD 4
COURTESY	Mr. & Mrs.	Ms.	Dr.
FIRST MI	James	Karen E.	Clara
LAST NAME	Smith	Thompson	Shpolberg
COMPANY			
TITLE			
STREET	876 Elm Street	17 Sunset Circle	880 Palandro Hill
CITY	Cranville	Pleasanton	Redford
STATE	NJ	CA	NY
ZIP	08154	94566	11982
CAT	FAX	RBX	RB
HOMEPHONE	201-555-1779	510-555-3456	516-555-1234
OFFPHONE			212-555-6789
SALUTAT	Jim and Bonnie	Karen	Doctor C
FAX			
CATEGORY	RECORD 5	RECORD 6	RECORD 7
COURTESY	Mr.	Mr. & Mrs.	Ms.
FIRST MI	Ben	John B.	Polly
LAST NAME	Salnitza	O'Brien	Cameron
COMPANY	CW Marketing		
TITLE	Accountant.		
STREET	55 Hudson Street	234 Monte Highway	67 Country Road
CITY	Crabogue	Creston	Abner
STATE	NY	GA	NY
ZIP	11876-1127	31305	11999-0234
CAT	C	RAX	FX
HOMEPHONE	516-555-7890	404-555-5643	516-555-7614
OFFPHONE	516-555-0987		516-555-9000
SALUTAT	Benny	Jack and Jill	Polly-Wolly
FAX	516-555-9207		

**Figure 1. Category screen showing active categories and spares for correspondence database.**

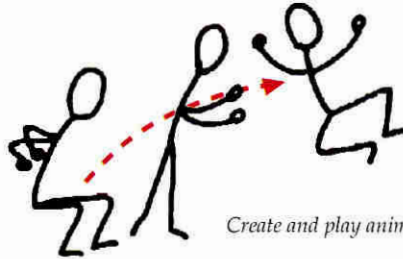
**Figure 2. Records 2 through 7 in mailing-list database.**



# Look what's new with Platinum Paint



Create and print masterpieces of any size



Create and play animations



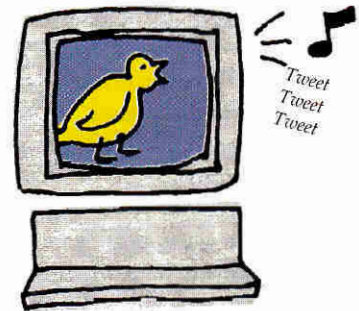
Junior User Option



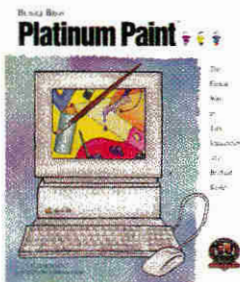
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thing, correct it now. Then press OA-S to store your new customized database template on disk.

AppleWorks now advises that you're about to enter *Insert New Records* mode. Press the return key (just as good as pressing the spacebar) and an empty *Record 1* appears, awaiting your entries.

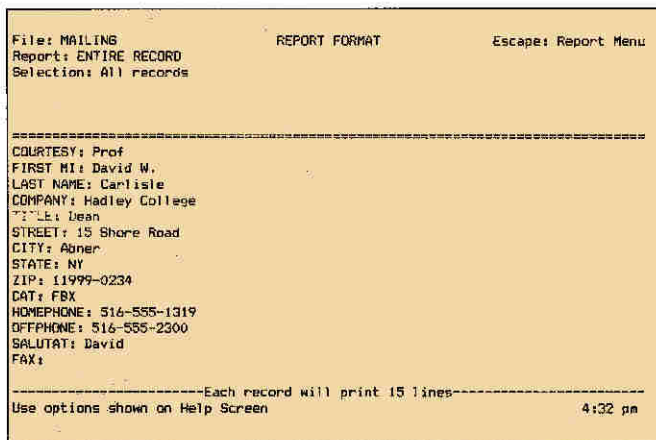


Figure 3. Report format to print complete records.

## ADDING THE ENTRIES

This database contains seven records, four of which (records 1, 4, 5, and 7) have *NY* as the state entry. To avoid typing that over and over, make it a standard entry: Press OA-V to bring up the *Set Standard Values* screen, and press Return seven times to reach the *STATE* category. Type *NY* and press Return. Hit Escape to return to the *Insert New Records* screen. You can now see *NY* in the *STATE* category of this record. This entry will appear in each new record. You can overwrite it anytime.

Hold down the up-arrow key until you reach the *COURTESY* category. Now fill Record 1 with the following entries, pressing Return after each one (press Return twice to skip past *NY*):

```
COURTESY: Prof
FIRST MI: David W.
LAST NAME: Carlisle
COMPANY: Hadley College
TITLE: Dean
STREET: 15 Shore Road
CITY: Abner
STATE:
ZIP: 11999-0234
CAT: FBX
HOMEPHONE: 516-555-1319
OFFPHONE: 516-555-2300
SALUTAT: David
```

The entry in *CAT*, *FBX*, means that Professor David is a friend (*F*) to whom you want to send a birthday card (*B*) and a Christmas card (*X*).

Referring to Figure 2, fill Records 2 through 7 as you did Record 1. When a record needs something other than *NY* in the *STATE* category, press OA-E to switch to the alternative cursor, and overwrite the

standard entry with the new one. In Record 2, for example, type *NJ* over *NY*. After you type the last entry in each record (either salutation or fax number), press Return, then OA-down arrow to move past the spares and bring up the next record.

When you finish, the cursor should be in the *FAX* category in Record 7. Now press OA-S to store everything on disk. Apple-

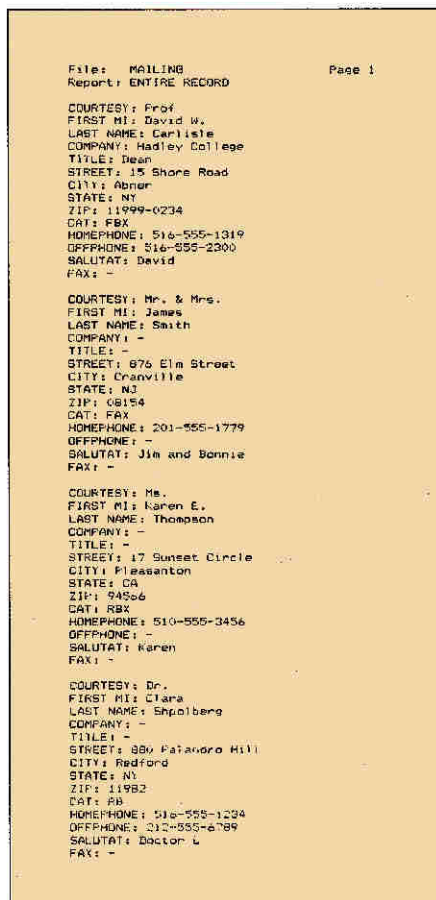


Figure 4. Complete records in AppleWorks' database report mode.

