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The Apple IIGS Buyer's Guide

A Redgate Publication
Summer 1990 Vol. 3, No. 4
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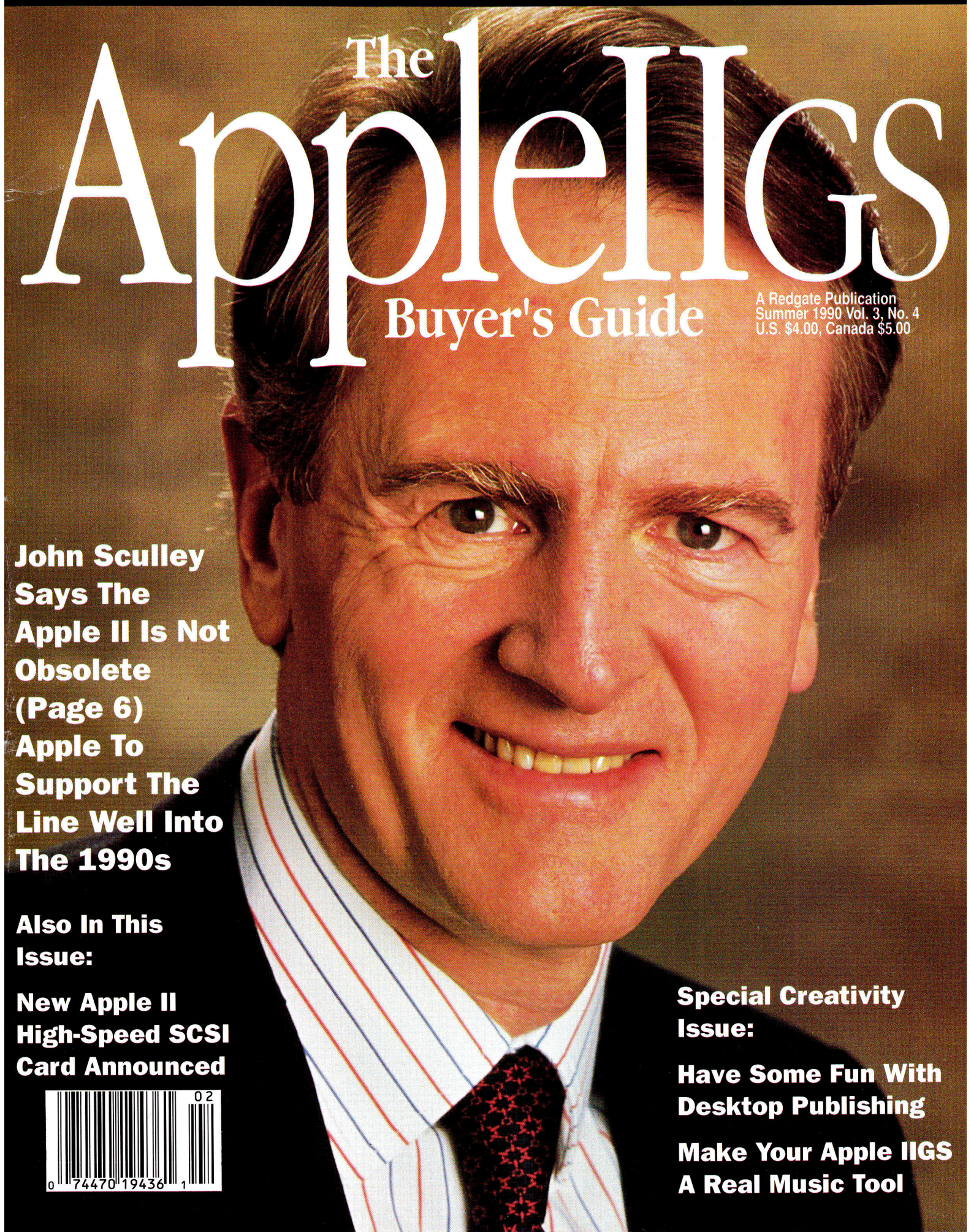

John Sculley Says The Apple II Is Not Obsolete (Page 6)

Apple To Support The Line Well Into The 1990s

Also In This Issue:

New Apple II High-Speed SCSI Card Announced

Special Creativity Issue:

Have Some Fun With Desktop Publishing

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CONTENTS

The Apple II GS Buyer's Guide

VOL. 3, NO. 4 SUMMER 1990

Editor's Window 4

Columns

Company To Watch: Apple Computer, Inc 6
An open letter to our readers from Apple Chairman and CEO John Sculley.

Quarterly Report 8
Debut column: News about the new Apple II High-Speed SCSI Card.

Class Action: Not Just Another Pretty Interface 17
How Learningways' graphics-based, object-oriented interface enhances IIGS educational software.

IIGS Address 20
Columnist Larry Miller answers letters and questions from readers.

Features

Desktop Publishing Projects For The Whole Family 12
Don't put off creating your own personalized stationery or labels any longer. Use your IIGS and ImageWriter II to make life easier and more fun.

The IIGS Is A Professional-Quality Music Tool Once Again 24
New products that put the "S" back into the IIGS, for average users and professional musicians alike.

Reviews/Overviews

Copy II Plus Version 9 56

Grand Prix Circuit 57

Design Your Own Home: Interiors and Landscape 60

Pyware Instrument Designer 61

Apple IIGS Hardware And Software Directory

Accessories 28
Switch boxes, cleaning kits, dust covers, mouse containers and more

Animation 30
Animation software, presentation graphics, video players and more

AppleWorks 30
Compatible programs for AppleWorks

Books And Publications 30
Literature of interest to Apple IIGS users

Business Productivity 31
Integrated software, accounting packages, vertical-market software and more

Creative 32
Paint, draw and more

Desk Accessories 33
Pop-up accessory software for home and business

Desktop Communications 33
Telecommunications programs for file transfers and more

Desktop Publishing 34
Combined graphics and text software for personal publishing projects

Education 34
Reading, writing, arithmetic and more

Entertainment 44
Games, simulations, adventures and more

Hardware And Peripherals 47
Extended memory boards, hard disk drives, graphics products, synthetic speech accessories, modems and more

Music 51
Training, writing and MIDI software for music

Networking 51
Software and utilities for connecting to AppleTalk networks

Online Databases 52
Information utilities available online

Personal Productivity 52
Personal improvement, finance and more

Programming And Utilities 52
File recovery software, programming languages and programmer utilities

Word Processing 54
Graphics- and text-based word processing programs

Other Software 55
Public domain software, shareware and a disk-based magazine

Indexes

Advertisers' Index 17

Product Index 62

Company Index 64

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Executive Publisher: **Ted Leonsis**
Managing Editor: **Ron Errett**
Directory Editor: **Paulette Lee**
Production Manager: **Joan Hanke**
Contributing Editors: **Carol Holzberg, Ph.D.; Dennis Keppner; Mike Markowitz; Larry Miller; Gary Ramey; Bruce Richter**
Editorial Assistant: **Julie A. Van Gaasbeck**

Vice President/Creative Director:
Mark S. Ballard

Typesetting/Traffic Manager:
Kathaleen S. Ross
Typesetting Operations:
Debra Siraco-Weaver

Circulation Manager: **Monica Tower**
Single Copy Sales Manager: **Kevin Fallon**

Advertising Sales Offices

Chuck Abrams, Associate Publisher
Redgate Communications Corporation
185 Berry St., Ste. 5401, San Francisco, CA 94107, 415-928-1966

Kevin Fallon, Advertising Sales Manager
Redgate Communications Corporation
660 Beachland Blvd., Vero Beach, FL 32963
407-231-6904

Tom Duke
Redgate Communications Corporation
660 Beachland Blvd., Vero Beach, FL 32963
407-231-6904

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The Apple IIGS Buyer's Guide,
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Redgate Communications Corporation
President: **Ted Leonsis**
Executive Vice President: **Alfred J. Mandel**
Senior Vice President/Chief Financial Officer:
Jeff Parsons
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Breaking The Silence

Apple IIGS users are a special breed. Since becoming managing editor of *The Apple IIGS Buyer's Guide* in February, I've had a chance to speak to many of you. The one trait that you share is a fierce loyalty to the computer and a bewilderment toward Apple Computer, Inc.

Down to the man, woman and, yes, child, you want to know what the Apple II market — mainly Apple — has planned for your computer of choice. You want to know what products and enhancements will be forthcoming, and you want to be reassured — by someone truly in the know — that you have not been left to fend for yourself.

Many of you send us letters — one of which we published in our last issue — that eloquently express your fears. You tell us you are concerned about the availability of new software and hardware for the IIGS. You feel that Apple has been too silent and too uncommittal about its plans for the Apple II line. You find the silence disturbing.

You use words such as "abandon" and "forsaken" in an attempt to explain the silence. Some of you even predict the death of the IIGS and, with it, the loss of the time, money and energy you have invested.

Don't give up yet. Someone has been listening to you; someone has read your letters.

In this issue (see our very special "Company To Watch" column on page 6), John Sculley, Apple's chairman and CEO, breaks the silence and responds with an open letter to readers of *The Apple IIGS Buyer's Guide.* Though brief, the letter may be the most important article we've published during the last two years.

John Sculley cannot answer all of our questions in a single letter, of course, but — amidst the gloom and doom — he has made what we think is a positive statement about the future of the Apple IIGS and the Apple II line. We applaud him for taking this step, and we hope his letter will jump-start the Apple II market into action.

It's true. There have been fewer new IIGS products on the market than we'd care to see, but they are trickling out, from a variety of sources, including Apple.

Case in point, Apple recently released its new Apple II High-Speed SCSI Card — for the Apple IIGS and IIe — which moves information much faster between Apple II computers and peripherals (see "Quarterly Report," page 8). By increasing the computer's performance, the new card also extends the usefulness of the Apple II further into the future.

Contributing editors Dennis Keppner and Bruce Richter say that Apple, through the Apple Programmers and Developers Association, also made a "bold statement" by releasing a new tool set that allows programmers to, finally, combine *all* the elements for producing music on an Apple IIGS (see "The IIGS Is A Professional-Quality Music Tool Once Again," page 24). In addition, a long-awaited, inexpensive System Exclusive program, from developer Lindsay Hough, is available for professional musicians and avid IIGS music enthusiasts.

The editorial theme of this issue is creativity, as witnessed in Gary Ramey's entertaining article "Desktop Publishing Projects For The Whole Family" (page 12). However, the real underlying theme may be that the heart of the Apple IIGS is still beating strongly, as Mike Markowitz says in his review of Copy II Plus Version 9 (page 56), a significant upgrade of the versatile utility package from Central Point Software.

We think you'll find ample evidence throughout this magazine that the Apple IIGS is alive and well and, in some cases, growing.

We'd like to thank Mary Fallon, Jackie Promes, Janet Susich, Carmella Zamora and many others at Apple for their help with this issue.■

— Ron Errett
Managing Editor

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An Open Letter From John Sculley

To The Readers Of The Apple IIGS Buyer's Guide:

Owners of Apple II computers and peripherals tell me that, while they love their Apple IIs, the speculation whirling in the marketplace about the Apple II product family has them confused about Apple's commitment to the line. I hope, with this open letter to the Apple II community, to clear the air, assure our Apple II customers that their loyalty to Apple and its products isn't unwarranted, and to talk about how changes in the marketplace affect the future.

First, on behalf of all of Apple, I want to thank Apple II buyers for their loyalty and passion for our products. It is particularly gratifying to Apple II engineers — both past and present — and me to see that the Apple II, which launched Apple, continues to be endorsed by schools, consumers and small-business owners.

Apple's commitment to its 5 million Apple II users is to continue to create products that improve the functionality and performance of their computers. Apple will sell, service and support the Apple II line well into the 1990s.

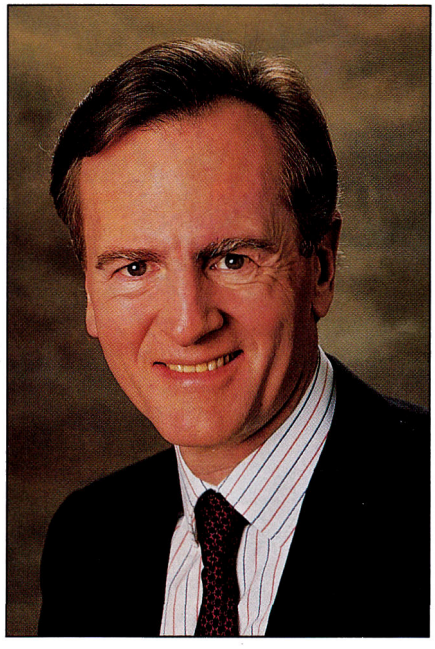
Present And Future Improvements

In 1989 and so far in 1990, Apple introduced a number of significant technological improvements for the Apple IIGS, IIc+ and IIe without increasing the price of the basic products. Currently, we are working closely with Apple II hardware and software developers to encourage the creation of innovative products for the Apple II family and to provide them with the information they need to make decisions so their businesses continue to be viable.

A number of developers in the past year have introduced into the market new software and hardware products for the Apple II family, as well as made commitments to their customers to continue to introduce creative, new products that support our own Apple II innovation.

One major step Apple made last year to ensure the longevity of the IIGS for its users was to introduce the Apple IIGS System Software 5.0, the first 16-bit operating system for the Apple IIGS that operates over the AppleTalk network system.

In response to requests from customers and developers for improved ease of use and functionality, Apple improved the system



John Sculley

software's speed and network capabilities, as well as made changes to the toolbox that enable the system to handle basic functions, including sound, drawing, scrolling and memory management, about twice as fast as our earlier System Software 4.0.

New toolbox components for developers also make programming for the Apple IIGS easier and faster.

Besides new system software, last year Apple also expanded standard memory for the Apple IIGS to 1 MB without increasing cost.

Two significant new products for the Apple II family are a Video Overlay Card, which gives our customers the capability to use the Apple II as a basic multimedia platform, and the High-Speed SCSI Card, which moves information up to 10 times faster between Apple II computers and peripherals (see "Quarterly Report," this issue).

The new High-Speed SCSI Card is just one example of Apple's philosophy — based on our customers' need — to allow Apple II users access to many of the same peripheral devices as Macintosh users. By building bridges between Apple's two product lines, our customers can take advantage of the strengths of each line.

Taken together, our new Apple II products equal significant improvement in functionality and increase the value of Apple IIs for our customers and developers.

We also understand our customers' need for continued enhancements to the product line, including improvements in the way Apple II and Macintosh computers interact on the AppleTalk network. Apple II customers, particularly primary and secondary schools, want their large installed base of Apple IIs to operate in concert with newer Macintosh purchases. We are currently working on a variety of new "bridges" between the Apple II and Macintosh families to make that synergy even better.

The Apple II Is An Asset

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

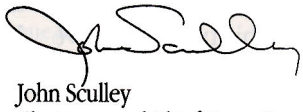
New products aren't the entire answer, and at Apple we are constantly evaluating the changing needs of the Apple II community so our service is top-notch. We recently established a one-year warranty that covers Apple II computers. As a special promotion through May 31, we are allowing customers to buy six months of AppleCare and get six additional months at no extra charge.

This offer is particularly helpful to Apple II owners because it covers Apple II computers dating back to 1978.

As toolmakers of state-of-the-art personal computers, we recognize the technological limits of the Apple II line, but at the same time these products have neither lost their usefulness, nor are they obsolete. Hundreds of thousands of schools, consumers and small-business owners worldwide rely on the IIGS and other Apple II computers and will for many years to come.

For those reasons, Apple Computer is committed to continue to enhance the IIGS' functionality, improve our support to customers and encourage developers to push the Apple II technology as far as it can go. As Apple develops new entry-level products, the Apple II family will continue to be recognized for the immense value it provides our customers and our company. ■

Sincerely,



John Sculley
Chairman and Chief Executive Officer
Apple Computer, Inc.

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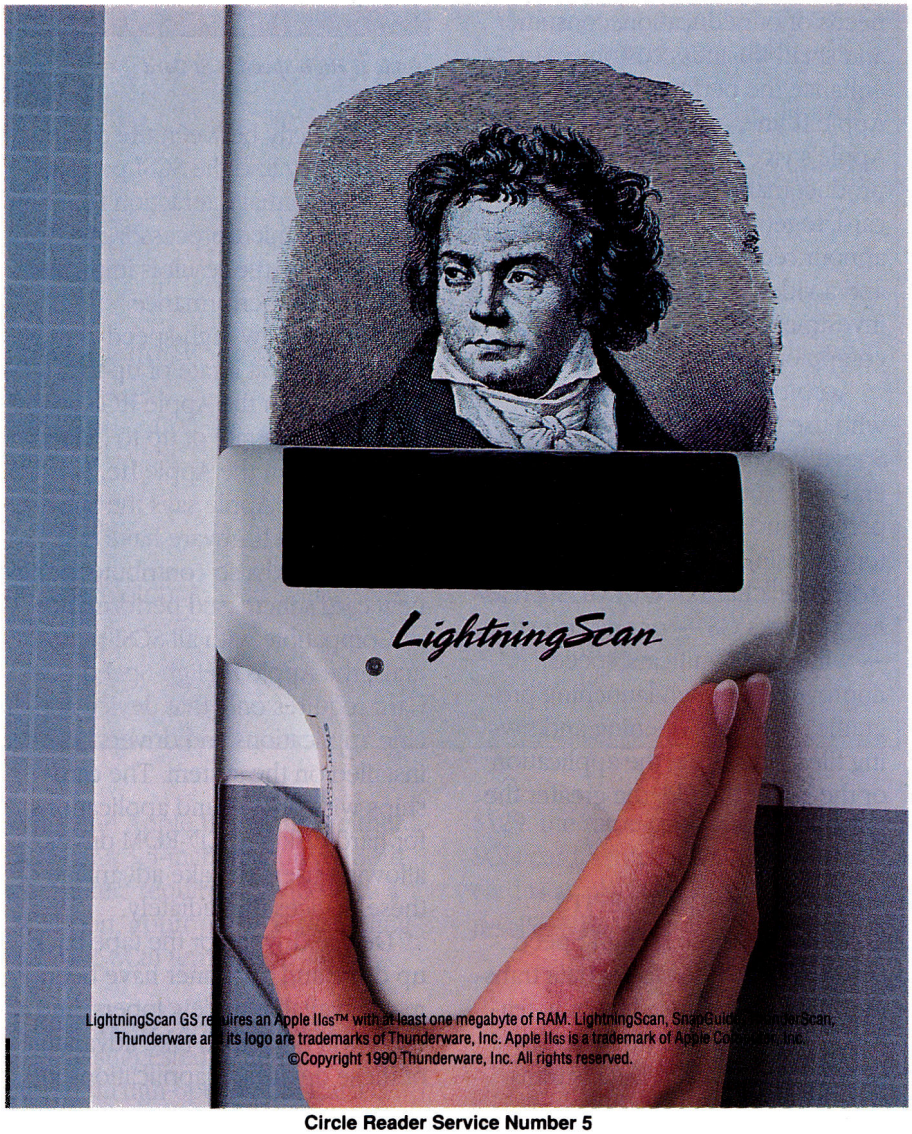

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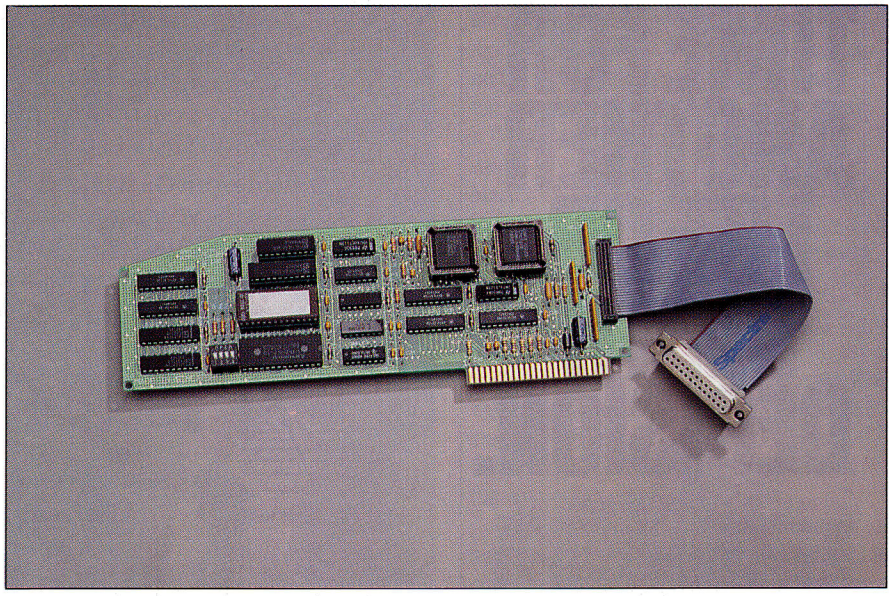
Significant Developments In The Apple IIGS World

New Apple II High-Speed SCSI Card Announced

Apple Computer has released a new high-speed card that moves information up to 10 times faster between Apple II personal computers and peripheral devices, such as hard disks and CD-ROM drives. According to the company, the new Apple II High-Speed SCSI Card provides the fastest data throughput available for Apple IIGS and Apple IIe users and is compatible with all Small Computer System Interface (SCSI) peripherals.

"We continue to respond to the needs of our education, consumer and small-business customers to enhance the performance of the Apple II line," says Randy Battat, Apple's vice president, worldwide product marketing. "This high-speed card, together with our previously announced Apple II system software and a video overlay card, make the investment in Apple II personal computers even more valuable."

According to Apple, customers who use the new Apple II High-Speed SCSI Card with a SCSI peripheral can extend their computer's performance. For example; customers using large applications stored on a hard disk drive, such as AppleWorks GS — or any large files — will see a significant speed improvement when launching programs, as well as opening and saving files. The larger the application or the larger the file, the greater the speed improvement.



Apple II High-Speed SCSI Card

Features And Benefits

The new Apple II High-Speed SCSI Card provides faster data transfer primarily because of a new feature called direct memory access (DMA) data transfer. Data is transferred directly between the computer's memory and the SCSI peripheral, with minimal interaction from the computer's microprocessor. According to Apple, the result is improved data transfer performance.

With the new high-speed card, data transfers at a rate of up to 1 MB per second on the Apple IIGS computer, and at a rate of up to .5 MB per second on the Apple IIe. In addition to DMA, Apple says the SCSI manager and firmware have been improved and also contribute to the new card's increased performance.

Compatible with all SCSI peripherals, the Apple II High-Speed SCSI Card requires only that device-specific applications and drivers be installed on the system. The card ships with drivers and applications for hard disk and CD-ROM drives, allowing users to take advantage of these devices immediately.

Device drivers for the tape backup drive and a scanner have been made available to developers, and users will be able to take advantage of these devices as applications are developed. In addition, the new card enables users to connect as many as seven SCSI peripherals to their computers.

Another feature of the card is an on-board terminator, which simplifies setup when connecting SCSI peripherals to the computer. Previously, the Apple II SCSI Card required users to understand rules regarding placement and quantity of terminators between SCSI devices. With the new card, users simply place one terminator at the end of the chain of SCSI devices.

The Apple II High-Speed SCSI Card also includes improved hard disk utilities. These utilities make it easy to handle hard disk management tasks such as data backups, disk partitioning and disk verification. The partition and verify utilities take advantage of the improved firmware commands for hard disk drives.

The backup utility is now able to handle the resource forks that are part of the IIGS files. Because these are ProDos utilities, they can be

Overview	Features	Benefits
The Apple II High-Speed SCSI Card lets you connect your Apple IIGS or Apple IIe computer to any device that uses the SCSI standard, such as a hard disk drive, CD-ROM drive, scanner, tape drive or laser printer. Using direct memory access (DMA) data transfer, the card offers rapid data throughput: It functions more than 10 times faster than the previous version (the Apple II SCSI Card). In addition, the Apple II High-Speed SCSI Card comes with software utilities for use with hard disk drives and CD-ROM drives.	• DMA data transfer	• Provides fast data throughput, for rapid loading of applications and data
	• ANSI-standard compliance	• Compatible with all peripherals that conform to the SCSI standard — now and in the future
	• Software utilities	• Handles such hard disk management tasks as data backup, disk partitioning and disk verification on the IIGS or IIe, as well as to use CD-ROM discs with the Apple IIGS
	• On-board SCSI terminator	• Simplifies setup by eliminating the need for more than one SCSI terminator
	• Dip switches	• Easy setting of the card's SCSI device number

used by both Apple IIGS and Apple IIe users.

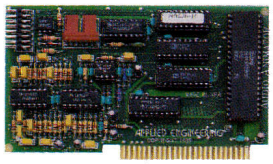
System Requirements

The Apple II High-Speed SCSI Card works on an Apple IIGS computer or an Apple IIe computer with a 65C02 microprocessor. The Apple IIGS requires a 3.5-inch disk drive, while the Apple IIe requires either a 5.25- or a 3.5-inch disk drive. Both computers require a device with a SCSI port, appropriate SCSI cabling and one SCSI terminator.

Price And Availability

The suggested retail price of the Apple II High-Speed SCSI Card is $129, the same price as the previous SCSI card, which it replaces. The card is available at authorized Apple resellers. ■

— Ron Errett



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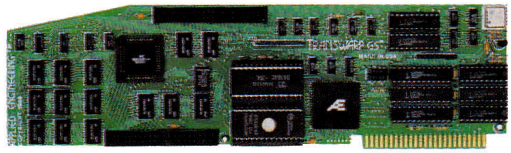

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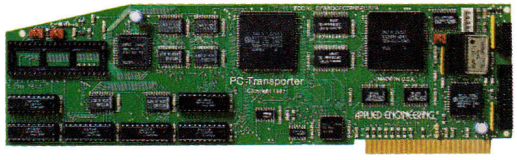
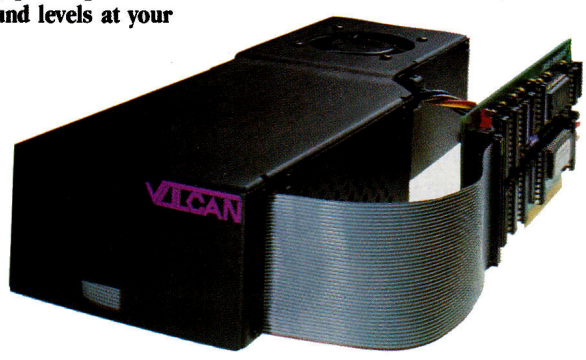
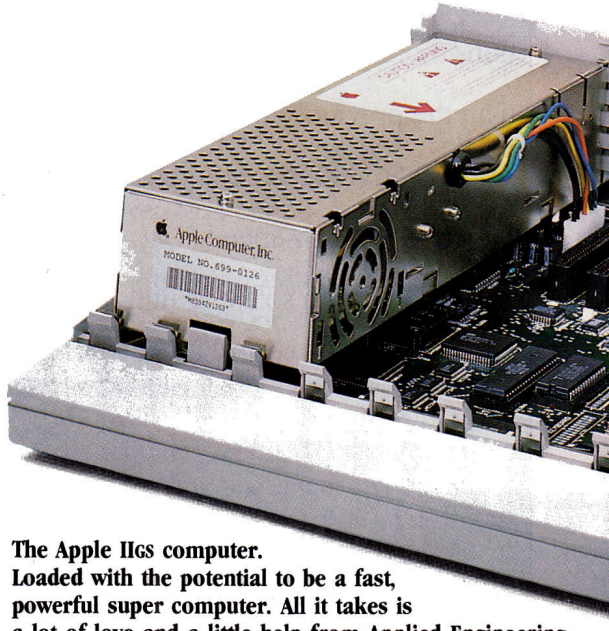


PC Transporter lets your IIGS run IBM's MS-DOS. Shop both sides of the software aisles. $499.



Vulcan internal hard disk replaces the Apple power supply with 70 watts of pure power and up to 200 MEGs of storage capacity. From $699.



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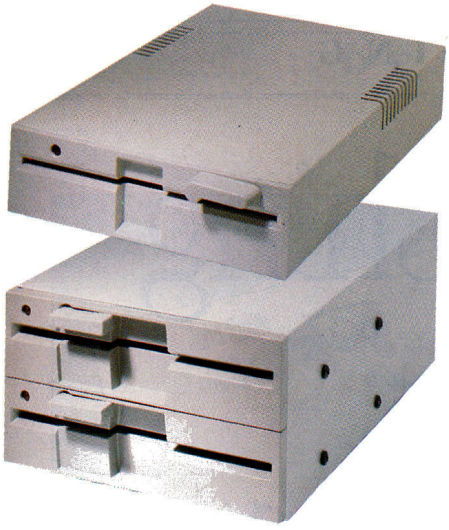
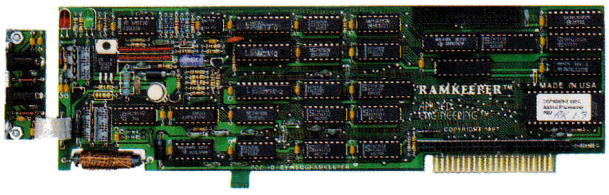
Circle Reader Service Number 6

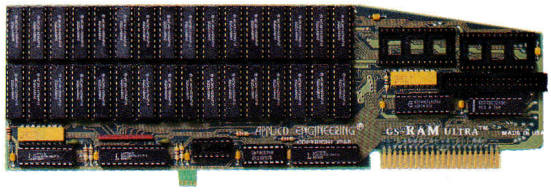


Applied Engineering's 5.25 disk drive (top) features a new design for virtually flawless performance. $149.

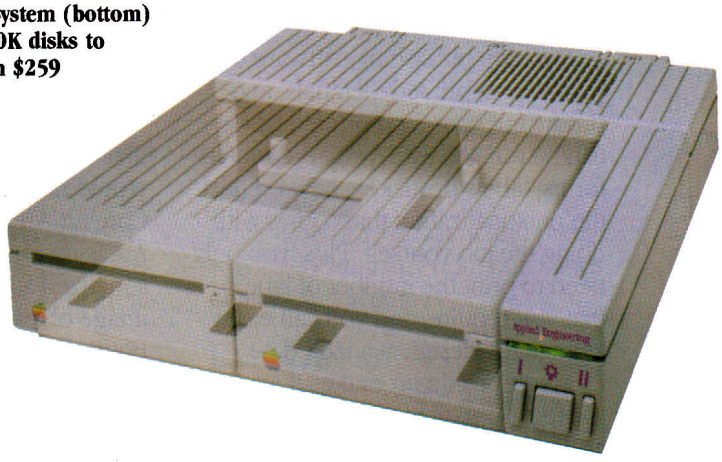
MS-DOS compatible 5.25 Drive System (bottom) allows MS-DOS programs on 360K disks to boot from PC Transporter. From $259



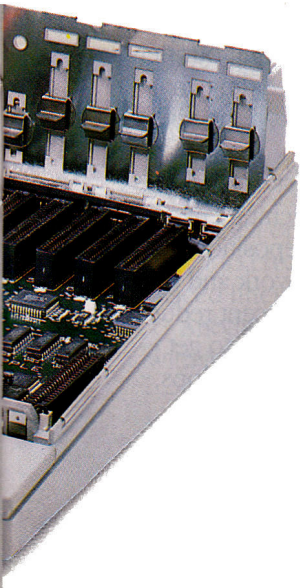
RamKeeper creates permanent storage with an "electronic hard disk" while it protects your files against power outages. $189

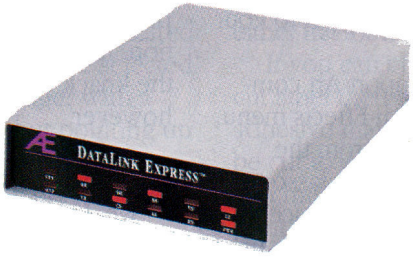


Our newest IIGS memory card grows from 256K to 4 MEGs, with full compatibility. From $229.

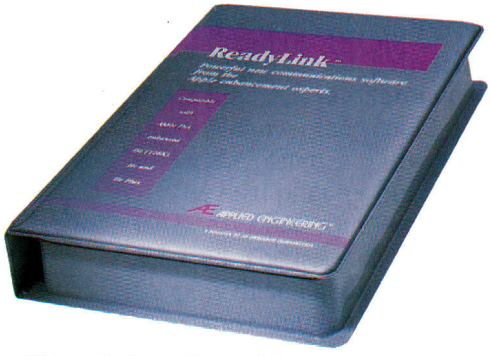


Conserver effectively cools your IIGS while it protects against power surges and helps organize workspace. $99.





DataLink Express, the first full-featured external modem. Upgradeable, Hayes compatible and complete with software. $249.



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Desktop Publishing Projects For The Whole Family

DON'T PUT OFF CREATING YOUR OWN PERSONALIZED STATIONERY OR LABELS ANY LONGER. USE YOUR IIGS AND IMAGEWRITER II TO MAKE LIFE EASIER AND MORE FUN.

Desktop publishing software can personalize printed materials, and producing your own printed labels can be fun and satisfying. Preprinted forms, labels or stickers never reflect the personalization that comes with doing the job yourself. Plus, you only need to print the number of labels that you require, and you can easily change the design at a later date.

Medley's clip art makes it a snap to create personalized letterheads and envelopes. For instance, if you or a family member love old cars, you can use Medley's clip art to your advantage.

After using the Import Art command from the Special Effects menu, select Enter Paint Tool from the Areas menu. Then use the lasso to select the old car of your choice, which will become a logo on your stationery.

Any item that is lassoed and then cut and pasted into a Medley document will automatically be within a polygon area. This technique allows you to easily change the various points where the text will wrap around the art area.

After returning to the Word Processor, select the font and point size of your choice. For our example, we selected 24-point Helvetica for the name, "John Smith," and 12-point Helvetica for the address, "3939 Old Car Drive." Our text was set flush right so that the words line up near the image of the car.

Before printing, we made sure that the border around the picture would not print by selecting the Convert Areas command under the Areas menu. The final print, our personalized stationery including an image of an old car, was done with Better Color selected.

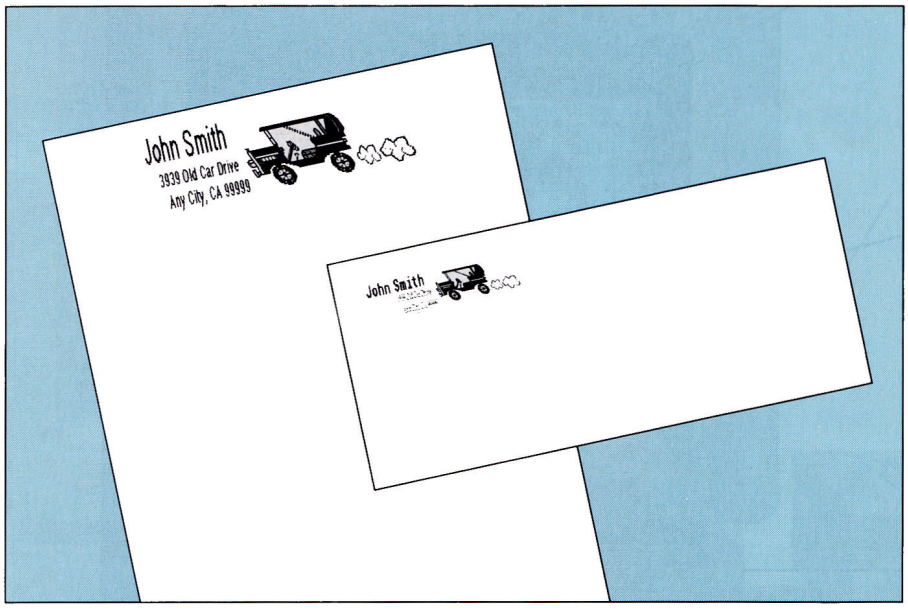
There's no need to start from scratch to create a matching envelope. All we did was reposition the name, address and artwork and then print the image at 50 percent reduction. It may take a few tries to get the knack of printing on envelops, however.

No More Boring Messages

We'd almost bet that every family in the United States has memos and notes attached with magnets to their refrigerators. Why not use your desktop publishing program to make these messages stand out?

Publish It! 2 can quickly and easily produce a reminder list. Using clip art provided with the program, we selected a pointing finger with a string tied around it. The image appears on the disk pointing to the left and to the right. We used both versions, one in either margin pointing toward the center of the paper.

The text, which said "Things To Do Today!," was set in 36-point



Clip art from Medley, Milliken Publishing Co., can be used to create snazzy, personalized letterheads and envelopes.

Westwood and centered between the pointing fingers. The fill-in-the-blank lines for our form were created with the Line tool.

The nice thing about Publish-It! 2's Line tool is that the lines are only horizontal or vertical. This made it easier to create many accurately placed lines.

Another reminder list was created with Medley. The image we selected — again, a pointing finger with a string tied around it, but pointing up this time — was in color.

After importing the file into the Word Processor, we entered the Paint Tool just long enough to grab the image and copy it to the Clipboard. We then returned to the Word Processor and pasted the image onto the page.

We selected 16-point Shaston for the heading, which said "Don't Forget To ...." Rather than using a line tool to create the fill-in-the-blank lines, we used Medley's automatic leader feature.

With this feature you first set a tab, then you determine the kind of leader that will be used. Every time the Tab key is pressed, the computer will draw a line immediately to the tab point. This is an efficient and precise way to create many horizontal lines quickly and accurately.

Easy Labels

If you need to stick a label on something, there are bound to be blank labels that will fit your requirements. An ImageWriter II can print on either tractor feed or single sheets.

If you can't find the perfect precut label then get a full sheet of self-adhesive material. A full sheet can be cut to any size and shape that you might want. It is also possible to print many different kinds of labels at the same time.

When using some self-adhesive materials, it may be necessary to move the print head away from the platen on the printer to compensate for the thickness of the material. The lever for doing this is located in front of the platen on the right side of the ImageWriter II.

Labels for 3.5-inch disks are available in tractor feed. First, figure out exactly how much space will be needed for each label, the labels' position on the page, the amount of space between each label and how many labels will fit on a page.

For our sample, we used AppleWorks GS. First, we pulled out guides from both the top and side rulers and positioned them at 1/2 and 3 inches horizontally and 1/8 and 2 3/4 inches vertically. After creating the outer box, we used the graphics application to create a picture of a hard drive. This image was grouped, selected and copied to the Clipboard.

After returning to the Page Layout module, we pasted the picture of the hard drive onto the page. It was then positioned and sized appropriately. The type, "Hard Drive Backup Disk #1" (the same through disk # 3), was added last, beneath the image of the hard drive.

The finished label was selected and duplicated down the page. Each duplicate was carefully positioned so that it would line up with the precut labels. The type for the duplicate labels was selected and corrected so that each label would be numbered consecutively.

Make ample printouts on plain paper until the positioning is perfect. Label materials are too expensive to use for testing. And don't roll the labels backward through the ImageWriter — they could peel off under the platen.

The final print for our hard drive label was done with Better Text selected. The last step with labels is to spray them lightly with fixative so they won't smudge.

Because we knew that we were going to print out a lot of different shapes, we printed the remaining examples of labels or stickers on a full sheet of self-adhesive label material.

Don't Forget Your Movies

VCR labels are also easy to create, using AppleWorks GS. As with the 3.5-inch disk labels, the first thing to do is to measure the size of the labels. Next, pull guides from the rulers and mark each of the measurements.

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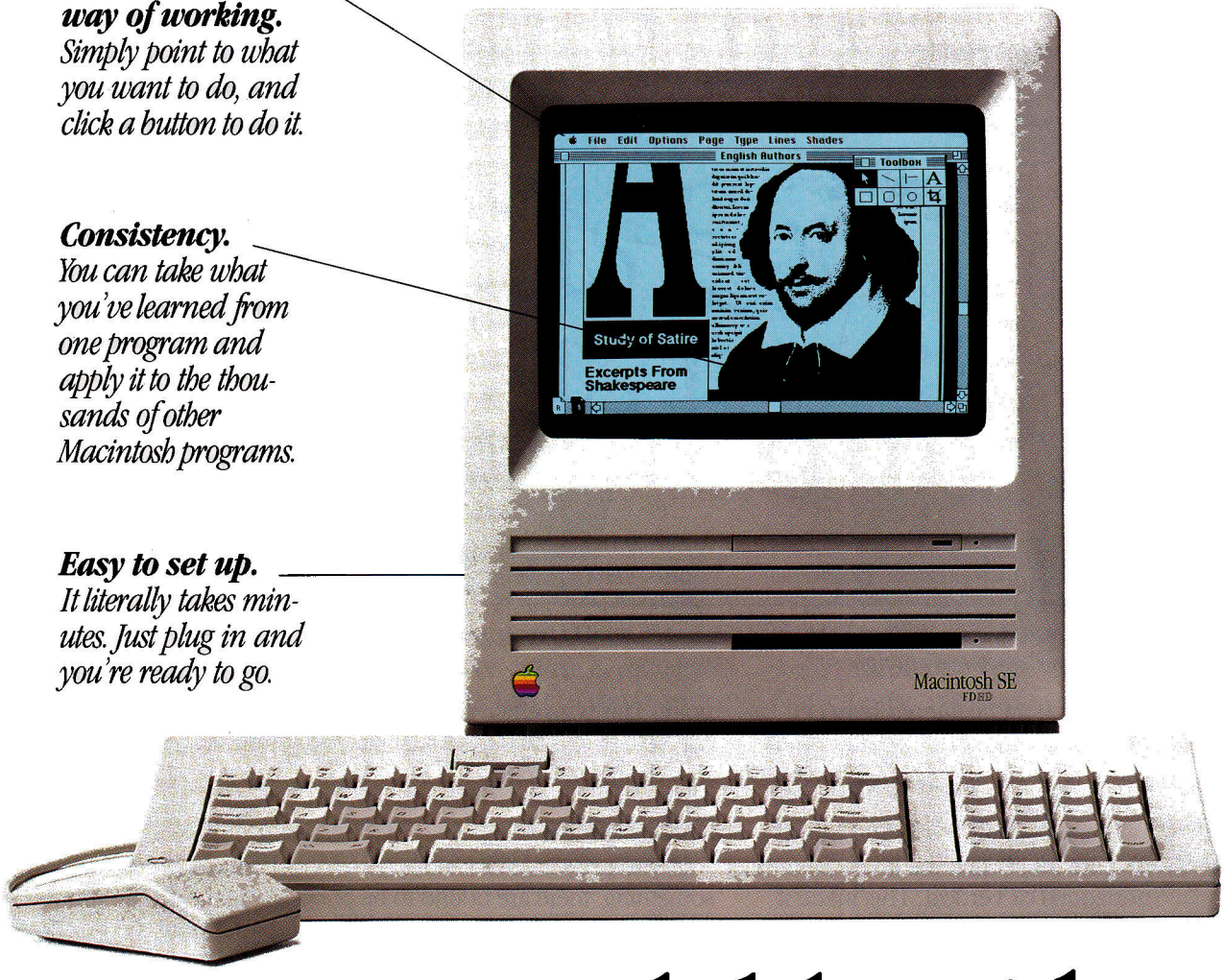

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We placed the labels on the page in an attempt to get the maximum number of labels per page. Our guides were placed along the horizontal ruler at 1/4, 3 3/8, 3 1/2 and 6 1/8 inches. The guides for the vertical ruler were placed at 1/4, 1, 1 1/8, 1 7/8, 2 and 3 13/16 inches. This gave us the guides for two side and two front labels.

Then we selected the rounded Rectangle tool and created rectangular boxes in the appropriate proportions. The Magnetic Guides feature was helpful during this part of the layout. The feature was turned off for the remainder of the designing process.

