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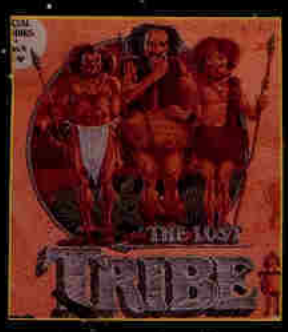

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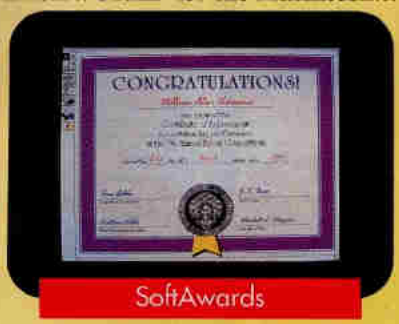

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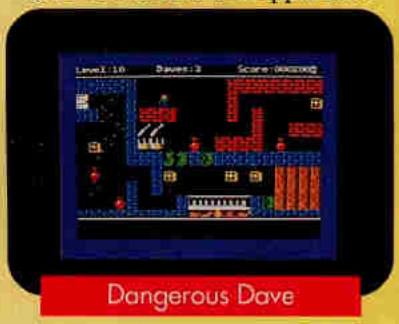

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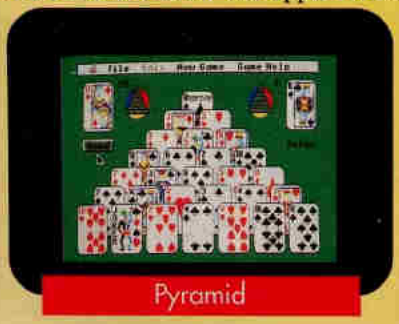

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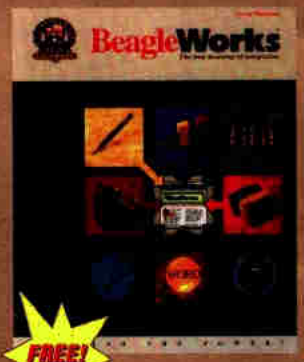

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Internet: Connecting to a Universe of Information
by Cynthia E. Field, Ph.D. 36
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Memory to the Max
by Garry Howard 42
Three new RAM boards for the Apple IIGS give you the power you need to run today's silicon-hungry programs.

PAGE 36

DEPARTMENTS

Letters 8

What's New
Good Things in Small Packages • Salut! • New-Product Focus 10

Apple Clinic
"Mousing Around": Eastward Ho! • Right on Track • Hard Slots • Drivin' • Just Your Type • Color Bind 16

Reviews: Apple II
Cinnamon Bear's Outer Space Adventure & Undersea Adventure 20
C'mon, admit it — *of course* you still love teddy bears. The fuzzy hero of two new language-skills programs from McCarthy McCormack is a sure-fire hit with kids, teachers, and parents alike.
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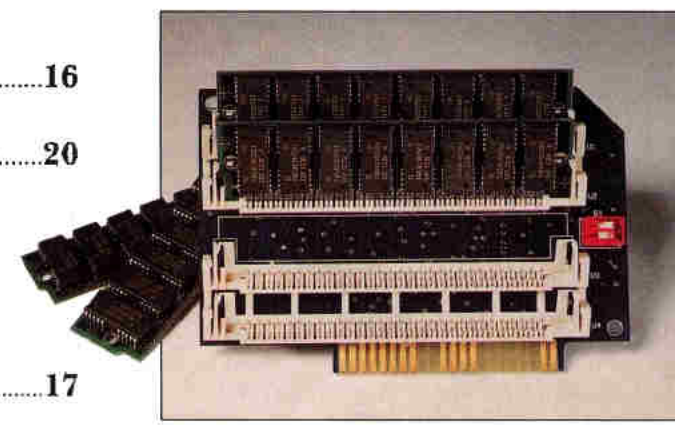

PAGE 42

COLUMNS

Grapevine • *Joe Kohn* 17
On-line hints, tips, argument, chat, and gossip.

The Apple II Report • *Carol S. Holzberg, Ph.D.* 24
Hot off the press: quick reviews of recently released software.

Shareware Solutions • *Joe Kohn* 48
"GS Fun & Games": Don't risk a sunburn this summer — why not spend your time safely indoors, basking in the phosphor glow of your GS? While your computerless friends just head for the beach, you'll be traveling to faraway worlds your buddies can't even imagine. Here are eight shareware picks to beat the summertime blues.

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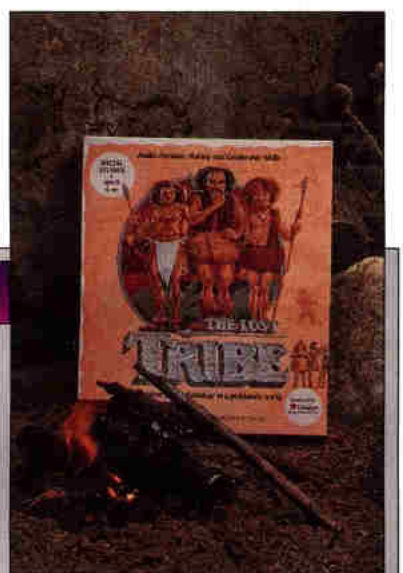
News & New Products
"Creatures Great and Small": All the beasts of the forest — and the tundra, the desert, and the jungle, too — come together in The Software Toolworks' new CD-ROM, **The Animals!**. Explore the riches of one of the world's great zoological parks right from your own Mac screen. 28

Reviews
The Lost Tribe • Jam Session • IntelliTalk 32



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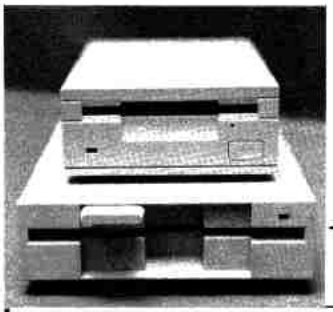

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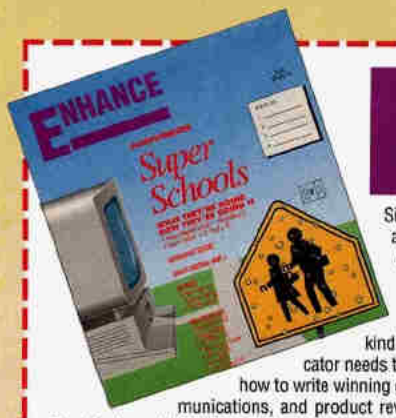

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Comes with Switch Hitter and 15 MEG. of free software

The Q Drive's plain-English manual covers more than installation and setup. It even tells you how to manage your mass storage effectively. From GS/OS and ProDOS to backups and maintenance, it's all there, including a glossary of hard drive jargon. And no hard drive is easier to set up and use—install a card, connect two cables, and turn on the power. The Q Drive automatically configures itself to match your computer, and the latest system software is already installed.

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LETTERS

CLEAN IT UP!

I ENJOYED READING YOUR APRIL 1993 issue of *inCider/A+*, until I got to Paul Statt's "Quick and Dirty" Startup Report (p. 64). The more I read it, the angrier and more frustrated I got.

Not only was it about computer pornography, but it included a long list of where it can be purchased. Pornography isn't a victimless crime — 100 percent of the men convicted of sex offenses, including rape, use pornography. Catch that? One hundred percent!

Now I know that not all people who use pornography are sex offenders. But why glorify such a social ill, especially in a family magazine?

Another thing that frustrated me to no end was the implication that "everyone" is doing it. Well, believe me, loud and clear: No, everyone is *not* doing it! Please, for the sake of family values, stay away from glorifying social ills. Leave it to the pornographic magazines to do their own advertising.

Mark H. Ford
Beverly, NJ

We regret your anger and frustration, Mark — but you missed the column's point by a wide margin: Mr. Statt clearly laments the fact that pornography finds its way into almost every new medium. And he offers a long list of multimedia products — not pornographic, but alternatives to pornography — that adhere to even the loftiest definition of family entertainment and enrichment values. Be assured that we do not review pornographic products, nor do we accept advertising for them. — *W.K.*

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WITH OUR RECENTLY PURCHASED **Performa 600CD** we received an offer for a free six-month subscription to either *Macworld* or *inCider/A+*. Because your magazine is reputedly written for the beginner, we selected *inCider/A+*.

Needless to say, I was chagrined to read in your May issue that we shouldn't "expect much Mac coverage" in your magazine. That's especially troubling because your logo on the front cover reads *inCider/A+: Apple II/Mac*. If you don't intend to really cover the Mac, why include it in your logo?

I've also heard that you're publishing a new Macintosh magazine called *MacComputing* and that it's similar to *inCider/A+*. Can I switch my subscription to that new publication when it becomes available?

D. Astiz
Livingston, NJ

Done. You and other readers like you who have recently requested a free trial subscription to inCider/A+ *will automatically receive* MacComputing, *beginning with the first issue (September), which will be mailed to you in early August. At the same time, we'll continue to cover the Macintosh in* inCider/A+ *because many readers own both Apple machines and want information about them, but also want in-depth articles about their Apple IIs.* — *eds.*

DATAQUEST REQUEST

I TEACH SEVENTH-GRADE GEOgraphy and have been using the **MECC DataQuest** series of databases (**The World Community, Latin America,** and **Asia**) on 18 Apple IIe computers quite happily for five years. The information is dated now, however, and MECC no longer sells the program. I'm looking for updated data or a replacement program. Any help from your readers?

Harris M. Thomas
Box 210223
Auke Bay, AK 99821

NEW APPLE II

WHAT LUCK! WE CAME ACROSS *inCider/A+* by accident in a bookstore and bought it on the spot. Your April issue starts a feature series that deals with our exact situation: Our neighbor just gave us an Apple IIe because she couldn't trade it in for a new PC. Fortunately she'd kept all the instruction manuals, plus **PFS Write, VisiCalc,** and several children's games.

You can't imagine our delight when we read the article by Tony Diaz and Paul Statt ("II Essentials: Hardware," p. 50) on enhancing our very first computer. It also taught us beginners what a lot of the terms mean. And we can't wait for the May issue dealing with applications for the Apple II ("II Essentials: Software," p. 36). Thanks!

Sandra J. Wall
Castleton, VT

See also "II Essentials: AppleWorks" (June 1993, p. 38) for some basic tips on running this popular integrated package. — *eds.*

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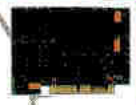

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WHAT'S NEW

BY CYNTHIA E. FIELD, PH.D. • CONSULTING EDITOR

SALUT!

Kids think of juice as something to drink, while electronics buffs use the word as a slang term for electricity. Thanks to the Computer Learning Foundation's latest fund-raising program for schools, both definitions apply. The nonprofit educational foundation has formed a partnership with Tetra Pak Inc., a leading manufacturer of aseptic packaging for beverage products. The result is the **Computer Learning Dollars** program.

Sally Bowman Alden, executive director of the Computer Learning Foundation, explains that when students save Tetra Brik symbols from juice products made by Hi-C, Cadbury, Hershey, Johanna, McCains, Minute Maid, Nestle, Ocean Spray, Yoohoo, and 50 other eligible brands, schools earn credits toward technology products included in a Computer Learning Foundation-approved catalogue. The catalogue is expected to be available next month. Among the premiums schools can acquire through the program are computer peripherals, video-based media, and software products, including special school editions, lab packs, and network versions.

"With shrinking education budgets throughout the country, we're very excited to have Tetra Pak join our efforts to help schools acquire the technology products they need," says Bowman Alden. The program is being piloted in Massachusetts, New Jersey, and North Carolina for the 1993-94 school year. Principals in public and private schools in those states will receive participation kits next month. For more information about Computer Learning Dollars or to request a free copy of the foundation's annual publication, **Computer Learning**, which describes the group's other programs, contact the Computer Learning Foundation at Dept. E93-T1, P.O. Box 60007, Palo Alto, CA 94306-0007, (415) 327-3347, fax (415) 327-3349.

GOOD THINGS IN SMALL PACKAGES

You can take ergonomics one step further now with the **Laser PC4**. No, it's not a wrist rest or one of those chairs that makes you look as though you're in traction. The PC4 is a lightweight, diskless notebook computer you can carry easily to school, camp, and maybe even to the beach (if you're a hopeless workaholic). With the PC4's built-in word processor-plus-spell checker, database, and spreadsheet, you can prepare many of the same types of documents you already create with AppleWorks 3.0.

In fact, you can connect the PC4 to any Apple II or compatible computer and transfer files to and from AppleWorks 3.0 with the new patch program **Bridge-It**. After you install it (a simple, one-time procedure), you can transfer files between the PC4 and an Apple II by invoking an option in AppleWorks' *Other Activities* menu. According to Andrew Kramer, president of Perfect Solutions Software and the exclusive distributor of the Laser PC4, "the market for these devices is huge," with countless school systems already placing PC4s in their media centers.

The PC4 sports a full-sized keyboard and a four-line, 40-character LCD (*liquid-crystal display*) screen. The computer comes with 32K of RAM (*random-access memory*) — enough to hold 15 typed pages. Longwinded writers can expand the notebook's capacity to 128K. Although it's not a PCMCIA (*Personal Computer Memory Card International Association*) slot, the PC4's one expansion port can accommodate an add-on thesaurus module.

Two features help make the PC4 a great equalizer. First, it can transfer files between IBM-compatible and Macintosh computers as well as Apple IIs. Second, the Laser PC4 is surprisingly affordable. The PC4's IBM version costs $199; the Mac version, which supports printing on the ImageWriter II, is $219. Bridge-It software for AppleWorks 3.0 is $35. The same computer works with all three platforms; only the cabling differs from system to system. For more information, contact Perfect Solutions Software, 12657 Coral Breeze Drive, West Palm Beach, FL 33414, (800) 726-7086, (407) 790-1070, fax (407) 790-0108.

The Laser PC4 lightweight portable computer makes working on the road a little easier.

MS-DOS APPLEWORKS*

*inCider A+ Magazine, August, 1991

SuperWorks™

INTEGRATION FOR THE NEXT GENERATION OF PC USERS

NEW VERSION 2.0
NOW WITH SPELL CHECKER, EMS SUPPORT, GRAPHICS, PCX DISPLAY, AUDIO SUPPORT AND MUCH MORE.

Remarkable Technologies announces a breakthrough product which now delivers AppleWorks power on an IBM PC or compatible. SuperWorks lets AppleWorks users step up to a PC with AppleWorks files, utilizing an Apple-Works work-alike integrated package. New features provide full & complete integration of all capabilities including; spreadsheet (3-D capability), database (the easiest to use and one of the most powerful anywhere), word processing with spell checker, improved commu-nications package, new and improved graphics, new SWAT macros, the best in the industry and much more.

SuperWorks uses only 180K on diskette and it's the only integrated package developed for the notebook.

As a special introductory offer to inCider readers, SuperWorks is now available at the special low price of $199.00. SuperWorks has a regular retail price of ~~$400.00~~.

WHAT ARE THE EXPERTS SAYING?

"MS-DOS APPLEWORKS" "inCider/A+ 8/91"
What do you say to an 'MS-DOS clone' of Appleworks 3.0? Remarkable Technologies' SUPERWORKS ($199), has caused more than one double-take around here. SUPERWORKS functions like Appleworks on any IBM PC except that it's faster. If you use Appleworks and can train your fingers to find their way around an MS-DOS keyboard, you can use SUPERWORKS. It even incorporates some features for which Appleworks users pay extra.

****** inCider Magazine, November 1991**

Miami Herald/Craig Crossman 8/12/91
"Known as SUPERWORKS, this Appleworks clone does almost everything Appleworks does and more. If you know how to use Appleworks, you can use SUPERWORKS without picking up a manual. SUPERWORKS brings the functionality of Appleworks to the MS-DOS world while leaving behind many of its limitations."

- ENTIRE PROGRAM USES ONLY 180K ON DISKETTE
- ONLY INTEGRATED PACKAGE FOR NOTEBOOKS

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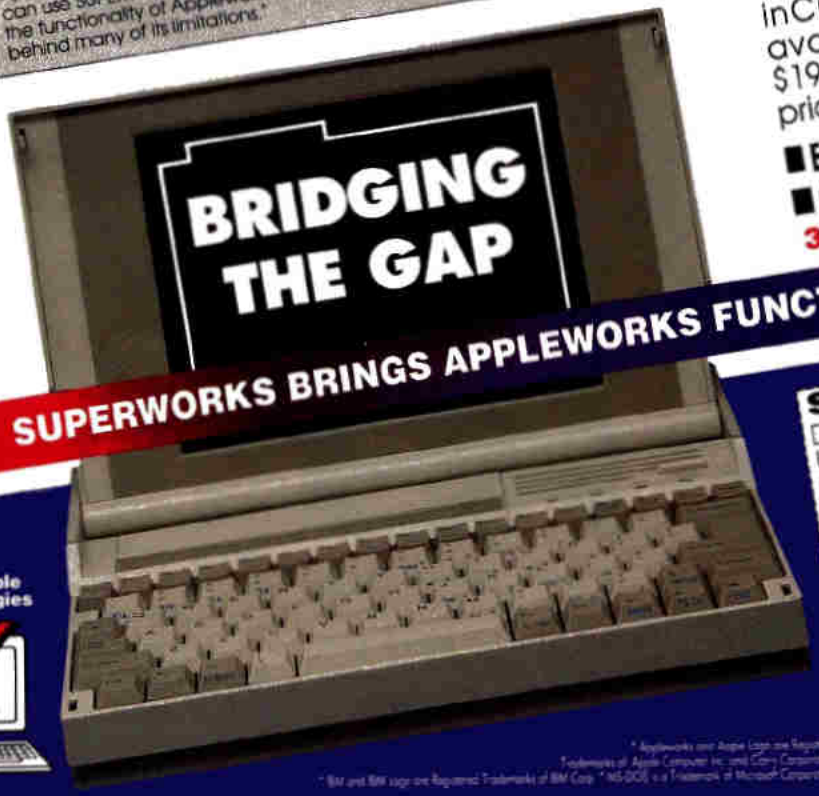

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◆

BUMPER CROP

The Apple II world never stands still. This month's product harvest includes a new version of **Help Our Earth!**, designed for students in kindergarten through grade 3. Last year on Earth Day Monarch Software released a version of the program for 4th through 9th graders. Both versions let teachers

integrate ecology, process writing, literature, and video into a language-arts or science curriculum. Both products work with the AppleWorks word processor. Students can work individually or collaboratively, publishing poems, stories, plays, journals, letters, and essays about ecology.

Monarch's new release includes ten ecology-based files, a colorful book, and a video you can use as springboards for expressive writing, plus a reproducible Instructor's Guide featuring an extensive bibliography. Help Our Earth! is priced at $149 for a six-pack license, $249 for a site/network license. District licenses are also available. For a free 45-day trial, contact Monarch Software, P.O. Box 147, 112 Husum Street, Husum, WA 98623, (800) 647-7997, (509) 493-1395. For more information, circle number 350 on the Reader Service card.