Works saves the file and displays the entries in multiple-record layout. Press OA-< (the less-than sign) to display the first five categories in each record.

Adjusting column widths can allow a sixth category on screen and make the spacing more pleasing to the eye. Press OA-L to bring up the *Change Record Layout* screen. Note that each column is now 15 characters wide. Make the *COURTESY* column narrower by pressing OA-left arrow five times. Press Tab to move to the *FIRST MI* category. Make it narrower by pressing OA-left arrow six times. Change the width of these columns the same way (*COMPANY* and *SPAREs* stay the same):

```
LAST NAME  OA-left arrow 5 times
TITLE      OA-left arrow 5 times
STREET     OA-right arrow 5 times
CITY       OA-left arrow 5 times
STATE      OA-left arrow 12 times
ZIP        OA-left arrow 4 times
STATE      OA-left arrow 12 times
CAT        OA-left arrow 10 times
HOMEPHONE OA-left arrow twice
OFFPHONE   OA-left arrow twice
SALUTAT    OA-right arrow 3 times
FAX        OA-left arrow twice
```

Press Escape to leave the *Change Record Layout* screen. To make record entry easier when you use this database later, type *2* and hit Return to tell AppleWorks to move the cursor to the right when you press Return. Press OA-S to store the database on disk. Press OA-< (less than) to view the nicely spaced categories.

## LABELS FORMAT

The first report format you create prints the entire record in labels format. Figure 3 shows the report format, while Figure 4 shows the first page of the printed report.

Press OA-P to get to the *Report* menu, type *3* to choose *Create a new "labels" format*, and press Return. AppleWorks now asks you to choose a labels format from scratch or from the current record layout. You haven't customized the single-record layout, so either choice will do. Press Return to confirm *From scratch*. Type **ENTIRE RECORD** (the name of this report) and hit Return. AppleWorks produces two columns of category names.

You can do without the spare categories, so delete them: Hold down the right-arrow key until the cursor is on the *S* in *SPARE2*



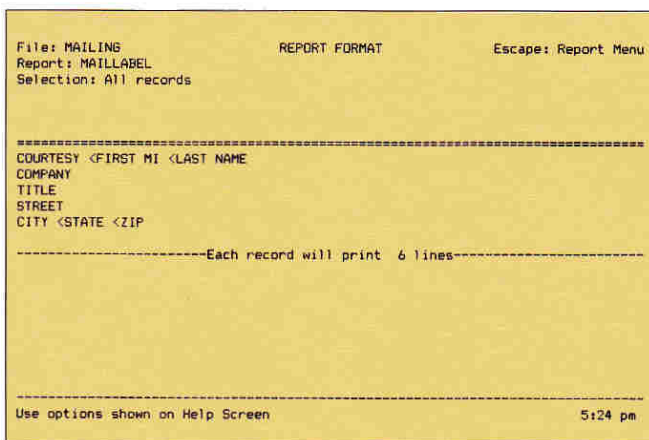


Figure 5. Report format to print mailing labels.

and press OA-D to delete it. Press the down-arrow key to reach SPARE3 and press OA-D again.

Delete the other spares in this column the same way. (These deletions are temporary — you can reinsert them anytime with OA-I.) Now hold down Return until you reach SPARE1 in the left column, and press OA-D to delete it.



Figure 6. Mailing labels in AppleWorks' database report mode.

With this kind of report, it helps to know the name of each category, so have AppleWorks print them: Press the up-arrow key to reach FAX, and press OA-V to have AppleWorks show the entry in this category in Record 1. Note that Record 1 has no FAX entry, so AppleWorks pops only a colon next to the category name.

Press the up-arrow key to move to the SALUTAT category and press OA-V. This time, AppleWorks pops a colon and David (the SALUTAT entry in the first record) next to the category name.

Turn on the rest of the categories the same way. When you finish, your screen should look like the one in Figure 3.

### ROLL THE PRESSES

Now center the report on the printed page: Press OA-O to bring up the Printer Options screen. Increase the left margin: Type LM (left margin) and press Return. Type 2 and hit Return again. Next, increase the right margin: Type RM (right margin) and press Return. Type 2 and hit the return key again. (The right-margin setting shifts the page number to the left.) And finally, have AppleWorks print a dash when an entry is blank: Type PD and hit Return. Press Escape to return to the Report Format screen.

This report produces a two-page hard-copy. Turn on your printer; now press OA-P, select the model, and hit Return. Type a report date (or, with a computer clock, type @ and AppleWorks types the date for you), then confirm I copy.

The printer whirs away and here's the record list, with your first page looking like the one in Figure 4. Press OA-S to save the new report format and return to the Review/Add/Change screen.

### MAILING-LABEL FORMAT

Figure 5 shows the second (and last) report format you create in this session, while Figure 6 shows the mailing labels it produces.

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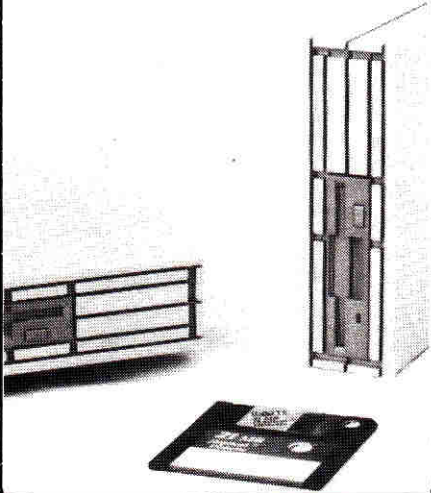
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## APPLEWORKS IN ACTION

Press OA-P to get to the *Report* menu, type **3** to choose *Create a new "labels" format*, and hit Return. Press Return to confirm *From scratch*. Type **MAILLABEL** (the name of this report) and hit Return again. You're again in the *Report Format* screen with its list of category names.

First, delete all unwanted categories: Press Return nine times to reach *CAT*. Press OA-D 12 times to delete all categories (and resulting empty lines) below *ZIP*. Next, hold down the right-arrow key to move the cursor to the right. When it's directly above the space before the *p* in *Each record will print 9 lines*, hold down the up-arrow key until it reaches the *S* in *SPARE5*. Press OA-D, press the up-arrow key, press OA-D again, then the up-arrow key again. Repeat until you delete all spare categories.

