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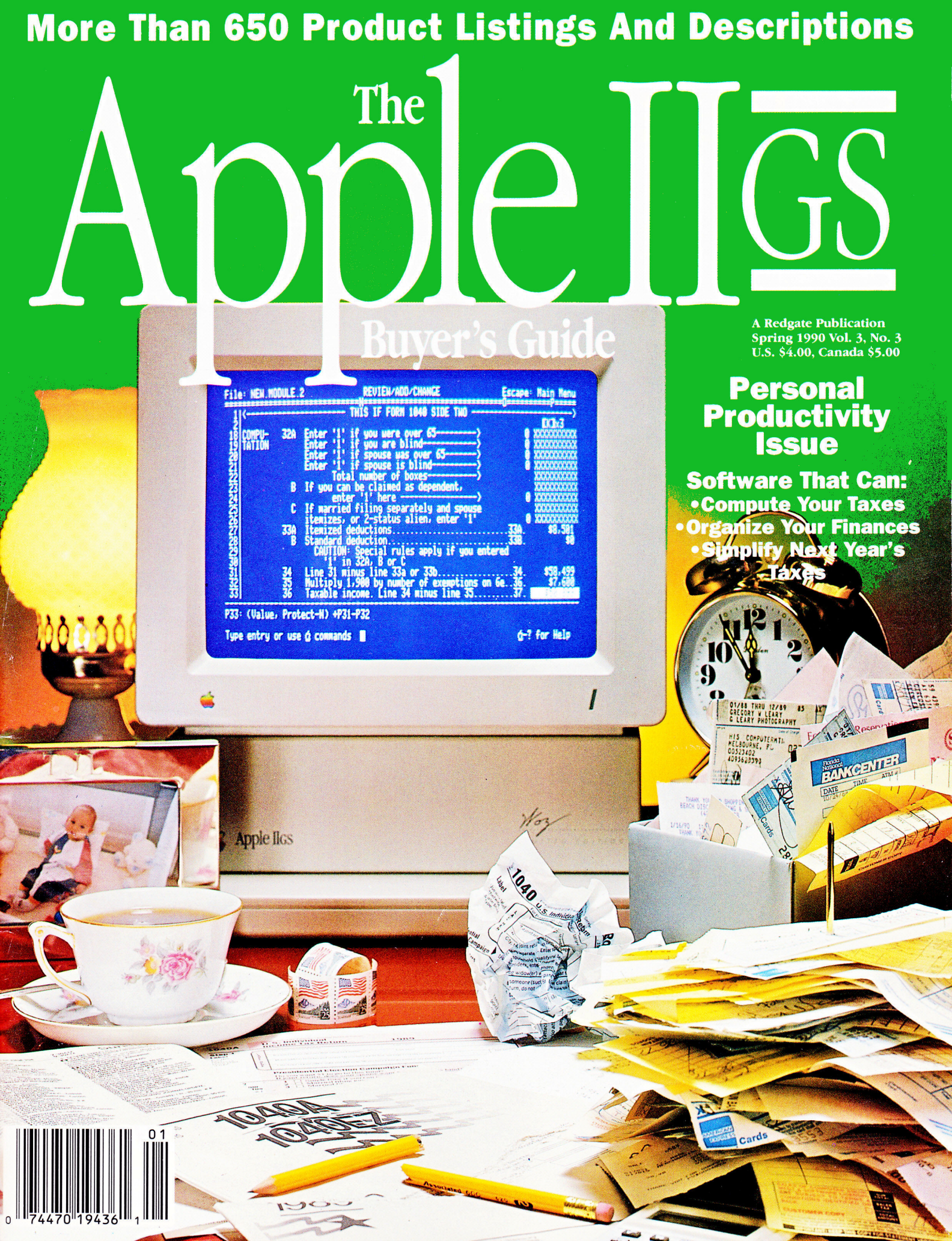
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The Perils Of Productivity

I recently received a phone call from a reader frustrated over what he perceived as a negative tone seeping from the pages of a number of Apple II publications, including this one. While this immediately raised my defenses, forcing me to point out the many positive articles we've run in recent issues, I had to admit my frustration over the not-so-subtle lack of recent productivity titles for the IIGS.

No matter how much we admire the IIGS' powerful new operating system or gloat over its still-superior graphics and sound capabilities, no computer will thrive without an ongoing stream of applications to back it up.

After I got off the phone, a copy of the following letter to Apple CEO John Sculley arrived from the Maryland Apple Corp. Because the letter seems to nicely sum up the state of IIGS productivity activity, it is printed here in its entirety.

Dear Mr. Sculley:

We are members of the IIGS special interest group (SIG) of the Maryland Apple Corp, a Baltimore-based Apple Computer user group. Over the past year, we have had many discussions on the state of Apple II computing. Our most recent has been on the availability of software for the IIGS.

Admittedly, we have seen the release of a variety of games and educational products. However, our group is comprised of adults who want more from our investments than electronic entertainment. Most of us are extremely concerned and frustrated about the near absence of new productivity titles for the IIGS. In addition, most of the promising releases of 1987 have languished in a state of abandonment. Programs such as Draw Plus, ShowOff, Music Construction Set and others have received no attention other than bug fixes.

We realize that software titles are published by independent houses and not by Apple Computer, Inc. We do not entirely blame the present state of affairs on you. However, we do believe that your company inherently occupies a leadership position and, at the very least, sets an example. The current perception is that you have forsaken the IIGS.

Whether this image is deserved or not, it is time for Apple Computer to assert itself. This will require more than just a few well-chosen words in a keynote address. It will require action.

A casual look at any Macintosh periodical reveals an abundant number of new or updated products. These are published by companies who undoubtedly have the expertise to produce IIGS-specific versions of their titles. We invite you to encourage them to commit their resources to IIGS software development. The current version of the operating system has enough power to support applications that were not possible until now. Additionally, more than 1 million IIGS computers have been sold since the product's release. The time is right for a high-profile initiative.

We are sure this subject is "old hat" by now. You have heard this from the editors of all discriminating Apple II publications. We are hoping that an appeal from sincere users will make an impression upon you. A prompt response to our concerns would be appreciated.

If the present trend continues, we can expect to see the functional death of the IIGS and with it the investment of time, money, energy and vision of so many people.

Sincerely, The Committed Users of the IIGS SIG; Maryland Apple Corp; PO Box 2353; Baltimore, MD 21203. ■

— Paul Pinella, Editor-in-Chief

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FOUR FOR TAXES

A LITTLE DILIGENCE AND THE RIGHT SOFTWARE CAN MAKE TAX SEASON FLY BY A LOT FASTER.

Using the Apple IIGS for tax planning and preparation may not be as much fun as zapping aliens, but no one ever said that life, or the U.S. tax code, was fair. It's a dirty job that has to be done once a year.

By doing the job yourself, you can save money. As a side benefit, you'll organize and categorize your finances and make next year's taxes easier to crank out.

MANAGING YOUR MONEY

Managing Your Money is arguably the most versatile and feature-laden financial program available for the Apple II. Many of the program's features were designed to make getting organized for tax time less painful.

Keeping track of different types of expenses and income flows is handled by setting them up as budget categories and following the prompts on the screen to put them into their proper tax categories. Let's assume that we want to keep track of doctor bills. A budget category called "Doctor Bills" is created. We define this as an expense item, a choice which leads to a variety of tax categories from which we may choose.

Choosing "Schedule A: Itemized Deductions" brings up another screen with 24 specific items that belong on Schedule A. They range from "Charity" to "Gambling Losses," but one of them is "Medical/Dental Expenses," which looks right for our purposes. So our "Doctor Bill" category is assigned there.

Other parts of the program will view "Doctor Bill" as a Schedule A item in reporting and tax estimation. As long as this and other categories are set up correctly, they will take care of themselves for the rest of the year.

Managing Your Money includes a Tax Estimator "chapter" where all the items and other budgetary information comes together. Worksheets are provided for Schedules A, B, C, D, E, F, which filter into a composite worksheet for the 1040 Form. A keystroke in each worksheet calls up the category totals from the budget section of the program.

Managing Your Money provides a composite total of the actual numbers from the start of the year to last month, budget figures from next month to the end of the year, and either this month's budget or actual figures, depending on which is greater. This is a great method for getting a feel for what you'll be dealing with in April. It also lets you play "what if" and see the effect of various scenarios on taxes.

For example, How will it change your tax bite if the car is paid off? Just type over the Consumer Interest field in Schedule A and recalculate the tax with a single keystroke to see the impact. Spending some time throwing numbers at the Tax Estimator and seeing the effects on the final tax bill is a tremendous learning tool and one of the nicest features of Managing Your Money.

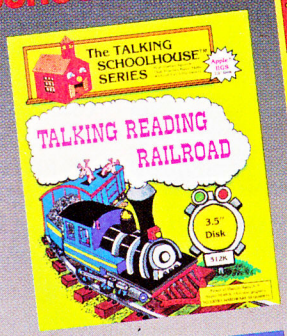
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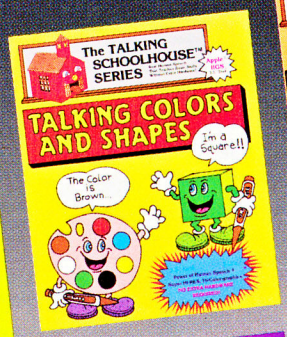
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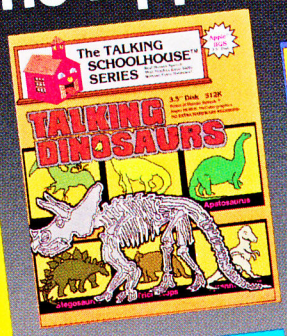
Imagine a "Talking Schoolhouse"

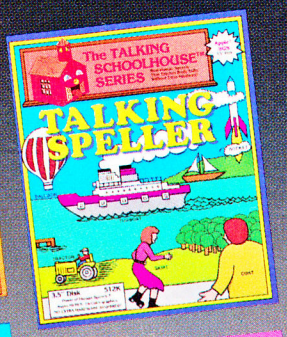
inside your GS computer – software that uses perfect human voice and the most stunning graphics imaginable to teach basic skills to youngsters. Why fantasize? . . It's here now and it's known as the TALKING SCHOOLHOUSE ™ SERIES from Orange Cherry Software. 14 software programs captivate children ages 3-9 as they explore basic concepts on their own:

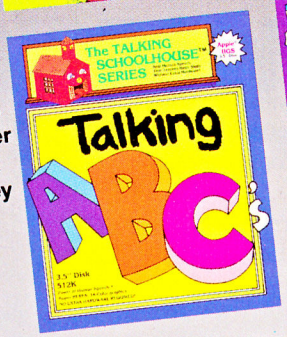
- Talking Animals
- Talking Dinosaurs
- Talking Numbers
- Talking First Writer
- Talking First Reader
- Talking School Bus
- Talking Alpha Chimp
- Talking Colors and Shapes
- Talking Reading Railroad
- Talking Addition and Subtraction
- Talking ABC's
- Talking Speller
- Talking Clock
- Talking Money

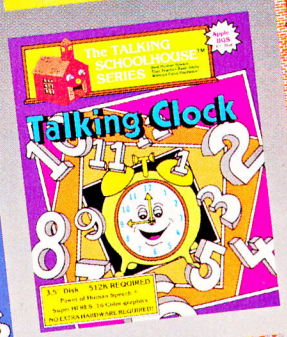


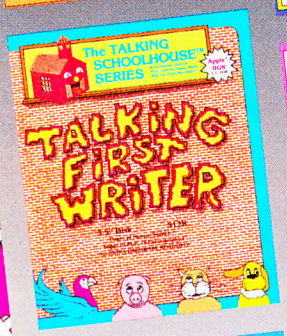




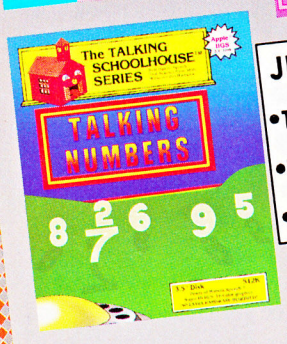










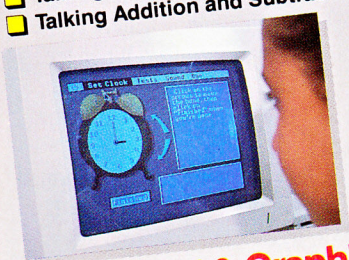




JUST RELEASED:

- Talking U.S.A. Map
- Talking Speller 3-5
- Super GS Quiz Kid

NO SPEECH BOARD OR ANY ADDITIONAL HARDWARE IS REQUIRED . . . ONLY THE STANDARD 512k APPLE IIGS COMPUTER.



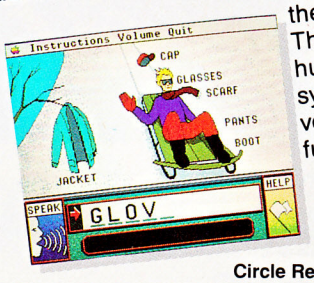
Super Sound & Graphics

See why children, teachers, and parents have been amazed & delighted by our super sound & graphics. One teacher writes: *"In Talking First Writer, we put in a sentence, the computer read it out loud, and then instantly produced a brilliant, colorful picture that described the sentence. We were astonished!"*



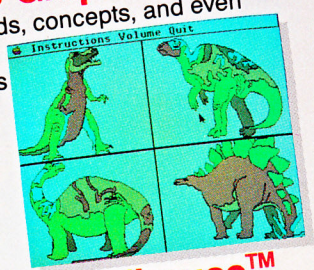
Perfect Human Voice

This software brings the friendly and reassuring voice of a real person into the computer learning environment. No speech board is required because we utilize the GS's built-in Ensoniq™ sound chip. Developers working with proven educational concepts have recorded actual human voice & electronically digitized the sound into the computer program. The result is perfect human speech - not a synthesized computer voice that only confuses youngsters.



Super Hi-Res Graphics

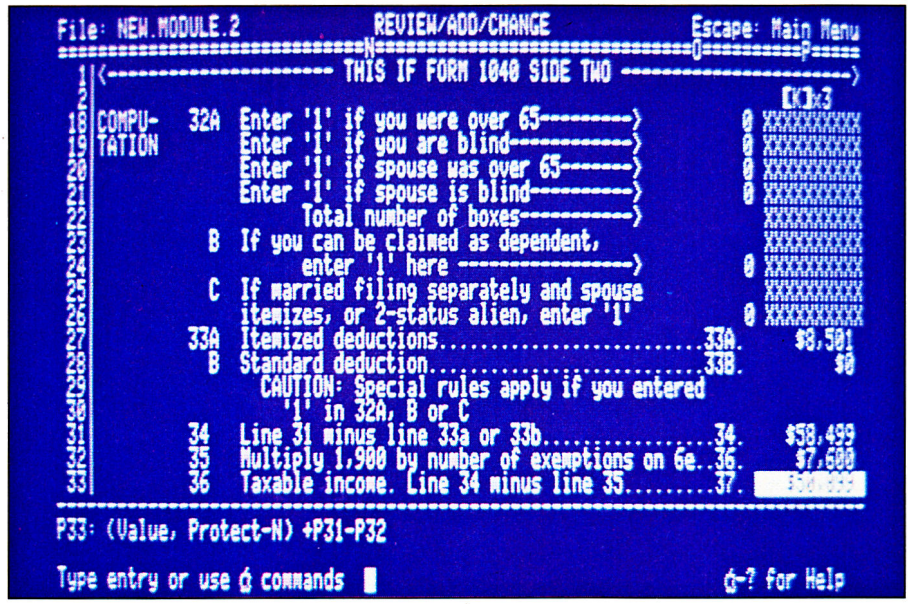
Letters, numbers, words, concepts, and even dinosaurs come alive in thousands of colors with our super high resolution graphics. These programs let the GS computer perform at its maximum level.



The Talking Schoolhouse™ Series

from Orange Cherry Software. All programs are currently available on 3.5" disks for the Apple IIGS. The suggested retail price is $49, $59 for the School Edition. To order, or for more information contact your dealer or call toll-free (800) 672-6002.





1040Works-X from Personal Financial Services

There is no provision for estimating state taxes, yet there is a method to alter the current tax table and enter in whatever you like, including state information. In this way, its possible to input your state's tax table and get a good idea of what you'll be sending to the capital.

Managing Your Money won't print your taxes, but the tax reports that can be printed contain much of what's needed to do the federal forms. Although all reports can be customized to print in virtually any order, the built-in tax report is complete and well organized.

Continuing with our example, all "Doctor Bill" items will be gathered together by individual transaction, totaled with anything else that is allocated to the "Medical/Dental" category and placed in the Schedule A section of the report.

As long as you faithfully input information into Managing Your Money over the year, your diligence will be rewarded with reports that can be transferred to a tax program or given to your accountant. The structure of the program forces you to be organized, so tax preparation should be a breeze.

As usual, there is no free lunch. To get all the power and function of Managing Your Money, you'll want a powerful Apple IIGS system. The optimal machine to run Managing Your Money contains a hard disk, a TransWarp GS board, or at least two 3.5-inch drives or one 3.5-inch drive and enough memory to run a RAM disk. Without all this hardware, Managing Your Money operates slowly.

SWIFTAX

Armed with the Managing Your Money tax report, Swiftax is a good choice to actually get your taxes done. Swiftax is a tax preparation program that can crank out just about any kind of personal tax form and supporting schedules.

Swiftax is supplied on two double-sided 5.25-inch disks, but because it's unprotected and ProDOS based, it transfers easily to a hard disk or a 3.5-inch disk. If you don't have a 5.25-inch drive, a 3.5-inch disk is available directly from Timeworks for $5. We consider this a negative, because many IIGS owners don't have both kinds of drives and it's always frustrating to buy a program and not be able to run it right out of the box.

The Swiftax interface is a bit odd, but acceptable. There are dialogue boxes and pull-down menus, but they don't work with the mouse. The menus are accessed using the arrow keys, which after a bit of practice seems quite efficient. Aside from the menus, there are Command-key sequences that are enough like AppleWorks to be comfortable, but different enough to be disconcerting.

For example, Control-S saves files and Open Apple-Up Arrow brings you to the top of the screen. To get help, the sequence to use is Control-A, while Control-D deletes a line. The commands are quickly learned, though, and present no problem. There is an on-screen pop-up calculator, which sounds like a good idea. Because you have to save and leave the form being worked on before the Calculator can be used, however, we found a pocket calculator more useful.