The images were created in the AppleWorks GS Graphics application. After finishing the pictures, each was individually grouped, copied and pasted into the page layout. It was then possible to resize the pictures, copy them and rotate them as needed.

The text, "Movie Title," was added last. We selected 12-point Helvetica Bold. The finished labels were copied and pasted onto the same page. The labels were then printed with Better Text selected.

We used GraphicWriter III to produce a page of "From The Library Of" stickers. First, we drew a gray rectangle with curved corners. The rectangle acts as the guide for cutting out and trimming the sticker.

Inside the first rectangle, we created a colored rectangle that had a pale blue fill and a thick purple border. The two rectangles were then grouped together.

The text was added next. We selected 12-point Calligraphy for the heading and 48-point Calligraphy for the name, which in our example was "Jane Doe."

The grouped rectangles were sized to fit around the text. The finished label was then grouped together. The page was filled with labels by copying and pasting the original label. Finally, the labels were printed with Better Color selected and a horizontal orientation for the page.

Other Ideas

For our next project, we used Medley to produce "Property Of John Doe" stickers. After selecting the image of a dinosaur from Medley's clip art disk, we pasted it into the Word Processor.

We then returned to the Paint Tool to create a rectangle that would be used to hold our text. By creating the text in the Paint Tool, we could place it anywhere on the page. In this case, Medley's Word Wrap feature would not have helped. The final sticker was printed with Better Color selected, at 50 percent reduction.

We used GraphicWriter III to create a bumper sticker for "The World's Greatest Mom." We imported a slice-of-pie image from GraphicWriter III's clip art disk and colorized it with the Polygon tool. All of the clip art included with GraphicWriter III that we tried to load was in black and white.

Because we wanted the word "Mom" to appear in very simple letters, we used GraphicWriter's tools to draw each letter. The finished piece was printed out with horizontal orientation and Better Text selected.

When you attempt your own design, we recommend starting with an image. A picture can say a lot about someone's personality. Medley, Publish It! 2, Springboard Publisher and GraphicWriter III all come with a wide variety of images on disk. If you can't find what you need, look at clip art disks available from other vendors.

By using a scanner or digitizer, it is possible to use a vast arsenal of preprinted clip art. All books of clip art are designed to be used and reproduced.

Paint programs also provide a ready method of creating original images or retouching images from other sources.

If the images that you want to use aren't in the correct file format, try converting them with Graphics Exchange from Roger Wagner Publishing, Inc. or GAP from Big Red Computer Club.

After selecting the appropriate image, be sure to choose a complementary font for your text. Typefaces with serifs are more traditional looking. Sans serif faces look more modern. Script has a more personal feeling. Make sure the font also matches the personality of the person for whom the printed piece is intended.

No matter what source you use for your images or the kind of printed piece that you create, we are sure that you will get a great deal of satisfaction from printing out your own personalized materials. ■

— Gary Ramey

Contributing editor/columnist Gary Ramey, now based in Ft. Lauderdale, Fla., has 17 years of experience in commercial art.

Products Mentioned

Product: Medley
Company: Milliken Publishing Co.
Price: $129 retail
Circle Reader Service Number 20

Product: Publish-It! 2
Company: Timeworks, Inc.
Price: $129.95 retail
Circle Reader Service Number 21

Product: AppleWorks GS 1.1
Company: Claris Corp.
Price: $299 retail
Circle Reader Service Number 22

Product: GraphicWriter III
Company: Seven Hills Software Corp.
Price: $149.95 retail
Circle Reader Service Number 23

Product: Springboard Publisher
Company: Springboard Software
Price: $139.95 retail
Circle Reader Service Number 24

Not Just Another Pretty Interface

People often ask what I look for in children's educational software. How do I decide if a particular product is good or bad? The answer depends upon the age of the child and whether the product is targeted for home or school use. Some evaluation criteria, however, remain the same:

- The product should be fun.
- The software should develop initiative.
- The program should provide opportunities that are not obtainable by reading a book or watching a video.
- The software should be easy to use, kid-proof (not prone to crashing) and it should allow youngsters to make mistakes without penalty.

Davidson & Associates, Inc. develops drill-and-practice software that meets all these standards. The company's highly acclaimed "skills builders" (Math Blaster Plus, Spell It Plus, Alge-Blaster Plus, Math and Me, Reading and Me, and others) are colorful, articulate and engaging.

The software is popular because pull-down menus and graphic icons simplify operation. There are motivational audiovisual rewards for correct answers. Each package frequently includes an arcade-like game that entertains as it reinforces basic skills.

Davidson software runs on a IIGS and a 128K Apple IIe. Yet the mode in which the interface works, and also its visual character, seems modeled after the icon-oriented, point-and-click Macintosh. That interface is very effective on the mouse-based IIGS.

Another advantage of using Davidson software on a IIGS is that the 3.5-inch diskette format reduces disk swapping.

Davidson products "drill" basic skills in a persuasive way. However, if parents or educators want children to develop creativity, imagination and positive social skills, they must look elsewhere. Several programs encourage these qualities and simultaneously teach literacy, writing, math, science or social studies. Many have been programmed by Learningways, a software developer based in Cambridge, Mass.

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10	Abracadata	27
—	Apple Computer, Inc.	14-15
—	Apple IIGS Buyer's Guide	58-59
6	Applied Engineering	10-11
6	Applied Engineering	C/4
8	Co-Du-Co	19
3	Ingenuity, Inc.	3
4	Ingenuity, Inc.	5
16	Kensington Microware, Ltd.	C/3
9	Public Domain Exchange	23
2	Pygraphics	1
5	Thunderware	7
15	Tulin Corp.	61
1	Vitesse, Inc.	C/2

Software in the Science Corner Series, from the Society for Visual Education, makes good use of object-oriented visual graphics that enhance learning.

Creating A Visual Puppet Show

The Learningways interface is graphics-based, user friendly and object-oriented. It first appeared around 1986 in the Explore-A-Story/ Explore-A-Science series published by D.C. Heath Software (marketed for home use by the William K. Bradford Publishing Co.).

You also can find the interface in the "Learn About" science series developed for Sunburst Communications, Inc.; the "Science Watch," calendar-making and geography programs developed for the Society for Visual Education; and the "I Love You in the Sky Butterfly" early learning literacy series created for Jostens Learning Corp.

While Learningways designed the software for an Apple IIe, the interface functions very much like the interface on a Macintosh. You'll find icons, windows, dialog boxes, pull-down menus and mouse control. This results in a range of products that look and feel current on the IIGS.

"The objective was to create an object-oriented visual graphics system that could be used to enhance literacy skills," says Henry Olds, Apple II/IIGS product manager at Learningways. "We wanted to create a medium that was like a visual puppet show. The actions that take place are all based on objects that are on the screen. Students interact directly with these objects, not with the keyboard."

Youngsters enjoy Learningways programs because the software empowers them to go in and make changes. The working environment is very adaptable. There is a direct relationship between user and visual material on screen. Objects can be added or deleted, and almost anything can be moved around.

"Nothing is given. The kids go into the world and they can play in that world directly," explains Olds. "They pick up characters and move them around. The world becomes theirs. It's not a frozen environment. There are all kinds of possibilities for reshaping or starting again from scratch and creating something totally new.

"Our system is like an art form," Olds continues. "We have spent years developing artists who cleverly use the interface's capabilities to delight and surprise kids."

The Learningways products encourage children to tell a story. Once kids enter that story world, they begin to tell their own stories. The company's programs also allow youngsters to put text on screen and print out their stories complete with pictures.

Educators like the interface because they see that it has a real impact on all kinds of students. It works well with mainstream kids and it has been used successfully to teach youngsters with special needs and learning disabilities. Instructors feel that the programs that use the interface provide an effective story-telling context for all kids. The software enables them to become better readers and writers.

The IIGS Advantage

Even though the Learningways interface developed in a IIe programming environment, people frequently think they are running IIGS-specific programs when they use the software on a IIGS. The products work with input from the keyboard, but navigating the keyboard is awkward. The applications were designed for a point-and-click, mouse-oriented world.

"Because it (the interface) was object-oriented," explains Olds, "we felt it was important to base the design on the assumption that the operator would be using a mouse." In addition, there are pull-down menus, icons, windows and dialog boxes, which are software tools that IIGS users have come to expect.

The animations work more effectively on a IIGS in Fast mode than on a IIe in Standard mode. The faster IIGS microprocessor can handle more animated clips simultaneously without slowing down.

You won't be able to add more than six animated characters to the screen (that limitation is set by the IIe-based editing system). However, if you have a IIGS screen filled with six animated characters, the characters will be moving more smoothly and more fluidly than they would on a IIe.

All Learningways programs make effective use of double-high-resolution animated graphics. The images are more attractive on a IIGS than a IIe, because IIGS resolution is of a higher quality. By designing the interface in a IIe programming environment, Learningways takes advantage

of IIGS resolution enhancements without sacrificing speed.

Learningways software is successful for a variety of reasons, but primarily for a graphics-based interface that provides an infinite variety of role-play situations to stimulate the imagination. Several of the products use the interface to explore science and geography. All of the programs encourage youngsters to develop reading and writing skills.

The mouse-based setting is slick and effective, while the faster IIGS microprocessor enhances the quality of the animated presentation. IIGS users also benefit from a 3.5-inch drive.

Why not take one of the products out for a test drive? ■

— Carol S. Holzberg, Ph.D.

The author, an anthropologist and computer journalist, is the computer resource staff person at the Shutesbury Elementary School, Shutesbury, Mass.

PRODUCTS THAT USE THE LEARNINGWAYS INTERFACE

Company: William K. Bradford Publishing Co.; 310 School St.; Acton, MA 01720; 508-263-6996
Products: Explore-a-Story Series, with: Rosie the Counting Rabbit (K-2); Just Around the Block (K-2); The Bald-Headed Chicken (K-2); A Brand New View (Grades 2-3); The Sleepy Brown Cow (Grades 2-3); What Makes a Dinosaur Sore (Grades 2-3); Where did my Toothbrush Go? (Grades 2-3); The Lima Bean Dream (Grades 3-5); The Quasar Kids (Grades 3-5); The Best Bubble Blower (Grades 3-5); A Great Leap (Grades 3-5); Not Too Messy, Not Too Neat (Grades 3-5)

Explore-a-Science Series, with: Animal Watch: Whales (Grades 1-3); Animal Watch: Wolves (Grades 1-3); Animal Watch: Tracks (Grades 1-3); Dinosaur Construction Kit: Tyrannosaurus rex (Grades 4-6); A Closer Look: The Dessert (Grades 4-6); Earth Watch: Weather Forecasting (Grades 5-8)

Explore-a-Classic Series, with: The Princess and the Pea (Pre K-3); The Three Little Pigs (Pre K-3); and Stone Soup (Pre K-3).

Explore-Australia (Grades 4-6)
Price: $39.95 each retail; $75 each, school edition; Explore Australia, $99
Circle Reader Service Number 25

Company: Sunburst Communications; 101 Castleton St.; Pleasantville, NY 10570; 800-628-8897 or 914-747-3310
Products: Learn About Animals (Grades K-2); Learn About Plants (Grades 1-3); Learn About Insects (Grades 1-3)
Price: $65 each
Circle Reader Service Number 26

Company: Society for Visual Education, Inc.; 1345 Diversey Pkwy.; Chicago, IL 60614; 800-829-1900
Product: Science Corner Series, with Planet Earth (Grades 4-7); Space Probe (Grades 4-7); and Weather Watch (Grades 4-7). Calendar Fun with the Lollipop Dragon (upper elementary); Expedition U.S.A.! (upper elementary)
Price: $104 each for Science Corner titles; $144 for Expedition U.S.A.!; $84 for Calendar Fun with the Lollipop Dragon
Circle Reader Service Number 27

Company: Jostens Learning Corp.; 6170 Cornerstone Ct. E. Ste. 300; San Diego, CA 92121-3710; 800-521-8538 or 619-587-0087
Products: I Love You in the Sky Butterfly (ages 3-5). The Early Learning Series is sold to schools on a CD-ROM for use on networked IIGS computers
Price: Call for pricing
Circle Reader Service Number 28

OTHER PRODUCTS MENTIONED

Company: Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070 or 800-556-6141
Products: Math Blaster Plus, Spell It Plus, Alge-Blaster Plus, Math and Me, and Reading and Me
Price: $49.95 each
Circle Reader Service Number 29

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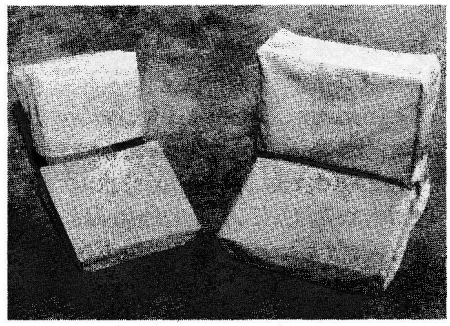

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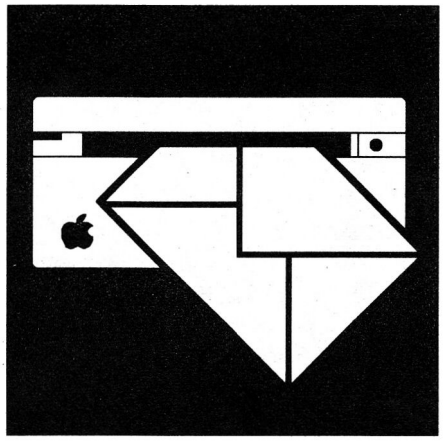

YOU ARE NOT ALONE

I am considering purchasing an Applied Engineering PC Transporter (PCT) board, but I'm worried about compatibility.

Because I live in a remote area, my only contact with other users is on GEnie. Also, I have to purchase almost everything mail order, because there are no Apple dealers nearby. Software problems would be costly and frustrating.

After all the excitement about the PCT board when it first came out, why do you never hear about it today?

—Gary Strong
Menominee, MI

Though the PCT is an Apple II accessory, it's not new and it's not used for typical Apple II activities. That may be one reason that computer magazines, including *The Apple IIGS Buyer's Guide*, don't mention it that often in stories, but please see the entry in the "Apple IIGS Hardware And Software Directory" in this issue (check the "Product Index" for the listing).

We don't use a PCT regularly, but on CompuServe we are in contact with people who do. The consensus of these users is that the PCT works quite well as an XT-class computer on a card, though some people find the PCT's CGA (color graphics adapter) graphics somewhat limiting.

Regular users of the MS-DOS version of WordPerfect on the PCT report being able to run Windows 286 satisfactorily.

The most troublesome class of programs for the PCT seems to be communications software, specifically modem programs. Most work fine, and some can even download via CompuServe B or turbo Xmodem protocols, which are very demanding on the Apple II input/output system at 2400 baud.

Other terminal programs have been reported to fail when run above 1200 baud. New versions of the PCT software have reduced or eliminated many of the incompatibilities, however.

The lack of nearby Apple dealers shouldn't be an obstacle to acquiring software for the PCT; you need to see PC dealers instead anyway. In our area, PC dealers are more common than doughnut shops.

Don't worry so much about software problems. It should be safe to assume that software that is compatible with an XT-class machine with CGA graphics will work on the PCT.

When in doubt, ask your fellow GEnie users if they've had trouble with the software in question. There are people on all of the online services who are eager to help you, even if it's helping you use MS-DOS software on a PCT.

PEACHES FROM A CHERRY TREE

Does a dot-matrix printer have a rectangular area full of dots? If so, if all of the dots were printed, would you get a solid rectangle? And shouldn't any type of character that fits the rectangle be able to be printed?

If this is true, why won't my ImageWriter II print italics when I am using WordPerfect?

—Chris Fleeman
Howell, MI

Your understanding of how a dot-matrix printer operates is close to the mark.

The pins in the print head of your ImageWriter II are arranged in a vertical line nine pins high. If all of the pins were used, the end result would be a line, not a rectangle. The movement of the print head across the paper is what causes rectangles (or characters) to be printed.

Most dot-matrix printers have instructions for printing characters stored in permanent memory (ROM). Instructions for generating foreign characters, letter-quality characters or italics are stored in the printer, too.

When a program is instructed to print text, it sends the text to the printer and lets the printer handle the details. If instructed to print text in a different style, the program sends a command to the printer that

tells the device to use a different set of instructions.

Even programs such as WordPerfect, which supports many printers and print features, can't print in a style that the printer doesn't have the capability to make. That's why you can't print italics from WordPerfect. There's no capability for printing italics built into the ImageWriter II.

There's a way to get around this problem, but it's almost totally ignored by software makers.

Because there is also RAM memory in an ImageWriter II, it's possible for instructions for a type style, such as italics, to be sent to the printer and stored in RAM. If software makers supported this feature, it would be possible to print in italics or many other styles.

Fonts loaded into the printer are still limited to characters that are nine dots high, and they can't be printed in letter-quality mode. Correspondence mode, the ImageWriter II's middle print quality, is the best that can be obtained.

In IIGS desktop applications, characters are drawn on the IIGS' SHR graphics screen. When the characters are printed, the printer is switched into Graphics mode to reproduce the text drawn on the screen. Because these fonts can have any style, and the IIGS has routines that can modify the appearance of a font, styles that are not built into the printer — such as italics — are available to all desktop applications.

Checking the Better Text box in the Print Dialog box will produce print quality equal to the built-in letter-quality mode of the ImageWriter II, if you have a font that is twice the point size of the one used in your document.

By the way, WordPerfect is a "hybrid" application. It uses a desktop environment, even though it does all of its printing in Text mode with the printer's built-in fonts.

Beagle Bros' SuperFonts turns classic AppleWorks into a hybrid that uses the text screen, but prints the same graphics fonts as used by IIGS desktop programs.

Why Do They Cost So Much?

Hard drives are an increasingly popular peripheral for the IIGS. We constantly receive questions about them in the mail and via the online services. The following questions are representative of the most often-asked questions concerning hard drives:

- **Why are Apple-compatible hard disks more expensive than MS-DOS hard disks? I can understand that lower demand and design differences are factors, but the price difference is too great to be explained by such differences.**
- **Where can I get a low-cost hard drive?**
- **I want to buy a 20 MB hard drive. Can you provide any information on prices?**

After researching the list prices and discount prices for hard drives, we're happy to report that prices for Apple II hard drives aren't as bad as we originally thought. MS-DOS drives are, generally, the cheapest, followed by Macintosh drives. Apple II hard drives are the most expensive, but the price differences seem to be legitimate.

The drives advertised for MS-DOS computers are usually bare drive mechanisms. They mount inside the computer's case and get their power from the computer's power supply.

Internal Macintosh hard drives are also bare mechanisms, but they are SCSI drives, which cost a little more than the non-SCSI version of the same drive.

External Mac and all Apple II hard drives (even internal hard drives) require a case and power supply, and an Apple II drive needs an interface card (also needed by MS-DOS computers, but not the Mac).

Don't forget that you have to pay not only for the extra parts for an Apple II drive, but for the assembly (labor), too.

Most Macintosh and Apple II hard drives come already formatted and ready to use. That also adds to the cost of a drive.

Lower demand, which equates to a less competitive market, seems to have a greater effect on the larger hard drives than on a basic 20 MB unit. Prices for Apple II hard drives are comparable with the prices of premium hard drives for the Macintosh. What the Apple II market seems to lack is low-end dealers for larger drives.

We didn't find a way to save a significant amount of money on a 20 MB hard drive. If you want to save on a larger drive, you can buy a Macintosh drive and reformat it for the Apple IIGS yourself.

Formatting a drive is not difficult to do with a IIGS. The Advanced Disk Utility that comes with GS/OS will format a hard drive. One drawback of the Advanced Disk Utility is that it will only use an interleave of 1:1 or 2:1 when it formats a hard drive.

Many drives perform better on an Apple II when formatted at 7:1 or higher.

(Note: The Apple II can't read the data from consecutive blocks on a hard drive; it's not fast enough. If the data is recorded in consecutive blocks on the drive, the Apple has to wait for the next block of data to rotate back under the heads to read it. If the blocks are arranged so the next data reaches the drive's read/write head just as the computer is ready to

read it, data will be transferred faster. The interleave describes how the blocks are arranged on the disk.)

Chinook Technology, which makes Apple II SCSI hard drives, also sells its SCSI utilities separately from the drives. These utilities can format a drive at any interleave.

There are also good shareware utilities, available from online services, bulletin-board services and users' groups, that will format a SCSI hard drive at different interleaves. The money you can save going this route starts in the $50 to $100 range for a 40 MB drive (comparison based on a heavily discounted mail-order price for a 40 MB drive) and grows with the size of the drive.

If you buy a SCSI drive unit, a case and power supply (the case and power supply generally come together as a unit) and assemble it yourself, you may be able to save money. The cheapest 20 MB unit we could put together this way, however, was more expensive than the two cheapest preassembled, formatted Apple II drives.

A good place to look for a list of hard drives and prices is in "The Apple IIGS Hardware And Software Directory" in this magazine. If you plan on buying your drive from a local dealer, our directory is a good reference to ensure that a dealer's prices are not out of line.

Your choice of drive is going to be limited to what the dealer carries. Most of the better mail-order dealers carry several brands of hard drives, making it easier to price shop. The hard drives all work well, so your major considerations are internal vs. external and SCSI vs. non-SCSI.

If you're thinking of a Macintosh drive that you would reformat yourself, our sister publication, *The Macintosh Buyer's Guide,* is a good place to find out what's available.

A good source to find dealers who sell drives you assemble yourself is *Computer Shopper,* a monthly publication that caters mostly to MS-DOS systems.

Scrolling Fonts

I have acquired many public-domain desk accessories and many fonts for my Apple IIGS. I wish to continue adding more of each to my system. Do you know any way to increase the number of fonts and DAs that you can have in a pull-down menu?

Is there an equivalent to the Macintosh program Suitcase (which makes fonts and desk accessories available without having to install them in a System file)?

Do you know where I can get a DA similar to Key Caps (which can display all the characters in any font in the current start-up disk's System file) on the Macintosh?

Andrew Goldstein
Albany, NY

We know of two desk accessories that are like the Macintosh Key Caps DA. One is from Minnesota Educational Computing Consortium (MECC), and there's a public-domain New Desk Accessory available.

We suggest that you stay away from the public-domain version, unless it's been updated. It's rather limited in what it does and it's buggy. If you run super-high-resolution desktop applications (the kind you need to run to use New Desk Accessories, or NDAs) and subsequently try to run a ProDOS 8 program in the same session, your system will crash.

We don't know of a IIGS equivalent to Suitcase and we don't expect to see any. Because desk accessories and fonts are simply placed in an appropriate folder on the IIGS — rather than installed into the System file as on the Mac — there's not really much need for a Suitcase-type program.

Which brings us to the problem of scrolling through files.

The solution to the one-screen limit of CDAs (Classic Desk Accessories), NDAs (New Desk Accessories) and font listings is easy. Update to GS/OS 5.0 (or, better yet, 5.0.2, with some important bug fixes) of the system software.

Beginning with System 5.0, the desk-accessory menus and the Font menu have the capability to scroll. If you have more than a screen of listings, the NDAs and Font menus add a triangular arrow indicator at the top or bottom of the list, if there are more items off screen in that direction. Moving the pointer to that line will scroll the list in the appropriate direction.

Good Vibrations

To get good sound do I need just a Sonic Blaster (a stereo digitizer), a sound-generation program and speakers?

Tom Hendrick
Inverness, FL

Of the three items you listed, what you need for sure is a program. Without software, your IIGS won't make many interesting sounds. IIGS programs that can produce good sound range from the freeware Sound Studio, which can manipulate and play digitized sounds, to games and music programs such as Music Studio or Diversi-Tune.

Speakers are also a necessity for producing good sounds. The IIGS' built-in speaker doesn't make the grade (although it doesn't sound bad — for a computer speaker).

You also need to amplify the sound. Some popular speakers have built-in amplification.

The Bose RoomMate speakers, which are sold in a matching color to the IIGS, are excellent powered speakers, but there are less expensive choices available. Check out the external speakers sold for Walkman-type radios and cassette-tape players. Another option is to use a small amplifier, such as those available at Radio Shack, along with regular speakers.

The suggestions above will produce high-quality sound from your IIGS, but there's still one thing missing that the Sonic Blaster (or another similar card) can provide: stereo sound. The IIGS has stereo-sound capability, which many programs take advantage of, but you need an accessory card to get stereo sound out of the computer.

The Sonic Blaster also has a feature that doesn't actually improve sound quality, but it's a lot of fun. The card gives you the capability to digitize your own sounds or music.

HyperStudio is another program that makes it easy to work with sound on the IIGS. HyperStudio comes with a digitizer, microphone and external speaker and is compatible with the Sonic Blaster. ■

— Larry Miller

The author is a programmer and consultant based in Lafayette, Ind.

P.D.E. Your IIGS Guide to

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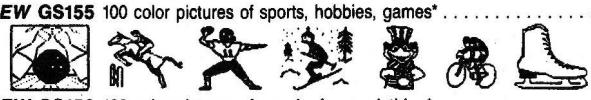

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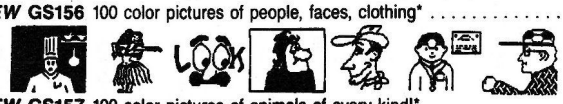

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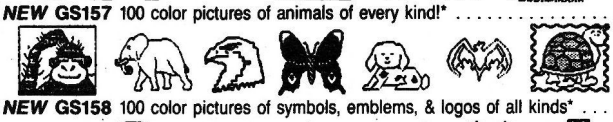

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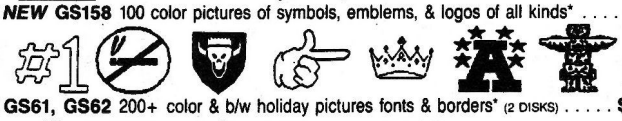

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The IIGS Is A Professional-Quality Music Tool Once Again

NEW PRODUCTS THAT PUT THE "S" BACK INTO THE IIGS, FOR AVERAGE USERS AND PROFESSIONAL MUSICIANS ALIKE.

The Apple IIGS has been touted as a music machine. But even with an Ensoniq sound chip, a MIDI interface and the right software, the IIGS seemed to lack some needed musical "glue." Frustrated IIGS musicians have been confused by at least four different sound file formats, three MIDI file formats and countless other music file formats, none of which were really compatible with the other.

And, lately, the IIGS music and sound market has been too quiet, to say the least. Two reasons for the silence appear to be the widespread belief that a cohesive tool set for sound synthesis and MIDI already exists, and the mixed marketing signals from Apple Computer regarding the entire Apple II series. As a result, we have seen virtually no new releases.

Has this inactivity trumpeted the death of the IIGS as a music tool? Not hardly. Two programs have recently been released that give renewed meaning to the "S" (which means sound) in the IIGS nameplate.

Sometimes it takes a fresh, new perspective to create activity in a marketplace. Apple has made a bold statement in its support of the Apple IIGS as a music and sound machine by releasing a new tool set for programmers that combines MIDI, sequencing and note synthesis. And, from a small town in upstate New York, comes the release of what is probably the most asked for program since the IIGS received MIDI tools; an actual System Exclusive program.

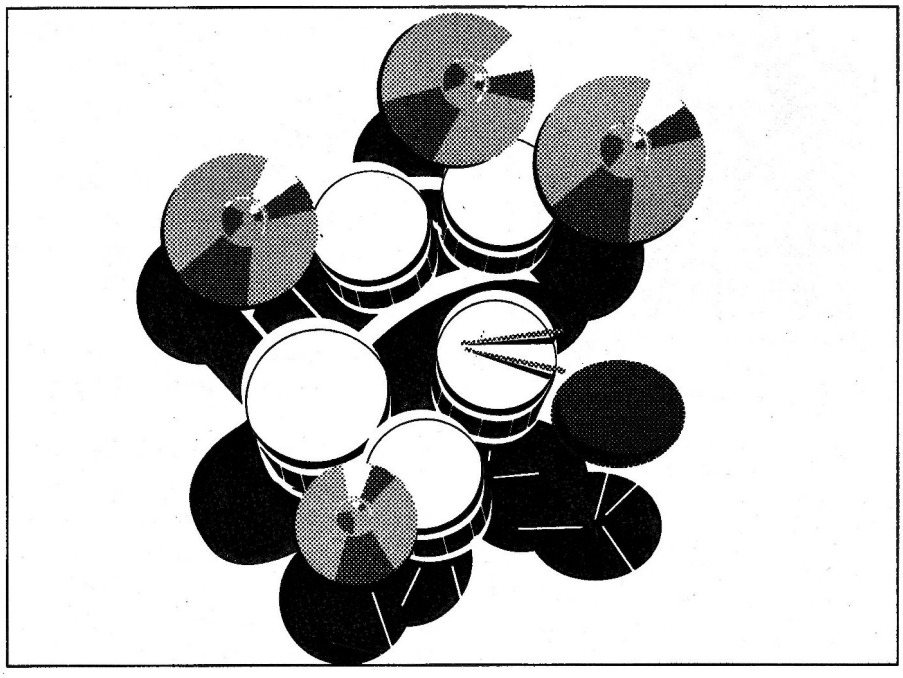
These two recent developments give the Apple IIGS credence as a musical tool once again.

ONE-STOP PROGRAMMING

One characteristic that sets the Apple IIGS apart from other computers is its capability to generate sound. Apple did not take the cheap way out. It went to a major player in the professional music industry and bought the license to use hardware found in virtually all musical keyboards today, the Ensoniq sound chip.

This melding of computer and musical instrument has been appreciated by beginning IIGS users, but it has, for the most part, been overlooked by musicians. So, why haven't we seen more music products for the IIGS, especially considering the great technology?

Well, you must have the proper tools for the job. The IIGS has provided good tools, but it's been like using three hammers to drive a nail. The nail gets pounded in, but it



The Apple IIGS' capability to generate sound sets it apart from other computers.

takes longer.

The obvious way to get music out of the IIGS is to combine the functions needed to produce music into one tool set, thereby increasing system speed and reducing memory overhead.

Mark Cecys, who came to Apple from Ensoniq, is the creator of the new MIDI Synth tool. His knowledge of what this terrific sound chip can do is apparent in the way the tool operates. Developers now have one-stop programming with this second-generation note synthesizer. It combines sequencing, MIDI and note synthesis — all the things you need to produce music — in one tool.

To demonstrate what the tool can do for developers, Apple provides a program called SynthLab. As the title implies, the program is a laboratory for working with the MIDI Synth tool. From full-featured MIDI input and output to an in-depth note synthesizer, SynthLab is one of the most comprehensive sound and MIDI programs ever made for the IIGS.

SynthLab is built around basic MIDI Synth functions. In the version we examined, sequence editing was not implemented, so we were limited to recording music via a MIDI keyboard and playing it back using the IIGS' instruments.

SynthLab's real power lies in its instrument editing capabilities. The MIDI Synth tool works with 13 data bits to make up each instrument. By editing the levels of each of these bits, you can either duplicate real-to-life instruments or create your own.

In the demonstration song supplied with the program, a guitar sounded realistic enough as to include the tuning of the strings.

The closest thing to SynthLab's instrument editing is Activision's Music Studio instrument editor. Instead of working with a graphical representation of a waveform, however, you work with the data that makes up the instrument sound.

There are 13 elements that make up each sound, or envelope. With this much power, instrument creation is virtually unlimited.

Because SynthLab was created for developers, the numerical data required to make up each instrument is in the same format that the MIDI Synth tool is looking for when it is applied to an application.

Once the MIDI Synth tool and SynthLab reach the mainstream of programmers and developers, average users will receive better sound in new programs, and musicians will finally achieve their goals in MIDI and music on the IIGS.

'Talking' Keyboards

If you are starting out in MIDI — or you use it for home entertainment — you may not be familiar with the term System Exclusive, or SysEx.

MIDI stands for Musical Instrument Digital Interface. The musical instrument part is easy to understand. In order to call something a digital interface, however, there has to be interaction with something else.

In the case of MIDI, musical instruments share music by using a series of digital information bytes. Not many of us worry about this aspect, unless our keyboard won't work with our program.

What the majority of home MIDI users don't know is that, besides musical information, our keyboards, tone generators, rhythm machines or whatever are actually "talking" behind our backs — about more than how badly we're playing.

The information being exchanged consists of what voices are being used, how they are made up, what channels they are going out on, tempos to play the music and, in some cases, the instrument's music memories. Some of this information can only be understood by another instrument of the same model type, hence the phrase "System Exclusive."

This MIDI information is linked directly to the type of equipment, the manufacturer and even the model used. This means that while a

Korg synthesizer will accept note information from a Roland, the Korg will not accept "voice" modifications based on information sent by the Roland. That information can only be accepted from a message that has the Korg "ID number."

Mass storage of MIDI information is the problem. This feature is available on expensive MIDI devices, or it can be bought as an upgrade. The drawback is that these storage options are expensive and may not be necessary for average users.

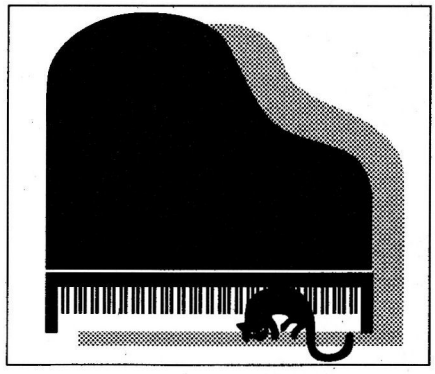
The optimum is to save the SysEx information on inexpensive computer disks. The info can then be reloaded into your instrument.

By using a computer, people who own the same model equipment can now pass instrument designs and voice setups to each other via files. Probably the biggest advantage is the capability to store your instrument setups for use with specific songs — or setups with other equipment — then load them as you need them.

SysEx programs have been around since the mid-1980s, but, until recently, Apple IIGS musicians have been left out in the cold. Music Studio allows a user to modify instrument voices, but only those that are generated by the Ensoniq chip. MasterTracks (from Passport Designs, Inc.) allows a more humanized sequencing, but is restricted to the changing of MIDI channels or the program numbers of the instrument.

SysExGS, by Lindsay B. Hough, fills that void.

The program is small, fast and simple to use. You'll see the standard IIGS desktop with only four menus: Apple, Files, Edit and MIDI. The Apple menu has the credits and a two-page Help screen, which provides basic information for creating, storing and clearing messages, plus possible errors encountered.



SysExGS may not be right for everyone!

When you launch the program for the first time, be sure to configure it for your personal system setup. SysExGS accepts internal and external MIDI interfaces in slot 1 or slot 2, or by using the IIGS' printer or modem ports.

The settings are saved to disk. If you change your configuration, you'll have to reset the program parameters.

Go into the MIDI menu and open "Receive New SysEx." A window will come up that says "Ready to Receive System Exclusive." Simply press the Transmit button on your instrument to begin the transfer. During this time, do *not* touch the mouse. Doing so may cause an error in the transmission of data.

When the instrument says that the dump is complete, press the Return key and the information will be processed. You can then use the text editor to add about five lines of comments in the Comments box.

SysExGS is limited to a 32K buffer, which should be more than adequate for the average MIDI dump. Bulk dumps of sequenced songs are possible, but it takes up a lot of room in the buffer.

To send data to an instrument, open "Send Window SysEx" in the MIDI menu. A window will come up and tell you "Ready to Transmit the Window System Exclusive Message." Set up your instrument to accept a MIDI dump, then press the Return key or click on Send. The data will be transferred to your instrument.

Does It Work?

We tested the program with a wide variety of equipment and setups. In almost all cases where the instrument used System Exclusive messages, SysExGS worked. The one machine that did not work was the Yamaha RX5 Digital Rhythm Programmer.

In the case of the RX5, and probably some other, older equipment, a signal — called a handshake — is required from the receiving end before the dump will begin. The generic architecture of SysExGS, which allows it to accept information from such a wide spectrum of equipment, does not use handshaking, as needed by these "key on" systems.

Is SysExGS for everyone? Unfortunately, no. Many of today's instruments support MIDI functions, but do not support SysEx messages. A basic rule of thumb would be: Lower priced instruments marketed for general consumers normally will not use SysEx messages.

Some instruments in this category, such as the Yamaha PSS-480, available for about $179, do support SysEx. Professional keyboards, such as the Yamaha DX7II or the Kawai K4, also support SysEx.

If you're not sure, look for the MIDI Implementation Chart near the back of your instrument's owner's manual. It will indicate if the machine uses System Exclusive or not.

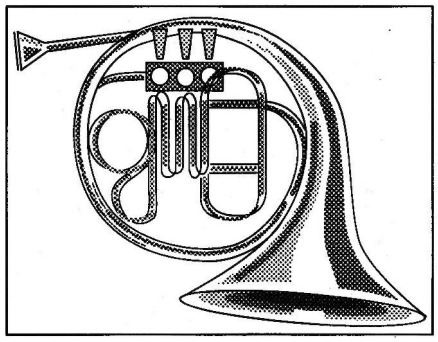
At the very low price of $34.95, SysExGS can open new areas for serious hobbyists and semiprofessional musicians. Instead of spending valuable time "readjusting" keyboard setups, simply load the settings in with the click of a mouse.

Why spend $60 for a RAM cartridge when you can store greater quantities of SysEx information on

PRODUCTS MENTIONED

SynthLab and the MIDI Synth tool are available through APDA, the Apple Programmers and Developers Association; Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732.

Product: SysExGS
Price: $34.95; $5.95 for demo, price deducted when buying the full version
Company: Lindsay Hough; PO Box 212; Slingerlands, NY 12159
Requirements: Apple IIGS with 768K; GS/OS 5.0 or later; MIDI equipment
Circle Reader Service Number 35



SysExGS is for serious bobbyists and semiprofessional musicians.

an inexpensive 3.5-inch disk. Rather than having to write down all of the editing information for those great "voices" you created, just give your friends a copy of your file.

There's one word of warning, however. In all the cases we tested, the bulk MIDI dumps when loaded altered the entire setup of the equipment.

(Note: The user should be aware that SysEx messages normally are part of "bulk" MIDI dumps. This means that when you send a New Voices file you received from a friend to your machine, it will replace all *of the voice information on the instrument.)*

Make sure you back up your original settings with SysExGS. Creating a backup of your original settings as the first SysEx data dump you do is an excellent way of learning to use the program.

WHAT NEXT?

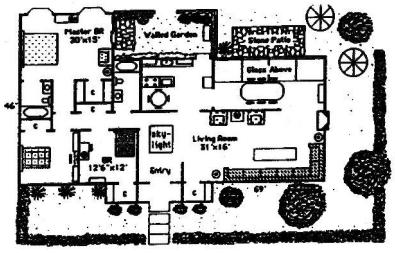
The rumor mill has been working overtime on the demise of the Apple IIGS. As Mark Twain once said, "News of my death has been greatly exaggerated."

The IIGS, like any child, is growing and developing. In the case of music, sound and MIDI, it's starting to get better with age. Given the proper tools and the capability to exchange system information — and, most of all, the capability to generate its own great sound — the continued life of this great computer is assured. ■

— Dennis Keppner and Bruce Richter

Dennis Keppner is the Apple II games and entertainment forum leader on America Online. (E-mail address: AFL Dennis.)
Bruce Richter is the AppleWorks assistant forum leader on America Online. (E-mail address: AFA Bruce.) They both occasionally get their Apple IIGS computers together for MIDI jam sessions.

DESIGN YOUR OWN HOME™ series



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Draw floor plans or side views with architectural scales, grids, overlays. Use the stud/beam repeater to calculate lumber. Dozens of architectural symbols included.

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Landscape Program
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SYSTEM REQUIREMENTS
Apple II/Laser 128, 64K $69.95
Apple IIGS with IMB $89.95
*Macintosh with IMB $99.95
*IBM with 640K $99.95
All libraries .....$29.95 ea.
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***LIBRARIES** (48 plans each)*
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About This Directory

The Apple IIGS Hardware And Software Directory includes every Apple IIGS product for which we received a response from our most recent mailing to all Apple IIGS product developers. The products are listed alphabetically by category and within categories, primarily by product. The product directory also includes many products identified with a box (■). These are Apple IIGS products that are either new or listed for the first time in *The Apple IIGS Buyer's Guide*. These descriptions are longer than the others because they are appearing for the first time. The product directory also includes products identified by a diamond (♦). These are paid editorial listings.

For a vendor's program to be listed in this directory, the product must either be Apple IIGS-specific or at least available on a 3.5-inch disk. This is because many Apple IIGS owners do not own 5.25-inch drives or they may opt for two 3.5-inch drives, rather than one 3.5-inch drive and one 5.25-inch drive. In addition, the program must be based on the ProDOS 8, ProDOS 16 or GS/OS operating system, or take advantage of IIGS-specific features, such as super-high-resolution graphics and sound.

Every effort has been made to verify this information for readers. However, neither Redgate Communications Corporation nor *The Apple IIGS Buyer's Guide* assume responsibility for the accuracy of the product descriptions nor the suitability of any product for specific tasks.