■

HYPERPLANET

Mother Earth seems to be popular with Optilearn Inc., as well. **Our Environment**, an interactive videodisc program for HyperStudio and the Apple IIGS, features five modules: Chief Seattle's Warning, Motion Sequences, Visual Glossary and Panorama (with 11,000 still images), Geography Access, and Presentation Maker. The program addresses global issues such as population growth, food security, species extinction, renewable energy resources, changing climate, urban challenges, and industrial development.

The Our Environment videodisc is $395; accompanying HyperStudio Stacks are $95. You can purchase separate teacher and student manuals for $30 and $15, respectively. The complete package is priced at $495. For more information, contact Optilearn at 15 Park Ridge Drive, Suite 200, Stevens Point, WI 54481, (715) 344-6060, or circle number 351 on the Reader Service card.

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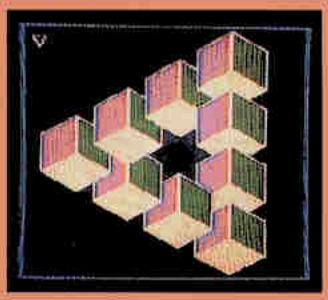
FAMILY TIES

What some people refer to as "roots" Robert M. Merrill calls "genealogical recreation." Merrill recently released version 4.0 of his inexpensive Apple II genealogist's program, **Family Tree**. Merrill says the program is in use in all 50 states and many foreign countries, as well. The latest version incorporates four- and five-generation layout capability, automatic chart numbering, and optional inclusion of birth, marriage, and death information with each name in descendant charts. Family Tree 4.0 now includes complete implementation of GEDCOM, a format that lets you share genealogy files with PC and Mac programs supporting that standard.

Family Tree is priced at $49.95 (plus $2.50 shipping). Registered users may upgrade to version 4.0 for $10 plus $2.50 shipping. If you'd like to shake a few nuts out of your family tree, contact Robert M. Merrill, 6180 Via Real A25, Carpinteria, CA 93013-2863, (805) 684-3366, or R.MERRILL2 on GEnie. For more information, circle number 352 on the Reader Service card.

◆

DELTA DRAWING UPDATE



Power Industries LP has released version 4.3 of the company's popular Apple II graphics learning program, **Delta Drawing Today**. According to company president Jeffrey Borenstein, simple menus make the software easier to use and let students load and save drawings easily. Other enhancements include improved 15-color printing and an expanded picture gallery created by the noted children's artist Ed Emberley. Instructions are provided for exporting drawings to other programs such as TimeOut SuperFonts, Publish It! 4, and Print Shop Companion IIGS. The single-user version of Delta Drawing Today 4.3 is $69.95. A ten-disk lab pack costs $210. Network versions for 25 and 50 users are $395 and $595, respectively.

Registered users may upgrade to the latest version for a special price of $19 now through July 31, 1993. Users who purchased the product after December 1, 1992, can receive the upgrade free by calling the company at (800) 395-5009.

For additional information, contact Power Industries LP, 37 Walnut Street, Wellesley Hills, MA 02181, (617) 235-7733, fax (617) 235-0084, or circle number 353 on the Reader Service card.

◆

PERFECT TEN

Enhancing your Apple II computer curriculum for the 1993-94 school year will be a lot easier thanks to MECC's latest crop of Apple II products. **Amazing Arithmetricks** (grades 5 through 12) provides math instruction against a carnival backdrop. **Arizona Mix** (grades 5 through 9) gives social-studies students the opportunity to exercise problem-solving skills and

develop an appreciation for cultural diversity as they participate in a geology simulation. **CryptoQuest** (grades 3 through 9) challenges students to become code busters as they learn to encipher and decipher messages.

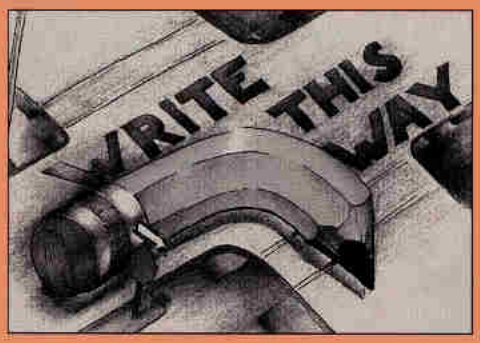
In **Dog Sled Ambassadors** (grades 5 to adult), students

set out from Beringia International Park to visit Alaskan villages, where they accept cultural artifacts from the elders. On the trail students must cope with bad weather, accidents, injury, and illness. **Dueling Digits** (grades 3 through 6) helps students understand place value and number concepts, while **Eerieville Library** (grades 4 and 5) invites students to explore a haunted library (watch out for poltergeists) in search of stories, fables, jokes, weather bulletins, and other documents.

Kids should get a real charge out of **Electrifying Adventures** (grades 3 through 6 and junior high) as they string lights to illuminate their way through a cavernous maze or use electrical devices to overcome barriers. Playing the game, students learn about series and parallel circuits, voltage, and switches. Meanwhile, **On Stage** (grades K through 2) helps young storytellers bring their ideas to life as they create animated stories by selecting the who, what, where, and when of each play.

In **Pizza to Go** (grades 3 through 6) students use simple and compound machines, including levers, pulleys, and gear wheels, to thwart the Pizza Pests, a gang of thieves. Kids conduct a neighborhood garage sale in **Treasures for Sale** (grades 3 through 6), where they perform market research and explore the use of advertising as a form of persuasive writing.

Each of these new MECC products is priced at $59. Site licenses and a special school membership program are available. For more information or to request a free catalog, contact MECC at 6160 Summit Drive North, Minneapolis, MN 55430-4003, (800) 685-MECC, (612) 569-1500, or circle number 354 on the Reader Service card.



WORD'S WORTH

A unique word-processing program designed to recognize specific language problems is now being offered by Hartley Courseware. According to Hartley spokeswoman Telaina M. Eriksen, **Write This Way** ($99.95) includes a word processor, spelling and capitalization checker, built-in dictionary, grammar checker (with teacher-controlled grammar options), and a user dictionary. Designed for students in grades 4 through 12, the program is especially helpful for learning-disabled and hearing-impaired students and others trying to overcome barriers such as dyslexia and dysgraphia. Teachers can configure the program to reflect each student's needs.

An instructor's manual includes suggested activities and a wealth of reproducible lesson sheets. To learn more about Write This Way, contact Hartley Courseware, 133 Bridge Street, Dimondale, MI 48821, (800) 247-1380, fax (517) 646-8451, or circle number 355 on the Reader Service card.

REACHING OUT

Seven Hills Software has released **Spectrum**, a graphics-based telecommunications program for the Apple IIGS. The program supports baud rates from 50 to 38,400 and many file-transfer protocols, including Zmodem and CompuServe B+. A powerful yet easy-to-use scripting language lets you tailor Spectrum for individual needs. You can use the program to emulate a bulletin board or set up the program to send and receive electronic mail automatically. A text editor supporting ASCII (American Standard Code for Information Interchange), Teach, and AppleWorks 3.0 file formats is built in.

Spectrum requires System 6.0, 1 megabyte of RAM, one 3.5-inch disk drive (hard drive recommended), and a modem. The program is fully compatible with **The Manager**, the company's multitasking GS/OS extension.

Spectrum carries a suggested retail price of $129.95. Owners of any commercial telecommunications program can trade up to Spectrum for $50 plus $3.50 shipping, now through July 31, 1993. After July 31, the upgrade price increases to $60 plus $3.50 shipping. Contact Seven Hills Software at (904) 575-0566, (904) 576-9415, fax (904) 575-2015, or on America Online, AppleLink, and GEnie at SEVENHILLS or at 75300,1743 on CompuServe. For more information, circle number 356 on the Reader Service card.

STYLE AND SUBSTANCE

Kitchen Sink Software is the exclusive publisher of **OmniPrint**, a powerful AppleWorks 3.0 printer enhancement costing $49.95, with school site licenses priced at only $99.95. After installing OmniPrint, you can easily incorporate its commands into AppleWorks documents

◆ APPLE II ■ APPLE IIGS

to print text, including stylish fonts, mousetext, foreign-language characters, and mathematical symbols, or to add graphics clip art to your work. OmniPrint requires AppleWorks 3.0 and supports ImageWriter printers (ImageWriter II recommended).

To learn more about sprucing up your work with OmniPrint, contact Kitchen Sink Software, 903 Knebworth Court, Westerville, OH 43081, (614) 891-2111, (800) 235-5502 (orders), or circle number 357 on the Reader Service card.

◆

EASY AS A,B,C

Peepers ABCs is an animated program that introduces children to the alphabet and encourages them to read. Developed with Baudville's **Take I Animation and Programmers Tool Kit**, Peepers ABCs runs on any 64K Apple II computer. (A special GS version is also in the works.) The program is recommended for students in preschool through grade 3 and costs $29.95.

For more information, contact Pictorial Ballads, 6071 Cortez Drive, Huntington Beach, CA 92647, (714) 891-0839, or circle number 358 on the Reader Service card.

◆ ■

WE GOT HARDWARE

Sequential Systems, a longtime Apple II supporter, recently announced a flurry of new hardware enhancements. **Q:talk LTO** ($94.95) is a LocalTalk option card that lets you integrate an ImageWriter II printer into an AppleTalk network.

MegaBUFF ($179.95) is a high-performance, network-compatible, internal printer-buffer card for the ImageWriter II. With a 1-megabyte capacity, it's ideal for Apple IIGS users or anyone who needs to create and print lengthy documents.

Q-System GS is a fully automatic, intelligent printer-sharing system capable of interfacing up to eight computers to a single printer or plotter. The unit features eight RS-423 serial ports with mini-DIN8 connectors and one Centronics-type parallel port.

Meanwhile, Sequential Systems' **Q-talk:iws** is a stand-alone printer buffer/server for AppleTalk networks that include several ImageWriter printers. With Q-talk:iws there's no need to install a LocalTalk option card in each ImageWriter II on the network.

To learn more about these latest Apple II enhancements (you can use them with Macs, as well), contact Sequential Systems, 1200 Diamond Circle, Lafayette, CO 80026, (800) 759-4549 (sales), (800) 999-1717 (customer service), fax (303) 665-0933, or circle number 359 on the Reader Service card.

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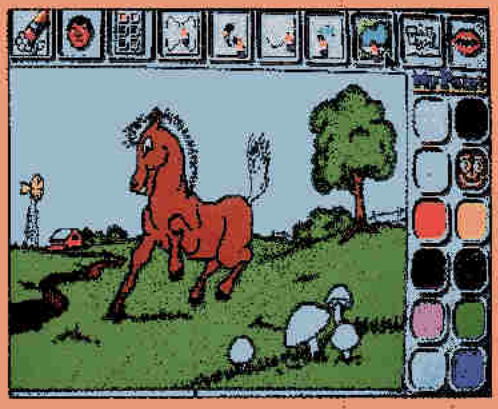
SCIENCE MATTERS

Falcon Software recently released its **1993 Chemistry Catalog** featuring programs to supplement high school and college instruction. The company's **Introduction to General Chemistry** and **Introduction to Organic Chemistry** run on 48K Apple II computers. For more information about the company's offerings, contact Falcon Software, Box 200, Wentworth, NH 03282, (603) 764-5788, or circle number 360 on the Reader Service card.

■

PICTURE THIS

Saddleback Graphics recently released a new Apple IIGS version of **My Paint** ($49.95). Among other new features, version 2.0 includes digitized sounds and an Alphabet Fun! coloring book on disk. Other disk-based coloring books are available at $19.95 each, including **Majelix Characters** (with phonics-based reading-system characters), **Numbers, Shapes and Fun** (for early learning), **Mother Goose Favorites** (with popular storybook characters), **The Star Kids** (for positive reinforcement), **Dinosaurs of the World** (with giant "thunder lizards"), and **Panther Dream**, based on the environmental book of the same title by Grateful Dead guitarist Bob Weir and Wendy Weir. To learn more, contact Saddleback Graphics, 12812 Garden Grove Boulevard, Unit P, Garden Grove, CA 92643, (714) 741-7093, fax (714) 741-7095, or circle number 361 on the Reader Service card.



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HIGH RESOLUTION

Harmonie 2.1, Vitesse's updated collection of printer drivers for the Apple IIGS, is available now. The package includes drivers for Epson LQ (and compatible 24-pin) printers, an improved driver for the ImageWriter II, and drivers for the NEC PinWriter, most laser printers, and several Hewlett-Packard (HP) printers. The latest version features newly added drivers for Hewlett-Packard DeskJet and DeskWriter models 500C and 550C. Harmonie's suggested retail price is $59.95. Registered users who purchased Harmonie after March 1, 1993, will receive a free upgrade automatically. Other registered users of Harmonie 2.0 or higher may upgrade to version 2.1 for $14.95 plus $3.50 shipping ($7.50 shipping outside the U.S. and Canada).

The company also announced a separate package with printer drivers for HP printers only. Vitesse's **HP Printer-Driver Pack** costs $29.95. **PerfectImage**, the company's ImageWriter II driver only, is also available for $29.95.

Vitesse has also released the first major revision to **Salvation-Bakkup**, a hard-disk drive backup utility for the Apple IIGS. Version 2.0's features include optional compression algorithms that significantly reduce the number of disks required by

up to 60 percent, support for low- and high-density 3.5-inch drives, compatibility with SCSI tape-backup drives, recognition and backup of HFS (Mac) disks, and improved macro support.

The suggested retail price for Salvation-Bakkup 2.0 is $69.95. Registered users can acquire the upgrade for $39.95 plus shipping from Quality Computers or directly from Vitesse. If you purchased the product on or after March 1, 1993, you'll receive a free upgrade automatically when you register. For more information, contact the company at 13909 Amar Road, Suite 2A, P.O. Box 929, La Puente, CA 91747-0929, (800) 777-7344, (818) 813-1270, fax (818) 813-1273, or circle 362 on the Reader Service card.

MATCH GAME

Wings for Learning's latest release, **<in COMMON> Words & Things**, challenges students in grades 6 and above to figure out which objects go together based on common traits. For instance, you'd match Apollo with <Zeus, Poseidon, Hestia> and not with <Costa Rica, Guatemala, Nicaragua>. Besides Greek gods and Central American countries, <in COMMON> games feature other categories, including words that begin with a particular letter or prefix, synonyms, and rhyming words. <in COMMON> Words & Things costs $65 from Wings for Learning/ Sunburst Communications, 101 Castleton Street, Pleasantville, NY 10570, (800) 321-7511. For more information, circle number 363 on the Reader Service card.

TYPECASTING

TrueType font users should contact the M.D. Hunt Company to learn more about its new **TrueType Information Center: Volume 1**. Company spokesman Michael D. Hunt says the printed reference guide is targeted for use by Apple IIGS desktop publishers in homes and schools. The loose-leaf manual displays hundreds of freeware, shareware, and public-domain TrueType fonts in its 60-plus pages.

TrueType Information Center: Volume 1 costs $17.95 with three-ring binder, $13.95 without. Shipping is $4. You can also purchase disks containing the TrueType fonts displayed in the manual for as little as $2.50 each. A complete set of 39 3.5-inch disks with more than 300 fonts is $97.50 plus $4 shipping. For more information, contact M.D. Hunt at 1006 South Philadelphia, Anaheim, CA 92805, (714) 956-5363, or circle number 364 on the Reader Service card.

NEW PRODUCT FOCUS

"Apple II" indicates an 8-bit product compatible with IIes, IIcs, IIc Pluses, and IIGSes unless noted otherwise.

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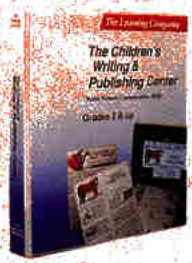

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MOUSING AROUND

Alternative-input devices and software can speed up cumbersome operations and boost your productivity.

By CYNTHIA E. FIELD, Ph.D.

EASTWARD HO

I HAVE TWO QUESTIONS ABOUT **AppleWorks 3.0**. Is there a screen saver available for it? Also, is there an enhancement that will let me use the mouse with AppleWorks 3.0? Where are those Beagle Bros when you need them?

Dolores Greenberg
La Habra Heights, CA

While Beagle Bros may have disappeared, Dolores, their programs live on in Michigan, home of Quality Computers, the authorized distributor for Beagle Bros products. **TimeOut UltraMacros** will, among countless other things, let you use the mouse with AppleWorks 3.0. And **TimeOut DeskTools II** features several AppleWorks enhancements, including the screen saver you're looking for. Both are independent products; you don't need one to use the other.

APPLEWORKS EXTRAS

TimeOut DeskTools II, $32.95
TimeOut UltraMacros, $40.95
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20200 Nine Mile Road
St. Clair Shores, MI 48080-0665
(800) 777-3642 sales/service
(313) 774-7740 technical support
(313) 774-7200
(313) 774-2698 fax

RIGHT ON TRACK

I'M A QUADRIPLEGIC WITH LIMITED use of my arms. Using a mouse application on my GS is almost impossible. Are there any peripherals that can help me use my computer more effectively? I currently use a mouthstick and can also use a joystick.

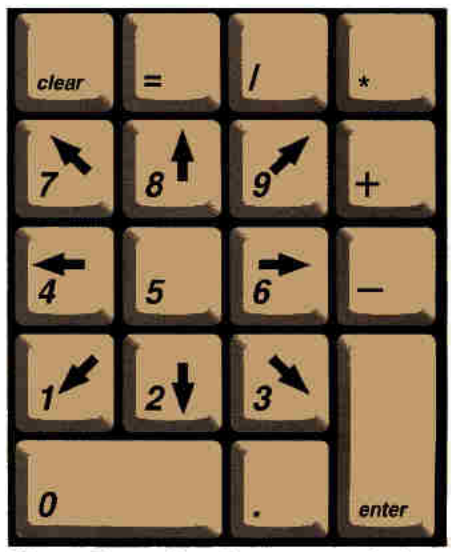
Gary Tanner
Edmonton, Alberta
Canada

Believe it or not, Gary, the peripheral you may need is already at hand. Included with **Apple IIGS System 6** is a special suite of enhancements for disabled users called **Special Aids: Easy Access**. The collection includes **Sticky Keys** and **Mouse Keys**.

Sticky Keys makes it easy to work with commands involving any of the four modifier keys: Shift, Open Apple, Option, or Control. For instance, let's say you want to print a document: Sticky Keys lets you press the open-apple key and then P instead of pressing those two keys at the same time.

Needless to say, Sticky Keys is a neat tool for people who use special input accessories such as a mouthstick, as well as for others who have difficulty typing with both hands simultaneously. Very young computer users can probably benefit from Sticky Keys and Mouse Keys, as well.