The Swiftax box gives the impression that the Form screen looks exactly like the 1040 Form. It doesn't. Swiftax is not a WYSIWYG (What You See Is What You Get) program, yet the layout is clear and logical. Each form lists each line sequentially, using the same wording as found on the IRS forms.

If you get confused anywhere on any form, hitting Control-A provides a context-specific pop-up help screen. Using the arrow keys scrolls the help window up or down to find a short explanation of just about every line. This can jog your memory, but because the explanation is brief and not meant to teach the tax code, more help is often needed. The help screens refer to specific page numbers on the IRS 1040 instructions. A paperback copy of *The Price Waterhouse Personal Tax Advisor* is included.

Swiftax provides two methods of actually filling out forms. The first and hardest method is to individually choose each form needed and fill them out one by one. The easier way is to start with the 1040. When you come to a line that requires a supporting schedule or worksheet, have Swiftax switch to what's needed before continuing the 1040.

For example, 1040 line 8a in Swiftax reads: "Taxable interest inc (Sch B if $400 or over) — Ctrl-G." At this point, hitting Ctrl-G clears the screen and replaces it with Schedule A, which needs to be filled out. When done, Schedule A is saved and the 1040 reappears with the calculated total already in line 8a. This powerful linking feature is one of the nicest features of Swiftax. When the 1040 is completed, so are all the required schedules and worksheets and the information is ready to be printed.

Swiftax will print on the IRS 1040 Form, if your printer accepts friction-feed paper. If not, it will print on plain paper, and the information can be transferred to the 1040 by hand. All the schedules, forms and worksheets can be printed on green-bar computer paper, which is accepted by the IRS.

Managing Your Money and Swiftax work well together and get the job done fairly easily and efficiently at a cost of around $200 for the software.

ALPHA CHECK

If you don't have $200, but do have AppleWorks 3.0 — and a bit more time — the same job can be done for around $79 using Alpha Check and 1040 Works-X.

HUNTING FOR GRAPHICS?

Watch your favorite Apple II painting programs come alive with ThunderScan. ■ Just snap the ThunderScan cartridge into your ImageWriter (except LQ) and you've instantly turned your trusty printer into a high-powered imaging system for your IIe, IIc, IIGS. Now you're set to capture even the most awesome graphics and "bring 'em back alive" for use with leading Apple II programs for painting and desktop publishing. ■ For example, you can use ThunderScan to scan drawings and photos and then enhance them with Appleworks GS, Paintworks, DeluxePaint, DazzleDraw, or Publish It!. ■ Whether you're hunting tigers or lion art, let your imagination run wild! Adjust brightness and contrast, without rescanning your image. Choose any of four image modes: halftones, line art, 16-level gray scale, or color effects. And ThunderScan supports High Res, Double Res, and IIGS Super Res displays (for quality no other imaging system can match). ■ We know it's a jungle out there. But at just $219 from your dealer, ThunderScan proves you can hunt big game, without a big budget.



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CAPTURE SOMETHING WILD.

Now with new Apple IIGS software.



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Circle Reader Service Number 6

Features At A Glance

	Managing Your Money (Worksheets Only)	SwifTax	1040Works-X
Form 1040	•	•	•
Form 1040A		•	
Form 1040EZ		•	
Form 2106 (Employee Business Expense)	•	•	•
Form 2441 (Child Care Credit)		•	•
Form 3903 (Moving Expense)	•	•	
Form 4562 (Depreciation/Amortization)		•	•
Form 6251 (Alternative Minimum Tax)	•	•	•
Form 8582 (Passive Loss Limits)			•
Form 8606 (IRA Deduction)			•
Form 8615 (Childs Tax)		•	•
Schedule 1 (Supplement to 1040A)			
Schedule A (Itemized Deductions)	•	•	•
Schedule B (Interest/Dividend Income)	•	•	•
Schedule C	•	•	•
Schedule D (Capital Gains/Losses)	•	•	•
Schedule E (Supplemental Income)	•	•	•
Schedule F (Farm Income/Expense)	•	•	•
Schedule R (Elderly/Disabled Credit)		•	•
Schedule SE		•	•
Social Security & Self Employment Tax		•	•

Alpha Check is a check-writing and reporting program that runs within AppleWorks. More than a series of templates, it actually uses AppleWorks and UltraMacros from Beagle Bros as a programming environment. When running the program, it's often hard to believe that you are still in AppleWorks.

The Alpha Check menu appears as a pop-up window on the AppleWorks main menu. From there you can write checks, print or view a series of reports, add files, update the check register, post to credit card or cash accounts, add files to the Desktop, or launch UltraMacros tasks (although UltraMacros is not required to run the program).

When checks are written or deposits are entered, entering a tax category by name or reference number in the memo field and marking that they are tax items is all that's required to later transfer pertinent tax information to the 1040 and Schedule C (Business Income/Expenses) of 1040Works-X.

1040Works-X

1040Works-X is an extensive set of AppleWorks spreadsheet templates that will work with versions of AppleWorks from 2.0 on up. All the major forms and schedules are contained in one large spreadsheet that has the math built in. Eight smaller templates contain the rest of the forms. All products are entered into a data transfer worksheet contained in the main spreadsheet to get the proper totals to their correct place on the 1040.

As the various forms are completed, the 1040 gradually fills itself in. The documentation is easy to follow and it walks you through the process. Brief instructions in the templates help you navigate through the forms.

Macro files are included for a number of macro programs, including UltraMacros, SuperMacroWorks, AutoWorks and Keyplayer. These are useful to jump to the start of different forms, to fill in names and Social Security numbers, and, ultimately, to print out the entire pile of forms and schedules in their proper order on the supplied green-bar paper for submission to Uncle Sam. The 1040 information must be manually transferred to the IRS form.

Alpha Check and 1040Works-X have been enhanced to work together. To transfer information between the two, all that's needed is to run a Task file within Alpha Check while the proper 1040Works-X files are available on the Desktop. This isn't meant to do all your taxes for you, but it will get you started and simplify the process with 1040Works-X.

A new enhancement to Alpha Check, called Alpha Works, will create balance sheets, income statements, personal budgeting reports and draw graphs within AppleWorks. This will be offered for free when both programs are purchased together.

However you decide to get your taxes done, it's wise to remember that the tax structure is a twisty maze of IRS rules and regulations. For that reason, the 1040 Form isn't a place where points are awarded for guessing.

Don't assume that a tax program will give you the knowledge to do complex taxes. It won't. But armed with a reference book, like the one that comes with Swiftax, and the IRS instructions that come with the forms, most anyone — whose financial life doesn't require keeping a hot line to an accountant — can do their taxes — and maybe even have fun in the process. ■

— David Winograd, contributing editor

David Winograd works as a technical analyst of financial markets. He can be reached on CompuServe (72767, 2217) and America OnLine (NJDavidW).

Products Mentioned

Product: Managing Your Money 4.0
Price: $149.95 retail
Company: MECA Ventures, Inc.; 327 Riverside Ave.; Westport, CT 06881; 203-226-2400
Circle Reader Service Number 54

Product: Swiftax
Price: $69.95 retail
Company: Timeworks, Inc.; 444 Lake Cook Rd.; Deerfield, IL 60015; 312-948-9200
Circle Reader Service Number 55

Product: Alpha Check 3.0
Price: $39.95 retail
Company: ACTAsoft; 19700 Wells Dr.; Woodland Hills, CA 91364; 818-996-6731
Circle Reader Service Number 56

Product: 1040Works-X
Price: $30.95 retail; for 3.5-inch disk
Company: Personal Financial Services; PO Box 1401; Melville NY 11747; 516-757-3201
Circle Reader Service Number 57

Where Tourist Dollars Meet

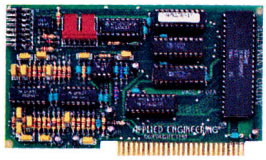
Francs and Pounds and Lira and Marks and Yen turned into $24.5 Billion* U.S. Tourist Dollars last year. That's how much foreign visitors spent while traveling around the United States. This $24.5 Billion is new money which improves our balance of trade with other nations, creates jobs, supports an array of businesses, and increases tax revenues. That's why "Tourism Works For America"... and *you.*



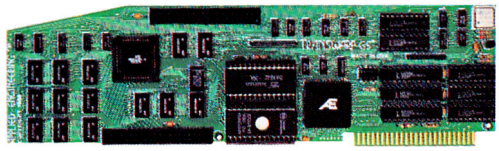
TOURISM WORKS FOR AMERICA

National Travel and Tourism Awareness Council

*Preliminary 1988 Estimates, Source: U.S. Travel and Tourism Administration.
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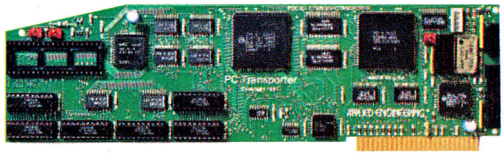
Audio Animator unleashes the sound potential your IIGS was born with. Complete MIDI interface, software and external mixer. $239



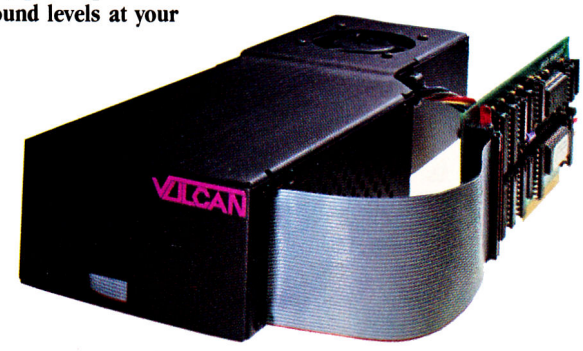
Compute at Warp speed with TransWarp GS. More than doubles processing speed and it's upgradeable. $399.



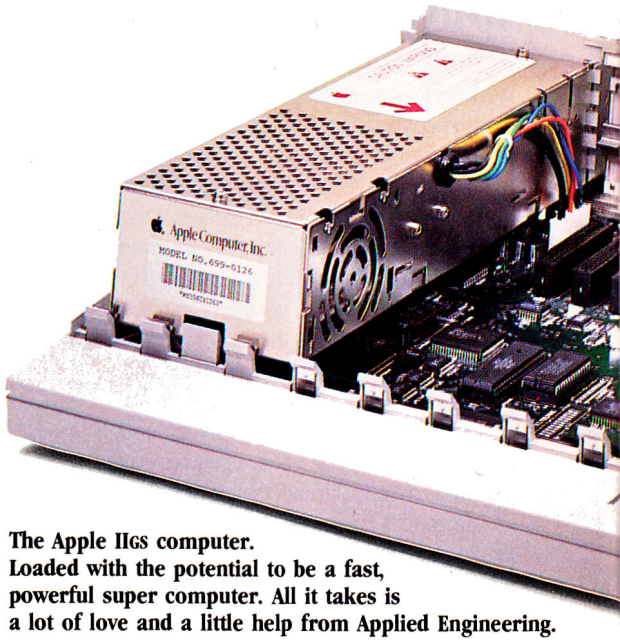
External mixer (included with Audio Animator) places precise control over sound levels at your fingertips.



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.



The Apple IIGS computer. Loaded with the potential to be a fast, powerful super computer. All it takes is a lot of love and a little help from Applied Engineering.

Super System IIGS

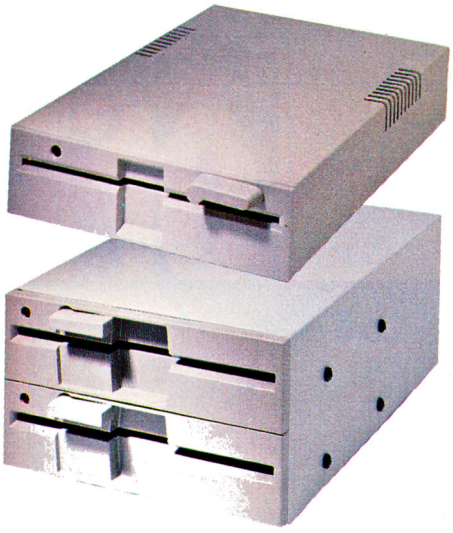
For ten years, Applied Engineering has set the Apple II industry standard for quality and reliability. We do it with top-notch tech support, innovative new products and a commitment to design and build the best products possible. To receive your free 32-page Applied Engineering product catalog, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. To place an order, send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add $10 outside U.S.A.

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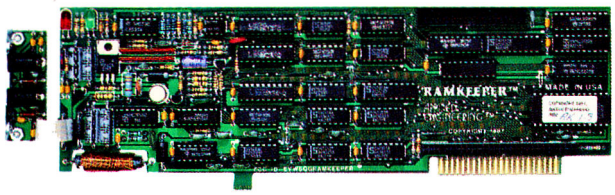
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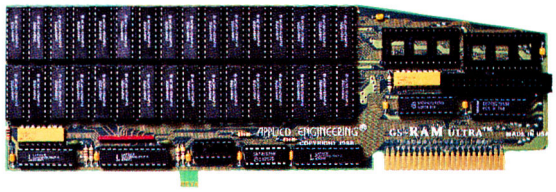


Applied Engineering's 5.25 disk drive (top) features a new design for virtually flawless performance. $149.

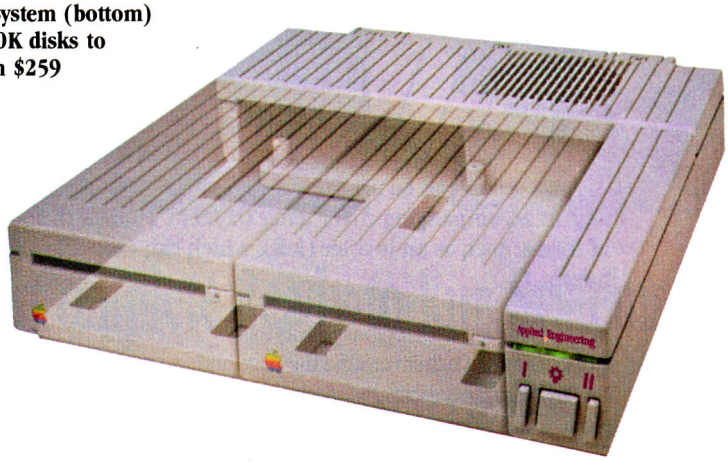
MS-DOS compatible 5.25 Drive System (bottom) allows MS-DOS programs on 360K disks to boot from PC Transporter. From $259



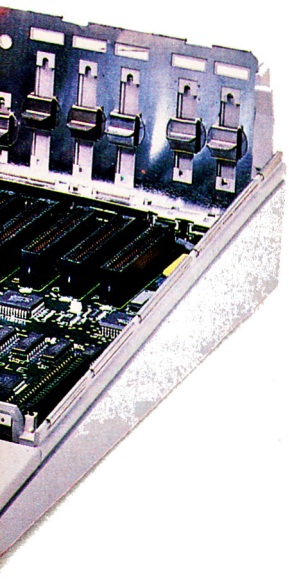
RamKeeper creates permanent storage with an "electronic hard disk" while it protects your files against power outages. $189

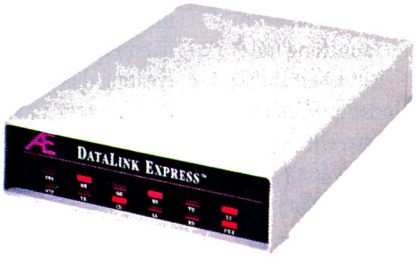


Our newest IIGS memory card grows from 256K to 4 MEGs, with full compatibility. From $229.

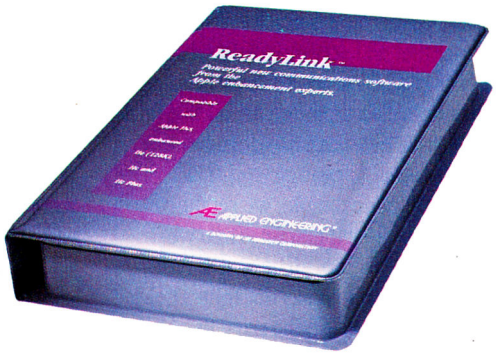


Conserver effectively cools your IIGS while it protects against power surges and helps organize workspace. $99.





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



The easiest, most complete, most popular communications software available. It's ReadyLink. $99.

Applied Engineering®

The Apple enhancement experts.

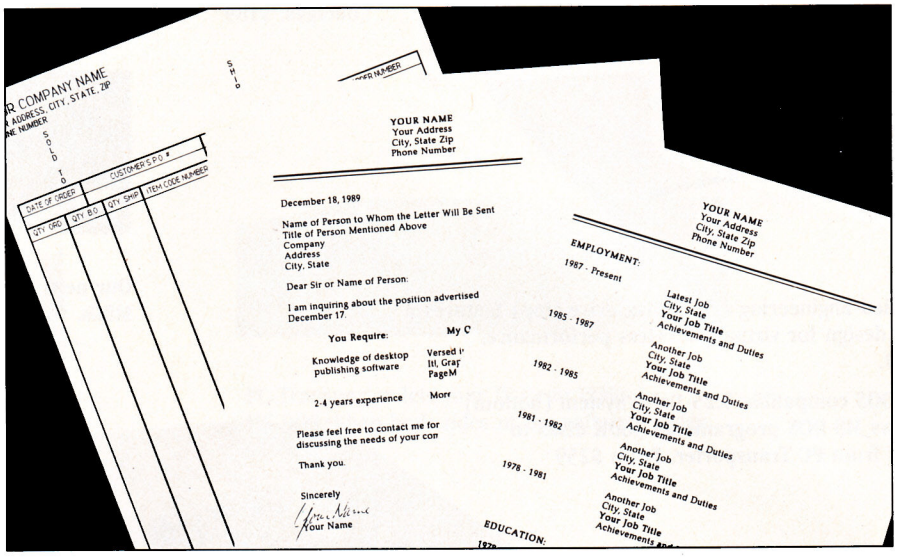
A Division of AE Research Corporation

Getting Down To Business

Don't let the hype surrounding desktop publishing software fool you. These programs can and should be used for a lot more than just newsletters. In fact, most business documents can be enhanced with them.

The current crop of desktop publishing programs for the IIGS offers many features that are usually lacking in standard word processing, database or spreadsheet programs. Desktop publishing software is designed to make documents look good, whereas other business software is usually concerned with manipulating data.

Many business forms cry out for added touches. For instance, the addition of lines or shaded areas can make a difference in how well your resume stands out from those of other job applicants. Our examples of such documents were printed on an ImageWriter II.



GraphicWriter can be used to create a variety of documents, such as a resume (right) and an accompanying cover letter (center). Publish It! allows you to create a variety of forms, such as an invoice (left), which can even allow text to be placed within boxes.