Now position the remaining categories in mailing-label format. First, place the *COURTESY*, *FIRST MI*, and *LAST NAME* categories on one line: Press Return to move the cursor to *FIRST MI*. Now move *FIRST MI* to the right of *COURTESY*: Press OA-right arrow nine times, then press OA-up arrow once.

With the cursor on the *F* in *FIRST MI*, press OA-J to left-justify. A less-than sign appears, meaning that any entry in the *FIRST MI* category will print one space after the entry in the *COURTESY* category, regardless of how long or short the courtesy title may be. For example, *David* will print one space after the *f* in *Prof*, and *James* will print one space after the *M* in *Mr. & Mrs.*, even though *Prof* and *Mr. & Mrs.* are different lengths. Press Return to move the cursor to the empty line and delete it with OA-D.

Now, move the *LAST NAME* category to the right of *FIRST MI*: Press OA-right arrow 19 times, then press OA-up arrow. Press OA-J to left-justify the last-name entries, then press Return followed by OA-D to delete the empty line.

Referring to **Figure 5**, combine the *CITY*, *STATE*, and *ZIP* categories the same way, pressing OA-J to left-justify each category. Delete empty lines as you go along, leaving one empty line below the *CITY STATE ZIP* line to separate the printing on one label from that on the next. When you finish, your screen should match the one in **Figure 5**.

Now preview your report: Press OA-P to bring up the *Print the Report* screen. Now type the number that selects *The screen* (typically, **2**), and hit Return twice. Here are the first two records. Press the return key three times to see the rest of the records — they look good. Press the return key again to return to the *Report Format* screen.

### LOOKING GOOD IN PRINT

A few touchups will help your printing. First, keep the report header from printing at the top of each page of labels: Press OA-O to bring up the *Printer Options* screen. To toggle the header from *Yes* to *No*, type **PH** and hit Return.

The left margin controls horizontal positioning on the label. With the left sprocket on my ImageWriter as far left as it could go and the right sprocket shifted toward the center, a .4-inch left margin produced a well-balanced look. You're still in the *Printer Options* screen, so type **LM**, press Return, type **.4**, and hit Return again.

The next setting tells AppleWorks the paper length. Think of each label as a complete page and all labels as a collection of pages. The paper length per page, therefore, is 1 inch (15 sixteenths of an inch high plus one sixteenth of an inch between labels): Type **PL**, press Return, type **1**, and hit Return again. Now press Escape to return to the *Report Format* screen.

This report prints on one page. (Now is the time to load your mailing labels if you have them.) Be sure the printer is turned on. Press OA-P, select your printer, and hit Return twice. And here come the records one after another in mailing-label format as in **Figure 6**. When printing stops, press OA-S to save the database and return to the *Review/Add/ Change* screen.

Next month you'll mail-merge records in this database with one of those wow-this-sure-was-a-great-year letters. Some people prefer a yearly phone call as a way of keeping in touch, but lots of your friends and relatives will love getting a greeting card they can keep and hearing all your news at the same time. Stay tuned. □

RUTH K. WITKIN IS A CONTRIBUTING EDITOR FOR *INCIDER/A+*. WRITE TO HER AT 5 PATRICIA STREET, PLAINVIEW, NY 11803.



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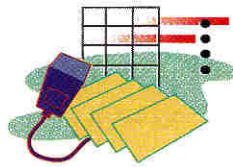
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# HYPERACTIVITY

## PICTURE THIS

**Adding borders, icons, and graphics to your stack's backgrounds makes your presentation more effective.**

By **DEAN ESMAY**

ONE OF THE BEST THINGS ABOUT hypermedia is its ability to let you interact with pictures as well as words in a nonlinear fashion. So one of the best things you can do to make a stack look both more professional and more interesting is to add graphics. In this installment of HyperActivity, we'll tackle that topic.

### CLIP IT

Let's take up where we left off last time ("Who's Who," October 1992, p. 48), with our organizational chart for a fictional computer club called Apple Leaf.

We're using **HyperStudio** (version 3.0 or later) from Roger Wagner Publishing (1050 Pioneer Way, Suite P, El Cajon, CA 92020, 619-442-0522, \$179.95); if you're using another authoring program you can probably follow along — many of the

concepts will be the same — but be sure to consult your program's documentation, as the exact, step-by-step instructions for many operations may differ.

Don't panic — you don't need any amount of artistic talent to create great stacks. It's nice if you can draw your own artwork, but I've been making hypermedia stacks for quite a while and I've got no more artistic ability than most first-graders. (See **Figure 1**.)

The good news is that most hypermedia-authoring software comes with a selection of useful clip art. A wide variety of extra clip art is also available from commercial, shareware, and public-domain sources.

In a future column we'll examine some of the more esoteric aspects of finding and using clip art for various hypermedia programs, but for now just remember to check before purchasing any clip art that it will work with your software.

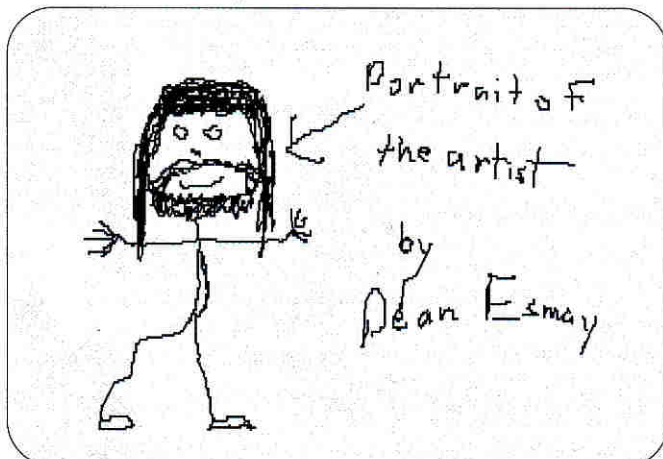
Recall that you started your Apple Leaf officers stack with what's known as a "title card" — a screen listing the name and author of the stack and maybe some other brief information. Usually it's the first card in the stack, as it is in Apple Leaf. The original Apple Leaf title card was pretty dull and, while functional, a little "goofy looking," as your kids might say. (See **Figure 2**.) How can you improve it?