While Sticky Keys lets you enter keyboard commands more easily, Mouse Keys turns the GS' numeric keypad into a stationary mouse. As you can see from the



Graphic: Doreen Means

Figure. Mouse Keys lets you use the keypad to move the cursor and select items.

accompanying **Figure**, you use the numeric keypad's number keys to move the mouse cursor in various directions.

You make small moves by pressing a key several times; you hold down a key to move the mouse a greater distance. The 5 key works like the mouse button. After you move the cursor to a disk icon, for example, you press 5 to select the disk.

If you'd like to drag the disk, press the 0 (zero) key; it locks the mouse button in place so that you can drag objects. The decimal-point key unlocks the mouse button.

Installing and activating Sticky Keys and Mouse Keys are easy. First, boot your GS with your System 6 startup disk. (If you don't have System 6, you can purchase it for $39 from the **National AppleWorks Users Group**, **The Apple Catalog**, and many other sources.)

After the system loads and you see the Finder Desktop, insert the System 6 Install disk into a drive. Double-click on the Install disk icon to open it. Then double-click on the Installer program icon to start up **Apple IIGS Installer 2.0**.

When the Installer program loads, click on the Customize button. You'll be installing Easy Access features on your startup disk, so make sure your startup disk's name is displayed in the upper left-hand corner of the Customize screen. If the wrong disk name appears, click on the Disk button until you see your startup disk's name.

Scroll through the System 6 enhancements directory until you find Special Aids: Easy Access. Select it and click on the Install button. The GS will scan your drives and ask you to insert SystemTools2, one of the half-dozen disks that make up the System 6 collection.

Click on the OK button when the successful installation dialog box appears. Then click on the Quit button to leave the Installer program.

A warning box will appear to tell you that you must reboot your computer for the Easy Access tools to take effect. Just click on the Restart System button.

Because the Installer program places Special Aids: Easy Access into the System/System.Startup folder on your startup disk, both Sticky Keys and Mouse Keys are available each time you start up your GS. You simply have to "activate" these features to use them.

To activate Sticky Keys, press the shift key five times. An icon resembling a pressed key appears at the far right-hand side of the menu bar to tell you that Sticky Keys is working.

When you press a modifier key, the icon changes appearance to show you that the system has received the input; a down arrow appears on top of the icon. You can lock a modifier key for repeated use by pressing it twice. You deactivate Sticky Keys the same way you activate it: Press the shift key five times.

You turn Mouse Keys on or off by pressing Open apple-Shift-Clear or by using Sticky Keys to press the open-apple key, then the shift key, then the clear key. As discussed above, Mouse Keys, when active, transforms the keypad numbers into mouse moves.

In a column published last year we reported that another System 6 enhancement — **CloseView**, for visually impaired users — is incompatible with AppleWorks GS 1.1 ("Nearness of You," Apple Clinic, December 1992, p. 16). CloseView, which magnifies the GS screen, worked with

G R A P E V I N E

LINK UP

• **MultiTech Systems**, a modem manufacturer, is offering a free 42-page booklet titled **Modem Communications: The Basics of Modem Operations**, with easy-to-understand answers to questions such as "What is a modem?" "How do I install a modem?" and "How do I install communications software?"

Endorsed by the **National AppleWorks Users Group** (NAUG), this introductory primer is an excellent starting point for Apple II users considering buying a modem. It can also serve as an excellent text for a unit on telecommunications in a high-school or post-secondary setting.

For more information, contact MultiTech Systems, 2205 Woodale Drive, Mounds View, MN 55112, (800) 328-9717, (612) 785-3500.

• If you've been thinking about connecting your GS to a **Hewlett-Packard** color ink-jet printer, act now. **Vitesse** (P.O. Box 929, La Puente, CA 91747-0929, 800-777-7344) has begun shipping **Harmonie 2.1** ($59.95, upgrade $14.95), an updated interface package that includes the all-new GS/OS color printer drivers for the HP DeskJet and DeskWriter models 500C and 550C. With Harmonie installed, you'll be able to print beautiful color documents from all standard GS programs.

If you don't already own Harmonie, you can also get those same drivers in Vitesse's lower-cost **HP Printer Pack** ($29.95), which covers Hewlett-Packard LaserJet II, LaserJet IIp, LaserJet III, DeskJet, DeskJet 500, DeskWriter, DeskWriterC, PaintJet, and PaintWriter printers. Looking good in print has never been so easy.

• Apple IIe and IIc modem enthusiasts now have a familiar-looking, easy-to-run utility that can expand IBM files compressed with the MS-DOS utility **ZIP**. Useful mainly for text files, **Russ Woodruffe**'s $10 shareware program **UnZip IIe** looks and operates just like the IIe version of ShrinkIt.

You can download UnZip IIe from America Online, where you can find it in the Utility Forum's ProDOS Utility section as UNZIPIIe.SHK, or from GEnie's A2 library, where it's file #20121.

BULLETINS

• Want to start your own electronic bulletin-board system? The **Morgan Davis Group** has announced a major price reduction for **ProLine**, the popular Apple II-based BBS, awarded five stars in the December 1992 issue of inCider/A+ (Reviews, p. 27). You can operate ProLine as an independent on-line system, you can network it with other ProLine sites, or you can link it to the **Internet**, giving local callers the ability to send and receive worldwide electronic-mail messages.

ProLine 2.0 requires an enhanced IIe or Apple IIGS, a modem, and a hard-disk drive. It's available from the Morgan Davis Group, 10079 Nuerto Lane, Rancho San Diego, CA 91977-7132, (619) 670-0563, $159.95 plus $8 shipping U.S., $25 overseas. (California residents add sales tax.)

• Programmers interested in setting up their own BBSes should note that T.C. Wilson has authorized the free distribution of his powerful and flexible Apple II-based telecommunications language **METAL**. Previously available for $95, METAL is now bundled with **Joshua Thompson**'s freeware **FutureVision**, a state-of-the-art BBS package.

Where do you get it? Call the **Virtual Space Industries** BBS at (313) 842-6739 (V.32 BIS) and download the program and associated file archives. You'll get your own personal serial number. You can also call one of the other METAL support systems and download a copy, but at press time we couldn't determine whether personalized serial-number stamping is available at these sites or not. Call **Damage Incorporated** (V.32 BIS/HST 14,400) at (216) 328-0374 or **The Atomic Playground** (16.8K dual standard) at (614) 297-7031 for more information.

You can also download METAL and FutureVision from GEnie's A2 area. In addition, Joshua Thompson will be offering tech support on GEnie's A2 area and Usenet's alt.bbs.metal newsgroup.

— Joe Kohn, Contributing Editor

GRAPEVINE IS A MONTHLY COLUMN OF ON-LINE TIPS, CHAT, AND GOSSIP. CONTACT JOE KOHN AT JOKO (AMERICA ONLINE), 76702,565 (COMPUSERVE), J.KOHN (GENIE), OR 76702.565@COMPUSERVE.COM OR JOKO@AOL.COM (INTERNET).

other GS programs we tried, however. We tested both Sticky Keys and Mouse Keys with AppleWorks GS, and they seem to work fine. We opened a new word-processing document, entered some text, selected it, made it boldface, saved it, and printed it with no untoward effects.

Using Special Aids is probably your least-expensive alternative, Gary. But you mention that you can use a joystick. Depending on how much motor control you have in your hand, you might consider using a trackball (less than $100 in most instances) instead of either a mouse or Mouse Keys.

Any ADB (Apple Desktop Bus) trackball should work on your GS. A trackball originally purchased for my Mac LC sometimes does double duty on my GS. Plug the trackball into the port on the side of the keyboard you'd ordinarily use for the mouse. (Just be sure your system is turned off before plugging or unplugging anything.)

SPECIAL ASSISTANCE

The Apple Catalog
1 Apple Plaza
P.O. Box 9001
Clearwater, FL 34618-9001
(800) 795-1000
(302) 678-9200 fax

National AppleWorks Users Group
Box 87453
Canton, MI 48187
(313) 454-1115
(313) 454-1965 fax
(615) 359-8238 BBS

HARD SLOTS

THANKS FOR THE DETAILED description of networking an Apple IIGS, ImageWriter II, laser printer, and Macintosh ("Network News," Apple Clinic, March 1993, p. 16).

I have one additional question: Can you set up a network as described and still use a hard-disk drive on the Apple IIGS? My hard-disk controller is in slot 7, and I use a ROM 01 GS.

Wayne Whitlow
Cupertino, CA

Yes, you can still use your hard drive. As you discovered, Wayne, you must set slot 7 in the Control Panel of ROM 01 GSes to either AppleTalk or Your Card. You can't have it both ways. With your SCSI card in slot 7, you have a conflict if you also want to connect to an AppleTalk network. (Note that ROM 03 GS owners don't have this difficulty.) The problem's easily solved — install the hard-disk's SCSI card in another slot.

You may want to experiment, and you should check the manual that came with your card to see what the manufacturer recommends. The final result will depend on the presence of other peripherals. At various times, I've used slot 2 and slot 1 for my hard-drive controller with no ill effects. Slot 2 works fine if you don't have a modem.

Also note that even though you plug the AppleTalk connector into serial port 1, which is typically associated with slot 1, the slot's setting in the Control Panel has no direct effect on AppleTalk — you can go ahead and set slot 1 to Your Card and then install your hard drive there without any conflicts.

Follow the usual precautions regarding static electricity before moving your hard-drive controller card from slot 7 to another location. After the card's installed, access the Control Panel and set Startup Slot to conform to the hard-disk drive controller's new location.

DRIVIN'

I USE AN APPLE IIGS AND SYSTEM 6 with a StyleWriter printer at work. When I inquired at my local Apple dealership about purchasing a **StyleWriter** to use at home, the support personnel told me that the currently available model — the **StyleWriter II** — comes with new drivers for the Mac and no software or documentation for the GS. Will the new printer work with the current System 6 StyleWriter driver?

Ken Miller
Wellington, KS

Don't you just hate it when Apple ignores the GS, Ken? According to a spokesman at Sun Remarketing, the GS System 6 StyleWriter driver should work with the new-model StyleWriter II. But other sources we contacted were less reassuring. At press time, Vitesse's Jim Carson explained that Apple's latest StyleWriter II ink-jet printer is so "radically different" from its predecessor that even his company's about-to-be-released driver (in **Harmonie 2.1**) doesn't work with it. Vitesse's driver is said to be significantly faster than the StyleWriter driver you're using now. (See "High Resolution," What's New, p. 14 in this issue, for additional information on Vitesse's latest products.)

You may be able to save money and aggravation by purchasing the same model printer you use at work. At press time Sun Remarketing had some 800 of the original StyleWriters in stock. Where else can you get a printer that's capable of generating 360 dpi (dots per inch, a measure of resolution) for only $229 (plus $19 for the cable)?

As you may know from your experience at work, the GS' StyleWriter driver isn't perfect. For one thing, it doesn't communicate properly with Seven Hills' **Express** print spooler. Ink-jet printing can be a slow process even with a print spooler — but at least a spooler frees up your computer so that you can work on other projects while the printer is doing its thing.

Printing a single page at the StyleWriter's highest resolution with Apple's StyleWriter driver can take as long as two minutes. Vitesse's driver is not only faster than Apple's driver, but is also compatible with Express.

PRINT IT

Apple StyleWriter
Sun Remarketing
P.O. Box 4059
Logan, UT 84323-4059
(800) 821-3221
(801) 755-3360
$229 plus $19 cable

Harmonie 2.1
Vitesse, Inc.
13909 Amar Road
Suite 2A
P.O. Box 929
La Puente, CA 91747-0929
(800) 777-7344
(818) 813-1270
(818) 813-1273 fax
$59.95

JUST YOUR TYPE

I HAVE WESTCODE'S GS TRUETYPE interpreter **Pointless** and 14 font families. I'm trying to convert some of them for a friend to use on a Mac LC II.

Jason A. Partyka
Chicago, IL

0	black
1	red
2	dark blue
3	purple
4	dark green
5	dark gray
6	medium blue
7	light blue
8	brown
9	orange
10	light gray
11	pink
12	light green
13	yellow
14	aqua
15	white

Table 1. Codes corresponding to Apple IIGS border colors.

Remember, fonts are software, too, Jason. You could inadvertently breach a company's copyright by giving TrueType fonts to your friend. Unless the fonts are in the public domain or are offered as shareware, call the publisher to find out how you can acquire a license for your friend.

Performing the actual conversion is a snap, says Marty Knight, Apple Forum leader on **America Online**. (His screen address is AFLMarty.) Knight explains that Apple IIGS and Macintosh computers use the same TrueType fonts, but the Mac can't recognize your TrueType fonts until you fix each font's filetype and creator.

Use a Macintosh utility such as **Hax** or **FileTyper Lite**, both of which are available for downloading from America Online and probably from other Mac software libraries, as well. Hax is freeware, while FileType Lite requires a $10 shareware registration fee. Change the TrueType fonts' filetype to TTRO and the creator to DMOV. Knight cautions you to use all uppercase letters.

FONT SOURCE

America Online
Quantum Computer Services
8619 Westwood Center Drive
Suite 200
Vienna, VA 22182-2285
(800) 827-6364, (703) 448-8700
$9.95/month includes five free hours
$3.50/hour thereafter

COLOR BIND

I'D LIKE TO FOLLOW UP ON THE item "BASIC Needs" (Apple Clinic, April 1993, p. 18), in which *inCider/A+* reader Jeremy LaCivita asked about Applesoft commands he could use to change background, text, and border colors on his Apple IIGS.

To change border color, the command is *POKE 49204,X* where *X* is one of the GS' primary color numbers 0 through 15. To change background and text color, you have two options: *POKE 49186,(Y+(Z*16))*, where *Y* is the desired background color and *Z* indicates the text hue; or just *POKE 49186,W* where *W* is a value that corresponds to a text-and-background color-combo value derived from a table you published in your January 1991 issue.

Colin Williamson
Elizabethtown, PA

You're right, Colin. In "The Screening Room: BASIC Color Match" (Hints & Techniques, January 1991, p. 96), Chris Duggan of Yukon, Oklahoma, described the use of the POKEs you mention. **Tables 1** and **2** show the color codes Applesoft BASIC programmers like Jeremy and Chris employ. ❑

	BACKGROUND															
TEXT	black	red	d. blue	purple	d. green	d. gray	m. blue	l. blue	brown	orange	l. gray	pink	l. green	yellow	aqua	white
black	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
red	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
d. blue	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
purple	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
d. green	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
d. gray	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
m. blue	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
l. blue	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
brown	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
orange	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
l. gray	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
pink	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
l. green	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
yellow	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
aqua	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
white	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Table 2. GS text and background color combinations. Read across for background color and down for text color. Use the selected value as W in the POKE 49186,W command.

DENNIS WARNESKY

★ ★ ★ ★ ★

McCarthy-McCormack, Inc.
2885 Downhill Drive
Colorado Springs, CO 80918
(800) 869-1446
(719) 598-5579 fax

- early language-skills builders
- 128K Apple IIe, IIc, IIc Plus, IIGS, Mac LC with Apple IIe Card
- $49.95 each
- includes site license

CINNAMON BEAR'S OUTER SPACE ADVENTURE & UNDERSEA ADVENTURE

C'mon, admit it — *of course* you still love teddy bears. They're pretty irresistible: Cute, fuzzy, and lovable, they make *everyone* feel comfortable and secure. That's why Cinnamon Bear's Outer Space Adventure (for grades K through 3) and Undersea Adventure (for grades 1 through 3) are hits with adults and children alike.

The cost of these packages is "bear-ly" believable because it includes a site license. That means every classroom in your school can have its own copy of the software. Both 3.5- and 5.25-inch disks are included. I tested these delightful programs on an Apple IIGS in my home office as well as on an elementary school's Apple IIes and its Mac LC II in Apple IIe emulation mode.

Cinnamon Bear's Outer Space Adventure helps beginning readers practice long and short vowel sounds with word patterns (*consonant-vowel-consonant* and *consonant-vowel-consonant-e*). Cinnamon Bear's Undersea Adventure gives kids practice with vowel combinations: *ai, aw, ea, ee, igh, oa, oo* (as in *food*), *oo* (as in *book*), *ow* (as in *cow*), *ow* (as in *blow*), and *ou*.

Each Cinnamon Bear adventure begins with a two-page story appearing on screen in a large, readable font. It's a perfect way to introduce the software to the whole class. While you have the children's attention, you can use the *Photo Album* option to let the class preview the program's pictures, words, and associated vowel or combination sounds. You'll like the colorful, animated images and the easy-to-read on-screen directions. Children can work at their own pace — with no pressure to "beat the clock" — because the games aren't timed.

GO EXPLORING

In Cinnamon Bear's Outer Space Adventure, the cuddly teddy sits at the controls of his spaceship as he gazes at the stars and planets. A picture from the *Photo Album*, framed by a border, appears, accompanied by vowels and their short and long symbols. Using the arrow keys, you move the highlighted cursor to the correct vowel/symbol associated with the picture's name, and press the return key. If you're correct, the word appears in a box with the picture. Cinnamon Bear smiles and a tiny spaceship moves ahead on the galaxy game board. If you're wrong, C.B. looks puzzled, the word appears, and a highlight box flashes on the correct vowel sound.

After eight correct answers you get to play a game in which you maneuver a spaceship through a maze. Using the arrow keys, you must be careful not to touch either walls or whirling objects. You control your spaceship by pressing the spacebar to stop and restart. Before you begin each game you can slow the ship down by pressing the minus key or speed it up with the plus key. Apple IIGS

Little ones learn their vowels as they blast off into an Outer Space Adventure.

users should set *System Speed* in the Control Panel to *Normal*.

Cinnamon Bear's Undersea Adventure works in much the same way. If you're a busy elementary-school teacher or parent, you'll be grateful for the continuity — students can play much more independently when software is truly user friendly.

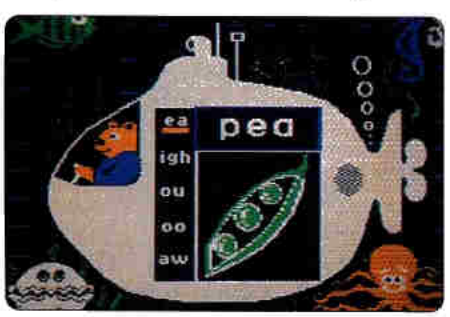
Cinnamon Bear's little submarine is surrounded by colorful sea creatures. A picture from the *Photo Album* appears in the box; you must move the underline cursor to the correct vowel combination and press the return key. C.B. flashes a smile and gives a thumbs-up for each correct answer. In addition, the word appears in a box above the picture as a miniature submarine advances through the undersea game board.