ResumeWriter. If you need to give your resume a face-lift, consider using a program such as GraphicWriter from Seven Hills Software. Use the same software to create the cover letter that will accompany the resume. In our example, we used the same heading and also duplicated the same decorative lines beneath it. This gives the two documents a more professional appearance.

To create our example, we set the indent equal to the left margin. Then we chose 12-point Palatino, an attractive typeface with a modern look, as our font. The heading was centered on the page by selecting Center Justify. We judiciously turned on Bold to emphasize information.

It is best to limit the way in which text is made to stand out. Using Bold, Italic, Underline and Outline type styles in the same document would be overwhelming. Professional documents such as resumes are usually done conservatively.

Horizontal lines were drawn with the Line tool. Because it is difficult to make sure that the lines matched in length, we covered the ends with white solid boxes.

The areas on the cover letter labeled "You Require:" and "My Qualifications:" were entered into separate regions. It was therefore easy to move them around the page and try various arrangements before the final product was printed in High Quality mode.

An AppleWorks GS Workout. Give AppleWorks GS a chance to create an attention-getting brochure. After launching the Page Layout application, select a Vertical Sizing of Condensed and a landscape Orientation from the Print Setup menu. The resulting page will appear to be extremely long vertically but will print properly. The rulers will not be absolutely accurate.

Select Set Guides from the Options menu. Then choose .5 inch for all margins. Also select 3 Columns with a Column Spacing of 1 inch. This will prevent the columns of type from being set too close to the folds.

After creating all the guides needed for the publication, choose Lock Guides from the Options menu. Depending on how you are laying out the brochure, Magnetic Guides can be a real time saver. We toggled this feature on and off throughout the creation of our sample brochure.

The thick lines at the top and bottom of our sample are actually filled boxes.

If no envelope is to be used with the brochure, leave the outside middle panel between the back panel and the front panel blank. This area can be used for addresses and a stamp. Better Color and Darker were selected for the printout.

Move On To Medley. Now that you have created a brochure, you might want to include a reply card with it. Medley from Milliken Publishing Co. has features that make creating this kind of card a snap. The Zapf Dingbat font and automatic leaders for tabs were especially helpful.

First we turned on Condensed printing in the Page Setup mode. Then we made the page narrower by dragging the margins closer together. The New Century Schoolbook font was selected because it has large serifs and reads well at many point sizes. The main heading is in 24 point. The last line is in 7 point; everything in between is in 12 point.

Paragraph alignment was set to Justified to make sure that the card looked symmetrically balanced.

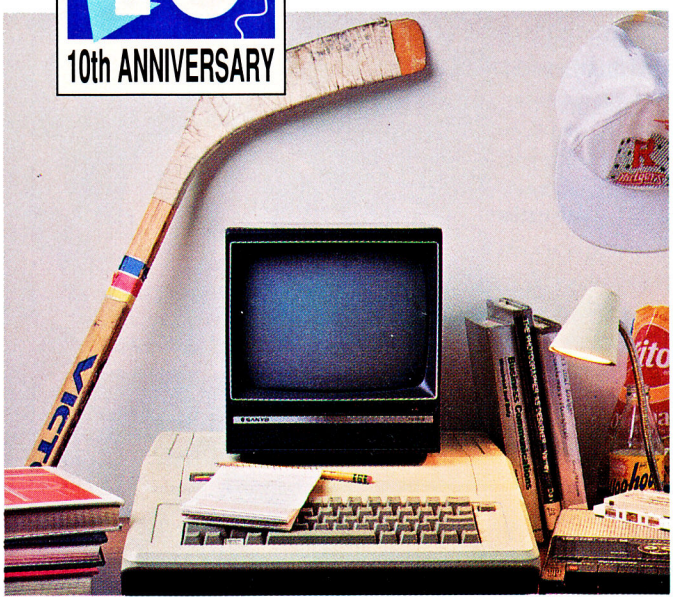
The tabs were set progressively as needed. We used a line leader for the tabs. Every time the Tab key was pressed, a line was drawn automatically as the cursor zipped across the screen to where the tab was set. An extra space was manually added before and after we tabbed to each label position.

AD #39-04

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- AppleColor RGB Monitor
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- ImageWriter II Printer w/cable
- Color Rainbow Ribbon
- 3.5" Diskettes - Box of 10
- Dust Covers for CPU, Monitor, Printer and 3.5" Disk Drive
- Package of Paper - 500 Sheets
- Mouse Pad

Sugg. List $2989 Package #9080

CDA System Price $2199

Apple IIGS Power System

- Apple IIGS 1 Meg CPU w/Keyboard & Mouse
- AppleColor RGB Monitor
- Apple 3.5" Disk Drive
- 20Mb Vulcan Hard Drive
- ImageWriter II Printer w/cable
- Color Rainbow Ribbon
- 3.5" Diskettes - Box of 10
- Dust Covers for CPU, Monitor, Printer and 3.5" Disk Drive
- Package of Paper - 500 Sheets
- Mouse Pad

Sugg. List $4054 Package #9081

CDA System Price $2749

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AD #39-04

☐ ***Yes,*** **Please send me a free copy of CDA"s Apple Users Catalog**

Name _____

Address _____

_____

State _____ Zip _____

1 CDA Plaza PO Box 533, Califon, NJ 07830



Circle Reader Service Number 9

The Zapf Dingbat font was used to set the shadowed checkoff boxes. The letter that corresponds to the boxes on the keyboard is the unshifted "Q." Finally, the reply card was printed with Better Text selected.

Publish It! Publish It! 2 from Timeworks, Inc. has very powerful tools for creating forms such as invoices that require text to be placed within boxes. It is possible to create text areas that can be placed anywhere on screen and positioned accurately.

We started our invoice by first designating a text area at the top of the page that could contain the name of a company and the address and telephone number. Next the "SOLD TO" and "SHIP TO" areas were created. After typing each letter on a line, all the text in the area was selected and centered. This caused each letter of the label to line up perfectly.

The Box tool was used to create a box large enough to hold most of the remaining elements of the invoice.

We used 10-point Desplaines for the headings over each section of the invoice. After typing all the headings in separate text areas, we drew vertical and horizontal lines to separate the headings and to create columns. The copy and paste functions were used extensively while creating the lines.

The "TOTAL" box at the bottom of the form was produced with the Box tool and then subdivided with the Line tool. The text was then entered into its own text area. The form was printed using the Double Strike option.

There are many other kinds of documents that you might add to our list that can be produced with IIGS desktop publishing software. We have provided these few examples to help you decide to take the plunge. After all, desktop publishing is merely preparing art for print. If you need to get something into print, use a desktop publishing program to do the job quickly and effectively. ■

— Gary Ramey

Columnist Gary Ramey is director of advertising design at the National Education Center in Arizona. He has 17 years of experience in commercial art.

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Expanding The AppleWorks Classroom



AppleWorks "Classic" from Claris Corp. is one of the most popular software tools ever developed for the Apple II. This ProDOS 8 productivity package consists of three integrated applications: word processor, database and spreadsheet. Each application can manage vast amounts of text, and individuals can share data easily among the modules.

The latest AppleWorks upgrade (Version 3.0) adds several new features that dramatically improve overall performance. The software now has a spelling checker and word-count capabilities. The application incorporates more than two dozen new mathematical functions for increased spreadsheet versatility.

No single enhancement will send you rushing to purchase the upgrade. Collectively, however, the changes represent a striking boost in computing power.

All of this power raises an interesting point. Why not use AppleWorks in the classroom to teach conventional subjects such as geography, sociology or math? After all, teachers who use AppleWorks in class frequently point out that youngsters learn the program more quickly if they have specific assignments to complete. It's much easier for users to memorize commands while solving problems.

The applications previewed below consist of AppleWorks data files that not only help kids become familiar with AppleWorks, but also make available an amazing amount of information on world economic power and politics. Each package, except for World Data, ships with a teacher's guide, student manual and computer lessons or activities. Instructors can use the files to supplement classroom instruction in subject areas such as social studies, history and geography.

The electronic materials are not copy protected so they can be modified. Students read through the AppleWorks files and sort, rearrange or manipulate data to answer questions or complete research.

Immigrant

One of my favorite collections of AppleWorks data files is the Educational Technology Center (ETC) package, produced by Harvard's Graduate School of Education. Entitled Immigrant: The Irish Experience in Boston, the product is designed to recreate the early Irish experience in Boston. It was developed as an experimental social studies curriculum for kids in junior high school.

While no claims are made as to the accuracy of the material provided, information about the costs of food and clothing, salaries and occupations, and housing type and conditions is based on historical records.

The package consists of a data disk with 18 AppleWorks files and a teacher's guide with summary instructions. There are activity sheets, an 1855 map of Boston and surrounding cities, suggested readings, plus a list of instructors known to have classroom experience with the product. Immigrant has been tried successfully in several classrooms around the country.

To work through the simulation, youngsters follow a particular immigrant family during a 10-year period: 1840 to 1850 or 1850 to 1860. The students begin by examining passenger lists of two ships on route from Ireland to the United States. The lists are contained in database files for two ships: The Alexina and The Oregon. Passengers are described by name, age, sex, occupation and amount of money in their possession.

After determining the kinds of people on board the ships, youngsters select a family or individual who interests them. Then they make decisions about their "adopted" immigrant regarding housing, employment and daily living. Students keep a diary (an AppleWorks word processor file) and work with actual data for the period.

Students develop AppleWorks skills as they familiarize themselves with the socioeconomic conditions of the times. Immigrant encourages users to transfer database materials directly to their word processed diary file. The program provides experience in retrieving information from database files and manipulating figures on a spreadsheet.

For example, students have to search housing databases for a room or dwelling their immigrant can afford. They must examine job databases for possible employment. Some jobs include room and board. Others require that the cost of transportation be considered, because the place of employment is too far from where the immigrant has chosen to live. Two database files (Transport 1840 and Transport 1850) contain information on commuting costs between different points in the Boston area.

There are Market spreadsheet templates to calculate a family's weekly food and clothing expenses. Prices differ from one decade to another. Similarly, there are two Budget spreadsheet templates for calculating weekly, monthly and annual expenses, as well as 10-year projections for household accounts (total family income and expenditures) from 1840 to 1850 or 1850 to 1860. After a 10-year period, students count the money saved to see if there's enough to purchase a house.

Immigrant Plus

Gary Cressman, an eighth-grade history teacher in Enumclaw, Washington, has added several database and spreadsheet files to the basic Immigrant package. There's a modified Alien Registration form from the U.S. Department of Immigration and Naturalization, plus readings from many library sources. He includes a copy of his introductory lecture on immigration, sample student diaries, and a modified version of the original instruction manual, edited for his instructional needs. His double-sided, 5.25-inch floppy disk is a nice companion disk to the original data file collection.

Immigrant will challenge your students and children to think critically about the lives of the Irish in 19th century Boston. Manipulating the files on disk also will give them hands-on experience with AppleWorks.

The package is still available from ETC, but the Center has sold the product rights to Sunburst Communications, Inc. Sources at Sunburst say that Immigrant will be available under the Sunburst label some time in 1990. It's too early to tell if Sunburst will modify any data files currently on the disk.

Global Studies

The Power of Nation States and World Data from Data Disc International are two collections of AppleWorks documents strongly recommended for middle and high school courses in global political economy, geography or social studies. The basic information contained is the same for both packages. The products differ in that Nation States adds a site license, teacher's guide, student texts, tests and spreadsheet exercises. World Data contains no student lessons.

Each product gives users access to an extensive database containing thousands of discrete facts for 167 independent nation states. The data was compiled from a 1986 "snapshot" of sources as diverse as *South Magazine,* public CIA files and World Bank statistics.

Information is arranged in more than 40 data fields, including military expenditures, population statistics, life expectancy, nuclear weapons, energy production, political systems, exports and imports. Together these fields provide a knowledge base to help students understand and quantify the attributes of power in international affairs and research statistical differences among countries.

When the products are used in conjunction with a map or atlas, kids can learn the location of nation states, as well as the significance of strategic military alliances and international trade patterns.

PRESIDENTIAL SOFTWARE

Data Disc's Presidents consists of a collection of AppleWorks word processor and database files on America's national leaders from Washington through Reagan. Youngsters will be able to research and manipulate information about significant events, administration highlights and low points, congressional activities, election years, family and personal life, and more. As with the other packages, instructors can modify any file on disk to meet classroom teaching objectives.

Data Disc is planning to release AppleWorks versions of its data files about the United States (The 50 States: An Analysis and State Data). These packages contain statistical and descriptive materials, so students can compare and contrast individual states in terms of more than 100 informational categories, including state economies, famous people, geography, historic events, places, politics and so on. Youngsters will be able to convert raw numbers for several categories, such as population, educational level and state birth rate, to national-based statistical percentages. IIGS-specific versions for each package are also in the works.

The products reviewed above capitalize on AppleWorks' capability to teach subjects as far-ranging as global studies, United States history and economic geography of the 50 states. They supplement conventional textbook instruction by giving students instant access to vast quantities of facts. Kids develop sophisticated data manipulation and analysis skills as they work with computers to organize details and reach meaningful conclusions. With AppleWorks-based course materials, the world is literally at their fingertips.

One caveat: Some Data Disc International files exceed the 40K desktop limit set by AppleWorks 3.0 for 128K Apple IIs. Apple IIs with expanded memory and Apple IIGS machines equipped with the standard 512K or above will not have the 40K limitation. Also, individuals with 3.5-inch disk drives should transfer data files from the 5.25-inch dual-sided floppies to 800K diskettes to minimize disk swapping during program operation. ■

— Carol S. Holzberg, Ph.D.

Shutesbury, Mass.-based columnist Carol Holzberg is an anthropologist and computer journalist. She writes for several magazines, serves as a computer consultant and is on staff as the computer resource person at the Shutesbury Elementary School.

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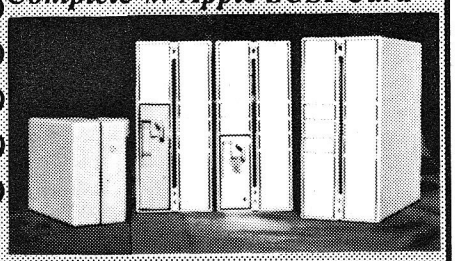
Apple-Hive •• a disk enclosure

- room for two 5.25" or 3.5" drives
- horizontal or vertical placement
- provision for cartridge drive • FCC certified
- quiet cooling fan • platinum grey color

30watts -- $119 65watts -- $169

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100MB--$959



Hermit Crab --portable hard drive 40MB--$609

Tape Subsystem w/ backup software

155MB--$769 60MB--$669

Subsystems come with latest GS/OS 5.02 system software

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Circle Reader Service Number 11

Company To Watch

An interview with Bob Carroll, president and CEO of Applied Engineering, Dallas, Texas.



"Company To Watch" is an informal question-and-answer column meant to give readers of The Apple IIGS Buyer's Guide *a better sense of the future of Apple IIGS computing.*

Bob Carroll is president and chief executive officer of Applied Engineering in Dallas.

Applied Engineering was founded in 1978. Very diverse and well-entrenched in the Apple II market, the company manufactures disk equipment, personal-computer boards, microcomputer accessories, modems, voice input/output devices, software and much more.

We asked Mr. Carroll the following questions:

Where do you see the Apple II and IIGS market heading in the 1990s?

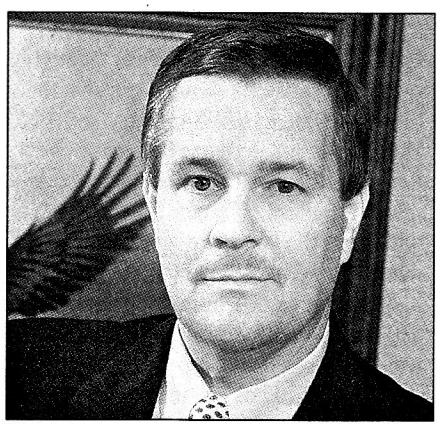
We obviously have a great deal invested in the Apple II market. We have to take Apple's commitment to support the Apple II line into the '90s at face value. As long as Apple II computers are being marketed and sold, we'll be around to provide peripherals.

How would you describe your company's relationship with Apple Computer? Do you collaborate on many projects?

Our engineering staff has always enjoyed a close working relationship with their engineering counterparts at Apple. Recently, we helped form an Association of Apple Developers and have improved access to other departments at Apple, including marketing.

Other than both sides working toward ensuring product compatibility, I wouldn't say that we collaborate on many projects with Apple. Our role has been to try to discern their general directions and then respond to those directions with new products and product improvements as quickly as possible.

Applied Engineering makes communications software, a MIDI device, stereo digitizer, a surge suppressor, a cooling fan, modems, coprocessor boards, memory expansion boards, a parallel printer interface and buffer, an MS-DOS to IIGS transport board, a clock/calendar utility board, hard drives and the TransWarp GS accelerator card. Have we forgotten anything?



Bob Carroll

That's quite a list. We also make serial interfaces; 80-column cards; battery-backed cards; speech synthesizers; heavy-duty power supplies; 5.25 disk drives; scientific measurement and control equipment; a new accelerator for the Apple II, II+ and IIe; and we are currently working toward significant speed improvements in our Vulcan line of hard disks.

Why do you concentrate on producing so many products?

Many companies concentrate on one or two product lines, such as hard disks or video cards for all types of computers. Applied Engineering has successfully taken the opposite approach — becoming experts on a particular computer platform and then developing a variety of quality products based on what we think that platform lacks.

Is TransWarp GS your best seller?

Yes, TransWarp GS is one of our best sellers. But so are our DataLink modems, Vulcan hard disks and our memory cards. We've been able to lead the market in a number of categories through our efforts to constantly improve our products' performance.

I think our reputation for quality and service is what makes many of our products popular, including TransWarp GS.

What progress has been made on an updated version of TransWarp GS? Will it complement the new IIGS operating system (GS/OS 5.0)?

Release of the updated version of the TransWarp GS depends on the availability of faster microprocessors from outside sources. The board itself has been tested at faster speeds, and new chip sets will be made available as an upgrade to current TransWarp GS owners. We enjoy a great relationship with the manufacturers of the microprocessors and are working closely with them to acquire the faster chips necessary.

I can tell you that we plan to keep our customers computing faster than anyone else.

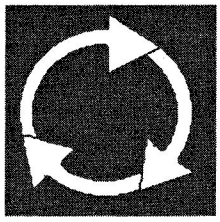
As for the new operating system, we've already seen increased performance — in addition to the speed improvements of Apple's new system.