Accessories

A Better Mouse Trap • Mouse-holding device • *Apple IIGS mouse.* • $8.95 retail • Peri-Peripheral Co.; 1201 204th Pl. SE; Bothell, WA 98012; 206-486-3003

A-B Box • Lets users connect two peripherals to one serial port or share one peripheral between two computers • *Apple IIGS.* • $99.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

■ **Add-Visor** • Anti-glare and privacy hood

The Add-Visors are custom made to fit a user's monitor. They eliminate overhead glare and eye strain, and add privacy to a user's screen. Made of durable ABS black plastic, they attach with included Velcro. $14.95 retail; state monitor size when ordering • Gered Corp.; 2401 NE Cornell Rd., Ste. 125; Hillsboro, OR 97124; 503-591-8658 or 800-852-8727

Analog Edge; Analog Plus • Joysticks using Injected Resistor Technology • *Apple IIGS; other Apple II models.* • $29.99 retail; Analog Edge • $39.99 retail; Analog Plus • Suncom Technologies; 6400 W. Gross Point Rd.; Niles, IL 60648; 708-647-4040

Apple 2GS Armor • Security system • *Apple IIGS.* • $213.50 retail • Omni Tech Corp.; 21950 Watertown Rd.; Waukesha, WI 53186; 414-784-4112

Apple IIGS Dust Cover • Cover for Apple IIGS computer, monitor and keyboard • *Apple IIGS.* • $13.75 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Apple IIGS Dust Cover • Custom-sewn rip-stop nylon covers for IIGS, IIGS with system savers and printers • *Apple IIGS.* • $15.95 to $27.95 retail • Computer Covers Unlimited; 7969 Engineer Rd., Ste. 104; San Diego, CA 92111; 619-277-0622 or 800-722-6837

Apple IIGS Soft Keyboard Protector • Clear, precision-molded keyboard protector that stays in place while a user works • *Apple IIGS.* • $26.97 retail • Computer Covers Unlimited; 7969 Engineer Rd., Ste. 104; San Diego, CA 92111; 619-277-0622 or 800-722-6837

Apple Security System • Complete security kit that uses Apple's built-in security slots • *Apple IIGS.* • $49.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

AppleCenter Plus • Physical security system • *Apple IIGS.* • $69.95 retail • Doss Industries; 1224 Mariposa St.; San Francisco, CA 94107; 415-861-2223

AppleTalk Clips • Secures AppleTalk network connections • *Apple IIGS; AppleTalk network.* • $25 retail; 25 clips for plain cables • $13.75 retail; three clips for connection boxes, four clips for plain cables • $25 retail; 25 clips for connection boxes • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

■ **AppleWorks Command Cards** • AppleWorks commands

The AppleWorks Command Cards have been updated to include the commands that work with AppleWorks 3.0. One side of these 6 by 9 inch, two-color cards summarizes the keystroke commands that work with the AppleWorks modules. The other side of the card presents 21 commands that can be used to control cursor movement and file management in AppleWorks. $5.95 retail; pack of 20 • National AppleWorks Users Group; PO Box 87453; Canton, MI 48187; 313-454-1115

Bose RoomMate Powered Speaker System (Special Platinum Edition) • Digital sound speakers with full-range drivers, a dual-channel amplifier, an equalization network and distortion-limiting circuitry • *Apple IIGS (plugs into headphone jack).* • $229 retail; per system • Bose Corp.; The Mountain; Framingham, MA 01701; 508-879-7330

Cable Assemblies • Cable connections for the IIGS and peripherals • *Apple IIGS.* • $9.95 to $28.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

CCK 100 Universal Computer Care Kit • Helps keep computers free of dust, dirt and static • $29.95 retail • Scooter Products; a Div. of OHM Electronics, Inc.; 746 Vermont St.; Palatine, IL 60067; 312-359-6040 or 800-323-2727 (dealers)

■ **Comp-U-Desk** • Desk and keyboard extender

The Comp-U-Desk is a desk and keyboard extender designed to turn any ordinary desk or tabletop into a comfortable, professional computer workstation. It enables users to be further away from the monitor for less eye strain; sets the keyboard at a correct typing height to reduce back and neck ache; gives users more room for hardware and document stands; has a special mouse surface built in (requires no mouse pad); is made of durable Plexiglass; and has no mechanical attachments. $59.95 retail • Gered Corp.; 2401 NE Cornell Rd., Ste. 125; Hillsboro, OR 97124; 503-591-8658 or 800-852-8727

Computer Accessories Cables • Cables • *Apple IIGS.* • $19.95 retail; C252-2 (Mini-DIN 8 to DB25 adapter) • $24.95 retail; C250-9 (IIGS to ImageWriter II; Apple modem) • $29.95 retail; C255-2 (IIGS to SCSI disk drive) • Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

Computer Cleaning Products • Anti-static cleaners • Call for pricing • Tech-Sa-Port; PO Box 5295; Pittsburgh, PA 15206; 800-543-2233

Computer Specialty Products • Dust covers, keyboard skins, anti-static pads, mouse pads • $19.95 retail; Apple IIGS Dust Cover (three-piece set) • $18 retail; Soft Keyboard Skin/Cover • $12.95 retail; Anti-Static Pad • $9.95 retail; Keyboard/Mousepad (quantity discounts available) • $3.95 to $6.95 retail; Mousepads • $8.50 (12 pieces) to $3.70 (144 pieces) each retail; Imprinted Mousepads (quantity discounts available) • Computer Specialty Products; 10016 Sandmeyer Ln.; Philadelphia, PA 19116; 215-969-4489

Consumer Laserdisc Player Cable Interface • Laserdisc interface • *Apple IIGS; other Apple II models.* • $25 retail • Teaching Technologies; PO Box 3808; San Luis Obispo, CA 93403; 805-541-3100

The Cordless Mouse • Cordless input device • *Apple IIGS.* • $149.95 retail • Practical Solutions; 1135 N. Jones Blvd.; Tucson, AZ 85716; 602-322-6100

Desktop Printer Stands • Modular, adjustable desktop printer stands available in beige (PRT-1B) or gray (PRT-1G) • $13.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

Dilly Dolly Computer Cart • Two-wheel portable cart • *Apple IIGS; other Apple II models.* • $195 retail • The Dilly Dolly Co.; 2957 Mariposa Dr.; Burlingame, CA 94010; 415-697-9272

The DisKeeper • Organizes, stores and transports 3.5-inch disks • $6.95 retail; three pages • $19.95 retail; binder with five pages • Cobar, Inc.; 301 Highland Rd.; Cheltenham, PA 19012; 215-379-2440

DSM802 And DSM804 Data Switches • Two- and four-way compact data switches with 8-pin mini DIN connectors • *Apple IIGS; peripherals.* • $49.95 retail; DSM802 • $59.95 retail; DSM804 • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

Dust Covers • Protect your computer • *Apple IIGS.* • $29.95 retail • Co-Du-Co; 4802 W. Wisconsin Ave.; Milwaukee, WI 53208; 414-476-1584

E-ZEE Inker II • Ribbon inker • $39.50 to $189 retail • Borg Industries, Ltd.; 525 Main St.; Janesville, IA 50647; 319-987-2976 or 800-553-2404

Extra Long ADB Keyboard Cable • Eight-foot replacement keyboard cable • *Apple IIGS.* • $39.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Flightstick • Aircraft joystick with pistol grip • *Apple IIGS.* • $74.95 retail • CH Products; 970 Park Center Dr.; Vista, CA 92083; 619-598-2518

■ **The G.A.P.** • Gered accessory package

The G.A.P. (Gered Accessory Package) is comprised of four accessories. The Mousetrap III is a document stand designed to keep the mouse within quick, easy reach. There is plenty of room under the stand for a user's hand to maneuver the mouse. The G.A.P. Disk Holder is an easel-type "A" frame that holds up to 10 disks, note pad, pencils and the G.A.P. Pad. It is made to wrap around and hold all of the G.A.P. accessories together for easy carrying or storage. The G.A.P. Pad is made of high-tech Lexan with a matte finish for better

Accessories

mouse response, a cleaner ball and soil resistance. The McVisor fits the IIGS to eliminate overhead glare and add privacy to a user's screen. Made of durable ABS black plastic, it attaches with included Velcro.
$64.80 retail • Gered Corp.; 2401 NE Cornell Rd., Ste. 125; Hillsboro, OR 97124; 503-591-8658 or 800-852-8727

Graflex • Emulates the ImageWriter II on a user's dot matrix printer • *Apple IIGS; parallel dot matrix printer.* • $119.95 retail • ICD, Incorporated; 1220 Rock St.; Rockford, IL 61101; 815-968-2228

IIGS Anti-Glare Filter • Reduces glare reflected from a IIGS color monitor screen by 91 percent; easily attaches with included adhesive fasteners • *Apple IIGS.* • $49.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Incliner Ergonomic Computer Furniture • Adjustable, portable computer carts • Call for pricing • Jenston Mfg.; 104 Pizarro Ave.; Brownsville, TX 78520; 800-872-4570

Interflex • Provides transparent serial to parallel conversion • *Apple IIGS; parallel dot matrix printer and printer driver.* • $69.95 retail • ICD, Incorporated; 1220 Rock St.; Rockford, IL 61101; 815-968-2228

JuiceBox • Surge suppressor and fan • *Apple IIGS.* • $39 retail • Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

Kablit • Computer and peripheral tie-downs • *Apple IIGS; monitor; other peripherals.* • $39.95 retail • Secure-It, Inc.; 18 Maple Ct.; E. Longmeadow, MA 01095; 413-525-7039 or 800-451-7592

Kensington Printer Accessories • Noise reduction by 75 to 85 percent; stands that raise printer and Printer Muffler 4 inches for paper storage underneath; and stand that raises printer 2.5 inches at the front and 4.5 inches at the back • *Apple IIGS; printer.* • $69.95 retail; Printer Muffler 80 • $29.95 retail; Printer Muffler 80 Stand • $89.95 retail; Printer Muffler 132 • $29.95 retail; Printer Muffler 132 Stand • $24.95 retail; Universal Printer Stand • $29.95 retail; Space Saving Printer Stand • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Keyboard/Computer Vacuum Model MV5 • Portable vacuum featuring a high-power motor and including brush/nozzle attachments • *Apple IIGS.* • $18.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

Kraft Joysticks • Three-button joysticks • *Apple IIGS.* • $44.95 retail; Kraft Premium III • $29.95 retail; Kraft KC3 • Kraft Systems, Inc.; 450 W. California Ave.; Vista, CA 92083; 619-724-7146

Kraft Premium II • Two-button joysticks with "center-lok" mode selector • *Apple IIGS.* • $32.95 retail; model 008-10 • $39.95 retail; model 308 • Kraft Systems, Inc.; 450 W. California Ave.; Vista, CA 92083; 619-724-7146

Kurta IS/GS • Cordless graphic input system; graphics tablet • *Apple IIGS.* • $395 retail • Kurta Corp.; 3007 E. Chambers St.; Phoenix, AZ 85040; 602-276-5533

LaserKleen • Laser printer cleaning and maintenance system • $39.95 retail • PerfectData Corp.; 1825 Surveyor Ave.; Simi Valley, CA 93063; 805-581-4000

LDI-4200 And LDI-2000 • Laserdisc interfaces • *Apple IIGS; other Apple II models.* • $175 retail; LDI-4200 • $150 retail; LDI-2000 • Teaching Technologies; PO Box 3808; San Luis Obispo, CA 93403; 805-541-3100

Lynx Trackball • High-technology input device • *Apple IIGS; other computers.* • $99.95 retail • Lynx Computer Products, Inc.; 15115 Ramona Blvd.; Baldwin Park, CA 91706; 818-960-4839 or 800-824-3522

Mac-Kit 3A • Security kit • *Apple IIGS; MacIntosh II.* • $39.95 retail • Qualtec Data Products, Inc.; 47767 Warm Springs Blvd.; Fremont, CA 94536; 415-490-8911

Mach I And Mach I Plus • Analog joysticks • *Apple IIGS.* • $28.95 retail; Mach I • $34.95 retail; Mach I Plus • CH Products; 970 Park Center Dr.; Vista, CA 92083; 619-598-2518

Mach II and Mach III • Two- and three-button joysticks • *Apple IIGS.* • $39.95 retail; Mach II Joystick • $49.95 retail; Mach III Joystick • CH Products; 970 Park Center Dr.; Vista, CA 92083; 619-598-2518

Mach IV Plus • Professional mouse/joystick that includes an absolute mode, which tracks and acts like a mouse • *Apple IIGS.* • $89.95 retail • CH Products; 970 Park Center Dr.; Vista, CA 92083; 619-598-2518

MacPack • Micro maintenance kit for computers using 3.5-inch disk drives • $34.95 retail • PerfectData Corp.; 1825 Surveyor Ave.; Simi Valley, CA 93063; 805-581-4000

MicroClene And FloppiClene • Computer cleaning kits; floppy disk drive head cleaning kits • $24.95 retail; MicroClene CRT/Workstation Cleaning Kit • $24.95 retail; MicroClene Mouse, Printer And Keyboard Cleaning Kit • $34.95 retail; FloppiClene • Tech-Sa-Port; PO Box 5295; Pittsburgh, PA 15206; 800-543-2233

Mirage • Joystick/mouse interface • *Apple IIGS; joystick.* • $54.95 retail • CH Products; 970 Park Center Dr.; Vista, CA 92083; 619-598-2518

■ **Mouse Pad** • Mouse pads

The Mouse Pad is made of .25-inch rubber with a durable fabric on top to provide ultimate traction for the mouse, as well as keeping the roller ball dirt free. It is available in blue, gray, red, black, green and tan.
$8.95 retail • Computer Covers Unlimited; 7969 Engineer Rd., Ste. 104; San Diego, CA 92111; 619-277-0622 or 800-722-6837

Mouse Pads Imprinted By Computer Expressions • Customized with school seals and business logos • *Apple IIGS; mouse.* • $8.50 each; 12 pieces • $5.90 each; 72 pieces • $3.96 each; 144 pieces • Quantity discounts available • Computer Expressions; 3833 Chestnut St.; Philadelphia, PA 19104; 800-443-8278

Mouse Pocket ADB • Mouse holder that keeps a user's mouse out of the way when not in use • *Apple IIGS mouse.* • $9.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

MouseCat • Mouse holder • $6.95 retail • H&H Enterprises; 4069 Renate Dr.; Las Vegas, NV 89103; 702-876-6292 or 800-242-6292

MousePouch • Mouse container that carries eight 3.5-inch disks • $5.95 retail • H&H Enterprises; 4069 Renate Dr.; Las Vegas, NV 89103; 702-876-6292 or 800-242-6292

Mousetrap • Copy stand; storage space • $39.95 retail • Gered Corp.; 2401 NE Cornell Rd., Ste. 125; Hillsboro, OR 97124; 503-591-8658 or 800-852-8727

Mousetrap II • Keeps the mouse in an enclosed, yet accessible area; copy stand • $21.95 retail • Gered Corp.; 2401 NE Cornell Rd., Ste. 125; Hillsboro, OR 97124; 503-591-8658 or 800-852-8727

Mouseway • Mouse pad • $9.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Mouspad • Mouse pads • $7.95 to $9.95 retail • Moustrak, Inc.; 930 Dowdell Ln.; St. Helena, CA 94574; 800-221-6687 or 800-621-6687 in CA

Nada-Chair • Legless chair that offers low back support • $35 retail • Nada-Chair; 842 22nd Ave. SE; Minneapolis, MN 55414; 612-623-4436 or 612-623-0711

Radiation Monitor Filter • Eliminates harmful effects of continued computer use • $109 retail • Computer Covers Unlimited; 7969 Engineer Rd., Ste. 104; San Diego, CA 92111; 619-277-0622 or 800-722-6837

Ricks RamStar's Disk Valets And Body Shields • Disk holders and body shields • $17.50 retail; Meeting Folder • $13.50 retail; 12 Pak • $8.50 retail; 6 Pak • $5 retail; 3 Pak • $7.50 retail; 12 Sofpak • $3 retail; Promo Sofpak • $18 retail; Dual Pak • $10 retail; Note Pak • $10 retail; Binder Pak • $39.50 retail; Body Shield Apron • Ricks RamStar, Inc.; PO Box 759; Sardis, GA 30456; 912-569-9000 or 800-327-2303

RollerMouse • High-performance trackball • *Apple IIGS.* • $169.95 retail • CH Products; 970 Park Center Dr.; Vista, CA 92083; 619-598-2518

Sta-Blk Ribbon Cartridge For ImageWriter I And II • Re-inking ribbon cartridge • *ImageWriter I or II.* • $59.95 retail • Chronos Computers; 4186 Sorrento Valley Blvd., Ste. H; San Diego, CA 92121; 619-455-8200

Star Fighter For Apple • Analog joystick • *Apple IIGS; other Apple II models.* • $24.99 retail • Suncom Technologies; 6400 W. Gross Point Rd.; Niles, IL 60648; 708-647-4040

Static Controlling Cleaning Products • Static control products • Call for pricing • Tech-Sa-Port; PO Box 5295; Pittsburgh, PA 15206; 800-543-2233

System Saver IIGS • Power control center offering four outlets, surge suppression, noise filtering and a whisper-quiet cooling fan • *Apple IIGS.* • $99.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Tac1+ • Joystick used with games and graphics • *Apple IIGS; other Apple II models.* • $29.99 retail • Suncom Technologies; 6400 W. Gross Point Rd.; Niles, IL 60648; 708-647-4040

Tilt Swivel Base Model W30 • 12-inch tilt swivel base • $24.95 retail • Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

Accessories

Turbo Mouse ADB • Trackball offering auto-acceleration feature, 200 CPI pin-point precision and two mouse buttons, click lock and chording button features • *Apple IIGS.* • $169.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Universal Copy Stand And SideClip • Paper holders that attach to the side of any monitor to place working copy next to the screen, directly in a user's line of vision • $29.95 retail; Universal Copy Stand • $6.95 retail; SideClip • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Universal Security Kit • Physical security system • *Apple IIGS.* • $49.95 retail • Grimes Co.; 115 S. Arovista Cir.; Brea, CA 92621; 714-671-3931

Whimsical Computer Stationery • Computer stationery featuring boats, bears, butterflies, dinosaurs, holidays, sea gulls and banner paper • $12.95 retail; Stationery • $14.95 retail; Banner Paper • $7.95 retail; Designer Envelopes • Computer Sensations, Inc.; PO Box 3744; Long Beach, CA 90803; 213-434-2655

Animation

Fantavision IIGS • Animation and special effects program; supports Apple IIGS sound capabilities • *Apple IIGS; color monitor; 256K; ProDOS 8; copy protected.* • $59.95 retail • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

The Graphics Studio • Easy-to-use paint program with animation • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Iconix IIGS • Super-high-resolution graphics and animation interface for Applesoft Basic and the Apple IIGS • *Apple IIGS; two 3.5-inch drives; RGB monitor; 512K; ProDOS 8; not copy protected.* • $50 retail • So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298, 714-963-3392 or 800-648-9621 (orders)

Supergraphix 256 • Super-high-resolution access and development tool for Applesoft Basic • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $89 retail • El Kassir Software; 232 Thorne St., Ste. C; Los Angeles, CA 90042; 213-257-6882

VCR Companion • Creates colorful titles, credits, introductions, intermissions and endings for videotapes • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail • $59.95 retail; school edition • $119.95 retail; lab pack • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

Video Link • Provides access to video laser players while inside another software program • *Apple IIGS; laser disc player; 512K; GS/OS; not copy protected.* • $79 retail • Knowledgeware; PO Box 2292; Paso Robles, CA 93447; 805-238-5233

Viva • Interactive video authoring system • *Apple IIGS; videodisc player; 1 MB; GS/OS; not copy protected.* • $200 retail • Knowledgeware; PO Box 2292; Paso Robles, CA 93447; 805-238-5233

AppleWorks

1040Works-X • Integrated templates for preparing individual tax returns • *Apple IIGS; other Apple II models; AppleWorks; 256K; ProDOS 8; not copy protected.* • $27.95 retail; $3 for 3.5-inch disk • Personal Financial Services; PO Box 1401; Melville, NY 11747; 516-757-3201

1980 To 1989 Collectors Guide — Topps, Donruss And Fleer Baseball Cards • Hobby software • *Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy protected.* • $24.95 each retail • $45 retail; any two • $60 retail; complete set • $6 retail; updates • Pop-Fly Software; Div. of Product Control, Inc.; 345-B N. McLean Blvd.; S. Elgin, IL 60177; 312-741-5915

Agent Organizer Program • Insurance templates for P&C agents • *Apple IIGS; other Apple II models; AppleWorks V1 to 2.0; 128K; ProDOS 8; not copy protected.* • $69.95 retail • Info-Med; PO Box 24412; Jacksonville, FL 32241; 904-723-2771

AppleWorks Forum • 36-page monthly newsletter • $4 retail; each monthly issue • $29 retail; one-year subscription • National AppleWorks Users Group; PO Box 87453; Canton, MI 48187; 313-454-1115

AppleWorks GS 1.1 • Integrated software package that provides word processing, database, spreadsheet, page layout, graphics and communications applications • *Apple IIGS; 1.125 MB; GS/OS; not copy protected.* • $299 retail • (For AppleWorks GS upgrade information, call 800-544-8554) • Claris Corp.; 5201 Patrick Henry Dr.; PO Box 58168; Santa Clara, CA 95052; 408-987-7000

AppleWorks; AppleWorks/Network • Provides word processing, database management, mail merge and spreadsheet analysis; extends to the AppleTalk Network System • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $249 retail; AppleWorks 3.0 • $1,414 retail; AppleWorks 10-pack • $1,616 retail; AppleWorks/Network • (For AppleWorks 3.0 upgrade information, call 800-544-8554) • Claris Corp.; 5201 Patrick Henry Dr.; PO Box 58168; Santa Clara, CA 95052; 408-987-7000

FactWorks Volumes I - IV • More than 120 AppleWorks databases designed for student research • *Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy protected.* • $32.95 retail; per volume • ImagiMedia Software; 16640 Roscoe Pl.; Sepulveda, CA 91343; 818-894-1131 or 800-544-3228

Famous Birthdays • Database containing 7,000 famous people and their birthdays • *Apple IIGS; AppleWorks; 512K; not copy protected.* • $12.95 retail • Benz Computing Enterprises; 38 Belton St.; Stanhope, NJ 07874; 201-347-6476

■ **How To Use The Features Of AppleWorks 3.0** • Training tape

How To Use The Features Of AppleWorks 3.0 is a 90-minute audio tape that describes how to use more than 50 new features added to the latest release of AppleWorks.
$9.95 retail • National AppleWorks Users Group; PO Box 87453; Canton, MI 48187; 313-454-1115

ImageWorks • Videodisc utility for AppleWorks • *Apple IIGS; other Apple II models; 64K; ProDOS 8.* • $19.95 retail • Teaching Technologies; PO Box 3808; San Luis Obispo, CA 93403; 805-541-3100

The Kula Index • An annual series of AppleWorks database files that enables users to locate articles and reviews that appeared in various computer publications • *Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy protected.* • $8 retail • Kula Software; 2118 Kula St.; Honolulu, HI 96817; 808-595-8131

Loan Qualifier • Spreadsheet template designed for mortgage brokers, loan officers and real estate agents • *Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy protected.* • $99 retail • Financial Microware; PO Box 40; Cupertino, CA 95015; 408-446-5639

The TimeOut Series • AppleWorks enhancements • *Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy protected.* • $49.95 retail; GS Font Editor • $49.95 retail; Program Writer • $49.95 retail; TimeOut DeskTools • $49.95 retail; TimeOut DeskTools II • $49.95 retail; TimeOut FileMaster • $89.95 retail; TimeOut Graph • $25 retail; TimeOut MacroTools • $25 retail; TimeOut MacroTools II • $49.95 retail; TimeOut PowerPack • $69.95 retail; TimeOut QuickSpell • $49.95 retail; TimeOut SideSpread • $59.95 retail; TimeOut SpreadTools • $69.95 retail; TimeOut SuperFonts • $49.95 retail; TimeOut Thesaurus • $59.95 retail; TimeOut UltraMacros • $79.95 retail; TimeOut ReportWriter • $69.95 retail; TimeOut TeleComm • Beagle Bros, Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 619-452-5500, 800-345-1750 (orders) or 800-992-4022 in CA (orders)

Vacation Orlando • Travel software series featuring hotel and resort listings, area attractions and shopping and dining guides for Orlando and Disney World (includes new Disney/MGM Studios) • *Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy protected.* • $19.95 retail • Pop-Fly Software; Div. of Product Control, Inc.; 345-B N. McLean Blvd.; S. Elgin, IL 60177; 312-741-5915

WriteWorks • Turns the AppleWorks word processor into a more powerful and flexible word processing system • *Apple IIGS; other Apple II models; 256K; ProDOS 8; not copy protected.* • $29.95 retail • Mike Crane; 1110 W. Alamos; Fresno, CA 93705; 209-225-1394

Books And Publications

1001 Things To Do With Your Apple IIGS • Useful activities for an Apple IIGS user • $12.95 retail; paperback • $18.95 retail; hardbound (book no. 2886) • Tab Books, Inc.; Blue Ridge Summit, PA 17294; 800-822-8138

Advanced AppleWorks — 2nd Edition • Insight into AppleWorks • $17.95 retail (book no. 3048) • Tab Books, Inc.; Blue Ridge Summit, PA 17294; 800-822-8138

Apple 16, A Comprehensive Guide To IIGS Computing • A non-technical book that discusses the IIGS' use of color, paint and draw programs, desktop publishing, laser printing, telecommunications, music and more

Books And Publications

• $22 retail; includes newsletter update • The Archives Press; 140 University Ave., #38; Palo Alto, CA 94301

Apple Care Manual: Diagnosing And Maintaining Your Apple IIe, IIc And IIGS Computers • Teaches Apple II owners how to perform preventive maintenance, troubleshoot malfunctions and make simple repairs • $17.95 retail; paperback (book no. 3121) • Tab Books, Inc.; Blue Ridge Summit, PA 17294; 800-822-8138

Apple IIGS Assembler Toolbox Quick Reference; C Toolbox Quick Reference • Summaries of the toolbox calls • $20 each retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

Apple IIGS Assembly Language Programming • Assembly language tutorial • $24.95 retail • Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103; 212-765-6500

The Apple IIGS Book • Chronicles the Apple IIGS computer from conception to development • $19.95 retail • Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103; 212-765-6500

Apple IIGS Firmware Reference • Technical guide for programmers and hardware designers • $24.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Apple IIGS Hardware Reference, Second Edition • Provides an extensive description of the mechanisms and internal operations of an Apple IIGS • $26.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Apple IIGS Machine Language For Beginners • Assembly language tutorial for use with the Merlin 8/16 assembler • *Apple IIGS; 512K for disk portion; ProDOS 16; not copy protected.* • $19.95 retail; book • $15.95 retail; disk • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Apple IIGS Technical Reference • Apple IIGS architecture overview • $19.95 retail • Free catalog is available • Osborne/McGraw-Hill; 2600 Tenth St.; Berkeley, CA 94710; 800-227-0900

Apple IIGS Toolbox Reference, Vol. III • New tools for Apple IIGS programmers • $39.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Apple IIGS Toolbox Reference, Vols. I And II • Toolbox description book in two volumes • $26.95 each retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

The Apple IIGS Toolbox Revealed • Introduces a reader to the toolbox and other IIGS circuits • $21.95 retail • Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103; 212-765-6500

■ **The AppleWorks Handbook: Vol. II** • "How to" ideas to get more from AppleWorks

The AppleWorks Handbook is a compendium of more than 500 pages of "how to" ideas to help users get more from AppleWorks. Articles describe how to customize AppleWorks, how to recover lost data, how to use Beagle Bros' TimeOut enhancements, how to use special techniques to enhance output, how to speed up AppleWorks, how to create indices and footnotes with the word processor and dozens of little-known shortcuts with AppleWorks.
$27.95 retail • National AppleWorks Users Group; PO Box 87453; Canton, MI 48187; 313-454-1115

AppleWorks Made Easy, Third Edition • Tutorial that covers AppleWorks Version 3 • $19.95 retail • Osborne/McGraw-Hill; 2600 Tenth St.; Berkeley, CA 94710; 800-227-0900

Discovering Science On Your Apple II, II+, IIc and IIGS • Guidebook designed for individual student use or as a supplemental text for use in middle or junior high school science classes • $14.95 retail; paperback (book no. 2680) • Tab Books, Inc.; Blue Ridge Summit, PA 17294; 800-822-8138

Exploring Apple GS/OS and ProDOS 8 • Provides programming techniques for the GS/OS and ProDOS 8 operating systems • $21.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Exploring The Apple IIGS • Graphics and sound programming guide • $22.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

GS/OS Reference, Volume I And II • Technical references to GS/OS • $35 each retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

Human Interface Guidelines • Defines the desktop interface used in Apple IIGS-specific programs • $14.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

ImageWriter LQ Reference • Technical reference source for printer • $22.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Inside ProDOS 16 • Examines the latest version of ProDOS 16 • $24.95 retail; paperback (book no. 3129) • Tab Books, Inc.; Blue Ridge Summit, PA 17294; 800-822-8138

LaserWriter Reference • Technical resource for laser printers • $19.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Programmer's Introduction To The Apple IIGS • Essential concepts for programming the Apple IIGS • $32.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Programming The 65816 • Teaching manual and reference guide for the 65816 • $24.95 retail • Brady Books/Simon & Schuster; 1 Gulf + Western Plaza, 14th Fl.; New York, NY 10023; 212-373-8500

Programming The Apple IIGS In Assembly Language • Shows how to program the Apple IIGS in a step-by-step manner • $29.95 retail; book • $20 retail; disk (available from: Ron Lichty, author; PO Box 27262; San Francisco, CA 94127; 415-564-2697) • Brady Books/Simon & Schuster; 1 Gulf + Western Plaza, 14th Fl.; New York, NY 10023; 212-373-8500

Technical Introduction To The Apple IIGS • Overview of the IIGS for programmers • $9.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

■ **The UltraMacros Primer** • How to use TimeOut UltraMacros

The UltraMacros Primer is a 250-page book that teaches users how to use TimeOut UltraMacros with AppleWorks. The book includes 17 lessons that describe all the details necessary to get started, tricks to make it easier to learn and use UltraMacros and advanced programming techniques.
$19.95 retail • National AppleWorks Users Group; PO Box 87453; Canton, MI 48187; 313-454-1115

Using AppleWorks GS • Comprehensive guide to using the six integrated applications of AppleWorks GS • $19.95 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

X-Ref (Cross-Reference) For Apple II Books And Notes • Contains indexes to all of the programming books for the Apple II family of computers • $20 retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

Business Productivity

◆ **BusinessWorks** • General Ledger, Accounts Payable, Accounts Receivable, Inventory Control, Payroll and the System Manager • *Apple IIGS; two 3.5-inch disks or hard disk; 80-column printer; 128K; ProDOS 8; not copy protected.*

BusinessWorks is a full-featured accounting program comprised of the following modules: General Ledger, Accounts Payable, Accounts Receivable, Inventory Control, Payroll and the System Manager. The modules may be purchased separately or as a bundle.

Features of the program include online help, which is available at almost every prompt; pop-up windows that list needed account numbers and other information; password security; an interface that looks and acts like AppleWorks; ability to send information to AppleWorks database and spreadsheet files; and more.
$195 retail; each module • $95 retail; System Manager • $495 retail; complete system bundle (includes all except Payroll) • Manzanita Software Systems; 2130 Professional Dr., Ste. 230; Roseville, CA 95661; 800-531-3552 or 800-447-5700 in CA

Circle No. 50

CADApple 3.5 • Contains sophisticated precision drafting tools for educational and professional use • *Apple IIGS; Apple IIc and IIe; 128K; Pascal 1.3; not copy protected.* • $395 retail • Versacad Corp.; 2124 Main St.; Huntington Beach, CA 92648; 714-960-7720

Calendar Crafter • Creates customized calendars; IIGS specific • *Apple IIGS; printer; 512K; ProDOS 16; copy protected.* • $89 retail • $49 retail; home version • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Darad IIe • Database and report generator that features Search, Edit and Print modes • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $49.95 retail; Darad IIe • $89.95 retail; Darad IIe with Self Teaching Manual and Report Generator • $29.95 retail; Darad IIe Report

Business Productivity

Generator (for custom reports) • DAR Systems International; PO Box 16-4933; Miami, FL 33116; 305-529-3572

DB Master Version 5; DB Master Professional • Versatile database management systems; DB Master Professional brings multifile, relational capability to the Apple II user • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $179 retail; DB Master Version 5 • $295 retail; DB Master Professional • $500 retail; DB Master Version 5/Multiuser • $500 retail; DB Master Version 5/Classroom • Stone Edge Technologies, Inc.; PO Box 3200; Maple Glen, PA 19002; 215-641-1825

Dental Office Management IIP • Integrated application for patient billing, claim-form preparation, appointment scheduling and more • *Apple IIGS; SCSI hard drive; 3.5-inch disk drive; 130-column printer; 512K; ProDOS 16; not copy protected.* • $1,995.95 retail • CMA Micro Computer; 55888 Yucca Trail; PO Box 2080; Yucca Valley, CA 92286; 619-365-9718

GeoCalc • Spreadsheet analysis and charting • *Apple IIGS; other Apple II models; 128K (256K RAM expansion recommended); GEOS; not copy protected.* • $69.95 retail • Berkeley Softworks; 2150 Shattuck Ave.; Berkeley, CA 94704; 415-644-0883

GeoFile • Database and forms manager • *Apple IIGS; other Apple II models; 128K (256K RAM expansion recommended); GEOS; not copy protected.* • $69.95 retail • Berkeley Softworks; 2150 Shattuck Ave.; Berkeley, CA 94704; 415-644-0883

GS File • Graphical database management system designed for the IIGS • *Apple IIGS; 768K; ProDOS 16; not copy protected.* • $99.95 retail • Softwood Co.; PO Box 90331; Santa Barbara, CA 93190; 805-964-8622

The Invoicer With Accounts Receivable And Sales Tracking/Inventory • Small business accounting • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $223.50 retail • MiccaSoft, Inc.; 406 Windsor Ln.; New Braunfels, TX 78132; 512-629-4341 or 800-950-7943

List Plus • Database and report generator for business or personal records, mailing lists, labels and more • *Apple IIGS; 768K; GS/OS; not copy protected.* • $69.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Medical Office Management IIP • Medical office system for patient billing, claim-form preparation, appointment scheduling and more • *Apple IIGS; SCSI card; SCSI hard disk; 130-column printer; 512K; ProDOS 16; not copy protected.* • $1,995.95 retail • CMA Micro Computer; 55888 Yucca Trail; PO Box 2080; Yucca Valley, CA 92286; 619-365-9718

Notes 'N Files • Database filing system with a word processor-like editor and powerful mail merge • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $95 retail • DataPak Software, Inc.; 14011 Ventura Blvd., Ste. 507; Sherman Oaks, CA 91423; 818-905-6419 or 800-327-6703

Salary Magic • Spreadsheet/database program for the management of negotiation process/salary schedules • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $495 retail • Magic Software, Inc.; 2206 Franklin; Bellevue, NE 68005; 402-291-0670 or 800-342-6243

Tax Preparer • Fully automated tax preparation software designed to simplify tax calculations for professional tax preparers and individuals with involved returns • *Apple IIGS; other Apple II models; 128K minimum; ProDOS 8; not copy protected.* • $250 retail • $79 retail; annual updates • HowardSoft; 1224 Prospect St., Ste. 150; La Jolla, CA 92037; 619-454-0121

Trio Plus • Integrated word processor, database, spreadsheet, desk accessories • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $29.95 retail • Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

VIP Professional • Lotus 1-2-3-compatible spreadsheet with database and graphics features • *Apple IIGS; extended memory card recommended; 512K; ProDOS 8; not copy protected.* • $149.95 U.S. retail • ISD Marketing, Inc.; 2651 John St., Unit 3; Markham, Ontario, Canada L3R 2W5; 416-479-1880

Creative

816/Paint • Color graphics program that supports all Apple color graphics modes • *Apple IIGS; other Apple II models; color monitor; 128K, 512K; ProDOS 8, ProDOS 16; not copy protected.* • $75 retail • $125 retail; Education Version • Baudville, Inc.; 5380 52nd St. SE; Grand Rapids, MI 49512; 616-698-0888

Award Maker Plus • Graphics software for creating awards, certificates, licenses, coupons and more • *Apple IIGS; printer; 128K; ProDOS 8; not copy protected.* • $49.95 retail; Award Maker Plus • $29.95 retail; Sports Award Library • $29.95 retail; Education Award Library • Baudville, Inc.; 5380 52nd St. SE; Grand Rapids, MI 49512; 616-698-0888

Beagle Bros Clip Art/Volume I • Clip art • *Apple IIGS.* • $49.95 retail • Beagle Bros, Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 619-452-5500, 800-345-1750 (orders) or 800-992-4022 in CA (orders)

BeagleDraw • Object-oriented drawing program • *Apple IIGS; color monitor; 512K; ProDOS 16; not copy protected.* • $89.95 retail • Beagle Bros, Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 619-452-5500, 800-345-1750 (orders) or 800-992-4022 in CA (orders)

Car Builder • Scientific simulation program for designing, constructing, modifying and testing cars; ages 8 to adult • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Cartooners • Cartoon studio that allows children to create lively, animated productions; ages 6 to 12 • *Apple IIGS; ImageWriter optional; 1 MB; ProDOS 16; not copy protected.* • $29.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

■ **Cheap Paint** • Paint program • *Apple IIGS; 768K; GS/OS; not copy protected.*

Cheap Paint is a fully-functional super high-resolution paint program. The pencil/paintbrush allows users to draw freehand in any color, in any of six shapes. For detailed shading, an airbrush is included with six of its own spray patterns. There are also tools for drawing lines, circles, rectangles, squares, arcs, curves and polygons. Any of these shapes can be filled with any of 16 user-definable colors, or 16 editable patterns. Animation and many other effects can be achieved.
$9 retail • P.D.E.; 2078C Walsh Ave., Dept. 160; Santa Clara, CA 95050; 408-496-0624 or 800-331-8125

Craftmaster II • Color needle arts chart design program • *Apple IIGS; 1 MB; dot matrix printer.* • $99.95 retail • Raptor, Inc.; PO Box 20129; Louisville, KY 40220; 502-491-6828

DeluxePaint II • Paint software containing more than 90 painting tools and effects; optional 30-minute videotape of tips and techniques for using DeluxePaint II • *Apple IIGS; color monitor; 768K; ProDOS 16; not copy protected.* • $49.95 retail; DeluxePaint II • $19.95 retail; Video Guide to DeluxePaint II • $129.95 retail; DeluxeWrite/DeluxePaint II • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Design Your Own Home: Architecture • Allows users to draw floor plans, elevations and structural details • *Apple IIGS; 1 MB; GS/OS; not copy protected.* • $89.95 retail • Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Design Your Own Home: Interiors • Allows users to design room interiors with color, patterns, shapes and furnishings • *Apple IIGS; 1 MB; GS/OS; not copy protected.* • $89.95 retail • Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Design Your Own Home: Landscape • Allows users to plan the grounds around home or office • *Apple IIGS; 1 MB; GS/OS; not copy protected.* • $89.95 retail • Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Design Your Own Home: Landscape Regional Image Libraries • Provides landscape images for five U.S. regions • *Apple IIGS; Design Your Own Home: Landscape; 1 MB; GS/OS; not copy protected.* • $29.95 each retail • Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Design Your Own Home: Libraries • Seven disk libraries containing four dozen house plans, interior or landscape designs • *Apple IIGS; one of the Design Your Own Home programs; 1 MB or more; GS/OS; not copy protected.* • $29.95 each retail • Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Designer Prints • IIGS specific drawing and graphics utility • *Apple IIGS; 1 MB or more; GS/OS; copy protected.* • $89 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Draw Plus • Drawing program for use with Paintworks Plus, Writer's Choice Elite and Clip Art Gallery • *Apple IIGS; 512K; GS/OS; not copy protected.* • $69.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

■ **DT Painter** • Paint program • *Apple IIGS; color monitor recommended; 1 MB; GS/OS; not copy protected.*

DT Painter is a fully-functional super high-resolution paint program in the form of an NDA (New Desk Accessory). It is accessible from within any application that supports NDAs. If users need a graphic or want to draw a chart, they just choose the DT Painter from under the Apple menu. Pictures on a disk can be opened, or new

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pictures created and pasted into a document.

Tools include a pencil, an airbrush, a paint can, a font tool, a snap-line tool for straight lines, square tools, a circle/oval tool and more. DT Painter supports 16 colors for either line or solid color. Standard File Menu choices are supported. Under the Edit Menu are the standard Cut, Copy, Paste, Undo and Clear, as well as Invert, Horizontal Flip, Vertical Flip and Show Clipboard. Under the Special Menu is Choose Font, Coordinates, Full Screen and Pen Size.
$9 retail • P.D.E.; 2078C Walsh Ave., Dept. 160; Santa Clara, CA 95050; 408-496-0624 or 800-331-8125

E-Z Paint 256 • Paint program • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $69.95 retail • El Kassir Software; 232 Thorne St., Ste. C; Los Angeles, CA 90042; 213-257-6882

Hometown, U.S.A. • Creativity and learning program; templates that allow users to design, print and produce miniature 3D buildings • *Apple IIGS; standard GS paint program (i.e., Paintworks Plus); not copy protected.* • $39.95 retail • Publishing International; 333 W. El Camino Real, Ste. 222; Sunnyvale, CA 94087; 408-738-4311

Image Master; Basic Paint • Paint program with up to 136 colors on screen at one time and eight million possible color mixtures • *Apple IIGS; 512K; GS/OS; not copy protected.* • $44.95 retail • Jada Graphics, Inc.; 7615 S. 48th St.; Omaha, NE 68157; 800-634-4552

Paint Write Draw • Three programs in one: Paintworks Plus, Writer's Choice Elite and Draw Plus • *Apple IIGS; color monitor; 1.25 MB suggested when using Writer's Choice Elite; 512K; GS/OS; not copy protected.* • $129.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Paintworks Gold • Sophisticated paint program • *Apple IIGS; RGB monitor; 1.25 MB; GS/OS; not copy protected.* • $99.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Paintworks Plus • Paint program containing clip art gallery of more than 650 images • *Apple IIGS; 512K; GS/OS; not copy protected.* • $79.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

■ **Scholastic Hyperscreen** • Multimedia presentation tool; grades 7 to 12 • *Apple IIGS; 128K; not copy protected.*

Scholastic Hyperscreen is a multimedia presentation tool that enables students, teachers and administrators to create visually engaging interactive presentations, reports and lessons. It allows users to design and link text, images and sounds in original ways. With the program, users can create individual "screens" and link them together with up to 15 on-screen "buttons" that perform a variety of actions, including branching from screen to screen, linking to another screen, playing a piece of music, displaying a window of text or controlling a videodisc player.