If you're incorrect, Cinnamon Bear gives you a puzzled look, the correct word appears, the underlined bar flashes on the correct vowel combination, and the tiny sub stays put. Again, after eight correct answers, a game appears; this time you help Cinnamon Bear capture creatures for his aquarium. You have 12 chances to cast your line (by pressing the spacebar) to fill an empty net.

To win a Cinnamon Bear adventure game, you must move the tiny spaceship or sub all the way around the game board. When you succeed, you're rewarded with an animated scene (and accompanying music) featuring Cinnamon Bear and friends congratulating you.

THUMBS-UP

"Awesome!" was the cry of the second-graders who were my official classroom testers. Quickly mastering the appropriate keys, they whizzed through Cinnamon Bear's Outer Space Adventure. (They had learned short and long vowels in first grade.) "Great program!" added their teachers, who immediately marked this software for use early in the school year. The children plotted maze routes and manipulated the ship carefully to the exit. Being video experts, though, the kids expected more "lives" with each game. They shut off the sound when they discovered that the game runs faster without it — they wanted to have as much time at the computer as possible.



C.B. and friends dive into an ocean of vowel combos in Undersea Adventure.

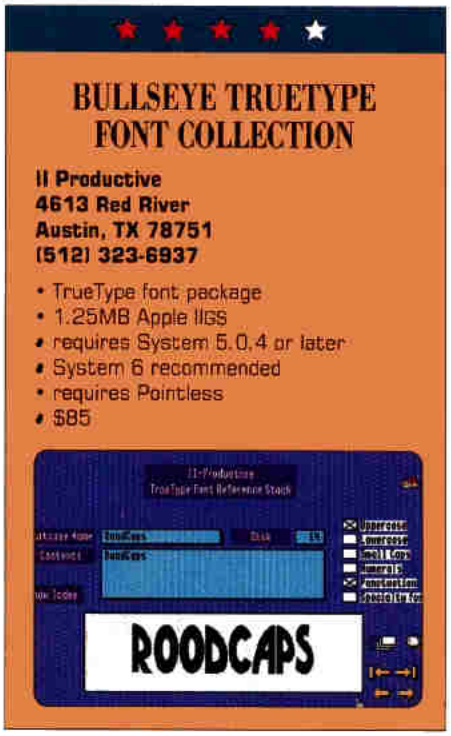
Cinnamon Bear's Undersea Adventure was an even bigger hit. "Excellent curriculum integration," remarked the adults, noting that the program was teaching vowel-combination skills at the same time the children were testing the software. The underwater theme also fit nicely into the students' current science unit on whale migration. The children felt the undersea game was more challenging, too — probably because they hadn't yet mastered all the vowel combinations it teaches.

The Cinnamon Bear manuals cover the essentials; teachers will appreciate their brevity and concise wording. A printout of the pictures in the *Photo Album* would be a useful addition, however. Using a FingerPrint GSi card, I made a screen shot of the graphics myself; the teachers preferred that students consult these printed pictures rather than just guess at the answers.

While I was printing the graphics, I discovered that Cinnamon Bear's Outer Space Adventure lacks pictures representing the long *e* sound. Dr. Kay McCormack, president of McCarthy-McCormack, explained that long *e* words fitting the *consonant-vowel-consonant* or *consonant-vowel-consonant-e* pattern can't be represented by pictures. Classroom teachers whom I questioned agreed and said that using long *e* as a distraction in the game actually helped students distinguish between long *e* and short *e* sounds.

It's rare when early-elementary software meshes so perfectly with skills taught in the classroom, a partnership that makes the computer a truly useful learning tool. Take it from me and my enthusiastic second-graders: You and your class will love Cinnamon Bear's adventures. He's simply irresistible.

Midge Frazel
Bridgewater, MA



Things grow bigger in Texas: hats, steaks, supercolliders, even font packages. Bullseye TrueType Font Collection from II Productive boasts 16 3.5-inch disks containing some 300 archived TrueType fonts. Three bonus disks in the Bullseye package offer a number of extra goodies, among them a one-month trial membership on America Online and the necessary telecommunications software.

If you work in a mixed environment populated by Macintosh and Apple IIGS computers, the ability to share documents that use a common library of fonts is a powerful incentive for making the move to TrueType technology. But even the lone GS user with a trusty ImageWriter II or high-resolution ink-jet printer can benefit from the largess included in this impressive bundle.

NEW KID ON THE BLOCK

Until just a couple of years ago, most GS enthusiasts had to satisfy themselves with standard ASCII text characters or plain-vanilla fonts like Shaston and Geneva, supplied with the Apple IIGS operating system. These *bit-mapped* fonts are designed to be legible on the computer screen and on dot-matrix printers. Bit-mapped fonts aren't without problems, though.

Ideally, every bit-mapped font size should have its own set of character images. For best results in creating text in Geneva, say, you need separate files containing 9-, 10-, 12-, and 18-point Geneva characters. (A *point* equals one 72nd of an inch.) At this pace, it doesn't take long for bit-mapped fonts to monopolize space on a floppy or hard disk. The GS generates uncommon point sizes by resizing characters from the nearest bit-map size available, but the resulting text usually looks jagged and ugly — not the stuff of which easy-on-the-eyes term papers or top-flight résumés are made.

By contrast, so-called *PostScript* printers such as the Apple LaserWriter use special fonts (written in Adobe Systems' page-description computer language PostScript) stored permanently in the printer's memory or downloaded from the computer or a dedicated hard-disk drive. Because each PostScript character is defined by a mathematical formula describing the character's *outline*, these fonts are *scalable*: A single file contains information for every imaginable size. A PostScript printer can create characters of any size automatically by extrapolating from a single set of outline formulas. Even the smallest printed text looks terrific, but PostScript technology is expensive.

Several years ago Apple developed a third font technology — TrueType. These fonts are scalable, compact, and easy to install; they generate both screen display and printer data from a single file. Perhaps more compelling for Apple IIGS users in school, at home, or in the small office, TrueType fonts work well with less-expensive printers. That's because the computer — rather than the printer — does the hard work of *rasterizing* the image (converting equations defining each letterform into concrete data the computer or printer uses to draw the character).

Apple built TrueType into the Macintosh and licensed the technology to Microsoft for use in Windows 3.1, a move that expanded the potential market for TrueType fonts to millions of users of IBM PCs and compatibles. WestCode Software filled the void for GS owners by developing **Pointless**, a GS/OS system extension that brings TrueType font capability to the Apple IIGS.

Pointless comes with a basic set of familiar fonts (Chicago, Courier, Courier Bold, Geneva, Monaco, New York, and Symbol), but you can install additional TrueType fonts, as well — a boon to GS users because amateur fontographers have designed countless TrueType fonts and donated them to the public domain. So how do you obtain these "free" fonts?

It would take hours of expensive connect time to download the hundreds of fonts available from on-line services and bulletin boards. Add to that the time it takes to catalog the collection. For those who would rather spend their hours creating publications instead of organizing files, II Productive has performed an important service. Bullseye TrueType Font Collection retails for $85, but mail-order distributors, including Resource Central, Roger Wagner Publishing, and TMS Peripherals, offer the collection at "street" prices, bringing the cost down to nickels per font.

The TrueType fonts in the Bullseye package have been compressed to maximize available disk space; before you can use one, you must first decompress its "archive." For your convenience, the package includes the latest version of **GS-ShrinkIt**. After you decompress a selected font, use the Pointless control panel to add the new typeface to your GS system. The fonts you install appear on the *Font* menu of GS applications such as AppleWorks GS.

MORE FOR YOUR MONEY

Keeping track of more than 300 fonts would be a challenge if it weren't for the HyperCard IIGS *Reference* stack provided in the II Productive package. (A run-time version of HyperCard IIGS and some free stacks are included, as well.) The cards (screens) in the *Reference* stack provide information and visual previews of Bullseye's fonts. You can browse through the cards manually, select information about a specific font from an on-line index, or activate a self-running demo that flips through the cards. You can use *Teach*, System 6's document-reading utility, to display and print a text file listing all fonts — from *Adjutant* to *Zingnats*.

Many of the fonts in this collection sport only uppercase letters. Presumably you'd use these fonts for titles, headlines, and subheads, and not for body text. Most of the Bullseye fonts lack extended sets of foreign or accented characters, such as *ü*, *é*, *ç*, *ô*, and *å*. Several "dingbat" fonts (graphics symbols) are included, though, as well as Hebrew and Cyrillic fonts, a Braille font, and at least two fonts made up entirely of fractions — great for math teachers. Perhaps the most bizarre is *Ykcowrebbaj* (*Jabberwocky* spelled backwards), in which all letters are mirror images of their former selves.

Depending on number of characters and their graphics complexity, a TrueType font file varies in the amount of disk space required for its storage. A font may also include multiple styles, such as boldface, italic, and condensed, which can double or even triple the magnetic real estate required. The *Reference* stack can help you choose the right font and conserve hard-disk space, as well.

RIGHT ON TARGET

Take note of a few drawbacks here. Some fonts look good on screen, while others look good only when printed. Moreover, GS applications limit the maximum type size you can incorporate into your documents. You should be able to create stylish and effective newsletter headlines, but if you need gargantuan letters, try a specialized program such as Brøderbund's **Bannermania** or **The Print Shop IIGS**.

Generally speaking, the more powerful your system the happier you'll be with TrueType fonts. The ideal setup includes a roomy hard drive, several megabytes of RAM, an accelerator card, the latest version of GS/OS, and a high-resolution printer such as Hewlett-Packard's DeskJet or Apple's StyleWriter. But even if you use an ImageWriter II and one or two floppy disk drives, you can still manage. Pointless alone requires only 32K of disk space, and by ruthlessly eliminating unnecessary files you can install it along with a few fonts on the working copy of your startup disk.

Whatever your next desktop-publishing project, the sheer variety of TrueType fonts offered by II Productive can keep you and your work looking great for months and years to come.

Mike Markowitz
Long Beach, CA

★ ★ ★ ½ ★

ULTRAKEY 2.0

Bytes of Learning, Inc.
908 Niagara Falls Blvd. #240
North Tonawanda, NY 14120-2060
(800) 465-6428
(416) 495-9913
(416) 495-9548 fax

- typing-instruction program
- 64K Apple II
- color monitor recommended
- $89 single user
- $29 single disk pack (per additional computer)
- $449 site-license edition
- $375 site-license upgrade

Oh, no, not keyboarding," groaned my 12-year-old daughter when I asked her to help me evaluate UltraKey 2.0. She'd had an unpleasant time in a mandatory keyboarding class at school last fall. She'd had precisely the same experience I'd had in school — sitting at attention, feet flat on the floor, body centered in front of the keyboard, wrists up and fingers curled, while the teacher droned, "*A-a-a, s-s-s, d-d-d, f-f-f,*" patrolling the classroom to make sure nobody looked down at his or her fingers.

There are better ways to learn how to type. As more and more computers have appeared in the workplace, "keyboarding," as my daughter calls it, has become a required skill for employed adults as well as students. Responding to a need for friendlier instruction, a number of computerized tutors have appeared over the years. The variety of available programs ensures that there's one just right for every age and learning style.

UltraKey 2.0 is the culmination of Bytes of Learning's nine years' experience publishing keyboarding instruction software. It's a straightforward tutor with no loud sound effects to disrupt a class and no flashy graphics to divert attention. Instead, keystrokes produce soft, typewriter-like clicks from the computer speaker. There's no need to look down at your fingers, because the screen displays a keyboard and hands that prompt you for the correct stroke. It's effective and compelling.

POWER UP

The package includes a handy 14-page reproducible *Student Guide*, containing a table of contents, a keyboarding glossary, and clearly written steps for starting and using the program. All necessary operating instructions, featuring text cues and animated graphics, appear on screen as you progress through each lesson.

The *Teacher's Guide* assumes little computer expertise on the part of the instructor. It features 11 program options, including turning audio feedback on and off, saving the best or the last test result, requiring one or two spaces between sentences, and specifying speed and accuracy criteria required for passing each skill check. The guide also contains helpful tips you can share with students as they practice their lessons and attempt the proficiency tests.

While UltraKey assumes little computer expertise, it does assume some degree of motivation on the part of student and teacher alike. Instructors who participate actively in their classrooms by directing and developing activities to reinforce students' keyboarding skills will probably benefit most from UltraKey. The *Teacher's Guide* includes suggestions for using the program in classrooms with limited access to computers, ideas for class activities that employ keyboarding, and tips for extending the curriculum beyond simple keyboard geography. UltraKey's classroom pedigree shows in the guide.

The program rewards progress with on-screen messages, gives immediate analysis and feedback after lessons and skill checks, and lets students and teachers view detailed progress reports on screen or paper. UltraKey maintains student records in a central disk directory or on each student's personal disk. If you choose to store data in one place, the 3.5-inch program disk can hold more than 500 student records.

UltraKey 2.0 is also appropriate for computer labs. It's available in Apple II, Mac, and MS-DOS versions so that you can provide uniform instruction. The manual offers troubleshooting tips and tech-support phone and fax numbers. You can also make an archive backup, guaranteeing quick recovery should you damage the program disk.

NO-FRILLS EFFICIENCY

Like any instructional program, UltraKey is more appropriate for some students than for others. Lacking any games disguising its exercises or any of the other "bells and whistles" that have crept into educational software, UltraKey seems better suited to older students or to smaller classes where the teacher can provide close supervision. It's also appropriate for introducing adult students to the keyboard.

Later this year Bytes of Learning promises to release a companion program, **UltraKey Manager**, that will let teachers modify skill checks and add their own practice material to the program's *Challengers*. These paragraph-centered typing tests are especially important in advanced or adult classes.

UltraKey teaches only the standard QWERTY keyboard, so-named after the keycaps on the upper left row of letters. The typewriter was patented in 1867, and the QWERTY layout was developed intentionally to make typing difficult, so that the slow-moving mechanical works inside those first machines could keep up with the typist.

Typewriter technology eventually improved, and in 1936 a second standard keyboard layout was patented by August Dvorak, an efficiency expert. Although the Dvorak keyboard never caught on, it's still around. Most Apple computers let you flip between Dvorak and QWERTY from the Control Panel (if you're using a GS) or a switch at the top left of the keyboard.

But for the time being, if you want to learn the more-efficient Dvorak keyboard, you'll need to look for some other typing program — although a programmer at Bytes of Learning says that the company could easily produce a Dvorak tutor if demand for one materialized.

UltraKey 2.0 is a solid, well-documented, basic tutor, developed and refined by teachers for classroom use. It lacks all those flashy special effects and games commonly found in today's educational programs; the absence of razzle-dazzle makes the teacher more responsible for ensuring his or her students' continued interest and motivation. If you want a straightforward, no-frills typing tutor, even my daughter concurs that UltraKey 2.0 is the program for you. ❑

Jon McCreight
Princeton, MN

THE APPLE II REPORT

● MUST BUY!
● FORGET IT
● WORTH A SECOND LOOK

● ANIMALS WITH AN ATTITUDE

Toucan/Queue
338 Commerce Drive
Fairfield, CT 06430
(800) 232-2224, (203) 335-0906

- new creative-writing software
- 128K Apple II
- $49.95

The cast of comical characters in this entry-level desktop-publishing package encourage even reluctant young authors to take Apple keyboard in hand and create comic books, storybooks, posters, and other written artworks. Kids select colorful backgrounds, animal cartoon graphics, and clip-art props to design original story settings, then use the program's simple text processor to write stories. They can even enter text in special speech bubbles for a comic-book effect. If the computer is equipped with an Echo or Cricket speech synthesizer, it speaks any words a child has written. Completed stories print in a variety of sizes, from miniature to poster. The manual contains a number of suggestions for creative-writing activities. Animals with an Attitude is a great writing tool for young children.

● FISH SCHOOL

MECC
6160 Summit Drive North
Minneapolis, MN 55430-4003
(800) 685-6322, (612) 569-1500

- new reading-comprehension software
- 128K Apple II
- $69

Fish School sends young readers (grades 2 and 3) on an arcade-style quest for paper notes in bottles scattered underwater. Kids must gather the bottles (while avoiding puffer fish and crabs), read the notes, answer questions, and return papers to their proper locations. Activities develop reading skills; questions ask players to identify topic, main idea, and supporting facts; determine cause or sequence of events; and make inferences. Management options let teachers set the program's difficulty level and track student performance. These software activities are fun and motivate children to read.

● GRAMMAR MADNESS

MECC
6160 Summit Drive North
Minneapolis, MN 55430-4033
(800) 685-6322, (612) 569-1500

- new grammar tutor
- 128K Apple II
- $59

This grammar game (with age-appropriate vocabulary, writing styles, and reading content) gives students practice with parts of speech. Activities ask players to select an adjective, adverb, possessive noun, present-tense verb, and so on from an on-screen word list; if youngsters make a wrong choice, the program offers on-line help. The software then inserts the selected word into a prepared paragraph, often with humorous results. Management options let teachers customize game activities and track performance. Although it encourages children to recognize parts of speech, the game becomes boring fast. Even with multiple difficulty levels, it's not entertaining enough to motivate play.

● HIKING THROUGH HABITATS

Toucan/Queue
338 Commerce Drive
Fairfield, CT 06430
(800) 232-2224, (203) 335-0906

- new writing and creativity package
- 128K Apple II
- $49.95

This desktop publisher invites youngsters to decorate scenic backgrounds with clip art, then use a simple text processor to write stories about their settings. Kids can also add text-filled speech bubbles to any scene for a comic-book effect. When the work is done, they can print illustrated banner-sized books up to 90 feet long. Completed banners print in three sizes: miniature for small comic books, standard for regular banners, or large (each panel two pages wide). The manual includes a number of ideas for creative writing projects. Hiking Through Habitats not only lets children express their ideas in pictures and words, but teaches them about ecological diversity, as well.

● LIFE STORY: FROG

Troll Associates
100 Corporate Drive
Mahwah, NJ 07430
(800) 526-5289, (201) 529-4000

- new science program
- 48K Apple II
- $39.95

This interactive program features four game-style activities for grades 4 through 6, designed to reinforce ideas and pictures presented in Frog, a book by Michael Chinery. (A copy of Chinery's text is included in the package.) My Life Story invites kids to identify true/false statements about the "bright-eyed common frog." Each correct answer earns a special photo for the frog's family photo album. If players fill in all nine photos, they can play a challenging round of Frog Tac Toe. In Remember When, players help frogs remember information about the four stages of their life cycle. Letter Gulp has frogs catching letters to form answers to frog-related questions. Pushy Word, the final activity, requires players to classify objects in appropriate categories. Challengers must be familiar with a frog's enemies, foods, habitats, and body parts to answer correctly. This is a great program for stimulating interest in beginning biology.