What kinds of products can Apple II users expect from Applied Engineering in the future?

As I mentioned, we're working on speed improvements to the Vulcan series. We're also constantly improving our accelerator line and making improvements to existing products.

As to what else the future holds, our engineering staff is absolutely in love with the Apple II series. They still haven't found the limits to what these marvelous machines can do. ■

THOSE DELECTABLE DAS



Desk Accessories (DAs) are programs or utilities that can be called up from within other programs. DAs provide additional features that are not available in application programs or from the Finder.

DAs come in two varieties: Classic Desk Accessories (CDAs) and New Desk Accessories (NDAs). The majority of DAs that are available are shareware or public-domain programs. They can be obtained from Apple II user groups, online networks or bulletin board systems (BBSs).

DAs are built-in components of the IIGS System Disk. To find them, look inside the subdirectory on the System Disk called DESK.ACCS. Once DAs are copied — using the Finder — into that subdirectory, they will install themselves automatically when that disk is next booted.

DQ Differences. NDAs are accessed from the Apple pull-down menu displayed from most GS/OS application programs. CDAs are accessed by pressing the combination keys of Control-Open Apple-Esc. NDAs are only available for use within programs that follow the standard Apple IIGS Desktop interface, and are only available when running GS/OS (and/or ProDOS 16) applications.

CDAs are accessible from within most programs running under either GS/OS, ProDOS 16 or ProDOS 8.

There are two limiting factors when using DAs: They require disk storage space and memory.

With 1 MB of RAM, you should be able to successfully run five or more DAs, depending on their size. A system with 2 MB or more and a hard drive is necessary if you want to use 20 or 30 DAs.

Despite these limitations, there are many excellent DAs available. Let's take a look at the cream of the crop.

The It! Series. Chris K. Haun of RavenWare Software has released five NDAs that should be a part of every IIGS software collection.

The It! Series includes Write It!, an 80-column, super-high-resolution mini word processor; Color It!, a unique NDA that lets you control and change the colors used by the standard IIGS dialog boxes and pull-down menus; Find It!, which will find the location of a particular file (even if it is buried within several layers of subdirectories); File Peek, which allows you to view the contents of any file, whether it is an ASCII text file or another NDA; and Memo Pad, another mini word processor.

Each program in the series is shareware. Although there is no set fee proscribed, users are encouraged to send the author what they think the DAs are worth.

JumpStart GS. Dave Hill of MaineFrame Software is the author of the highly popular JumpStart GS, an alternative to the Finder. He has also written a series of DAs, including an Alarm Clock and Reminder CDA; a Telephone Area Code reference guide CDA; and MouseTrap, which lets the keyboard emulate the IIGS mouse.

The Alarm and Phone CDAs carry a $10 shareware fee; MouseTrap is freeware.

Guy T. Rice has written two indispensable DAs. His ShowText NDA is a text file reader that allows you to load and read ASCII text files. Several versions of this NDA are available; earlier ones can display AppleWorks word processing documents as well as ASCII. Print Screen CDA is an ImageWriter II utility that lets you quickly and easily print any 40- or 80-column text screen displayed on the monitor. Both are freeware.

Great Graphics. ShowPic is a freeware NDA that was written by Bruce Mendez. Later versions have added enhancements written by Dave Leffler. Anyone interested in IIGS graphics should get this NDA.

A Tetris Clone. Quadomino, from Bryan Clair, is many people's favorite NDA. It is a game that is played exactly like Tetris, the best-seller from the Soviet Union.

STS is a CDA, author unknown, that allows you to save any IIGS super-high-resolution (SHR) screen as a $C1 filetype SHR graphic. Using this 10-second, timed screen saver, you can save screens from games or create graphics from the Finder's Desktop display.

Formatter CDA was written by Luca Accomazzi and is an import from Italy. This $10 shareware gem allows you to format a disk. It performs the same initialization functions as the disk pull-down menu of the Finder, except that it is available for use within programs that don't have a disk format function.

GS Catalog is a useful $10 shareware CDA written by Jim Lazar. It allows you to easily determine the contents of any disk and follow pathnames or access other disk devices. This CDA employs mouse-text characters and mouse-driven pull-down menus, giving it a very pleasant look and feel.

In addition to these DAs, there are many others that are just as useful. There are DAs that will blank your screen to prevent phosphor burn; others that are directed at programmers; still others that provide a graphic artist with valuable tools, including paint programs and digitized sound playback utilities.

There's More Coming. There are sure to be many new versions and many new DAs available. If you're a long-time DA user, be aware that many new DAs have appeared since GS/OS 5.0 was released. If you're new to DAs, they will change the way you use your IIGS.

Remember that many DAs are distributed as shareware. Shareware is based on the honor system. It's a try-before-you-buy method to sample software. If you use a shareware DA, send the shareware fee to the author. Shareware is a unique method of distribution, and it's refreshing that there's so much trust in the Apple IIGS community. Please don't betray that trust. ■

— Joe Kohn

Columnist Joe Kohn is the software librarian for the Big Red Computer Club.

MAKE MINE ONLINE

Three online information networks that cater to Apple IIGS users.

We'd like to invite you to join a special community that's open to anyone who uses a computer. All it takes is a telephone, a modem and software to communicate with the modem.

Once you become a telecommunicator, your knowledge about computers will increase quickly and your software library will include low-cost programs that are not available in software stores.

Modems First

A modem allows computers to communicate with each other via standard telephone lines. Make sure your modem follows the Hayes-compatible (Hayes Microcomputer Products, Inc.) industry standard. Virtually all modems on the market do; avoid one that is not 100 percent Hayes compatible.

Different modems and different models transfer data at different speeds; speed being expressed as bits per second (bps), or baud rate. When the IIGS was first introduced, 1200 bps was the standard, but the prices of 2400 bps modems have fallen so much that 2400 bps has become the new standard. When shopping for a modem, get the fastest one you can afford.

An internal modem is contained on a circuit board that is plugged into an available slot, preferably Slot 2, inside your computer. Internal modems are designed to run on a single brand computer, so a modem for the IIGS can't be used on a Mac or IBM. An external modem can be used on any computer. You will need a special Hayes-to-IIGS cable that connects the modem to the IIGS' built-in Modem Port.

Software Second

The major component that determines how useful a modem is, and how often it's used, is software. Point-To-Point, MouseTalk, Talk Is Cheap, ReadyLink and Proterm all operate under ProDOS 8 and are considered by experienced modem users to be the best available.

Once a terminal program is purchased, it needs to be configured for your particular hardware. With Proterm, Point-To-Point and MouseTalk, you simply pick options from a menu. ReadyLink configures itself with a mouse click on the Auto Config option. Talk Is Cheap requires no configuration.

Once the hardware and software are installed, all that's needed to "go online" is a phone number to a bulletin board system (BBS). Nationwide, there are thousands of free BBSs that you can access.

Commercial Networks

America Online, CompuServe and GEnie are the three networks that offer the most for an Apple IIGS user. The networks are run on huge mainframe computers and cost money to access. Networks charge by the amount of time spent on the system.

You'll need a subscription and a password to access an online network. Special money-saving offers are often packaged with a new modem or telecommunications program. Some of these offers waive the initial subscription fee; others provide a few hours free from connect charges. Otherwise, just contact a network directly. All require a major credit card, which is debited each month for accrued connect charges.

Each of the three networks described here offer services directed at Apple II and IIGS users. They allow diverse activities such as purchasing computer equipment online, provide airline schedules and reservations, deliver news from the various wire services, offer games vs. other subscribers, and allow real-time chatting (a "conference call" with all participants typing rather than talking).

America Online

America Online (AOL), formerly called AppleLink — Personal Edition, requires you to use specific, proprietary software. The software, provided free at sign-up time from

Quantum Computer Services, is very easy to use. The software employs pull-down menus, is mouse driven and can only be used with AOL.

When first logging in, you see a menu of options that includes these areas: Learning and Reference, Computing and Software, Travel and Shopping, People Connection, Entertainment and Games, Lifestyles and Interests, News and Finance, and What's New and Support.

Of major importance to subscribers is the Computing and Software area. Here is where the Forums, Software Libraries, Direct Connection (to third-party software and hardware developers), and Apple Computer, Inc.'s Reference Data Base can be located.

A forum is a special-interest group, and each forum maintains an area for messages, software, articles and reviews. AOL has a number of different forums, including AppleWorks, Art and Graphics, Communications, Utilities, Education, Games, Music, Productivity, and Word Processing.

Each forum contains a direct connection to hardware and software developers. Some represented on AOL include Activision, Applied Engineering, Berkeley Softworks, Broderbund, ByteWorks, CheckMate Technology, Davidson and Associates, Electronic Arts, Epyx, Infocom, Milliken, Orange Micro, Tutor-Tech, Roger Wagner Publishing and Zip Technology.

Because AOL was originally a joint project between Quantum and Apple, Apple has provided an exclusive to AOL — a searchable technical reference database. If you have a question, you can enter a key-word search, and many technical articles containing your key word will be shown in a listing.

Of all the services, AOL is the least expensive. It's also the newest and is growing each day. AOL's software libraries contain almost 6,000 programs and files that you can download.

CompuServe

CompuServe Information Service, owned by H & R Block, is the oldest network and boasts a half million subscribers. Its index of services lists more than 550 different interest areas.

CompuServe has so many forums of general interest that it's difficult to sample all of them. As an example, its Spaceforum is presided over by NASA employees; the Astronomy forum has close ties with *Sky & Telescope* magazine; and its Science Fiction forum has hosted guest chats with the cast of *Star Trek*.

CompuServe has a multitude of financial services; most of the wire services are available online; and it is the only network that offers Participate, a wonderful online conferencing system where the subscribers moderate topics.

The forums of interest to Apple IIGS users are run by MAUG, the Micronetworked Apple User Group. Late last year, a reorganization resulted in separate Apple II forums for Productivity, Fun and Vendor Support.

Online technical support is provided in the Vendor Forum by such companies as Activision, Applied Engineering, First Class Peripherals, Stone Edge Technologies, Broderbund, Beagle Bros and Claris.

The menus in all the MAUG forums are essentially the same, with the two most frequently accessed areas being the Message base and the Library. MAUG's Message base is an active and lively area for discussion, members helping members and a great place to ask questions. On a typical day, there may be 100 to 200 messages posted; where one question often generates many answers.

Because CompuServe is so large, the Message base in the MAUG forums has one major limitation: limited size. MAUG is allocated only a certain amount of storage space on CompuServe's mainframe computer. When the allocation is reached, older messages are deleted.

Because systems such as CompuServe charge by the amount of time spent on the system, MAUG members have come up with four different offline software processors. These programs allow users to automate all aspects of using MAUG's forums, resulting in fast access to CompuServe's forums.

Co-Pilot is a Shareware program from Ken Glucksman that acts as a front end to either Talk Is Cheap or Point-To-Point Version 4.0. It's a GS/OS-specific program that uses the familiar Apple IIGS Desktop environment. Co-Pilot lets you get into any forum, quickly retrieve all messages and then log out (hang up) quickly.

You can then read and respond to messages offline, where there are no connect charges. Co-Pilot even allows you to prepare a list of software to be automatically downloaded from the libraries.

GEnie

GEnie, owned and operated by General Electric, is another large network that has more than 100,000 members. Like CompuServe, GEnie has hundreds of general-interest forums, online news services, online

For More Information

Company: Quantum Computer Services; 8619 Westwood Center Dr.; Vienna, VA 22182; 800-227-6364

Miscellaneous Costs: Software and a manual are provided to all subscribers at no charge. The monthly $5.95 membership fee includes one hour per month free of connect charges.

Hourly Connect Charges: $10 per hour for day-time rates; $5 per hour for evenings, weekends and holidays
Circle Reader Service Number 51

Company: CompuServe Information Service; PO Box 20212; Columbus, OH 43220; 800-848-8199 or 614-457-0802 outside U.S.

Miscellaneous Costs: A membership kit retails for $39.95. The kit includes a manual and a $25 usage credit. After three months, a $1.50 per month service charge is initiated.

Hourly Connect Charges: $12.50 per hour for 1200 or 2400 BPS; $6 per hour for 300 BPS access. There is an additional $.30 per hour charge to cover telephone long-distance access charges.
Circle Reader Service Number 52

Company: General Electric Information Services (GEnie); 401 N. Washington St.; Rockville, MD 20850; 800-638-9636

Miscellaneous Costs: A membership kit retails for $29.95. The kit includes a manual and a $10 usage credit.

Hourly Connect Charges: $18 per hour for day-time usage; $10 per hour for 2400 BPS evening, weekend and holiday access; $6 per hour for 1200 BPS evening, weekend and holiday access; $5 per hour for 300 BPS evening, weekend and holiday access.
Circle Reader Service Number 53

stock trading, as well as several Apple II and IIGS forums.

GEnie's forums are called Roundtables (RTs). The two RTs of greatest interest to Apple II and IIGS users are called A2 and A2 Pro. A2 is of general interest, and A2 Pro is directed at programmers.

Online technical support is available from such companies as Applied Engineering, Applied Ingenuity, Beagle Bros, CMS, Checkmate Technology, Chinook Technology, Zip Technology, Thirdware, A2-Central, Ohio Kache Systems, L&L Productions, Roger Wagner Publishing, SoftDisk, United Software Industries, First Class Peripherals and Simple Software Systems International.

The A2 Roundtables are very active. Of all the online networks, GEnie's library is the largest, with more than 10,000 files or programs available in the two libraries. The library's menu is quite extensive, and you can set many custom options, such as displaying a list of all files in all categories or a smaller listing of all files added since the last access.

In general, A2 and A2 Pro maintain well-written help files to assist in all aspects of using the system. After several online sessions, most users feel comfortable using the RTs.

In an effort to save users some money, when a particular topic generates 100 or more messages (as many do), the RT staff "archives" those messages as text files and makes them available in the library in a compressed format.

Tom Hoover's GEnie Master, or GEM, shareware program is A2 and A2 Pro's offline message system. GEM accomplishes the same service as provided by CompuServe's CoPilot; it allows you to get in and out of the RTs as quickly as possible, thereby allowing you to save money. It works as a front end to Talk Is Cheap. Reading messages and replying to them is done in AppleWorks.

Choosing A Network

America Online, CompuServe and GEnie all offer valuable services for the Apple IIGS user, yet each one has a slightly different approach and different pricing structures. It is important to realize that all three networks either own or lease a long-distance telephone network, and hourly connect charges include telephone charges.

The majority of users simply dial a local telephone number for access. If you live in a rural area, you may have to pay additional long-distance phone charges. ■

— Joe Kohn, contributing editor

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All That GS Jazz!

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☐ **GS45** Borders to frame all occasion cards, stationery . . . **$9**
☐ **GS83** Mickey Mouse graphics for all 12 months makes a great child's calendar* . **$9**
* Need paint program like PaintWorks Gold, Deluxe Paint, or Cheap Paint (PDE GS63) to print.
☐ **GS87** IconEd: design, edit & color your own icons (SHAREWARE †) . . . **$9**
☐ ***NEW* GS138** Anishow — view animated files. Includes 5 animation shows . . . **$9**

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☐ **GS25,GS26** 100 formal/fancy fonts for all occasions (2 DISKS)* . . . **$18**
☐ **GS57** Calligraphy, Banner, Music + 26 more fonts* . . . **$9**
* Need Paintworks Gold, Deluxe Paint, or Cheap Paint (GS63) or any program employing the use of fonts.

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☐ **GS27** Bounce-It!" IIGS adaptation of Little BrickOut game (SHAREWARE†), Submarine **$9**
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☐ **GS121** Desk Paint—full-featured paint prog, REQ. 1 MEG RAM + SYS 5.0. HARD DRIVE RECOM. . **$9**

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† The author requests a specified donation if you decide to use the program.

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Address all inquiries to IIGS Address, c/o *The Apple IIGS Buyer's Guide*, Redgate Communications Corp., 660 Beachland Blvd., Vero Beach, FL 32963. Questions may also be sent via electronic mail on CompuServe (76703,1031) or MCI Mail (352-9601). Individual responses cannot be guaranteed.

Printing In Color

Can you suggest a laser-quality printer for high-volume use, a scanner that will scan pencil lines, and a printer that will print colorful illustrations without noticeable jagged lines for personalized children's books?

I believe a PostScript printer will print both text and illustrations, but because they are so expensive, I was looking for another route for printing my books.

Deborah Reves
Philadelphia, PA

An Apple LaserWriter would provide the best compatibility and print quality for text, if you used one of its built-in fonts for the text, but it prints only in black and white — no color graphics.

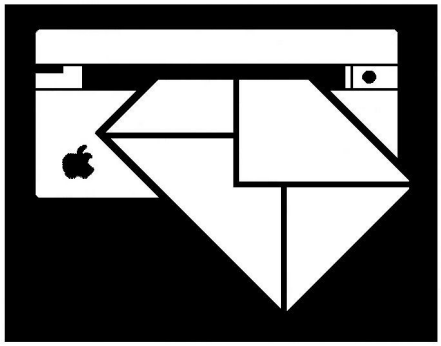
There are PostScript printers available that should work with the IIGS that are much cheaper than the LaserWriter. There is no affordable color PostScript printer.

The Hewlett-Packard DeskJet printers are ink-jet printers that can match laser printers in resolution and cost under $1,000, street price. They will work only with text-mode applications such as AppleWorks Classic, but they do have cartridge fonts for a variety of print styles.

Unfortunately, these printers are probably not the best for your job, because the ink they use is water soluble — not good for children's books.

Spraying the pages with a protective coating would solve the problem of the soluble ink. In fact, spraying the pages for added protection might not be a bad idea for children's books printed with any kind of printer, even though it would add to the production cost.

Hewlett-Packard has relatively inexpensive LaserJet printers (not PostScript) that work like a DeskJet in black and white only, at about twice the cost of a DeskJet. If you can make one of these printers work satisfactorily (find a cartridge font you like for the



books), they might be the best bet for text. The toner isn't water soluble and it doesn't have the tendency that gives DeskJet printing a fuzzy edge on many papers.

Because there's no printer driver for these printers on the IIGS, you won't be able to use one of them to print graphics or IIGS fonts. There are drivers available for the Macintosh that allow these printers to print anything an Apple printer can print, but so far there are only rumors that such drivers might be available for the IIGS.

Getting color without noticeable jagged lines may not be possible. Color printers with much better resolution than the ImageWriter II are available at very attractive prices, but you might not want to use them for two reasons.

The first problem is that the only printer driver available for a color printer on the IIGS is for the ImageWriter II (there's one for the ImageWriter LQ, but it works just like the ImageWriter II driver).