The program includes high-resolution graphics backgrounds, a variety of clip art, borders, fonts, sound and a complete set of drawing tools. A library of graphics and sounds can be added to multimedia presentations with Scholastic Graphics and Sound Booster Packs.
$99.95 retail; net to educators (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

ShowOff • Produces professional-looking overhead transparencies, 16-color printed sheets and IIGS interactive video slide shows (includes more than 400 graphics, 126 borders and an icon editor lets users create their own graphics) • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $59.95 retail; consumer edition • $69.95 retail; school edition • $139.95 retail; Lab Pack • $10 retail; teacher's guide • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

Slide Shop • Desktop presentations program for schools; grades 4 to 12 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $79.95 retail; net to educators (customized lab packs available) • $29.95 retail; Graphics and Sound Booster Packs • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

ThunderView • Low-cost program for creating personalized slide shows; designed for users of painting software and scanners • *Apple IIGS; other Apple II models; RGB monitor recommended; 64K; ProDOS 8; not copy protected.* • $29 retail • Thunderware, Inc.; 21 Orinda Way; Orinda, CA 94563; 415-254-6581

Desk Accessories

Beagle Bros GS Desk Accessories • Telephone dialer, keyboard macros, screen preserver, programmable scientific calculator, notepad, alarm clock and more • *Apple IIGS.* • $59.95 retail • Beagle Bros, Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 619-452-5500, 800-345-1750 (orders) or 800-992-4022 in CA (orders)

CDA Power: Volume 1 • Classic desk accessories: Text File Editor, ASCII Table, 65816 Reference Chart, KeyCaps, Scientific Calculator, Mini-GS/OS Shell and Communications Program • *Apple IIGS; 150K RAM, in addition to the memory requirements of the primary application; not copy protected.* • $59.95 retail • 360 MicroSystems; PO Box 1192; Oviedo, FL 32765; 407-365-6714

DeskPak Desk Accessories • File tools, calculator, system security lock, file printer, appointment calendar, scrapbook and more under the Apple icon • *Apple IIGS; 10K per accessory; ProDOS 16; not copy protected.* • $89.95 retail • SSSI, Inc.; 4612 N. Landing Dr.; Marietta, GA 30066; 404-928-4388

The Desktop Manager • Accessories include: note pad, calculator, printer manager, envelope labeler, ASCII chart, screen print, cut and paste, appointment calendar, disk manager and communications manager • *Apple IIGS; 512K; GS/OS; not copy protected.* • $39.95 retail • On Three, Inc.; 123 Groveland Ave.; Riverside, IL 60546; 708-447-3924

Disk Initializer • Lets users initialize 3.5- and 5.25-inch data disks from within other programs; works with any program that is GS/OS compatible • *Apple IIGS; GS/OS; not copy protected.* • $12.50 retail • Seven Hills Software Corp.; 2310 Oxford Rd.; Tallahassee, FL 32304; 904-576-9415 or 800-627-3836

Softswitch • Desk accessory that allows users to switch among several applications loaded into RAM • *Apple IIGS; 768K; ProDOS 16; not copy protected.* • $59.95 retail • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

TDM Super Accessories #1 • Add-on ProDOS accessories: file type changer; character ruler; regular file viewer/printer; keyboard lockout; a clock with job timer capabilities; and more • *Apple IIGS; The Desktop Manager; 512K; GS/OS; not copy protected.* • $39.95 retail • On Three, Inc.; 123 Groveland Ave.; Riverside, IL 60546; 708-447-3924

TDM Toolkit • Contains information needed to create a user's own desk accessories that work under The Desktop Manager • *Apple IIGS; The Desktop Manager; APW assembler; 512K; GS/OS; not copy protected.* • $39.95 retail • On Three, Inc.; 123 Groveland Ave.; Riverside, IL 60546; 708-447-3924

Desktop Communications

ASCII Express • Advanced telecommunications program that supports data transfer speeds up to 9,600 baud • *Apple IIGS; other Apple II models; modem; 64K; ProDOS 8; not copy protected.* • $129.95 retail • United Software Industries; 22231 Mulholland Hwy., Ste. 212A; Woodland Hills, CA 91364; 818-887-5800 or 800-332-7244

Burple • Hardware/software attachment for the Apple IIGS that allows the micro to communicate with Burroughs mainframe computers using the Burroughs "poll select" protocol • *Apple IIGS; 64K; ProDOS 8; not copy protected.* • $495 retail • Midwest Data Source, Inc.; 1615 Burney Ave.; Cincinnati, OH 45230; 513-231-2023

MouseTalk • Telecommunications product with Mac-like user interface and pull-down menus that accommodates data transfer speeds up to 19,200 bits per second; mouse optional • *Apple IIGS; other Apple II models; modem; 128K; ProDOS 8; not copy protected.* • $119.95 retail • United Software Industries; 22231 Mulholland Hwy., Ste. 212A; Woodland Hills, CA 91364; 818-887-5800 or 800-332-7244

Point-To-Point • Versatile telecommunications program • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $99.95 retail • Beagle Bros, Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 619-452-5500, 800-345-1750 (orders) or 800-992-4022 in CA (orders)

Proterm • Telecommunications program featuring scrollback buffer for capturing text on screen • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $129 retail • Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 602-966-5802 or 800-325-7347

ReadyLink • Communications software • *Apple IIGS; modem; 128K; ProDOS 8.* • $99 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Talk Is Cheap V3.10 • Communications program with powerful scripting capability • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $40 retail • $20 retail; quantities of 10 or more • Carolina System Software; 3207 Berkeley Forest Dr.; Columbia, SC 29209; 803-776-3936 (modem)

Desktop Communications

Teleworks Plus • IIGS-specific telecommunications program • *Apple IIGS; 768K; GS/OS; not copy protected.* • $99.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Desktop Publishing

Beagle Bros Font Library/Volume I • IIGS fonts • *Apple IIGS.* • $49.95 retail • Beagle Bros, Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 619-452-5500, 800-345-1750 (orders) or 800-992-4022 in CA (orders)

FingerPrint Slide-Show • Desktop presentation and computer slide-show software • *Apple IIGS; FingerPrint GSi Version II; 256K; ProDOS 8; not copy protected.* • $25 retail • Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

Font Factory GS • Standard IIGS font editor • *Apple IIGS; 768K; GS/OS; not copy protected.* • $39.95 retail • Seven Hills Software Corp.; 2310 Oxford Rd.; Tallahassee, FL 32304; 904-576-9415 or 800-627-3836

GeoPublish • Graphically oriented desktop publishing • *Apple IIGS; other Apple II models; 128K (256K RAM expansion recommended); GEOS; not copy protected.* • $99.95 retail • Berkeley Softworks; 2150 Shattuck Ave.; Berkeley, CA 94704; 415-644-0883

Graph It! • High-impact presentation graphics • *Apple IIGS; other Apple II models; printer; 128K; ProDOS 8; not copy protected.* • $69.95 retail • Timeworks, Inc.; 444 Lake Cook Rd.; Deerfield, IL 60015; 708-948-9200

Graphics And Pictures Converter • Allows users to transfer a wide variety of graphic formats between Apple II programs • *Apple IIGS; other Apple II models; 512K; ProDOS 8; not copy protected.* • $9.95 retail • Big Red Computer Club; 423 Norfolk Ave.; Norfolk, NE 68701; 402-379-4680

GraphicWriter Version III • IIGS-specific desktop publisher with combination page layout, graphics and word processing • *Apple IIGS; 512K; GS/OS; not copy protected.* • $149.95 retail • Seven Hills Software Corp.; 2310 Oxford Rd.; Tallahassee, FL 32304; 904-576-9415 or 800-627-3836

GS07 And GS08 Graphics For Print Shop IIGS • Two disks containing multicolor graphics, borders and fonts compatible with The Print Shop IIGS • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $7.50 each retail • Big Red Computer Club; 423 Norfolk Ave.; Norfolk, NE 68701; 402-379-4680

Labels, Labels, Labels • Makes labels, badges, postcards, name tags, price tags and more • *Apple IIGS; other Apple II models; one disk drive; dot matrix printer; 128K; ProDOS 8; not copy protected.* • $39.95 retail • Big Red Computer Club; 423 Norfolk Ave.; Norfolk, NE 68701; 402-379-4680

Medley 2.0 • IIGS-specific integrated desktop publishing program combining word processing, artwork and page layout capabilities • *Apple IIGS; color monitor recommended; 1.25 MB; ProDOS 16; not copy protected.* • $129 retail • Milliken Publishing Co.; 1100 Research Blvd.; PO Box 21579; St. Louis, MO 63132; 314-991-4220 or 800-643-0008

Personal Newsletter • Graphics and page composition program • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $59.95 retail • $69.95 retail; academic • $174.88 retail; educational lab pak • Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

The Print Shop Graphics Library Sampler Edition • Clip art for The Print Shop IIGS • *Apple IIGS; The Print Shop IIGS; 512K; ProDOS 16; not copy protected.* • $34.95 retail • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

The Print Shop IIGS • Personal publishing program with multicolor graphics editor that allows users to create, design and print out multicolor custom cards, signs, banners and letterheads • *Apple IIGS; printer; 512K; ProDOS 8; copy protected.* • $59.95 retail • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

Printrix 1.1 • Typesetter of word processing text files • *Apple IIGS; printer; 128K; ProDOS 8; not copy protected.* • $65 retail • Data Transforms, Inc.; 616 Washington St.; Denver, CO 80203; 303-832-1501

PS Lovers' Utility Set • Makes charts of Print Shop graphics, borders and fonts; also makes bookmarks, mailing labels and envelope cachets • *Apple IIGS; other Apple II models; one disk drive; dot matrix printer; 256K; ProDOS 8; not copy protected.* • $39.95 retail • Big Red Computer Club; 423 Norfolk Ave.; Norfolk, NE 68701; 402-379-4680

Publish-It! 2 • Desktop publishing program that allows users to edit, design, lay out and print documents • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $129.95 retail • Timeworks, Inc.; 444 Lake Cook Rd.; Deerfield, IL 60015; 708-948-9200

Springboard Publisher • Desktop publishing program with full-featured page layout, word processor and graphics tools • *Apple IIGS; other Apple II models; 128K minimum and a 1 MB RAM disk; ProDOS 8; not copy protected.* • $139.95 retail • Springboard Software; 7808 Creekridge Cir.; Minneapolis, MN 55435; 612-944-3915

Springboard Publisher Library • Add-on products to extend the capability of Springboard Publisher • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $39.95 each retail; Works of Art (Assortment Series, Education and Holidays) • $29.95 retail; Springboard Publisher Fonts • Springboard Software; 7808 Creekridge Cir.; Minneapolis, MN 55435; 612-944-3915

SuperPrint II: The Next Generation • Curriculum-based printing program • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $69.95 retail; net to educators (customized lab packs available) • $29.95 retail; graphics activity packs • $24.95 retail; graphics packs • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Education

■ **A+ Line** • English, Spanish, French and German vocabulary and grammar • *Apple IIGS; 128K; DOS 3.3; copy protected.*

English Vocabulary reinforces and expands vocabulary and word use skills. It stresses word meaning and recognition in context, and covers material introduced in grades 4 and above. Lesson topics include: prefixes, suffixes, synonyms, antonyms, similes, metaphors and more. English Grammar develops and strengthens basic grammar and word use skills. Lesson topics include: sentence structure, subjects and predicates, nouns and pronouns, adjectives and adverbs, lay/lie and who/whom, prepositions, conjunctions, punctuation and more.

Spanish, French and German Vocabulary cover 98 percent of vocabulary taught in Spanish, French and German I and II. Many questions are written in the language showing proper punctuation, usage and sentence structure. Lesson topics include: greetings and salutations; time, days and dates; idioms and expressions; phone conversations; at school/work; numbers; and more.

Spanish, French and German Grammar cover the principles of grammar. Lesson topics include: definite/indefinite articles; verbs and tenses; adjectives and agreements; prepositions; imperatives; interrogatives; and more.

$24.95 each retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

The Adventures Of Sinbad • An exciting voyage in language arts; "talking" program • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Alge-Blaster Plus • Covers first and second semester algebra; ages 12 to adult • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains 10 disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Algebra Shop • Introduces pre-algebra concepts; grades 7 to 10 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $69.95 retail; net to educators (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Algernon • Students program Algernon to find his way through a maze • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

All About America • American history; "talking program" for ages 6 to 11 • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $59.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Animal Adaptations • Introduces students to the terminology and concepts associated with animal adaptation and survival • *Apple IIGS; other Apple II models; 64K; DOS 3.3; copy protected.* • $59.95 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

Education

Animal Tracker 2.0 • Teaches about North American animals; grade 3 to adult • *Apple IIGS; 768K; GS/OS; not copy protected.* • $79.95 retail; stand-alone version • $350 retail; school site license • Nature Boy Software; PO Box 596; S. Lancaster, MA 01561; 508-481-2911

Ant Farm • Helps students examine assumptions using trial and error; grades 3 to 12 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail; includes backup • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

■ **ASE III** • Computerized timetabling • *Apple IIGS; Apple IIe; 60K; DOS 3.3; not copy protected.*

ASE handles school timetables where students move as class units. The program can handle 79 classes and 79 instructors over a nine-day cycle, nine periods per day for 30 different subjects, depending on the mix. ASE gives users individual teacher and class timetables, a master timetable and complete teacher and class load breakdown. ASE allows users to reserve periods (specify), place two or more identical periods directly after one another (chain), schedule a number of classes to go to one or more specific teachers on the same periods (link) plus the mixing and/or matching of these options. Users have the option of ASE building timetables for them or timetables can be completely customized on screen. $795 retail; introductory price • $1,795 retail; regular price • Oden Software Limited; 247 Woodlawn Dr.; Sydney River, Nova Scotia, Canada B1S 1J3; 902-562-6009

Atlas Explorer • World geography quiz • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $49.95 retail • $100 retail; Lab Pack • Springboard Software; 7808 Creekridge Cir.; Minneapolis, MN 55435; 612-944-3915

Audubon Wildlife Adventures: Grizzly Bears • Involves players in current issues on the effects of science and technology upon society • *Apple IIGS; 512K; GS/OS; not copy protected.* • $59.95 retail • Advanced Ideas; 2902 San Pablo Ave.; Berkeley, CA 94702; 415-526-9100

Audubon Wildlife Adventures: Whales • Involves students in current issues on the effects of science and technology upon society • *Apple IIGS; 512K; GS/OS; not copy protected.* • $59.95 retail • Advanced Ideas; 2902 San Pablo Ave.; Berkeley, CA 94702; 415-526-9100

Backyard Birds • Bird identification; grades 3 to jr. high • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Bookmate • Helps students find quality books to read; grades 4 to 6 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Bounce! • Introduces the concept of pattern and helps develop recognition skills • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail; includes backup • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Captain's Log • Cognitive training system • *Apple IIGS; other Apple II models; 64K; ProDOS 8.* • $495 retail; each module • $1,495 retail; complete system (four modules) • BrainTrain, Inc.; 1915 Huguenot Rd.; Richmond, VA 23235; 804-794-4841

■ **Charlie And The Chocolate Factory** • Literature; creative writing; grades 3 and 4 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.*

After reading a portion of *Charlie and the Chocolate Factory* aloud to a class, students write about adventures using a prepared data disk. Activities include writing poems, letters, descriptive paragraphs, newspaper articles, interviews and advertisements. The lessons contain complete instructions for prewriting, writing at the computer, revising, proofreading and publishing. Art activities to complement the "whole language" experiences are also included.
$59 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Checkerboard Trails • Game involving mathematical and problem-solving skills for grades 3 to 8 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49 retail • Focus Media, Inc.; PO Box 865; 839 Stewart Ave.; Garden City, NY 11530; 516-794-8900 or 800-645-8989

The Children's Writing And Publishing Center • Word processing and desktop publishing for ages 7 to 14 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59.95 retail; home edition • $89.95 retail; school edition • $159.95 retail; lab pack • The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

Classroom Jeopardy • Classroom review game • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $29.95 retail • DEC Software; 5307 Lynnwood Dr.; West Lafayette, IN 47906

■ **Classroom Toolbox** • Teaching tool for teachers and students; grades 3 to adult • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.*

Classroom Toolbox lets teachers create different test formats, such as multiple choice, fill-in-the-blank, matching, true/false, crossword, word find and more. The program is flexible, so users can generate many different tests and activities from the same data. Classroom Toolbox will print out student worksheets and answer keys upon request. A mini word processing editor enables users to create a database of questions and answers. It also permits underlining, bold type, superscript and subscript, and provides alternate character sets for foreign languages.
$75 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

College Bound • College preparation • *Apple IIGS; other Apple II models; 64K; DOS 3.3; copy protected.* • $82.50 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

College Life • College orientation program; grades 11 and 12 • *Apple IIGS; other Apple II models; 64K; copy protected.* • $82.50 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

CommuniKeys • Keyboarding lessons with language-arts activities; grades 3 to 8 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Competer Rabbit • Reinforces basic foreign language vocabulary skills • *Apple IIGS; 128K; DOS 3.3.* • $39.95 retail • Gessler Publishing Co., Inc.; 55 W. 13th St., Ste. 34; New York, NY 10011; 212-627-0099

Conquering Decimals (+, -) • Mathematics; grades 4 to 6 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Conquering Fractions (+, -) • Mathematics; grades 5 to 8 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Conquering Percents • Mathematics; grades 5 to 8 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Conquering Ratios And Proportions • Mathematics; grades 5 to 8 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Coordinate Math • Teaches graphing points in a Cartesian coordinate system for grades 4 to 12 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

■ **Creature Cube** • Mathematics as reasoning; grades 7 to 12 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.*

In Creature Cube, students are challenged to use their reference skills to find hidden creatures in a three-dimensional cube. To accommodate different levels of skill, students can choose the size and depth of their cube. The cube is made from many blocks, each of which can be opened. Students can remove layers of the cube, dimension by dimension, to find the block and the unique creature they are searching for. After they move to the block they wish to uncover, they are given clues to the creature's location, such as the number of blocks away it is hiding. Clues vary throughout the 10 creative games available. This challenging activity of search and find will help students learn to solve problems using inference, spatial reasoning and deduction.
$65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

CSL Marks • Grading software for teachers • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $95 retail; individual teacher license • $300 retail; school site license • Chancery Software, Ltd.; 1122 Mainland St., 4th Fl.; Vancouver, BC, Canada V6B 5L1; 800-937-0016

Curious George Goes Shopping • Explores classification of objects • *Apple IIGS; 64K; ProDOS 8; copy protected.* • $24.95 retail • $62 retail; Lab Pack • DLM Teaching Resources; One DLM Park; Allen, TX 75002; 800-527-4747

Curious George In Outer Space • Explores comparison skills • *Apple IIGS; 64K; ProDOS 8; copy protected.* • $24.95 retail • $62 retail; Lab Pack • DLM Teaching Resources; One DLM Park; Allen, TX 75002; 800-527-4747

Education

Curious George Visits The Library • Explores position words and concepts • *Apple IIGS; 64K; ProDOS 8; copy protected.* • $24.95 retail • $62 retail; Lab Pack • DLM Teaching Resources; One DLM Park; Allen, TX 75002; 800-527-4747

Cyberlearn • Authoring system • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $295 retail; site license • Cyberlearn, Inc.; 1308 Masonic Ave.; San Francisco, CA 94117; 415-252-0600

CyberWorld • Geography • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $59.95 retail • Cyberlearn, Inc.; 1308 Masonic Ave.; San Francisco, CA 94117; 415-252-0600

Dataflo Math Duo • First Math, an introduction to number concepts and more; Flash Math, tutorials for addition, subtraction and multiplication; features additional speech capability • *Apple IIGS; other Apple II models; Applied Engineering's Phasor board for added speech capability; 64K; ProDOS 8; not copy protected.* • $49.95 each retail • Dataflo Computer Services, Inc.; HC 32, Box 1; Enfield, NH 03748; 603-448-2223

Dataflo Spelling And Vocabulary Trio • Lelps, a word Scrambler; Spell and Tell, a series of blank spaces that, when filled, reveal the correct word; and Tell and Spell, a classic spelling bee simulation; available in English and Spanish; all feature additional speech capability • *Apple IIGS; other Apple II models; Applied Engineering's Phasor board for additional speech capability; 64K; ProDOS 8; not copy protected.* • $49.95 each retail • Dataflo Computer Services, Inc.; HC 32, Box 1; Enfield, NH 03748; 603-448-2223

Decimal Concepts • Mathematics • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Designasaurus • Primary education program; composed of Walk-A-Dinosaur, Build-A-Dinosaur and Print-A-Dinosaur • *Apple IIGS; 768K; ProDOS 8; not copy protected.* • $49.95 retail • Britannica Software, Inc.; 345 4th St.; San Francisco, CA 94107; 415-597-5555 or 800-572-2272

Dinosaur Days Plus • Graphic writing program • *Apple IIGS; printer optional; Echo II synthesizer optional; 128K; ProDOS 16; copy protected.* • $49.95 retail • Learning Lab Publishing/Pelican Software; 21000 Nordhoff St.; Chatsworth, CA 91311; 818-341-9611, 800-247-4641 or 800-222-7026 in CA

Dinosaurs • Introduces preschool children to the skills of matching, classification, directionality, precounting and prereading • *Apple IIGS; 512K; GS/OS; not copy protected.* • $49.95 retail • Advanced Ideas; 2902 San Pablo Ave.; Berkeley, CA 94702; 415-526-9100

DiscoverCAD II And DiscoverCAD Courseware • Teaches students the fundamentals of computer-aided design • *Apple IIGS; other Apple II models; 128K; Applesoft Pascal 1.3; copy protected.* • $325 retail; DiscoverCAD II • $12.95 retail; DiscoverCAD Courseware • $335 retail; Discover CAD II and one copy of DiscoverCAD Courseware, student worksheets and instructor's guide • Hearlihy & Co.; 714 W. Columbia St.; PO Box 869; Springfield, OH 45501; 800-622-1000

DLM Math Fluency Program • Teaches math facts to children in special and remedial education; addition, subtraction, multiplication and division • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $29.95 retail; Single Pack • $60 retail; Class Pack • $10 retail; Additional Student Disk • $225 retail; AppleShare Network • DLM Teaching Resources; One DLM Park; Allen, TX 75002; 800-527-4747

Dr. Peet's Talk/Writer • From letter recognition to word processing, "reads" all text and "sings" all menu items for children in grades pre-K to 2 • *Apple IIGS; other Apple II models; Echo speech synthesizer; 64K; copy protected.* • $69.95 retail; more than 100 other programs are available — call for catalog • Hartley Courseware, Inc.; Box 419; Dimondale, MI 48821; 517-646-6458 or 800-247-1380

Dueling Questions 1.5 • Authoring tool/educational game, where students compete to answer their teachers' questions • *Apple IIGS; 512K; GS/OS; not copy protected.* • $39.95 each retail • Coyote Computing; PO Box 265; Dewitt, NY 13214; 315-446-1035

Easy Street • Shape and number recognition with optional speech; ages 4 to 7 • *Apple IIGS; color monitor recommended; 256K; copy protected.* • $49.99 retail • Mindplay; 3130 N. Dodge Blvd.; Tucson, AZ 85716; 602-322-6163 or 800-221-7911

Educational Activities • Educational programs for pre-K to adult • *Apple IIGS; 48K, 64K or 128K; DOS 3.3; copy protected.* • $63 to $950 retail • Educational Activities, Inc.; PO Box 392; Freeport, NY 11520; 516-223-4666 or 800-645-3739

Electric Crayon Deluxe — Coloring Calendars • Computer coloring book that offers custom banner, calendar and poster-making capabilities • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $29.95 retail • Polarware, Inc.; 1055 Paramount Pkwy., Ste. A; Batavia, IL 60510; 312-232-1984

Electric Crayon Deluxe — Dinosaurs Are Forever • Teaches dinosaur evolution • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $29.95 retail • Polarware, Inc.; 1055 Paramount Pkwy., Ste. A; Batavia, IL 60510; 312-232-1984

En Route And Caminando • French and Spanish simulation programs; also available in German, Latin and ESL • *Apple IIGS; 128K; ProDOS 8.* • $39.95 each retail • Gessler Publishing Co., Inc.; 55 W. 13th St., Ste. 34; New York, NY 10011; 212-627-0099

Equation Math • Plotting algebraic equations • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

ESL Writer • Word processing program designed to help ESL (English as a Second Language) students write essays, reports, etc.; grades 5 to 9 • *Apple IIGS; other Apple II models; 128K; not copy protected.* • $99.95 retail; net to educators (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Ethics And You • Introduces students to the terminology and concepts associated with ethics; grades 5 to 6 • *Apple IIGS; 64K; copy protected.* • $59.95 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

Explore-A-Science Series • Offers elementary and middle school students exciting and realistic reading/writing-based scientific investigations • *Apple IIGS; other Apple II models; 128K; ProDOS 8; program disk copy protected; student disk not copy protected.* • $75 retail; academic • $39.95 retail; home version • William K. Bradford Publishing Co./D.C. Heath Software; PO Box 1355; Concord, MA 01742; 508-263-6996 or 800-421-2009

Explore-A-Story Classics • Three classic children's tales; grades pre-K through 3 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; program disk copy protected; student disks not copy protected.* • $75 each retail; Stone Soup, The Three Little Pigs or The Princess and The Pea • William K. Bradford Publishing Co.; PO Box 1355; Concord, MA 01742; 508-263-6996 or 800-421-2009

Explore-A-Story Series • Reading and writing skills environment for elementary and middle school students; includes 12 titles based on an original storybook • *Apple IIGS; other Apple II models; 128K; ProDOS 8; program disk copy protected; student disk not copy protected.* • $75 retail; academic • $39.95 retail; home version • William K. Bradford Publishing Co./D.C. Heath Software; PO Box 1355; Concord, MA 01742; 508-263-6996 or 800-421-2009

Explore-Australia • Interactive history adventure • *Apple IIGS; other Apple II models; 128K; ProDOS 8; program disk copy protected; student disk not copy protected.* • $99 retail • William K. Bradford Publishing Co.; PO Box 1355; Concord, MA 01742; 508-263-6996 or 800-421-2009

Fact Blaster • Helps students learn facts; accommodates any subject • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $24.95 retail • DEC Software; 5307 Lynnwood Dr.; West Lafayette, IN 47906

File-Talk And Word-Talk • Talking database and word processor • *Apple IIGS; other Apple II models; synthesizer; 128K (512K preferred); ProDOS 16; not copy protected.* • $195 each retail • Access Unlimited-Speech Enterprises; 9039 Katy Freeway, Ste. 414; Houston, TX 77024; 713-461-0006

First Categories For The Apple IIGS • Beginning training in categories • *Apple IIGS; 512K; GS/OS; copy protected.* • $175 retail • Laureate Learning Systems, Inc.; 110 E. Spring St.; Winooski, VT 05404; 802-655-4755

First Letters And Words • Alphabet learning program with talking narrator; ages 3 to 8 • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • First Byte; Clauset Centre; 3100 S. Harbor Blvd., Ste. 150; Santa Ana, CA 92704; 714-432-1740, 800-523-8070 or distributed by Electronic Arts (800-245-4525)

First Shapes • Basic geometric shapes recognition with talking narrator; ages 3 to 6 • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • First Byte; Clauset Centre; 3100 S. Harbor Blvd., Ste. 150; Santa Ana, CA 92704; 714-432-1740, 800-523-8070 or distributed by Electronic Arts (800-245-4525)

First Verbs For The Apple IIGS • Training in verb comprehension, with animated pictures • *Apple IIGS; 512K; GS/OS; copy protected.* • $225 retail • Laureate Learning Systems, Inc.; 110 E. Spring St.; Winooski, VT 05404; 802-655-4755

Education

First Words For The Apple IIGS • Language development • *Apple IIGS; 512K; GS/OS; copy protected.* • $225 retail • Laureate Learning Systems, Inc.; 110 E. Spring St.; Winooski, VT 05404; 802-655-4755

First Words II For The Apple IIGS • Language development • *Apple IIGS; 512K; GS/OS; copy protected.* • $225 retail • Laureate Learning Systems, Inc.; 110 E. Spring St.; Winooski, VT 05404; 802-655-4755

Food Chains • Helps elementary students gain an understanding of the relationships among organisms in a community • *Apple IIGS; 128K; copy protected.* • $59.95 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

Fraction Practice Unlimited • Develop fraction skills for children in grades 4 to 6 • *Apple IIGS; other Apple II models; 128K; CDOS; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Fractions Concepts, Inc. • Introduction to fractions for grades 4 through 6 • *Apple IIGS; other Apple II models; 128K; CDOS; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

The Game Show • Develops vocabulary, logical thinking and deductive reasoning skills; grades 3 to 8 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $39.95 retail • Advanced Ideas; 2902 San Pablo Ave.; Berkeley, CA 94702; 415-526-9100

Geographic Jigsaw • Players solve a jigsaw puzzle by using the individual states of the United States; ages 6 and up • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.95 retail • Eclat Microproducts; PO Box 570-756; Miami, FL 33257; 305-233-4666

The Geometric Presupposer • Explores introductory topics in geometry • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $99 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

The Geometric Supposers • Includes triangles, quadrilaterals and circles • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $99 each retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Geometry • Interactive educational program designed to serve as an extension of classroom work, a refresher or a private tutor • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $79.95 retail; consumer version • $89.95 retail; School Edition (includes backup disk and Teacher's Guide) • $179.95 retail; Lab Pack (includes Teacher's Guide and five disks) • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

Gradebook Plus ProDOS 8 Edition • Teachers' student management program • *Apple IIGS; other Apple II models; 80-column card; 128K; ProDOS 8; not copy protected.* • $59.95 retail; individual version • $199.95 retail; building license • E.M.A. Software; PO Box 339; Los Altos, CA 94023; 415-969-4679

The Great Poster Disk • Posters for the classroom • *Apple IIGS; printer; 64K; ProDOS 8; copy protected.* • $25 retail • Psychological Psoftware Co.; 312 Los Altos Dr.; Aptos, CA 95003; 408-688-6808

GSNumerics • Mathematics • *Apple IIGS; 1 MB; GS/OS 5; not copy protected.* • $139.95 retail • Spring Branch Software, Inc.; RR 2, Box 268A; Manchester, IA 52057; 319-927-6537

Hide And Find • Memory game designed to reinforce recognition of the alphabetic and numeric characters and basic math symbols • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $29.95 retail • Dataflo Computer Services, Inc.; HC 32, Box 1; Enfield, NH 03748; 603-448-2223

Homeworker — The Student Organizer • Secondary education program providing Word Processor, Outliner, Flash Card Maker, Grade Keeper, Calendar and Calculator • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail; home edition • $179.95 retail; school lab pack (contains 10 disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Information Laboratory Software: Chemistry IIGS • Research database of comprehensive chemistry information and interesting facts; features interactive graphics and includes tutorial and problem-solving situations • *Apple IIGS; 512K; GS/OS; not copy protected.* • $96 retail; consumer • $77.76 retail; academic • Addison-Wesley Publishing Co., Inc. — Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 415-854-0300 or 800-227-1936

Information Laboratory Software: Earth Science IIGS • Research database of comprehensive earth science information and interesting facts; includes interactive graphics • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $96 retail; consumer • $77.76 retail; academic • Addison-Wesley Publishing Co., Inc. — Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 415-854-0300 or 800-227-1936

Information Laboratory Software: Life Science IIGS • Research database of comprehensive life science information and interesting facts; features interactive graphics; includes tutorial and problem-solving situations • *Apple IIGS; color monitor; 512K; ProDOS 16; copy protected.* • $96 retail; consumer • $77.76 retail; academic • Addison-Wesley Publishing Co., Inc. — Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 415-854-0300 or 800-227-1936

Information Laboratory Software: Physical Science IIGS • Research database of comprehensive physical science information and interesting facts; features interactive graphics and includes tutorial and problem-solving situations • *Apple IIGS; 512K; GS/OS; not copy protected.* • $96 retail; consumer • $77.76 retail; academic • Addison-Wesley Publishing Co., Inc. — Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 415-854-0300 or 800-227-1936

Information Laboratory Software: World History IIGS • Research database of comprehensive world history information and interesting facts; features interactive graphics and includes tutorial and problem-solving situations • *Apple IIGS; 512K; GS/OS; not copy protected.* • $96 retail; consumer • $77.76 retail; academic • Addison-Wesley Publishing Co., Inc. — Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 415-854-0300 or 800-227-1936

Instant Survey • Survey construction; grades 7 to 12, adult • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $89 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

The Integrated Learning System • Integrated learning system that features a comprehensive K through 8th grade reading, writing and mathematics software curriculum; works in an AppleShare environment • *Apple IIGS; 1.25 MB per workstation; GS/OS; copy protected.* • Call for pricing • Jostens Learning Corp.; 6170 Cornerstone Ct. E, Ste. 300; San Diego, CA 92121; 619-587-0087

Invisible Bugs • Life science; grades 3 to 6, junior high • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Joshua's Reading Machine Premium Pack • Reading program for ages 4 to 7 • *Apple IIGS; other Apple II models; color monitor; 128K; ProDOS 16; not copy protected.* • $49.95 retail • $99.95 retail; academic (contains five sets of disks, scope and a sequence chart and an instruction manual) • Compu-Teach Corp.; 78 Olive St.; New Haven, CT 06511; 203-777-7738 or 800-448-3224

■ **Just A Little Lie** • Short stories; grades 6 to 8 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.*

Just A Little Lie presents a real life situation of a food fight, a bully who is mean to a younger student and a lie told to a teacher. Students learn narration, point of view, character motivation and dialogues as they examine a moral issue of right and wrong. Prewritten activities and easy-to-teach lessons include role-playing scripts that help students explore values, predict behavior and make decisions.

$59 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Keep Your Balance! • Students use deductive reasoning to solve balance equations; grades 5 to 8 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

KidsTime II Version 2 • Number and letter sequencing (Dot-to-Dot), letter-recognition/keyboard skills (ABKey) and introductory music (KidsNotes); ages 3 to 8 • *Apple IIGS; color monitor; 512K; ProDOS 16; not copy protected.* • $39.95 retail • Great Wave Software; 5353 Scotts Valley Dr.; Scotts Valley, CA 95066; 408-438-1990

KidTalk • Talking notebook with word-oriented and picture-oriented pull-down menus; ages 5 to 12 • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • First Byte; Clauset Centre; 3100 S. Harbor Blvd., Ste. 150; Santa Ana, CA 92704; 714-432-1740, 800-523-8070 or distributed by Electronic Arts (800-245-4525)

Kidwriter Golden Edition • Teaches writing and word processing skills; ages 6 to 10 • *Apple IIGS; 768K; copy protected.* • $49.95 retail • Spinnaker Software Corp.; 1 Kendall Sq.; Cambridge, MA 02139; 617-494-1200 or 800-826-0706

Education

Kinderama • Five early learning games; "talking" program for ages preschool to 6 • *Apple IIGS; 1.25 MB; GS/OS; copy protected.* • $49.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Krell Software • K to 9, high school and college test preparation, SAT, ACT, GED, Logo, thinking skills games • *Apple IIGS; copy protected.* • $59.95 to $399.95 retail • Krell Software Corp.; Flowerfield Bldg. #7, Ste. 1D; St. James, NY 11780; 516-584-7900 or 800-245-7355

Land Of The Unicorn • An adventure in synonyms, antonyms and logic; "talking" program for ages 9 to 15 • *Apple IIGS; 1.25 MB; GS/OS; copy protected.* • $59.95 retail; three-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

■ **LCSI Logo II** • Enhanced version of Apple Logo II; both a programming language and a hands-on learning environment • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.*

LCSI Logo II, a new and enhanced version of Apple Logo II, is both a programming language and a dynamic hands-on learning environment. Students explore ideas in mathematics, physics, language and other subjects, developing and testing different problem-solving strategies. Features include: enhanced graphics, color and turtle shapes, including a shape editor; capability to save, load and print pictures; easy data file management and dribble file capabilities; file compatibility with Apple Logo II and other ProDOS software; contains all the "traditional" Logo commands and many extras for advanced Logo programming; works with the existing library of Logo texts and teaching materials; and is suited for teaching a course in programming or computer science. $549 retail; site license • $399 retail; lab pack • $99 retail; single user • Logo Computer Systems, Inc. (LCSI); 3300 Cote Vertu, Ste. 201; Montreal, Quebec, Canada H4R 2B7; 514-331-7090 or 800-321-5646

Learn About Animals • Introduces children to animal life • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

■ **Learn About Plants** • Teaches students about plants; grades 1 to 3 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.*

Learn About Plants lets users plant an on-screen garden and watch it grow. This eight-part program helps student learn that plants are living things, as they discover parts of a plant by matching and labeling them. $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Lego TC Logo Starter Pack • Educational construction set for children • *Apple IIGS; Apple IIe; 64K; ProDOS 8; not copy protected.* • $485 retail; school edition • Lego Systems, Inc.; 555 Taylor Rd.; Enfield, CT 06082; 203-749-2291 or 800-527-8339

Life Cycles • Elementary science; grades 3 to 6 • *Apple IIGS; other Apple II models; 64K; DOS 3.3; copy protected.* • $59.95 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

Linkword Language Series • Foreign language tutorials • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $29.95 each course retail • Artworx Software Co., Inc.; 1844 Penfield Rd.; Penfield, NY 14526; 800-828-6573

■ **The Linguist** • Language tutor • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.*

The Linguist allows users to create their own drills in French, Spanish, German, English, Russian, Hebrew, Japanese or any of 13 other languages. Users select two languages and enter words, phrases or definitions. The Linguist is a patient tutor, drilling students on any language combination. Users can create as many files as needed for as many language pairs they choose. $44.95 retail • Gessler Publishing Co., Inc.; 55 W. 13th St., Ste. 34; New York, NY 10011; 212-627-0099

Little Shoppers Kit • Elementary math made fun; grades K to 4 • *Apple IIGS; other Apple II models; ProDOS 8; 64K.* • $109.95 retail • Tom Snyder Productions, Inc.; 90 Sherman St.; Cambridge, MA 02140; 617-876-4433 or 800-342-0236

The Logic Master • Analogies and number series; "talking" program for grades 5 to high school • *Apple IIGS; 1.25 MB; GS/OS; copy protected.* • $59.95 retail • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Logo Plus • Full-featured version of the Logo language that allows students to create maps, animated stories, improved adventure games, detailed charts and graphs, and more complex and realistic pictures • *Apple IIGS; other Apple II models; 128K; ProDOS 8; single unit and lab packs not copy protected; site license not copy protected.* • $119.95 retail; single unit • $199.95 retail; lab pack (includes 5) • $299.95 retail; lab pack (includes 10) • $399.95 retail; lab pack (includes 20) • $399.95 retail; site license • Terrapin Software, Inc.; 400 Riverside St.; Portland, ME 04103; 207-878-8200

LogoWriter Home Edition • Integrates word processing, graphics and music in the Logo programming environment • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected* • $99 retail • Logo Computer Systems, Inc. (LCSI); 3300 Cote Vertu, Ste. 201; Montreal, Quebec, Canada H4R 2B7; 514-331-7090 or 800-321-5646

LogoWriter Software • Integrates word processing and graphics in the Logo programming environment • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $450 retail; site license (intermediate, secondary, primary) • $299 retail; primary lab pack • $299 retail; secondary lab pack • $299 retail; intermediate lab pack • $169 retail; primary set • $169 retail; secondary set • $169 retail; intermediate set • Logo Computer Systems, Inc. (LCSI); 3300 Cote Vertu, Ste. 201; Montreal, Quebec, Canada H4R 2B7; 514-331-7090 or 800-321-5646

LogoWriter Spanish • Combines Logo programming and graphics with word processing; grades 3 and up • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $169 retail; set • $299 retail; lab pack • $450 retail; site license • Logo Computer Systems, Inc. (LCSI); 3300 Cote Vertu, Ste. 201; Montreal, Quebec, Canada H4R 2B7; 514-331-7090 or 800-321-5646

Look, Listen & Touch • A sensory approach to learning; junior high school to adult • *Apple IIGS; other Apple II models; 64K; DOS 3.3; copy protected.* • $82.50 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

Lunar Greenhouse • Plant growth; grades 3 to 6, junior high • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Magic Slate II • Word processing program • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $129 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Magic Spells • Sharpens spelling skills for children ages 6 to 12 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail; home edition • $59.95 retail; school edition (includes backup disk, teacher's guide and online and offline activities) • The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

Magical Myths • A journey in Greek Mythology; ages 8 to 12 • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Map Skills • Teaches and reinforces map reading skills; ages 8 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Master Gradebook Plus • Automates the task of recording, calculating and averaging students' grades • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $29.95 retail • DEC Software; 5307 Lynnwood Dr.; West Lafayette, IN 47906

Math And Me • Builds early math skills for children ages 3 to 6 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $29.95 retail • $129.95 retail; school lab pack (contains five disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Math Blaster Mystery • Develops problem-solving skills, logical thinking skills and strategies for solving word problems; ages 10 and up • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains 10 disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Math Blaster Plus • Addition and subtraction, multiplication and division, fractions, decimals and percents; for grades 1 through 6 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains five disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Math Blaster Plus IIGS • Builds accuracy and speed as students master skills in addition, subtraction, multiplication, division, fractions, decimals and percents; grades 1 to 6 • *Apple IIGS; 512K; GS/OS; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains 10 disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Education

Math Masters • Consists of two programs that cover basic mathematical operations for numbers from 0 through 25 • *Apple IIGS; other Apple II models; 64K; ProDOS 6; copy protected.* • $46 retail • $115 retail; Lab Pack • DLM Teaching Resources; One DLM Park; Allen, TX 75002; 800-527-4747

Math Rabbit • Introduces key math concepts in a series of four image games; ages 3 to 7 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail; home edition • $59.95 retail; academic edition • $129.95 retail; lab pak • The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

Math Shop Jr. • Introduces math concepts; grades 1 to 4 • *Apple IIGS; other Apple II models; 64K (128K recommended); ProDOS 8; not copy protected.* • $69.95 retail; net to educator (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Math Tutor • Skill-building in fractions, decimals and percentages; grades 1 to 6 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $59.95 each retail; net to educator (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Math Wizard • Four educational games; "talking" program for ages 5 to 13 • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Math Word Problems • Provides practice at analyzing and solving math word problems; ages 8 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

MathTalk • Talking notebook featuring math tutorials, simulations and games; ages 5 to 10 • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • First Byte; Clauset Centre; 3100 S. Harbor Blvd., Ste. 150; Santa Ana, CA 92704; 714-432-1740, 800-523-8070 or distributed by Electronic Arts (800-245-4525)

MathTalk Fractions • Talking notebook featuring decimals, fractions and percents; ages 8 to 15 • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • First Byte; Clauset Centre; 3100 S. Harbor Blvd., Ste. 150; Santa Ana, CA 92704; 714-432-1740, 800-523-8070 or distributed by Electronic Arts (800-245-4525)

Mavis Beacon Teaches Typing! • Expert-system typing teacher • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • The Software Toolworks; 19808 Nordhoff Pl.; Chatsworth, CA 91311; 818-885-9000

McGee • Independent exploration for young children • *Apple IIGS; other Apple II models; 64K; DOS 3.3; copy protected.* • $39.95 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

MeasureWorks • Linear measurement, area, perimeter measurement and appropriate units of measurement; grades 1 to 4 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Memory Building Blocks • Memory skills; grades K to adult • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Memory Castle • Memory skills; grades 5 to 12 • *Apple IIGS; other Apple II models; 48K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Memory Machine • Memory skills; grades 5 to adult • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

MIDI Messenger • TML Pascal source-code-based IIGS programming tutorial and MIDI utility • *Apple IIGS; MIDI interface optional; 768K; GS/OS; not copy protected.* • $29.95 retail; single unit • $149.95 retail; lab pack (10 students) • MMP Systems; 20681 Celeste Cir.; Cupertino, CA 95014; 408-996-9270

The Milliken Storyteller • Interactive computer storybook; ages 4 to 7 • *Apple IIGS; color monitor recommended; 512K; GS/OS; not copy protected.* • $44.95 retail • Milliken Publishing Co.; 1100 Research Blvd.; PO Box 21579; St. Louis, MO 63132; 314-991-4220 or 800-643-0008

Miner's Cave • Physical science; grades 4 to 7 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Modular Management System For Schools (MMS) • Complete educational management system • *Apple IIGS; monitor and printer; 1 MB; GS/OS; not copy protected.* • $399 retail; Student Master File System • $449 retail; Attendance Reporting System • $349 retail; Discipline Reporting System • $949 retail; Grade Reporting System • $1,099 retail; Student Scheduling System • $449 retail; Tuition/Fee Accounting System • Computer Resources, Inc.; Rte. 125, PO Box 60; Barrington, NH 03825; 603-664-5811

Money Works • Teaches money recognition, counting and more; grades 1 to 4 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Monsters And Make Believe Plus • Graphic writing program • *Apple IIGS; printer optional; Echo II synthesizer optional; 128K; ProDOS 8; copy protected.* • $49.95 retail • Learning Lab Publishing/Pelican Software; 21000 Nordhoff St.; Chatsworth, CA 91311; 818-341-9611, 800-247-4641 or 800-222-7026 in CA

More Teasers From Tobbs • Decimal and fractions practice; grades 5 to 12 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Mr. Py And I Coloring Adventures • Educational learning series in the form of a coloring book • *Apple IIGS; 3.5-inch disk drive; RGB monitor; 768K (1.25 MB suggested); ProDOS 16 and GS/OS; not copy protected.* • $59 retail • Pygraphics Corp.; PO Box 639; Grapevine, TX 76051; 817-481-7536 or 800-222-7536

The Muppet Collection • Develops skills in sorting and classifying, determining likenesses and differences and more; grades K to 1 • *Apple IIGS; other Apple II models; works with regular keyboard, Muppet Learning Keys or Touch Window; 64K; ProDOS 8; copy protected.* • $65 retail; Muppets On Stage (includes backup) • $65 retail; Muppetville (includes backup) • $65 retail; Muppet Word Book (includes backup) • $195 retail; Muppet Word Book lab pack (contains 10 programs) • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Muppet Slate • Word and picture processor; grades K to 2 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $75 retail • $225 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Music, MIDI, And Your Apple II Archive • Information newsletter compendium and educational resource • $17.95 retail • $21.95 retail; international orders • MMP Systems; 20681 Celeste Cir.; Cupertino, CA 95014; 408-996-9270

Mystery Objects • Physical science; grades 4 to 6 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

National Foreign Language Examination • Helps users prepare for the National Language Examinations and Achievement Tests; available in German, French and Spanish • *Apple IIGS; 128K; ProDOS 8; copy protected.* • $49.95 per level retail • $180 retail; set of four levels • Gessler Publishing Co., Inc.; 55 W. 13th St., Ste. 34; New York, NY 10011; 212-627-0099

National Gallery Of Art (ImageWorks Video Directory) • Video directories • *Apple IIGS; other Apple II models; 64K; ProDOS 8.* • $49.95 retail • Teaching Technologies; PO Box 3808; San Luis Obispo, CA 93403; 805-541-3100

The New Talking Stickybear Alphabet • Talking upper and lowercase letter recognition; features two pictures for each letter; three activities to complement and encourage alphabet learning; ages 3 to 6 • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

The New Talking Stickybear Opposites • Teaches beginning learners about opposites and helps build reasoning skills; ages 3 to 6 • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

The New Talking Stickybear Shapes • Helps children identify shapes; includes a poster and Stickybear stickers; ages 3 to 6 • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack

Education

• Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

New Teasers From Tobbs • Addition and multiplication using whole numbers or integers • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Newbery Adventures • Adventure series; grades 4 to 6 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail; Mrs. Frisby and the Rats of NIMH • $65 retail; Island of the Blue Dolphins • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

OGI Pascal Development System • Allows development of programs using the Pascal programming language; targeted toward education environment • *Apple IIGS; other Apple II models; 128K; ProDOS 8; 80-column display; printer optional; not copy protected.* • $55 retail • On-Going Ideas; Rd. #1, Box 810; Starksboro, VT 05487; 802-453-4442

■ **Once Upon A Time... II** • Design and publish illustrated books; ages 6 to 12 • *Apple IIGS; color monitor; 512K; GS/OS; not copy protected.*

With Once Upon A Time... II, children can write their own stories, create finely detailed illustrations and actually produce their own illustrated books. There are limitless possibilities for new stories and illustrations, permitting children to learn important story creation skills and design concepts while developing creativity and cognitive growth.