● LOVE IS

McCarthy-McCormack, Inc.
2885 Downhill Drive
Colorado Springs, CO 80918
(800) 869-1446

- new reading program
- 128K Apple II
- $59.95

Featuring both on-line and off-line activities for beginning readers, the Love Is package also includes a 12-page poster-sized Big Book that teachers read to their students, plus a smaller reproducible edition so that each student can have a copy to color. Three disk-based self-directed reading activities (Love Is a Game, Prime Time Rhyme, and Magic Toy Box) reinforce the coloring book's vocabulary. Each activity includes a game children can play after completing their work. The package also contains a simple text editor for teacher-directed language activities, plus black-line masters. There's also a disk with motivational awards, bookmarks, and charts so that teachers can reward children for their reading efforts. This well-designed classroom kit combines entertaining games and reading material to create a rich learning environment.

— Carol S. Holzberg, Ph.D.,
Contributing Editor

Exclusive Source for the Best IIGS Programs

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Out of this World™: HIGHEST RATED GAME EVER by Computer Game Review! Using the new technology of polygonal graphics, *Out of this World* is a masterpiece in action/adventure games. Hurtled through space and time by a nuclear experiment gone wrong you must blend logic and skill to survive the alien land. **Order product number IP60 for only $49.95.**

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DuelTris™: Say good bye to your free time because DuelTris will definitely captivate your attention. It's similar to Tetris, but you can play against another human or against the computer. When one player fills out a row, it's moved to the other player's field making it more difficult. Plus there are special pieces like a gun, a bomb and an anvil to liven things up. **Order DG55 for $20.**

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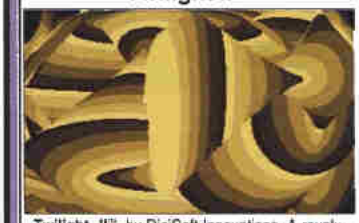
Mazer II: Virtual reality on your IIGS. Cross a fantasy adventure with a flight simulator, then add a great deal more of something unexpected, and you have Mazer II. Enter a world of continuous movement with real-time point-of-view graphics for arcade action plus adventure. Requires 1.25 Megs and System 5.0 or higher. **Order FF50 for $20 for members or $25 for non-members.**

Twilight II™



Twilight II™ by DigiSoft Innovations. A revolutionary new screen saver control panel that takes complete advantage of your IIGS. There are over 40 effect modules including 3-D wireframe animation, fireworks, TV static, a bouncing clock, rain, Moire, and kaleidoscope. This program requires 2 Megs and System 6.0. A hard drive is recommended. **Order TW50. The price is $29.**

4 MegaByte RAM-GS™

Sequential Systems RAM-GS™: With memory expansion this cheap, there's no excuse for "Out of Memory" errors. RAM-GS is a low-cost, 4 Megabyte memory expansion for the IIGS. Easily installed, it is fully compatible with GS/OS, DMA and all software. Its multi-layer circuit design makes it run cool and draw less power. **Order product number SQ50 for only $125.**

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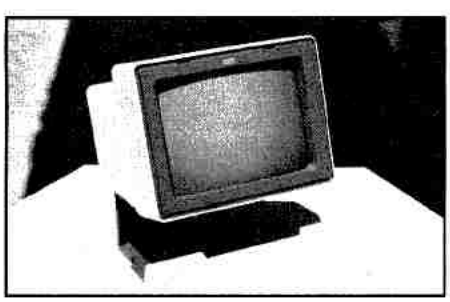

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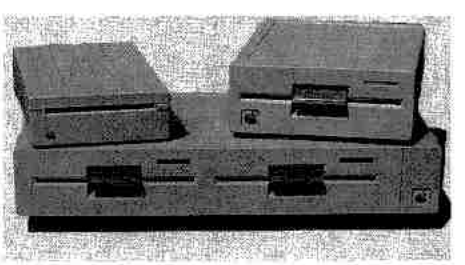

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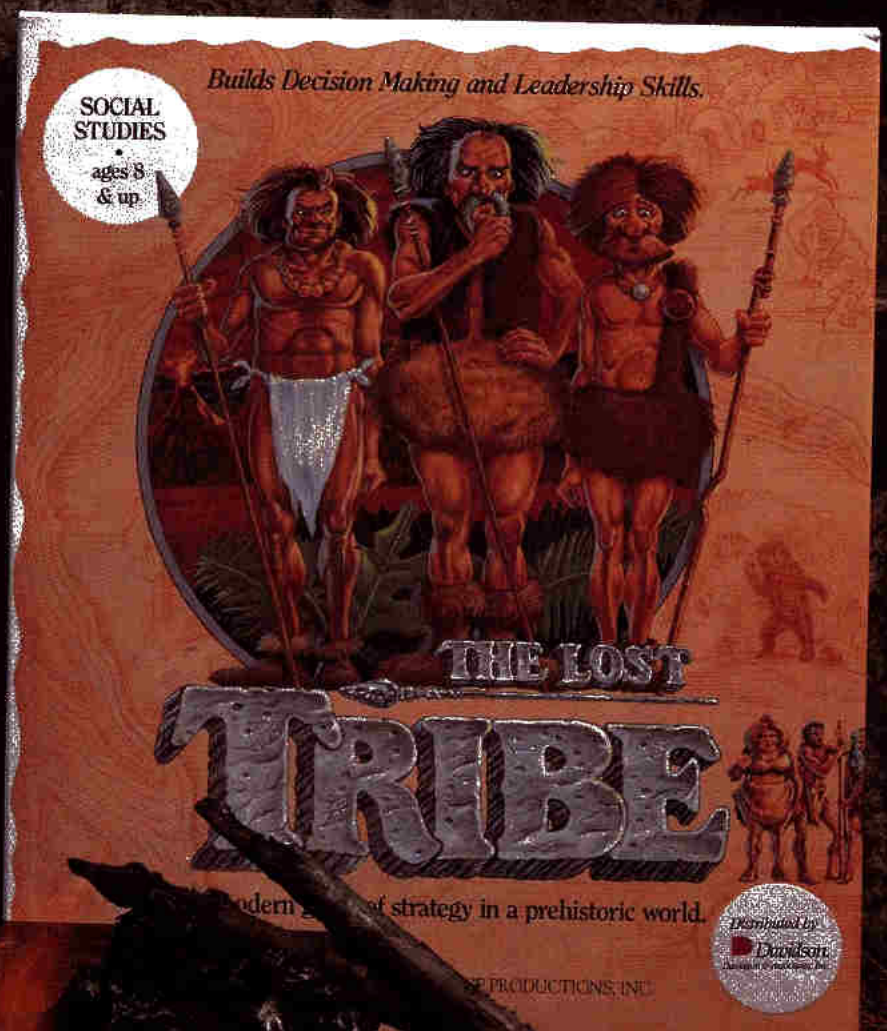
JULY 1993

INSIDE...

News.....28
New Products 30
Reviews 32



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Poli Sci 101 meets The Flintstones in Lawrence's new sim, The Lost Tribe. Practice your spear throwing, bone up on spell casting, test your executive decision-making skills — and keep those troglodytes happy.

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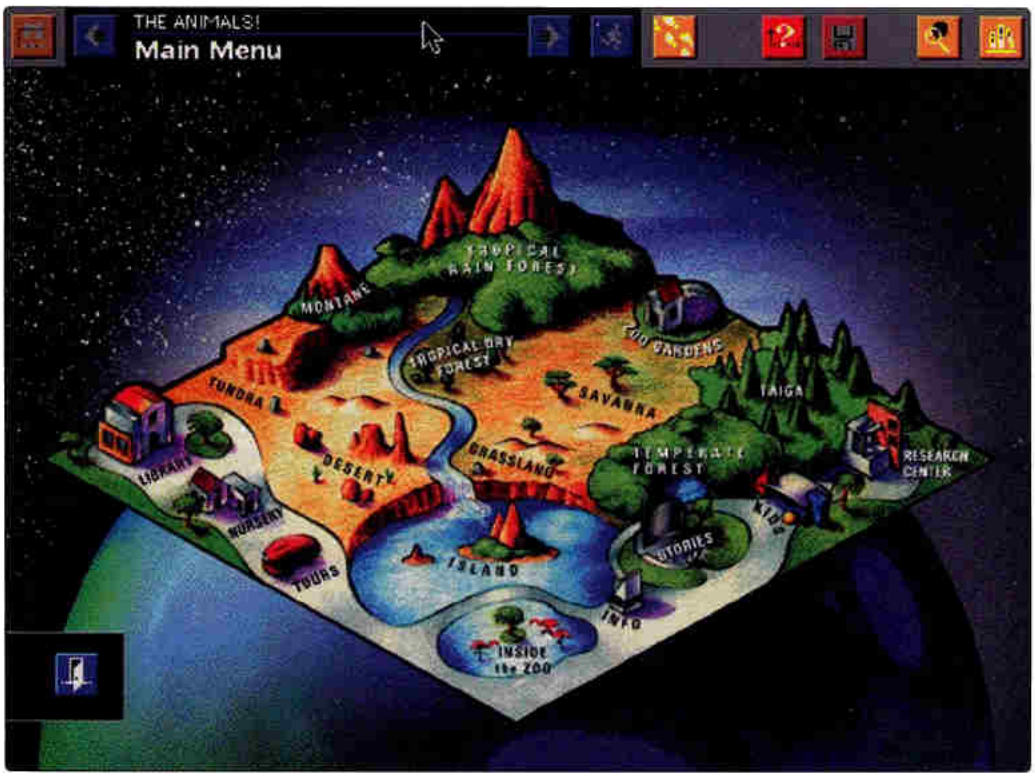

All the beasts of the forest — and the tundra, the desert, and the jungle, too — come together in The Software Toolworks' new CD-ROM, The Animals!. Your Mac takes you to San Diego to explore the riches of one of the world's great zoological parks.

Zoos have a bad reputation. The old notion that the best way to study wild animals is in cages is gradually giving way to the modern idea that animals should live in enclosures that simulate their natural environments. If that sounds strange, just imagine how odd it was in 1916, when Dr. Henry Wegeforth founded the San Diego Zoological Society.

Dr. Wegeforth's vision was a zoo that would make visitors believe they were in the wild. Eighty years later, his radical concept is conventional wisdom among zookeepers. Simulated environments are common now, but even if you can't make the trip to San Diego or another habitat closer to home, you can experience **The Animals!**, a new CD-ROM for the Macintosh from The Software Toolworks.

LIONS & TIGERS & BEARS . . .

The Animals! features QuickTime movies, photographs, and recordings from the San Diego Zoo — you can see and hear 200 animals in 60 minutes of video clips. Best of all, using The Animals! is literally as easy as visiting the zoo: You can explore ten different climates, from Arctic tundra to tropical rainforest, by clicking an icon on a map of the zoo on screen.

Plants are an important part of the San Diego Zoo, too, providing more than just food and shelter for the animals. Studying the vegetation of various environments is a wonderful way to learn about the delicate balance that exists among all living things. That's a theme wherever you wander in The Animals! — and it's a lesson that's fun to learn from the animals of the San Diego Zoo.

For a more-focused look, you can also take one of nine thematic multimedia tours as you watch and listen to animated stories about the zoo's wild inhabitants. To use The Animals! as a reference work, you can call up the media library to search for a particular animal or plant.

Explore the riches of one of the world's biggest zoological parks. The Animals! carries a suggested retail price of $99.95 and requires a color Macintosh with a CD-ROM drive, QuickTime, 4 megabytes of RAM, and a 20-megabyte or larger hard-disk drive. For more information, contact The Software Toolworks, 60 Leveroni Court, Novato, CA 94949, (800) 234-3088, (415) 883-3000, or circle number 370 on the Reader Service card. **— P.S.**

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THE ART OF LANGUAGE

Logo Computer Systems (LCSI) has announced the first product in its MicroWorlds series. **MicroWorlds Language Art** ($79, six-user lab pack $350, site/network license $1095) helps teachers encourage students to explore words, images, and the graphic arts. By combining text and drawing tools with a unique feature that lets students write in any direction, Language Art gives them new ways to think about expressing themselves. The program includes projects for writing visual poetry, ads, haiku, cinquain, and more. A teacher's resource guide is available.

Language Art will be followed by **Project Builder** ($99/$350/$1095) and **Math Links** ($79/$350/$1095). The core of all three packages is the MicroWorlds program, which combines the best features of LogoWriter with easy-to-use graphics, sound, and multimedia tools. For more information, contact LCSI, P.O. Box 162, Highgate Springs, VT 05460, (800) 321-5646, or circle number 371 on the Reader Service card.

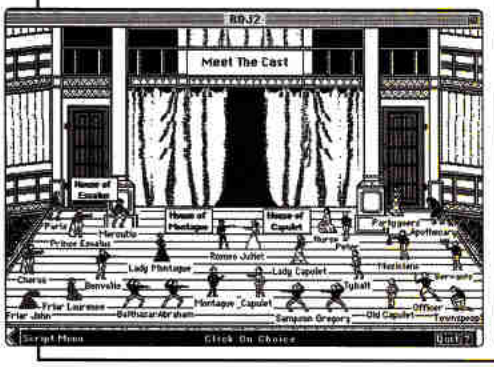
ALL THE WORLD'S A STACK

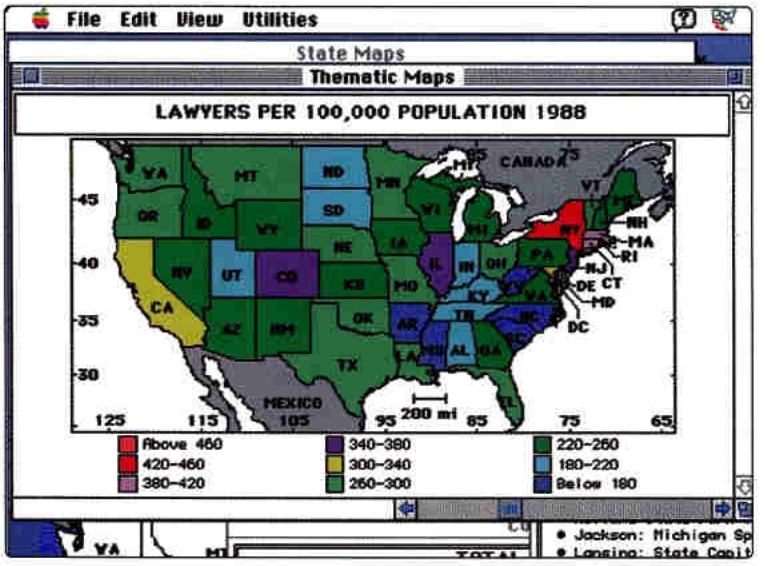
One of the world's great romances has found a new home in HyperCard. **Shakespeare's Romeo and Juliet**, a new stack from Learning Tomorrow, lets you read the bard's text, of course, but also brings the script to life: Click a button, and animated actors move across your Mac's screen.

This *Romeo and Juliet* is full of historical details about the real feud between the Montagues and the Capulets and includes some of Shakespeare's sources. Professor Andrew Gurr of the University of Reading, England, advised the creators of the stack on its content.

You may also choose to study the play from the actor's perspective, learning from the experience of a number of successful productions.

Shakespeare's Romeo and Juliet requires HyperCard 2.0 and is priced at $69. School discounts are available. A companion stack, **Shakespeare and the Globe Theatre**, is available for $129 from Learning Tomorrow, 1 East Main Street, Bloomsburg, PA 17815, (800) 722-1978. Circle number 372 on the Reader Service card for more information.





ATLAS UPGRADED

The expanded **MacUSA 2.0** includes more than 300 new categories of data, in addition to the latest facts and figures. Offering more than just computerized maps of the 50 states, Puerto Rico, and the District of Columbia, MacUSA also includes a vast array of demographic and economic data, such as age distribution and crime rates. Information about the political leaders of each state, as well as historical events, tourist attractions, and climate charts, make MacUSA an invaluable reference. You can even view each state's flag and hear its anthem played.

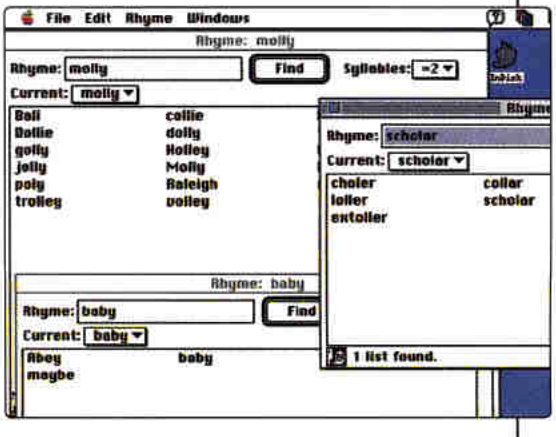
You can export all MacUSA maps, charts, and text to any Macintosh desktop-publishing, word-processing, or graphics program for use in reports or research papers. MacUSA carries a suggested retail price of $49.95; registered owners can upgrade for $15 by calling (800) 521-6263. For more information, contact Brøderbund Software, 500 Redwood Boulevard, Novato, CA 94948, (415) 382-4400, or circle number 373 on the Reader Service card.

WORD WORK

A Zillion Kajillion Rhymes, a computerized rhyming dictionary for the Macintosh from Eccentric Software, is a product surely in the "who needs it?" tradition of, say, desktop publishing. It works like a thesaurus of rhyme, rather than meaning. Type a word, click, and scroll through the list of possibilities. A proprietary dictionary includes technical, literary, and slang words, as well as thousands of proper and place names. The software can also search intelligently for single, double, and triple rhymes.

The authors of A Zillion Kajillion Rhymes are — you guessed it — songwriters, but Neil Radisch and David Goldstein think their hyperbolically named software shouldn't appeal to budding Cole Porters and Noel Cowards alone. Rhyming dictionaries are standard bookshelf references, after all — so why not on the Macintosh, too?

A Zillion Kajillion Rhymes sells for $49.95, from Eccentric Software, P.O. Box 2777, Seattle, WA 98111-2777, (206) 628-2687, (800) 436-6758. Circle 374 on the Reader Service card for more information.



■ It's done with mirrors, they used to say of an incomprehensible bit of magic. Now computing is also done with mirrors: The **first optical computer** is up and running at the Optoelectronic Computing Center at the **University of Colorado** in Boulder. Not only does it have fiber-optic cable where your Mac has wires, it also has no stored data; programs and data are all dynamic. (*Science News*, 1/23/93)

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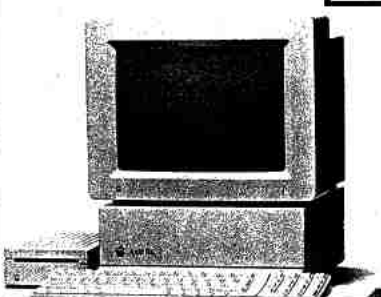

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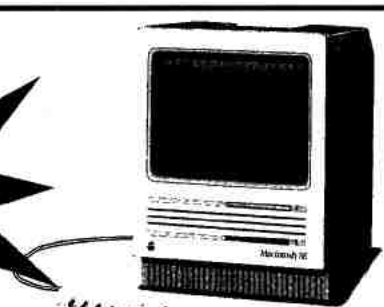

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THE LOST TRIBE

The Lost Tribe brings prehistory to life and helps kids develop leadership and decision-making skills.