The second problem is that even if a driver for another printer existed, it probably wouldn't do you any good. That's because of the nature of color graphics on the IIGS.

Color graphics are bit mapped. That means one dot on the screen corresponds to one dot on the paper. If you print on a high-resolution device such as a LaserWriter, the printer uses a clump of smaller dots to make a larger dot. You're stuck with the same resolution when you print bit-mapped graphics, no matter what the resolution of the printer.

There's one way to get nice color from IIGS graphics, but it may not be suitable for your purpose. Thirdware Computer Products (see the listings in this magazine) makes accessories for the IIGS that will print a graphics screen on a printer. The latest version is compatible with the Hewlett-Packard color ink-jet printer. If screen dumps are good enough (the IIGS printer drivers can print graphics as large as two screens), you could use the ink-jet printer for brighter colors. However, you still have to deal with the problem of water-soluble ink.

There are only two ways to get your hand-drawn pictures into the IIGS; one of them is a scanner. ThunderScan GS from Thunderware, Inc. is relatively inexpensive and can do a pretty good job of scanning line art (and it has a 16-level gray scale). The only color available is a false color generated by the ThunderScan software, but you can add the color in a IIGS paint program.

ThunderScan requires an ImageWriter I or II printer to work. The scanning optics replace the ribbon in the printer, and the picture to be scanned is fed through the printer as if it were being printed. The speed of the ThunderScan is limited, as it must do one scan line at a time.

The other input device, which isn't a scanner at all, is the ComputerEyes IIGS video digitizer from Digital Vision, Inc. The ComputerEyes board installs in your IIGS and works in conjunction with a video camera or VCR. It might be the best system available if you need to scan color art because it's the only way to get color art into the IIGS in natural color (or 16 colors, anyway).

AppleWorks 3.0 Update

I recently upgraded to AppleWorks Version 3.0 and now I'm having some problems printing. When I try to print more than one copy of a database report, it doesn't work. After the first one prints, the others only print the first record. I'm also having trouble printing to disk. The files don't seem to come out quite right.

T.C. Mits
Via Electronic Mail

Beagle Bros, who really did much of the new version of AppleWorks for Claris, has a patch program that will fix the problems you report and several more in AppleWorks 3.0. Here's what the patch program will fix:

The cursor stays where it belongs instead of jumping to the top of the file when control codes are used with page breaks calculated. When using the Tab Ruler in Header/Footer, the ruler in the header or footer continued to be used. The patch turns off the ruler when the header or footer is finished printing, restoring the previous ruler. It allows more than one copy to be printed in the database.

AppleWorks will now properly adjust spreadsheet formulas if more than 255 rows are deleted. It solves several problems that crop up when the default printer is deleted, including minor problems printing to disk.

This patch program is freeware, and Beagle Bros encourages the widest possible distribution for it. You will probably be able to get the patch program from a user group or bulletin board near you.

GS/OS Answers Revealed

We've received a number of questions relating to GS/OS 5.0 in the mail and from the online services. Here's a summary of the questions, along with the answers:

• Help! I have plenty of memory, but I am unable to get System 5.0 to boot on my system.

• I'm having trouble with System 5.0 and my 60 MB hard drive. When I boot it up, the Finder freezes when it tries to read the second volume on the hard drive.

• I'm having trouble using the new graphic Control Panel that comes with System 5.0. I get an error message when I try to use it.

• I'm miffed. I just bought a Vulcan 40 MB internal hard drive, a TransWarp accelerator and 2 MB of RAM, with Apple's new GS/OS 5.0 to tie it all together. It runs beautifully, but I can't access PaintWorks Gold.

At first glance, it looks like GS/OS 5.0 could spell big trouble from all the problem reports we've seen, but most of the problems are readily fixable. Of course, there are always some programs that are not compatible with a new version of system software.

The first thing to understand about System 5.0 is that a new kind of file is making its IIGS debut with this version of the operating system. The IIGS now has forked files like the Macintosh. Forked files are like two files in one. They have a data fork and a resource fork. Both forks are really separate files kept under one directory entry.

Older versions of the system software, particularly ProDOS 8, can't handle forked files. If you try to copy them with a program that can't handle the file, you'll get an error message. Beware — some third-party programs will blindly work with only one fork of a file and not report an error.

This new file type makes it imperative to install GS/OS 5.0 by booting a copy (you always work from backups, right?) of the 5.0 System Disk and then using the Installer program to put the new system on a hard drive. The Installer scripts know what files need to be copied for a workable system, and using the latest version of the operating system will ensure that forked files are copied correctly. We've seen a lot of problems installing System 5.0 through the online services. Most of them can be solved by starting over using the Installer program.

All of the Control Panel devices have forked files, so failure of the Control Panel NDA to work can generally be traced to copying those files with a utility that is not aware of forked files.

System 5.0 is also most particular about icons. There's a place for everything and everything in its place under System 5.0. When the Finder examines a volume, it will find an Icon folder, no matter where it is. If the folder contains icons that conflict with what the Finder expects to find, the Finder decides it can't deal with the problem and doesn't do anything.

The cure to freeze ups when first booting is to find all of the Icon folders, other than the ones in the root directory of your boot disk, and remove or rename them.

The most common reason for extra Icon folders laying around on a hard disk is that they were copied over to the hard drive when a new program was installed. Many of these folders will have custom icons for files on the disk they came with. The Finder cannot use the individual icons unless they are in the Icon folder in the root directory, so put any custom icons you want to use there before removing extra Icon folders.

Many of the problems programs have with the new version of the operating system are due to incompatibilities. It seems that every time a new version of the operating system comes out, there's a flock of desk accessories that no longer work or conflict with other software. Many problems under the new operating system can be eliminated by starting with no desk accessories and adding them back one at a time until the offender is discovered.

For those with 1.25 MB of memory, the problems PaintWorks Gold has with System 5.0 are simply a case of incompatibility. PaintWorks Gold wants just about every bit of memory in a 1.25 MB IIGS under previous operating systems and it didn't always run well under System 4.0. Earlier versions of the operating system were written to conserve memory at the expense of speed. System 5.0 was written to run quickly, even if it takes more memory. As a result, there's not enough memory left in a 1.25 MB system to run PaintWorks Gold under GS/OS 5.0.

Those of you with more than 1.25 MB of memory are probably wondering why PaintWorks Gold won't run on your machines under System 5.0 either. CompuServe Sysop Jason Harper disassembled the program and found that it only searches the bottom part of memory for the free space it needs to run. If it doesn't find it there (and under the larger System 5.0, it couldn't), PaintWorks Gold won't run.

Harper also discovered that if one byte in the program was changed, PaintWorks Gold could find the free memory it needs to run, no matter where it is in your IIGS RAM.

If you have at least 1.5 MB of memory in your IIGS, you can patch PaintWorks Gold so that it will run under System 5.0 (and more reliably under System 4.0). The first step in patching any program is to make a backup of the program and work only on the backup.

The next step is to enter AppleSoft Basic by double-clicking on BASIC.SYSTEM under the Finder or launching it from another program selector.

Next, use the Prefix command to make sure ProDOS is looking at the disk that holds Paintworks Gold. Two examples of the Prefix command that tell ProDOS to look at the diskette in slot 5, drive 1 (generally, the first 3.5-inch disk) or in the Paint folder on a hard drive volume named HARD1 are:

```
PREFIX ,S5,D1
PREFIX /HARD1/PAINT
```

Next type in:

```
POKE 768,127
```

Then if you are working with Version 1.0 of PaintWorks Gold, type in:

```
BSAVE
PAINTWORKS.GOLD,T$B3,A$300.L1,B$1FFE0
```

If you have Version 1.5 of PaintWorks gold, substitute PROGRAM for PAINTWORKS.GOLD.

Once you've typed those lines, the patch is done and PaintWorks Gold should run under GS/OS 5.0. ■

— Larry Miller

Larry Miller is a programmer and consultant based in Lafayette, Ind. His CompuServe I.D. is 76703,1031.

Calling All Graphics

AppleWorks GS Version 1.1 began shipping in late November. However, it is not a free upgrade. If you are a registered owner of AppleWorks GS and haven't seen or heard anything about this version from Claris, call 800-544-8554 for details on how to upgrade.

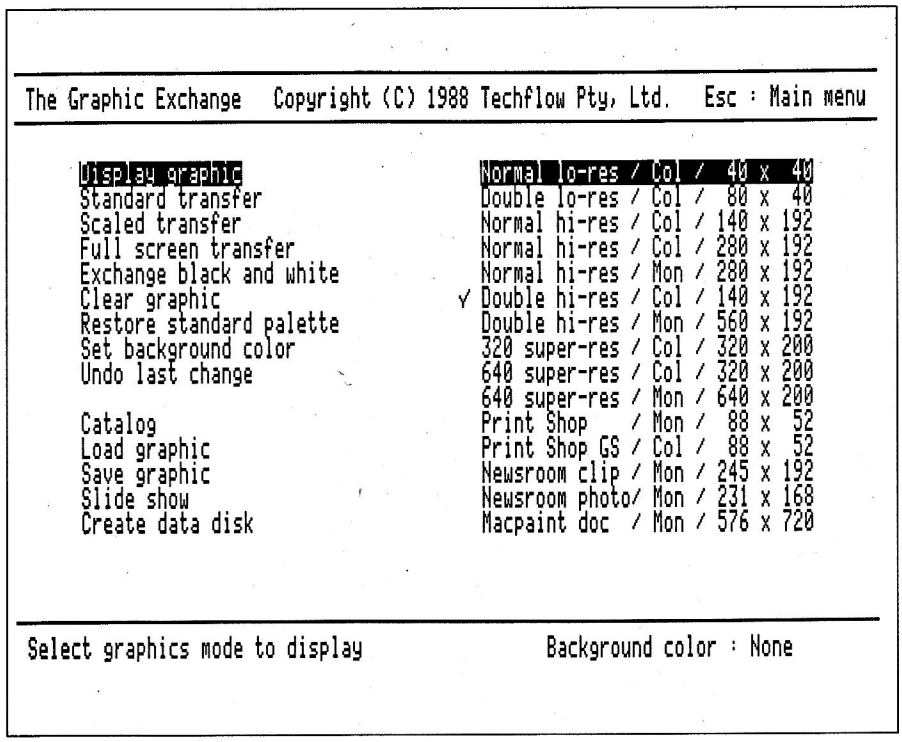
Art Of Imports. Importing graphics into AppleWorks GS can be quite an adventure. There are so many different forms and formats of what we call "graphic files" on the Apple II series alone that no single technique works for all.

AppleWorks GS forces us to focus our graphics efforts in one direction; it only accepts Apple IIGS-specific, super-high-resolution (SHR) graphics. Even then, it only displays them in 640 mode. Most of the colorful public-domain and other IIGS graphics you've seen are in 320 mode. They will load into AppleWorks GS just fine, but they'll look strange. That's because 640 mode does not allow as many colors as 320 mode, and graphics tend to lose something visually in the translation.

Of course, existing 640 mode SHR graphics can be loaded directly into AppleWorks GS with no difficulty.

A given graphic's colors are identified by the computer from the set of palettes defined within the graphic's file; different graphics objects can — and often do — make use of different palettes. Unfortunately, the IIGS screen is capable of displaying only one palette set at a time, and that is usually the set AppleWorks GS uses to define the colors on its own screen.

If you import a graphic and the colors look wrong, you may need to modify the palette. If the graphic is in 640 mode, you will be asked if you want AppleWorks GS to adjust the palette to match the new graphic. The procedure will often have strange effects on the colors used to define the rulers and tools and other items on the screen belonging to AppleWorks GS.



The Graphic Exchange from Roger Wagner Publishing can create files in almost every Apple II format.

Strange View. Graphics in 320 mode will look strange on the screen, as AppleWorks GS displays everything in 640 mode. To help such graphics print more correctly, sample blank document files containing several palettes designed to match graphics coming from popular paint programs are included with AppleWorks GS. This feature was added with the release of 1.0 Version 2. See the update documentation for details.

It's important to realize that a palette change affects an entire document. If you use graphics with differing palettes, you may want to actually split your creation into as many separate documents as necessary.

Pure black line art seems to be the easiest to work with. It imports correctly, displays correctly and prints correctly — the first time.

Conversions. There are literally thousands of clip-art items available — commercially and in the public domain — for The Print Shop, The Print Shop IIGS, The Newsroom and other Apple II software that are not in standard format.

Two inexpensive software packages are available for converting graphics from the format they happen to be in to a usable Apple II format.

The Graphics Exchange from Roger Wagner Publishing is a commercial product, while SHRConvert by Jason Harper is shareware. Both programs handle a wide range of conversions and offer many useful features. They can even convert graphics from other computers to Apple II formats.

SHRConvert saves files only in IIGS SHR format, while The Graphic Exchange will create files in just about every Apple II family format. Both programs require that original graphics be on a ProDOS disk, with one notable exception: The Graphic Exchange will read MacPaint documents directly from Macintosh disks.

Because older Print Shop clip-art files, especially the examples you find in user group libraries, tend to be on older DOS 3.3 disks, you will have to transport them to a ProDOS disk. Copy II

Plus from Central Point Software, Apple's System Utilities (last seen included with System Software 3.2) and Apple's original Filer utility will all do this job. Once graphics are on ProDOS disks, the conversion programs can read them.

Using a converter of this type allows you to make use of Apple II family graphics and graphics from Macintosh and several other computer types.

Many commercial online services and free local bulletin board systems have clip-art files for Apple II and other computers available at little or no charge. These files can be downloaded to your computer by the AppleWorks GS Telecommunication module or your favorite terminal program and converted to SHR format, if necessary.

Many non-Apple II files acquired this way will be in a compressed form to save space and download time. As yet, neither conversion program handles the myriad decompression schemes available. You may need to find a friend with a compatible machine to decompress "foreign" files before you transfer them to your Apple.

To learn exactly what kind of graphics these programs convert, see the documentation for the individual programs or contact the authors.

Tip. As you may recall, we have repeatedly advised that you always set up your AppleWorks GS pages using Condensed print. The alternative is to look at vertically distorted text as your fonts all print out at twice their normal height.

However, this issue's subject uncovers a potential disadvantage to that technique. Condensed print will squish your text to 50 percent of its vertical size. While the text will read correctly, Condensed print will similarly compress embedded graphics to half their original height. The results are better imagined than seen.

If your page contains more graphics than text (or is intended specifically to emphasize graphics), you may want to use a Normal-size printout.

If you want to mix nice-looking text with properly proportioned graphics, don't despair! The trick is to load the graphics into a paint program and stretch them to exactly twice their original height. AppleWorks GS handles this task just fine, so does PaintWorks Gold and most other IIGS paint programs. Generally, you simply select the object (click on it once) and grab one of the handles in the corners. Drag the handle to resize the object.

After stretching the graphic, you can place it as desired within your Page Layout document — it will look strange, being twice its original height — and print with Compressed print. The text will compress to half size properly, and the graphics will squeeze down to what they were before you stretched them out. Everything will look fine on paper.

This technique requires good eye and hand coordination. You have to stretch the graphics vertically to precisely twice their original height or they will not look right.

We'd like to see Claris add a feature in the next release of AppleWorks GS to precisely reproportion graphics.

The technique we use here makes use of the ruler displayed on the left side of the screen in the Page Layout module. We line up the top of the graphic precisely with an inch marker on the ruler, so take note of the point on the ruler corresponding with the bottom of the graphic.

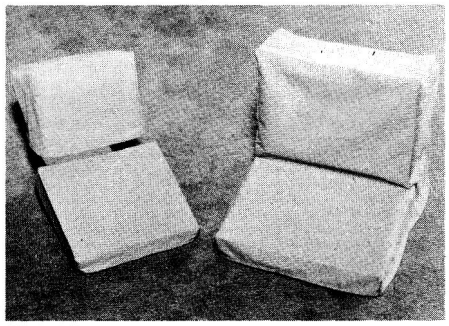
This procedure tells you the exact original height of the graphic. Some simple math tells you the double-height point. Stretch the graphic vertically so that the bottom is exactly at that point. Be extremely careful during this process not to resize the graphic at all horizontally!

You may need a few tries to get this technique down, but if you want your documents to turn out "just so," it's worth the effort. ■

— Joe Walters

Columnist Joe Walters lives in New Mexico and can be reached via electronic mail on CompuServe (72406,742).

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10-33	Monitor IIe	15.95
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10-19	15" Imagewriter	16.95
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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 descirptions are longer than the others because they are appearing for the first time.