Simple enough for younger children, yet challenging enough for older ones, the package includes three programs: Underwater, Dinosaur and Forest. Storybanks with samples of illustrated possibilities are also included, along with an idea manual showing printouts of illustrated stories. Coloring pencils are included.
$59.95 retail • $119.95 retail; classroom edition • Compu-Teach Corp.; 78 Olive St.; New Haven, CT 06511; 203-777-7738 or 800-448-3224

Once Upon A Time... Talking IIGS • Desktop publishing program for ages 6 to 12 • *Apple IIGS; color monitor; 512K; GS/OS; not copy protected.* • $59.95 retail • $119.95 retail; classroom edition • Compu-Teach Corp.; 78 Olive St.; New Haven, CT 06511; 203-777-7738 or 800-448-3224

One For The Books • Program that generates personalized book lists and motivates students to read; grades 3 to 6 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $149 retail • Focus Media, Inc.; PO Box 865; 839 Stewart Ave.; Garden City, NY 11530; 516-794-8900 or 800-645-8989

■ **One Of A Kind** • Vocabulary; encourages originality; grades 3 to adult • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.*

One Of A Kind is a game that expands students' vocabulary and encourages originality. Students are asked to enter four words (starting with four letters) in three different categories that are teacher-selected. One Of A Kind rewards originality; the more unique the response, the higher the score. Teachers can change the categories, or create new ones, so the program can be used in many subject areas. Spanish characters are included for bilingual use.
$65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Patterns • Language arts; preschool • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Pfs: Write And Pfs: File/Report • Programs designed to help students in grades 7 through 12 master word processing, filing and reporting skills • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $79.95 each retail; net to educators (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Pow! Zap! Ker-Plunk! • Comic book maker • *Apple IIGS; Echo II board optional; 128K; ProDOS 8; copy protected.* • $49.95 retail • $59.95 retail; school edition • Learning Lab Publishing/Pelican Software; 21000 Nordhoff St.; Chatsworth, CA 91311; 818-341-9611, 800-247-4641 or 800-222-7026 in CA

ProWords And ProBraille • Word processor and translator for the blind • *Apple IIGS; other Apple II models; synthesizer (Echo or Slotbuster II); 128K per program (512K preferred); ProDOS 16; not copy protected.* • $150 retail; ProBraille • $195 retail; ProWords • Access Unlimited-Speech Enterprises; 9039 Katy Freeway, Ste. 414; Houston, TX 77024; 713-461-0006

Punctuation Rules • Teaches and reinforces the proper use of punctuation; ages 8 to 11 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

QuickTests • Test generator • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $180 retail; single user • $450 retail; unlimited copies per school or college department • Seven Hills Software Corp.; 2310 Oxford Rd.; Tallahassee, FL 32304; 904-576-9415 or 800-627-3836

Read & Rhyme • Four language-arts activities; "talking" program for ages 5 to 10 • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Read 'N Roll • Reading comprehension program for grades 3 through 6 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains five disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Read, Write And Publish • Process writing skills environment for grades 1 through 8; includes eight topics in each grade-level package • *Apple IIGS; other Apple II models; 128K; ProDOS 8; program disk copy protected; student disks not copy protected.* • $99 retail; academic • $99 retail; Spanish Edition • William K. Bradford Publishing Co./D.C. Heath Software; PO Box 1355; Concord, MA 01742; 508-263-6996 or 800-421-2009

Read-A-Rama • Five early learning activities; "talking" program for ages 5 to 8 • *Apple IIGS; 1 MB; ProDOS 16; copy protected.* • $59.95 retail • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Reader Rabbit • Talking early education program that reinforces reading, spelling and vocabulary skills; ages 3 to 7 • *Apple IIGS; color monitor recommended; 256K; ProDOS 16; copy protected.* • $59.95 retail; home edition • $79.95 retail; school edition • $149.95 retail; lab pack • The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

Reading And Me • Prepares children ages 4 to 7 for reading • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $39.95 retail • $129.95 retail; school lab pack (contains five disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Reading Comprehension • Includes 29 high-interest story and question sets designed to help children learn important reading skills; ages 9 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Reading Magic Library • Storybooks that let parents and their children choose what happens next • *Apple IIGS; other Apple II models; 512K; ProDOS 8; copy protected.* • $34.95 each retail • Tom Snyder Productions, Inc.; 90 Sherman St.; Cambridge, MA 02140; 617-876-4433 or 800-342-0236

■ **Reading Skills Development Program** • Word analysis and vocabulary skills; grades 1 to 8 • *Apple IIGS; 256K; ProDOS 16; copy protected.*

Reading Skills Development Program is a complete learn-to-read software program that provides practice in word analysis, comprehension and study skills. The program contains more than 200 lessons, with voice, stressing the principles of vowels, consonants and vocabulary; special comprehension section; management system with print options; complete scope and sequence of skills chart; user's guide; correlations; student management folders; and a management system.
$1,795 retail; networking and site licensing pricing also available • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Recycling Logic • Teaches basic principles of logic; ages 6 to adult • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail; includes backup • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Report Card II • Teacher's grading system • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $59.95 retail • Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Return Of The Dinosaurs • An entertaining, problem-solving adventure that also teaches database access skills; ages 10 and older • *Apple IIGS; 256K; ProDOS 8.* • $39.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Education

Revolution '76 • Historical simulation • *Apple IIGS; 1.2 MB or 768K; GS/OS.* • $49.95 retail • Britannica Software, Inc.; 345 4th St.; San Francisco, CA 94107; 415-597-5555 or 800-572-2272

The Right Turn • Students learn mathematical concepts of rotation and transformation • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

■ **RSVP** • National and international manners and customs • *Apple IIGS; 128K; DOS 3.3; copy protected.*

RSVP teaches users about national and international manners and customs from 17 categories and 18 different countries. Situations include: how to eat a croissant, when to bow in Japan and how to address a letter to a lawyer. RSVP can be used as a game or as a practical tool.

$39.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

School Speller And School Speller Manager • Spelling instruction • *Apple IIGS; other Apple II models; Magic Slate II; 128K; ProDOS 8.* • $75 retail; School Speller (40 or 80 column version) • $65 retail; School Manager • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Scorekeeper 3.0 • Gradebook management system • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protection limited.* • $79.95 retail • Stokes Publishing Co.; 1125 Robin Way, Ste. C; Sunnyvale, CA 94087; 408-736-4637

Seasons And Special Days • Language activities; grades K to 2 • *Apple IIGS; other Apple II models; Muppet Slate; 64K; ProDOS 8; copy protected.* • $59 retail • $177 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

■ **Sentence Fun** • Word skills program; ages 8 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.*

Sentence Fun is a word skills program in which children use the various parts of speech to construct humorous stories that appear only at the conclusion of each exercise. A viable supplement to the existing language arts program, it promotes recognition of more than a dozen specific word classes while sparking creativity. Features include: is designed to help children learn parts of speech by choosing words from an established word list or making up their own; contains four word lists, each of which contains 255 words; an on-screen help function is available to provide a review of the particular part of speech on demand; all stories can be personalized; and all stories can be printed out for off-screen use.

$49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Sesame Street Series • Introduces children to ABCs, numbers and opposites • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $17.95 each retail; Letters For You, Numbers Count, Opposites Attract • Polarware, Inc.; 1055 Paramount Pkwy., Ste. A; Batavia, IL 60510; 312-232-1984

Sky Travel • Astronomy database program featuring 1,200 stars, 88 constellations and more • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $52.95 retail • MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

SmoothTalker • Software-only speech synthesizer that converts text into speech • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • First Byte; Clauset Centre; 3100 S. Harbor Blvd., Ste. 150; Santa Ana, CA 92704; 714-432-1740, 800-523-8070 or distributed by Electronic Arts (800-245-4525)

Solve It! • Teaches students how to search for information in a database; exercise logical thinking; organize and analyze data; and to enhance language art skills • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $75 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Space Waste Race • An animated storybook with learning games; preschool through grade 2 • *Apple IIGS; other Apple II models; 48K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

SpaceLace • An interactive kaleidoscope and Basic tutorial • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $29.95 retail • Great Wave Software; 5353 Scotts Valley Dr.; Scotts Valley, CA 95066; 408-438-1990

Spell It Plus • Spelling; ages 10 and up • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains 10 disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Speller Bee • Incorporates talking notebook and graphics to improve spelling skills; for children ages 5 to 10 • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • First Byte; Clauset Centre; 3100 S. Harbor Blvd., Ste. 150; Santa Ana, CA 92704; 714-432-1740, 800-523-8070 or distributed by Electronic Arts (800-245-4525)

Spellevator • Spelling; grades 1 to 6 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Spelling Rules • Improves spelling accuracy; ages 8 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Spelling Series Toolkit • Creates word lists for Spellevator • *Apple IIGS; other Apple II models; 128K; ProDOS 8.* • $89 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Stars And Planets • Provides six educational games that reinforce particular learning skills; ages 2 1/2 to 6 • *Apple IIGS; 512K; GS/OS; not copy protected.* • $49.95 retail • Advanced Ideas; 2902 San Pablo Ave.; Berkeley, CA 94702; 415-526-9100

Stickybear Math • Basic addition and subtraction; great graphics motivate students through 20 levels of difficulty; program advances automatically — based on rate of success; ages 6 to 9 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail • $75 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Math 2 • Basic multiplication and division; features automatic level-of-difficulty monitor that adjusts to suit individual learning rates; ages 7 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail • $75 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Numbers • Counting and number recognition program; colorful animation reinforces "forward and backward" counting skills; multiple image options for each numeral; ages 3 to 6 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail • $75 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Opposites • Teaches beginning learners about opposites; helps build reasoning skills; package includes 32-page book and Stickybear stickers; ages 3 to 6 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail • $75 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Parts Of Speech • Helps children recognize parts of speech using both word lists and sentence formats to reinforce student skills • *Apple IIGS; other Apple II models; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Reading • Three interactive and highly enjoyable activities build vocabulary and reading comprehension skills; ages 5 to 8 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail • $75 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Reading Comprehension • Multilevel reading program containing 30 stories and comprehension question sets; program automatically advances to suit individual learning rates and can be customized with new story and question exercises; ages 7 to 9 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Shapes • Helps children identify shapes with bold, bright colors, music and animation; package includes poster, 32-page book and Stickybear stickers; ages 3 to 6 • *Apple IIGS; 64K; ProDOS 8; copy protected.* • $39.95 retail • $75 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Spellgrabber • Builds spelling and vocabulary skills with three exciting, arcade-style activities; ages 6 to 9 • *Apple IIGS; other Apple II models; 64K; ProDOS 8;*

Education

copy protected. • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Town Builder • Teaches basic map reading, compass reading, positioning and direction skills; children build their own towns complete with roads, parks, bridges, airports and more; ages 6 to 9 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Typing • Typing instruction for all ages, featuring activities to sharpen both typewriter and computer keyboard skills • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Stickybear Word Problems • Provides beginning practice at analyzing and solving math word problems; rewards correct answers with bright, colorful animation; ages 7 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

■ **Studymate: The Grade Booster** • Study tool for teens and adults • *Apple IIGS; IIc+; 128K; ProDOS 16; not copy protected.*

Studymate is an interactive program for studying and preparing for exams. Users can significantly reduce study time by creating personalized tests from their own course material on virtually any subject. With easy-to-use menus and quick entry screens, Studymate: tests user on the exact facts they need to know; retests incorrect responses immediately; automatically corrects and scores tests; saves study lists, tests and scores for future use; prints study lists, tests and scores; allows users to edit material at any time; personalizes and keeps separate records for more than one person; enables users to practice and take tests on screen or on printout; helps users memorize facts faster and easier; reduces study time; and makes reviewing material simple. Questions can be created in a variety of formats, including multiple choice, question/response, true/false, fill in the blanks and spell scramble/vocabulary.
$49.95 retail • $99.95 retail; classroom edition • Compu-Teach Corp.; 78 Olive St.; New Haven, CT 06511; 203-777-7738 or 800-448-3224

Success With Literature • Computer-based approach to writing about literature; 12 programs in series; grades 8 to 12 • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $29.95 each retail; net to educator (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Success With Writing • Four-module program that guides students through the writing process; grades 7 to 12 • *Apple IIGS; other Apple II models; printer optional; 128K; ProDOS 8; not copy protected.* • $99.95 retail; net to educators (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Super Factory • Problem-solving strategies learned from observing a 3-D cube • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail; includes backup • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Super Story Tree • Interactive story maker that allows students in grades 6 through 12 to illustrate their stories with exciting graphics, music and sound effects • *Apple IIGS; other Apple II models; joystick, mouse or Koala Pad; Epson or Scribe printer; 128K; ProDOS 8; not copy protected.* • $79.95 retail; net to educators (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Tales From The Arabian Nights • A unique learning experience in reading comprehension; ages 8 to 12 • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Talking Aesop's Fables • Reading comprehension and language arts; ages 6 to 9 • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail; two-disk program • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Talking Math And Me • Builds early math skills using digitized speech; ages 3 to 6 • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains five disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Talking Reading And Me • Prepares children for reading using digitized speech; ages 4 to 7 • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains five disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

◆ **Talking Schoolhouse Series** • 16 software programs that use real human speech to teach basic skills • *Apple IIGS; 512K.*

The Talking Schoolhouse Series features 16 talking programs that teach children basic skills with a human voice and super high-resolution graphics.

The programs include: Talking ABC's (pre-K to 2), teaches the alphabet and early keyboarding; Talking Addition & Subtraction (K to 3), a voice adds and subtracts numbers; Talking Alpha Chimp (pre-K to 2), Harry the Chimp teaches alphabet and early numbers; Talking Animals (pre-K to 4), teaches shape, color and sound classification skills; Talking Clock (K to 3), helps children tell time; Talking Colors & Shapes (pre-K to 2), targeted for youngsters getting ready to read; Talking Dinosaurs (K to 4), takes kids back in time with Iggy the Dinosaur; Talking First Reader (K to 3), a perfect reading experience for beginning readers; Talking First Writer (1 to 4), helps children build sentences; Talking Money (K to 4), teaches the value and use of money; Talking Numbers (pre-K to 2), teaches numbers one to nine and their values; Talking Read-Along Stories (2 to 4), youngsters get help reading from a human voice; Talking School Bus (K to 3), kids choose some interesting trips for their school bus; Talking Speller (K to 3), youngsters spell words as they hear them; Talking USA Map (4 to 12), the states come alive with human speech; and Talking Reading Railroad (K to 4), builds early reading and word skills.
$49 each retail • $59 each retail; School Edition • Orange Cherry-Talking Schoolhouse Software; PO Box 390 Westchester Ave.; Pound Ridge, NY 10576; 914-764-4104 or 800-672-6002

Circle No. 51

Talking Text Libraries • Synthesized speech that reads stories aloud for young readers • *Apple IIGS; other Apple II models; Echo IIb board; 128K; ProDOS 8; not copy protected.* • $39.95 each retail; (net to educators); Beginning Classics (Grades K to 1), Classics for Young Readers (Grades 2 to 3), Discover History (Grades 2 to 4), Explore Science (Grades 2 to 4) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Talking Text Spelling • Talking spelling tutor • *Apple IIGS; other Apple II models; Echo IIb board; 128K; ProDOS 8; not copy protected.* • $99.95 each retail; net to educators (without board) for grade specific core package • $99.95 retail; Echo board net to educators • $59.95 each retail; net to educators (additional spelling list packages for grades 1 to 6) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Talking Text Writer • Combines word processing with the Echo board from Street Electronics • *Apple IIGS; other Apple II models; Echo, Cricket or PC2 speech synthesizer board; 512K; ProDOS; not copy protected.* • $149.95 retail; net to educators • $99.95 retail; Echo board net to educators • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Teasers By Tobbs With Integers • Mathematics; grades 2 to adult • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Teddy & Iggy • Memory and sequencing skills; grades K to 2 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Teddy's Playground • Critical-thinking skills; grades K to 4 • *Apple IIGS; other Apple II models; 48K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Test It! Deluxe • Allows teachers to create customized tests • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $59.95 retail • EduSoft; PO Box 2560; Berkeley, CA 94702; 415-548-2304 or 800-338-7638

Think Quick! • Fast-paced adventure game that helps develop thinking skills for ages 7 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

The Thinking Machine • Educational system designed to help students use their brain more effectively • *Apple IIGS; printer optional; 64K; ProDOS 8; copy protected.* • $89.50 retail • Psychological Psoftware Co.; 312 Los Altos Dr.; Aptos, CA 95003; 408-688-6808

Education

Ticket To London • Adventure that teaches social studies, art and literature; ages 10 to adult • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Ticket To Paris • Adventure that teaches French and social studies; ages 12 to adult • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Ticket To Spain • Adventure that teaches Spanish, social studies, art and literature; ages 12 to adult • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Ticket To The National Parks • Adventure that enriches a user's knowledge of our country's natural resources as they experience the splendor of our nation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $44.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Ticket To Washington, D.C. • Adventure that teaches social studies, art and literature; ages 10 to adult • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $44.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Tiger's Tales • Interactive adventure stories; grades K to 2 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Time Navigator • History; grades 8 to 12 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Time Patterns Tool Kit: American History • Historical database • *Apple IIGS; 512K; ProDOS 8; copy protected.* • $99.95 retail • Tom Snyder Productions, Inc.; 90 Sherman St.; Cambridge, MA 02140; 617-876-4433 or 800-342-0236

To Preserve, Protect And Defend • U.S. Constitution lesson • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

■ **Toby's Terrific Pet** • Story writing; grades 3 to 5 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.*

Students meet Toby and create a "terrific pet" while learning the basic elements of story writing as they compose their own short stories. Emphasis on dialogue and persuasive language encourages young authors to enrich their writing. Fun and factual prewriting activities include an Animal Information File, Animal Category Sheets and Animal Story Cards.
$59 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Touch 'N Write • D'Nealian Manuscript Method or Palmer Manuscript Penmanship; grades K to 2 • *Apple IIGS; other Apple II mode;s 128K; ProDOS 8; copy protected.* • $75 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Tutor-Tech 2.6 • Apple IIGS hypermedia tool for educators featuring a tool box of writing and drawing tools, text fonts, various buttons similar to HyperCard, videodisc and video overlay card support and more • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $195 retail; basic • $290 retail; complete with grade-book manager • Techware Corp.; PO Box 151085; Altamonte Springs, FL 32715; 407-695-9000

Type To Learn • Teaches typing skills • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $75 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Typing Teacher • Typing tutor • *Apple IIGS; other Apple II models (including IIc+); 128K; ProDOS 8; not copy protected.* • $29.95 retail • Future Age Computers; 3 McCrary Dr. SW; Rome, GA 30161; 404-235-4948

Typing Tutor IV • Customizing keyboard instruction • *Apple IIGS; RGB color monitor recommended; 512K; ProDOS 16; not copy protected.* • $44.95 retail • Simon & Schuster Software; 1 Gulf + Western Plaza, 13th Fl.; New York, NY 10023; 800-624-0023 or 800-624-0024 in NJ

■ **U.S. Geography** • Interactive program for learning U.S. Geography • *Apple IIGS; 128K; DOS 3.3; copy protected.*

U.S. Geography includes study of basic geographical terms organized by geographical regions. Lesson topics include: states, capitols, cities, landmarks, rivers, mountain ranges and more.
$24.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

■ **U.S. History** • Supplement to any introductory U.S. History course • *Apple IIGS; 128K; DOS 3.3; copy protected.*

U.S. History covers people, dates, places and events from the early explorers through the 1980s. Lesson topics include: Early Explorers, Western Expansion, Industrialization, World Wars I and II, The American Revolution, The Civil War, Cold War and Detente, Equal Rights and more.
$24.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

USA GeoGraph • Geography; IIGS specific; grades 5 to adult • *Apple IIGS; 768K; GS/OS; copy protected.* • $139 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

■ **The Velveteen Rabbit** • Literature; creative writing; grades 1 and 2 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.*

Teachers can make *The Velveteen Rabbit* come alive in their classrooms by combining reading the book aloud to their class with language arts activities specially designed for the beginning writer. Motivating "whole language" lessons provide complete details for prewriting, writing at the computer, revising, a word bank approach for spelling help, proofreading and publishing. In addition, there is an expandable word bank on the disk and on reproducible student sheets. Unique art activities for each lesson are included. A copyable data disk contains helpful directions and fill-in files for students. The creative writing activities include poetry, letters, sentences, stories, journals and more.
$59 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Video Studio IIGS • Interaction assembler and presentation processor • *Apple IIGS; 64K; ProDOS 8; not copy protected.* • $99 retail • Teaching Technologies; PO Box 3808; San Luis Obispo, CA 93403; 805-541-3100

Vocabulary Development • Increases vocabulary and strengthens reading skills with a multilevel series of high-interest questions; context clues, parts of speech, multiple meanings and more covered in 44 lessons; ages 8 and up • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail • $85 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Weeds To Trees • Plant succession; grades 3 to 10 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

■ **What Do You Do With A Broken Calculator?** • Math operations; grades 2 to adult • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.*

This program challenges students to find different ways to reach a mathematical solution. With some of the keys disabled on the calculator, students must find the order of operations that will equal a target number.
$65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

What's In A Frame? • Memory strategies; grades K to 6 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • $195 retail; lab pack • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

Where In The World Is Carmen Sandiego? • Players track Carmen and her gang of thieves around the world to recover stolen treasures • *Apple IIGS; 512K; ProDOS 16.* • $44.95 retail • $54.95 retail; School Editions • $109.95 retail; Lab Packs • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

Winker's World Of Patterns • Offers three arenas for understanding patterns; grades K to 6 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 101 Castleton St.; Pleasantville, NY 10570; 914-747-3310 or 800-628-8897

The Wonders Of The Animal Kingdom • Six educational activities; prints in color; "talking" program for ages 6 to 12 • *Apple IIGS; 1 MB; ProDOS 16; copy protected.* • $49.95 retail • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Wood Car Rally • Physical science; grades 4 to 7 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Education

Word Attack Plus • Teaches students 700 new words and their definitions; grades 4 to 12 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 retail • $149.95 retail; school lab pack (contains five disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

Word Attack Plus Spanish And Word Attack Plus French • Teaches students to master a beginning foreign language vocabulary; grade 7 to adult • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $49.95 each retail • $149.95 retail; school lab pack (contains 10 disks and coupon for free teacher's resource guide) • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

The Word Master • Vocabulary builder; prints study sheets, quizzes and pretests; "talking" program for grades 3 to 8 • *Apple IIGS; 1 MB; GS/OS; copy protected.* • $49.95 retail • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

World GeoGraph • Social studies; IIGS specific; grade 6 to adult • *Apple IIGS; two 3.5-inch drives recommended; color monitor; 768K; GS/OS; copy protected.* • $139 retail; includes illustrated user guide • $19 retail; comprehensive classroom guide • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

■ **World Geography** • Challenging, interactive program for learning world geography • *Apple IIGS; 128K; DOS 3.3; copy protected.*

World Geography covers cities and nations found in today's news. It includes study of basic geographical terms and is organized by continent. Lesson topics include: countries, capitols, cities, oceans, rivers, land masses and more.
$24.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

■ **World History** • Supplement for introductory world history courses • *Apple IIGS; 128K; DOS 3.3; copy protected.*

World History covers famous leaders, battles, treaties, dates and events from prehistoric to modern times. Lesson topics include: Prehistoric Era, Greek and Roman Civilizations, Middle Ages and Renaissance, Industrial Revolution, World Wars I and II, Technical and Information Age and more.
$24.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Writer Rabbit • Builds reading comprehension and writing skills for ages 7 to 10 • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $49.95 retail; home edition • The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

Writer's Helper Stage II • Prewriting and revising software • *Apple IIGS; two disk drives (hard disk drive optional); printer recommended; 128K; ProDOS 8; copy protected.* • $120 retail • $240 retail; Educator Pack with six disks • Conduit; The University of Iowa; Oakdale Campus; Iowa City, IA 52242; 319-335-4100

Your First Job • Teaches students how to conduct a job search and to improve their chances of finding their first job • *Apple IIGS; 64K; copy protected.* • $69.95 retail • MCE, A Div. of Lawrence Productions; 1800 S. 35th St.; Galesburg, MI 49053; 800-421-4157

Zero In On Zero • Addition/subtraction; multiplication/division • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $46 each retail; single pack • $115 each retail; lab pack • $199 each retail; network • DLM Teaching Resources; One DLM Park; Allen, TX 75002; 800-527-4747

Zoyon Patrol • Game-like simulation that provides an environment for learning the scientific method • *Apple IIGS; other Apple II models; 128K; MDOS; copy protected.* • $59 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

Entertainment

2088: The Cryllan Mission • Role-playing game • *Apple IIGS; 1 MB (new GS with ROM 3) or 1.25 MB (older GS); GS/OS; not copy protected.* • $69.95 retail • Victory Software; PO Box 821381; Houston, TX 77282; 713-493-3232 or 800-232-3828

4th & Inches • Football simulation featuring 20 plays and 11 different formations • *Apple IIGS; keyboard, joystick or mouse; 512K; ProDOS 16; copy protected.* • $44.95 retail • $14.95 retail; Team Construction Kit • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

AAARGH! • Arcade action game • *Apple IIGS.* • $14.99 retail • Virgin Mastertronic Int'l., Inc. — Melbourne House; 18001 Cowan, Ste. A; Irvine, CA 92714; 714-833-8710

Anchorman • Realistic bowling game • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $39.95 retail • Virginia Real Software, Inc.; PO Box 8545; Norfolk, VA 23503; 804-587-4952

■ **Ancient Land of Ys** • Role-playing game • *Apple IIGS; 512K; joystick optional; copy protected.*

The Ancient Land of Ys is an involving, yet easy to play, role-playing game with fast-paced arcade action. The evil wizard Malificus has seized the six Books of Ys and used their awesome power to gain control of the land. You are determined to recover the sacred books and free your people. You'll be faced with puzzles, mysteries and battles at every turn. Before you're done, you must defeat five horrendous monsters and finally Malificus himself.
$44.95 retail • Kyodai Software Marketing, Inc.; 58 Mitchell Blvd.; San Rafael, CA 94903; 415-492-3592

Arkanoid II — The Revenge Of Doh • Arcade action in which users must penetrate an alien ship and break down 67 energy barriers • *Apple IIGS; 512K; GS/OS; copy protected.* • $34.95 retail • Taito Software, Inc.; 206 - 267 W. Esplanade; N. Vancouver, BC, Canada V7M 1A5; 604-984-3344 or 800-663-8067

Balance Of Power: The 1990 Edition • Global politics • *Apple IIGS; 1 MB; ProDOS 16; copy protected.* • $49.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

The Bard's Tale • Medieval adventure; the goal is to halt the evil magic spell spread by the wizard Mangar • *Apple IIGS; 512K; ProDOS 8; copy protected.* • $19.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

The Bard's Tale II: The Destiny Knight • Features new story line, more areas to explore and more magic items • *Apple IIGS; 512K; ProDOS 8; copy protected.* • $49.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Battle Chess • Animated chess game • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $49.95 retail • Interplay Productions; 1575 Corporate Dr.; Costa Mesa, CA 92626; 714-549-2411 (technical support) or 800-969-4263 (orders)

Beyond Zork • Adventure into the Great Underground Empire • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $19.95 retail • Infocom, Inc.; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0800

Black Jack Academy • Card game on disk • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $39.95 retail • Microfllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

Blue Angels • Precision flight simulation • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Bridge 5.0/6.0 • Bridge playing program • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $39.95 retail • Artworx Software Co., Inc.; 1844 Penfield Rd.; Penfield, NY 14526; 800-828-6573

Bubble Ghost • Bubble-blowing arcade action • *Apple IIGS; keyboard or mouse; 512K; ProDOS 16; copy protected.* • $34.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Captain Blood • Science-fiction adventure • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $44.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

CheatMaster • "Cheat" program that modifies a user's status in a game to improve their ability to win • *Apple IIGS; 768K.* • $20 retail • Martin Hill; 32 Chelford Rd.; Toronto, Ontario, Canada M3B 2E5; 416-449-8344

Club Backgammon • Accurate simulation of backgammon • *Apple IIGS; 512K; ProDOS; not copy protected.* • $39.95 retail • California Dreams; 780 Montague Expwy., #403; San Jose, CA 95131; 408-435-1445

Clue Master Detective • Criminal detection • *Apple IIGS; 64K; ProDOS 8; copy protected.* • $39.99 retail • Virgin Mastertronic Int'l., Inc. — Leisure Genius; 18001 Cowan, Ste. A; Irvine, CA 92714; 714-833-8710

Crossword Creator • Creates crossword puzzles • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $29.95 retail • DEC Software; 5307 Lynnwood Dr.; West Lafayette, IN 47906

Dark Castle • Adventure • *Apple IIGS; supports SuperSonic Card; 768K; GS/OS; not copy protected.* • $44.95 retail • Three-Sixty Pacific, Inc.; 2105 S. Bascom Ave., Ste. 380; Campbell, CA 95008; 408-879-9144

Entertainment

Defender Of The Crown • Adventure into the Age of Chivalry; battle against the Normans to save England • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail • Cinemaware Corp.; 4165 Thousand Oaks Blvd.; Westlake Village, CA 91362; 805-495-6515

Deja Vu II: Lost In Las Vegas • Mystery • *Apple IIGS; RGB monitor; 768K; ProDOS 16; copy protected.* • $49.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Deja Vu: A Nightmare Comes True • Murder mystery • *Apple IIGS; RGB monitor; 768K; ProDOS 16; copy protected.* • $49.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Dondra: A New Beginning... • An animated graphics quest for the Apple IIGS • *Apple IIGS; 768K; ProDOS 16; not copy protected.* • $49.95 retail • MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

Dragon Wars • Fantasy role-playing game • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $49.95 retail • Interplay Productions; 1575 Corporate Dr.; Costa Mesa, CA 92626; 714-549-2411 (technical support) or 800-969-4263 (orders)

The Duel: Test Drive II • Driving simulation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • $21.95 each retail; California Challenge (scenery disk), European Challenge (scenery disk), The Supercars (car disk), The Musclecars (car disk) • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Famous Courses Volume II • Three golf courses for use with Mean 18 • *Apple IIGS; mouse; Mean 18; 512K; ProDOS 16; copy protected.* • $19.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Famous Courses Volume III & IV • Six golf course simulations for use with Mean 18 • *Apple IIGS; mouse; Mean 18; 512K; ProDOS 16; copy protected.* • $34.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Fast Break • Three-on-three basketball simulation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $44.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

The Fidelity Chessmaster 2100 • Computer chess • *Apple IIGS; 512K; not copy protected.* • $49.95 retail • The Software Toolworks; 19808 Nordhoff Pl.; Chatsworth, CA 91311; 818-885-9000

Fire Power • Arcade tank battle game • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $24.95 retail • MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

Flintstones • Prehistoric adventures • *Apple IIGS; ROM 1.1; 768K; ProDOS 16; not copy protected.* • $39.95 retail • MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

Fractal Explorer • High-resolution color graphic fractal generation program • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $39.95 retail • Eclat Microproducts; PO Box 570-756; Miami, FL 33257; 305-233-4666

Garfield Trivia Game • Mind-teasing questions about the world's favorite "fat cat" • *Apple IIGS; printer; 64K; ProDOS 8; copy protected.* • $24.95 retail • $62 retail; Lab Pack • DLM Teaching Resources; One DLM Park; Allen, TX 75002; 800-527-4747

Gauntlet • Arcade game featuring attacks by ghosts, grunts, demons and sorcerers • *Apple IIGS; 256K; ProDOS 16; copy protected.* • $14.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Gnarly Golf • Miniature golf • *Apple IIGS; color monitor; 512K; ProDOS 8; copy protected.* • $29.95 retail • Britannica Software, Inc.; 345 4th St.; San Francisco, CA 94107; 415-597-5555 or 800-572-2272

■ **Gold Rush** • Sell your land, pack your bags and grab the next ride out • *Apple IIGS; 512K; ProDOS 16; copy protected.*

Gold Rush gives users a chance to relive one of America's most exciting era. Become young Jerrod Wilson of Brooklyn, New York, as he makes the most important decision of his life: remain in his safe and stable life in the east, or take off for danger, excitement and possible riches in the wild west of the late 1840s. Three exciting mid-nineteenth century modes of travel to get from the East coast to the West are available to choose from. Gold Rush is historically and geographically accurate. It includes a map showing the routes to the gold country, as well as the book "California Gold," the true story of the gold rush year, and the real people who made it live.
$39.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

GrailQuest • Interactive graphic adventure • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $29.95 retail • Artworx Software Co., Inc.; 1844 Penfield Rd.; Penfield, NY 14526; 800-828-6573

Grand Prix Circuit • Formula One racing simulation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $44.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Grandstand Play • Race through complex, multiscene grandstands after that prized big league baseball • *Apple IIGS; 128K; ProDOS 8; joystick optional; not copy protected.* • $29.95 retail • Virginia Real Software, Inc.; PO Box 8545; Norfolk, VA 23503; 804-587-4952

Great Western Shootout • Action-packed arcade game • *Apple IIGS; color monitor; 512K; ProDOS 8; copy protected.* • $29.95 retail • Britannica Software, Inc.; 345 4th St.; San Francisco, CA 94107; 415-597-5555 or 800-572-2272

HardBall! • Baseball simulation • *Apple IIGS; color monitor; 512K; ProDOS 16; copy protected.* • $44.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Heatwave: Offshore Superboat Racing • Powerboat racing simulation • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Hostage • S.W.A.T. terrorist attack • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Hunt For Red October • Submarine combat simulation • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail • The Software Toolworks; 19808 Nordhoff Pl.; Chatsworth, CA 91311; 818-885-9000

Indoor Sports • Bowling, darts, air hockey and ping-pong • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Jack Nicklaus' Greatest 18 Holes Of Major Championship Golf • Golf simulation • *Apple IIGS; mouse, joystick or keyboard; 512K; ProDOS 16; copy protected.* • $49.95 retail • $21.95 retail; Jack Nicklaus Presents The Major Championship Courses of 1989 (add-on accessory disk) • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Jigsaw! The Ultimate Electronic Puzzle • Puzzle game • *Apple IIGS; color monitor; 768K; ProDOS; not copy protected.* • $39.95 retail; includes 24 image disks • $19.95 retail; additional image disks • Britannica Software, Inc.; 345 4th St.; San Francisco, CA 94107; 415-597-5555 or 800-572-2272

John Elway's Quarterback • Football action • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.99 retail • Virgin Mastertronic Int'l., Inc. — Melbourne House; 18001 Cowan, Ste. A; Irvine, CA 92714; 714-833-8710

KaleidoKubes • Strategy game • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $29.95 retail • Artworx Software Co., Inc.; 1844 Penfield Rd.; Penfield, NY 14526; 800-828-6573

Keef The Thief • Role-playing experience that mixes humor with action • *Apple IIGS; 512K.* • $49.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

King Of Chicago • Struggle for power • *Apple IIGS; 768K; GS/OS; copy protected.* • $24.95 retail • Cinemaware Corp.; 4165 Thousand Oaks Blvd.; Westlake Village, CA 91362; 805-495-6515

King's Quest I: Quest For The Crown • 3-D medieval adventure that takes Sir Graham on a journey to find the magical items that will save the kingdom of Daventry • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

King's Quest II: Romancing The Throne • Graham goes on a search for a Queen to share his kingdom • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

■ **King's Quest III: To Heir Is Human** • Gwydion searches for his true name, identity and royal destiny • *Apple IIGS; 512K; ProDOS 16; copy protected.*

In King's Quest III, a young man named Gwydion must free himself from a wily wizard, using the wizard's own magics against him, and make a perilous journey to far places in search of his true name, his identity and his royal destiny.
$49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

Entertainment

■ **King's Quest IV: The Perils Of Rosella** • Rosella sets out to save her ailing father, the King • *Apple IIGS; 512K; ProDOS 16; copy protected.*

In King's Quest IV, the princess Rosella sets out for the land of Tamir, where she must find a magic fruit to restore the health of her father, the ailing King Graham. Many familiar fairy tale elements combine to test her resolve and enliven her quest.
$49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

LaserForce • Three-dimensional, arcade action game • *Apple IIGS; color monitor; 1.2 MB; ProDOS 8; copy protected.* • $29.95 retail • Britannica Software, Inc.; 345 4th St.; San Francisco, CA 94107; 415-597-5555 or 800-572-2272

The Last Ninja • Action/adventure martial arts game • *Apple IIGS; 128K; GS/OS; copy protected.* • $19.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Leisure Suit Larry • 3-D animated adventure game featuring Larry, the nerd, in Lost Wages • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

Mad Match • Visual perception game • *Apple IIGS; 512K; GS/OS; not copy protected.* • $39.95 retail • Baudville, Inc.; 5380 52nd St. SE; Grand Rapids, MI 49512; 616-698-0888

Mancala • Comprehensive simulation of the national game of Africa • *Apple IIGS; 512K; ProDOS; not copy protected.* • $39.95 retail • California Dreams; 780 Montague Expwy., #403; San Jose, CA 95131; 408-435-1445

■ **Manhunter: New York** • Aliens invade The Big Apple • *Apple IIGS; 512K; ProDOS 16; copy protected.*

In Manhunter: New York, players are treated to an alien invasion of The Big Apple by a swarm of ugly alien eyeballs who soon have their human captives working against each other for the benefit of the new order. At the beginning of the game, a player is a manhunter spying for the aliens. Overhead maps of New York and a handy laptop computer aid the manhunter in his search for renegade humans. But sooner or later a decision must be made. Stay safe as a spy for the invaders or risk everything by turning against them?
$49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

Marble Madness • Six levels of 3-D runway mazes with stereo music • *Apple IIGS; 512K; ProDOS 8; copy protected.* • $19.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Mean 18: Ultimate Golf • Realistic golf simulation • *Apple IIGS; mouse; 512K; ProDOS 16; copy protected.* • $44.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Mines Of Moria; Mines Of Moria II • Text fantasy adventures • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $19.95 each retail • DAR Systems International; PO Box 16-4933; Miami, FL 33116; 305-529-3572

Mini-Putt • Miniature golf simulation • *Apple IIGS; mouse; 512K; ProDOS 16; copy protected.* • $19.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Mixed-Up Mother Goose • Transports children to an "adventure in Mother Gooseland"; for the home, nursery school and kindergarten class • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $29.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

Neuromancer • Role-playing adventure • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $49.95 retail • Interplay Productions; 1575 Corporate Dr.; Costa Mesa, CA 92626; 714-549-2411 (technical support) or 800-969-4263 (orders)

Omega • Players design the future's ultimate military cybertank • *Apple IIGS; 64K; ProDOS 8; copy protected.* • $49.95 retail • Origin Systems, Inc.; PO Box 161750; Austin, TX 78716; 512-328-0282

Paperboy • Paper route packed with the unexpected • *Apple IIGS; joystick; 256K; ProDOS 16; copy protected.* • $14.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Pirates! IIGS • 17th century Spanish adventure on and around the Caribbean Sea • *Apple IIGS; 256K; ProDOS 8; copy protected.* • $44.95 retail • MicroProse Software, Inc.; 180 Lakefront Dr.; Hunt Valley, MD 21030; 301-771-1151

Pits Of Doom! • Text adventure • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $19.95 retail • DAR Systems International; PO Box 16-4933; Miami, FL 33116; 305-529-3572

Police Quest • 3-D animated adventure featuring Sonny Bonds in an attempt to stop the flood of illegal drugs into his community • *Apple IIGS; color monitor (SuperSonic stereo card optional); 512K; ProDOS 16; not copy protected.* • $49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

QIX • Arcade game • *Apple IIGS; 512K; GS/OS; copy protected.* • $34.95 retail • Taito Software, Inc.; 206 - 267 W. Esplanade; N. Vancouver, BC, Canada V7M 1A5; 604-984-3344 or 800-663-8067

Questmaster I — The Prism Of Heheutotol • First of a trilogy • *Apple IIGS; joystick optional; 768K; GS/OS; not copy protected.* • $49.95 retail • MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

Questron II • Sequel to Questron • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail • Strategic Simulations, Inc.; 675 Almanor Ave.; Sunnyvale, CA 94086; 408-737-6800

Rastan • Venture to an ancient world of danger • *Apple IIGS; 512K; GS/OS; copy protected.* • $34.95 retail • Taito Software, Inc.; 206 - 267 W. Esplanade; N. Vancouver, BC, Canada V7M 1A5; 604-984-3344 or 800-663-8067

Realm Of Altair Series • Trilogy of all-text adventures • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $69.95 retail • DAR Systems International; PO Box 16-4933; Miami, FL 33116; 305-529-3572

Renegade • Street-style karate action • *Apple IIGS; 512K; GS/OS; copy protected.* • $34.95 retail • Taito Software, Inc.; 206 - 267 W. Esplanade; N. Vancouver, BC, Canada V7M 1A5; 604-984-3344 or 800-663-8067

Roadwar 2000 • Futuristic war game • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $44.95 retail • Strategic Simulations, Inc.; 675 Almanor Ave.; Sunnyvale, CA 94086; 408-737-6800

Rocket Ranger • Movie tale involving time travel, vile Nazis, mind control machines and a jet propelled rocket suit • *Apple IIGS; 768K; ProDOS 16; not copy protected.* • $49.95 retail • Cinemaware Corp.; 4165 Thousand Oaks Blvd.; Westlake Village, CA 91362; 805-495-6515

Scooby Doo • Join Scooby and the gang on four mysteries • *Apple IIGS; ROM 1.1; 768K; ProDOS 16; not copy protected.* • Call for pricing • MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