### IN THE BACKGROUND

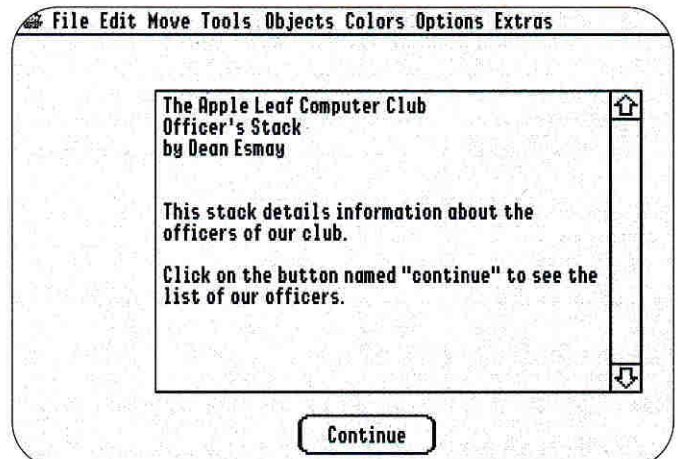
First, launch HyperStudio and open the Apple Leaf stack you created last month. Note that you're right where you want to be — at the title card — because you made it the first card in the stack.

Now you'll try adding a background — a graphic that sits behind any other objects you might add to the card, such as text boxes or buttons. Choosing a background can be difficult, because your options are almost unlimited. Let's start simple for now and go with a fancy border around the card's edge.

It just so happens that the clip art that comes with the HyperStudio package includes tons of borders among its selections — try the one in the COMPUTER.2 file found on HyperStudio's /HS.ART disk (**Figure 3**). To add it, pull down the *File*



**Figure 1.** You can add your own artwork to your stacks, but clip art may serve your purpose just as well (maybe better).



**Figure 2.** Original Apple Leaf title card — just the basics. It works, but it won't win any design awards.



menu and choose *Load Background*. Then insert the disk containing the file you want (*/HS.ART*) and choose that filename (*COMPUTER.2*).

### BE SELECTIVE

That's all there is to it. HyperStudio loads the *COMPUTER.2* clip-art file as your title card's background. But wait — what's all that other stuff? (See **Figure 4**.) That's the problem with most clip art: To save disk space, publishers cram as many graphics into one file as possible, and assume you'll know how to snip out the parts you want.

Fortunately, like most hypermedia-authoring software, HyperStudio includes a few basic paint tools. It may not be nearly as powerful or flexible as a real paint program (and in fact a dedicated paint program can be very useful for creating stacks). But for simple projects HyperStudio's built-in paint tools will suffice.

So pull down the *Tools* menu and choose the marquée from the icons arrayed along the bottom — it'll look like a little box made of dashes.

Now point to a corner (any corner) of the material you want to cut — that is, point to just inside the border, near a corner — and hold down the mouse button while dragging to create a stretchy box.

Keeping the mouse button down, drag until you've made a box surrounding all the background stuff you want to get rid of, then let go of the button.

You should now see a flashing box around everything inside your fancy border, which indicates that you've selected that material. Now pull down the *Edit*

menu and choose *Cut*. Voilà — there's your fancy border, with none of those other, unwanted items.

Now why didn't HyperStudio delete the text or the button, too? This is an important point to remember: The paint tools in most hypermedia programs affect only the background. You can't use a paint tool to modify or delete objects, such as buttons or text fields. The marquée, like the pencil and the eraser, is a paint tool and thus can't change anything except the background.

That restriction is a little confusing at first, but once you've got the hang of it it's easy. It's also convenient, because it lets you modify your background anytime without worrying about messing up anything else on the card.

### DRESS IT UP

Okay, you've loaded in a background graphic successfully, and you've erased the extraneous stuff you didn't want. The card looks nicer, but it's still got some flaws. The *Continue* button is sitting on top of that border, for one thing. And the text box looks kind of weird, too. How can we fix those things?

Once you've put the basic objects you need on a card (text fields, buttons, and so on), it's easy to go back and fine-tune. Let's start with the text object.

First off, what are those lines at the right, with the arrows pointing up and down? You might recognize them as the "scroll bar" common to Apple "desktop"-style applications. A scroll bar lets you slide up and down on screen through a long piece of text.

But the fact is that you don't actually want or need a scroll bar here — the text is just a few lines long. So let's get rid of the scroll bar — it's distracting. Maybe we can adjust the placement of the text to make sure it's centered better, as well.

To do all that, pull down the *Tools* menu and choose the general-purpose edit tool, which lets you modify a card's objects (as opposed to its background).

It's that little upward-pointing, right-leaning arrow. Once you've got that tool, just point to the text box and click on it to select it.

Now pull down the *Objects* menu and choose *Text Info*. From that submenu you can see and modify some basic (but important) characteristics of your text object. The four most important items for now are *Draw Scroll Bar*, *Read Only*, *Scrollable*, and *Draw Frame*.

Note that by default all but *Read Only* are checked automatically. So, to get rid of your scroll bar, just click in the box next to *Draw Scroll Bar* to "de-select" that item.

While you're at it, turn off *Draw Frame*, as well — the option that puts a line around your text field to make it a box. And turn on *Read Only* to prevent other users from changing things accidentally. Then click on *OK*.

Is it really that easy? You bet. And anytime you want to undo any of the changes you just made, simply select the text object again and use *Text Info* to change any of those options back.

### ADJUSTMENTS

Now while you've got the edit tool out, let's use it to move the text field around,

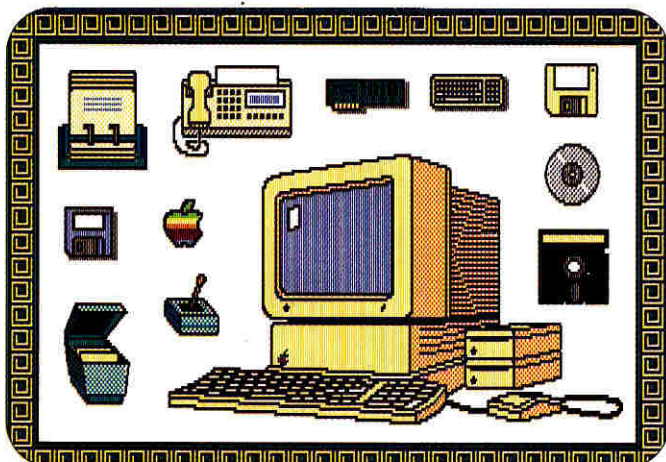


Figure 3. HyperStudio's clip-art disk sports an extensive collection of background graphics, including this file, *COMPUTER.2*.