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

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, Inc.; 290 Palatine Rd.; Wheeling, IL 60090; 312-459-8000

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

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)

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 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; 1225 Stone Dr.; San Marcos, CA 92069; 619-744-8546

Graflex • Gives users a choice when selecting a 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.; Olmito, 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

Accessories

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; 1225 Stone Dr.; San Marcos, CA 92069; 619-744-8546

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; 1225 Stone Dr.; San Marcos, CA 92069; 619-744-8546

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; 1225 Stone Dr.; San Marcos, CA 92069; 619-744-8546

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 • Anti-static cleaning products • $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; 412-661-2629

Mirage • Joystick/mouse interface • *Apple IIGS; joystick.* • $54.95 retail • CH Products; 1225 Stone Dr.; San Marcos, CA 92069; 619-744-8546

Modunet • Networking connectors • *Apple IIGS; AppleTalk network.* • $37.95 to $47.95 retail • Data Spec; 9410 Owensmouth Ave.; Chatsworth, CA 91311; 818-772-9977

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

Mousetrap Jr. • Keeps the mouse in an enclosed, yet accessible area; copy stand • $19.95 retail • Gered Corp.; 2401 NE Cornell Rd., Ste. 125; Hillsboro, OR 97124; 503-591-8658

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 • The Radiation Monitor Filter eliminates eyestrain, headaches and potential harmful effects of continued computer use. It is certified to block 58.7 percent of x-rays emitted by a computer monitor, and blocks 100 percent of ultraviolet light and low frequency radiation. Easy to install, the filter features a scratch-resistant surface and cleans with common glass cleaners and paper towels. • $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; 1225 Stone Dr.; San Marcos, CA 92069; 619-744-8546

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, Inc.; 290 Palatine Rd.; Wheeling, IL 60090; 312-459-8000

Static Controlling Cleaning Agents • Anti-static products • Call for pricing • Tech-Sa-Port; PO Box 5295; Pittsburgh, PA 15206; 412-661-2629

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, Inc.; 290 Palatine Rd.; Wheeling, IL 60090; 312-459-8000

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

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 • Lynx Computer Products, Inc.; 15115 Ramona Blvd.; Baldwin Park, CA 91706; 818-960-4839 or 800-824-3522

Animation

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 • Monthly newsletter • $3 retail; each monthly issue • $27 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.* • Famous Birthdays is an AppleWorks database that contains 7,000 famous people, their birthdays and what made them famous. The database contains presidents, actors, actresses, singers, writers, comedians, political figures, athletes, artists, musicians, cartoon characters and more. The printouts let users see what famous people share their birthdays, and make nice additions to birthday presents. • $12.95 retail • Benz Computing Enterprises; 38 Belton St.; Stanhope, NJ 07874; 201-347-6476

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

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.* • $99.95 retail; Sports Scheduler • $49.95 retail; Universal League/Team Standings • Sports Software Associates; 75 Recreation Park Dr.; Hingham, MA 02043; 617-749-7880

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 • $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

Books And Publications

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

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

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 #76

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 • *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 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 • $75 retail; annual updates • HowardSoft; 1224 Prospect St., Ste. 150; La Jolla, CA 92037; 619-454-0121

Business Productivity

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; 64K; ProDOS 8; not copy protected.* • $49.95 retail; Award Maker Plus • $24.95 retail; Sports Award Library • $24.95 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.* • $59.95 retail • Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

■ **Craftmaster II** • Needle arts chart design program • *Apple IIGS; 1 MB; dot matrix printer.* • Craftmaster II allows users to design color charts for needle art, such as counted cross stitch, knitting, needlepoint, etc. Features include cut, copy, paste, fill, flip and rotate. A grid can be shown or hidden. Center lines can be displayed and located in any part of the chart to help with symmetric designs. A tool window contains stitch selections, as well as a line drawing or "backstitch" tool for outlining, lettering, etc. Maximum chart size is 380 by 517 squares and minimum size is 38 by 47 squares. Charts can be printed in symbols or color, with or without the grid or center lines and in full scale or 50 percent reduction. Craftmaster II simulates 324 colors based on the DMC floss colors. A second program, Color Editor, allows users to create new color tables or edit existing ones. • $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.* • $99.95 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 • 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

E-Z Paint 256 • Paint program • *Apple IIGS; 512K; ProDOS 8; not copy protected.* • $69.95 retail • Lynx Computer Products, Inc.; 15115 Ramona Blvd.; Baldwin Park, CA 91706; 818-960-4839 or 800-824-3522

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.* • $69.95 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.* • $49.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

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; 128K; ProDOS 8; not copy protected.* • $79.95 retail; net to educators • $29.95 retail; Booster Packs • Scholastic, Inc.; PO Box 7501; 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; 404-924-2667

Desk Accessories

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; 312-447-3924

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

GS Calendar DA • Installs a calendar on start-up disks • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • $25 retail • DataPak Software, Inc.; 14011 Ventura Blvd., Ste. 507; Sherman Oaks, CA 91423; 818-905-6419 or 800-327-6703

Softswitch • Desk accessory that allows users to switch among several applications loaded into RAM • *Apple IIGS; 768K; ProDOS 16; 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; 312-447-3924

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; 312-447-3924

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

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 Disks 1 And 2 • Add-on printer fonts for use with Print-Quick's Quick-Font utility • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $24.95 each retail • Third Wave Technology, Inc.; 11934 Lorain Ave.; Cleveland, OH 44111; 216-671-8991

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; 312-948-9200

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

MagnaCharta • Presentation graphics program with Macintosh-like user interface • *Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.* • $64.95 retail • Third Wave Technology, Inc.; 11934 Lorain Ave.; Cleveland, OH 44111; 216-671-8991

Medley • 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.* • $195 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

Print-Quick • Five printer support programs used with word processors, databases and spreadsheets • *Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.* • $54.95 retail • Third Wave Technology, Inc.; 11934 Lorain Ave.; Cleveland, OH 44111; 216-671-8991

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.; 4 44 Lake Cook Rd.; Deerfield, IL 60015; 312-948-9200

Desktop Publishing

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; 128K; ProDOS 8; not copy protected.* • $69.95 retail; net to educators • $29.95 retail; graphics activity packs • $24.95 retail; graphics packs • Scholastic, Inc.; PO Box 7501; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Education

The Adventures Of Sinbad • An exciting voyage in language arts; "talking" program • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $49.95 retail • 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 • 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; 64K; ProDOS 8; not copy protected.* • $69.95 retail; net to educators • Scholastic, Inc.; PO Box 7501; 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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

All About America • American history; "talking program" for ages 6 to 11 • *Apple IIGS; 768K; ProDOS 16; copy protected.* • $59.95 retail • 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

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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

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

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; DOS 3.3.* • Competer Rabbit is designed to teach and reinforce basic foreign language vocabulary skills in French, German and Spanish through graphics-based drill exercises. The program features four different types of interactive exercises, including reading, writing, reading/writing combination and a game. After choosing one of the three general topics — food, clothing and animals — students see Competer Rabbit walking across the screen to introduce the vocabulary words. Students identify the graphic by either selecting the corresponding word from a choice of several, or by typing in the word. After an exercise is completed, students are shown an error analysis displaying the words that were correctly and incorrectly chosen. Students may repeat any of the exercises and improve their scores. • $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

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

Education

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

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; 345 4th St.; San Francisco, CA 94107; 415-546-1866 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 • *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

Elfe • Grammar for French students • *Apple IIGS; 512K; ProDOS 8; copy protected.* • $440 retail; complete set • Conduit; The University of Iowa; Oakdale Campus; Iowa City, IA 52242; 319-335-4100

En Route And Caminando • French and Spanish simulation programs • *Apple IIGS.* • $37.95 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 • Scholastic, Inc.; PO Box 7501; 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; 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-

Education

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.* • $200 retail • Laureate Learning Systems, Inc.; 110 E. Spring St.; Winooski, VT 05404; 802-655-4755

First Words For The Apple IIGS • Language development • *Apple IIGS; 512K; GS/OS; copy protected.* • $200 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.* • $200 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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.* • GSNumerics is an educational mathematics program designed to improve the mathematical skills of high school and college students, and provide a solid understanding of fundamental math concepts that are the building blocks for college and university studies. It offers complete analysis of polynomials, trig functions, log and exponential functions. Complex math is handled in a straightforward manner. The program includes matrix operations, solution of systems of linear equations and x-y data regression. These features are combined with a graphics function to allow students to see the functions in a graphical form. Parts of graphs may be magnified and roots can be graphically isolated. GSNumerics will compute and graph derivatives and integrals. • $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

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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)

Education

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

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

Krell Software • High school and college exam preparation • *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 • Unicorn Software Co.; 2950 E. Flamingo Rd., Ste. B; Las Vegas, NV 89121; 702-737-8862

Learn About Animals • Introduces children to animal life • *Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.* • $65 retail • Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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

Little Shoppers Kit • Elementary math made fun; grades K to 4 • *Apple IIGS; other Apple II models; 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 • $549 retail; LCSI Logo II site license • $399 retail; LCSI Logo II lab pack • $99 retail; LCSI Logo II single user • 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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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 • 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 • 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 • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

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; 64K (128K recommended); ProDOS 8; not copy protected.* • $69.95 retail; net to educator • Scholastic, Inc.; PO Box 7501; 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; 64K; ProDOS 8; not copy protected.* • $59.95 each retail; net to educator • Scholastic, Inc.; PO Box 7501; 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 • 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

Education

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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; ProDOS 16; copy protected.* • The National Foreign Language Examination is a two-disk audio/software program that helps students prepare for the National Language Examinations and the Achievement Tests. It contains the official questions from the AATG and follows the format of the AATF and AATSP exams. Each level provides comprehensive test practice, as well as a review for all areas, including listening comprehension, reading, vocabulary and grammar. • $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 • 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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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

Once Upon A Time... • Desktop publishing program for ages 6 to 12 • *Apple IIGS; color monitor; 512K; GS/OS; not copy protected.* • $99.95 retail; academic, Once Upon A Time... • $59.95 retail; Once Upon A Time... Talking IIGS • $119.95 retail; academic, Once Upon A Time... Talking IIGS • 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

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 • Scholastic, Inc.; PO Box 7501; 2931 E. McCarty St.; Jefferson City, MO 65102; 800-541-5513 or 800-392-2179 in MO

Education

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 • 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

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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; 128K.* • $39.95 retail • American Educational Computer, Inc.; 7506 Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031

Revolution '76 • Historical simulation • *Apple IIGS; 1.2 MB; GS/OS.* • $49.95 retail • Britannica Software; 345 4th St.; San Francisco, CA 94107; 415-546-1866 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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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 or 800-522-2041

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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 • 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.* • Spelling Rules is designed to improve spelling accuracy for youngsters age 8 and up. Appropriate for both school and home use, the program employs a curriculum-based format of repetition and practice to develop proficiency in spelling. Twenty-one rules are covered in the program's six levels of difficulty. Each lesson provides hands-on instruction, covering such topics as forming plurals and compound words, the "i before e" rule, capitalization and more. The degree of difficulty can be set to advance automatically, or maintain one of the six levels for extended study and practice. Educators can track individual rates of progress for up to 39 students, and the program can be customized to include new Spelling Rules exercises. • $49.95 retail • Weekly Reader Software From Optimum Resource, Inc.;

Education

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.* • The Spelling Series Toolkit contains an extensive database filled with more than 6,700 words that can be used to make word lists for Spellevator. Each word is accompanied by a definition, a context sentence and three misspellings. Tools to copy, move, edit and delete words and word lists are included. • $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; 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

Success With Literature • Computer-based approach to writing about literature; grades 8 to 12 • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • $29.95 retail; net to educator • Scholastic, Inc.; PO Box 7501; 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; printer optional; 128K; ProDOS 8; not copy protected.* • $99.95 retail; net to educators (lab packs available) • Scholastic, Inc.; PO Box 7501; 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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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 (lab packs available) • Scholastic, Inc.; PO Box 7501; 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 • 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 • 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 #77

Education

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 7501; 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 retail; net to educators (without board) for grade specific core package • $99.95 retail; Echo board net to educators • $59.95 retail; net to educators (additional list packages for grades 1 to 6) • Scholastic, Inc.; PO Box 7501; 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; 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 7501; 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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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

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 • Blue Lion Software; 7506 N. Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031 or 800-222-2811

Ticket To Paris • Adventure that teaches French and social studies; ages 12 to adult • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $39.95 retail • Blue Lion Software; 7506 N. Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031 or 800-222-2811

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 • Blue Lion Software; 7506 N. Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031 or 800-222-2811

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 • Blue Lion Software; 7506 N. Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031 or 800-222-2811

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 • Blue Lion Software; 7506 N. Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031 or 800-222-2811

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.* • Time Patterns Tool Kit is an electronic time line tool that gives users easy access to a data history of the United States, from 1790 to the present. On-screen, pull-down menus offer selections of events, trends and raw information on everything from economics to demographics to technical innovation. Users can raise and address questions about industrial growth, immigration flow or railroad expansion. A graphing feature visually highlights the patterns of history that have shaped our country. Users can look for cause and effect relationships by comparing data and trends. • $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

Touch 'N Write • Penmanship practice; grades K to 3 • *Apple IIGS; other Apple II models; Touch Window; 64K; ProDOS 8; copy protected.* • $75 retail • Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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

USA GeoGraph • Geography; 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

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'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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

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.; 39 Washington Ave.; Pleasantville, NY 10570; 914-769-5030 or 800-431-1934

The Wonders Of The Animal Kingdom • Six educational activities; "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

Education

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

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 • Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-2250 or 800-556-6141

The Word Master • Vocabulary builder; "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; 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

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.* • The number zero is cited as a major problem in teaching arithmetic operations. Zero In On Zero Addition/Subtraction and Multiplication/Division are two math programs developed to target this area. The programs feature motivating practice through graphics, music and animation; specific practice in regrouping with zeros; guided help for incorrect responses; and a worksheet generator that offers both vertical and horizontal problems. • $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

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 • MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715 or 800-522-2041

■ **Blue Angels** • Precision flight simulation • *Apple IIGS; 512K; ProDOS 16; not copy protected.* • The Blue Angels allows users to learn more than 25 of the same maneuvers performed by the real Blue Angels, then select any one of the four F/A-18 Hornet jets and take off with the squadron. Users are taken through a progressive training sequence. Beginning in a wire-frame flight simulator, users are taught specific maneuvers by following a three-dimensional path of the stunt in relation to the other Angels in the formation. Once users learn the ideal flight path of the maneuver, they can practice it from the cockpit perspective and watch their flown path plotted in 3-D against the ideal path. The final test will come in an actual air show in which users are in complete control of one of the jets in the formation. • $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.* • Clue Master Detective is a game of criminal detection that can be played with friends or against the computer. Designed to exercise a player's "brain cells," the game features suspects, murder locations (both indoor and outdoor), weapons and mayhem. • $39.99 retail • Virgin Mastertronic Int'l., Inc. — Melbourne House; 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

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

Entertainment

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 or 800-522-2041

■ **Dragon Wars** • Fantasy role-playing game • *Apple IIGS; 128K; ProDOS 8; not copy protected.* • Dragon Wars is a fantasy role-playing game where a player controls a party of adventurers in the magical land of Dilmun, an island of salvation perverted into a world of horror by Namtar. Users begin the game armed with their wits in the savage streets of Purgatory. They must find a way to survive, escape Oceana's most dangerous slum and accept the almost impossible task of toppling Namtar. • $49.95 retail • Interplay Productions; 1575 Corporate Dr.; Costa Mesa, CA 92626; 714-549-2411 (technical support) or 800-969-4263 (orders)

Dream Zone • Graphic adventure game with stereo sound • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $49.95 retail • Baudville, Inc.; 5380 52nd St. SE; Grand Rapids, MI 49512; 616-698-0888

The Duel: Test Drive II • Driving simulation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $44.95 retail • $19.95 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 or 800-522-2041

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 or 800-522-2041

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.* • $44.95 retail • Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 708-480-1948

GBA Championship Basketball: Two-On-Two • Basketball simulation • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $19.95 retail • Gamestar; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0800

Gnarly Golf • Miniature golf • *Apple IIGS; color monitor; 512K; ProDOS 8; copy protected.* • $29.95 retail • Britannica Software; 345 4th St.; San Francisco, CA 94107; 415-546-1866 or 800-572-2272

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, multi-scene grandstands after that prized big league baseball • *Apple IIGS; 128K; ProDOS 8; joystick optional; not copy protected.* • Grandstand Play gives users a chance to fulfill their lifelong dreams of catching a ball hit into the stands. Freddy the Fan is in the grandstands at a professional baseball game. The stands range from single scene, wooden bleachers of a Class D field to the five scene grandstands (with ramp area) of a modern major league field. Freddy can make lunging stabs at fly balls, race after erratically bouncing balls and do whatever he can to retrieve the balls. As if that isn't tough enough, he must overcome energy loss, thirst and eminent heat stroke, mean guards, flying bottles and uncooperative spectators. His ultimate goal is to advance through five levels of minor league play and three levels of major league play to reach the World Series. • $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; 345 4th St.; San Francisco, CA 94107; 415-546-1866 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.* • Heatwave simulates an entire season of racing on courses marked by buoys in and around the Miami coast and along rivers on which users will race against 10 computer-controlled components. Users are also provided with the tools to create their own challenging courses. Four different boat designs are available, including the 600 HP Superboat, the fastest class boat available. • $44.95 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.* • Indoor Sports turns the IIGS into an electronic games room. Four separate games are fast-paced, and every bit as challenging as the real thing. Beat the computer — or a friend — at bowling, darts, air hockey or ping-pong without reserving a lane, board or table. Each stand-alone game features multiple levels of play and colorful, realistic graphics. • $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 • $19.95 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; 345 4th St.; San Francisco, CA 94107; 415-546-1866 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 • 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 • 3-D animated adventure • *Apple IIGS; 512K; ProDOS 16; copy protected.* • $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; 345 4th St.; San Francisco, CA 94107; 415-546-1866 or 800-572-2272

Entertainment

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

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.* • $39.95 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 or 800-522-2041

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 or 800-522-2041

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

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 • Lynx Computer Products, Inc.; 15115 Ramona Blvd.; Baldwin Park, CA 91706; 818-960-4839 or 800-824-3522

Entertainment

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.* • Superstar Soccer is a realistic outdoor soccer simulation. Users can take the field as a player and run, shoot, pass and defend. Or, act as the team's owner/general manager and head coach. You make the trades, recruit players from the minors, conduct training camps, make line changes and call strategies. You will compete with 64 other teams within four divisions for the championship. • $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.* • In Task Force, you have been chosen to head a specially organized crime-fighting unit whose job is to rid the savage streets of vicious gang members, skinheads, mafia hitmen, revenge-seeking vigilantes and drug pushers. They are everywhere. In the dark, dank subway stations of New York, on the rough streets of Chicago, on the sunny beaches of Southern California, even in the White House. They are armed with the most high-tech weapons available. But, you are equipped with the same dangerous, lethal hardware, which comes in handy, because these guys are rough. Blast away bad guys until the final confrontation is at hand. • $39.95 retail • Britannica Software; 345 4th St.; San Francisco, CA 94107; 415-546-1866 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 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 • Blue Lion Software; 7506 N. Broadway Ext., Ste. 505; Oklahoma City, OK 73116; 405-840-6031 or 800-222-2811

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

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.* • The A-Hive Disk Enclosure comes with a power supply, fan and all internal cables. It has room for one full-height drive or two half-height drives. One of the half-height drives can be a cartridge-type drive. The front of the enclosure can be modified by a user to have an opening for either a 3.5- or 5.25-inch removable drive. • $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.* • The A-Hive Hard Disk Subsystems feature capacities of 32 MB to 1.2 GB. They include the Apple SCSI card, external enclosure with power supply, quiet cooling fan, RFI line filter, LED, all necessary cables, etc. The external enclosure design allows horizontal or vertical placement and has room for a second half-height hard drive and/or tape drive. The hard drive has automatic head park and is preformatted with the latest Apple System Software. • $549 (32 MB) to $1,949 (200 MB) retail • Tulin Corp.; 2156H O'Toole Ave.; San Jose, CA 95131; 408-432-9025

■ **A-Hive Tape Subsystem** • Tape drive subsystems • *Apple IIGS; IIe.* • The A-Hive Tape Subsystem features capacities of 50 to 155 MB. They include backup software, external enclosure with power supply, quiet cooling fan, RFI line filter, LED, all necessary cables, etc. The external enclosure design allows horizontal or vertical placement and has room for a second half-height drive. • $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