Serve & Volley • Action/strategy tennis simulation • *Apple IIGS; keyboard; 512K; ProDOS 16; copy protected.* • $39.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Shadowgate • Fantasy • *Apple IIGS; RGB monitor; 768K; ProDOS 16; copy protected.* • $49.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Shanghai • Derived from an ancient oriental game called Mah Jongg • *Apple IIGS; 512K; GS/OS; copy protected.* • $19.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Silent Service • World War II submarine simulation game • *Apple IIGS; color monitor recommended; 256K; ProDOS 8; copy protected.* • $39.95 retail • MicroProse Software, Inc.; 180 Lakefront Dr.; Hunt Valley, MD 21030; 301-771-1151

Silpheed • Shoot-'em-up action game • *Apple IIGS; 512K.* • $34.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

Sinbad And The Throne Of The Falcon • Epic seafaring quest in a search for the Caliph • *Apple IIGS; 768K; GS/OS; not copy protected.* • $24.95 retail • Cinemaware Corp.; 4165 Thousand Oaks Blvd.; Westlake Village, CA 91362; 805-495-6515

Skate Or Die • Skateboarding competition • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $19.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Solitaire And Cribbage • Card games • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $34.95 retail • Computrek; 28278 Enderly St.; Canyon Country, CA 91351; 805-252-4244

■ **Solitaire Royale** • Eight solitaire games and three classic children's card games in color • *Apple IIGS; 512K (768K recommended); GS/OS 5.0 or later; not copy protected.*

Solitaire Royale offers a choice of eight popular solitaire games, including Pyramid, Golf, Corners, Reno, 3 Shuffles & A Draw, Canfield, Calculation and Klondike. A children's menu offers Concentration, Pairs and The Wish. Two special features of Solitaire Royale are the "Tournament" and "Tour" modes, which open new dimensions of play. Other features include: play can be right- or left-handed; the desktop color can be changed to add diversity; a player may restart a game with the

Entertainment

same cards, back up a move and even "peek" inside a pile of cards; and on-screen help.
$34.95 retail • Spectrum Holobyte; A Div. of Sphere, Inc.; 2601 Challenger Dr.; Alameda, CA 94501; 415-522-3584

Space Quest I — The Sarien Encounter • Animated 3-D adventure game that features Roger Wilco, sanitation engineer turned space-age swashbuckler • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

Space Quest II — Vohaul's Revenge • 3-D animated space adventure game with quality graphics • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

Star Saga: One, Beyond The Boundary • An interstellar, interactive, role-playing space opera set 800 years in the future; first of a trilogy • *Apple IIGS; monitor; 512K; ProDOS 16; not copy protected.* • $79.95 retail • Masterplay Publishing Corp.; 8417 Sun State St.; Tampa, FL 33614; 813-888-7773

Star Saga: Two, The Clathran Menace • Combines a captivating science fiction story with the tactics and strategy of a challenging board game • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $79.95 retail • Masterplay Publishing Corp.; 8417 Sun State St.; Tampa, FL 33614; 813-888-7773

Stickybear Basketbounce • A multilevel game with bright graphics and animation for the entire family • *Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.* • $39.95 retail • $75 retail; five-disk lab pack • Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 203-542-5553 or 800-327-1473

Strip Poker II • Five-card draw poker game with some different stakes; for 18 years and older • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $39.95 retail; master disk • $19.95 each retail; data disk • Artworx Software Co., Inc.; 1844 Penfield Rd.; Penfield, NY 14526; 800-828-6573

Superpuzzle • Fun and learning • *Apple IIGS; color monitor; 512K; ProDOS 8; not copy protected.* • $44.95 retail • El Kassir Software; 232 Thorne St., Ste. C; Los Angeles, CA 90042; 213-257-6882

Superstar Ice Hockey • Multilevel ice hockey simulation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $44.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Superstar Soccer • Soccer simulation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Task Force • Clean up five major U.S. cities of a dangerous terrorist movement • *Apple IIGS; 512K; GS/OS.* • $39.95 retail • Britannica Software, Inc.; 345 4th St.; San Francisco, CA 94107; 415-597-5555 or 800-572-2272

Tetris IIGS • Game for developing quick reflexes • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $39.95 retail • Spectrum Holobyte; A Div. of Sphere, Inc.; 2601 Challenger Dr.; Alameda, CA 94501; 415-522-3584

Thexder • Pilot an armored robot through multiple attack scenarios and more • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $34.95 retail • Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-4468

■ **The Third Courier** • Role-playing spy adventure • *Apple IIGS; 512K; ProDOS 16; not copy protected.*

The Third Courier takes players to the city of Berlin where they will assume the role of Moondancer, the free world's best agent. Moondancer's assignment: to recover NATO's stolen nuclear defense plans and its components from an elusive courier before they are delivered into the hands of the eastern block. The Third Courier features a contemporary theme and modern characters, and introduces an authentic Character Creator, which allows players to tailor Moondancer's background and character traits. As Moondancer, your task is vital. Three couriers headed to a top secret conference in Brussels are missing. Each was carrying a crucial component of the NATO non-nuclear defense plans — a computer chip, a floppy disk and a CPU. You have learned that two of the couriers have been found murdered and the third, last seen in Berlin, has vanished. You have seven days to search both East and West Berlin for the third courier and locate each of the three components before they fall into the wrong hands.
$49.95 retail • Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

The Three Stooges • Interactive movie • *Apple IIGS; stereo card and joystick optional; 1 MB; ProDOS 16; GS/OS; not copy protected.* • $49.95 retail • Cinemaware Corp.; 4165 Thousand Oaks Blvd.; Westlake Village, CA 91362; 805-495-6515

Ticket To Hollywood • Hollywood trivia; ages 15 to adult • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Tomahawk • Simulates the cockpit of the U.S. Army's AH-64A Apache helicopter • *Apple IIGS; joystick; 768K; ProDOS 16; copy protected.* • $39.95 retail • Datasoft/IntelliCreations, Inc.; 19808 Nordhoff Pl.; Chatsworth, CA 91311; 818-886-5922

■ **Treasures Of Moctezuma** • Treasure hunt adventure • *Apple IIGS; 128K; ProDOS 8; not copy protected.*

Treasures Of Moctezuma is a highly realistic treasure hunt adventure. The primary characteristic of an Aztec temple is it's complex maze of hallways. While in the halls, the hunter sees a full screen view of the halls shown in high perspective. The hunter moves step by step through the halls, up and down stairs, onto the sacrificial platform and into the treasure chambers. Well hidden within each Aztec temple are valuable treasures. Skills must be learned, secrets discovered, problems solved, disasters avoided and above all, Xipe must be found if the hunter is to succeed.
$44.95 retail • Virginia Real Software, Inc.; PO Box 8545; Norfolk, VA 23503; 804-587-4952

TrianGo • Futuristic game of strategy and cunning based on the ancient oriental game of "Go" • *Apple IIGS; 512K; ProDOS; not copy protected.* • $39.95 retail • California Dreams; 780 Montague Expwy., #403; San Jose, CA 95131; 408-435-1445

Trilogy • Sophisticated adventure game involving many intricate plot twists • *Apple IIGS; 256K; ProDOS 8; not copy protected.* • $49.95 retail • DAR Systems International; PO Box 16-4933; Miami, FL 33116; 305-529-3572

Tunnels Of Armageddon • Fast action arcade-style game • *Apple IIGS; 512K for ProDOS 16; 768K for GS/OS; not copy protected.* • $39.95 retail • California Dreams; 780 Montague Expwy., #403; San Jose, CA 95131; 408-435-1445

Uninvited • Supernatural graphic adventure • *Apple IIGS; RGB monitor; 768K; ProDOS 16; copy protected.* • $49.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

Vegas Craps • Accurate simulation of craps as it's played in big Vegas casinos • *Apple IIGS; 512K; ProDOS; not copy protected.* • $39.95 retail • California Dreams; 780 Montague Expwy., #403; San Jose, CA 95131; 408-435-1445

Vegas Gambler • Enter the exciting world of a Las Vegas casino • *Apple IIGS; 512K; ProDOS; not copy protected.* • $39.95 retail • California Dreams; 780 Montague Expwy., #403; San Jose, CA 95131; 408-435-1445

War In Middle Earth • Fantasy game • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.99 retail • Virgin Mastertronic Int'l., Inc. — Melbourne House; 18001 Cowan, Ste. A; Irvine, CA 92714; 714-833-8710

Warlock • Arcade adventure that combines clever animation and humor • *Apple IIGS; 512K; ProDOS 16.* • $39.95 retail • Three-Sixty Pacific, Inc.; 2105 S. Bascom Ave., Ste. 380; Campbell, CA 95008; 408-879-9144

Windwalker • Oriental adventure set in the third century B.C.; FRP/martial arts action • *Apple IIGS; 128K; ProDOS 8; copy protected.* • $39.95 retail • Origin Systems, Inc.; PO Box 161750; Austin, TX 78716; 512-328-0282

World Tour Golf • Features the world's great courses, complete with hills, trees, sand traps and weather • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $19.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Xenocide • Science fiction arcade game • *Apple IIGS; joystick recommended; 512K.* • $49.95 retail • Micro Revelations, Inc.; PO Box 70430; Reno, NV 89570; 702-825-1132 or 800-442-6002

Zany Golf • A wacky fantasy into miniature golf • *Apple IIGS; other Apple II models; 512K; ProDOS 8; copy protected.* • $19.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Hardware And Peripherals

A-Hive Disk Enclosure • Components for assembling drive subsystems • *Apple IIGS.* • $119 (30 watts) to $169 (65 watts) retail • Tulin Corp.; 2156H O'Toole Ave.; San Jose, CA 95131; 408-432-9025

A-Hive Hard Disk Subsystem • Hard drive subsystems • *Apple IIGS; IIe.* • $549 (32 MB) to $1,949 (200 MB) retail • Tulin Corp.; 2156H O'Toole Ave.; San Jose, CA 95131; 408-432-9025

Hardware And Peripherals

A-Hive Tape Subsystem • Tape drive subsystems • *Apple IIGS; IIe.* • $669 (50 MB) to $769 (155 MB) retail • Tulin Corp.; 2156H O'Toole Ave.; San Jose, CA 95131; 408-432-9025

A2S Series • 20, 30, 45 and 60 MB external SCSI hard disk subsystems • *Apple IIGS.* • Call for pricing • CMS Enhancements, Inc.; 1372 Valencia Ave.; Tustin, CA 92680; 714-259-9555

Apollo PC Presenters For Apple IIGS • Allows users to display large-screen presentations; no special software required • *Apple IIGS.* • $1,165 retail; PC-9100GS (add-on) • $1,898 retail; PC-9601 (add-on) • $1,481 retail; PC-9250GS (built-into OHP) • $1,932 retail; PC-9296 (built-into OHP) • $2,373 retail; PC-9350GS (built-into OHP and portable) • $2,815 retail; PC-9396 (built-into OHP and portable) • $149 retail; PC-9670 Wireless Remote for PC-9601, PC-9296, PC-9396 • Apollo Audio Visual; 60 Trade Zone Ct.; Ronkonkoma, NY 11779; 516-467-8033

Apple 3.5 Drive • The IIGS standard drive; provides 800K of program and file storage • *Apple IIGS.* • $429 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple 5.25 Drive • Runs earlier Apple II software released on 5.25-inch disks • *Apple IIGS.* • $329 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple Hard Disk 20SC And 40SC • Provides 20 and 40 MB of storage • *Apple IIGS; Apple SCSI Card.* • $899 retail; 20SC • $1,299 retail; 40SC • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple II SCSI Interface Card Revision C • Provides compatibility with high-performance peripherals that use the SCSI standard, including Apple's CD-ROM • *Apple IIGS; SCSI System Cable.* • $129 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

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Apple IIGS Memory Expansion Card • Extended memory board expandable to 1 MB using additional memory in 256K increments • *Apple IIGS.* • $229 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

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Apple IIGS Upgrade • Transformer kit for Apple IIe; includes 256K of built-in memory, with RAM that is expandable to 8 MB • *Apple IIe.* • $499 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple MIDI Interface • Musical instrument digital interface (MIDI); includes one MIDI-In plug and one MIDI-Out plug • *Apple IIGS; MIDI-equipped instrument; compatible software* • $99 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple Personal Modem • 1,200/300-baud modem • *Apple IIGS.* • $279 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

AppleCD SC • Optical disc storage device • *Apple IIGS; Apple SCSI Card (Rev. C).* • $899 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

AppleColor RGB Monitor • Displays high-resolution text and color graphics • *Apple IIGS.* • $599 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Audio Animator • MIDI device, stereo digitizer and stereo playback machine combined; includes software and external connector box • *Apple IIGS; 1 MB; GS/OS.* • $239 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

ComputerEyes IIGS • Color video digitizer that captures images for use in popular desktop publishing and paint programs • *Apple IIGS; video source; 1 MB; GS/OS.* • *$249.95 retail* • *Digital Vision, Inc.; 270 Bridge* St.; Dedham, MA 02026; 617-329-5400

ComputerEyes/2 • Video digitizer with GS software support that captures images for use in popular desktop publishing and paint programs • *Apple IIGS; video source; 256K; ProDOS 8.* • $129.95 retail; ComputerEyes/2 • $19.95 retail; ComputerEyes/2 GS Support Package • Digital Vision, Inc.; 270 Bridge St.; Dedham, MA 02026; 617-329-5400

Conserver • Integrated unit providing six AC outlets, surge protection and a fan • *Apple IIGS.* • $119 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

The CrystalPrint Publisher • PostScript-language-compatible page printer • *Apple IIGS.* • $4,499 retail • Qume Corp.; 500 Yosemite Dr.; Milpitas, CA 95035; 408-942-4000

CT-20; CT-40; CT-80; CT-105 • 20, 40, 84 and 105 MB external hard disk drives • *Apple IIGS; IIe.* • $769 retail; CT-20 (27ms, 8K cache) bundled with Apple SCSI card • $929 retail; CT-40 (25ms, 8K cache) bundled with Apple SCSI card • $1,399 retail; CT-80 (19ms, 64K cache) bundled with Apple SCSI card • $1,469 retail; CT-105 (19ms, 64K cache) bundled with Apple SCSI card • Chinook Technology; 615 Main St., #635; Longmont, CO 80501; 303-678-5544

■ **D6OUTSP AC Surge Protector** • Six-outlet strip offering continuous spike protection • *Apple IIGS.*

The D6OUTSP is a six-outlet strip that offers continuous spike protection and includes a built-in safety circuit breaker, a master switch with pilot light, a three-wire plug and a 6-inch heavy-duty power cord.
$35.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

DataLink 1200 And DataLink 2400 • Internal 1,200 bps and 2,400 bps modem boards complete with communications software • *Apple IIGS; other Apple II models.* • $179 retail; DataLink 1200 • $239 retail; DataLink 2400 • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

DataLink Express • External modem • *Apple IIGS.* • $249 retail; DataLink Express • $299 retail; with MNP-5 • $79 retail; optional MNP (when not originally purchased with modem) • $79 retail; send-fax option • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

DCA1000 • Six outlet strip with surge suppressors and phone/modem protection • *Apple IIGS.* • $59.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

Deluxe Power Console-Plus Surge Suppressor And Noise Filter • Surge suppressor and noise filter • *Apple IIGS.* • $135.95 retail • Kalglo Electronics Co., Inc.; 6584 Ruch Rd.; E. Allen Township; Bethlehem, PA 18017; 215-837-0700 or 800-524-0400

DoubleTalk • Speech synthesizer • *Apple IIGS; other Apple II models; 64K; ProDOS 8.* • $249.95 retail • RC Systems, Inc.; 121 W. Winesap Rd.; Bothell, WA 98012; 206-672-6909

■ **DSTM2 Modem/Fax/Telephone Lightning Surge Protector** • Protects equipment that transmits and receives data via telephone lines • *Apple IIGS.*

The DSTM2 protects equipment that transmits and receives data via telephone lines, such as fax machines, modems and phone systems. Compact in design, it features maximum energy dissipation and plugs directly into any AC outlet socket.
$34.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

Echo IIb Speech Synthesizer • Text-to-speech board compatible with software written for the Echo II and Echo+ boards • *Apple IIGS; 256K; ProDOS 8 and DOS 3.3.* • $129.95 retail • Street Electronics Corp.; 6420 Via Real; Carpinteria, CA 93013; 805-684-4593

FastMath • Math coprocessor card • *Apple IIGS.* • $179 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

FingerPrint G+ • Parallel graphic interface for parallel printers • *Apple IIGS; printer.* • $79 retail • Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

FingerPrint GSi Version III • Screen dump graphic utility card • *Apple IIGS; printer.* • $149 retail • Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

FingerPrint SuperSerial • Enhanced serial graphic printer interface card • *Apple IIGS; printer.* • $79 retail • Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

■ **First Link** • AppleTalk-compatible network starter kit • *Apple IIGS.*

First Link is an AppleTalk-type network starter kit that comes complete with three of Data Spec's 8-pin mini DIN ModuNet connectors, two 14-foot modular cables and three terminators.

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GS Juice Plus • Memory cards that provide 1 to 4 MB of memory expansion • *Apple IIGS.* • $299 retail; 1 MB • Ingenuity, Inc.; 14922M Ramona Blvd.; Baldwin Park, CA 91706; 818-960-1485 or 800-346-0811

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GS-RAM Ultra • Memory expansion • *Apple IIGS; ProDOS 16 or GS/OS.* • $214 retail; 256K • $249 retail; 512K • $319 retail; 1 MB • Call for pricing; 2 MB to 4 MB • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

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ImageWorks II Board • Gives the Apple IIGS advanced imaging and graphics capabilities • *Apple IIGS; other Apple II models; 64K.* • $350 retail; ImageWorks Board • $150 retail; ImageWorks II Color Adapter • Redshift Limited; PO Box 4335; Mountain View, CA 94040; 415-322-7373

ImageWriter II • Apple standard printer • *Apple IIGS; other Apple models.* • $595 retail; ImageWriter II • $99 retail; ImageWriter II 32K Memory Option • $225 retail; Sheet Feeder • $63 retail; Black Ribbon (pack of six) • $83.70 retail; Color Ribbon (pack of six) • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

ImageWriter LQ • Letter-quality, wide-carriage, dot matrix printer • *Apple IIGS; other Apple models.* • $1,399 retail; ImageWriter LQ • $299 retail; Sheet Feeder • $169 retail; Additional Bins • $49 retail; Envelope Feed • $114 retail; Black Ribbon (pack of six) • $150 retail; Color Ribbon (pack of six) • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

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Inner Drive • Internal hard disk drives • *Apple IIGS; IIe.* • $699 retail; 20 MB • $899 retail; 40 MB • $1,795 retail; 100 MB • Ingenuity, Inc.; 14922M Ramona Blvd.; Baldwin Park, CA 91706; 818-960-1485 or 800-346-0811

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KoalaPad+ • Graphics input system for the Apple II family of computers • *Apple IIGS; 48K; DOS 3.3.* • $139.95 retail • Koala Technologies; 70 N. 2nd St.; San Jose, CA 95113; 408-287-6311

Line-Saver Uninterruptible Power Systems (UPS) • Provide emergency power when the utility power fails or is unstable; Novell and Unix compatible • *Apple IIGS; other Apple II models.* • $730 retail; starting price • Kalglo Electronics Co., Inc.; 6584 Ruch Rd.; E. Allen Township; Bethlehem, PA 18017; 215-837-0700 or 800-524-0400

M300 • 3.5-inch 800K floppy disk drive • *Apple IIGS.* • $259 retail • SystemGate, Inc.; 1406 S. Raymond Ave.; Alhambra, CA 91803; 818-282-4720

MagniView 200C • Computer-data display panel • *Apple IIGS.* • $1,095 retail • Dukane Corp.; 2900 Dukane Dr.; St. Charles, IL 60174; 800-695-2525 or 800-695-2727

Master Piece Remote • Two-part power center (outlet strip and remote control) with five outlets, surge, noise and modem protection • *Apple IIGS.* • $169.95 retail • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

Meirick UPS Systems • Uninterruptible power system (UPS) that provides continuous computer-grade power during power failures, brownouts and surges • *Apple IIGS; other Apple II models.* • $449 retail; Meirick 400 • $549 retail; Meirick 450 Slimline • $749 retail; Meirick 850 Slimline • $795 retail; Meirick 1000 • $1,045 retail; Meirick 1400 • Meirick, Inc.; Box 298; Frisco, CO 80443; 303-668-3251

MemorySaver • Hardware/software system that transforms standard IIGS memory boards into instant-access ROM disks • *Apple IIGS; compatible memory card; 256K; ProDOS 8.* • $149.95 retail • Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 602-966-5802 or 800-325-7347

Modunet • Networking connectors • *Apple IIGS; AppleTalk network.* • $37.95 to $47.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

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MP6 • 5.25-inch diskette drive • *Apple IIGS; other Apple II models.* • $179 retail • Quality Computers; 15102 Charlevoix; Grosse Pointe, MI 48230; 313-331-0700 or 800-443-6697

Multi-Kache Card • Fast multidisk DMA caching controller • *Apple IIGS.* • $295 retail; 256K • $465 retail; 1 MB • $79.95 retail; SCSI option add-on • Ohio Kache Systems Corp.; 4162 Little York Rd., Ste. E; Dayton, OH 45414; 513-890-3913 or 800-338-0050

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OCS 2-40 Stereo Amplifier; JBL Control 1 Speakers • Stereo amplifier • *Apple IIGS.* • $179 retail; OCS 2-40 • $239 retail; JBL Control 1 Speakers • Orange County Speaker, Inc.; 13686 Newhope St.; Garden Grove, CA 92643; 714-530-3860

■ **On-Board** • Memory expansion card • *Apple IIGS.*

On-Board is a regular Apple IIGS memory expansion card that provides up to 4 MB of low-cost memory. It comes with 0K of memory, and 1,024K, 2,048K or up to 4,096K of memory can easily be installed by a user. On-Board uses standard 1 MB by 1 RAM chips and includes a memory test program, a list of RAM chip vendors and a full five-year warranty. It is compatible with the MemorySaver from Checkmate Technology and the RamKeeper from Applied Engineering. With the MemorySaver/RamKeeper and two On-Boards, users can have up to 8 MB of memory in their IIGS.
$99.95 retail; 0K • $224.95 retail; 1,024K • $349.95 retail; 2,048K • $599.95 retail; 4,096K • On Three, Inc.; 123 Groveland Ave.; Riverside, IL 60546; 708-447-3924

Outer Drive • External hard disk drives • *Apple IIGS.* • $499 retail; 20 MB • $599 retail; 40 MB • $1,695 retail; 100 MB • Ingenuity, Inc.; 14922M Ramona Blvd.; Baldwin Park, CA 91706; 818-960-1485 or 800-346-0811

Parallel Pro and Buffer Pro • Parallel printer interface and buffer • *Apple IIGS; other Apple II models.* • $99 retail; Parallel Pro • $109 retail; Buffer Pro Option with 32-page buffer • $127 retail; Buffer Pro Option with 128-page buffer • $162 retail; Buffer Pro Option with 256-page buffer • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Passport MIDI Interface For IIGS (Serial Port) • Provides one MIDI In and one MIDI Out • *Apple IIGS; any MIDI equipped synthesizer or drum machine.* • $129.95 retail • Passport Designs, Inc.; 625 Miramontes St., Ste. 103; Half Moon Bay, CA 94109; 415-726-0280

PC Transporter • Board that brings MS-DOS capabilities to the Apple IIGS • *Apple IIGS; other Apple II models; 64K; ProDOS 8.* • $399 retail; PC Transporter with 768K • $259 retail; 5.25" 360K Drive • $389 retail; DualDrive 5.25" System • $139 retail; optional IBM-style keyboard • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Hardware And Peripherals

Personal Modem 1200; Personal Modem 2400 • Provide 1,200 and 2,400 bps communications and more • *Apple IIGS.* • $149 estimated retail; Personal Modem 1200 • $199 estimated retail; Personal Modem 2400 • Hayes Microcomputer Products, Inc.; PO Box 105203; Atlanta, GA 30348; 404-449-8791

Phasor • Speech synthesizer and sound board that runs many sound-oriented software programs written for Apple II computers • *Apple IIGS; 64K; ProDOS 8.* • $169 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Power Tree • Outlet strip surge suppressors • *Apple IIGS.* • $29.95 retail; Power Tree 10 • $49.95 retail; Power Tree 20 • $99.95 retail; Power Tree 50 • Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 212-475-5200 or 800-535-4242

PowerLine • Surge suppressors • *Apple IIGS.* • $14.95 retail; PowerLine One Model S1 • $29.95 retail; PowerLine Four Model S4A • $29.95 retail; PowerLine Six Model S6A • Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

Professional Plus • MIDI interface • *Apple IIGS; any MIDI-equipped synthesizer.* • $125 retail • Opcode Systems; 3641 Haven Dr., Ste. A; Menlo Park, CA 94025; 415-369-8131

ProGrappler • Parallel printer interface • *Apple IIGS; Apple IIe.* • $119 retail • Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

ProModem 2400A • Internal modem • *Apple IIGS; other Apple II models; communications software; 64K.* • $179 retail • Prometheus Products, Inc.; 7225 SW Bonita; Tigard, OR 97223; 503-624-0571

Proxima Compact Power Director • Power protection and surge suppression with four-outlet power control center • *Apple IIGS.* • $99.95 retail • Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

Proxima Data Display 200 • LCD display panel that projects computer images via an overhead projector • *Apple IIGS.* • $1,199 retail • Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

Proxima Intelligent Power Systems • Standby power supply • *Apple IIGS.* • $549.95 retail; Proxima IPS 450+ • $649.95 retail; Proxima IPS 500+ • Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

■ **Quickie** • Hand-held scanner • *Apple IIGS.*

Quickie is a hand-held scanner that integrates crisp, clean line art, text and vivid halftones into newsletters, reports, flyers and other projects. It provides four resolutions (400, 300, 200 or 100 dpi), three dithered modes (plus black and white) and simulated grays, and features a built-in scanner view window and a real-time display that shows an image on screen as a user scans. Images can be imported into any painting, drawing or graphics program.
$299 retail • Vitesse, Inc.; 13909 Amar Rd., Ste. 2; La Puente, CA 91746; 818-813-1270 or 800-777-7344

RamKeeper • Constant power for RAM boards; provides instant access to programs • *Apple IIGS; 256K; extended memory board.* • $189 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

RAMTalker • A SmoothTalking speech card • *Apple IIGS; Apple IIe; 64K; ProDOS 8.* • $159.95 retail • Electronic Learning Systems, Inc.; 2630 NW 39th Ave.; Gainesville, FL 32605; 800-443-7971

Serial Pro • Multifunction board combining a serial port with a functioning clock/calendar board • *Apple IIGS; other Apple II computers.* • $139 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Sider • External hard disk drive and tape backup system • *Apple IIGS; IIe.* • $549 retail; Sider Model D2 (20 MB/65ms) • $795 retail; Sider Model D4A (40 MB/61ms) • $895 retail; Sider Model D4F (40 MB/25ms) • $895 retail; Sider Model T6 Tape (60 MB/89 ips) • $949 retail; Sider Model D7T (70 MB/29ms) • $1,395 retail; Sider Model D9 (87 MB/18ms) • $1,995 retail; Sider Model C96 (87/60 MB combo) • First Class Peripherals; 2875 Northwestern Pkwy.; Santa Clara, CA 95051; 408-980-0200

■ **Sider ProDOS Only ROMs** • Speed up the operation of a Sider hard disk and provide additional storage capacity • *Apple IIGS; 128K; ProDOS 8, 16 or GS/OS; Sider or Trustor hard disk.*

The ProDOS Only ROMs dramatically speed up the operation of a Sider hard disk and give additional storage capacity by changing the multiple operating system Sider into a ProDOS-only drive. Features include: compatible with all Apple IIe ProDOS and Apple IIGS GS/OS programs; automatically recognizes and works with all accelerators; Apple IIGS GS/OS drivers included at no extra charge; increased storage space on every Sider hard disk; user-selectable interleave when reformatting; and works with all Sider and Trustor hard disks.
$59.95 retail • On Three, Inc.; 123 Groveland Ave.; Riverside, IL 60546; 708-447-3924

Slide-On • Replacement battery kit for Apple IIGS • *Apple IIGS; 512K.* • $14.95 retail • Nite Owl Productions; 5734 Lamar Ave.; Mission, KS 66202; 913-362-9898

Slot-Mover • Expansion card • *Apple IIGS; RamKeeper.* • $39 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

SmartCard • SCSI board that allows the MacCrate external drives to be compatible with the Apple IIGS and IIe • *Apple IIGS; IIe.* • $129 retail; SmartCard • $645 retail; bundled with MacCrate 20 • $840 retail; bundled with MacCrate 40 • $939 retail; bundled with MacCrate 60 • Crate Technology; 6850 Vineland Ave., Bldg. M; N. Hollywood, CA 91605; 818-766-4001

Smartmodem 1200; Smartmodem 2400 • Provide 1,200 and 2,400 bps communications and more • *Apple IIGS; communications software.* • $399 estimated retail; Smartmodem 1200 • $499 estimated retail; Smartmodem 2400 • $119 retail; Smartcom I V2.0 software • Hayes Microcomputer Products, Inc.; PO Box 105203; Atlanta, GA 30348; 404-449-8791

Smartmodem 1200A • Provides 1,200 bps communications and more • *Apple IIGS; communications software.* • $199 estimated retail; Smartmodem 1200A • $119 retail; Smartcom I V2.0 software • Hayes Microcomputer Products, Inc.; PO Box 105203; Atlanta, GA 30348; 404-449-8791

Sonic Blaster • Stereo digitizer that records, amplifies, allows editing and plays back in full stereo; includes software • *Apple IIGS; 512K; GS/OS.* • $129 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

SoundAce 2.0 • Audio digitizer that uses powerful mouse-and-windows software to record and edit sounds • *Apple IIGS; 768K; GS/OS.* • $34.95 retail; software only • $79.95 retail; with microphone and hardware • Parallax, Inc.; 6200 Desimone Ln., #69A; Citrus Heights, CA 95621; 916-721-8217

■ **SP011 Wall Mount Surge Protector** • Six-outlet surge suppressor • *Apple IIGS.*

The SP011 offers maximum voltage surge suppression in a compact, six-outlet wall-mount style. This design converts a dual wall power outlet to six outlets while adding protection to all attached equipment. The SPO11 features a power indicator and automatically resets for repeated usage after brownouts or surges.
$23.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

Studio Plus Two • MIDI interface • *Apple IIGS; any MIDI-equipped synthesizer* • $225 retail • Opcode Systems; 3641 Haven Dr., Ste. A; Menlo Park, CA 94025; 415-369-8131

Super-Comm • Serial interface card that makes communications possible between any Apple or Franklin computer and a variety of devices • *Apple IIGS; other Apple II models.* • $89.95 retail • Sequential Systems, Inc.; 1200 Diamond Cir., Ste. M-2; Lafayette, CO 80026; 303-666-4549

TeleSpiker • Surge suppressor/power line filter • *Apple IIGS.* • $99.95 retail • Kalglo Electronics Co., Inc.; 6584 Ruch Rd.; E. Allen Township; Bethlehem, PA 18017; 215-837-0700 or 800-524-0400

ThunderScan • Replaces an ImageWriter's ribbon cartridge with a digitizing scanning cartridge • *Apple IIGS; other Apple II models; ImageWriter; 512K; ProDOS 16.* • $219 retail; includes ThunderScan IIGS specific software • Thunderware, Inc.; 21 Orinda Way; Orinda, CA 94563; 415-254-6581

TransWarp GS • Accelerator card that increases the IIGS' processing speed 2.5 times; compatible with all standard software and hardware • *Apple IIGS.* • $399 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

V-Series Smartmodem 2400 • Provides 2,400 bps communications and more • *Apple IIGS; communications software.* • $649 estimated retail; V-Series Smartmodem 2400 X.25 • $649 estimated retail; V-Series Smartmodem 2400 V.42 • $149 retail; Smartcom II V3.1 software • Hayes Microcomputer Products, Inc.; PO Box 105203; Atlanta, GA 30348; 404-449-8791

V-Series Smartmodem 9600 • Provides 9,600 bps communications and more • *Apple IIGS; communications software.* • $999 estimated retail; V-Series Smartmodem 9600 X.25 • $999 estimated retail; V-Series Smartmodem 9600 V.42 • $149 retail; Smartcom II V3.1 software • Hayes Microcomputer Products, Inc.; PO Box 105203; Atlanta, GA 30348; 404-449-8791

Hardware And Peripherals

Vulcan • Internal hard disk drives • *Apple IIGS; IIe.* • $799 retail; 20 MB • $999 retail; 40 MB • $1,795 retail; 100 MB • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Æ 3.5 Drive • External 3.5-inch drive • *Apple IIGS; Apple IIe.* • Call for pricing • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Æ 5.25" Disk Drive • External 5.25-inch disk drive • *Apple IIGS; other Apple II models with 5.25-inch controller card.* • $149 retail • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Music

A Guide To Computer Music • Introductory resource book and catalog for musical electronics, Apple IIGS, Macintosh and MIDI setups • $16.95 retail • Sound Management; PO Box 3053; Peabody, MA 01961; 800-548-4907

Barney Whistle's Music Games • Music exploration for young children • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.95 retail • AABACA; 3137 James Ave. S; Minneapolis, MN 55408; 612-822-9279

Diversi-Tune • Turns the Apple IIGS into a MIDI synthesizer and recorder; plays up to 32 channels simultaneously • *Apple IIGS; MIDI interface optional; 512K; ProDOS 8; not copy protected.* • $75 retail • Diversified Software Research, Inc.; 34880 Bunker Hill; Farmington, MI 48331; 313-553-9460

ECS Music Training Programs • Family of music training products • *Apple IIGS; internal MIDI card; synthesizer; 512K; DOS 3.3; copy protected.* • $39.95 retail; Keyboard Tutor-MIDI • $39.95 retail; Early Music Skills-MIDI • $79.95 retail; Keyboard Extended Jazz Harmonies-MIDI • $79.95 retail; Keyboard Fingerings-MIDI • $79.95 retail; Keyboard Chords-MIDI • $79.95 retail; Keyboard Arpeggios-MIDI • $79.95 retail; Keyboard Speed Reading-MIDI • $39.95 retail; Musical Stairs-MIDI • $39.95 retail; Note Speller • $99.95 retail; Elements Of Music • $99.95 retail; Music Flash Cards • $99.95 retail; Patterns In Pitch • $99.95 to $129.95 retail; 21st Century Music Series • Electronic Courseware Systems, Inc.; 1210 Lancaster Dr.; Champaign, IL 61821; 217-359-7099

Fundamentals Of Music • Fundamental musical concepts and literacy • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.95 retail • AABACA; 3137 James Ave. S; Minneapolis MN 55408; 612-822-9279

Instant Music • Music creativity tool; up to four instruments can be played at once; uses colored bars in place of standard notation to allow anyone to make music quickly • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $19.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Instant Synthesizer • Turns the IIGS into a sampling synthesizer • *Apple IIGS; 768K; ProDOS 16; not copy protected.* • $49.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Intervals, Scales & Chords • Provide exercises in constructing intervals, scales and chords, all in treble clef; intended for more advanced students of music theory • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.95 retail • AABACA; 3137 James Ave. S; Minneapolis, MN 55408; 612-822-9279

Jam Session • Music performance program • *Apple IIGS; 768K.* • $49.95 retail • Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500, 415-492-3200 (dealers only) or 800-521-6263

Master Tracks Jr. For IIGS • Personal MIDI recording studio that provides tools for composing, recording and editing music via a graphical interface • *Apple IIGS; Passport serial port MIDI interface; MIDI-equipped instrument; 1.25 MB; GS/OS; not copy protected.* • $149.95 retail • Passport Designs, Inc.; 625 Miramontes St., Ste. 103; Half Moon Bay, CA 94109; 415-726-0280

Master Tracks Pro • Professional MIDI recording and graphic editing sequencing program • *Apple IIGS; Passport serial port MIDI interface or compatible; MIDI instrument(s); 1.25 MB; GS/OS; not copy protected.* • $395 retail • Passport Designs, Inc.; 625 Miramontes St., Ste. 103; Half Moon Bay, CA 94109; 415-726-0280

Music Construction Set • Music composition system; 33 digitized instruments; MIDI output; and stereo music capability • *Apple IIGS; stereo card and speakers recommended; 256K; ProDOS 8; not copy protected.* • $19.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

The Music Studio 2.0 • Music creation program with pull-down menus, music paint box and more • *Apple IIGS; 768K; GS/OS; not copy protected.* • $99.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

MusicShapes • Creative learning environment that involves a user in the process of music making and idea development; uses Ensoniq sound chip; also MIDI compatible • *Apple IIGS; 512K; GS/OS; not copy protected.* • $129 retail • Music Systems for Learning, Inc.; 76 Davenport Rd.; Roxbury, CT 06783; 203-355-3454

Pyware Instrument Designer • Sound-wave designer that enables users to create an infinite variety of synthesized sounds using the built-in Ensoniq chip; sounds can be ported to the Pyware Music Writer • *Apple IIGS; synthesizer and printer optional; 512K; ProDOS 16; not copy protected.* • $129 retail • Pygraphics Corp.; PO Box 639; Grapevine, TX 76051; 817-481-7536 or 800-222-7536

Pyware MIDI Translator • Converts sequencer files into notation files to be used with Pyware Music Writer • *Apple IIGS; synthesizer and sequencer program; 768K; ProDOS 16 and GS/OS; not copy protected.* • $79 retail • Pygraphics Corp.; PO Box 639; Grapevine, TX 76051; 817-481-7536 or 800-222-7536

Pyware Music Writer • Professional music writing program designed for the IIGS; any type of markings and notations are available; tutorial on basic music theory available with Level I • *Apple IIGS; printer; optional MIDI-compatible synthesizer; 768K; ProDOS 16 and GS/OS; not copy protected.* • $119 retail; Limited Edition • $295 retail; Special Edition • $595 retail; Professional Model • Pygraphics Corp.; PO Box 639; Grapevine, TX 76051; 817-481-7536 or 800-222-7536

Sonix • Music interface for Basic programs • *Apple IIGS; two 3.5-inch drives; RGB monitor; 1 MB; ProDOS 8; not copy protected.* • $60 retail • So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298, 714-963-3392 or 800-648-9621 (orders)

Supermusic • Adds six music commands to Applesoft Basic • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.95 retail • Lynx Computer Products, Inc.; 15115 Ramona Blvd.; Baldwin Park, CA 91706; 818-960-4839 or 800-824-3522

■ **SysExGS** • Allows users to save, store, load and retransmit information from their MIDI equipment • *Apple IIGS; 768K; GS/OS; not copy protected.*

SysExGS is a MIDI program. Through its graphical interface, users can transfer a large variety of MIDI system exclusive messages, including custom patches, keyboard sequences, set-up information and others, between MIDI equipment and the Apple IIGS. Users can type in information for each message using the program's built-in text editor, and save each message to disk with a unique name. Using this program, users can store and rapidly recall much more information than possible using RAM cards or other storage devices. It works with both external and internal MIDI interfaces using either the printer or modem port. SX messages as large as 32K can be processed (except for sampling applications, most SX messages are less than 32K).
$34.95 retail • $5.95 retail; demo • Lindsay Hough; PO Box 212; Slingerlands, NY 12159

Understanding Music • Helps develop the cognitive concepts necessary to understand and deal with fine music • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.95 retail • AABACA; 3137 James Ave. S; Minneapolis, MN 55408; 612-822-9279

The Well-Tempered Ear • Ear training • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $39.95 retail • AABACA; 3137 James Ave. S; Minneapolis, MN 55408; 612-822-9279

Networking

AppleShare File Server V2.0 • Workgroup file server software • *Apple IIGS; other Apple computers.* • $799 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

AppleShare IIGS Workstation Software • Workgroup software • *Apple IIGS; other Apple models.* • $99 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

AppleShare Print Server • Network print server; enhanced version of LaserShare • *Apple IIGS; other Apple computers.* • $299 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Aristotle • Provides educational institutions with access to ProDOS applications stored on an AppleShare File Server • *Apple IIGS; other Apple II models.* • $199 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

ELAN Networking System • Educational Local Area Network (ELAN) • *Apple IIGS; other Apple II models; one Satellite board; one expander card; twisted pair cable; AROS III software; 128K; ProDOS 8; DOS 3.3;*

Networking

copy protected. • $267 retail; per remote station • LanTech, Inc.; 11811 N. Tatum Blvd., Ste. P-150; Phoenix, AZ 85028; 602-953-6300

Inter•Poll Network Administrator's Utility • Contains tools that an AppleTalk network administrator can use to implement a network support program • *Apple IIGS; workstation software.* • $129 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

MouseFiler Network Utilities • Enables an Apple II user to work with an AppleShare server over the AppleTalk network; Macintosh-style desktop using windows, pull-down menus and the mouse • *Apple IIGS; AppleShare Server, AppleTalk Network and Apple II Workstation board; 128K; ProDOS 8; not copy protected.* • $199.95 retail; institutional POs accepted • Harbor Software, Inc.; 403 Great Rd., Ste. 8; Acton, MA 01720; 508-263-1870

Q-System II • Printer sharing network • *Apple IIGS; 64K; ProDOS 8.* • $495 retail; 256K • Sequential Systems, Inc.; 1200 Diamond Cir., Ste. M-2; Lafayette, CO 80026; 303-666-4549

Online Databases

America Online • Online service • *Apple IIGS; Hayes-compatible modem; 512K; ProDOS 16 (disk also contains ProDOS 8 version that will be launched if 256K); not copy protected.* • $5.95 per month retail; includes one free connect hour • $5 per hour retail; evenings and weekends • $10 per hour retail; daytime use • Quantum Computer Services, Inc.; 8619 Westwood Center Dr.; Vienna, VA 22182; 800-227-6364

Boston CitiNet • Free online information service • *ASCII terminal with modem.* • Free to access • Boston CitiNet; Ste. 717, World Trade Center; Boston, MA 02210; 617-439-5678 or 617-439-5699 (modem)

CompuServe Information Service • Online information service with several Apple forums • *Apple IIGS; modem; communications software; Vidtex communications software available.* • $39.95 retail; Membership Kit • CompuServe Information Service; PO Box 20212; Columbus, OH 43220; 614-457-0802 outside U.S. or 800-848-8199

■ **Delphi** • Online information service • *Apple IIGS; communications program.*

Delphi is a complete online business and personal resource. It combines electronic mail and other real-time communications capabilities with valuable information and helpful services. It's all together in one easy-to-use service that works with any computer or terminal and modem. There is one number to dial, one password and a simple log-on procedure. All commands are in easy-to-understand English.