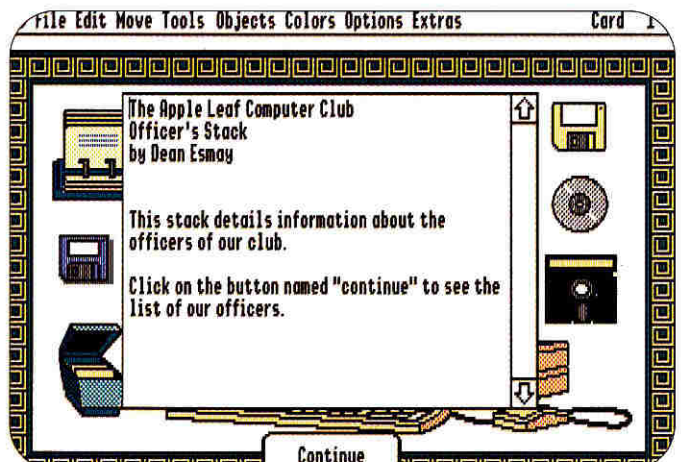
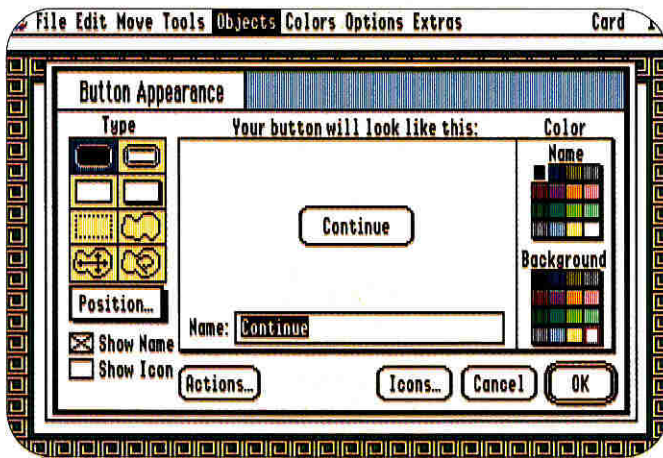


Figure 4. Importing a border often means carrying along some extraneous material, which you can delete as necessary.





**Figure 5.** Button Appearance submenu offers a number of choices, including a selection of icons.



**Figure 6.** Adding an icon to a button is one sure way of grabbing your audience's eye.

too. Maybe it's not quite centered, or it isn't positioned exactly the way you want it.

Just point to the middle of the text (or thereabouts), hold down the mouse button, and drag the text around until it's just where you want it.

Then pull down the *Tools* menu and choose the browse tool (the little pointing hand). Hey, that looks pretty snazzy, doesn't it?

Okay, now let's do something about that *Continue* button. First you want to move it so that it's not on top of the border. That's easy; just pull down the *Tools* menu and get the edit tool again, then pick up the button and move it to a more-appropriate spot. You can also make sure it's centered nicely this way.

## WORTH A THOUSAND WORDS

Now that looks better, but you can make it more attractive still, also through the use of graphics. A concept common to most Apple "desktop" program is the *icon* — small pictographs usually representing an idea.

If you use a IIGS or a Macintosh, you've seen lots of them in the Finder; common examples are the little hand drawing on a piece of paper to represent a program you can run, or just the blank piece of paper representing a document file.

By adding an icon to a button, you can make it communicate its purpose better. One way is to just add an icon as clip art and put a button near it, or on top of it.

But on the IIGS and the Macintosh, you can also find icons in special files, and both HyperCard and HyperStudio have some sample icons conveniently built in. Let's see how you can add an icon to your *Continue* button to make it more effective and attractive.

## STEP BY STEP

First, get the edit tool from the *Tools* menu, just as before. But now select the *Continue* button instead of the text.

Then pull down the *Objects* menu and this time around choose the option *Button Appearance* (Figure 5). *Button Appearance* gives you several more options.

For now, note that one of them is *Show Icon*. Choose it and you'll see a list of sample icons. You could load icons from a disk file, but for now let's just choose one of the standard icons in HyperStudio — the hand pointing right.

Click on the icon you want, then on *OK*, which brings you back to the *Button*

*Appearance* menu. Now click on *OK* to say you're finished changing your button's parameters, and you're all done.

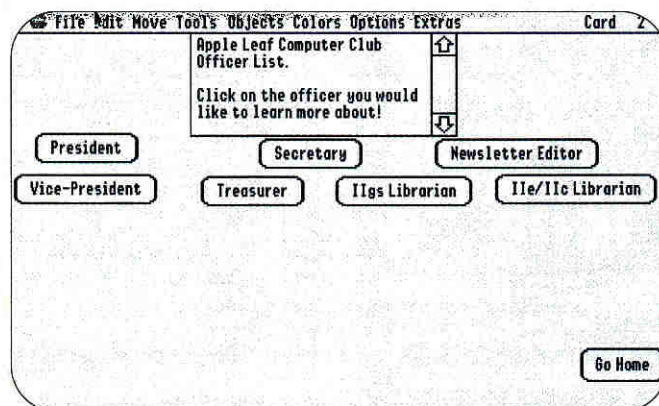
Using the edit tool, you may want to adjust the button's position one more time; it's gotten a little bigger now that you added an icon to it (Figure 6). Then go back to the *Tools* menu and choose the browse tool again.

## LIKE MAGIC

Check it out — without changing any of the basic information, you've made this card more interesting and even made it communicate more effectively. Rather than being some vague (and boring) collection of lines and letters, this card now looks as though you're supposed to do something with it.

See if you can work similar magic on your own with the next card in this stack, the "coordinator" card (Figure 7), using the background, icon, *Text Info*, and *Button Appearance* options we've just explored.

Next time we'll investigate still more ideas for using buttons and graphics. See you then. ☐



**Figure 7.** Dress up your coordinator card to add some pizzazz and make its presentation more attractive.

DEAN ESMAY IS A CONTRIBUTING EDITOR FOR *INCIDER/A+*. HE'S ALSO THE EDITOR OF *STUDIO CITY*, A BIMONTHLY HYPERMEDIA MAGAZINE ON DISK, PUBLISHED BY RESOURCE CENTRAL, AND SERVES AS CHIEF SYSOP OF GENIE'S APPLE II ROUNDTABLES. WRITE TO HIM C/O *INCIDER/A+*, 80 ELM STREET, PETERBOROUGH, NH 03458. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A PERSONAL REPLY.



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practical, well-designed AppleWorks templates, SuperFonts fonts, and Ultra-Macros files, as well as tips for using these and other TimeOut modules.

Among other things, recent issues of TimeOut-Central featured macros by Bruce Shanker and David Kilzer. These powerful macros — shortcut keystrokes programmed to substitute for time-consuming longer keystroke strings — generate a perpetual calendar and print alternating pages of a word-processing file, respectively.

Randy Brandt, the widely known AppleWorks/TimeOut software developer, is the editor of TimeOut-Central. The publication tends to have a commercial slant that seems a tad self-serving — even “adventorial” on occasion.