★ ★ ★

THE LOST TRIBE

Lawrence Productions
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Galesburg, MI 49053
(800) 421-4157

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Torrance, CA 90503
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- social-studies game
- ages 8 to adult
- color Mac
- System 6.05 or later
- 8-bit color video (256 colors)
- 1MB free RAM
- $49.95

Fans of *The Flintstones* and *Clan of the Cave Bear* will get a kick out of this one — The Lost Tribe, a simulation set in prehistoric times, combining dry humor and some solid anthropological information with digitized photos and realistic motion-video clips.

Along the way, kids will learn to test their strategic-thinking and map-reading skills while developing a feel for effective leadership.

YABBA-DABBA

The basic premise is that a volcanic eruption destroys your village, and the remaining clan members elect you as their new leader. You'll use the tribe's sacred mapskin to lead the villagers to their ancestral lands.

As you and the gang head for the volcano you'll call home, you must decide what actions the tribe should take when faced with basic survival needs, natural disasters, and the disgruntled types among you.

Beware those restless cavemen: Don't pull too many boners, because after you've made a few wrong decisions, the tribe may banish you.

GETTING THE HANG OF IT

Make no mistake — The Lost Tribe's not for every student. Any program has a learning curve you must negotiate before you're comfortable using the software, but this one's steep enough to discourage some kids from going on.

As in real life, your ability to make proper decisions in a simulation often depends on your store of knowledge. With The Lost Tribe, kids can find the information they need in the program's on-line encyclopedia. Learning to draw conclusions from facts is an invaluable skill, but the game doesn't always make it easy to obtain those facts.

For instance, my test group of kids decided to hunt in the forest and were trying to figure out what kind of animal to track. They decided to consult the encyclopedia, but it isn't available at certain key points in the program; they had to backtrack to a point at which they could search for information on woodland animals. This raised frustration levels, making it more difficult for the players to wade through the entry on forests until they found the data they were looking for.

Note also that the game's graphics images, while entertaining, are static, not interactive. For example, when the tribe is hunting, you see an amusing picture on screen, but can't affect the scene directly; you click on buttons to make decisions. The same holds true when Gupf, a villager who feels he's the rightful leader of the group, complains about your decision making. You can respond only by clicking on buttons and hoping that the next series of decisions ends his complaints.

PERSEVERANCE PAYS OFF

The Lost Tribe attempts to be both educational and entertaining, but at times you get the impression its developers just couldn't decide what kind of program they wanted to create. It's ironic that the program suffers from something of an identity crisis, because the software is designed to teach strategy and leadership skills.

Nevertheless, although it may not be a simulation every kid will take to on his or her own, it can prove effective for educators who take the time to incorporate it into their curricula — perhaps introducing it by setting up a successful set of decisions as a model.

Once students master the game's basic level, they can hone their skills in five different and increasingly challenging scenarios. Used this way, The Lost Tribe can bring prehistory to life while teaching the essentials of decision making.

K.C. Genzmer
New York, NY

JAM SESSION

★ ★ ★

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- requires no external hardware
- $59.95
- $29.95 **Classic Songs**
- $79.95 bundle

Deep in your heart beats the spirit of a true rock monster — but the connection between those sparkling notes and your clumsy fingers is frayed at best. You hear the music inside you, but you just can't express that internal bop. The dazzling solos within have no release. What to do?

WE'RE GONNA MAKE YOU A STAR

You could spend the next ten years learning to play an instrument, and then hire a backup band and go on the road. But in the meantime try this temporary solution: Jam Session from Bogas Productions. Jam Session may be the musical answer for everyone who ever wanted to bebop with the best, but lacked the resources, time, or talent. Load one of the 20 songs included with the program (additional songs are also available) and you'll call up one of ten scenes — a smoky jazz club or a sock hop, for instance — and hear the audience applauding.

The music begins. The on-screen instrumentalists start moving to the beat. With a-one, a-two, and a press of the keys, music issues from your Mac. Stunning guitar riffs dance up the scales. Electric piano keys tinkle in time. The tom-toms beat out rhythms, and there's never a sour note — no experience, no practice, no musical ability required. With Jam Session even an orangutan could get down and rock out.

The secret of closet Jam Session maestros is the program's dozens of musical *riffs* — short repeated phrases. Pressing a letter or number key plays a riff, and each one is tuned and timed for its song. Songs may include up to 60 different riffs, ranging from single notes to complicated passages — and if that isn't enough you can press the option or command key to slide the notes up or down while playing.

You can also edit and save changes to riffs. (That doesn't take a lot of musical ability, either, but note that you may edit a riff out of tune if you don't know what you're doing.)

You can add, modify, and erase notes and rests, and even change instruments. If your efforts are worth preserving, you can record them for playback. If it didn't sound right, you can do multiple "takes."

THE SOUL OF THIS MACHINE

Jam Session comes compressed on four disks. It's easy to install on a hard drive with about 4 free megabytes. You start with 20 songs, 60 instrument files, and ten animated scenes. Bogas offers a coupon good for a disk of ten additional songs as an encouragement to register, and you can buy Jam Session's **Classic Songs** with rock-and-roll oldies such as *Wipeout* and *Louie Louie*, new instruments, and better scenes. Jam Session offers a couple of "classical" pieces to play along with, but the improvisational style of rock, country, and jazz (jazz players invented the riff) makes that type of music a more natural fit for the program.

Getting started is just about as easy as playing along. The manual is comprehensive and clearly written. Just open a song, select *play*, and off you go. You can either let the program pick the appropriate scene or select one yourself. If you like you can have Jam Session play the song for you, putting in riffs when appropriate. In another mode you can press as many keys as you like and the program will play one after the other, waiting for the beginning of a new measure to start each riff. Jam Session will also load and save **Studio Session** and **Super Studio Session** formats (both from Bogas Productions).

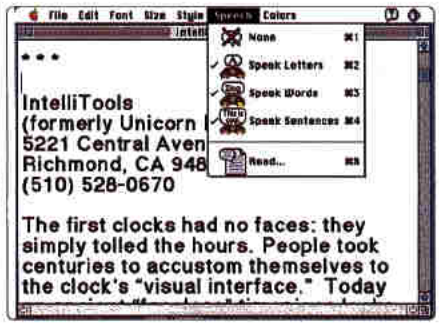
HIT IT

The program is easy to use, the songs and riffs are put together well, and the animations are nicely done (though not spectacular). One problem I encountered after editing riffs, however, was that the save-changes feature, designed to keep you from losing your work, saved alterations automatically in Studio Session format — thereby losing both the modified and the original riffs. (Keep your original disks handy.) Other annoyances include an inability to edit riffs until you've played the song at least once, or to write riffs from scratch.

But Jam Session is fun to play with — and after all, that's the main idea. True musicians will find the program limited, but might still enjoy its entertainment qualities. Even though the program is simple and more-or-less idiot-proof, you'll feel satisfied — and at least a few notes closer to rock-and-roll stardom.

Guy Wright
Temple, NH

INTELLITALK



★ ★ ★

IntelliTools
5221 Central Avenue
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Richmond, CA 94804
(510) 528-0670

- talking word processor
- $39.95
- $380–$450 **IntelliKeys**
- $69.95 **Overlay Maker** software for keyboard programming
- Apple II version available ($39.95); requires **Echo** speech synthesizer (Echo Speech Corporation, 805-684-4593)

The first clocks had no faces; they simply tolled the hours. It took centuries for people to get accustomed to the clock's "visual interface." Today an ancient "face-

less" timepiece looks odd. Some centuries hence, ancient word processors, such as Word 5.1 or MacWrite Pro, in which words are typed on a screen, may look just as odd to our descendants. The written word has no natural advantage over the spoken, and talking word processors for future computers will make today's versions look clumsy.

A talking word processor you can hear today is IntelliTalk, a writing and communication tool for all Macs. It's designed for students who need a simple talking word processor and for nonverbal persons who want to use **IntelliKeys**, an alternative keyboard (also from IntelliTools, reviewed in May 1993, p. 32), as a communication device. You can instruct IntelliTalk to speak every letter, word, and sentence as you type, review what's written in any standard text file, print and save documents, and change font size, typeface, and color — everything you expect a Mac word processor to do.

In addition, a quick glance at my files reveals IntelliTalk as the only *talking* Mac word processor. (Davidson's **KidWorks 2** speaks, but it's designed as a plaything.) There is one other alternative: Berkeley Systems' **OutSpoken** can speak aloud everything that appears on a Mac screen: icons, menus, and mouse emulation. It's a talking interface for a graphics computer; you really have to hear it to believe it. (Call 800-877-5535.) It's got a price to match, though — $495.

STRAY DOGS AND MOOSE

IntelliTalk works well with any Mac keyboard, but when coupled with the IntelliKeys programmable keyboard and a special sheet you create with the **Overlay Maker** program, it really shines.

True, it's a simple word processor. In reviewing a text-processing package, it's hard to break the habit of counting the number of rulers, fonts, and styles it offers — but remember that all that fancy formatting is lost on a typist who can't see. IntelliTalk has the basics. Some of its features are designed for typists with needs other than speech, as well. For instance, it offers picture menus and colored backgrounds as well as text.

Most important, though, is IntelliTalk's speech editing. It uses **MacinTalk**, a system extension Apple included in early Macs. (Apple now advises developers not to use it.) According to Apple, you may experience problems using virtual memory or other extensions. I didn't.

MacinTalk is an old dog, but at least you can teach it new tricks; you can train it to say just about anything. Of course, you can add hundreds of words and tune their pronunciation ever so finely, and IntelliTalk still sounds like Talking Moose. They both use MacinTalk, and the voice sounds like a computer talking. It isn't natural, but Talking Moose fans will agree that it does grow on you.

I was a bit put out, however, when I tried typing this article with both eyes shut. All the Mac alert boxes forced me to peek at the screen and the "visual" interface. Even Microsoft Word 5.1 lets you just type the letter *Y* or *N* instead clicking the *Yes* or *No* button in response to the question "Do want to save your work?"

Of course, Berkeley's OutSpoken can do that. But it costs ten times what IntelliTalk does. If you can't see and want to use a Mac all the time, OutSpoken is probably what you need. But if you need speech only occasionally or have other special needs, IntelliTalk's a bargain.

THE NEW KNOWLEDGE NAVIGATOR

Apple's vision of the future is less visual than today's Mac interface. Not only has Apple revealed long-term plans such as "Casper" technology — the digital assistant who talks when you speak to him — but the company is also expected to release a new text-to-speech tool next year that will rival the best talking computers for clarity. In the meantime, IntelliTalk is a low-cost way to turn printed words into spoken ones in the Mac's most common — and wordiest — application. ❑

Paul Statt
Senior Editor

IIgs Super Ram

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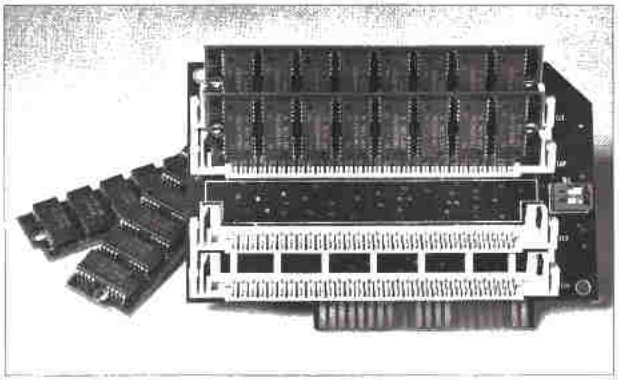

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INTERNET

Connecting to a Universe of Information

By CYNTHIA E. FIELD, Ph.D. • CONSULTING EDITOR

In ancient times, seekers of wisdom would look to the heavens for answers to their most-daunting questions. At first only kings and scholars were privy to the divine plan written in the stars, but you know how these things go. Word spread, demand soared, and a new bunch of professional seers known as astrologers began to hang out their shingles and invite the common folk in. Of course, that was B.C. — before computers.

Today, millions of computer users regularly consult a contemporary constellation of knowledge sources called the Internet. More than an on-line service or computerized bulletin-board system (BBS), the Internet is a worldwide super-network made up of thousands of independent computer networks in universities, research centers, government agencies, and commercial enterprises. From an Internet host computer you can download text and program files of all descriptions. Thousands of special-interest groups, or *newsgroups*, gather on the Internet to share information on everything from astronomy to pets to family health to home brewing. You can chat "live" with other users or transfer information from an Internet server to your Apple II.

POWER TO THE PEOPLE

When progressive leaders in our government speak of a "national data superhighway," they envision a computer network as powerful — and as empowering — as the Internet, which serves as the prototype for a worldwide communications network supported by officials such as Vice President Al Gore. That's not surprising: The U.S. government has been helping to fund the Internet since its inception. It began in the late 1960s as *ARPANET*, a network that let users share software and hardware resources within the Advanced Research Projects Agency at the Department of Defense. More than a decade later, ARPANET spawned *Milnet*, an unclassified military network. Milnet continued to support internetwork communications with ARPANET, which by that time was known as the *DARPA Internet*. Eventually, the name was shortened to *Internet*.

What was once the domain of the military and defense contractors grew to embrace worldwide academic and research community networks, thanks largely to the influence of *NSFNET*, the National Science Foundation Network, founded in 1986 to link university researchers throughout the U.S. (It eventually displaced ARPANET.) Similar nets arose in other countries when research centers forged new links with the Internet — and the rest, as they say, is history.

Despite a lack of centralized administration, the Internet is now believed to include some 5 million people connected to 10,000 networks in four dozen countries on all seven continents. Some observers guess the Internet is growing at the rate of 20 percent each month, a figure that precludes a firm estimate of the worldwide network's actual size. What we do know is that business users, computing enthusiasts, and even elementary-school children log onto the Internet every day. The Internet has evolved from a holy-of-holies for the chosen few to an all-encompassing information resource for the rest of us.

PUSHING THE ENVELOPE

To many users, the Internet's complexity and the sheer amount of information it provides make it as inscrutable as the constellations. But although some high priests of computing might like you to think that the Internet is beyond your grasp, it's both easy and inexpensive to get connected once you know the secret password (more on that below). As for equipment, all you need is an Apple II — or any other personal computer — plus a modem, communications software, and a phone line.

So equipped, you can dial a phone number that links you to one or more of the Internet's more-useful features: *e-mail*, *telnet*, and *FTP* (*file-transfer protocol* — master enough acronyms and you, too, can be an Internet guru).

E-mail, or *electronic mail*, is even faster than Federal Express when it comes to communicating with other Internet users. Like *snail mail* (a derogatory term for the U.S. Postal Service), e-mail letters must include the recipient's address. On the Internet, each address conforms to the *domain name* system, a format analogous in many ways to the name/street/city/state setup you use every day.

One of my Internet addresses, for example, is ***cefield@aol.com***. That familiar phrase preceding the @ sign is my user name on America Online; you can probably guess then what the *aol* immediately following the @ sign refers to. The suffix *com* is just one of several that indicate a

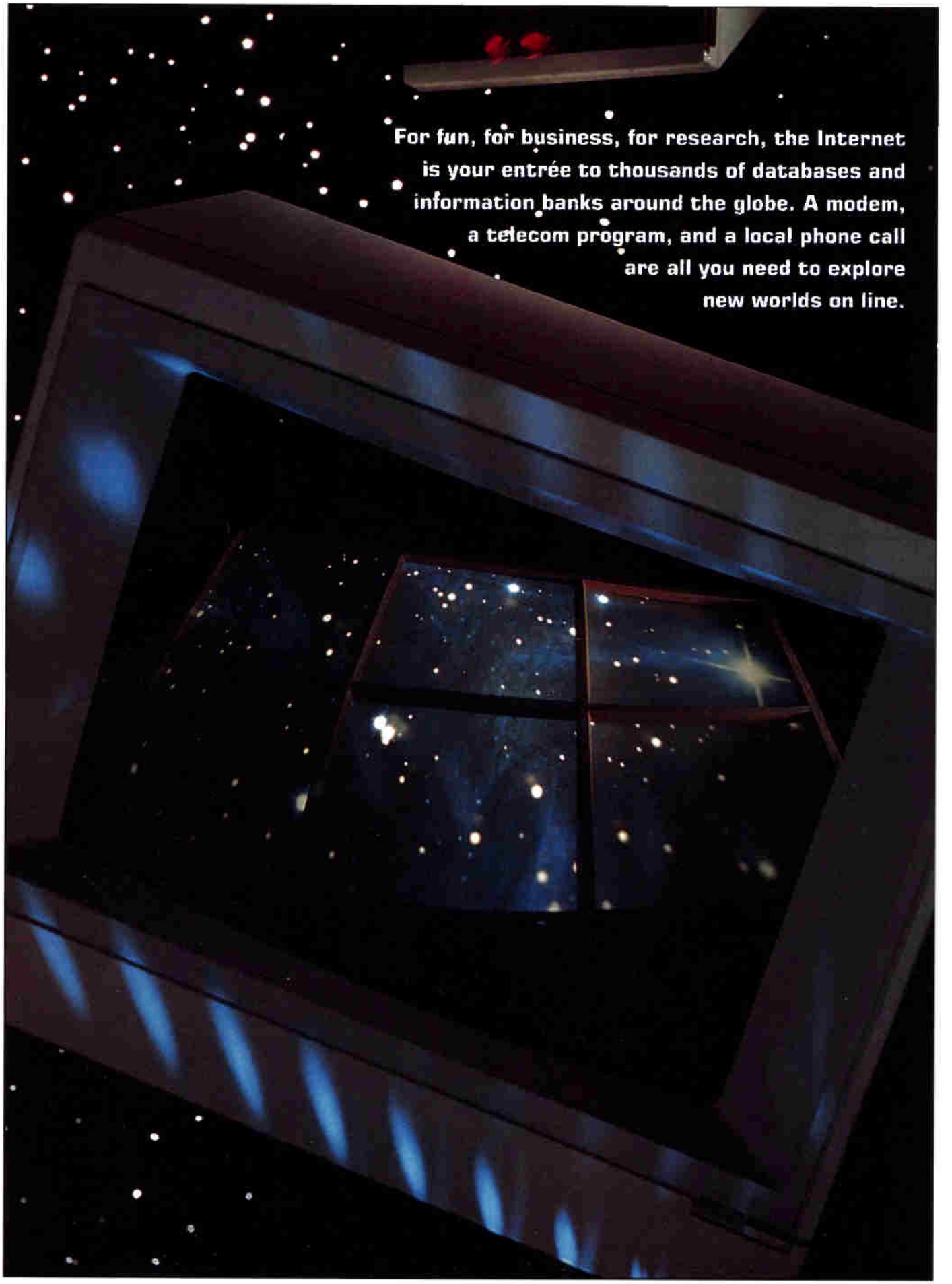
INTERNET READING LIST

Computer Literacy Bookshops
(408) 435-0744
(408) 435-1823 fax
e-mail: info@clbooks.com

The Internet Companion: A Beginner's Guide to Global Networking. 1993. T. LaQuey with J.C. Ryer. Addison-Wesley Publishing Company, Reading, MA. ISBN# 0-201-62224-6. $10.95

Internet: Getting Started. 1993. A. Marine, S. Kirkpatrick, V. Neou, and C. Ward. PTR Prentice Hall, Englewood Cliffs, NJ. ISBN# 0-13-327933-2. $28

The Whole Internet User's Guide & Catalog. 1992. E. Krol. O'Reilly & Associates, Inc. Sebastopol, CA. ISBN# 1-56592-025-2. $24.95


For fun, for business, for research, the Internet
is your entrée to thousands of databases and
information banks around the globe. A modem,
a telecom program, and a local phone call
are all you need to explore
new worlds on line.