Among Delphi's many services are: E-mail; online shopping services; computer, personal and hobby Special Interest Groups; downloadable Public Domain and Shareware programs; real-time conferencing; multiplayer games; educational resources; up-to-date news, weather and sports reports and features; vacation and travel information and reservations; online file creation and management; business and financial services; and more. $49.95 retail; Membership Fee (includes manual and credit equal to two hours online time) • $7.20 per hour retail; non-prime time • $17.40 per hour retail; prime time • General Videotex Corp.; Three Blackstone St.; Cambridge, MA 02139; 617-491-3342

GEnie • Online database with an Apple II special interest group • *Apple IIGS; modem.* • $5 per hour retail; after hours • $35 per hour retail; prime time • General Electric Information Services Co.; 401 N. Washington St.; Rockville, MD 20850; 800-638-9636

Personal Productivity

Address Master • Integrated name and address database • *Apple IIGS; printer optional; 512K; GS/OS; not copy protected.* • $39.95 introductory retail • Prelude Software, Inc.; PO Box 1317; Costa Mesa, CA 92628; 714-751-5736

Dollars And Sense 2.0 • Financial management package • *Apple IIGS; other Apple II models; 3.5-inch drive; 128K; ProDOS 8; not copy protected.* • $119.95 retail • Monogram; 21821 Plummer St.; Chatsworth, CA 91311; 818-700-6200

Family Matters • Household organization • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $49.95 retail • Springboard Software; 7808 Creekridge Cir.; Minneapolis, MN 55435; 612-944-3915

Family Roots • Genealogy research program • *Apple IIGS; other Apple II models; 128K; ProDOS 8 (works with GS/OS); not copy protected.* • $225 retail • Quinsept, Inc.; PO Box 216; Lexington, MA 02173; 617-641-2930 or 800-637-7668

The Food Processor II • Nutrition and diet analysis with 2,400 foods and 30 nutrients • *Apple IIGS; other Apple II models; one or two disk drives; 128K; ProDOS 8; not copy protected.* • $295 retail; free demo available • $25 to $99 each retail; expanded food databases • ESHA Research; PO Box 13028; Salem, OR 97309; 503-585-6242

Genealogical Data Base System (GDBS) 2.0 • Genealogical software for novices or professionals • *Apple IIGS; other Apple II models; 48K; ProDOS 8 and DOS 3.3; not copy protected.* • $99.95 retail • Data Base Systems; PO Box 7263; Huntsville, AL 35807; 205-881-6957

L.I.F.E. Diary • Diary text, idea and reminder files, tables and graphs, etc., for understanding stress • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $24.95 retail • Maretech; 325 Newell St., Dept. A3; Walla Walla, WA 99362; 509-529-1894

Managing Your Money 4.0 • Financial planning, budgeting and checkbook and small business package combining nine integrated programs into one; exports to AppleWorks GS • *Apple IIGS; two disk drives; 256K; ProDOS 8; not copy protected.* • $149.95 retail • MECA Ventures, Inc.; 327D Riverside Ave.; Westport, CT 06881; 203-226-2400

Multidimensional Personality Inventory II • Personality evaluation • *Apple IIGS; printer; 64K; ProDOS 8; copy protected.* • $89.50 retail • Psychological Psoftware Co.; 312 Los Altos Dr.; Aptos, CA 95003; 408-688-6808

Nutriplan • Diet and nutritional analysis software • *Apple IIGS; printer optional; 128K; ProDOS 8 and DOS 3.3; not copy protected.* • $75 retail • Micromedx Computer Software Corp.; 187 Gardiners Ave.; Levittown, NY 11756; 800-535-3438

Personal Accountant 2.6 • Personal accounting system for personal and small business use • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $49.95 retail • Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

Quicken • Single-entry bookkeeping software for small business and personal use • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $59.95 retail • Intuit, Inc.; 540 University Ave.; Palo Alto, CA 94301; 415-322-0573

Sports Scheduler • Creates league schedules for any sport; League/Team Standings allows quick entry of game results, then sorts, arranges and saves the data entered • *Apple IIGS; other Apple II models; 80-column card; 128K; ProDOS 8; copy protected.* • $109.95 retail; Sports Scheduler (includes referee/facility scheduler program on disk) • $39.95 retail; Universal League/Team Standings (can use the same files used with Sports Scheduler) • Sports Software Associates; 75 Recreation Park Dr.; Hingham, MA 02043; 617-749-7880

TaxView • Tax preparation and planning • *Apple IIGS; 512K; ProDOS 16; two 3.5-inch disk drives or hard disk drive; not copy protected.* • $99 retail • Softview, Inc.; 4820 Adohr Ln., Ste. F; Camarillo, CA 93010; 805-388-2626 or 800-662-6829

Total Stress Management System • Covers many techniques to reduce stress and tension • *Apple IIGS; printer optional; 64K; ProDOS 8; copy protected.* • $89.50 retail • Psychological Psoftware Co.; 312 Los Altos Dr.; Aptos, CA 95003; 408-688-6808

Programming And Utilities

360 Text Toolkit V2.0 • System library for APW/ORCA-based languages • *Apple IIGS; APW or ORCA development environments; GS/OS; not copy protected.* • $64.95 retail; Library with Assembly Macros • $24.95 retail; ORCA/Pascal Interface (requires Library) • $24.95 retail; APW C Interface (requires Library) • 360 MicroSystems; PO Box 1192; Oviedo, FL 32765; 407-365-6714

AC/Basic Compiler • Basic compiler; MS QuickBasic compatible; NCP • *Apple IIGS; 512K; ProDOS 16.* • $125 retail • Absoft Corp.; 2781 Bond St.; Rochester Hills, MI 48309; 313-853-0050

Apple IIGS Icon Editor • Tool to create and modify icons • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $25 retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

Apple IIGS Source Code Sampler, Volume I • Contains source code for IIGS applications that use the desktop interface • *Apple IIGS; ProDOS 16; APW native or MPW IIGS cross-development system; not copy protected.* • $30 retail; includes two 3.5-inch Apple II disks and one 3.5-inch Macintosh disk • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

Programming And Utilities

Apple IIGS System Software (GS/OS) Version 5.0 • Increases the speed and performance of an Apple IIGS • *Apple IIGS; 512K (768K for AppleShare); GS/OS; not copy protected.* • $49 retail; documentation and disks • (Software available separately, free of charge, from Authorized Apple Dealers) • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple IIGS System Software V5.0.2 (Developer Package) • Contains the most current release of IIGS System Software for developers • *Apple IIGS; 512K (768K for AppleShare); GS/OS; not copy protected.* • $25 retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

APW C: Apple IIGS Programmer's Workshop C V1.0.2 • APW C compiler • *Apple IIGS; APW; 1.25 MB; ProDOS 16; two 3.5-inch disk drives or one 3.5-inch disk drive and a hard disk drive; hard disk drive highly recommended; not copy protected.* • $100 retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

APW: Apple IIGS Programmer's Workshop V1.0.2 • Software development system • *Apple IIGS; 1.25 MB; ProDOS 16; two 3.5-inch disk drives or one 3.5-inch disk drive and a hard disk drive; hard disk drive highly recommended; not copy protected.* • $100 retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

Call-Box • Multilanguage Toolbox programming system with Basic interface • *Apple IIGS; two 3.5-inch drives; RGB monitor; 1 MB; ProDOS 8, ProDOS 16 and GS/OS; not copy protected.* • $110 retail • So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298, 714-963-3392 or 800-648-9621 (orders)

Chinook SCSI Utilities • Utilities for use with embedded SCSI drives and the Apple II SCSI card • *Apple IIGS; 64K; ProDOS 8.* • $29.95 retail • Chinook Technology; 615 Main St., #635; Longmont, CO 80501; 303-678-5544

Copy II Plus • Backs up copy protected disks • *Apple IIGS; other Apple II models (all Laser 128 series must have 80-column card); 128K; ProDOS 8; not copy protected.* • $39.95 retail • Central Point Software, Inc.; 15220 NW Greenbrier Pkwy., Ste. 200; Beaverton, OR 97006; 503-690-8090

Cross-Works 2.0 • Utility that exchanges AppleWorks (except AppleWorks GS) with IBM PC software • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $99.95 retail • SoftSpoken Co.; PO Box 18343; Raleigh, NC 27619; 919-870-5694

Directory Labeler II V2.1 • Disk labeling utility • *Apple IIGS; other Apple II models; 80-column card and Apple-compatible printer interface card; 128K; ProDOS 8; not copy protected.* • $26.95 retail • Grafik Solutions; Sourceware Software Products; 6899 S. Yukon Ct.; Littleton, CO 80123; 303-933-9148

Disc Commander • ProDOS disk editor • *Apple IIGS; two 3.5-inch disk drives; RGB monitor; 512K; ProDOS 8; not copy protected.* • $40 retail • So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298, 714-963-3392 or 800-648-9621 (orders)

■ **Disk Label Printer Pro V3.0** • Reads 3.5-inch disks and makes labels showing the contents; also makes AppleWorks database files • *Apple IIGS; ImageWriter II.*

Disk Label Printer Pro is a utility to read file names from catalogs and directories of ProDOS, DOS 3.3, Pascal and CP/M disks. The names of the files to be printed on the disks can be chosen by file type or from a complete display of the files on a three-column page display. Any number of labels can be printed for each disk. The disk name is repeated on the spine of the disk along with a disk ID so that the disks can be easily identified from the top when in a file box. The information on all the files (path name, DOS type, file type, date of last alteration, size in Kbytes and a user ID for the disk) can be saved directly into an AppleWorks database for sorting and archiving.

$30 retail • HardSoft Products; PO Box 90012; Honolulu, HI 96835

Disk Util II V1.2 • Backs up copy protected software • *Apple IIGS; 3.5-inch disk drive; 512K; GS/OS; not copy protected.* • $59.95 retail • FWB, Inc.; 2040 Polk St., Ste. 215; San Francisco, CA 94109; 415-474-8055

The Diversi Series • Family of utility software designed to enhance performance of the Apple IIGS and disk drives • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $45 retail; Diversi-Key (requires 512K) • $35 retail; Diversi-Cache (requires 512K) • $30 retail; Diversi-Copy (any Apple II) • Diversified Software Research, Inc.; 34880 Bunker Hill; Farmington, MI 48331; 313-553-9460

EasyDrive • Software interface for hard disk drives • *Apple IIGS; 3.5-inch disk or hard disk drive; 128K; ProDOS 8, ProDOS 16 and GS/OS; not copy protected.* • $69.95 retail • Quality Computers; 15102 Charlevoix; Grosse Pointe, MI 48230; 313-331-0700 or 800-443-6697

Fasthouse • Software program for controlling the X-10 Powerhouse • *Apple IIGS; other Apple II models; disk drive; X-10 Home Control Interface; 64K; ProDOS 8; not copy protected.* • $34.95 retail; includes cable • $54.95 retail; X-10 Home Control Interface • KADO Systems; PO Box 1115; Pflugerville, TX 78660; 512-990-2390

File Utilities I & II • Shell utilities for APW/ORCA programming environments • *Apple IIGS; APW or ORCA development system; GS/OS; not copy protected.* • $34.95 each retail • 360 MicroSystems; PO Box 1192; Oviedo, FL 32765; 407-365-6714

■ **GDL 2.0** • Graphic disk labeler • *Apple IIGS; color monitor; ImageWriter II; 1 MB; GS/OS; not copy protected.*

GDL (Graphic Disk Labeler) allows users to create colorful 3.5-inch disk labels on the ImageWriter II. Users can import super high-resolution graphics (clip or shrink to fit), PrintShop IIGS Graphics and System Icons. Using any of the readily available IIGS System Fonts, users have the capability to title the disks with any of the colors available from the color palette. When printing the label, GDL will automatically reverse the text on the back and spline portion of the label. Selecting "Sticker" gives users the option of not reversing the text. For further editing of the label, built-in Paint Tools allow magnification up to four times for small detail work. Other features include Pencil, Fill, Eraser, Undo and Rectangle and Circle Outline for creating border areas. If additional editing is still required, the Snapshot feature will save the screen shown as a SHR-Screen Dump to import into another program.

GDL comes complete with a manual, registration card, both 320 and 640 versions and 50 continuous labels.

$39.95 retail • $9.50 retail; GDL Graphic Disk • $11.95 retail; extra label packages (250) • Triad Venture, Inc.; PO Box 12201; Hauppauge, NY 11788; 516-360-0797

Graphic Environment Operating System (GEOS) • Operating system that brings a Macintosh-like graphic interface to all Apple II computers; key features include word processor, spell checker, mail merge, paint program and desk accessories • *Apple IIGS; other Apple II models; 128K; not copy protected.* • $69.95 retail • Berkeley Softworks; 2150 Shattuck Ave.; Berkeley, CA 94704; 415-644-0883

The Graphic Exchange • Universal graphics conversion utility • *Apple IIGS; 768K; ProDOS 8; not copy protected.* • $49.95 retail • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Graphics Supermarket • General purpose painting program • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $49.95 retail; program only • $149.95 retail; program and source code • Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

GS Memory Test • Performs diagnostic tests on the Apple and Apple IIGS memory expansion board • *Apple IIGS; extended memory card; 512K; ProDOS 8; not copy protected.* • $19.95 retail • On Three, Inc.; 123 Groveland Ave.; Riverside, IL 60546; 708-447-3924

GSBug And Debugging Tools V4.0B1 • Machine language debugger • *Apple IIGS; 512K; GS/OS; not copy protected.* • $30 retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

HyperLaunch V3.0 • Launcher/program switcher • *Apple IIGS; hard disk drive; RGB monitor; 512K; ProDOS 16 and GS/OS; not copy protected.* • $60 retail • So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298, 714-963-3392 or 800-648-9621 (orders)

HyperStudio • Hypermedia authoring system • *Apple IIGS; 1.25 MB; GS/OS.* • $149.95 retail • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

KeyLISP • Advanced Lisp programming language; 424-page bound manual • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $149 retail; single (or first) copy • $39 retail; manual only for additional user (site license) • XPrime Corp.; 10835 Santa Monica Blvd., Ste. 204A; Los Angeles, CA 90025; 213-470-4663

LifeGuard • File recovery software for files deleted under ProDOS 8, ProDOS 16 and GS/OS • *Apple IIGS; 256K; ProDOS 16 and GS/OS; not copy protected.* • $29.95 retail • MindCraft Publishing Corp.; 52 Domino Dr.; Concord, MA 01742; 508-371-1660

Lisa 816 V5.0 • Apple IIGS native mode release of the Lisa interactive assembly language development system • *Apple IIGS; 512K; 1 MB recommended; ProDOS 16; not copy protected.* • $70 retail • H.A.L. Labs; 9472 Magnolia Ave.; Riverside, CA 92503; 714-359-8480

MacroMate • Universal macro program • *Apple IIGS; 768K; ProDOS 16 or GS/OS.* • $49.95 retail • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Programming And Utilities

Menu Maker • Allows users to design custom pull-down menus • *Apple IIGS; two 3.5-inch drives; RGB monitor; 512K; ProDOS 8; not copy protected.* • $20 retail • So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298, 714-963-3392 or 800-648-9621 (orders)

■ **Menu Master** • Menu system for launching ProDOS applications • *Apple IIGS; 128K; ProDOS 8 or 16.*

Menu Master is a menu system that allows the creation of customized menus and submenus to launch all ProDOS applications. It provides automatic pathfinding, simplifying the need to understand or manually set ProDOS paths. It is compatible with ProDOS 8 and 16 on any drive. The network version of Menu Master operates on all Apple II networks, including AppleShare, Corvus, ELAN, VELAN and Digicard.

$49 retail; single-user version • $99 retail; network version • Electronic Learning Systems, Inc.; 2630 NW 39th Ave.; Gainesville, FL 32605; 800-443-7971

Merlin 8/16 • Includes two versions of Merlin 8 for assembling 8-bit ProDOS and DOS 3.3 programs and Merlin 16 for assembling 8- and 16-bit ProDOS programs • *Apple IIGS; other Apple II models; 128K; ProDOS 8, ProDOS 16 or DOS 3.3; not copy protected.* • $124.95 retail • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Micol Advanced Basic 3.0 • Allows programmers to write Basic programs that operate specifically for the IIGS • *Apple IIGS; not copy protected.* • $145 retail • Micol Systems; 9 Lynch Rd.; Willowdale, Ontario, Canada M2J 2V6; 416-495-6864

Micol Macro • Integrated text editor, monitor/shell and self-relocating macro-assembler; designed for programmers working in assembly language • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $99.95 retail • Micol Systems; 9 Lynch Rd.; Willowdale, Ontario, Canada M2J 2V6; 416-495-6864

MouseFiler 2.0 • Replaces the Finder in the Apple IIGS with a much faster desktop; includes program selector, find file searching and more • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $69.95 retail • Harbor Software, Inc.; 403 Great Rd., Ste. 8; Acton, MA 01720; 508-263-1870

MPW IIGS • Cross development system; development environment; cross development assembler; cross development C compiler; cross development Pascal compiler • *Apple IIGS; Macintosh with 2 MB of RAM; MPW 2.0.2 or later; MPW IIGS Tools; not copy protected.* • $50 retail; MPW IIGS Tools V1.1B1 • $100 retail; MPW V3.0 • $100 retail; MPW IIGS Assembler V1.0 • $150 retail; MPW IIGS C V1.0.1 • $175 retail; MPW IIGS Pascal V1.0B1 • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

ORCA/C • ANSI C compiler • *Apple IIGS; 1 MB of RAM.* • $150 retail • The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

ORCA/Desktop For The IIGS • Programming environment for APW compatible languages • *Apple IIGS; memory depends on language used; ProDOS 16; not copy protected.* • $60 retail • The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

ORCA/M Assembler For The Apple IIGS • Complete development environment for assembly language programming • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $69.95 retail • The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

ORCA/M Support Programs • Adds 12 new commands to the ORCA/M, ORCA/Pascal or Apple Programmer's Workshop shell; library contains the source code to the ORCA/M and ORCA/Pascal; takes Merlin source code and translates it to ORCA/M source code • *Apple IIGS; ORCA/M For The Apple IIGS; 512K; ProDOS 16; not copy protected.* • $39.95 retail; Utility Package #1 • $39.95 retail; Subroutine Library Source • $29.95 retail; Merlin to ORCA Source Code Translator • The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

ORCA/Pascal For The IIGS • Pascal programming language with desktop programming environment and source level debugger • *Apple IIGS; 768K for text environment; 1,024K for desktop environment; ProDOS 16; not copy protected.* • $150 retail; ORCA/Pascal with desktop and debugger • The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

PDQ Pascal • Pascal for beginning programmers • *Apple IIGS; other Apple II models; ProDOS 16; not copy protected.* • $79.95 retail • Pecan Software Systems, Inc.; 1410 39th St.; Brooklyn, NY 11218; 718-851-3100

The Power System • Programming systems: UCSD Pascal, Modula-2, Fortran 77, Basic and C • *Apple IIGS; other Apple II models; ProDOS 16; not copy protected.* • $249.95 retail • Pecan Software Systems, Inc.; 1410 39th St.; Brooklyn, NY 11218; 718-851-3100

Programming Tools And Interfaces For APW • Development tools and interfaces to help programmers take advantage of the new features of Apple IIGS System Software 5.0 • *Apple IIGS; two 3.5-inch drives or one 3.5-inch drive and hard disk drive; 1.25 MB; GS/OS; not copy protected.* • $50 retail • APDA — Apple Computer, Inc.; 20525 Mariani Ave., MS 33G; Cupertino, CA 95014; 800-282-2732

RamUp 4.0 • Organizes and speeds up RAM disks • *Apple IIGS; Applied Engineering or Checkmate RAM card; 128K; ProDOS 8; not copy protected.* • $39.95 retail • Quality Computers; 15102 Charlevoix; Grosse Pointe, MI 48230; 313-331-0700 or 800-443-6697

Screen Thief • Captures/saves any super high-resolution screen image to disk • *Apple IIGS; two 3.5-inch drives; RGB monitor; 1 MB of RAM; ProDOS 8; not copy protected.* • $20 retail • So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298, 714-963-3392 or 800-648-9621 (orders)

■ **Sider GS/OS Drivers** • Speed up the operation of Sider hard disks • *Apple IIGS; any Sider or Trustor hard drive; 512K; GS/OS; not copy protected.*

The Sider GS/OS Drivers will speed up the operation of a user's Sider hard disk dramatically while running under GS/OS. With the GS/OS Drivers, the Sider, Sider II, Sider D2, Sider D4 (A or T) and Sider D9 will be able to access information more than twice as fast as before and, in some cases, more than four times faster than normal. The Sider GS/OS Drivers work will all Sider hard drives, including the multiple operating system Siders and the ProDOS-only versions. The Sider GS/OS Drivers even work with the ProDOS-only ROMs from ATS for the Sider, Sider II and Sider D2. The Drivers are compatible with GS/OS V4.0, 5.0 and 5.02 and all Apple IIGS programs. Simply install the appropriate Sider driver via the supplied installation utility and restart the IIGS. Some Siders will require a reformatting to obtain the best performance from GS/OS on an Apple IIGS with the Sider GS/OS Drivers. The Drivers do not affect the speed of a Sider in ProDOS 8 applications; only GS/OS programs and data loading/saving are accelerated.

$39.95 retail • On Three, Inc.; 123 Groveland Ave.; Riverside, IL 60546; 708-447-3924

TML Basic V1.10 • Full-featured 16-bit Basic compiler • *Apple IIGS; 768K; GS/OS; not copy protected.* • $125 retail • TML Systems, Inc.; 8837-B Goodbys Executive Dr.; Jacksonville, FL 32217; 904-636-8592

TML Pascal II V1.0 • Complete Pascal programming environment • *Apple IIGS; 768K; GS/OS; not copy protected.* • $125 retail • TML Systems, Inc.; 8837-B Goodbys Executive Dr.; Jacksonville, FL 32217; 904-636-8592

TML Source Code Library II V1.0 • Set of more than 15 example programs written in TML Pascal II • *Apple IIGS; TML Pascal II; 768K; GS/OS; not copy protected.* • $49.95 retail • TML Systems, Inc.; 8837-B Goodbys Executive Dr.; Jacksonville, FL 32217; 904-636-8592

TML Speech Toolkit For The IIGS V2.0 • Adds the latest in English text-to-speech technology to programs written in TML Basic or TML Pascal II • *Apple IIGS; TML Basic or TML Pascal II; 768K; GS/OS; not copy protected.* • $69 retail • TML Systems, Inc.; 8837-B Goodbys Executive Dr.; Jacksonville, FL 32217; 904-636-8592

UniDOS Plus • Allows users to use 3.5-inch disks with DOS 3.3 • *Apple IIGS; 256K; DOS 3.3; not copy protected.* • $39.95 retail • MindCraft Publishing Corp.; 52 Domino Dr.; Concord, MA 01742; 508-371-1660

■ **VCR Backup** • Hard drive to VCR backup program • *Apple IIGS; VCR; 1 MB; GS/OS; not copy protected.*

VCR Backup allows users to back up their hard disk drives quickly and easily. Simply run the supplied backup program, set the VCR to record and walk away. The VCR does not have to be dedicated to the computer system; users can use Ingenuity's extension cable (optional purchase) and hook up the computer to the VCR even if they are in separate rooms.

A variety of options to choose from are available: back up and restore selected files, image back up and more.

$299 retail • Ingenuity, Inc.; 14922M Ramona Blvd.; Baldwin Park, CA 91706; 818-960-1485 or 800-346-0811

Word Processing

//Write • Full-featured word processor with Macintosh simplicity • *Apple IIGS; 128K; ProDOS 8; copy protected.* • $93.27 retail • $186.60 retail; lab pak • McGraw-Hill Educational Resources; PO Box 408; Heightstown, NJ 08520; 800-722-4726

Bank Street Writer III • Word processing program featuring integrated 60,000-word spelling checker and a 50,000-synonym thesaurus; for primary and high school

Word Processing

students grades 2 to 12 • *Apple IIGS; other Apple II models; 128K; ProDOS 8; printer recommended; not copy protected.* • $89.95 retail; net to educators (customized lab packs available) • Scholastic, Inc.; PO Box 7502; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

BeagleWrite GS • Word processor • *Apple IIGS.* • $99.95 retail • Beagle Bros, Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 619-452-5500, 800-345-1750 (orders) or 800-992-4022 in CA (orders)

The Character Factory • Lets users print special characters used in math, science, foreign languages, etc. • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $24.95 retail; single user • $49.95 retail; unlimited copies per school or college department • Seven Hills Software Corp.; 2310 Oxford Rd.; Tallahassee, FL 32304; 904-576-9415 or 800-627-3836

DeluxeWrite • Word processor that combines text and graphics to create documents for letters, school reports, business reports and more • *Apple IIGS; 768K; ProDOS 16; not copy protected.* • $39.95 retail • $129.95 retail; DeluxeWrite/DeluxePaint II • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Mercury • IIGS specific word processor • *Apple IIGS; 1 MB or more; GS/OS; copy protected.* • $89 retail • MECC; 3490 Lexington Ave. N; St. Paul, MN 55126; 612-481-3500 or 800-228-3504

MouseWrite Version 2.6 • ProDOS moused-based word processor with print spooling, spelling checker, mail merge, AppleWorks conversion and more • *Apple IIGS; other Apple II models; extended memory card recommended for expanded desktop (384K); two disk drives; 128K; ProDOS 8; not copy protected.* • $149.95 retail • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Sensible Grammar • Proofreading program that checks word processing files for common grammatical errors • *Apple IIGS; word processing program; 128K; ProDOS 8; copy protected.* • $99.95 retail • Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Speller For ProDOS • Electronic dictionary containing the 80,000-word Concise Edition of the Random House Dictionary on disk; RAM compatible • *Apple IIGS; word processing program; 64K; ProDOS 8; copy protected.* • $125 retail • Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Writer • Word processor featuring built-in mail merge and automatic envelope addressing; shares data with AppleWorks • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $99.95 retail • Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Wordbench • Word processing program • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $149 retail • Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

WordPerfect For The Apple IIGS • Full-featured word processor with more than 110 features • *Apple IIGS; two disk drives or hard disk drive recommended; additional memory card recommended; 512K; ProDOS 16; GS/OS (System 5.0) compatible; not copy protected.* • $179 retail • WordPerfect Corp.; 1555 N. Technology Way; Orem, UT 84057; 801-225-5000

Other Software

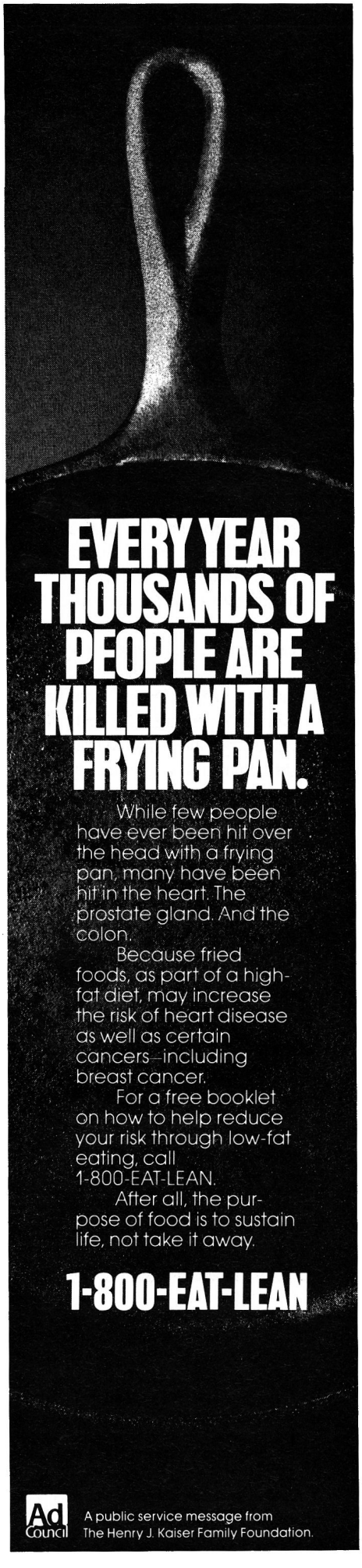
Apple IIGS Software Library • Total of 170 disks of public domain software and shareware • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $9 each retail • $39.95 retail; IIGS Editor's Choice Set (six-disk set featuring six reviews: Wheel, Iconed, Bounce-It!, F1 Race, Viewer and Control Panel NDA) • Write or call for catalog • $4.95 retail; P.D.E.'s Guide to Affordable IIGS Software (contains detailed descriptions of nearly 1,000 files from 100 P.D.E. IIGS public domain and shareware disks) • P.D.E.; 2078C Walsh Ave., Dept. 160; Santa Clara, CA 95050; 408-496-0624 or 800-331-8125

Public Domain Catalog • Public domain software catalog • *Apple IIGS; other Apple II models; 512K; ProDOS 8 or ProDOS 16; not copy protected.* • $7.50 retail; each disk • Catalog free on request • Big Red Computer Club; 423 Norfolk Ave.; Norfolk, NE 68701; 402-379-4680

Public Domain Software On File CD-ROM • CD-ROM public domain software • *Apple IIGS; other Apple II models; color or monochrome monitor; Apple II SCSI Card, Rev C; CD-ROM drive with compatible SCSI interface; printer optional; 64K; ProDOS 8 or ProDOS 16; not copy protected.* • $195 retail • Facts On File, Inc.; 460 Park Ave. S; New York, NY 10016; 212-683-2244

Softdisk G-S • Monthly software periodical • *Apple IIGS; RGB monitor preferred; 768K (1.25 MB recommended); GS/OS; not copy protected.* • $12.95 retail; single copy • $29.95 retail; three-issue subscription • Softdisk Publishing; PO Box 30008; Shreveport, LA 71130; 318-221-8718 or 800-831-2694

UpTime, The Disk Monthly • Disk-based magazine • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $9.95 per issue retail • Viking Technologies, Inc.; 6 John Clarke Rd.; Newport, RI 02840; 401-847-2455



COPY II PLUS VERSION 9

BACKS UP COPY-PROTECTED DISKS

For years, Copy II Plus from Central Point Software has been *the* indispensable utility for Apple II owners. At one time, the release of a new version of this program would have been a major event in the Apple II world. But, thanks to the declining importance of disk-based copy protection and the growing need for a new generation of IIGS utility programs, the long-overdue improvements in this old standard may never reach a wide audience.

Copyright laws permit the buyer of a software program to make a backup copy for "archival" purposes. Such permission is necessary because any magnetic media can be accidentally erased or destroyed.

In the days when software was sold on cassette tapes, copy protection was not technically feasible: If a tape head could read the data, it could duplicate it. However, Steve Wozniak's elegant Disk II controller design made it possible to record data on a floppy disk that could be read reliably by the computer, but attempts to copy a disk would be disallowed.

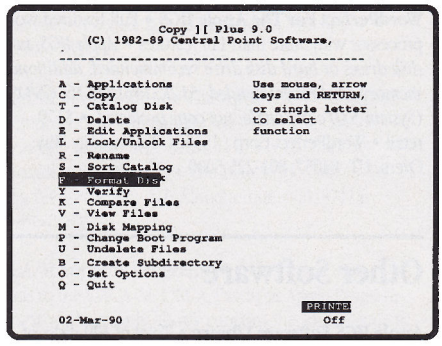
Such methods generally involved highly technical modifications to the way that a program commanded the drive controller to read the tracks and sectors on the disk. Programmers of commercial applications for the Apple II, particularly games, devised ingenious copy-protection schemes, which created a corresponding demand for programs that could "break" the copy protection.

For years, Copy II Plus has enjoyed a solid reputation for being able to copy the most popular current programs. It was frequently updated, too, at a reasonable cost to registered owners.

Copy II Plus provides disk utilities of superior performance and ease of use. An unprotected 5.25-inch disk can be copied in less than a minute, and the program automatically formats the disk as it copies.

With an unprotected original, copying a disk on a one-drive system using Apple's system utilities could mean endless disk swapping. Copy II Plus uses all available memory to minimize disk swapping.

The program also displays and prints catalog information (listings of all the files on a disk) in a more flexible and informative way. For Laser 128 owners, Copy II Plus was included in the package as a replacement for the Apple system utilities.



Copy II Plus

When ProDOS replaced the original Apple DOS 3.3 in the early 1980s, almost every Apple II user needed Copy II Plus — to move files easily between the two operating systems.

Designed to run on a minimally configured system, Copy II Plus originally used a text menu-based interface that seemed increasingly out of date in a world of icons and pull-down menus. Version 9 supports menu option and file selection with the mouse.

Another new feature is a program selector that lets you create a "run list" of up to 12 applications that can be launched directly from Copy II Plus. When you quit the application, you return directly to the Copy II Plus main menu. You could install Copy II Plus on a hard disk and use it as a fast, efficient text-based substitute for the IIGS Finder.

Version 9 includes more than 400 new Bit Copy parameters for automatically copying commercial programs, including popular titles such as the Carmen Sandiego series, Tetris and VCR Companion. In some cases, the program can create a usable hard disk copy of a 3.5-inch disk that was designed to defeat hard disk installation.

Version 9 is handsomely repackaged in a slip-case and includes an all-new, 190-page softcover manual. The documentation is readable and contains useful information. The technical Appendices offer a solid introduction to the arcane subject of disk formats and copy-protection schemes.

A new copy of the program, with 3.5-inch and 5.25-inch disks, costs $39.95; registered owners of earlier versions can order the update for $23 (for both disk formats) or $18 (for one disk format — either 5.25 or 3.5). Central Point Software provides first-class user support that includes a well-staffed hotline, a bulletin board and a fax number.

A major limitation of the new version is that it cannot handle the new extended files, with data and resource "forks," created by GS-OS. It does, however, offer the option of formatting a 3.5-inch disk with the high-speed 2:1 interleave that GS-OS permits.

The 3.5-inch Bit Copy program does not work with the UniDisk or the Apple IIc Plus. Although Copy II Plus can verify a disk (locating any bad sectors), it has never provided a simple way to "optimize" or "de-fragment" a disk by rewriting scattered files onto logically contiguous sectors.

About a year ago, Apple told developers that it would no longer provide any kind of technical support for disk-based copy-protection schemes. Therefore, developers who continued to use these methods had no guarantee that their software would work under future revisions of any Apple Computer operating system.

In the MS-DOS and Macintosh environments, the universality of hard drives has nearly killed the market viability of copy-protected software. Even games are increasingly adopting "off-disk" protection schemes, such as access codes buried in the manual or keys printed on dark reddish-brown paper that cannot be photocopied.

The Apple II environment, where hard drives are still a luxury beyond the reach of many users, is perhaps the last backwater where copy protection will live on, making products such as Copy II Plus necessary.

For IIGS owners who rely on GS-OS to manage files and directories, the basic functions of Copy II Plus are unnecessary. IIGS users who prefer the superior speed of a text-based environment will probably prefer the greater power and flexibility of Glen Bredon's wonderful ProSel utilities.

For hard-core Apple II hackers, who have lived for years with the quirks of Copy II Plus and learned to depend on its advanced technical tools — such as the Sector Editor — life without this program would be unimaginable. The appearance of Version 9 is an encouraging sign that the Apple II's heart is still beating.

— Mike Markowitz

Product: Copy II Plus Version 9
Price: $39.95 (upgrade for registered owners is $23 for both disk formats; $18 for one)
Company: Central Point Software, Inc.; 15220 NW Greenbrier Pkwy., Ste. 200; Beaverton, OR 97006; 503-690-8090
Requirements: Apple IIGS; one 3.5-inch or 5.25-inch drive. Earlier Apple II systems

require 128K and 80-column capability. Supports any ProDOS-compatible drive, RAM card or clock

Circle Reader Service Number 30

GRAND PRIX CIRCUIT

FORMULA ONE RACING

We are lucky our computers don't require us to put quarters in when we want to play a game. If they did, we'd be broke by now. Especially after playing the addictive Grand Prix Circuit from Accolade.

Grand Prix has been on the market for other computers since 1988. It didn't become available for the Apple IIGS until this year, but it was worth the wait.

Grand Prix Circuit is both like and unlike other driving challenges, such as Test Drive II. You've got a road, a steering wheel, gas pedal, brakes and your choice of cars. The departure from other games is the multiple courses, the music and some very mean, talented opponents.

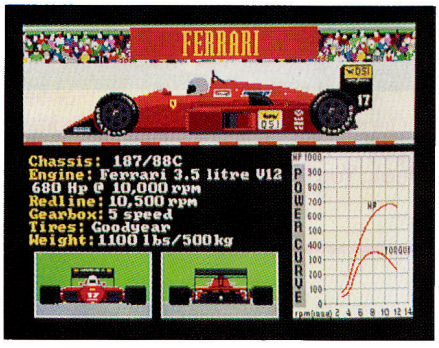
From the practice courses to the championship races, you are constantly challenged to hold 900 horsepower and one ton of raw power on a narrow strip of pavement. The road, it should be noted, seems to get narrower the faster you go.

The game's beginning screen opens up with some really good music and graphics. If you do not touch any keys, you'll go through the Demonstration mode. The demo shows all three of the available cars — a Ferrari, a Williams and a McLaren — and gives their vital statistics. One of the cars will be selected randomly to run one of the eight legendary courses available.

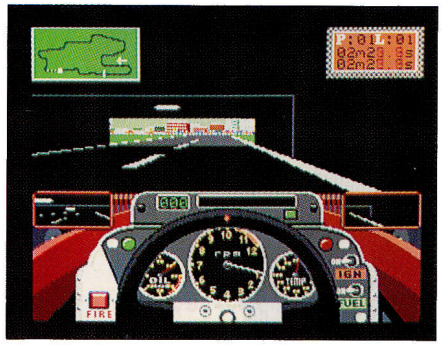
The courses, selected from around the world, are: Suzuka International in Japan; Italy's Autodromo Nazionale di Monza; Silverstone in Britain; Circuit de Monaco; Gilles Villeneuve in Montreal; the Hockenheim-Ring in Germany; Brazil's Autodromo da Cidade do Rio de Janeiro; and, from the United States, the Detroit Grand Prix.

With each course, the game provides unique challenges to overcome and test your skills as a driver, such as the tunnels of Japan, the high-speed straightaways of Germany or the elegant curves of Monaco.

Control input is selectable between the keyboard, keypad or joystick. Unless you have the touch of a surgeon, I recommend beginning with the keypad. Joystick control



Grand Prix Circuit



Grand Prix Circuit, in the driver's seat

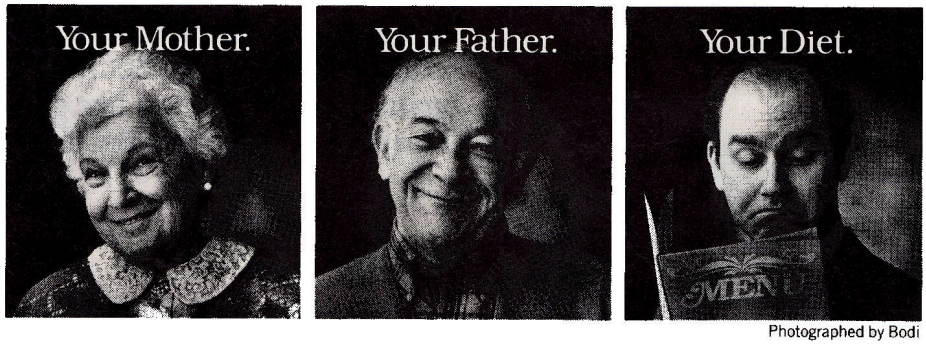
takes a bit more practice. With more experience, you'll want to use the joystick — while shifting and downshifting through the turns and straightaways.

The program's five difficulty levels allow you to just drive the courses or steer, shift gears, watch your temps and — by all means — keep track of the damage your car sustains from spinouts, going into the rough or even being hit by other cars.

If racing by yourself is not your bag, you can bring up Accolade's stable of nine drivers. Luckily, they're not all racing experts. We didn't have any trouble getting around the Englishman Nigel Levins, but the Italian, Don Matrelli, drove aggressively and was difficult to put back in the pack.

All nine of the drivers become your competition for the World Driving Championship, where you race each of the eight courses in an attempt to accumulate enough racing points to become the cumulative

You Can Change Your Cholesterol Level, By Changing One Of These Three Things.



Photographed by Bodi

Lower the amount of cholesterol and saturated fat in your diet, and you can reduce a major risk factor for heart disease. And that's true even if heart disease runs in your family.

To find out how easy it is to change your diet, write for a free booklet from the American Heart Association, 7320 Greenville Ave., Box 4, Dallas, Texas 75231. It's the adult thing to do.

Your Life Is In Your Hands.

American Heart Association

This space provided as a public service.

Low flow showerheads and dripless faucets save hot water and the fossil fuels it takes to create it. They also save you money.

Carpooling, taking public transportation or even riding your bike to work can reduce the pollution that causes global warming. Try one of these alternatives at least one day a week. You'll save money and you'll also be in a better mood when you get there.

If you don person can m in the wor what you've

Our environmental problems are so big most of us assume the solutions are big, too. But the long-term solution to things like global warming, overpopulation, extinction and waste disposal is really quite small. The solution is one person at a time deciding he or she is going to help the world, not hurt it.

It's you, with all your other

Paint thinners give off fumes that deplete the ozone layer. Vinegar is a safe alternative.

Your baby could be making a bigger mess than you think. Disposable diapers can take up to 500 years to decompose, and their contents can spread disease. Use a diaper service.

The sprays we use to kill bugs in our homes are also harmful to our environment. You can learn to control household pests using good old-fashioned home remedies.

Our landfills are full and highly toxic wastes are leaking into our groundwater, rivers and lakes. Recycle everything you possibly can.

Many household cleaning products can be replaced with homemade non-polluting alternatives.

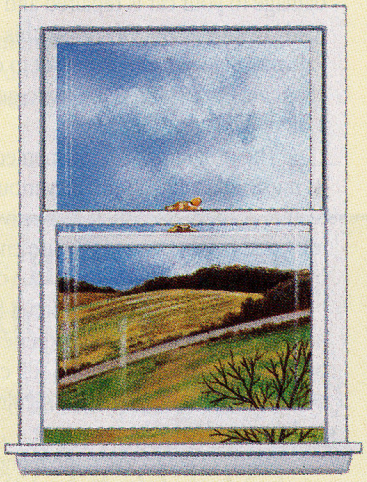
Aerosols and even some roll-ons deplete the ozone layer. Make sure the products you buy are ozone-friendly. An alternative is equal parts of baking soda and cornstarch.

t think one ake a difference ld, consider done already.

obligations in life, realizing that saving our environment isn't just up to people who like whales.

Government and corporations aren't going to provide the real answers. Commitments on the part of ordinary people will.

To find out how you can get involved in a cause you care about, call 1-800-433-0880.



Each year the amount of energy wasted in the United States is equivalent to the energy produced from all the oil that flows through the Alaska pipeline.

Every regular bulb you replace with a fluorescent one saves a ton of coal over the course of just five years.

Toilet tissue made from recycled paper reduces deforestation, and it doesn't leak harmful dyes into the water supply.

SAVE THE WORLD

If we're not all helping, we're all hurting.

champion. Scoring is based on where you place in each race.

By selecting the easiest level, you will place in the top five racers. With the higher difficulty levels, you will probably find your standing drops drastically until you gain a lot of racing experience.

When you've honed your driving skills, increase the number of laps and try pit stops. There are only two places where a race is won or lost: braking going into the turns and judging when to come into the pits. Time either one wrong, or make a bad choice while in the pits, and you can lose a race.

By closely watching your damage indicator, you can save your car from breaking down on the track. While in the pits, you have the choice of changing just two tires or all four. By changing all four tires, the damage to your car is repaired and you are ready to race again. Of course, this takes valuable time, so you may want to choose changing just two tires and try to get by with a bit of damage.

The program is complemented nicely by its music and animation. The various races feature scenery from their respective countries, and between races you are entertained by an upbeat tune.

We played Grand Prix Circuit for a few hours. As we gained racing experience and our skills increased, we could still challenge ourselves by increasing the difficulty levels and the number of laps per race.

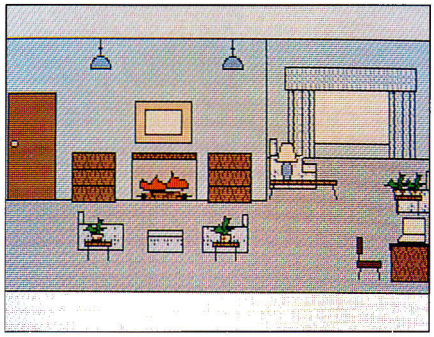
We have yet to reach the highest difficulty level and survive through an entire Championship Circuit of more than five laps per race. We guess we'll just have to keep racing.