For instance, TimeOut-Central recently announced it will soon provide only macros that are compatible with Ultra-Macros 4.0. This editorial decision could effectively force some existing subscribers to update to the latest version before they otherwise might. Individual subdirectory folders reserved for companies such as JEM Software (Brandt’s firm) and Kingwood Micro Software provide “free” macro files and fonts, but the companies also use this forum to publicize their AppleWorks/TimeOut wares.

Peruse a back issue of TimeOut-Central before committing to a full year’s subscription. That way you can decide whether you like the publication’s style. Fortunately, Resource Central makes it easy to preview any of its offerings. For \$15 you can order a Sampler Set, which includes one issue of each of the periodicals reviewed here.

## TAKE IT FOR A SPIN

As publisher and distributor of Apple II and IIGS software, purveyor of Apple II-related hardware products and books, and sponsor of the popular “KansasFest” mid-summer Apple II conference, Resource Central has long championed the Apple II. Not surprisingly, each of the company’s four disk-based periodicals can help enhance the computing experience. But you may want to take a test drive before signing up for any of them — except Script-Central, that is. My check’s already in the mail.

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



## HEADLINE HARRY AND THE GREAT PAPER RACE

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- \$59.95



**A**t last there’s a Carmen Sandiego clone that dares to be different. *Headline Harry and the Great Paper Race*, Davidson’s entertaining educational adventure recently ported over to the Mac from MS-DOS, puts a new twist on the old “who-dunit” theme. The object of the game isn’t to nab the bad guy, but to beat the *Diabolical Daily* staff to the punch . . . line.

Players become reporters for the *U.S. Daily Star*. They go on fast-paced, fact-finding assignments in search of front-page news; the goal is to stop Marvin Muckraker and his band of scandal-sheet sensationalists from printing corrupted versions of real stories. Budding journalists follow clues to track down the who, what, where, and when of a potential story; success depends on getting the scoop before time runs out. *Daily Star* reporters who fail to meet their deadlines may end up putting their paper out of business.

*Headline Harry* incorporates digitized speech, original music sequences, and great sound effects. In addition, you’ll find terrific animated color graphics and QuickTime movies of *NBC News* video clips. To support all these goodies, you need a heavy-duty Macintosh: 1800K of

memory, 8-bit color, and 9.5 megabytes of hard-disk space. Files arrive in compressed format on nine 800K floppy disks. Installation takes more than 30 minutes (even on an 030 Mac). Hang onto your press pass and persevere — this fun-filled learning adventure is well worth the effort.

*Headline Harry* is designed for kids aged 10 and up, but even middle-aged Baby Boomers and members of the thirty-something crowd will find assignments quite appealing. The program’s information database extends over 12 geographic regions and covers four decades of Americana (1950 through 1990). Missions build problem-solving and reading comprehension skills. Every assignment leads insight into the structure and content of a good newspaper story. Players start out as “cub reporters”; the more assignments they complete, the faster they move up in the *Daily Star* ranks. Assignments become more difficult at higher levels: There’s less time before deadline, clues are harder to decipher, and you’ll have to track down more facts.

Flying from city to city uses up valuable time, as do interviews. Sources may try to feed you misleading information, especially if a *Diabolical Daily* reporter has reached them first. You occasionally recoup some lost time when you find a wallet, a set of keys, a notebook, or a press pass lost by your competition, or when you answer true/false challenge questions correctly. Incorrect answers, however, result in double the lost time.

At least three stories run concurrently while you comb a region. You must determine which one is correct, then enter the right information into the appropriate *SCOOP* filing area. To transmit a story to the home office you need its *Year, Date, People, Words, Place, and Event*. You know you’re on the right track when you hear a “ding” after you’ve entered data into the *Key Information Entry* window and a green button lights up. Several key words and people figure prominently in each story.

## SCOOPING THE COMPETITION

*Headline Harry* isn’t easy — you’ll have to play several times before you have a sense of what’s expected. Be sure to read the documentation; in addition to instructions, you’ll find an “Ask Dear Gabby”



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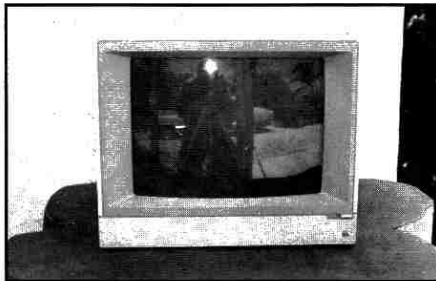
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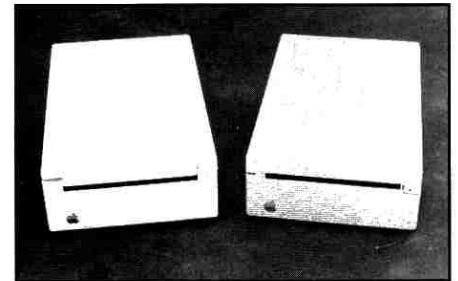
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column containing useful playing tips. Keep a desktop encyclopedia on hand for quick reference, as well. If you're having trouble with a story, start over. Clues remain the same, so assignments become easier to handle the second or third time around. This may be a boon to stumped reporters, but it limits the life of the game.

Like Carmen Sandiego, *Headline Harry* has villains with cute names (Otto Context, Leda Stray, Miss Quote, Hood Wink), and lets you fly from location to location as you dig up facts and record them on hi-tech equipment. Alas, unlike programs in the Carmen series, *Headline Harry* doesn't ship with a print encyclopedia or almanac. To get background information, players must press *SCOOP's* Reference button, but it yields only limited materials on story events.

Sophisticated software the size and scope of *Headline Harry* is better suited to CD-ROM than hard disk. Imagine how many more QuickTime movies, animations, and spine-tingling missions it could offer from a disc with room for 650 megabytes. *Headline Harry* is most definitely an up-and-coming product in the race to give Carmen a run for her money.

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



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**A** journey of 1000 miles begins with a single step, and the final 10 percent of a project may take up 150 percent of the time remaining — but what about the middle? A beginning Pascal programmer has learned the language basics. An advanced Pascal programmer is familiar with all the complex technical details needed to construct a finished GS program. *Toolbox Programming in Pascal* from The Byte Works is one of the best ways to cover the intermediate ground and learn to write Apple IIgs desktop programs.

Pascal is one of the best languages for the amateur programmer. It's built for learning: Pascal code is easier to understand and often protects you from silly mistakes. *Toolbox Programming in Pascal* has two other advantages: It's a good learning environment, and it's fun.

*Toolbox Programming in Pascal* comes as a letter-sized binder containing 446 pages and four disks. It includes 18 lessons and an eight-page index, plus a 100-page appendix listing the most important GS tools. Eventually the serious GS programmer will want to own Apple/Addison-Wesley's three-volume *Apple IIgs Toolbox Reference*, but the appendix is an excellent resource and is much cheaper. Four disks hold all sample programs used in the lessons and the solutions to the exercises.