NIXPUB SHORT LIST
Open-Access Internet Sites

PHONE #	BBS	LOCATION	BAUD (x100)	FEE?
201-759-8450	tronsbox	Belleville NJ	3/12/24/96	no
203-661-1279	admiral	Greenwich CT	3/12/24/96	no
206-328-4944	polari	Seattle WA	12	yes
206-367-3837	eskimo	Seattle WA	3/12/24	yes
206-382-6245	halcyon	Seattle WA	3/12/24/96	yes
212-420-0527	magpie	New York NY	3/12/24/96	no
212-431-1944	dorsaidm	New York NY	3/12/24/96	yes
212-675-7059	marob	New York NY	3/12/24/96	no
214-254-3404	neis	Dallas TX	3/12/24/96	yes
214-436-3281	sdf	Dallas TX	3/12/24/96	no
215-348-9727	jabber	Doylestown PA	3/12/24/96	no
215-654-9184	cellar	Horsham PA	3/12/24/96	yes
216-481-9445	wariat	Cleveland OH	3/12/24/96	yes
216-582-2460	ncoast	Cleveland OH	12/24/96	yes
217-789-7888	pallas	Springfield IL	3/12/24/96	yes
219-289-0282	gator	South Bend IN	24/96	yes
301-220-0462	digex	Greenbelt MD	3/12/24	yes
301-953-7233	highlite	Laurel MD	12/24/96	yes
303-871-4824	nyx	Denver CO	3/12/24	no
309-676-0409	hcs	Peoria IL	3/12/24/96	no
310-397-3137	stb	Santa Monica CA	3/12/24/96	no
312-248-0900	ddsw1	Chicago IL	3/12/24/96	yes
312-283-0559	chinet	Chicago IL	3/12/24/96	yes
312-338-0632	point	Chicago IL	3/12/24/96	no
312-714-8568	gagme	Chicago IL	12/24/96	yes
313-623-6309	nucleus	Clarkston MI	12/24	no
313-996-4644	m-net	Ann Arbor MI	3/12/24	yes
401-455-0347	anomaly	Esmond RI	3/12/24/96	no
407-299-3661	vicstoy	Orlando FL	12/24	no
407-438-7138	jwt	Orlando FL	12/24/96	no
408-241-9760	netcom	San Jose CA	12/24/96	yes
408-245-7726	uuwest	Sunnyvale CA	3/12/24	no
408-249-9630	quack	Santa Clara CA	3/12/24/96	yes
408-254-0246	zorch	San Jose CA	12/24/96	yes
408-254-0246	cruzio	Santa Cruz CA	12/24	yes
408-458-2289	gorn	Santa Cruz CA	3/12/24/96	no
408-725-0561	portal	Cupertino CA	3/12/24/96	yes
408-738-1520	szebra	Sunnyvale CA	3/12/24/96	no
410-625-0817	wb3ffv	Baltimore MD	12/24/96	no
412-431-8649	eklektik	Pittsburgh PA	3/12/24	yes
414-241-5469	mixcom	Milwaukee WI	12/24/96	yes
414-734-2499	edsi	Appleton WI	3/12/24	yes
415-332-6106	well	Sausalito CA	12/24	yes
415-826-0397	wet	San Francisco CA	12/24	yes
415-949-3133	starnet	Los Altos CA	3/12/24/96	yes
415-967-9443	btr	Mountain View CA	3/12/24/96	yes
416-452-0926	telly	Brampton ON CAN	12/24/96	yes
416-461-2608	tmsoft	Toronto ON CAN	3/12/24/96	yes
502-957-4200	disk	Louisville KY	3/12/24	yes
503-254-0458	bucket	Portland OR	3/12/24/96	yes
503-297-3211	m2xenix	Portland OR	3/12/24/96	no
503-640-4262	agora	PDX OR	12/24/96	yes
503-644-8135	techbook	Portland OR	12/24/96	yes
508-655-3848	unixland	Natick MA	12/24/96	yes
508-664-0149	genesis	North Reading MA	12/24/96	no
509-536-4062	visual	Spokane WA	12/24/96/19	no
510-223-9768	barbage	El Sobrante CA	3/12/24/48	no
510-294-8591	woodowl	Livermore CA	12/24/19.2	no
510-530-9682	bdt	Oakland CA	12/24/96	no
510-623-8652	jack	Fremont CA	3/12/24/96	no
512-346-2339	bigtex	Austin TX	96	no
513-779-8209	cinnet	Cincinnati OH	12/24/96	yes
514-435-8896	ichlibix	Blainville QE CAN	3/12/24/96	no
517-487-3356	lunapark	E. Lansing MI	12/24	no

continued on p. 40

Other services cost as little as $20 or as much as several hundred dollars per month. To locate a service in your area, download two files from America Online: ***pdial010.txt*** (*Public Dialup Internet Access List*) and ***nixpub-server.txt*** (*Open Access UNIX Sites*). Other on-line services probably offer them, as well. Or see the accompanying "NIXPUB Short List" to find an Internet access site in your calling area.

SECRET'S OUT

There's still another way to access the Internet — and it'll seem familiar to those of you who are already avid telecommunicators. Recently, several commercial information services — including **America Online**, **CompuServe**, **GEnie**, and **Delphi** — opened gateways letting Internet users around the world communicate with each other via e-mail. For instance, I regularly receive press releases from Bright Software, an Apple IIGS developer in Switzerland, via the Internet.

America Online also maintains an active Internet forum and provides informational text files you can download, print, and read to learn more about the Internet. Among the more-helpful files is ***zen10.txt***, an electronic version of Brendan P. Kehoe's book ***Zen and the Art of the Internet***. (For a list of other resources, see the accompanying sidebar "Internet Reading List.")

America Online, CompuServe, and GEnie don't provide access to the Internet's more-sophisticated features — telnet and FTP — however. You read it here first: Short of getting a free ride courtesy of your school's computer-center hookup, the easiest and least-expensive means of accessing the Internet is to sign up for a trial membership on Delphi. The unsung hero of commercial on-line services, Delphi is unique in offering its members direct connection to the Internet for only $3 per month. On-line time costs as little as $1 per hour. Even from my semirural home office, I can connect to Delphi with a local phone call. The savings in telephone charges alone more than pay for my late-night meandering around the Internet and Delphi's considerable number of other services, including a lively Apple II forum.

At press time, Delphi was offering five hours of free connect time and waiving the $3 Internet surcharge for new subscribers during those five hours. You can even sign up toll-free by dialing (800) 365-4636 with your modem: Press the return key when the connection's made; at the user-name prompt type *JOINDELPHI*; at the password type *NCA37*.

EASY DOES IT

So what do you get for your money — how does it all work? From Delphi's main menu, choosing *Internet Services* shunts you to the *Internet Special Interest Group*. Press the return key. From the *Internet SIG* menu you can send e-mail or explore Delphi's simple-to-use *Auto-Connect Services*, which make circling the globe on the Internet as easy as *pi*. Or choose Delphi's *FTP* or *Telnet* option to connect to your favorite Internet host computer directly.

Delphi offers one other vital feature — not only easy Internet *logon*, but easy Internet *search*. In many respects the Internet is a UNIX club where UNIX-speak is the mother tongue. Fortunately, just a few hours' practice is all it takes to become accustomed to the Internet's hierarchical file structure, which is, after all, a lot like ProDOS. Noodling around the Internet and finding the files you want is still something of a challenge, but it's greatly simplified thanks to database search utilities such as **Archie** and **Internet Gopher**. Delphi provides access to both. Try Archie first:

* Select the *Utilities* option from the *Internet SIG* menu.
* Choose *Archie FTP File Search*.
* Select one of the Archie servers listed (host computers with Archie software installed).
* When the *login:* prompt appears, type *archie* and press the return key.
* At the *archie>* prompt type the keyword you'd like Archie to search for. During one Archie session, for example, I was looking for files related to HyperCard. At *archie>* I typed *prog hypercard* and pressed the return key. Archie searched among the 849 network sites stored in its database and came up with a few dozen locations nationwide where HyperCard-related files are stored.
* Because Archie doesn't let you print the list directly to disk or send it to your printer, I used the command *mail cefield@aol.com* to instruct Archie to e-mail the list to me. Within hours it appeared in my America Online mailbox. (I could just as easily have instructed Archie to send the report to my Delphi mailbox: ***cefield@delphi.com***.)

Gopher, a menu-driven information server, works more transparently. Searches occur in the background as Gopher "telnets" to different Internet sites from a main menu sporting plain-English entries such as *Periodicals, Journals, & Newsletters*; *Reference Books*; and *Services at Other Institutions*. Gopher is so named because the utility can "go fer" you rather than leave you to your own devices as you maneuver through countless databases consisting of hundreds of directories with arcane names.

AROUND THE WORLD

Archie and Gopher are designed to make searching the Internet a less frustrating experience for new users and old hands alike. But it's also fun to explore the Internet free-style with telnet and FTP. All you need is a list of Internet domain addresses before you log on. (You can find addresses for dozens of public-access Internet sites in the books listed in the accompanying reading list.) Let's try some simple "telnetting" to start with:

* To access the Weather Underground net (mentioned above), for example, select *Telnet* from Delphi's *Internet SIG* menu.
* When the system requests the host computer's address, type *madlab.sprl.umich.edu 3000*. (The number *3000* is the *port address* — something like a suite number in an office building. The offices share the same street address, but have different suite numbers.)
* Weather Underground's system is menu driven, a lot like many of the Apple II programs you already use.

FTP is somewhat more exacting. Follow along as we try this one out:

* From Delphi's *Internet SIG* menu choose *FTP*.
* When the system requests the Internet host address, type the domain name for the remote computer you want to access.
* Generally speaking, you'll log on as *anonymous*; choose this default name by pressing the return key when the *login:* prompt appears.
* At the *password:* prompt, your Delphi address appears automatically. Press the return key to accept it.
* At the *ftp>* prompt, use the appropriate commands to change directories, list files, and download them.

ON-LINE SERVICES

America Online
Quantum Computer Services
8619 Westwood Center Drive
Suite 200
Vienna, VA 22182-2285
(800) 827-6364

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

Delphi
General Videotex Corporation
1030 Massachusetts Ave.
Cambridge MA 02138
(800) 695-4005
(617) 491-3393

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

continued from p. 38

PHONE #	BBS	LOCATION	BAUD (x100)	FEE?
517-789-5175	anubis	Jackson MI	3/12	no
518-346-8033	sixhub	upstate NY	3/12/24	yes
602-293-3726	coyote	Tucson AZ	3/12/24/96	no
602-649-9099	telesys	Mesa AZ	12/24/96	yes
602-941-2005	xroads	Phoenix AZ	12/24	yes
603-429-1735	mv	Litchfield NH	12/24/96	yes
604-576-1214	indlink	Vancouver BC	3/12/24/96	yes
605-348-2738	oft386	Rapid City SD	3/12/24/96	yes
606-263-5106	unatix	Lexington KY	3/12/24	no
607-273-3233	anana	Ithaca NY	3/12/24/96	no
608-273-2657	adnix	Madison WI	3/12/24	no
612-473-2295	net51	Minneapolis MN	3/12/24	no
613-237-0792	atour	Ottawa ON CAN	3/12/24	no
613-837-3029	icor	Orleans ON CAN	3/12/24/96	no
614-868-9980	luemoon	Reynoldsburg OH	3/12/24/96	no
615-288-3957	edsys	Kingsport TN	12/24/96/19	no
615-896-8715	aider	Murfreesboro TN	12/24/96	no
616-457-1964	ybbs	Jenison MI	3/12/24/96	no
617-471-9675	csys	Quincy MA	3/12/24/96	no
617-739-9753	orld	Brookline MA	3/12/24/96	yes
619-259-7757	net12	Del Mar CA	3/12/24/96	yes
619-569-4072	net01	El Cajon CA	3/12/24	yes
703-281-7997	grebyn	Vienna VA	3/12/24	yes
703-803-0391	tnc	Fairfax State VA	3/12/24/96	no
708-833-8126	vpnet	Villa Park IL	12/24/96	no
708-983-5147	wa9aek	Lisle IL	12/24/96	no
713-568-0480	taronga	Houston TX	3/12/24/96/	no
713-668-7176	nuchat	Houston TX	3/12/24/96	no
713-684-5900	sugar	Houston TX	3/12/24/96	no
714-278-0862	alchemy	Corona CA	12/24/96/19	no
714-635-2863	dhw68k	Anaheim CA	12/24/96	no
714-821-9671	alphacm	Cypress CA	12/24/96	no
714-842-5851	conexch	Santa Ana CA	3/12/24	yes
714-894-2246	stanton	Irvine CA	3/12/24	yes
717-657-4997	compnect	Harrisburg PA	3/12/24/96	no
718-832-1525	panix	New York NY	12/24/96/19	yes
719-632-4111	oldcolo	Colo Spgs CO	12/24/96	yes
801-566-6283	bitsko	Salt Lake UT	3/12/24/96	no
804-627-7841	wyvern	Norfolk VA	12/24/96	no
812-333-0450	sir-alan	Bloomington IN	12/24/19.2/	no
812-421-8523	aquila	Evansville IN	3/12/24	yes
814-353-0566	cpumagic	Bellefonte PA	12/24/96/14	no
818-287-5115	abode	El Monte CA	24/96	yes
818-793-9108	atrium	Pasadena CA	3/12/24	no
900-468-7727	uunet	Falls Church VA	3/12/24/96	yes
904-456-2003	amaranth	Pensacola FL	12/24/96	no
906-228-4399	lopez	Marquette MI	12/24	yes
908-297-8713	kb2ear	Kendall Park NJ	3/12/24/96	no
916-649-0161	sactoh0	Sacramento CA	12/24/96	yes
919-248-1177	rock	RTP NC	3/12/24/96	yes
919-493-7111	wolves	Durham NC	3/12/24	no
+33-1-40-35-23-49	gna	Paris FRANCE	12/12/96	no
+39-541-27858	xtc	Rimini ITALY	3/12/24/96	no
+41-61-8115492	ixgch	Kaiseraugst CZECH	3/12/24	no
+44-81-317-2222	dircon	London UK	3/12/24	yes
+44-81-863-6646	ibmpcug	Middlesex UK	3/12/24/96	yes
+49-30-691-95-20	scuzzy	Berlin GERMANY	3/12/24/96	no
+49-40-494867	isys-hh	Hamburg GERMANY	3/12/24/96/	no
+49-8106-34593	gold	Baldham GERMANY	3/12/24/96	no
+61-2-837-1183	krelizec	Sydney AUSTRALIA	12/24/96	yes
+64-4-389-5478	actrix	Wellington NZ	3/12/24/96	yes
+64-4-564-2317	cavebbs	Wellington NZ	12/24	no
+64-9-817-3725	kobbs	Auckland NZ	12/24/96	no

Listings are as current as possible.
Send additions, deletions, or corrections to phil@ls.com.

***— Joe Abernathy, Senior Editor,* PC World**

If you want to do a trial run on the Internet, you can practice FTPing from Delphi's *Auto-Connect Services* menu without knowing or typing in any domain names:

- Choose *FTP Sites*.
- At the *Auto-FTP>Enter your selection:* prompt type *Recipes* and press the return key.
- At the *ftp>* prompt type *dir* and press the return key.
- A list of directories, including one titled *pub*, will appear. Public directories are available to all users, including guests.
- At the *ftp>* prompt type *cd pub* and press the return key to change to the *pub* directory. (As in the MS-DOS world, the command *cd* means *change directory*.)
- At *ftp>* type *dir* and press the return key to list subdirectories within the *pub* directory.
- You'll see a directory named *recipes*. At the *ftp>* prompt type *cd recipes* and press the return key to change to that directory.
- At *ftp>* type *list* and press the return key to see the many recipes in the directory.
- Let's download a recipe for dog biscuits your favorite canine will drool over. (Proponents even say "people find them better tasting than many health foods." I can buy that.) At *ftp>* type *get "dog-biscuits" dog* and press the return key. (The *get* command selects the file whose name appears in quotes. The name following the quotes is the title under which the file will be stored after it's sent to your Delphi *workspace* — a storage place for transferred files and e-mail.)
- When the *ftp>* prompt reappears, type *exit* to quit FTP and leave the remote computer system.
- Within seconds you're back at Delphi where you can enter your workspace, "catalog" your holdings, and download that mouth-watering dog-biscuit recipe file to your Apple II.

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READER SERVICE INDEX

Reader Service		Page
103	Alltech Electronics Co. Inc.	26
*	Applied Engineering	CV4
64	Arminius Publications	46
87	Bible Research Systems	46
19	Big Red Apple	25
45	Caloke Industries, Inc.	47
47	Christella Enterprises	46
220	Educational Resources	15
*	GE Ridge Services	46
70	Island Computer	46
44	LRO Computer Sales	9
*	M.P. Computer Micro Systems	47
*	MacComputing	35
248	Memory Plus Distribution	4
71	Nite Owl	47
16	OEM Corporation	46
54	PaceMark Tech. Ind.	34
59	Perfect Solutions Software	46
*	Preferred Computing	29
136	Quality Computers	CV2,2,5,6,7
39	Quinsept, Inc	46
33	Remarkable Technologies	11
49	Robert Merril	47
29	Shreve Systems	31
291	Softdisk	1
127	Softspoken	47
23	Software of the Month Club	47
30	Sound Management	47
36	Sun Remarketing	47
56	TMS Peripherals, Inc.CV	CV.3
231	Tulin Tech	41

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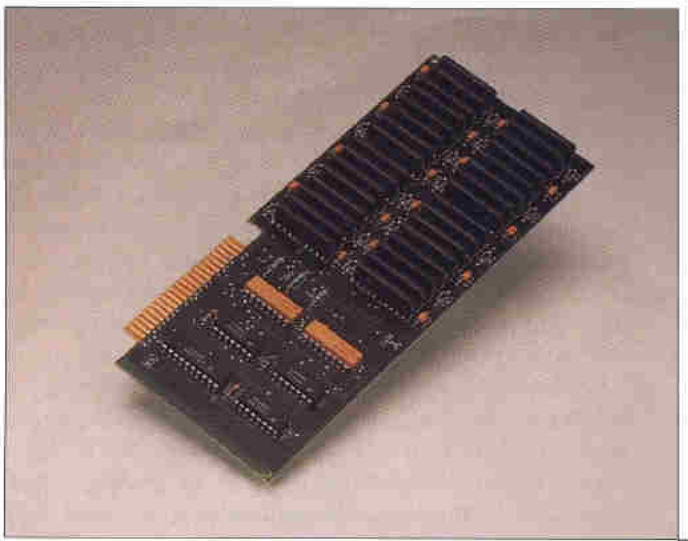
3 new GS RAM boards give you the power you need to run today's silicon-hungry programs.