— Dennis Keppner

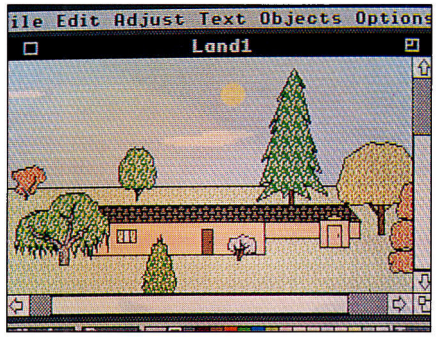
Product: Grand Prix Circuit
Price: $44.95
Company: Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400
Requirements: Apple IIGS with 512K
Circle Reader Service Number 31

DESIGN YOUR OWN HOME: INTERIORS AND LANDSCAPE

Design Your Own Home: Interiors allows you to draw room plans, arrange furniture and experiment with color schemes. The program includes hundreds of furniture pieces that can be accessed by a keyboard command or a pull-down menu selection.



DYOH: Interiors



DYOH: Landscape

A top view of a room can be created, while a Side View feature allows a room to be examined from any of four sides. Finishing touches made in any of the views can be printed in color on an ImageWriter II.

The program includes 4,096 IIGS colors and patterns (with editor), drawing tools, rulers, a customizable work screen and a Scan mode, which allows you to view all saved plans and libraries.

Features unique to the IIGS version of Design Your Own Home: Interiors include compatibility with GS/OS 5.0.2; precolored, changeable shapes; side views showing all four sides of a room; plan scanning; and a Save To Paint feature for saving drawings as standard picture files for use in other paint programs.

Interiors, which is a stand-alone application, can be supplemented with the two other programs in the same series: Architecture and Landscape. Additional room designs are available in two Design Your Own Home Interiors Libraries: Library 1 — home plans; Library 2 — office plans.

Paint Your Own Home, a separate program, is included in the package free of charge. According to the vendor, this package allows a user to customize architectural, interior or landscape drawings (or any drawings) in paint layer format.

Design Your Own Home: Landscape allows you to create home or office landscape designs. The program includes dozens of predrawn trees and shrubs or you can create your own.

Four side views are automatically generated from top-view drawings, and a Slope feature allows you to work with sloped terrain.

Additional features include Scan mode, which lets you view saved plans and libraries; two drawing scales with rulers; an Aging feature that lets you view plants as they will look years later; plant identification; color printing (on an ImageWriter II); a "shopping list" of all plants used; color fill; and labeling with various fonts and sizes.

The free Paint Your Own Home application is also included with this package.

Like Interiors, Landscape is compatible with GS/OS 5.0.2. In addition, the program comes on a 3.5-inch, non-copy-protected disk format, contains 4,096 colors and offers plan scanning.

A companion Landscape Library that contains 48 predrawn residential plans, which can be used as is or modified, is also available. Another companion is the Landscape Regional Image Library series, which contains more than 150 trees and other landscape elements specific to a geographic region. The regions include: South, East, Midwest, Southwest and Northwest/Mountain.

According to the vendor, no other software on the market offers landscape design at this level.

— Ron Errett

Product: Design Your Own Home: Interiors
Price: $89.95 retail; $29.95 each for Library 1 and Library 2
Company: Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030
Requirements: Apple IIGS; 1 MB of RAM; one or two diskette drives or a hard drive; color or RGB monitor recommended. ImageWriter, LaserWriter and color printing optional
Circle Reader Service Number 32

Product: Design Your Own Home: Landscape
Price: $89.95 retail; $29.95 each for the regional libraries
Company: Abracadata, Ltd.; PO Box 2440; Eugene, OR 97402; 503-342-3030

Requirements: Apple IIGS; 1 MB of RAM; one or two diskette drives or a hard drive; color or RGB monitor recommended. ImageWriter, LaserWriter and color printing optional

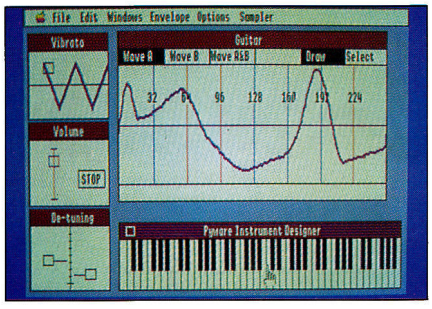
Circle Reader Service Number 33

PYWARE INSTRUMENT DESIGNER

CREATE INSTRUMENT SOUNDS

You can use the Pyware Instrument Designer to create any instrument sound you wish. You can also alter sound waves and control sound attacks, sustains, decays, vibratos, pitch bends and more. According to the vendor, you can create any sounds, from acoustic instruments to your own original sounds.

The Pyware Instrument Designer is also designed to be a teaching and learning application for teachers and students in music or science. In this capacity, the program allows you to see and hear how modifications to sound waves affect sound.



Pyware Instrument Designer

The Instrument Designer allows owners of the separately available Pyware Music Writer software package, of which Version 2.0 has been released, to create libraries of sounds that can be used with the Music Writer to aid in music composition and notation.

In addition, the Instrument Designer lets you patch a synthesizer into an Apple IIGS computer's Ensoniq chip for the purpose of driving computer-generated sounds.

Other program features include a IIGS-style interface; One Shot, Dual Wave (with wave A attacking and wave B sustaining) and Continuing Loop modes; 256-byte to 32K wave forms; MIDI-driven waves; wave-form editing capability; three on-screen magnification levels; control of vibrato, de-tuning, and relative pitch up to five octaves; and more.■

— Ron Errett

Product: Pyware Instrument Designer
Price: $129 retail
Company: Pygraphics Corp.; PO Box 639; Grapevine, TX 76051; 817-481-7536 or 800-222-7536
Requirements: Apple IIGS; 512K RAM; 3.5-inch disk drive; RGB or composite monitor
Circle Reader Service Number 134

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Audrey Hepburn

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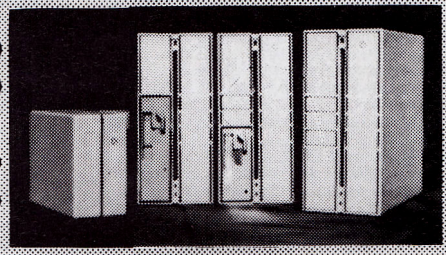

• ***Cartridge Drive --44MB per cartridge*** $779
• ***Hermit Crab--portable*** 20MB$509 40MB$609
Tape Subsystem w/ backup software
155MB--$672 60MB--$592
Subsystems come with latest GS/OS 5.02 system software
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Circle Reader Service Number 15

Product Index

//Writ//Write....54
1001 Things To Do With Your Apple IIGS....30
1040Works-X....30
1980 To 1989 Collectors Guide — Topps, Donruss And Fleer Baseball Cards....30
2088: The Cryllan Mission....44
360 Text Toolkit V2.0....52
4th & Inches....44
816/Paint....32
A Better Mouse Trap....28
A Guide To Computer Music....51
A+ Line....34
A-B Box....28
A-Hive Disk Enclosure....47
A-Hive Hard Disk Subsystem....47
A-Hive Tape Subsystem....48
A2S Series....48
AAARGH!....44
AC/Basic Compiler....52
Add-Visor....28
Address Master....52
Advanced AppleWorks — 2nd Edition....30
The Adventures Of Sinbad....34
Agent Organizer Program....30
Alge-Blaster Plus....34
Algebra Shop....34
Algernon....34
All About America....34
America Online....52
Analog Edge; Analog Plus....28
Anchorman....44
Ancient Land of Ys....44
Animal Adaptations....34
Animal Tracker 2.0....35
Ant Farm....35
Apollo PC Presenters For Apple IIGS....48
Apple 16, A Comprehensive Guide To IIGS Computing....30
Apple 2GS Armor....28
Apple 3.5 Drive....48
Apple 5.25 Drive....48
Apple Care Manual: Diagnosing And Maintaining Your Apple IIe, IIc And IIGS Computers....31
Apple Hard Disk 20SC And 40SC....48
Apple II SCSI Interface Card Revision C....48
Apple II Video Overlay Card....48
Apple IIGS Assembler Toolbox Quick Reference; C Toolbox Quick Reference....31
Apple IIGS Assembly Language Programming....31
The Apple IIGS Book....31
Apple IIGS Dust Cover....28
Apple IIGS Dust Cover....28
Apple IIGS Firmware Reference....31
Apple IIGS Hardware Reference, Second Edition....31
Apple IIGS Icon Editor....52
Apple IIGS Machine Language For Beginners....31
Apple IIGS Memory Expansion Card....48
Apple IIGS Soft Keyboard Protector....28
Apple IIGS Software Library....55
Apple IIGS Source Code Sampler, Volume I....52
Apple IIGS System Fan....48
Apple IIGS System Software (GS/OS) Version 5.0....53
Apple IIGS System Software V5.0.2 (Developer Package)....53
Apple IIGS Technical Reference....31
Apple IIGS Toolbox Reference, Vol. III....31
Apple IIGS Toolbox Reference, Vols. I And II....31
The Apple IIGS Toolbox Revealed....31
Apple IIGS Upgrade....48
Apple MIDI Interface....48
Apple Personal Modem....48
Apple Security System....28
AppleCD SC....48
AppleCenter Plus....28
AppleColor RGB Monitor....48
AppleShare File Server V2.0....51
AppleShare IIGS Workstation Software....51
AppleShare Print Server....51
AppleTalk Clips....28
AppleWorks Command Cards....28
AppleWorks Forum....30
AppleWorks GS 1.1....30
The AppleWorks Handbook: Vol. II....31
AppleWorks Made Easy, Third Edition....31
AppleWorks; AppleWorks/Network....30
APW C: Apple IIGS Programmer's Workshop C V1.0.2....53
APW: Apple IIGS Programmer's Workshop V1.0.2....53
Aristotle....51
Arkanoid II — The Revenge Of Doh....44
ASCII Express....33
ASE III....35
Atlas Explorer....35
Audio Animator....48
Audubon Wildlife Adventures: Grizzly Bears....35
Audubon Wildlife Adventures: Whales....35
Award Maker Plus....32
Backyard Birds....35
Balance Of Power: The 1990 Edition....44
Bank Street Writer III....54
The Bard's Tale....44
The Bard's Tale II: The Destiny Knight....44
Barney Whistle's Music Games....51
Battle Chess....44
Beagle Bros Clip Art/Volume I....32
Beagle Bros Font Library/Volume I....34
Beagle Bros GS Desk Accessories....33
BeagleDraw....32
BeagleWrite GS....55
Beyond Zork....44
Black Jack Academy....44
Blue Angels....44
Bookmate....35
Bose RoomMate Powered Speaker System (Special Platinum Edition)....28
Boston CitiNet....52
Bounce!....35
Bridge 5.0/6.0....44
Bubble Ghost....44
Burple....33
BusinessWorks....31
Cable Assemblies....28
CADApple 3.5....31
Calendar Crafter....31
Call-Box....53
Captain Blood....44
Captain's Log....35
Car Builder....32
Cartooners....32
CCK 100 Universal Computer Care Kit....28
CDA Power: Volume 1....33
The Character Factory....55
Charlie And The Chocolate Factory....35
Cheap Paint....32
CheatMaster....44
Checkerboard Trails....35
The Children's Writing And Publishing Center....35
Chinook SCSI Utilities....53
Classroom Jeopardy....35
Classroom Toolbox....35
Club Backgammon....44
Clue Master Detective....44
College Bound....35
College Life....35
CommuniKeys....35
Comp-U-Desk....28
Competer Rabbit....35
CompuServe Information Service....52
Computer Accessories Cables....28
Computer Cleaning Products....28
Computer Specialty Products....28
ComputerEyes IIGS....48
ComputerEyes/2....48
Conquering Decimals (+, -)....35
Conquering Fractions (+, -)....35
Conquering Percents....35
Conquering Ratios And Proportions....35
Conserver....48
Consumer Laserdisc Player Cable Interface....28
Coordinate Math....35
Copy II Plus....53
The Cordless Mouse....28
Craftmaster II....32
Creature Cube....35
Cross-Works 2.0....53
Crossword Creator....44
The CrystalPrint Publisher....48
CSL Marks....35
CT-20; CT-40; CT-80; CT-105....48
Curious George Goes Shopping....35
Curious George In Outer Space....35
Curious George Visits The Library....36
Cyberlearn....36
CyberWorld....36
D6OUTSP AC Surge Protector....48
Darad IIe....31
Dark Castle....44
Dataflo Math Duo....36
Dataflo Spelling And Vocabulary Trio....36
DataLink 1200 And DataLink 2400....48
DataLink Express....48
DB Master Version 5; DB Master Professional....32
DCA1000....48
Decimal Concepts....36
Defender Of The Crown....45
Deja Vu II: Lost In Las Vegas....45
Deja Vu: A Nightmare Comes True....45
Delphi....52
Deluxe Power Console-Plus Surge Suppressor And Noise Filter....48
DeluxePaint II....32
DeluxeWrite....55
Dental Office Management IIP....32
Design Your Own Home: Architecture....32
Design Your Own Home: Interiors....32
Design Your Own Home: Landscape....32
Design Your Own Home: Landscape Regional Image Libraries....32
Design Your Own Home: Libraries....32
Designasaurus....36
Designer Prints....32
DeskPak Desk Accessories....33
The Desktop Manager....33
Desktop Printer Stands....28
Dilly Dolly Computer Cart....28
Dinosaur Days Plus....36
Dinosaurs....36
Directory Labeler II V2.1....53
Disc Commander....53
DiscoverCAD II And DiscoverCAD Courseware....36
Discovering Science On Your Apple II, II+, IIc and IIGS....31
Disk Initializer....33
Disk Label Printer Pro V3.0....53
Disk Util II V1.2....53
The DisKeeper....28
The Diversi Series....53
Diversi-Tune....51
DLM Math Fluency Program....36
Dollars And Sense 2.0....52
Dondra: A New Beginning....45
DoubleTalk....48
Dr. Peet's Talk/Writer....36
Dragon Wars....45
Draw Plus....32
DSM802 And DSM804 Data Switches....28
DSTM2 Modem/Fax/Telephone Lightning Surge Protector....48
DT Painter....32
The Duel: Test Drive II....45
Dueling Questions 1.5....36
Dust Covers....28
E-Z Paint 256....33
E-ZEE Inker II....28
Easy Street....36
EasyDrive....53
Echo IIb Speech Synthesizer....48
ECS Music Training Programs....51
Educational Activities....36
ELAN Networking System....51
Electric Crayon Deluxe — Coloring Calendars....36
Electric Crayon Deluxe — Dinosaurs Are Forever....36
En Route And Caminando....36
Equation Math....36
ESL Writer....36
Ethics And You....36
Explore-A-Science Series....36
Explore-A-Story Classics....36
Explore-A-Story Series....36
Explore-Australia....36
Exploring Apple GS/OS and ProDOS 8....31
Exploring The Apple IIGS....31
Extra Long ADB Keyboard Cable....28
Fact Blaster....36
FactWorks Volumes I - IV....30
Family Matters....52
Family Roots....52
Famous Birthdays....30
Famous Courses Volume II....45
Famous Courses Volume III & IV....45
Fantavision IIGS....30
Fast Break....45
Fasthouse....53
FastMath....48
The Fidelity Chessmaster 2100....45
File Utilities I & II....53
File-Talk And Word-Talk....36
FingerPrint G+....48
FingerPrint GSi Version III....48
FingerPrint Slide-Show....34
FingerPrint SuperSerial....48
Fire Power....45
First Categories For The Apple IIGS....36
First Letters And Words....36
First Link....48
First Shapes....36
First Verbs For The Apple IIGS....36
First Words For The Apple IIGS....37
First Words II For The Apple IIGS....37
Flightstick....28
Flintstones....45
Font Factory GS....34
Food Chains....37
The Food Processor II....52
Fractal Explorer....45
Fraction Practice Unlimited....37
Fractions Concepts, Inc.....37
Fundamentals Of Music....51
FX/20, FX/45, FX/80....49
The G.A.P.....28
The Game Show....37
Garfield Trivia Game....45
Gauntlet....45
GDL 2.0....53
Genealogical Data Base System (GDBS) 2.0....52
GEnie....52
GeoCalc....32
GeoFile....32
Geographic Jigsaw....37
The Geometric Presupposer....37
The Geometric Supposers....37
Geometry....37
GeoPublish....34
Gnarly Golf....45
Gold Rush....45
Gradebook Plus ProDOS 8 Edition....37
Graflex....29
GrailQuest....45
Grand Prix Circuit....45
Grandstand Play....45
Graph It!....34
Graphic Environment Operating System (GEOS)....53
The Graphic Exchange....53
Graphics And Pictures Converter....34
The Graphics Studio....30
Graphics Supermarket....53
GraphicWriter Version III....34
Grappler C/Mac/GS....49
The Great Poster Disk....37
Great Western Shootout....45
GS File....32
GS Juice Plus....49
GS Memory Test....53
GS-RAM And GS-RAM Plus....49
GS-RAM Ultra....49
GS/OS Reference, Volume I And II....31
GS07 And GS08 Graphics For Print Shop IIGS....34
GSBug And Debugging Tools V4.0B1....53
GSNumerics....37
HardBall!....45
Heatwave: Offshore Superboat Racing....45
Hide And Find....37
Hometown, U.S.A.....33
Homeworker — The Student Organizer....37
Hostage....45
How To Use The Features Of AppleWorks 3.0....30
Human Interface Guidelines....31
Hunt For Red October....45
HyperLaunch V3.0....53
HyperStudio....53
Iconix IIGS....30
IIGS Anti-Glare Filter....29
Image Master; Basic Paint....33
ImageBuffer....49
ImageWorks....30
ImageWorks II Board....49
ImageWriter II....49
ImageWriter LQ....49
ImageWriter LQ Reference....31
Incliner Ergonomic Computer Furniture....29
Indiana Cash Drawer....49
Indoor Sports....45
Information Laboratory Software: Chemistry IIGS....37
Information Laboratory Software: Earth Science IIGS....37
Information Laboratory Software: Life Science IIGS....37
Information Laboratory Software: Physical Science IIGS....37
Information Laboratory Software: World History IIGS....37
Inner Drive....49
Inside ProDOS 16....31
Instant Music....51
Instant Survey....37
Instant Synthesizer....51
The Integrated Learning System....37
Interflex....29
Intervals, Scales & Chords....51
Inter•Poll Network Administrator's Utility....52
Invisible Bugs....37
The Invoicer With Accounts Receivable And Sales Tracking/Inventory....32
J/L 910....49
Jack Nicklaus' Greatest 18 Holes Of Major Championship Golf....45
Jam Session....51
Jigsaw! The Ultimate Electronic Puzzle....45
John Elway's Quarterback....45
Joshua's Reading Machine Premium Pack....37
JuiceBox....29
Just A Little Lie....37
Kablit....29
KaleidoKubes....45
Keef The Thief....45
Keep Your Balance!....37
Kensington Printer Accessories....29
Keyboard/Computer Vacuum Model MV5....29
KeyLISP....53
KidsTime II Version 2....37
KidTalk....37
Kidwriter Golden Edition....37
Kinderama....38
King Of Chicago....45
King's Quest I: Quest For The Crown....45
King's Quest II: Romancing The Throne....45
King's Quest III: To Heir Is Human....45
King's Quest IV: The Perils Of Rosella....46
KoalaPad+....49
Kraft Joysticks....29
Kraft Premium II....29
Krell Software....38
The Kula Index....30
Kurta IS/GS....29
L.I.F.E. Diary....52
Labels, Labels, Labels....34
Land Of The Unicorn....38
LaserForce....46
LaserKleen....29
LaserWriter Reference....31
The Last Ninja....46
LCSI Logo II....38
LDI-4200 And LDI-2000....29
Learn About Animals....38
Learn About Plants....38
Lego TC Logo Starter Pack....38
Leisure Suit Larry....46
Life Cycles....38
LifeGuard....53
Line-Saver Uninterruptible Power Systems (UPS)....49
The Linguist....38
Linkword Language Series....38
Lisa 816 V5.0....53

Product Index

List Plus....32
Little Shoppers Kit....38
Loan Qualifier....30
The Logic Master....38
Logo Plus....38
LogoWriter Home Edition....38
LogoWriter Software....38
LogoWriter Spanish....38
Look, Listen & Touch....38
Lunar Greenhouse....38
Lynx Trackball....29
M300....49
Mac-Kit 3A....29
Mach I And Mach I Plus....29
Mach II and Mach III....29
Mach IV Plus....29
MacPack....29
MacroMate....53
Mad Match....46
Magic Slate II....38
Magic Spells....38
Magical Myths....38
MagniView 200C....49
Managing Your Money 4.0....52
Mancala....46
Manhunter: New York....46
Map Skills....38
Marble Madness....46
Master Gradebook Plus....38
Master Piece Remote....49
Master Tracks Jr. For IIGS....51
Master Tracks Pro....51
Math And Me....38
Math Blaster Mystery....38
Math Blaster Plus....38
Math Blaster Plus IIGS....38
Math Masters....39
Math Rabbit....39
Math Shop Jr.....39
Math Tutor....39
Math Wizard....39
Math Word Problems....39
MathTalk....39
MathTalk Fractions....39
Mavis Beacon Teaches Typing!....39
McGee....39
Mean 18: Ultimate Golf....46
MeasureWorks....39
Medical Office Management IIP....32
Medley 2.0....34
Meirick UPS Systems....49
Memory Building Blocks....39
Memory Castle....39
Memory Machine....39
MemorySaver....49
Menu Maker....54
Menu Master....54
Mercury....55
Merlin 8/16....54
Micol Advanced Basic 3.0....54
Micol Macro....54
MicroClene And FloppiClene....29
MIDI Messenger....39
The Milliken Storyteller....39
Miner's Cave....39
Mines Of Moria; Mines Of Moria II....46
Mini-Putt....46
Mirage....29
Mixed-Up Mother Goose....46
Modular Management System For Schools (MMS)..39
Modunet....49
ModuNet EZ....49
Money Works....39
Monsters And Make Believe Plus....39
More Teasers From Tobbs....39
Mouse Pad....29
Mouse Pads Imprinted By Computer Expressions....29
Mouse Pocket ADB....29
MouseCat....29
MouseFiler 2.0....54
MouseFiler Network Utilities....52
MousePouch....29
MouseTalk....33
Mousetrap....29
Mousetrap II....29
Mouseway....29
MouseWrite Version 2.6....55
Mouspad....29
MP6....49
MPW IIGS....54
Mr. Py And I Coloring Adventures....39
Multi-Kache Card....49
Multidimensional Personality Inventory II....52
MultiRam GS....49
The Muppet Collection....39
Muppet Slate....39
Music Construction Set....51
The Music Studio 2.0....51
Music, MIDI, And Your Apple II Archive....39
MusicShapes....51
Mystery Objects....39
Nada-Chair....29
National Foreign Language Examination....39
National Gallery Of Art (ImageWorks Video Directory)....39
Neuromancer....46
The New Talking Stickybear Alphabet....39
The New Talking Stickybear Opposites....39
The New Talking Stickybear Shapes....39
New Teasers From Tobbs....40
Newbery Adventures....40
Notes 'N Files....32
Nutriplan....52
OCS 2-40 Stereo Amplifier; JBL Control 1 Speakers....49
OGI Pascal Development System....40
Omega....46
On-Board....49
Once Upon A Time... II....40
Once Upon A Time... Talking IIGS....40
One For The Books....40
One Of A Kind....40
ORCA/C....54
ORCA/Desktop For The IIGS....54
ORCA/M Assembler For The Apple IIGS....54
ORCA/M Support Programs....54
ORCA/Pascal For The IIGS....54
Outer Drive....49
Paint Write Draw....33
Paintworks Gold....33
Paintworks Plus....33
Paperboy....46
Parallel Pro and Buffer Pro....49
Passport MIDI Interface For IIGS (Serial Port)....49
Patterns....40
PC Transporter....49
PDQ Pascal....54
Personal Accountant 2.6....52
Personal Modem 1200; Personal Modem 2400....50
Personal Newsletter....34
Pfs: Write And Pfs: File/Report....40
Phasor....50
Pirates! IIGS....46
Pits Of Doom!....46
Point-To-Point....33
Police Quest....46
Pow! Zap! Ker-Plunk!....40
The Power System....54
Power Tree....50
PowerLine....50
The Print Shop Graphics Library Sampler Edition....34
The Print Shop IIGS....34
Printrix 1.1....34
Professional Plus....50
Programmer's Introduction To The Apple IIGS....31
Programming The 65816....31
Programming The Apple IIGS In Assembly Language....31
Programming Tools And Interfaces For APW....54
ProGrappler....50
ProModem 2400A....50
Proterm....33
ProWords And ProBraille....40
Proxima Compact Power Director....50
Proxima Data Display 200....50
Proxima Intelligent Power Systems....50
PS Lovers' Utility Set....34
Public Domain Catalog....55
Public Domain Software On File CD-ROM....55
Publish-It! 2....34
Punctuation Rules....40
Pyware Instrument Designer....51
Pyware MIDI Translator....51
Pyware Music Writer....51
Q-System II....52
QIX....46
Questmaster I — The Prism Of Heheutotol....46
Questron II....46
Quicken....52
Quickie....50
QuickTests....40
Radiation Monitor Filter....29
RamKeeper....50
RAMTalker....50
RamUp 4.0....54
Rastan....46
Read & Rhyme....40
Read 'N Roll....40
Read, Write And Publish....40
Read-A-Rama....40
Reader Rabbit....40
Reading And Me....40
Reading Comprehension....40
Reading Magic Library....40
Reading Skills Development Program....40
ReadyLink....33
Realm Of Altair Series....46
Recycling Logic....40
Renegade....46
Report Card II....40
Return Of The Dinosaurs....40
Revolution '76....41
Ricks RamStar's Disk Valets And Body Shields....29
The Right Turn....41
Roadwar 2000....46
Rocket Ranger....46
RollerMouse....29
RSVP....41
Salary Magic....32
Scholastic Hyperscreen....33
School Speller And School Speller Manager....41
Scooby Doo....46
Scorekeeper 3.0....41
Screen Thief....54
Seasons And Special Days....41
Sensible Grammar....55
Sensible Speller For ProDOS....55
Sensible Writer....55
Sentence Fun....41
Serial Pro....50
Serve & Volley....46
Sesame Street Series....41
Shadowgate....46
Shanghai....46
ShowOff....33
Sider....50
Sider GS/OS Drivers....54
Sider ProDOS Only ROMs....50
Silent Service....46
Silpheed....46
Sinbad And The Throne Of The Falcon....46
Skate Or Die....46
Sky Travel....41
Slide Shop....33
Slide-On....50
Slot-Mover....50
SmartCard....50
Smartmodem 1200; Smartmodem 2400....50
Smartmodem 1200A....50
SmoothTalker....41
Softdisk G-S....55
Softswitch....33
Solitaire And Cribbage....46
Solitaire Royale....46
Solve It!....41
Sonic Blaster....50
Sonix....51
SoundAce 2.0....50
SP011 Wall Mount Surge Protector....50
Space Quest I — The Sarien Encounter....47
Space Quest II — Vohaul's Revenge....47
Space Waste Race....41
SpaceLace....41
Spell It Plus....41
Speller Bee....41
Spellevator....41
Spelling Rules....41
Spelling Series Toolkit....41
Sports Scheduler....52
Springboard Publisher....34
Springboard Publisher Library....34
Sta-Blk Ribbon Cartridge For ImageWriter I And II....29
Star Fighter For Apple....29
Star Saga: One, Beyond The Boundary....47
Star Saga: Two, The Clathran Menace....47
Stars And Planets....41
Static Controlling Cleaning Products....29
Stickybear Basketbounce....47
Stickybear Math....41
Stickybear Math 2....41
Stickybear Numbers....41
Stickybear Opposites....41
Stickybear Parts Of Speech....41
Stickybear Reading....41
Stickybear Reading Comprehension....41
Stickybear Shapes....41
Stickybear Spellgrabber....41
Stickybear Town Builder....42
Stickybear Typing....42
Stickybear Word Problems....42
Strip Poker II....47
Studio Plus Two....50
Studymate: The Grade Booster....42
Success With Literature....42
Success With Writing....42
Super Factory....42
Super Story Tree....42
Super-Comm....50
Supergraphix 256....30
Supermusic....51
SuperPrint II: The Next Generation....34
Superpuzzle....47
Superstar Ice Hockey....47
Superstar Soccer....47
SysExGS....51
System Saver IIGS....29
Tac1+....29
Tales From The Arabian Nights....42
Talk Is Cheap V3.10....33
Talking Aesop's Fables....42
Talking Math And Me....42
Talking Reading And Me....42
Talking Schoolhouse Series....42
Talking Text Libraries....42
Talking Text Spelling....42
Talking Text Writer....42
Task Force....47
Tax Preparer....32
TaxView....52
TDM Super Accessories #1....33
TDM Toolkit....33
Teasers By Tobbs With Integers....42
Technical Introduction To The Apple IIGS....31
Teddy & Iggy....42
Teddy's Playground....42
TeleSpiker....50
Teleworks Plus....34
Test It! Deluxe....42
Tetris IIGS....47
Thexder....47
Think Quick!....42
The Thinking Machine....42
The Third Courier....47
The Three Stooges....47
ThunderScan....50
ThunderView....33
Ticket To Hollywood....47
Ticket To London....43
Ticket To Paris....43
Ticket To Spain....43
Ticket To The National Parks....43
Ticket To Washington, D.C.....43
Tiger's Tales....43
Tilt Swivel Base Model W30....29
Time Navigator....43
Time Patterns Tool Kit: American History....43
The TimeOut Series....30
TML Basic V1.10....54
TML Pascal II V1.0....54
TML Source Code Library II V1.0....54
TML Speech Toolkit For The IIGS V2.0....54
To Preserve, Protect And Defend....43
Toby's Terrific Pet....43
Tomahawk....47
Total Stress Management System....52
Touch 'N Write....43
TransWarp GS....50
Treasures Of Moctezuma....47
TrianGo....47
Trilogy....47
Trio Plus....32
Tunnels Of Armageddon....47
Turbo Mouse ADB....30
Tutor-Tech 2.6....43
Type To Learn....43
Typing Teacher....43
Typing Tutor IV....43
U.S. Geography....43
U.S. History....43
The UltraMacros Primer....31
Understanding Music....51
UniDOS Plus....54
Uninvited....47
Universal Copy Stand And SideClip....30
Universal Security Kit....30
UpTime, The Disk Monthly....55
USA GeoGraph....43
Using AppleWorks GS....31
V-Series Smartmodem 2400....50
V-Series Smartmodem 9600....50
Vacation Orlando....30
VCR Backup....54
VCR Companion....30
The Velveteen Rabbit....43
Vegas Craps....47
Vegas Gambler....47
Video Link....30
Video Studio IIGS....43
VIP Professional....32
Viva....30
Vocabulary Development....43
Vulcan....51
War In Middle Earth....47
Warlock....47
Weeds To Trees....43
The Well-Tempered Ear....51
What Do You Do With A Broken Calculator?....43
What's In A Frame?....43
Where In The World Is Carmen Sandiego?....43
Whimsical Computer Stationery....30
Windwalker....47
Winker's World Of Patterns....43
The Wonders Of The Animal Kingdom....43
Wood Car Rally....43
Word Attack Plus....44
Word Attack Plus Spanish And Word Attack Plus French....44
The Word Master....44
Wordbench....55
WordPerfect For The Apple IIGS....55
World GeoGraph....44
World Geography....44
World History....44
World Tour Golf....47
Writer Rabbit....44
Writer's Helper Stage II....44
WriteWorks....30
X-Ref (Cross-Reference) For Apple II Books And Notes....31
Xenocide....47
Your First Job....44
Zany Golf....47
Zero In On Zero....44
Zoyon Patrol....44
Æ 3.5 Drive....51
Æ 5.25" Disk Drive....51

COMPANY INDEX

360 MicroSystems....33, 52, 53
AABACA....51
Abracadata....32, 53
Absoft Corp....52
Access Unlimited-Speech Enterprises....36, 40
Accolade, Inc....30, 44, 45, 46, 47
Activision....32, 33, 34, 46, 51
Addison-Wesley Publishing Co., Inc....31, 55
Addison-Wesley Publishing Co., Inc. — Electronic Publishing....37
Advanced Ideas....35, 36, 37, 41
American Educational Computer, Inc....34, 40, 41, 43, 44, 47
APDA — Apple Computer, Inc....31, 52, 53, 54
Apollo Audio Visual....48
Apple Computer, Inc....48, 49, 51, 52, 53
Applied Engineering....33, 48, 49, 50, 51
The Archives Press....30
Artworx Software Co., Inc....38, 44, 45, 47
Bantam Books, Inc....31
Baudville, Inc....32, 46
Beagle Bros, Inc....30, 32, 33, 34, 55
Benz Computing Enterprises....30
Berkeley Softworks....32, 34, 53
Big Red Computer Club....34, 55
Borg Industries, Ltd....28
Bose Corp....28
Boston CitiNet....52
Brady Books/Simon & Schuster....31
BrainTrain, Inc....35
Britannica Software, Inc....36, 41, 45, 46, 47
Broderbund Software, Inc....30, 33, 34, 37, 43, 51
The Byte Works, Inc....54
California Dreams....44, 46, 47
Carolina System Software....33
Central Point Software, Inc....53
CH Products....28, 29
Chancery Software, Ltd....35
Checkmate Technology, Inc....33, 49
Chinook Technology....48, 53
Chronos Computers....29
Cinemaware Corp....45, 46, 47
Claris Corp....30
CMA Micro Computer....32
CMS Enhancements, Inc....48
Co-Du-Co....28
Cobar, Inc....28
Compu-Teach Corp....37, 40, 42
CompuServe Information Service....52
Computer Accessories Corp....28, 29, 50
Computer Covers Unlimited....28, 29
Computer Expressions....29
Computer Resources, Inc....39
Computer Sensations, Inc....30
Computer Specialty Products....28
Computrek....46
Conduit....44
Coyote Computing....36
Crate Technology....50
Cyberlearn, Inc....36
DAR Systems International....31, 46, 47
Data Base Systems....52
Data Spec....28, 29, 48, 49, 50
Data Transforms, Inc....34
Dataflo Computer Services, Inc....36, 37
DataPak Software, Inc....32
Datasoft/IntelliCreations, Inc....47
Davidson & Associates, Inc....34, 37, 38, 40, 41, 42, 44
DEC Software....35, 36, 38, 44
Digital Vision, Inc....48
The Dilly Dolly Co....28
Diversified Software Research, Inc....51, 53
DLM Teaching Resources....35, 36, 39, 44, 45
Doss Industries....28
Dukane Corp....49
E.M.A. Software....37
Eclat Microproducts....37, 45
Educational Activities, Inc....36
EduSoft....42
El Kassir Software....30, 33, 47
Electronic Arts....32, 41, 44, 45, 46, 47, 51, 55
Electronic Courseware Systems, Inc....51
Electronic Learning Systems, Inc....50, 54
ESHA Research....52
Facts On File, Inc....55
Financial Microware....30
First Byte....36, 37, 39, 41
First Class Peripherals....50
Focus Media, Inc....35, 40
Future Age Computers....43
FWB, Inc....53
GCC Technologies, Inc....49
General Electric Information Services Co....52
General Videotex Corp....52
Gered Corp....28, 29
Gessler Publishing Co., Inc....35, 36, 38, 39
Grafik Solutions; Sourceware Software Products....53
Great Wave Software....37, 41
Grimes Co....30
H&H Enterprises....29
H.A.L. Labs....53
Harbor Software, Inc....52, 54
HardSoft Products....53
Hartley Courseware, Inc....36
Hayes Microcomputer Products, Inc....50
Hearlihy & Co....36
HowardSoft....32
ICD, Incorporated....29
ImagiMedia Software....30
Indiana Cash Drawer Co., Inc....49
Info-Med....30
Infocom, Inc....44
Ingenuity, Inc....49, 54
Interplay Productions....44, 45, 46
Intuit, Inc....52
ISD Marketing, Inc....32
J/L International Trading Co. USA, Inc....49
Jada Graphics, Inc....33
Jenston Mfg....29
Jostens Learning Corp....37
KADO Systems....53
Kalglo Electronics Co., Inc....48, 49, 50
Kensington Microware Ltd....28, 29, 30, 49, 50
Knowledgeware....30
Koala Technologies....49
Kraft Systems, Inc....29
Krell Software Corp....38
Kula Software....30
Kurta Corp....29
Kyodai Software Marketing, Inc....44
Lan-Tech, Inc....51
Laureate Learning Systems, Inc....36, 37
The Learning Co....35, 38, 39, 40, 42, 44
Learning Lab Publishing/Pelican Software....36, 40
Lego Systems, Inc....38
Lindsay Hough....51
Logo Computer Systems, Inc. (LCSI)....38
Lynx Computer Products, Inc....29, 51
Magic Software, Inc....32
Manzanita Software Systems....31
Maretech....52
Martin Hill....44
Masterplay Publishing Corp....47
MCE, A Div. of Lawrence Productions....34, 35, 36, 37, 38, 39, 44
McGraw-Hill Educational Resources....54
MECA Ventures, Inc....52
MECC....31, 32, 35, 36, 37, 38, 39, 40, 41, 43, 44, 55
Meirick, Inc....49
MiccaSoft, Inc....32
Micol Systems....54
Micro Revelations, Inc....47
MicroIllusions....41, 44, 45, 46
Micromedx Computer Software Corp....52
MicroProse Software, Inc....46
Midwest Data Source, Inc....33
Mike Crane....30
Milliken Publishing Co....34, 39
MindCraft Publishing Corp....53, 54
Mindplay....36
Mindscape, Inc....44, 45, 46, 47
MMP Systems....39
Monogram....52
Moustrak, Inc....29
Music Systems for Learning, Inc....51
Nada-Chair....29
National AppleWorks Users Group....28, 30, 31
Nature Boy Software....35
Nite Owl Productions....50
Oden Software Limited....35
Ohio Kache Systems Corp....49
Omni Tech Corp....28
On Three, Inc....33, 49, 50, 53
On-Going Ideas....40
Opcode Systems....50
Orange Cherry-Talking Schoolhouse Software....42
Orange County Speaker, Inc....49
Orange Micro, Inc....29, 49, 50
Origin Systems, Inc....46, 47
Osborne/McGraw-Hill....31
P.D.E....32, 55
Parallax, Inc....50
Passport Designs, Inc....49, 51
Pecan Software Systems, Inc....54
PerfectData Corp....29
Peri-Peripheral Co....28
Personal Financial Services....30
Polarware, Inc....36, 41
Pop-Fly Software....30
Practical Solutions....28
Prelude Software, Inc....52
Prometheus Products, Inc....50
Psychological Psoftware Co....37, 42, 52
Publishing International....33
Pygraphics Corp....39, 51
Quality Computers....49, 53, 54
Qualtec Data Products, Inc....29
Quantum Computer Services, Inc....52
Quinsept, Inc....52
Qume Corp....48
Raptor, Inc....32
RC Systems, Inc....48
Redshift Limited....49
Ricks RamStar, Inc....29
Roger Wagner Publishing, Inc....31, 33, 53, 54, 55
Scholastic, Inc....33, 34, 36, 39, 40, 42, 54
Scooter Products....28
Secure-It, Inc....29
Sensible Software, Inc....40, 55
Sequential Systems, Inc....50, 52
Seven Hills Software Corp....33, 34, 40, 55
Sierra On-Line, Inc....45, 46, 47
Simon & Schuster Software....43
So What Software....30, 51, 53, 54
Softdisk Publishing....55
SoftSpoken Co....53
Softsync, Inc....32, 34, 52
Softview, Inc....52
The Software Toolworks....39, 45
Softwood Co....32
Sound Management....51
Spectrum Holobyte....46, 47
Spinnaker Software Corp....37
Sports Software Associates....52
Spring Branch Software, Inc....37
Springboard Software....34, 35, 52
SSSI, Inc....33
Stokes Publishing Co....41
Stone Edge Technologies, Inc....32
Strategic Simulations, Inc....46
Street Electronics Corp....48
Sunburst Communications, Inc....34, 35, 37, 38, 39, 40, 41, 42, 43
Suncom Technologies....28, 29
SystemGate, Inc....49
Tab Books....30, 31
Taito Software, Inc....44, 46
Teaching Technologies....28, 29, 30, 39, 43
Tech-Sa-Port....28, 29
Techware Corp....43
Terrapin Software, Inc....38
Thirdware Computer Products....34, 48
Three-Sixty Pacific, Inc....44, 47
Thunderware, Inc....33, 50
Timeworks, Inc....34
TML Systems, Inc....54
Tom Snyder Productions, Inc....38, 40, 43
Triad Venture, Inc....53
Tulin Corp....47, 48
Unicorn Software Co....34, 38, 39, 40, 42, 43, 44
United Software Industries....33
Versacad Corp....31
Victory Software....44
Viking Technologies, Inc....55
Virgin Mastertronic Int'l., Inc. — Leisure Genius....44, 45, 47
Virginia Real Software, Inc....44, 45, 47
Vitesse, Inc....50
Weekly Reader Software From Optimum Resource, Inc....32, 38, 39, 40, 41, 42, 43, 47
William K. Bradford Publishing Co....36, 40
WordPerfect Corp....55
XPrime Corp....53

EYESORE VS. EYE PROTECTION

As today's monitors get bigger and brighter, anti-glare filters become less of an option and more of a necessity.

The right filter can combat eye fatigue, help eliminate headaches, even reduce overall body stress.

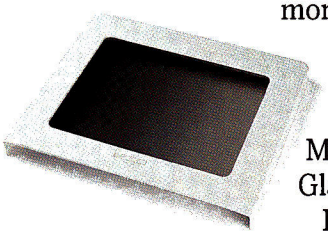
Yet, the irony is that something so good for your eyes can be such an eyesore.

In fact, most filters look like they belong to someone else's system.

The fit is sloppy. The colors don't match. The materials are different.

Kensington has a different idea.

Instead of making a filter that will fit on any monitor, we make filters that will only fit a *specific* monitor.



An example is our Maccessories® SE Anti-Glare Filter.

It looks so much a part of the SE, you would think it was designed by the same people who designed the SE.

The styling is complimentary. The color identical. Even the same material is used.

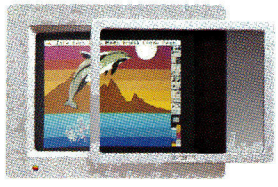
And unlike generic filters, the fit is perfect. So light passes through the filter, never around it.

Kensington uses only optical quality glass with a ceramic anti-reflection and scratch-resistant coating.

The result is a 96% reduction in glare. And an improvement in contrast and clarity of up to 20 times.

In short, the most advanced eye-protection system you can find today–it even filters out VLF and ELF radiation and dissipates static.

Kensington has custom designed screens for the Mac, Mac Plus, Mac SE, Apple IIGS, as well as for the entire Mac II family of large screen monitors.



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

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

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

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

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

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

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

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

Only Vulcan lets you use virtually any operating system: GS/OS (v5.0 is included), ProDOS 8, DOS 3.3, CP/AM or Pascal 1.3. Vulcan supports them all with sixteen partitions (access four simultaneously). Choose slot 1, 2 4, 5, 6 or 7. Even pseudo-slot to slot 7 from elsewhere. Vulcan works on 110/220 VAC, even European 115/230 VAC at 50-60 Hz.

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

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