To use *Toolbox Programming in Pascal*, you'll also need ORCA/Pascal and Apple's System Disk 6.0. The tutorial works with either the text-screen version of the ORCA programming system or PRIZM, The Byte Works' special graphics-programming environment. A text system requires 1.25 megabytes of memory, while PRIZM needs 1.75 megabytes. A hard drive isn't absolutely necessary, but using 3.5-inch floppy disks is frustrating.

You'll also need some intellectual software stuffed inside your head — you should be familiar enough with Pascal to be able to read and understand the sample programs. For rank beginners, The Byte Works also has an introductory product called *Learn to Program Course for Pascal*.

Mike Westerfield, author of *Toolbox Programming in Pascal*, begins with Lesson 0, an introductory pep talk on how to get the most from the package and make yourself the best possible GS programmer. Lessons 1 and 2 introduce you to the event

loop and menu bar — the basis of all GS desktop programs.

Lesson 3 introduces resources and the REZ resource compiler. Resources are the most efficient way to write desktop programs; they let you define the user interface separately from its implementation. The REZ resource compiler is included as a part of the package.

The remaining chapters cover all the essentials you might want to include in a GS program: alerts, windows, file input and output, printing, memory management, drawing, controls, dialogs, and font and text handling. Special advanced topics are covered in final lessons: the use of sound and the note-synthesizer tool; polishing your program; and constructing new desk accessories (NDAs).

Each lesson has a standard format. A topic is introduced with accompanying Pascal source code; type in these sample programs and experiment with them. At appropriate points in the lesson, exercises challenge you to build on your understanding of each topic; you can then compare your solution to the solutions in the package disks. All exercises are practical problems; you can continue to use their answers in your own programs.

This approach to learning has a number of advantages. Meaningful exercises make you thoroughly familiar with the important elements of desktop programming. Comparing your solutions with those of a professional programmer encourages a thoughtful understanding of how to best implement various programming tasks. Last, but not least, the exercises give you useful frames and modules of code around which you can implement your own programs. Studying the exercises will help even the advanced programmer.

### ADDING IT ALL UP

The ultimate aim of *Toolbox Programming in Pascal* is to make you comfortable writing your own small- and medium-sized applications. Because of the thoroughness with which Westerfield covers the important tools, and because of the practice you get by doing the exercises, completing *Toolbox Programming in Pascal* will put you well on your way to meeting your objective.

**Ron Bertson**  
Saskatoon, Saskatchewan, Canada



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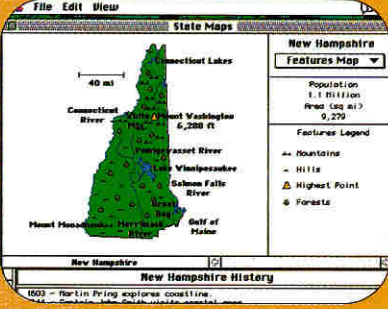




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If you think it's time to become geographically more aware, two Macintosh programs can point you in the right direction. USA GeoGraph (MECC) and MacUSA (PC Globe) provide open-ended, discovery-based computer-assisted instruction with dozens of colorful maps and charts, plus hundreds of database facts and statistics.

While each program takes a slightly different approach to the subject matter, both are flexible enough to accommodate a variety of instructional objectives.

### LAND OF THE FREE

The Macintosh version of MECC's USA GeoGraph is a revised and updated edition of its Apple IIGS geography package. The program features 64 base maps (including one for each state, five territories, and Washington, D.C.), plus 27 theme maps on topics such as *Acid Rain* and *Ethnic*

*Populations*. MECC claims that USA GeoGraph functions as a "living map" because its maps and database are interactive. In other words, what investigators choose to display on the maps affects the database information it presents, and vice versa. The program has 124 built-in database categories.

USA GeoGraph for the Mac uses an unusual tactic for information display. You decide which map view, data cards, data tables, or graphs you want to use, and then create a document you can examine or save for future reference.

The GS version of the program allows you only one document at a time, but with the Mac edition, you can create as many as ten "new" document views in one session, leaving each one open as you work. Database contents and the geographic focus of all open windows are linked automatically.

Another unique feature of the Macintosh edition is that it lets you customize the program's database with ten new text or numeric categories; depending on your educational needs and areas of expertise, you can include special-interest data that may have been omitted when the program went to press.


### HOME OF THE BRAVE

MacUSA also uses colorful maps, charts, and detailed database information to take youngsters on a tour of all 50 states, the District of Columbia, and Puerto Rico. Like USA GeoGraph, it lets you decide whether to explore a single state, a region, or the entire USA.

The program includes seven *Historical Acquisition* maps (showing the original 13 colonies, territories acquired by the 1783 Treaty of Paris and 1845 Texas Annexation, and more); Civil War maps of Union, Confederate, and bordering states; and *Political Demographics* maps illustrating various Democratic and Republican strongholds.

When youngsters move the cursor over a state on a map of the entire USA, its name appears in a status box at the lower-left corner of the screen. This feature makes it easy for kids to memorize state names and locations.

Double-clicking on a state while a regional USA map is on screen calls up



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one of four state-map profiles automatically. Unlike USA GeoGraph, however, there's no keyboard shortcut to zoom out from a single-state view to other levels.

A *Utilities* menu lets you compute the distance (in miles or kilometers) from one major U.S. city to another. You can search for a state with a particular three-digit area code or five-digit zip code. A time-zone utility option computes current time in each zone automatically.

### O SAY CAN YOU SEE?

If your budget can't afford both USA GeoGraph and MacUSA, which one should you choose? These programs run neck and neck in terms of map views and database contents. Both let you compare statistics for the top ten or bottom ten states. Both let you print maps, charts, graphs, and state profiles.

MacUSA has a slight edge in interface and general "look and feel," but USA GeoGraph offers more-thorough coverage of U.S. ethnic populations, more-detailed documentation, database customization, and the option to "publish" System 7-savvy edition files that update automatically when you edit the database.