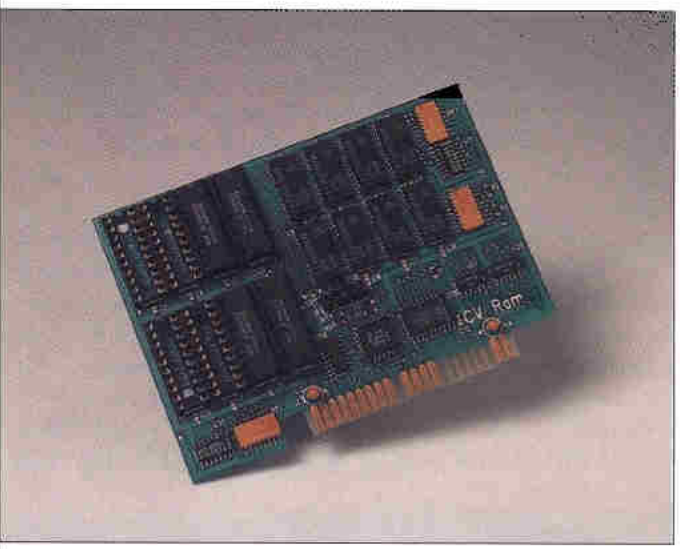
By GARRY HOWARD

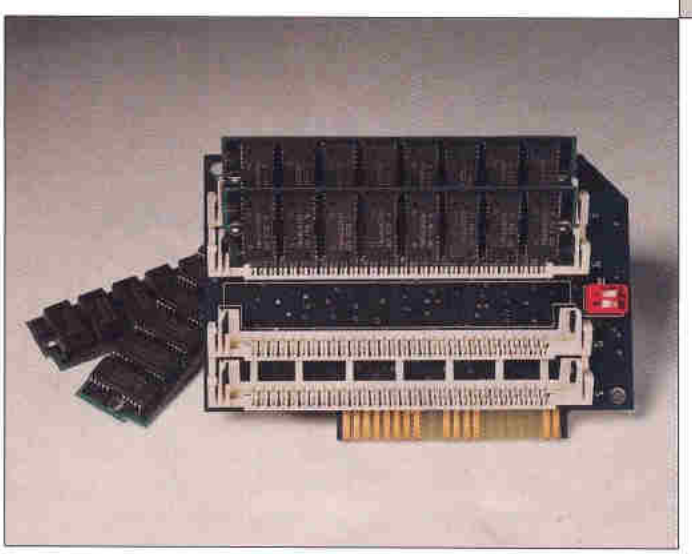
Thanks to the laws of supply and demand — the popular use of computer chips in everything from cars to microwave ovens — the cost of beefing up your system is dropping every day. Let's take a look at three of the newest RAM-card models on the market: **RAM GS** from Sequential Systems, PaceMark's **IIGS Super Ram**, and C.V. Technologies' **CV-Ram**. To even the playing field, I tested all three boards with 4 megabytes (MB) installed. (Other configurations are also available.) All are top performers and are priced at less than $200 for 4 megabytes. Several additional criteria — type of memory expansion, ease of installation, quality of documentation and included utilities, and availability of technical support — can help you decide which board is right for your system.



Sequential Systems' RAM GS comes with extensive documentation and carries a two-year warranty.

With the biggest capacity of the three cards reviewed here, C.V.'s CV-Ram gives you a potential 8 megabytes of additional memory.





PaceMark's Super Ram uses SIMM units you can recycle between your GS and your Macintosh.

Basic Stats

RAM GS is a full-sized board (about 3 by 7.5 inches) — a "zip" package holding 1-megabit CMOS DRAM (*complementary metallic-oxide semiconductor dynamic random-access memory*) chips with a typical access speed of 80 to 100ns (*nanoseconds*). CMOS chips ensure low power consumption and relatively low heat generation in your system. *Zip* doesn't refer to speed here. Superficially speaking, the smaller the nanoseconds number, the faster the memory chip, but memory access is ultimately limited by the computer's microprocessor speed. Used here, *zip* is a coined expression that describes the pins on the bottom of the chip: They're arranged like teeth in a zipper. Each tabular-style chip is soldered to the board.

You can purchase the RAM GS card in two configurations: 2 or 4 megabytes. The 4-megabyte board is fully populated with four banks holding eight chips each. The 2-megabyte card includes two banks of eight chips each, with another two banks containing 16 sockets that let you increase memory to a maximum of 4 megabytes by inserting chips sold by Sequential and other third-party companies (approximately $50 for 2 megabytes at press time). A company spokesman notes that 98 percent of Sequential's customers purchase the fully populated 4-megabyte board.

As spelled out in the documentation, you set the RAM configuration via a single on-board *jumper* — a small plastic-and-metal bridge that indicates whether 2 or 4 megabytes are installed. Sequential packs an eight-page manual and a 3.5-inch diagnostic utilities disk (to test whether the board's individual chips are working) with RAM GS, which is warranted for two years. The company also offers toll-free technical support within the U.S. and Canada.

By contrast, IIGS Super Ram is a half-sized board: about 3 by 4 inches. (GS owners who have already upgraded memory by installing Quality Computers' Q-RAM GS will recognize this card. Both are manufactured by PaceMark Technologies.) The Super Ram board uses 1-megabyte DRAM SIMMs (*single in-line memory modules*) with an access speed of 120ns or faster. These units are similar to those used in Macintosh computers, although different Mac models may require SIMMs with different speeds.

The memory modules on the IIGS Super Ram card are mounted in four low-profile slots. SIMMs win the prize for ease of expansion hands down: Adding memory is as simple as snapping SIMMs into their slots and then setting the two DIP (*dual in-line package*) switches on the Super Ram board. The documentation describes this basic procedure and what the switches' on and off positions indicate to your system.

If you prefer to shop around for the least-expensive SIMMs you can find, you can purchase a bare-bones Super Ram board for only $50 and add 1-megabyte SIMMs for total memory expansion of 1, 2, or 4 megabytes. A PaceMark Technologies spokesman says you can purchase appropriate SIMMs for as little as $18 each by mail order, at computer shows, or at swap meets. When schools upgrade their Mac LCs with 4-megabyte SIMMs, he adds, they often recycle the LCs' original 1-megabyte SIMMs in GSes equipped with Super Ram boards.

PaceMark includes a three-page instruction pamphlet and a RAM-test utility on 3.5-inch disk in the Super Ram package. The board is warranted for one year; in addition, PaceMark provides a toll-free support number for the U.S. and Canada.

CV-Ram is also a half-sized card. It uses standard 4-megabit DRAM chips with an access speed of 120ns or faster. It's the only one of the three boards reviewed here that's expandable to a total of 8 megabytes in increments of 1 megabyte. The board comes with eight soldered chips

	SEQUENTIAL RAM GS	PACEMARK SUPER RAM	CV-RAM
minimum configuration	2MB	0MB	4MB
maximum configuration	4MB	4MB	8MB
4MB board price	$199.95	$150	$199
board size	full	half	half
board installation	easy	difficult	difficult
DMA compatible?	yes	yes	yes
maximum DMA access	4MB	4MB	4MB/8MB*
chip type	zip	SIMM	standard DRAM
chip installation	difficult	easy	difficult
chip cost	low	low	high
recycle chips?	no	yes	no
test software included?	yes	yes	no
warranty	2 years	1 year	1 year
toll-free support?	yes	yes	no

* 8MB with C.V.'s RAMFast SCSI Card only

Table. Feature-comparison chart for three RAM-card models.

and eight empty expansion sockets. The documentation accompanying the card provides part numbers of compatible chips manufactured by Samsung, Texas Instruments, and Toshiba. At press time, a C.V. Technologies spokesman estimated the cost of chips at about $30 to $40 per megabyte, but he cautioned that prices fluctuate on a biweekly basis. The position of an on-board jumper indicates the total amount of memory installed on the CV-Ram card.

The CV-Ram "manual" is three photocopied pages. The package includes no RAM test utilities. (C.V. Technologies recommends using the diagnostics that come with AppleWorks GS 1.1 — fine if you already own that $300 program.) The board carries a one-year warranty. The company offers no technical support or toll-free phone line and in fact recommends that you purchase the CV-Ram board from an authorized mail-order distributor such as TMS Peripherals.

All three RAM cards reviewed here are DMA (*direct memory access*) compatible in configurations of up to 4 megabytes with both the Apple High-Speed SCSI Card and C.V. Technologies' RAMFast SCSI Card. DMA technology means that the SCSI (*small-computer system interface*) card linking your computer and hard drive (or other SCSI peripheral) can bypass your system's CPU (*central processing unit*) to access memory directly, resulting in speedier operations. The CV-Ram board is unique in its DMA compatibility above 4 megabytes, but that feature is available only with the company's own SCSI hard-drive controller board. In a nutshell, if you have C.V.'s RAMFast SCSI Card, the CV-Ram board will take you to 8 megabytes with full DMA capability. You can use the memory card with any other SCSI controller by turning DMA off — if you don't mind giving up direct memory access in return for 8 megabytes of RAM.

Plug 'n' Play?

Installing any of the three RAM-expansion boards reviewed here is a straightforward process. The basic procedure goes like this:

- Make sure your computer's turned off.
- Pop the lid on the GS.
- Ground yourself by touching the power supply or wearing an anti-static wrist strap to dissipate harmful static electricity.
- Insert the RAM card into slot 8, the GS' dedicated memory-expansion slot. It's offset from the motherboard's other slots — it's toward the front right as you face the GS.
- Boot your computer with a diagnostic disk to check the amount of RAM on board.

Some RAM cards are physically easier to install than others, though. Sequential's RAM GS board with its high-profile zip-style chips leaves a clearance of only one 16th of an inch between the memory card itself and an adjacent SCSI card. By contrast, thanks to its conventional design, the CV-Ram board leaves lots of room for air circulation — but it's difficult to insert. Despite its low-profile SIMM slots, the Super Ram board results in a tight fit; in fact, its SIMMs touched the surface of the SCSI card in my GS. Moreover, the Super Ram card is difficult to insert and remove.

According to a PaceMark spokesman, the close proximity has no effect on performance. There's no contact between conductive surfaces. The SIMMs incorporate low-power CMOS components, and even an accelerated 8-megahertz GS doesn't generate the significant amounts of heat more commonly associated with, say, the 66-megahertz microprocessors found in accelerated IBM PCs, for instance. The company claims to have sold more than 10,000 Super Ram cards in the past year alone with no reported problems.

There's no doubt that the quality of the three RAM cards reviewed here is first class. Each board has characteristics that make it appealing to different types of GS users, though, so it's worthwhile to take a moment to assess your needs. If you want a simple, reliable, low-priced 4-megabyte card, for example, Sequential's RAM GS is the best choice. If you're satisfied with a maximum of 4 megabytes but would like to add that memory in stages — with the potential to recycle SIMMs to or from a Macintosh — PaceMark's IIGS Super RAM can't be beat.

If you have a RAMFast SCSI Card and consider yourself a "power user," however, the CV-Ram board will take you all the way to 8 megabytes with full DMA capability — maximum operational speed and efficiency with even the biggest GS programs on the market. ❑

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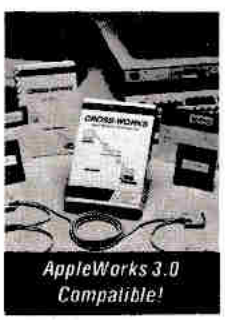

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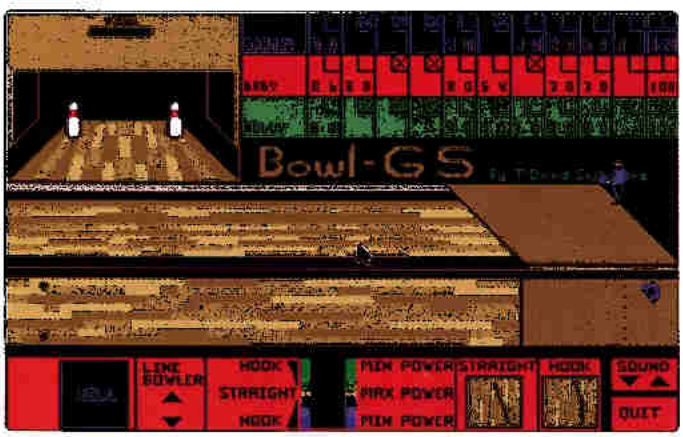
SHAREWARE SOLUTIONS
BY JOE KOHN

GS FUN AND GAMES

Rather than risk a sunburn this summer, why not spend all your time safely inside, basking in the phosphor glow of your GS' monitor? You'll have a lot more fun than your computerless friends. While they head for the beach or go off on vacation to Europe, you can travel to faraway worlds your friends can't even begin to imagine. Summertime is a time for fun and games, and there's an incredible collection of low-cost freeware and shareware entertainment titles available that should keep you busy all summer long. So, get that mouse finger ready — no GS owner needs to get the summertime blues this year.

☛ **Ant Wars** is the latest in a long series of $10 shareware wonders by Karl Bunker. Part board game, part strategy arcade game, you'll maneuver your good-guy red ants around a grid, as you attempt to surround the computer-controlled bad-guy black ants and kill them — all while avoiding getting done in yourself. Quick reflexes and creative strategic thinking are a must for chalking up high scores. Just watch out for those beserker ants.

☛ **Billo Art** is a freeware strategy arcade game from Brutal Deluxe, a new group of French programmers. It's fun yet challenging — requiring good coordination and mouse mastery. The play screen looks like a standard billiards table, but game play is more bumper-pool-meets-Pong. The goal of the game is to ricochet a billiard ball successfully off an increasing number of bumpers. One bumper's a snap; two makes life a little more difficult; three bumpers makes it a challenge of the first magnitude.



☛ **Bowl GS**, a freeware bowling-alley simulation by Terry Burdett, is a top-notch game — the next-best thing to spending an evening down at your local lanes. With great graphics, realistic digitized sounds, and a multiwindow animated display, Bowl GS is suitable for one to three players. Use the mouse to position your bowler, then double-click to release the ball. Time your mouse clicks carefully, as they control whether the ball will roll straight down the lane or be delivered with a hook. It takes practice to get the hang of it, but once you do, you'll on your way to a near-perfect 300 score.

☛ **Dr Mario**, modeled after the coin-operated arcade game of the same name, is an addicting freeware implementation from Blue Adept. It's a Tetris-style game: lining up multicolored falling capsules in a test of speed, skill, and strategy. What sets Dr Mario apart from other Tetris knockoffs are the many obstacles and viruses on the play screen. But you're the doctor — you can remove those little hindrances with lots of fast action and quick thinking. The game includes a module to save high scores. Several revisions of this game exist; some work better than others on certain GS systems. So if you can't get Dr Mario to work quite right at first, look for another version. It'll be well worth it; this is one of the better games ever released for the GS.

☛ **Pente GS** is the "latest and greatest" $10 shareware challenge from the noted GS programmer Kenrick Mock. Pente is a super-hi-res board game based on the ancient game Go, similar to Chinese checkers and tic-tac-toe. Played against another human or against the computer, the goal is straightforward, but owing to the software's utilization of a variety of artificial-intelligence techniques, winning is difficult. Played on a 19-by-19 grid, you and your opponent attempt to place five pieces in a row. Complete with beautiful graphics, music, and sound effects, Pente GS helps you develop your strategic-thinking skills, while providing some late-night summer entertainment.

☛ **Plotting** is an incredible $25 strategy arcade shareware game by the French programmer Philippe Leclerco. In one- or two-player mode, the goal is to eliminate blocks from a pile by shooting similarly marked blocks at them. Remove them all and move up to the next challenging level. All it takes is a minute or two observing the animated instructional demo to understand all aspects of game play completely. Plotting even comes with an editor that lets players create their own levels and includes a two-player timed tournament mode as well. Complete with music and amusing animations, Plotting is a first-rate game for all ages.

☛ **ThreeDTris**, by Jason Simmons, is a remarkable 3-D freeware variant of the game Tetris. Shapes drop from the top of the screen; you must manipulate them in three dimensions as you try to fill a level completely with solid cubes. When you complete a level, it disappears. The software then redraws the entire play field one cube at a time, giving you a chance to find the locations of gaps you need fill. The game ends when cubes accumulate to the top of the grid. This is a challenging game that requires lots of practice to master.

☛ **Virtual Art Gallery** is Jason Harper's mind-boggling futuristic graphics-display freeware program. It's unlike anything you've ever experienced before on a GS. Working with any standard GS graphics file, Virtual Art Gallery converts images to gray scale and displays them as though they were hanging on a wall in a multidimensional moving maze. Creating the illusion of flying through space at warp speed, this fast-moving kinetic slide show has to be seen to be believed. It's a "must have" program for all GS graphics enthusiasts.

CONTRIBUTING EDITOR JOE KOHN HAS WRITTEN THE SHAREWARE SOLUTIONS COLUMN SINCE LATE 1990. IT'S BEEN A LOT OF FUN, BUT IT'S TIME FOR HIM TO MOVE ON TO BIGGER AND BETTER THINGS. HE'LL BE LAUNCHING SHAREWARE SOLUTIONS II: THE NEWSLETTER, A MONTHLY APPLE II-ORIENTED PUBLICATION THAT WILL PICK UP WHERE "SHAREWARE SOLUTIONS: THE COLUMN" LEFT OFF. FOR SUBSCRIPTION INFORMATION OR FOR INFORMATION ON OBTAINING GAMES MENTIONED ABOVE, SEND A SELF-ADDRESSED, STAMPED ENVELOPE TO JOE KOHN, 166 ALPINE STREET, SAN RAFAEL, CA 94901. (SOME TITLES MAY ALSO BE AVAILABLE FROM APPLE II USER GROUPS OR BY DOWNLOADING VIA MODEM FROM THE INFORMATION NETWORKS AMERICA ONLINE, COMPUSERVE, AND GENIE.) APPLE II FOREVER!

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