Apple II Video Overlay Card • Enables users to superimpose computer graphics over video images from an external source • *Apple IIGS; 512K; ROM Version 01 or higher; AppleColor Composite or RGB monitor.* • $549 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

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

Hardware And Peripherals

Apple IIGS System Fan • Cools Apple IIGS with three or more expansion cards • *Apple IIGS.* • $49 retail • Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

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).* • $1,199 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

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 • $89 retail; optional MNP • 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

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

FX/20, FX/45, FX/80 • External SCSI hard disk drive; contains FX System Software on 3.5-inch disk • *Apple IIGS; SCSI board.* • $649 retail; FX/20 • $799 retail; FX/45 • $1,049 retail; FX/80 • GCC Technologies, Inc.; 580 Winter St.; Waltham, MA 02154; 617-890-0880

Grappler C/Mac/GS • Universal parallel printer interface for Epson, Okidata, Star and other printers • *Apple IIGS; parallel printer.* • $119 retail • Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

GS Juice Plus • Memory cards that provide 1 to 4 MB of memory expansion • *Apple IIGS.* • $299 retail; 1 MB • Applied Ingenuity; 14922M Ramona Blvd.; Baldwin Park, CA 91706; 818-960-1485 or 800-346-0811

GS-RAM And GS-RAM Plus • Extended memory boards; come with AppleWorks enhancement, graphic memory test and disk caching software • *Apple IIGS; ProDOS 8.* • $169 retail; 256K GS-RAM • $219 retail; 512K GS-RAM • $319 retail; 1 MB GS-RAM • $419 retail; 1.5 MB GS-RAM • $379 retail; 1 MB GS-RAM Plus • $579 retail; 2 MB GS-RAM Plus • Call for pricing; GS-RAM 3-8 MB • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

GS-RAM Ultra • Memory expansion • *Apple IIGS; ProDOS 16 or GS/OS.* • $169 retail; 256K • $219 retail; 512K • Call for pricing; 1 MB to 4 MB • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

ImageBuffer • ImageWriter II printer buffer providing 64K (expandable to 128K) of buffer storage • *Apple IIGS; other Apple models; ImageWriter II.* • $79 retail • Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

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

Indiana Cash Drawer • Cash drawers • *Apple IIGS.* • $220 to $472 retail; price depends on application • Indiana Cash Drawer Co., Inc.; PO Box 236; Shelbyville, IN 46176; 317-398-6643

Inner Drive • Internal hard disk drives • *Apple IIGS; IIe.* • $499 retail; 20 MB • $699 retail; 40 MB • $1,795 retail; 100 MB • Applied Ingenuity; 14922M Ramona Blvd.; Baldwin Park, CA 91706; 818-960-1485 or 800-346-0811

J/L 910 • 14-inch high-resolution color monitor on swivel; 1,120 by 750 pixels • *Apple IIGS.* • $1,495 retail • J/L International Trading Co. USA, Inc.; 8730 Sunset Blvd.; Los Angeles, CA 90069; 213-657-1836

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

Hardware And Peripherals

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

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

MultiRam GS • Extended memory board adding from 256K to 2 MB of memory • *Apple IIGS; 256K; ProDOS 8.* • $254 retail; 256K • $399 retail; 512K • $689 retail; 1 MB • $1,238 retail; 2 MB • $7.95 retail; MemorySaver Adapter • $39.95 retail; MemorySaver Extender • Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 602-966-5802 or 800-325-7347

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

■ **Outer Drive** • External hard disk drives • *Apple IIGS.* • The Outer Drive is an external hard disk drive available in 20, 40 and 100 MB capacities. They feature a heavy-duty power supply, system-saving cooling fan and automatically adapt to any line voltage from 80 to 264, 50 or 60 cycles. • $499 retail; 20 MB • $599 retail; 40 MB • $1,695 retail; 100 MB • Applied Ingenuity; 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 • $159 retail; Buffer Pro Option with 128-page buffer • $219 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.* • $499 retail; PC Transporter with 768K • $259 retail; 5.25" 360K Drive • $389 retail; Dual-Drive 5.25" System • $139 retail; optional IBM-style keyboard • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

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 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 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.* • $649.95 retail; Proxima IPS 450+ • $749.95 retail; Proxima IPS 500+ • Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

Proxima Power Director P25 • 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

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

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

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

Hardware And Peripherals

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

Vulcan • Internal hard disk drives • *Apple IIGS; IIe.* • $699 retail; 20 MB • $899 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 • Hard disk drive • *Apple IIGS; other Apple II models with 5.25-inch controller card.* • Call for pricing • Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Music

A Guide To Computer Music • Introductory resource 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.* • Barney Whistle's Music Games is designed for younger children. A third grade reading ability is required so that children can follow the directions clearly. Note Match Games ask students to place whole notes on a staff following a given tone and syllable. Syllable Match Games, similar to Note Match Games, ask students to match a syllable to a given staff note and tone. In Listening Games, students are required to supply the correct notation to groups of five tones. In Rhythms, students notate rhythm patterns by clicking the proper note icons. Keyboard Games is an exercise in keyboard reading. Explore Keyboard permits free exploration of the keyboard. • $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.* • $79.95 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.* • Jam Session is a music performance program that enables anyone to play professional-sounding music without having any musical background or knowledge. A user first selects any of several different song styles, from rock and roll, rap or country to classical. With the keyboard, a user begins to "play," and the music automatically fits in perfectly, with no sour notes. No matter what keys are struck, and no matter what order or tempo, the program makes notes and "riffs" that sound great. Animated musicians appear on screen, and the selected music plays in realistic digitized sound. The IIGS version also features 16-voice sound and supports stereo cards for full stereo effects. • $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 • MIDI recording and editing package • *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

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

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.* • $69.95 retail • Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

■ **Music, MIDI, And Your Apple II Archive** • Information newsletter compendium and educational resource • The MMYA Archive consists of the complete series of "Music, MIDI, and Your Apple II" newsletters published 1988 through 1989. The timeless material presented in the MMYA Archive serves as an enjoyable guide and reference for any musical Apple II odyssey. Packed with helpful hints, do-it-yourself projects and educational notes, the MMYA Archive brings users 60-plus pages of product reviews, programming tutorials and more. • $17.95 retail • $21.95 retail; international orders • MMP Systems; 20681 Celeste Cir.; Cupertino, CA 95014; 408-996-9270

MusicShapes • Creative learning environment that involves a user in the process of music making and idea development; uses Ensoniq sound chip; MIDI compatible — Apple MIDI device MIDI card • *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

Music

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

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; 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

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; ProDOS 16; 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.* • Family Roots is a comprehensive genealogy research program. Users can store genealogical information, make lists, charts, group sheets, person sheets and much more. Key features include footnotes on any field and no limit on the number of people supported or the length and format of information saved. The database allows user-defined fields, as well as birth, death, address, parents, children, spouses, notes and automatic storage of information that is common to more than one person. It will search under any criteria, and enables users to pinpoint family movements during certain time periods and locations. • $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 06880; 203-226-2400

Multidimensional Personality Inventory • 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

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; P.O. 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

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 Version 9 • Backs up copy protected disks • *Apple IIGS; other Apple II models; 64K; 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.; P.O. 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 • Sourceware; 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 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 • $59.95 retail; X-10 Home Control Interface • KADO Systems; P.O. 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; P.O. Box 1192; Oviedo, FL 32765; 407-365-6714

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.* • $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; P.O. 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; 312-447-3924

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.* • $129.95 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.* • $49.95 retail • Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

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)

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

Programming And Utilities

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

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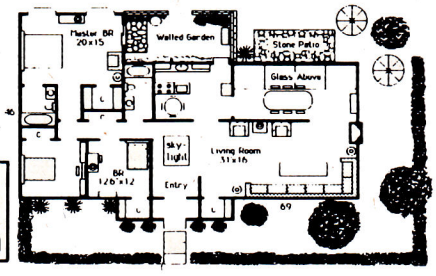
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Public Domain Software On File CD-ROM • CD-ROM public domain software • *Apple IIGS; other Apple II models; color or monochrome monitor; Apple II SCSI Card, Rev C; CD-ROM drive with compatible SCSI interface; printer optional; 64K; ProDOS 8 or ProDOS 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.* • Softdisk G-S is a monthly collection of special software for the Apple IIGS. Each issue includes an assortment of entertainment, personal productivity and business programs on one 800K 3.5-inch disk. To ensure error-proof operation, a copy of Apple's most recent system disk is included with each new subscription. • $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

CROSS-WORKS 2.0

PAINLESS PC CONVERSIONS

In an ideal world, all computer software, data and disks would be totally interchangeable. However, in real life not everyone is fortunate enough to have only Apple computers. Softspoken has developed an excellent program, called Cross-Works, that helps bridge the gap between IBM-compatible PCs and Apple IIs.

This program includes everything you need to transfer files easily from one system to the other. The default conversions are for the most popular programs on each system. New conversions are added as the need arises, such as the recent addition of AppleWorks 3.0.

It has always been possible to transfer standard ASCII text files from one system to another, but this has several disadvantages. First, you lose file formatting in the translation. Second, the proper equipment is needed, including communications programs on each machine and cables or modems.

Cross-Works comes with a universal cable that has all the necessary connections: 25-pin male and female connectors for a Super Serial Card (for an Apple IIe) and the IBM-compatible serial port, a 9-pin connector for an AT machine (IBM), the 5-pin connector for the Apple IIc or Laser 128, and the 8-pin mini-din plug for the Apple IIGS or IIc+ serial port. Connecting two machines with the cable makes it possible to transfer data at 19,200 baud, which is considerably faster than with a modem, although a modem is an option.

The software scans the available slots to locate the serial port or board. The cable with Version 2 can use the same Super Serial Card with either a modem or a printer; a jumper block or slot changes are not necessary. If you have the Applied Engineering PC Transporter or an Apple emulator in a PC, you can convert files with Cross-Works and then transfer them using the emulator's transfer program.

If you want to transfer a WordPerfect file or a text file, it is possible to check that the file is the same on both systems. No further changes may be necessary. The conversions are done on the MS-DOS side.

When you run the program on either system, it will look familiar. That's because it uses the standard AppleWorks interface with the file-card menus. The currently selected disk directory is shown at the upper left corner of the screen. In the upper right corner you will see what the Escape key will do. You move through the menu by pressing the appropriate number key or moving the cursor with the arrow keys and then pressing Return.

It would be more convenient if the appropriate subdirectory could be chosen from a list, but the Apple version of the program is restricted by the 128K memory limit. It is possible to list the files in a directory, so it isn't all guesswork.

The file utilities allow you to rename, delete or check a file to compare an untranslated one to see that it is identical on both systems. It is not possible to copy a file, but Softswitch (which allows you to switch among several applications loaded in RAM) works with Cross-Works on the IIGS and allows you to temporarily run another program. Various shell programs also work on the IBM side, allowing you to do the same thing.

There are user-definable preferences for the default file extensions, screen colors, a warning before replacing files, a warning if you have not defined a translation, foreign character translation and a communications mode. These preferences can be saved. You do not have to reset them each time you use the program.

Learning to use Cross-Works is straightforward. You just follow the directions on screen. However, you will need to read the manual about the limitations and hints for converting files. WordPerfect, for example, has many features that AppleWorks lacks, and there is nothing in the conversion that can rectify that situation.

The standard conversions in Cross-Works are for AppleWorks to and from WordPerfect 4.2, Lotus 1-2-3 and Dbase for word processing, spreadsheets and databases, respectively, as well as Microsoft Works. It is also possible to convert generic word processor files, standard ASCII files and delimited ASCII files (files with one record per line, with each field or category separated by a comma). Report formats are not converted.

Considering the limitations imposed by the structure of the files being converted, the software works extremely well. There are several charts in the manual that explain which features of each program will be converted properly. Hints that will result in more satisfactory conversions are also included.

Sometimes careful planning is all you need to ensure proper results. For instance, if a label in a Lotus spreadsheet cell overlaps an adjacent column, the information in that cell will not be transferred. Thus, your totals may not be the same on both machines. Check your final results to be sure.

Although there is no toll-free number, the program's technical support, if you need it, is excellent. If you have any questions or suggestions for features, Softspoken is willing to listen and will try to solve any problems you might have. The company is constantly working on improving the program and, in the future, hopes to support direct conversions for WordPerfect 5 and DB Master.

If you need to transfer files, either because you are using more than one system or because you are changing systems, Cross-Works will quickly pay for itself. The time and effort saved in converting your files will be invaluable. The combination of the software and the cable is an excellent value.

— Merry Perry

Product: Cross-Works
Price: $99.95 retail ($20 for upgrade from 1.3 to 2.0)
Company: Softspoken Co.; PO Box 18343; Raleigh, NC 27619; 919-870-5694
Requirements: Apple II or compatible with 128K; 5.25- or 3.5-inch disk; serial port. IBM compatible with 192K; 5.25- or 3.5-inch disk; serial port. No copy protection; cable included
Circle Reader Service Number 58

FINGERPRINT GSI

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FingerPrint GSi is a screen-dump utility board that captures, modifies, saves and prints any graphics or text image that can be displayed on screen. The board installs in any empty slot and requires no changes to the Control Panel settings. As a result, it does not override the built-in function of any slot.

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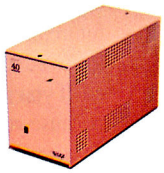
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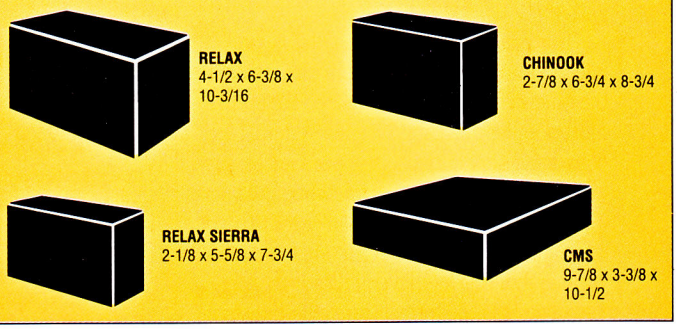


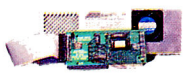
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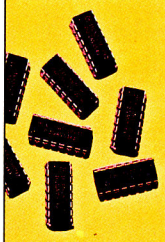
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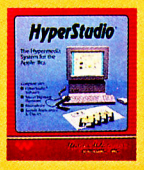
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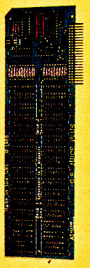


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Circle Reader Service Number 15

FingerPrint uses a mouse and menu interface that operates in 80-column text mode. It provides a plain, efficient working environment that uses the mouse to highlight menu items. Choices are made by clicking the mouse.

Numerous FingerPrint features are tailored to the needs of classroom educators. For example, the Billboard feature can print images in a variety of sizes up to 100 feet high by 130 feet wide. This feature is perfect for bulletin boards, display backgrounds and other large-scale instructional aids.

FingerPrint GSi is also capable of modifying images by using the Crop, Rotate, Flip, Compress or Invert features from the Options menu. One useful selection not included in the program would be the capability to cut an unwanted element from the screen.

FingerPrint's capability to print and save screen images supports all areas of computer-aided instruction. Teachers can capture and adapt appropriate screen displays and transfer them to worksheets, tests and transparencies. The capture feature also makes FingerPrint GSi popular among software publishers who need to include screen illustrations with their program documentation.

Although FingerPrint GSi provides great capabilities to educators and publishers, it can be used by anyone who enjoys super-high-resolution graphics. Users will appreciate the capability to capture any screen, including animation frames, at the touch of a button.

Many types of super-high-resolution animation pictures are stored in compressed-file formats. This saves disk space, but makes individual frames inaccessible to most paint programs or graphics utilities. With FingerPrint, you can freeze the action, capture the image and allow it to be saved or printed.

While FingerPrint GSi does an admirable job of converting 40-column text screens to super-high resolution, the conversion of 80-column text produces disappointing results. During our evaluation, each text element converted in this way doubled in height and width. As a result, a converted file captures only the upper left quarter of the original screen.

FingerPrint shares this limitation with other super-high-resolution capture utilities. The Apple standard apparently lacks sufficient pixels (picture elements) to provide adequate detail for depicting 80-column text. However, the manual should contain a caution to this effect.

Super-high-resolution conversions are quite time consuming and usually require several minutes to complete. Unaware users will probably conclude that the system has "locked" and reboot the machine. The owner's manual contains a brief reference to this characteristic, but a screen-based reminder would be more effective.

Fingerprint GSi includes three built-in desk accessories and a disk-based slide-show program for displaying graphics. These are useful additions.

FingerPrint's manual is complete, well organized and required reading. It is the only information source for many of the utility's essential features. As noted previously, the inclusion of on-screen help items would be a great improvement.

We reviewed the latest edition of FingerPrint GSi, which is designated as 3.0. There are few visible improvements since the last release. The new version supports the Hewlett-Packard InkJet printer and includes the capability to shrink screen images. Thirdware offers ROM update kits to owners of previous versions.

All in all, FingerPrint GSi is a powerful product that offers unique features at a reasonable price. It is also an invaluable educational resource. Every school-based media center should have this utility or provide a 500-word composition explaining why not.

The board is a perfect example of how computer technology enhances the instructional environment and allows teachers to spend their time on essential activities, such as working with students.

— Cliff Feldman

Product: FingerPrint GSi, Version 3
Price: $149 retail
Company: Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522
Requirements: Apple IIGS; printer
Circle Reader Service Number 59

GDL

Labels With A Twist

OK, you've got an Apple IIGS, which is capable of managing some 4,096 colors. Hooked up to it is an ImageWriter II, a dot-matrix printer capable of color printing. Low-cost, tractor-feed labels for 3.5-inch disks are readily available.

So how come you're still labeling your disks with a felt-tip pen?

Triad Venture of New York now gives you a computerized solution — GDL, the Graphic Disk Labeler for the Apple IIGS. With GDL, you can create colorful and readable labels for your 3.5-inch disks quickly and easily.

GDL comes in a small shrink-wrapped package containing a 3.5-inch diskette, an 11-page manual, a warranty registration card and a sheaf of about 50 disk labels.

One nice touch is that the included disk does not have a label attached. The short tutorial at the beginning of the manual leads you through the steps required to generate the disk's label yourself. This is a clever idea that's so simple, the entire project can be done in five minutes or less.

The program starts up quickly, is fast and easy to use. In addition, GDL ships with GS/OS 5.0, is not copy protected and can be easily installed on a hard disk.

Your label can use existing IIGS super-high-resolution graphics or images you create with any IIGS paint program. Alternately, you can put standard Finder icons on the label or clip art from The Print Shop IIGS.