For the slightly lower list price, I'd probably settle for USA GeoGraph, but it's a tough call. MacUSA and USA GeoGraph will convince even the most traditional parents and teachers that education without computers makes about as much sense as a pencil without paper, a blackboard without chalk, or a classroom without an instructor. □

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





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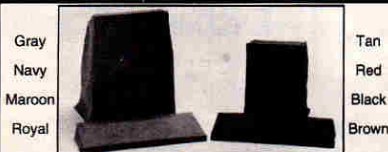
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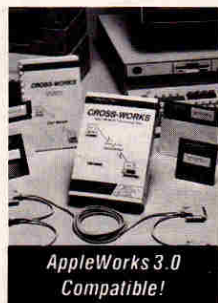
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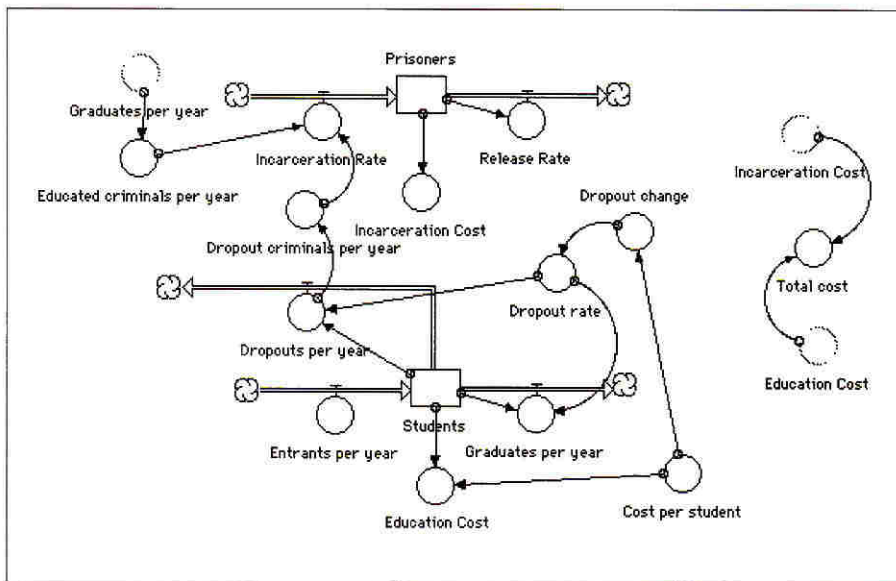


Figure 1. Tracking student enrollment and prison populations.

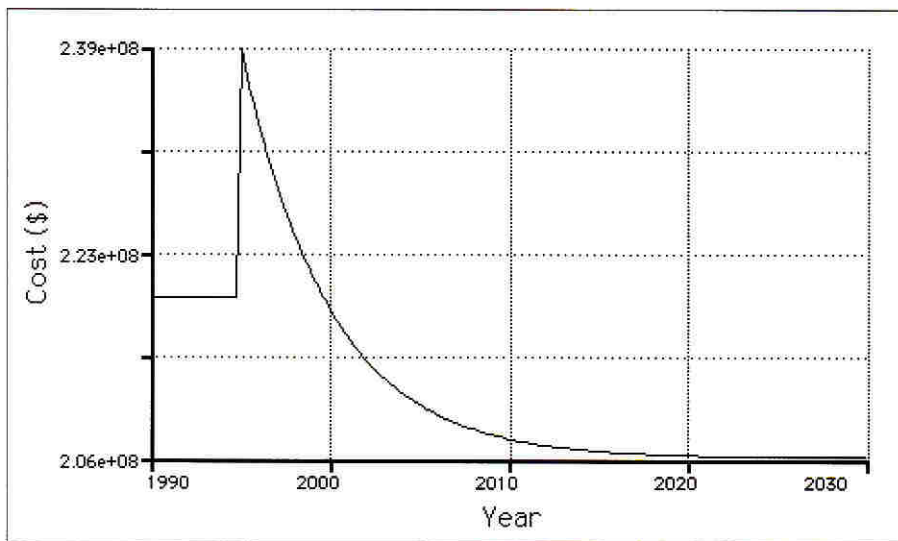


Figure 2. Investing in education reduces overall costs to society.

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higher, net cost to society *decreases* as the dropout level shrinks and the number of new prisoners shrinks along with it. Within six years the resulting cost to society is the same as it was before the increased investment in education, and, after that, the cost

to society is less than it was before, even though the investment in education has increased by 20 percent.

Quite plainly, the issue today isn't how we can afford to invest in our children; the real question is how we can continue to afford not to. □

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## THE BOTTOM LINE

The price of neglect far outweighs the cost of investing in classroom technology.

By now the '92 election campaign has reached fever pitch, and everyone from the local statehouse to the White House wants to be an advocate for education reform. Everyone is "for education," even if the definitions differ — and to hear many politicians speak, you'd think that spending in an attempt to improve our schools is a waste of money. What few people realize is that meaningful investments in educational technology can actually save money in the long run. To see just what



By DAVID D. THORNBURG, Ph.D.

impact an increase in educational funding might have on the net cost to society, let's examine a small econometric model I constructed using High Performance Systems' **Stella II** program on a Macintosh.

Stella is a tool for modeling complex systems. Unlike spreadsheets, which deal with unidirectional flows of cause and effect, Stella allows the modeling of real processes that form structural loops — predator/prey relationships, for example, or, in this case, tracking student and prison populations in the U.S. according to available sociological data (using representative numbers and proportions).

The model in **Figure 1** involves two major flow processes: the flow of inmates through the prison system, and the flow of students through school. The incoming flow of prisoners consists of those who have graduated from school and those who haven't. It's generally accepted that 80 percent of prison inmates are dropouts. The lower the dropout rate, the lower the incarceration rate.

Our simplified model assumes an average prison term of five years, with no pris-

oners reentering the system. (Some do, of course, but their number only strengthens our conclusions, and we want this model to be conservative in its assumptions.)

The incoming flow of students is fixed here; student population is, in fact, increasing in many parts of the country, but the assumption that the number of new students remains constant lets us isolate the phenomenon this model was designed to explore. Students leave school by one of two means: They graduate or they drop out. The initial dropout rate used in this model is 35 percent.

For government, prisoners and students represent very different costs. Here let's use a figure of \$5000 per student per year and \$50,000 per prisoner per year — symbolizing actual costs. Their sum equals the total cost to society for this model. (To keep our system simple, we'll ignore other costs related to the dropout rate, such as welfare spending.)

The initial values for this model represent steady state; if the dropout rate stays constant, the total cost to society remains constant. Now let's provide an infusion of money into education in 1995 — \$1000 per year per child. According to available data, such as that obtained from observing the Buddy System in Indiana (see "Homecoming 2," June 1992, p. 64), the dropout rate falls by 10 percent.

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### BENEFIT ANALYSIS

What happens when we run the model? Most people think the funding increase will result in permanently higher expenditures to society. **Figure 2** shows what really happens, though. As expected, the graph shows costs remaining constant until the infusion of technology in 1995, at which point the costs go up.

But note what happens next. Even though investment in education remains

Continued on p. 63



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