You can also enter text using any combination of standard Apple IIGS fonts installed on your boot volume. All the usual styles are available for the text, and you can select any of the colors from the current palette for the text.

GDL allows you to put a one-line title on the part of the label that folds over onto the back of the disk and another on the edge of the disk (the "spline") where the label folds over. The text you enter for these two areas appears normal on screen, but prints out upside down so that the text looks normal when the label is folded over.

Because of the limited space available, we received the best results when we used font sizes of 9 points or less for this part of the label.

Printing is done through Apple's standard Print dialog, and color printing appears to be supported only on the ImageWriter II. This is largely because Apple's System software does not yet include drivers for other color printers. Once you have created a label, you may save it to a diskette or your hard disk. The program uses one of the user-defined file types ($F1) to store its files.

The manual appears to have been a bit rushed. It contains a few typographical and grammatical errors, and not all the procedures are quite accurate. For example, in the hard disk installation instructions you are told at one point to "Locate System Folder and double-click on the folder." The next step reads "After finding GDL.SYS16 file, drag it to the. . .Hard Drive."

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It turns out that the GDL.SYS16 file is not in the System folder as is implied, but is in the disk's root directory. Opening the System folder serves no purpose. While no harm is done by this step, it is confusing to a novice user.

What the manual lacks in execution, it makes up for in simplicity. Operational instructions are, for the most part, clear and brief.

One thing the manual fails to mention is that the program only loads Apple IIGS graphics that are in PIC (ProDOS file type $C1) format; graphics in PNT ($C0) format, even the Apple Preferred variant of PNT, are not usable. However, your existing $C0 files can be loaded into Paintworks Gold, and other IIGS paint programs, and saved back as $C1 files for use with GDL. Graphics conversion programs such as SHRConvert and The Graphic Exchange work this way, too.

In a phone conversation with a representative of Triad, we learned that the next version of GDL will support $C0 graphics. It will also allow more than one icon to be on the label at a time (currently, loading a second icon removes the first) and will support 640-mode graphics. Currently, the program only runs in 320 mode, which results in wide text characters and some inaccurate color representation when using icons or 640-mode graphics. Further, some basic paint tools will be added to make on-screen editing of your graphics easier.

None of these features are implemented as of press time, so they do not affect our review. If you are considering acquiring this package, you'll be happy to find that these capabilities are coming. Also, continued development is often a sign of good company support.

We'd like to see more keyboard equivalents to some of the more common menu commands — and some proofreading of the manual. In addition, we found that if we quit without saving a created label, the program would exit immediately without asking if we wanted to save our work in progress. This oversight needs to be corrected.

A free demo program of GDL is available on all the commercial online networks, as well as many local bulletin boards and user group libraries. Being a demo, not all the features are enabled, but for little or no charge you can see how this program works.

We found GDL to be a simple, effective program that does what it was designed to do. Some missing features in the software are being addressed, and the minor problems with the manual do not detract from the program's performance or use. No bugs or operational anomalies were noted during our tests.

If you are tired of chicken-scratched disk labels and would like to make your ever-growing collection of diskettes look more attractive, you'll find GDL a worthwhile purchase.

— Joe Walters

Product: Graphic Disk Labeler (GDL)
Price: $29.95 retail
Company: Triad Venture, Inc.; PO Box 12201; Hauppauge, NY 11788; 516-732-3771 or 516-360-0797
Requirements: Apple IIGS; 1 MB RAM minimum; color monitor recommended; ImageWriter II recommended; disk labels (50 are supplied); not copy protected
Circle Reader Service Number 60

PRINCE OF PERSIA

AN ARABIAN ADVENTURE

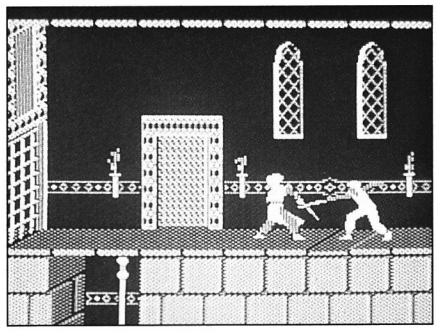
Would-be Sinbads are advised to unravel their turbans, hang their scimitars in the closet and take a look at Prince of Persia.

The story line is the well-known love triangle involving a noble lad, a princess and an evil Vizier. The young protagonist has been imprisoned in the palace dungeon. He has one hour to free himself and rescue the princess or she will be forced to choose between marriage to the Grand Vizier or death.

The young man faces death traps, sword-bearing guards and scores of secret doors and passageways. There are even a few hidden flasks of magic potion that can improve the adventurer's chances of survival. However, there are also similar flasks containing poison that have the opposite effect.

Programmer Jordan Mechner, of Karateka fame, has studied scores of movie frames to develop routines that accurately display human movement. His efforts in producing Prince Of Persia have set a standard for computerized animation that will be difficult for other developers to follow. Body actions appear so fluid and lifelike that they rival film sequences.

We are impressed with the game's responsive controls, particularly the Careful Steps feature, which enables a player to move the hero in small and deliberate steps through hazardous situations. The positive feel of the controls is a superb complement to the inherent challenges of the game. We died a thousand deaths before learning the subtleties of sword fighting.



Prince Of Persia

The Prince Of Persia adventure spans 12 increasingly difficult levels and contains more than 250 double-high-resolution screens. It supports the keyboard as well as the joystick, which is good news for many users. Our review version was a 5.25-inch double-sided disk. It used DOS 3.3 format and was copy protected. A 3.5-inch ProDOS version is also available.

Prince of Persia is an 8-bit application that runs on the Apple IIe, IIc and IIGS in Emulation mode.

The review version of Prince Of Persia has several features that should be noted by users of IIGS computers. When the game is loaded, it automatically changes the Control Panel settings of the machine. Most noticeably, the border and background are set to black, while the text color is changed to white. More importantly, the processor is set to the slower speed of 1 megahertz.

Because the faster speed is essential to running most IIGS-specific software, the Control Panel must be manually reset to return to the original configuration. This is not mentioned in the game's user's guide.

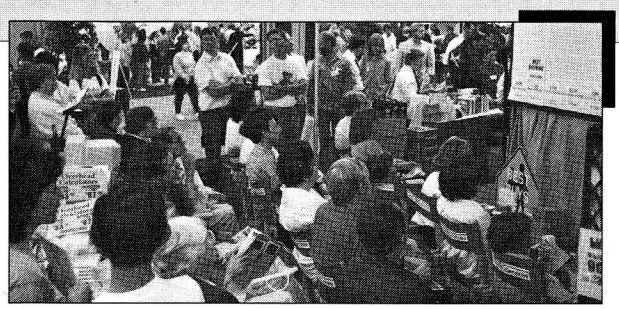
Another note to IIGS users: The Prince Of Persia's music is nicely presented and quite appropriate to the game's theme. It can only be heard through the computer's internal speaker or through the mono headphone jack on the back of the machine, however. The version we tested does not support the digital sound capability of the IIGS. As a result, stereo cards, such as Applied Engineering's Sonic Blaster or MDIdeas' Supersonic, will not produce output to external speakers.

All things considered, this version of Prince of Persia is a very good software product. We are excited by the possibility of a IIGS-specific version that combines the same attention to detail with the enhanced sound and graphics of the IIGS.

Prince Of Persia is a well-crafted game that is good for 1,001 Arabian nights of

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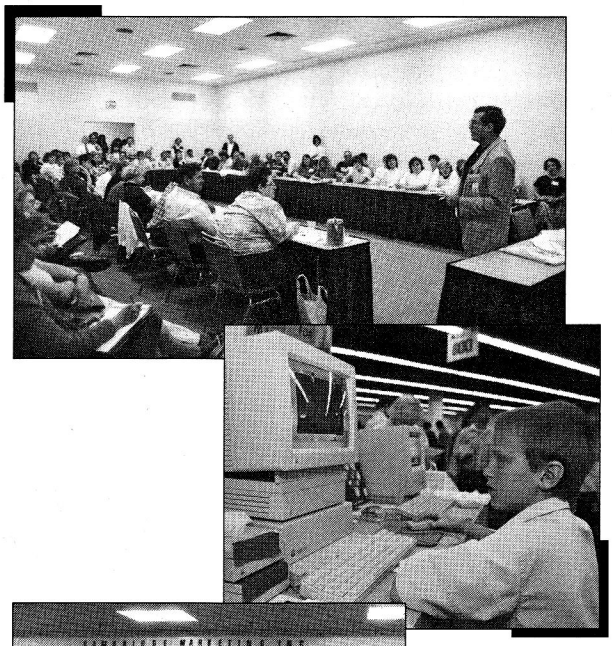
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adventure, without the risk of being dismembered by the Grand Vizier.

— Cliff Feldman

Product: Prince of Persia
Price: $34.95 retail
Company: Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903; 415-492-3500
Requirements: Apple IIe, IIc, IIGS; 5.25-inch drive; color monitor recommended
Circle Reader Service Number 61

TELEWORKS PLUS

A GRAPHICS COMMUNICATOR

Telecommunications can be a rewarding experience. Using a IIGS, appropriate software and a modem, you can literally communicate with the world via modem. You can communicate with electronic information services and other computer users, get technical information about your software and hardware, play games, download public domain programs and more.

One appropriate software package for this purpose is Teleworks Plus, the first standalone commercial communications program available specifically for the Apple IIGS. Teleworks Plus features more bells and whistles than Freeterm GS (a popular public domain package) and the communications module of AppleWorks GS (from Claris Corp.), the only other graphical-interface communications packages available for the IIGS to date.

Teleworks Plus' manual helps you understand the often complex world of telecommunications. The manual explains terms such as baud rate, parity, protocol and half duplex. While it explains these terms well, the performance of Teleworks Plus leaves something to be desired. There were times we could not get the program to dial or receive a call, depending on what other software was run previously.

New or Classic Desk Accessories often cause problems. Therefore, if problems occur, they should be eliminated from the initial loading process and then added back one at a time until the culprit is discovered.

We experienced some difficulties with Record a Procedure, a powerful feature not available on other IIGS communications packages. Record a Procedure (often called a macro or a script in other programs) saves all keystrokes in a file so they can be called up the next time you want to perform the same task. This process is useful in telecommunications applications, because most people perform the same tasks each time they call an online service or bulletin board system (BBS).

You can set Teleworks to dial a number, wait for specific text from another computer and then enter information (such as your password), read your private messages, read public messages, send replies to previous messages, and log-off, all without touching the keyboard. Although many commands can be chosen — either from the pull-down menu or with an Open Apple and letter keyboard command — you must select the procedure you want from a list, after choosing Run a Procedure from the pull-down menu.

If you always call the same service or BBS first, Teleworks lets you create a start-up procedure that runs automatically when you boot the program. You can even configure separate disks for each service.

Teleworks also lets you create macros of up to 16 characters each. The macros are activated by pressing the Option key and a number key, so only 10 macros can be created. Each macro inserts a string of characters on screen as if you had typed them.

Macros are useful for a password that you may not want to include in a procedure or for your "signature" at the end of a message. Macros only work while you are online. They cannot be used while you are composing or editing a message offline. Although the manual explains all the commands, it would be easier for a new user if there were a few sample procedure files on the disk.

A less serious problem is with the editor, which appears as a window on the main screen. Depending on the cursor location as you select text, the program may also highlight the text in the background. This can be confusing. The editor allows lines up to 67 characters long, so lines are broken in odd places, although the incoming width can be set within the program and with most services you call.

Teleworks includes a utility for packing and unpacking Binary II files. This refers to the way non-text files, such as AppleWorks GS files, must be sent to be usable on the receiving end of a telecommunications attempt. The program gets confused if you try to unpack a text file that was not packed. Some files are also squeezed, to take up even less space, and they must be processed through another program to be functional. Any packing you wish to do must be handled offline, not as you are sending or receiving a file.

When it works properly, Teleworks has many nice features. The text is quite legible, although some characters are strange looking (an 8 looks much like a 3). A Smooth Scrolling feature slows down incoming text so you can read it, even at a fast baud rate. Most of the program is intuitive, because it follows the standard IIGS interface. When editing messages or procedures, you may cut, copy or paste. Therefore, you may combine two procedures into one.

Teleworks includes a helpful time counter that shows how long you have been online. The program also includes a text buffer that captures information you have received online. The buffer is limited only by the amount of memory you have in your machine. There is a counter to let you know how much memory remains, but the file is not saved automatically if the buffer becomes full.

Teleworks supports a number of communications protocols that ensure files are transferred properly. It uses ASCII (American Standard Code for Information Interchange) for simple text file transfers that can be read on any system. Xmodem, the standard error-correction protocol (which detects transmission errors), is available with almost every computer service you call.

Teleworks Xmodem is unique to this program and is the best choice for communications if both parties have Teleworks, because a file will be received exactly as sent. Ymodem also appears on the protocol list, but, in reality, it is 1K Xmodem and will not work if the computer you are communicating with has true Ymodem capabilities.

When you send a Binary II file to another computer, a sliding bar appears on screen to show how much of the file has been sent, but the bar does not indicate how long the transmission will take. You may choose to have your computer "beep" when the transfer is complete.

Teleworks Plus lacks some features that a few users must have. It does not offer VT52 or VT100 terminal emulation (needed to connect to some mainframes). It will not work with the Apple Personal Modem or with the Applied Engineering DataLink, set at 2400 baud. (It will work at 1200 baud if you define the DataLink as a Smartmodem, however.) The maximum speed is 2400 baud. That is fine for most people, but will not work if you

want to connect directly with another computer for high-speed file transfers. Also, without a TransWarp GS speedup board installed, some characters may be lost while receiving text at 2400 baud.

There are many telecommunications packages available for the Apple II. If you prefer the standard IIGS graphical interface, you will probably want this program. It has a lot of potential. Otherwise, there are many packages that have most of the same features and cost about the same amount or less. ■

(Editor's Note: Mediagenic informs us that customers of Teleworks Plus should not expect future product upgrades from the company, but that current customers will be supported for the foreseeable future.)

— Merry Perry

Product: Teleworks Plus
Price: $99.95 retail
Company: Activision; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500
Requirements: Apple IIGS; 768K; 3.5-inch drive; Apple- or Hayes-compatible modem at 300, 1200 or 2400 baud; no copy protection; supports ImageWriter and LaserWriter printers
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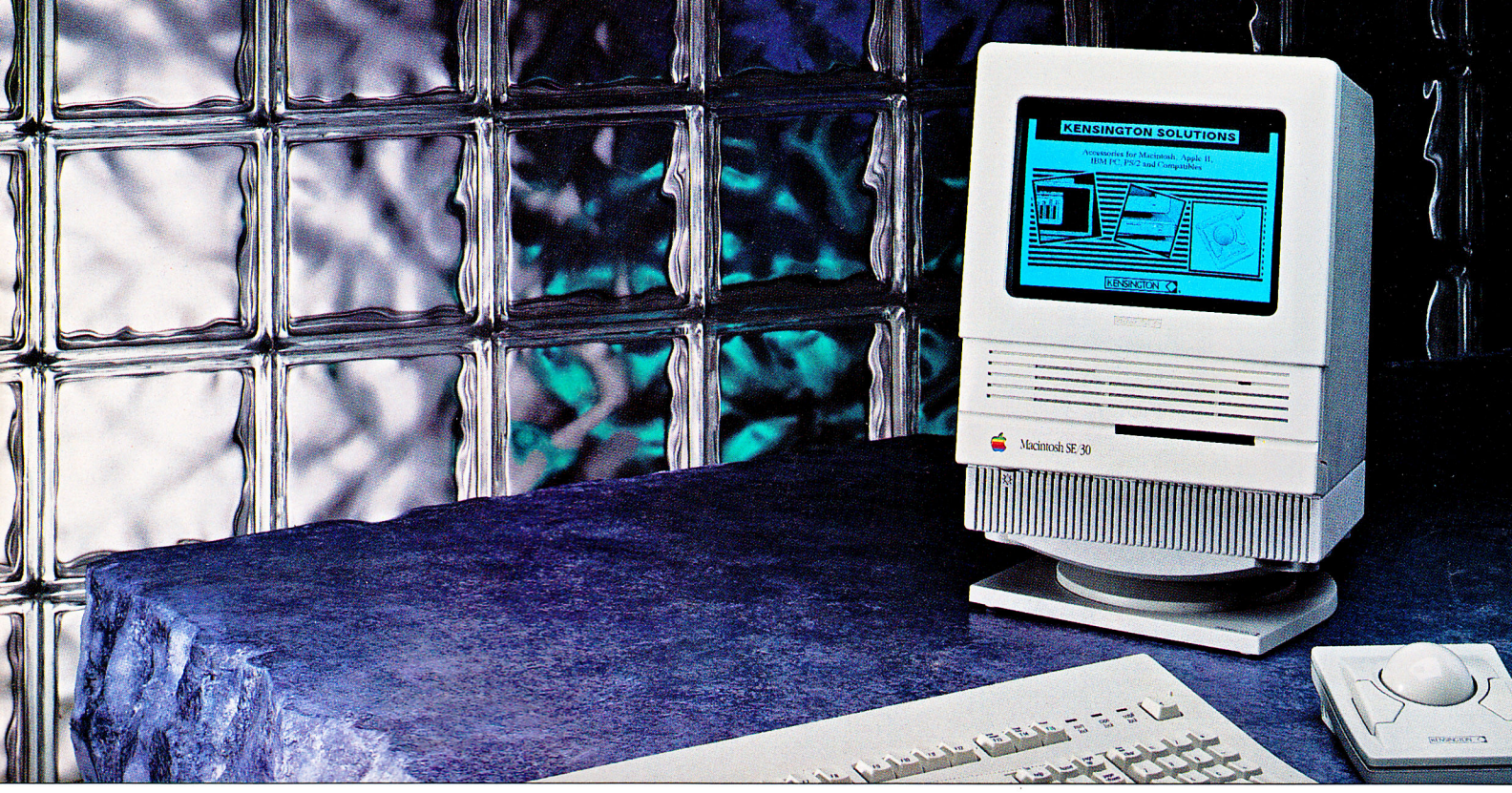
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EYESORE VS. EYE PROTECTION

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.

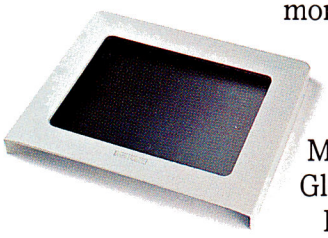
Yet, the irony is that something so good for your eyes can be such an eyesore.

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.

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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.

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